# Nautical Almanac

**by Oliv Soft**

# for 2022

*Calculated with ∆ T: 73.02216907812505s*
*Compare with http://aa.usno.navy.mil/data/docs/celnavtable.php, http://maia.usno.navy.mil/, http://maia.usno.navy.mil/ser7/deltat.data*

*SHA is given for Sun, Moon and Planets. This is redundant, but convenient to plot those bodies in the Star Finder 2102-D.*

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## *Saturday, January 1st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°10.48' | | 281°27.11' | S 23°01.21' | | 206°32.54' | | 254°05.04' | S 23°55.18' | | 61.0985' | 100°37.58' | **00** |
| **01** | 194°10.18' | 14.9951° | 281°29.87' | S 23°01.00' | 0.2016' | 220°54.42' | 14.3646° | 254°45.63' | S 24°02.49' | 7.3090' | 61.1108' | 115°40.05' | **01** |
| **02** | 209°09.88' | 14.9951° | 281°32.63' | S 23°00.80' | 0.2024' | 235°16.20' | 14.3630° | 255°26.31' | S 24°09.63' | 7.1332' | 61.1226' | 130°42.51' | **02** |
| **03** | 224°09.59' | 14.9951° | 281°35.39' | S 23°00.60' | 0.2032' | 249°37.88' | 14.3615° | 256°07.09' | S 24°16.58' | 6.9557' | 61.1338' | 145°44.98' | **03** |
| **04** | 239°09.29' | 14.9951° | 281°38.15' | S 23°00.40' | 0.2040' | 263°59.48' | 14.3599° | 256°47.96' | S 24°23.36' | 6.7765' | 61.1445' | 160°47.44' | **04** |
| **05** | 254°08.99' | 14.9951° | 281°40.91' | S 23°00.19' | 0.2048' | 278°20.99' | 14.3585° | 257°28.92' | S 24°29.95' | 6.5957' | 61.1547' | 175°49.90' | **05** |
| **06** | 269°08.70' | 14.9951° | 281°43.67' | S 22°59.98' | 0.2056' | 292°42.41' | 14.3570° | 258°09.96' | S 24°36.37' | 6.4133' | 61.1644' | 190°52.37' | **06** |
| **07** | 284°08.40' | 14.9951° | 281°46.43' | S 22°59.78' | 0.2064' | 307°03.75' | 14.3556° | 258°51.08' | S 24°42.60' | 6.2294' | 61.1735' | 205°54.83' | **07** |
| **08** | 299°08.11' | 14.9951° | 281°49.19' | S 22°59.57' | 0.2072' | 321°25.01' | 14.3543° | 259°32.29' | S 24°48.64' | 6.0439' | 61.1821' | 220°57.30' | **08** |
| **09** | 314°07.81' | 14.9951° | 281°51.95' | S 22°59.36' | 0.2080' | 335°46.18' | 14.3530° | 260°13.58' | S 24°54.50' | 5.8570' | 61.1902' | 235°59.76' | **09** |
| **10** | 329°07.51' | 14.9951° | 281°54.71' | S 22°59.15' | 0.2088' | 350°07.28' | 14.3517° | 260°54.94' | S 25°00.17' | 5.6686' | 61.1977' | 251°02.23' | **10** |
| **11** | 344°07.22' | 14.9951° | 281°57.47' | S 22°58.94' | 0.2096' | 4°28.31' | 14.3504° | 261°36.38' | S 25°05.65' | 5.4789' | 61.2046' | 266°04.69' | **11** |
| **12** | 359°06.92' | 14.9951° | 282°00.23' | S 22°58.73' | 0.2104' | 18°49.26' | 14.3492° | 262°17.89' | S 25°10.93' | 5.2878' | 61.2110' | 281°07.15' | **12** |
| **13** | 14°06.63' | 14.9951° | 282°02.99' | S 22°58.52' | 0.2112' | 33°10.15' | 14.3481° | 262°59.47' | S 25°16.03' | 5.0954' | 61.2169' | 296°09.62' | **13** |
| **14** | 29°06.33' | 14.9951° | 282°05.75' | S 22°58.31' | 0.2120' | 47°30.97' | 14.3470° | 263°41.11' | S 25°20.93' | 4.9017' | 61.2222' | 311°12.08' | **14** |
| **15** | 44°06.04' | 14.9951° | 282°08.51' | S 22°58.10' | 0.2128' | 61°51.72' | 14.3459° | 264°22.82' | S 25°25.64' | 4.7069' | 61.2270' | 326°14.55' | **15** |
| **16** | 59°05.74' | 14.9951° | 282°11.27' | S 22°57.88' | 0.2136' | 76°12.42' | 14.3449° | 265°04.59' | S 25°30.15' | 4.5109' | 61.2311' | 341°17.01' | **16** |
| **17** | 74°05.45' | 14.9951° | 282°14.03' | S 22°57.67' | 0.2144' | 90°33.05' | 14.3439° | 265°46.42' | S 25°34.46' | 4.3138' | 61.2348' | 356°19.48' | **17** |
| **18** | 89°05.15' | 14.9951° | 282°16.79' | S 22°57.46' | 0.2152' | 104°53.64' | 14.3430° | 266°28.30' | S 25°38.58' | 4.1156' | 61.2378' | 11°21.94' | **18** |
| **19** | 104°04.86' | 14.9951° | 282°19.54' | S 22°57.24' | 0.2160' | 119°14.16' | 14.3421° | 267°10.24' | S 25°42.49' | 3.9165' | 61.2403' | 26°24.40' | **19** |
| **20** | 119°04.57' | 14.9951° | 282°22.30' | S 22°57.02' | 0.2168' | 133°34.64' | 14.3413° | 267°52.23' | S 25°46.21' | 3.7164' | 61.2423' | 41°26.87' | **20** |
| **21** | 134°04.27' | 14.9951° | 282°25.06' | S 22°56.81' | 0.2176' | 147°55.08' | 14.3406° | 268°34.26' | S 25°49.73' | 3.5154' | 61.2437' | 56°29.33' | **21** |
| **22** | 149°03.98' | 14.9951° | 282°27.82' | S 22°56.59' | 0.2183' | 162°15.47' | 14.3398° | 269°16.33' | S 25°53.04' | 3.3135' | 61.2445' | 71°31.80' | **22** |
| **23** | 164°03.68' | 14.9951° | 282°30.58' | S 22°56.37' | 0.2191' | 176°35.82' | 14.3392° | 269°58.45' | S 25°56.15' | 3.1109' | 61.2447' | 86°34.26' | **23** |
| **24** | 179°03.39' | 14.9951° | 282°33.33' | S 22°56.15' | 0.2199' | 190°56.13' | 14.3385° | 270°40.60' | S 25°59.06' | 2.9075' | 61.2444' | 101°36.73' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2646' | hp (π) 0.1490' | ½Ø 16.6788' | 2.48835236905424<br>2% -cre |
| | EoT at 12:00 UTC : -3m 32s (δ -1.18 s/h) | | Phase at 12:00 UTC : 341.99° | |
| | Meridian Pass. Time : 12:03:32.307 | | Age : 26.6 day(s) | |

| UT | Venus ♀ (π 0.54') | | | Mars ♂ (π 0.06') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 166°00.04' | 294°37.54' | S 18°35.03' | 208°58.03' | 251°39.55' | S 22°30.00' | 127°39.36' | 332°58.23' | S 12°12.66' | 146°01.31' | 314°36.27' | S 18°00.63' | **00** |
| **01** | 181°03.89' | 294°36.16' | S 18°34.59' | 223°58.59' | 251°41.46' | S 22°30.25' | 142°41.35' | 332°58.69' | S 12°12.48' | 161°03.50' | 314°36.54' | S 18°00.56' | **01** |
| **02** | 196°07.73' | 294°34.78' | S 18°34.14' | 238°59.15' | 251°43.36' | S 22°30.50' | 157°43.35' | 332°59.16' | S 12°12.31' | 176°05.69' | 314°36.82' | S 18°00.48' | **02** |
| **03** | 211°11.58' | 294°33.40' | S 18°33.70' | 253°59.71' | 251°45.27' | S 22°30.75' | 172°45.35' | 332°59.63' | S 12°12.13' | 191°07.89' | 314°37.09' | S 18°00.41' | **03** |
| **04** | 226°15.43' | 294°32.01' | S 18°33.26' | 269°00.27' | 251°47.18' | S 22°30.99' | 187°47.35' | 333°00.09' | S 12°11.95' | 206°10.08' | 314°37.37' | S 18°00.34' | **04** |
| **05** | 241°19.29' | 294°30.62' | S 18°32.82' | 284°00.82' | 251°49.08' | S 22°31.24' | 202°49.34' | 333°00.56' | S 12°11.78' | 221°12.27' | 314°37.64' | S 18°00.26' | **05** |
| **06** | 256°23.14' | 294°29.23' | S 18°32.39' | 299°01.38' | 251°50.99' | S 22°31.49' | 217°51.34' | 333°01.03' | S 12°11.60' | 236°14.46' | 314°37.91' | S 18°00.19' | **06** |
| **07** | 271°27.00' | 294°27.83' | S 18°31.95' | 314°01.94' | 251°52.89' | S 22°31.74' | 232°53.34' | 333°01.50' | S 12°11.43' | 251°16.65' | 314°38.19' | S 18°00.11' | **07** |
| **08** | 286°30.87' | 294°26.43' | S 18°31.51' | 329°02.50' | 251°54.80' | S 22°31.98' | 247°55.33' | 333°01.96' | S 12°11.25' | 266°18.84' | 314°38.46' | S 18°00.04' | **08** |
| **09** | 301°34.73' | 294°25.03' | S 18°31.07' | 344°03.06' | 251°56.71' | S 22°32.23' | 262°57.33' | 333°02.43' | S 12°11.07' | 281°21.03' | 314°38.73' | S 17°59.96' | **09** |
| **10** | 316°38.60' | 294°23.62' | S 18°30.63' | 359°03.61' | 251°58.61' | S 22°32.48' | 277°59.33' | 333°02.90' | S 12°10.90' | 296°23.22' | 314°39.01' | S 17°59.89' | **10** |
| **11** | 331°42.47' | 294°22.22' | S 18°30.20' | 14°04.17' | 252°00.52' | S 22°32.72' | 293°01.32' | 333°03.37' | S 12°10.72' | 311°25.41' | 314°39.28' | S 17°59.81' | **11** |
| **12** | 346°46.35' | 294°20.81' | S 18°29.76' | 29°04.73' | 252°02.43' | S 22°32.97' | 308°03.32' | 333°03.83' | S 12°10.54' | 326°27.60' | 314°39.56' | S 17°59.74' | **12** |
| **13** | 1°50.23' | 294°19.39' | S 18°29.32' | 44°05.29' | 252°04.33' | S 22°33.21' | 323°05.32' | 333°04.30' | S 12°10.37' | 341°29.79' | 314°39.83' | S 17°59.66' | **13** |
| **14** | 16°54.11' | 294°17.98' | S 18°28.89' | 59°05.84' | 252°06.24' | S 22°33.46' | 338°07.31' | 333°04.77' | S 12°10.19' | 356°31.98' | 314°40.11' | S 17°59.59' | **14** |
| **15** | 31°57.99' | 294°16.56' | S 18°28.45' | 74°06.40' | 252°08.15' | S 22°33.70' | 353°09.31' | 333°05.24' | S 12°10.01' | 11°34.17' | 314°40.38' | S 17°59.51' | **15** |
| **16** | 47°01.88' | 294°15.14' | S 18°28.02' | 89°06.96' | 252°10.06' | S 22°33.95' | 8°11.30' | 333°05.71' | S 12°09.83' | 26°36.36' | 314°40.65' | S 17°59.44' | **16** |
| **17** | 62°05.77' | 294°13.71' | S 18°27.58' | 104°07.51' | 252°11.96' | S 22°34.19' | 23°13.30' | 333°06.18' | S 12°09.66' | 41°38.55' | 314°40.93' | S 17°59.36' | **17** |
| **18** | 77°09.66' | 294°12.28' | S 18°27.15' | 119°08.07' | 252°13.87' | S 22°34.44' | 38°15.30' | 333°06.64' | S 12°09.48' | 56°40.74' | 314°41.20' | S 17°59.29' | **18** |
| **19** | 92°13.55' | 294°10.85' | S 18°26.72' | 134°08.62' | 252°15.78' | S 22°34.68' | 53°17.29' | 333°07.11' | S 12°09.30' | 71°42.93' | 314°41.48' | S 17°59.21' | **19** |
| **20** | 107°17.45' | 294°09.42' | S 18°26.28' | 149°09.18' | 252°17.69' | S 22°34.92' | 68°19.29' | 333°07.58' | S 12°09.13' | 86°45.12' | 314°41.75' | S 17°59.14' | **20** |
| **21** | 122°21.35' | 294°07.98' | S 18°25.85' | 164°09.73' | 252°19.60' | S 22°35.16' | 83°21.28' | 333°08.05' | S 12°08.95' | 101°47.30' | 314°42.03' | S 17°59.06' | **21** |
| **22** | 137°25.25' | 294°06.54' | S 18°25.42' | 179°10.29' | 252°21.51' | S 22°35.41' | 98°23.28' | 333°08.52' | S 12°08.77' | 116°49.49' | 314°42.30' | S 17°58.99' | **22** |
| **23** | 152°29.16' | 294°05.10' | S 18°24.99' | 194°10.85' | 252°23.42' | S 22°35.65' | 113°25.27' | 333°08.99' | S 12°08.59' | 131°51.68' | 314°42.58' | S 17°58.92' | **23** |
| **24** | 167°33.07' | 294°03.66' | S 18°24.56' | 209°11.40' | 252°25.33' | S 22°35.89' | 128°27.27' | 333°09.46' | S 12°08.42' | 146°53.87' | 314°42.85' | S 17°58.84' | **24** |
| | δ 15.0640° | | *d* 0.4412' | δ 15.0093° | | *d* 0.2495' | δ 15.0333° | | *d* 0.1760' | δ 15.0365° | | *d* 0.0744' | |

## *Sunday, January 2nd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°03.39' | 14.9951° | 282°33.33' | S 22°56.15' | 0.2199' | 190°56.13' | 14.3385° | 270°40.60' | S 25°59.06' | 2.9075' | 61.2444' | 101°36.73' | **00** |
| **01** | 194°03.10' | 14.9951° | 282°36.09' | S 22°55.93' | 0.2207' | 205°16.41' | 14.3380° | 271°22.78' | S 26°01.76' | 2.7035' | 61.2434' | 116°39.19' | **01** |
| **02** | 209°02.80' | 14.9951° | 282°38.85' | S 22°55.71' | 0.2215' | 219°36.66' | 14.3375° | 272°05.00' | S 26°04.26' | 2.4989' | 61.2420' | 131°41.65' | **02** |
| **03** | 224°02.51' | 14.9951° | 282°41.61' | S 22°55.48' | 0.2223' | 233°56.88' | 14.3370° | 272°47.24' | S 26°06.55' | 2.2937' | 61.2399' | 146°44.12' | **03** |
| **04** | 239°02.22' | 14.9951° | 282°44.36' | S 22°55.26' | 0.2231' | 248°17.07' | 14.3366° | 273°29.51' | S 26°08.64' | 2.0880' | 61.2373' | 161°46.58' | **04** |
| **05** | 254°01.93' | 14.9951° | 282°47.12' | S 22°55.04' | 0.2239' | 262°37.25' | 14.3363° | 274°11.80' | S 26°10.52' | 1.8818' | 61.2341' | 176°49.05' | **05** |
| **06** | 269°01.63' | 14.9951° | 282°49.88' | S 22°54.81' | 0.2247' | 276°57.41' | 14.3360° | 274°54.10' | S 26°12.20' | 1.6753' | 61.2304' | 191°51.51' | **06** |
| **07** | 284°01.34' | 14.9951° | 282°52.63' | S 22°54.59' | 0.2255' | 291°17.55' | 14.3357° | 275°36.42' | S 26°13.67' | 1.4685' | 61.2260' | 206°53.98' | **07** |
| **08** | 299°01.05' | 14.9951° | 282°55.39' | S 22°54.36' | 0.2263' | 305°37.69' | 14.3356° | 276°18.75' | S 26°14.93' | 1.2614' | 61.2211' | 221°56.44' | **08** |
| **09** | 314°00.76' | 14.9951° | 282°58.15' | S 22°54.13' | 0.2271' | 319°57.81' | 14.3354° | 277°01.09' | S 26°15.98' | 1.0541' | 61.2156' | 236°58.90' | **09** |
| **10** | 329°00.46' | 14.9951° | 283°00.90' | S 22°53.90' | 0.2279' | 334°17.94' | 14.3354° | 277°43.43' | S 26°16.83' | 0.8467' | 61.2096' | 252°01.37' | **10** |
| **11** | 344°00.17' | 14.9951° | 283°03.66' | S 22°53.68' | 0.2287' | 348°38.06' | 14.3354° | 278°25.77' | S 26°17.47' | 0.6391' | 61.2030' | 267°03.83' | **11** |
| **12** | 358°59.88' | 14.9951° | 283°06.42' | S 22°53.45' | 0.2294' | 2°58.18' | 14.3354° | 279°08.12' | S 26°17.90' | 0.4316' | 61.1958' | 282°06.30' | **12** |
| **13** | 13°59.59' | 14.9951° | 283°09.17' | S 22°53.22' | 0.2302' | 17°18.31' | 14.3355° | 279°50.45' | S 26°18.12' | 0.2241' | 61.1881' | 297°08.76' | **13** |
| **14** | 28°59.30' | 14.9951° | 283°11.93' | S 22°52.99' | 0.2310' | 31°38.45' | 14.3357° | 280°32.77' | S 26°18.14' | 0.0167' | 61.1797' | 312°11.23' | **14** |
| **15** | 43°59.01' | 14.9951° | 283°14.68' | S 22°52.75' | 0.2318' | 45°58.60' | 14.3359° | 281°15.09' | S 26°17.95' | 0.1905' | 61.1709' | 327°13.69' | **15** |
| **16** | 58°58.71' | 14.9951° | 283°17.44' | S 22°52.52' | 0.2326' | 60°18.77' | 14.3361° | 281°57.38' | S 26°17.55' | 0.3975' | 61.1614' | 342°16.15' | **16** |
| **17** | 73°58.42' | 14.9952° | 283°20.19' | S 22°52.29' | 0.2334' | 74°38.96' | 14.3365° | 282°39.66' | S 26°16.95' | 0.6042' | 61.1514' | 357°18.62' | **17** |
| **18** | 88°58.13' | 14.9952° | 283°22.95' | S 22°52.05' | 0.2342' | 88°59.17' | 14.3368° | 283°21.91' | S 26°16.14' | 0.8106' | 61.1409' | 12°21.08' | **18** |
| **19** | 103°57.84' | 14.9952° | 283°25.70' | S 22°51.82' | 0.2350' | 103°19.41' | 14.3373° | 284°04.14' | S 26°15.12' | 1.0166' | 61.1297' | 27°23.55' | **19** |
| **20** | 118°57.55' | 14.9952° | 283°28.46' | S 22°51.58' | 0.2358' | 117°39.67' | 14.3378° | 284°46.34' | S 26°13.90' | 1.2221' | 61.1181' | 42°26.01' | **20** |
| **21** | 133°57.26' | 14.9952° | 283°31.21' | S 22°51.35' | 0.2366' | 131°59.97' | 14.3383° | 285°28.50' | S 26°12.47' | 1.4271' | 61.1058' | 57°28.48' | **21** |
| **22** | 148°56.97' | 14.9952° | 283°33.97' | S 22°51.11' | 0.2374' | 146°20.31' | 14.3389° | 286°10.63' | S 26°10.84' | 1.6315' | 61.0930' | 72°30.94' | **22** |
| **23** | 163°56.68' | 14.9952° | 283°36.72' | S 22°50.87' | 0.2381' | 160°40.68' | 14.3396° | 286°52.72' | S 26°09.01' | 1.8353' | 61.0797' | 87°33.40' | **23** |
| **24** | 178°56.39' | 14.9952° | 283°39.48' | S 22°50.63' | 0.2389' | 175°01.10' | 14.3403° | 287°34.77' | S 26°06.97' | 2.0384' | 61.0658' | 102°35.87' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | ½Ø 16.2648' | hp (π) 0.1490' | ½Ø 16.6746' | 0.18849026058829<br>21% -cre | | |
| | EoT at 12:00 UTC : -4m 0s (δ -1.17 s/h) | | Phase at 12:00 UTC : 356.14° | | | |
| | Meridian Pass. Time : 12:04:00.478 | | Age : 27.7 day(s) | | | |

| UT | Venus ♀ (π 0.54') | | | Mars ♂ (π 0.06') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 167°33.07' | 294°03.66' | S 18°24.56' | 209°11.40' | 252°25.33' | S 22°35.89' | 128°27.27' | 333°09.46' | S 12°08.42' | 146°53.87' | 314°42.85' | S 17°58.84' | **00** |
| **01** | 182°36.98' | 294°02.21' | S 18°24.13' | 224°11.96' | 252°27.23' | S 22°36.13' | 143°29.26' | 333°09.93' | S 12°08.24' | 161°56.06' | 314°43.13' | S 17°58.77' | **01** |
| **02** | 197°40.89' | 294°00.76' | S 18°23.70' | 239°12.51' | 252°29.14' | S 22°36.37' | 158°31.25' | 333°10.40' | S 12°08.06' | 176°58.25' | 314°43.40' | S 17°58.69' | **02** |
| **03** | 212°44.81' | 293°59.31' | S 18°23.27' | 254°13.06' | 252°31.05' | S 22°36.61' | 173°33.25' | 333°10.87' | S 12°07.88' | 192°00.44' | 314°43.68' | S 17°58.62' | **03** |
| **04** | 227°48.73' | 293°57.86' | S 18°22.84' | 269°13.62' | 252°32.96' | S 22°36.85' | 188°35.24' | 333°11.34' | S 12°07.71' | 207°02.63' | 314°43.95' | S 17°58.54' | **04** |
| **05** | 242°52.65' | 293°56.40' | S 18°22.41' | 284°14.17' | 252°34.87' | S 22°37.09' | 203°37.24' | 333°11.81' | S 12°07.53' | 222°04.82' | 314°44.23' | S 17°58.46' | **05** |
| **06** | 257°56.57' | 293°54.94' | S 18°21.98' | 299°14.73' | 252°36.78' | S 22°37.33' | 218°39.23' | 333°12.28' | S 12°07.35' | 237°07.01' | 314°44.51' | S 17°58.39' | **06** |
| **07** | 273°00.50' | 293°53.48' | S 18°21.55' | 314°15.28' | 252°38.69' | S 22°37.57' | 233°41.22' | 333°12.75' | S 12°07.17' | 252°09.19' | 314°44.78' | S 17°58.31' | **07** |
| **08** | 288°04.43' | 293°52.01' | S 18°21.13' | 329°15.83' | 252°40.61' | S 22°37.81' | 248°43.22' | 333°13.22' | S 12°06.99' | 267°11.38' | 314°45.06' | S 17°58.24' | **08** |
| **09** | 303°08.36' | 293°50.54' | S 18°20.70' | 344°16.39' | 252°42.52' | S 22°38.04' | 263°45.21' | 333°13.69' | S 12°06.82' | 282°13.57' | 314°45.33' | S 17°58.16' | **09** |
| **10** | 318°12.30' | 293°49.07' | S 18°20.27' | 359°16.94' | 252°44.43' | S 22°38.28' | 278°47.20' | 333°14.17' | S 12°06.64' | 297°15.76' | 314°45.61' | S 17°58.09' | **10** |
| **11** | 333°16.23' | 293°47.60' | S 18°19.85' | 14°17.49' | 252°46.34' | S 22°38.52' | 293°49.20' | 333°14.64' | S 12°06.46' | 312°17.95' | 314°45.88' | S 17°58.01' | **11** |
| **12** | 348°20.17' | 293°46.12' | S 18°19.42' | 29°18.05' | 252°48.25' | S 22°38.76' | 308°51.19' | 333°15.11' | S 12°06.28' | 327°20.14' | 314°46.16' | S 17°57.94' | **12** |
| **13** | 3°24.12' | 293°44.64' | S 18°19.00' | 44°18.60' | 252°50.16' | S 22°38.99' | 323°53.18' | 333°15.58' | S 12°06.10' | 342°22.33' | 314°46.44' | S 17°57.86' | **13** |
| **14** | 18°28.06' | 293°43.16' | S 18°18.57' | 59°19.15' | 252°52.07' | S 22°39.23' | 338°55.17' | 333°16.05' | S 12°05.92' | 357°24.51' | 314°46.71' | S 17°57.79' | **14** |
| **15** | 33°32.01' | 293°41.68' | S 18°18.15' | 74°19.70' | 252°53.98' | S 22°39.46' | 353°57.17' | 333°16.52' | S 12°05.75' | 12°26.70' | 314°46.99' | S 17°57.71' | **15** |
| **16** | 48°35.96' | 293°40.20' | S 18°17.72' | 89°20.26' | 252°55.90' | S 22°39.70' | 8°59.16' | 333°17.00' | S 12°05.57' | 27°28.89' | 314°47.26' | S 17°57.64' | **16** |
| **17** | 63°39.91' | 293°38.71' | S 18°17.30' | 104°20.81' | 252°57.81' | S 22°39.93' | 24°01.15' | 333°17.47' | S 12°05.39' | 42°31.08' | 314°47.54' | S 17°57.56' | **17** |
| **18** | 78°43.87' | 293°37.22' | S 18°16.88' | 119°21.36' | 252°59.72' | S 22°40.17' | 39°03.14' | 333°17.94' | S 12°05.21' | 57°33.27' | 314°47.82' | S 17°57.49' | **18** |
| **19** | 93°47.82' | 293°35.72' | S 18°16.45' | 134°21.91' | 253°01.63' | S 22°40.40' | 54°05.13' | 333°18.41' | S 12°05.03' | 72°35.45' | 314°48.09' | S 17°57.41' | **19** |
| **20** | 108°51.78' | 293°34.23' | S 18°16.03' | 149°22.46' | 253°03.55' | S 22°40.64' | 69°07.13' | 333°18.89' | S 12°04.85' | 87°37.64' | 314°48.37' | S 17°57.34' | **20** |
| **21** | 123°55.75' | 293°32.73' | S 18°15.61' | 164°23.02' | 253°05.46' | S 22°40.87' | 84°09.12' | 333°19.36' | S 12°04.67' | 102°39.83' | 314°48.65' | S 17°57.26' | **21** |
| **22** | 138°59.71' | 293°31.23' | S 18°15.19' | 179°23.57' | 253°07.37' | S 22°41.10' | 99°11.11' | 333°19.83' | S 12°04.49' | 117°42.02' | 314°48.92' | S 17°57.18' | **22** |
| **23** | 154°03.68' | 293°29.73' | S 18°14.77' | 194°24.12' | 253°09.29' | S 22°41.34' | 114°13.10' | 333°20.30' | S 12°04.31' | 132°44.21' | 314°49.20' | S 17°57.11' | **23** |
| **24** | 169°07.65' | 293°28.22' | S 18°14.35' | 209°24.67' | 253°11.20' | S 22°41.57' | 129°15.09' | 333°20.78' | S 12°04.14' | 147°46.39' | 314°49.47' | S 17°57.03' | **24** |
| | δ 15.0652° | | *d* 0.4306' | δ 15.0092° | | *d* 0.2409' | δ 15.0332° | | *d* 0.1776' | δ 15.0365° | | *d* 0.0750' | |

## *Monday, January 3rd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°56.39' | 14.9952° | 283°39.48' | S 22°50.63' | 0.2389' | 175°01.10' | 14.3403° | 287°34.77' | S 26°06.97' | 2.0384' | 61.0658' | 102°35.87' | **00** |
| **01** | 193°56.10' | 14.9952° | 283°42.23' | S 22°50.39' | 0.2397' | 189°21.56' | 14.3410° | 288°16.77' | S 26°04.73' | 2.2407' | 61.0514' | 117°38.33' | **01** |
| **02** | 208°55.81' | 14.9952° | 283°44.98' | S 22°50.15' | 0.2405' | 203°42.07' | 14.3418° | 288°58.73' | S 26°02.28' | 2.4423' | 61.0365' | 132°40.80' | **02** |
| **03** | 223°55.52' | 14.9952° | 283°47.74' | S 22°49.91' | 0.2413' | 218°02.63' | 14.3427° | 289°40.63' | S 25°59.64' | 2.6430' | 61.0210' | 147°43.26' | **03** |
| **04** | 238°55.23' | 14.9952° | 283°50.49' | S 22°49.67' | 0.2421' | 232°23.25' | 14.3436° | 290°22.47' | S 25°56.80' | 2.8428' | 61.0050' | 162°45.72' | **04** |
| **05** | 253°54.94' | 14.9952° | 283°53.24' | S 22°49.42' | 0.2429' | 246°43.93' | 14.3446° | 291°04.26' | S 25°53.76' | 3.0416' | 60.9884' | 177°48.19' | **05** |
| **06** | 268°54.66' | 14.9952° | 283°56.00' | S 22°49.18' | 0.2437' | 261°04.66' | 14.3456° | 291°45.99' | S 25°50.52' | 3.2394' | 60.9713' | 192°50.65' | **06** |
| **07** | 283°54.37' | 14.9952° | 283°58.75' | S 22°48.94' | 0.2445' | 275°25.46' | 14.3467° | 292°27.66' | S 25°47.08' | 3.4361' | 60.9537' | 207°53.12' | **07** |
| **08** | 298°54.08' | 14.9952° | 284°01.50' | S 22°48.69' | 0.2452' | 289°46.33' | 14.3478° | 293°09.25' | S 25°43.45' | 3.6318' | 60.9356' | 222°55.58' | **08** |
| **09** | 313°53.79' | 14.9952° | 284°04.26' | S 22°48.45' | 0.2460' | 304°07.26' | 14.3489° | 293°50.78' | S 25°39.62' | 3.8262' | 60.9170' | 237°58.05' | **09** |
| **10** | 328°53.50' | 14.9952° | 284°07.01' | S 22°48.20' | 0.2468' | 318°28.27' | 14.3501° | 294°32.24' | S 25°35.60' | 4.0195' | 60.8978' | 253°00.51' | **10** |
| **11** | 343°53.21' | 14.9952° | 284°09.76' | S 22°47.95' | 0.2476' | 332°49.36' | 14.3514° | 295°13.62' | S 25°31.39' | 4.2115' | 60.8782' | 268°02.97' | **11** |
| **12** | 358°52.93' | 14.9952° | 284°12.51' | S 22°47.70' | 0.2484' | 347°10.52' | 14.3527° | 295°54.92' | S 25°26.99' | 4.4022' | 60.8580' | 283°05.44' | **12** |
| **13** | 13°52.64' | 14.9952° | 284°15.27' | S 22°47.45' | 0.2492' | 1°31.76' | 14.3540° | 296°36.15' | S 25°22.40' | 4.5915' | 60.8374' | 298°07.90' | **13** |
| **14** | 28°52.35' | 14.9952° | 284°18.02' | S 22°47.20' | 0.2500' | 15°53.08' | 14.3554° | 297°17.29' | S 25°17.62' | 4.7795' | 60.8162' | 313°10.37' | **14** |
| **15** | 43°52.06' | 14.9952° | 284°20.77' | S 22°46.95' | 0.2507' | 30°14.49' | 14.3568° | 297°58.34' | S 25°12.65' | 4.9660' | 60.7946' | 328°12.83' | **15** |
| **16** | 58°51.78' | 14.9952° | 284°23.52' | S 22°46.70' | 0.2515' | 44°35.99' | 14.3583° | 298°39.31' | S 25°07.50' | 5.1511' | 60.7725' | 343°15.30' | **16** |
| **17** | 73°51.49' | 14.9952° | 284°26.27' | S 22°46.45' | 0.2523' | 58°57.57' | 14.3598° | 299°20.19' | S 25°02.17' | 5.3346' | 60.7498' | 358°17.76' | **17** |
| **18** | 88°51.20' | 14.9952° | 284°29.02' | S 22°46.20' | 0.2531' | 73°19.25' | 14.3613° | 300°00.97' | S 24°56.65' | 5.5166' | 60.7268' | 13°20.22' | **18** |
| **19** | 103°50.92' | 14.9952° | 284°31.77' | S 22°45.94' | 0.2539' | 87°41.02' | 14.3629° | 300°41.66' | S 24°50.95' | 5.6970' | 60.7032' | 28°22.69' | **19** |
| **20** | 118°50.63' | 14.9952° | 284°34.52' | S 22°45.69' | 0.2547' | 102°02.89' | 14.3645° | 301°22.26' | S 24°45.08' | 5.8758' | 60.6792' | 43°25.15' | **20** |
| **21** | 133°50.34' | 14.9952° | 284°37.27' | S 22°45.43' | 0.2555' | 116°24.86' | 14.3662° | 302°02.75' | S 24°39.03' | 6.0529' | 60.6548' | 58°27.62' | **21** |
| **22** | 148°50.06' | 14.9952° | 284°40.02' | S 22°45.18' | 0.2562' | 130°46.93' | 14.3678° | 302°43.15' | S 24°32.80' | 6.2283' | 60.6298' | 73°30.08' | **22** |
| **23** | 163°49.77' | 14.9952° | 284°42.78' | S 22°44.92' | 0.2570' | 145°09.11' | 14.3695° | 303°23.44' | S 24°26.40' | 6.4021' | 60.6045' | 88°32.55' | **23** |
| **24** | 178°49.48' | 14.9952° | 284°45.53' | S 22°44.66' | 0.2578' | 159°31.38' | 14.3713° | 304°03.63' | S 24°19.82' | 6.5740' | 60.5787' | 103°35.01' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2648' | hp (π) 0.1491' | ½Ø 16.5826' | 0.92393522145787<br>78% +cre |
| | EoT at 12:00 UTC : -4m 28s (δ -1.15 s/h) | | Phase at 12:00 UTC : 10.23° | |
| | Meridian Pass. Time : 12:04:28.297 | | Age : 0.8 day(s) | |

| UT | Venus ♀ (π 0.54') | | | Mars ♂ (π 0.06') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 169°07.65' | 293°28.22' | S 18°14.35' | 209°24.67' | 253°11.20' | S 22°41.57' | 129°15.09' | 333°20.78' | S 12°04.14' | 147°46.39' | 314°49.47' | S 17°57.03' | **00** |
| **01** | 184°11.62' | 293°26.72' | S 18°13.93' | 224°25.22' | 253°13.11' | S 22°41.80' | 144°17.08' | 333°21.25' | S 12°03.96' | 162°48.58' | 314°49.75' | S 17°56.96' | **01** |
| **02** | 199°15.59' | 293°25.21' | S 18°13.51' | 239°25.77' | 253°15.03' | S 22°42.03' | 159°19.07' | 333°21.72' | S 12°03.78' | 177°50.77' | 314°50.03' | S 17°56.88' | **02** |
| **03** | 214°19.57' | 293°23.69' | S 18°13.09' | 254°26.32' | 253°16.94' | S 22°42.27' | 174°21.06' | 333°22.20' | S 12°03.60' | 192°52.96' | 314°50.31' | S 17°56.81' | **03** |
| **04** | 229°23.55' | 293°22.18' | S 18°12.68' | 269°26.87' | 253°18.86' | S 22°42.50' | 189°23.05' | 333°22.67' | S 12°03.42' | 207°55.14' | 314°50.58' | S 17°56.73' | **04** |
| **05** | 244°27.53' | 293°20.66' | S 18°12.26' | 284°27.42' | 253°20.77' | S 22°42.73' | 204°25.04' | 333°23.14' | S 12°03.24' | 222°57.33' | 314°50.86' | S 17°56.66' | **05** |
| **06** | 259°31.51' | 293°19.14' | S 18°11.84' | 299°27.97' | 253°22.68' | S 22°42.96' | 219°27.03' | 333°23.62' | S 12°03.06' | 237°59.52' | 314°51.14' | S 17°56.58' | **06** |
| **07** | 274°35.49' | 293°17.62' | S 18°11.43' | 314°28.52' | 253°24.60' | S 22°43.19' | 234°29.02' | 333°24.09' | S 12°02.88' | 253°01.70' | 314°51.41' | S 17°56.50' | **07** |
| **08** | 289°39.48' | 293°16.10' | S 18°11.01' | 329°29.07' | 253°26.51' | S 22°43.42' | 249°31.01' | 333°24.57' | S 12°02.70' | 268°03.89' | 314°51.69' | S 17°56.43' | **08** |
| **09** | 304°43.47' | 293°14.57' | S 18°10.59' | 344°29.62' | 253°28.43' | S 22°43.65' | 264°33.00' | 333°25.04' | S 12°02.52' | 283°06.08' | 314°51.97' | S 17°56.35' | **09** |
| **10** | 319°47.46' | 293°13.05' | S 18°10.18' | 359°30.17' | 253°30.34' | S 22°43.88' | 279°34.99' | 333°25.52' | S 12°02.34' | 298°08.27' | 314°52.24' | S 17°56.28' | **10** |
| **11** | 334°51.46' | 293°11.52' | S 18°09.76' | 14°30.71' | 253°32.26' | S 22°44.10' | 294°36.98' | 333°25.99' | S 12°02.16' | 313°10.45' | 314°52.52' | S 17°56.20' | **11** |
| **12** | 349°55.45' | 293°09.98' | S 18°09.35' | 29°31.26' | 253°34.18' | S 22°44.33' | 309°38.97' | 333°26.47' | S 12°01.98' | 328°12.64' | 314°52.80' | S 17°56.13' | **12** |
| **13** | 4°59.45' | 293°08.45' | S 18°08.94' | 44°31.81' | 253°36.09' | S 22°44.56' | 324°40.96' | 333°26.94' | S 12°01.80' | 343°14.83' | 314°53.08' | S 17°56.05' | **13** |
| **14** | 20°03.45' | 293°06.91' | S 18°08.52' | 59°32.36' | 253°38.01' | S 22°44.79' | 339°42.95' | 333°27.42' | S 12°01.62' | 358°17.01' | 314°53.35' | S 17°55.97' | **14** |
| **15** | 35°07.46' | 293°05.38' | S 18°08.11' | 74°32.91' | 253°39.92' | S 22°45.02' | 354°44.94' | 333°27.89' | S 12°01.44' | 13°19.20' | 314°53.63' | S 17°55.90' | **15** |
| **16** | 50°11.46' | 293°03.84' | S 18°07.70' | 89°33.46' | 253°41.84' | S 22°45.24' | 9°46.93' | 333°28.37' | S 12°01.26' | 28°21.39' | 314°53.91' | S 17°55.82' | **16** |
| **17** | 65°15.47' | 293°02.29' | S 18°07.29' | 104°34.00' | 253°43.76' | S 22°45.47' | 24°48.92' | 333°28.84' | S 12°01.08' | 43°23.57' | 314°54.19' | S 17°55.75' | **17** |
| **18** | 80°19.48' | 293°00.75' | S 18°06.88' | 119°34.55' | 253°45.67' | S 22°45.69' | 39°50.91' | 333°29.32' | S 12°00.90' | 58°25.76' | 314°54.47' | S 17°55.67' | **18** |
| **19** | 95°23.49' | 292°59.20' | S 18°06.47' | 134°35.10' | 253°47.59' | S 22°45.92' | 54°52.90' | 333°29.79' | S 12°00.72' | 73°27.95' | 314°54.74' | S 17°55.59' | **19** |
| **20** | 110°27.50' | 292°57.65' | S 18°06.06' | 149°35.65' | 253°49.51' | S 22°46.15' | 69°54.88' | 333°30.27' | S 12°00.54' | 88°30.13' | 314°55.02' | S 17°55.52' | **20** |
| **21** | 125°31.52' | 292°56.10' | S 18°05.65' | 164°36.19' | 253°51.42' | S 22°46.37' | 84°56.87' | 333°30.75' | S 12°00.36' | 103°32.32' | 314°55.30' | S 17°55.44' | **21** |
| **22** | 140°35.53' | 292°54.55' | S 18°05.24' | 179°36.74' | 253°53.34' | S 22°46.59' | 99°58.86' | 333°31.22' | S 12°00.18' | 118°34.50' | 314°55.58' | S 17°55.37' | **22** |
| **23** | 155°39.55' | 292°52.99' | S 18°04.83' | 194°37.29' | 253°55.26' | S 22°46.82' | 115°00.85' | 333°31.70' | S 11°60.00' | 133°36.69' | 314°55.85' | S 17°55.29' | **23** |
| **24** | 170°43.57' | 292°51.44' | S 18°04.42' | 209°37.83' | 253°57.18' | S 22°47.04' | 130°02.84' | 333°32.17' | S 11°59.82' | 148°38.88' | 314°56.13' | S 17°55.21' | **24** |
| | δ 15.0662° | | *d* 0.4194' | δ 15.0092° | | *d* 0.2322' | δ 15.0332° | | *d* 0.1792' | δ 15.0365° | | *d* 0.0755' | |

## *Tuesday, January 4th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°49.48' | 14.9952° | 284°45.53' | S 22°44.66' | 0.2578' | 159°31.38' | 14.3713° | 304°03.63' | S 24°19.82' | 6.5740' | 60.5787' | 103°35.01' | **00** |
| **01** | 193°49.20' | 14.9952° | 284°48.28' | S 22°44.40' | 0.2586' | 173°53.77' | 14.3731° | 304°43.71' | S 24°13.08' | 6.7442' | 60.5524' | 118°37.47' | **01** |
| **02** | 208°48.91' | 14.9952° | 284°51.02' | S 22°44.14' | 0.2594' | 188°16.26' | 14.3749° | 305°23.68' | S 24°06.16' | 6.9126' | 60.5257' | 133°39.94' | **02** |
| **03** | 223°48.63' | 14.9952° | 284°53.77' | S 22°43.88' | 0.2602' | 202°38.86' | 14.3767° | 306°03.54' | S 23°59.09' | 7.0791' | 60.4986' | 148°42.40' | **03** |
| **04** | 238°48.34' | 14.9952° | 284°56.52' | S 22°43.62' | 0.2610' | 217°01.58' | 14.3786° | 306°43.29' | S 23°51.84' | 7.2438' | 60.4711' | 163°44.87' | **04** |
| **05** | 253°48.06' | 14.9953° | 284°59.27' | S 22°43.36' | 0.2617' | 231°24.40' | 14.3805° | 307°22.93' | S 23°44.44' | 7.4066' | 60.4432' | 178°47.33' | **05** |
| **06** | 268°47.77' | 14.9953° | 285°02.02' | S 22°43.10' | 0.2625' | 245°47.35' | 14.3824° | 308°02.45' | S 23°36.87' | 7.5675' | 60.4148' | 193°49.79' | **06** |
| **07** | 283°47.49' | 14.9953° | 285°04.77' | S 22°42.83' | 0.2633' | 260°10.40' | 14.3843° | 308°41.85' | S 23°29.14' | 7.7265' | 60.3861' | 208°52.26' | **07** |
| **08** | 298°47.20' | 14.9953° | 285°07.52' | S 22°42.57' | 0.2641' | 274°33.58' | 14.3863° | 309°21.14' | S 23°21.26' | 7.8835' | 60.3569' | 223°54.72' | **08** |
| **09** | 313°46.92' | 14.9953° | 285°10.27' | S 22°42.31' | 0.2649' | 288°56.87' | 14.3882° | 310°00.31' | S 23°13.22' | 8.0386' | 60.3274' | 238°57.19' | **09** |
| **10** | 328°46.64' | 14.9953° | 285°13.02' | S 22°42.04' | 0.2656' | 303°20.29' | 14.3902° | 310°39.36' | S 23°05.03' | 8.1917' | 60.2975' | 253°59.65' | **10** |
| **11** | 343°46.35' | 14.9953° | 285°15.76' | S 22°41.77' | 0.2664' | 317°43.82' | 14.3923° | 311°18.29' | S 22°56.68' | 8.3427' | 60.2672' | 269°02.12' | **11** |
| **12** | 358°46.07' | 14.9953° | 285°18.51' | S 22°41.51' | 0.2672' | 332°07.48' | 14.3943° | 311°57.10' | S 22°48.19' | 8.4918' | 60.2365' | 284°04.58' | **12** |
| **13** | 13°45.79' | 14.9953° | 285°21.26' | S 22°41.24' | 0.2680' | 346°31.26' | 14.3963° | 312°35.78' | S 22°39.55' | 8.6389' | 60.2055' | 299°07.04' | **13** |
| **14** | 28°45.50' | 14.9953° | 285°24.01' | S 22°40.97' | 0.2688' | 0°55.16' | 14.3984° | 313°14.34' | S 22°30.77' | 8.7839' | 60.1741' | 314°09.51' | **14** |
| **15** | 43°45.22' | 14.9953° | 285°26.75' | S 22°40.70' | 0.2696' | 15°19.19' | 14.4005° | 313°52.78' | S 22°21.84' | 8.9269' | 60.1424' | 329°11.97' | **15** |
| **16** | 58°44.94' | 14.9953° | 285°29.50' | S 22°40.43' | 0.2703' | 29°43.35' | 14.4026° | 314°31.09' | S 22°12.78' | 9.0678' | 60.1103' | 344°14.44' | **16** |
| **17** | 73°44.65' | 14.9953° | 285°32.25' | S 22°40.16' | 0.2711' | 44°07.63' | 14.4047° | 315°09.27' | S 22°03.57' | 9.2067' | 60.0779' | 359°16.90' | **17** |
| **18** | 88°44.37' | 14.9953° | 285°34.99' | S 22°39.89' | 0.2719' | 58°32.04' | 14.4068° | 315°47.33' | S 21°54.23' | 9.3435' | 60.0451' | 14°19.37' | **18** |
| **19** | 103°44.09' | 14.9953° | 285°37.74' | S 22°39.61' | 0.2727' | 72°56.57' | 14.4089° | 316°25.25' | S 21°44.75' | 9.4782' | 60.0121' | 29°21.83' | **19** |
| **20** | 118°43.81' | 14.9953° | 285°40.49' | S 22°39.34' | 0.2735' | 87°21.24' | 14.4111° | 317°03.05' | S 21°35.14' | 9.6108' | 59.9787' | 44°24.29' | **20** |
| **21** | 133°43.52' | 14.9953° | 285°43.23' | S 22°39.07' | 0.2742' | 101°46.03' | 14.4132° | 317°40.73' | S 21°25.39' | 9.7414' | 59.9450' | 59°26.76' | **21** |
| **22** | 148°43.24' | 14.9953° | 285°45.98' | S 22°38.79' | 0.2750' | 116°10.95' | 14.4154° | 318°18.27' | S 21°15.52' | 9.8699' | 59.9110' | 74°29.22' | **22** |
| **23** | 163°42.96' | 14.9953° | 285°48.73' | S 22°38.52' | 0.2758' | 130°36.01' | 14.4175° | 318°55.68' | S 21°05.53' | 9.9962' | 59.8767' | 89°31.69' | **23** |
| **24** | 178°42.68' | 14.9953° | 285°51.47' | S 22°38.24' | 0.2766' | 145°01.19' | 14.4197° | 319°32.96' | S 20°55.41' | 10.1205' | 59.8421' | 104°34.15' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 16.2649' | hp (π) 0.1491' | ½Ø 16.4133' | 4.53686455759089<br>75% +cre | |
| | EoT at 12:00 UTC : -4m 55s (δ -1.13 s/h) | | Phase at 12:00 UTC : 24.10° | | |
| | Meridian Pass. Time : 12:04:55.726 | | Age : 1.9 day(s) | | |

| UT | Venus ♀ (π 0.55') | | | Mars ♂ (π 0.06') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 170°43.57' | 292°51.44' | S 18°04.42' | 209°37.83' | 253°57.18' | S 22°47.04' | 130°02.84' | 333°32.17' | S 11°59.82' | 148°38.88' | 314°56.13' | S 17°55.21' | **00** |
| **01** | 185°47.60' | 292°49.88' | S 18°04.02' | 224°38.38' | 253°59.09' | S 22°47.27' | 145°04.82' | 333°32.65' | S 11°59.64' | 163°41.06' | 314°56.41' | S 17°55.14' | **01** |
| **02** | 200°51.62' | 292°48.32' | S 18°03.61' | 239°38.93' | 254°01.01' | S 22°47.49' | 160°06.81' | 333°33.13' | S 11°59.46' | 178°43.25' | 314°56.69' | S 17°55.06' | **02** |
| **03** | 215°55.65' | 292°46.75' | S 18°03.20' | 254°39.47' | 254°02.93' | S 22°47.71' | 175°08.80' | 333°33.60' | S 11°59.28' | 193°45.43' | 314°56.97' | S 17°54.99' | **03** |
| **04** | 230°59.68' | 292°45.19' | S 18°02.80' | 269°40.02' | 254°04.85' | S 22°47.93' | 190°10.79' | 333°34.08' | S 11°59.09' | 208°47.62' | 314°57.25' | S 17°54.91' | **04** |
| **05** | 246°03.71' | 292°43.62' | S 18°02.39' | 284°40.56' | 254°06.77' | S 22°48.16' | 205°12.77' | 333°34.56' | S 11°58.91' | 223°49.81' | 314°57.52' | S 17°54.83' | **05** |
| **06** | 261°07.74' | 292°42.06' | S 18°01.99' | 299°41.11' | 254°08.68' | S 22°48.38' | 220°14.76' | 333°35.04' | S 11°58.73' | 238°51.99' | 314°57.80' | S 17°54.76' | **06** |
| **07** | 276°11.77' | 292°40.49' | S 18°01.58' | 314°41.66' | 254°10.60' | S 22°48.60' | 235°16.75' | 333°35.51' | S 11°58.55' | 253°54.18' | 314°58.08' | S 17°54.68' | **07** |
| **08** | 291°15.81' | 292°38.91' | S 18°01.18' | 329°42.20' | 254°12.52' | S 22°48.82' | 250°18.73' | 333°35.99' | S 11°58.37' | 268°56.36' | 314°58.36' | S 17°54.61' | **08** |
| **09** | 306°19.85' | 292°37.34' | S 18°00.78' | 344°42.75' | 254°14.44' | S 22°49.04' | 265°20.72' | 333°36.47' | S 11°58.19' | 283°58.55' | 314°58.64' | S 17°54.53' | **09** |
| **10** | 321°23.89' | 292°35.76' | S 18°00.37' | 359°43.29' | 254°16.36' | S 22°49.26' | 280°22.71' | 333°36.95' | S 11°58.01' | 299°00.73' | 314°58.92' | S 17°54.45' | **10** |
| **11** | 336°27.93' | 292°34.19' | S 17°59.97' | 14°43.84' | 254°18.28' | S 22°49.48' | 295°24.69' | 333°37.42' | S 11°57.83' | 314°02.92' | 314°59.20' | S 17°54.38' | **11** |
| **12** | 351°31.97' | 292°32.61' | S 17°59.57' | 29°44.38' | 254°20.20' | S 22°49.70' | 310°26.68' | 333°37.90' | S 11°57.65' | 329°05.11' | 314°59.47' | S 17°54.30' | **12** |
| **13** | 6°36.02' | 292°31.03' | S 17°59.17' | 44°44.92' | 254°22.12' | S 22°49.92' | 325°28.66' | 333°38.38' | S 11°57.46' | 344°07.29' | 314°59.75' | S 17°54.22' | **13** |
| **14** | 21°40.06' | 292°29.44' | S 17°58.77' | 59°45.47' | 254°24.04' | S 22°50.14' | 340°30.65' | 333°38.86' | S 11°57.28' | 359°09.48' | 315°00.03' | S 17°54.15' | **14** |
| **15** | 36°44.11' | 292°27.86' | S 17°58.37' | 74°46.01' | 254°25.96' | S 22°50.35' | 355°32.64' | 333°39.34' | S 11°57.10' | 14°11.66' | 315°00.31' | S 17°54.07' | **15** |
| **16** | 51°48.16' | 292°26.27' | S 17°57.97' | 89°46.56' | 254°27.88' | S 22°50.57' | 10°34.62' | 333°39.82' | S 11°56.92' | 29°13.85' | 315°00.59' | S 17°54.00' | **16** |
| **17** | 66°52.22' | 292°24.69' | S 17°57.57' | 104°47.10' | 254°29.80' | S 22°50.79' | 25°36.61' | 333°40.29' | S 11°56.74' | 44°16.03' | 315°00.87' | S 17°53.92' | **17** |
| **18** | 81°56.27' | 292°23.10' | S 17°57.17' | 119°47.64' | 254°31.72' | S 22°51.01' | 40°38.59' | 333°40.77' | S 11°56.56' | 59°18.22' | 315°01.15' | S 17°53.84' | **18** |
| **19** | 97°00.32' | 292°21.51' | S 17°56.77' | 134°48.19' | 254°33.64' | S 22°51.22' | 55°40.58' | 333°41.25' | S 11°56.37' | 74°20.40' | 315°01.43' | S 17°53.77' | **19** |
| **20** | 112°04.38' | 292°19.91' | S 17°56.38' | 149°48.73' | 254°35.56' | S 22°51.44' | 70°42.56' | 333°41.73' | S 11°56.19' | 89°22.59' | 315°01.71' | S 17°53.69' | **20** |
| **21** | 127°08.44' | 292°18.32' | S 17°55.98' | 164°49.27' | 254°37.48' | S 22°51.66' | 85°44.55' | 333°42.21' | S 11°56.01' | 104°24.77' | 315°01.99' | S 17°53.61' | **21** |
| **22** | 142°12.50' | 292°16.72' | S 17°55.58' | 179°49.82' | 254°39.41' | S 22°51.87' | 100°46.53' | 333°42.69' | S 11°55.83' | 119°26.96' | 315°02.27' | S 17°53.54' | **22** |
| **23** | 157°16.56' | 292°15.12' | S 17°55.19' | 194°50.36' | 254°41.33' | S 22°52.09' | 115°48.52' | 333°43.17' | S 11°55.65' | 134°29.14' | 315°02.55' | S 17°53.46' | **23** |
| **24** | 172°20.62' | 292°13.53' | S 17°54.79' | 209°50.90' | 254°43.25' | S 22°52.30' | 130°50.50' | 333°43.65' | S 11°55.46' | 149°31.32' | 315°02.83' | S 17°53.38' | **24** |
| | δ 15.0670° | | *d* 0.4073' | δ 15.0091° | | *d* 0.2234' | δ 15.0331° | | *d* 0.1807' | δ 15.0364° | | *d* 0.0761' | |

## *Wednesday, January 5th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°42.68' | 14.9953° | 285°51.47' | S 22°38.24' | 0.2766' | 145°01.19' | 14.4197° | 319°32.96' | S 20°55.41' | 10.1205' | 59.8421' | 104°34.15' | **00** |
| **01** | 193°42.40' | 14.9953° | 285°54.22' | S 22°37.96' | 0.2774' | 159°26.50' | 14.4219° | 320°10.11' | S 20°45.17' | 10.2427' | 59.8073' | 119°36.61' | **01** |
| **02** | 208°42.12' | 14.9953° | 285°56.96' | S 22°37.68' | 0.2781' | 173°51.94' | 14.4240° | 320°47.14' | S 20°34.80' | 10.3628' | 59.7721' | 134°39.08' | **02** |
| **03** | 223°41.84' | 14.9953° | 285°59.71' | S 22°37.40' | 0.2789' | 188°17.51' | 14.4262° | 321°24.03' | S 20°24.32' | 10.4808' | 59.7367' | 149°41.54' | **03** |
| **04** | 238°41.56' | 14.9953° | 286°02.45' | S 22°37.12' | 0.2797' | 202°43.22' | 14.4284° | 322°00.79' | S 20°13.72' | 10.5968' | 59.7010' | 164°44.01' | **04** |
| **05** | 253°41.28' | 14.9953° | 286°05.20' | S 22°36.84' | 0.2805' | 217°09.05' | 14.4306° | 322°37.42' | S 20°03.01' | 10.7106' | 59.6651' | 179°46.47' | **05** |
| **06** | 268°40.99' | 14.9953° | 286°07.94' | S 22°36.56' | 0.2812' | 231°35.01' | 14.4327° | 323°13.92' | S 19°52.19' | 10.8224' | 59.6289' | 194°48.94' | **06** |
| **07** | 283°40.71' | 14.9953° | 286°10.68' | S 22°36.28' | 0.2820' | 246°01.11' | 14.4349° | 323°50.29' | S 19°41.26' | 10.9321' | 59.5925' | 209°51.40' | **07** |
| **08** | 298°40.43' | 14.9953° | 286°13.43' | S 22°36.00' | 0.2828' | 260°27.33' | 14.4371° | 324°26.53' | S 19°30.22' | 11.0397' | 59.5559' | 224°53.86' | **08** |
| **09** | 313°40.16' | 14.9953° | 286°16.17' | S 22°35.71' | 0.2836' | 274°53.69' | 14.4392° | 325°02.64' | S 19°19.07' | 11.1453' | 59.5190' | 239°56.33' | **09** |
| **10** | 328°39.88' | 14.9953° | 286°18.92' | S 22°35.43' | 0.2844' | 289°20.17' | 14.4414° | 325°38.62' | S 19°07.83' | 11.2488' | 59.4819' | 254°58.79' | **10** |
| **11** | 343°39.60' | 14.9953° | 286°21.66' | S 22°35.14' | 0.2851' | 303°46.78' | 14.4436° | 326°14.47' | S 18°56.48' | 11.3503' | 59.4446' | 270°01.26' | **11** |
| **12** | 358°39.32' | 14.9953° | 286°24.40' | S 22°34.86' | 0.2859' | 318°13.53' | 14.4457° | 326°50.19' | S 18°45.03' | 11.4498' | 59.4071' | 285°03.72' | **12** |
| **13** | 13°39.04' | 14.9954° | 286°27.15' | S 22°34.57' | 0.2867' | 332°40.40' | 14.4479° | 327°25.79' | S 18°33.48' | 11.5472' | 59.3694' | 300°06.18' | **13** |
| **14** | 28°38.76' | 14.9954° | 286°29.89' | S 22°34.28' | 0.2875' | 347°07.40' | 14.4500° | 328°01.25' | S 18°21.84' | 11.6426' | 59.3315' | 315°08.65' | **14** |
| **15** | 43°38.48' | 14.9954° | 286°32.63' | S 22°34.00' | 0.2882' | 1°34.53' | 14.4521° | 328°36.59' | S 18°10.10' | 11.7360' | 59.2934' | 330°11.11' | **15** |
| **16** | 58°38.20' | 14.9954° | 286°35.37' | S 22°33.71' | 0.2890' | 16°01.78' | 14.4543° | 329°11.79' | S 17°58.27' | 11.8275' | 59.2552' | 345°13.58' | **16** |
| **17** | 73°37.93' | 14.9954° | 286°38.12' | S 22°33.42' | 0.2898' | 30°29.17' | 14.4564° | 329°46.88' | S 17°46.36' | 11.9169' | 59.2167' | 0°16.04' | **17** |
| **18** | 88°37.65' | 14.9954° | 286°40.86' | S 22°33.13' | 0.2906' | 44°56.67' | 14.4585° | 330°21.83' | S 17°34.35' | 12.0044' | 59.1781' | 15°18.51' | **18** |
| **19** | 103°37.37' | 14.9954° | 286°43.60' | S 22°32.84' | 0.2913' | 59°24.31' | 14.4606° | 330°56.66' | S 17°22.26' | 12.0899' | 59.1394' | 30°20.97' | **19** |
| **20** | 118°37.09' | 14.9954° | 286°46.34' | S 22°32.54' | 0.2921' | 73°52.07' | 14.4627° | 331°31.36' | S 17°10.09' | 12.1735' | 59.1005' | 45°23.43' | **20** |
| **21** | 133°36.81' | 14.9954° | 286°49.08' | S 22°32.25' | 0.2929' | 88°19.95' | 14.4647° | 332°05.94' | S 16°57.83' | 12.2551' | 59.0615' | 60°25.90' | **21** |
| **22** | 148°36.54' | 14.9954° | 286°51.82' | S 22°31.96' | 0.2937' | 102°47.96' | 14.4668° | 332°40.40' | S 16°45.50' | 12.3348' | 59.0223' | 75°28.36' | **22** |
| **23** | 163°36.26' | 14.9954° | 286°54.56' | S 22°31.66' | 0.2944' | 117°16.09' | 14.4689° | 333°14.73' | S 16°33.09' | 12.4127' | 58.9830' | 90°30.83' | **23** |
| **24** | 178°35.98' | 14.9954° | 286°57.31' | S 22°31.37' | 0.2952' | 131°44.35' | 14.4709° | 333°48.94' | S 16°20.60' | 12.4886' | 58.9436' | 105°33.29' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2648' | hp (π) 0.1490' | ½Ø 16.1873' | 10.5987271110433<br>33% +cre | |
| EoT at 12:00 UTC : -5m 22s (δ -1.12 s/h) | | Phase at 12:00 UTC : 37.62° | | |
| Meridian Pass. Time : 12:05:22.730 | | Age : 2.9 day(s) | | |

| UT | Venus ♀ (π 0.55') | | | Mars ♂ (π 0.06') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 172°20.62' | 292°13.53' | S 17°54.79' | 209°50.90' | 254°43.25' | S 22°52.30' | 130°50.50' | 333°43.65' | S 11°55.46' | 149°31.32' | 315°02.83' | S 17°53.38' | **00** |
| **01** | 187°24.69' | 292°11.93' | S 17°54.40' | 224°51.44' | 254°45.17' | S 22°52.52' | 145°52.49' | 333°44.13' | S 11°55.28' | 164°33.51' | 315°03.10' | S 17°53.31' | **01** |
| **02** | 202°28.76' | 292°10.32' | S 17°54.00' | 239°51.99' | 254°47.09' | S 22°52.73' | 160°54.47' | 333°44.61' | S 11°55.10' | 179°35.69' | 315°03.38' | S 17°53.23' | **02** |
| **03** | 217°32.82' | 292°08.72' | S 17°53.61' | 254°52.53' | 254°49.02' | S 22°52.94' | 175°56.45' | 333°45.09' | S 11°54.92' | 194°37.88' | 315°03.66' | S 17°53.15' | **03** |
| **04** | 232°36.89' | 292°07.11' | S 17°53.22' | 269°53.07' | 254°50.94' | S 22°53.16' | 190°58.44' | 333°45.57' | S 11°54.73' | 209°40.06' | 315°03.94' | S 17°53.08' | **04** |
| **05** | 247°40.96' | 292°05.51' | S 17°52.83' | 284°53.61' | 254°52.86' | S 22°53.37' | 206°00.42' | 333°46.05' | S 11°54.55' | 224°42.25' | 315°04.22' | S 17°53.00' | **05** |
| **06** | 262°45.04' | 292°03.90' | S 17°52.43' | 299°54.15' | 254°54.78' | S 22°53.58' | 221°02.40' | 333°46.53' | S 11°54.37' | 239°44.43' | 315°04.50' | S 17°52.92' | **06** |
| **07** | 277°49.11' | 292°02.29' | S 17°52.04' | 314°54.69' | 254°56.71' | S 22°53.80' | 236°04.39' | 333°47.01' | S 11°54.19' | 254°46.62' | 315°04.78' | S 17°52.85' | **07** |
| **08** | 292°53.18' | 292°00.68' | S 17°51.65' | 329°55.24' | 254°58.63' | S 22°54.01' | 251°06.37' | 333°47.49' | S 11°54.00' | 269°48.80' | 315°05.06' | S 17°52.77' | **08** |
| **09** | 307°57.26' | 291°59.07' | S 17°51.26' | 344°55.78' | 255°00.55' | S 22°54.22' | 266°08.36' | 333°47.97' | S 11°53.82' | 284°50.98' | 315°05.34' | S 17°52.69' | **09** |
| **10** | 323°01.34' | 291°57.45' | S 17°50.87' | 359°56.32' | 255°02.47' | S 22°54.43' | 281°10.34' | 333°48.45' | S 11°53.64' | 299°53.17' | 315°05.62' | S 17°52.62' | **10** |
| **11** | 338°05.42' | 291°55.84' | S 17°50.48' | 14°56.86' | 255°04.40' | S 22°54.64' | 296°12.32' | 333°48.93' | S 11°53.46' | 314°55.35' | 315°05.90' | S 17°52.54' | **11** |
| **12** | 353°09.50' | 291°54.22' | S 17°50.10' | 29°57.40' | 255°06.32' | S 22°54.85' | 311°14.30' | 333°49.42' | S 11°53.27' | 329°57.54' | 315°06.18' | S 17°52.46' | **12** |
| **13** | 8°13.58' | 291°52.60' | S 17°49.71' | 44°57.94' | 255°08.25' | S 22°55.06' | 326°16.29' | 333°49.90' | S 11°53.09' | 344°59.72' | 315°06.46' | S 17°52.39' | **13** |
| **14** | 23°17.66' | 291°50.99' | S 17°49.32' | 59°58.48' | 255°10.17' | S 22°55.27' | 341°18.27' | 333°50.38' | S 11°52.91' | 0°01.90' | 315°06.74' | S 17°52.31' | **14** |
| **15** | 38°21.75' | 291°49.36' | S 17°48.93' | 74°59.02' | 255°12.09' | S 22°55.48' | 356°20.25' | 333°50.86' | S 11°52.72' | 15°04.09' | 315°07.03' | S 17°52.23' | **15** |
| **16** | 53°25.83' | 291°47.74' | S 17°48.55' | 89°59.56' | 255°14.02' | S 22°55.69' | 11°22.23' | 333°51.34' | S 11°52.54' | 30°06.27' | 315°07.31' | S 17°52.15' | **16** |
| **17** | 68°29.92' | 291°46.12' | S 17°48.16' | 105°00.10' | 255°15.94' | S 22°55.90' | 26°24.22' | 333°51.82' | S 11°52.36' | 45°08.45' | 315°07.59' | S 17°52.08' | **17** |
| **18** | 83°34.01' | 291°44.50' | S 17°47.78' | 120°00.64' | 255°17.87' | S 22°56.11' | 41°26.20' | 333°52.31' | S 11°52.17' | 60°10.64' | 315°07.87' | S 17°52.00' | **18** |
| **19** | 98°38.10' | 291°42.87' | S 17°47.39' | 135°01.18' | 255°19.79' | S 22°56.31' | 56°28.18' | 333°52.79' | S 11°51.99' | 75°12.82' | 315°08.15' | S 17°51.92' | **19** |
| **20** | 113°42.19' | 291°41.24' | S 17°47.01' | 150°01.72' | 255°21.72' | S 22°56.52' | 71°30.16' | 333°53.27' | S 11°51.81' | 90°15.01' | 315°08.43' | S 17°51.85' | **20** |
| **21** | 128°46.28' | 291°39.62' | S 17°46.63' | 165°02.26' | 255°23.64' | S 22°56.73' | 86°32.14' | 333°53.75' | S 11°51.62' | 105°17.19' | 315°08.71' | S 17°51.77' | **21** |
| **22** | 143°50.37' | 291°37.99' | S 17°46.24' | 180°02.79' | 255°25.57' | S 22°56.94' | 101°34.13' | 333°54.24' | S 11°51.44' | 120°19.37' | 315°08.99' | S 17°51.69' | **22** |
| **23** | 158°54.47' | 291°36.36' | S 17°45.86' | 195°03.33' | 255°27.49' | S 22°57.14' | 116°36.11' | 333°54.72' | S 11°51.26' | 135°21.56' | 315°09.27' | S 17°51.62' | **23** |
| **24** | 173°58.56' | 291°34.73' | S 17°45.48' | 210°03.87' | 255°29.42' | S 22°57.35' | 131°38.09' | 333°55.20' | S 11°51.07' | 150°23.74' | 315°09.55' | S 17°51.54' | **24** |
| | δ 15.0677° | | *d* 0.3945' | δ 15.0090° | | *d* 0.2145' | δ 15.0331° | | *d* 0.1822' | δ 15.0364° | | *d* 0.0766' | |

## *Thursday, January 6th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°35.98' | 14.9954° | 286°57.31' | S 22°31.37' | 0.2952' | 131°44.35' | 14.4709° | 333°48.94' | S 16°20.60' | 12.4886' | 58.9436' | 105°33.29' | **00** |
| **01** | 193°35.71' | 14.9954° | 287°00.05' | S 22°31.07' | 0.2960' | 146°12.72' | 14.4729° | 334°23.03' | S 16°08.03' | 12.5627' | 58.9040' | 120°35.75' | **01** |
| **02** | 208°35.43' | 14.9954° | 287°02.79' | S 22°30.77' | 0.2968' | 160°41.22' | 14.4749° | 334°57.00' | S 15°55.40' | 12.6349' | 58.8644' | 135°38.22' | **02** |
| **03** | 223°35.16' | 14.9954° | 287°05.53' | S 22°30.48' | 0.2975' | 175°09.84' | 14.4769° | 335°30.85' | S 15°42.69' | 12.7053' | 58.8246' | 150°40.68' | **03** |
| **04** | 238°34.88' | 14.9954° | 287°08.27' | S 22°30.18' | 0.2983' | 189°38.57' | 14.4789° | 336°04.58' | S 15°29.92' | 12.7738' | 58.7848' | 165°43.15' | **04** |
| **05** | 253°34.60' | 14.9954° | 287°11.01' | S 22°29.88' | 0.2991' | 204°07.42' | 14.4809° | 336°38.19' | S 15°17.08' | 12.8406' | 58.7448' | 180°45.61' | **05** |
| **06** | 268°34.33' | 14.9954° | 287°13.75' | S 22°29.58' | 0.2998' | 218°36.39' | 14.4828° | 337°11.68' | S 15°04.17' | 12.9056' | 58.7048' | 195°48.07' | **06** |
| **07** | 283°34.05' | 14.9954° | 287°16.49' | S 22°29.28' | 0.3006' | 233°05.48' | 14.4848° | 337°45.06' | S 14°51.21' | 12.9688' | 58.6647' | 210°50.54' | **07** |
| **08** | 298°33.78' | 14.9954° | 287°19.22' | S 22°28.98' | 0.3014' | 247°34.68' | 14.4867° | 338°18.32' | S 14°38.17' | 13.0302' | 58.6246' | 225°53.00' | **08** |
| **09** | 313°33.50' | 14.9954° | 287°21.96' | S 22°28.68' | 0.3022' | 262°04.00' | 14.4886° | 338°51.47' | S 14°25.09' | 13.0899' | 58.5844' | 240°55.47' | **09** |
| **10** | 328°33.23' | 14.9954° | 287°24.70' | S 22°28.37' | 0.3029' | 276°33.42' | 14.4905° | 339°24.51' | S 14°11.94' | 13.1479' | 58.5441' | 255°57.93' | **10** |
| **11** | 343°32.95' | 14.9954° | 287°27.44' | S 22°28.07' | 0.3037' | 291°02.96' | 14.4923° | 339°57.43' | S 13°58.73' | 13.2041' | 58.5038' | 271°00.40' | **11** |
| **12** | 358°32.68' | 14.9954° | 287°30.18' | S 22°27.76' | 0.3045' | 305°32.62' | 14.4942° | 340°30.24' | S 13°45.47' | 13.2587' | 58.4634' | 286°02.86' | **12** |
| **13** | 13°32.41' | 14.9954° | 287°32.92' | S 22°27.46' | 0.3052' | 320°02.38' | 14.4960° | 341°02.95' | S 13°32.16' | 13.3116' | 58.4230' | 301°05.32' | **13** |
| **14** | 28°32.13' | 14.9954° | 287°35.65' | S 22°27.15' | 0.3060' | 334°32.25' | 14.4978° | 341°35.54' | S 13°18.80' | 13.3629' | 58.3825' | 316°07.79' | **14** |
| **15** | 43°31.86' | 14.9954° | 287°38.39' | S 22°26.85' | 0.3068' | 349°02.23' | 14.4996° | 342°08.03' | S 13°05.39' | 13.4125' | 58.3421' | 331°10.25' | **15** |
| **16** | 58°31.59' | 14.9954° | 287°41.13' | S 22°26.54' | 0.3075' | 3°32.31' | 14.5014° | 342°40.41' | S 12°51.93' | 13.4605' | 58.3016' | 346°12.72' | **16** |
| **17** | 73°31.31' | 14.9954° | 287°43.87' | S 22°26.23' | 0.3083' | 18°02.50' | 14.5032° | 343°12.68' | S 12°38.42' | 13.5069' | 58.2611' | 1°15.18' | **17** |
| **18** | 88°31.04' | 14.9955° | 287°46.60' | S 22°25.92' | 0.3091' | 32°32.79' | 14.5049° | 343°44.85' | S 12°24.87' | 13.5517' | 58.2206' | 16°17.64' | **18** |
| **19** | 103°30.77' | 14.9955° | 287°49.34' | S 22°25.61' | 0.3099' | 47°03.19' | 14.5066° | 344°16.92' | S 12°11.27' | 13.5950' | 58.1801' | 31°20.11' | **19** |
| **20** | 118°30.50' | 14.9955° | 287°52.08' | S 22°25.30' | 0.3106' | 61°33.69' | 14.5083° | 344°48.88' | S 11°57.64' | 13.6367' | 58.1396' | 46°22.57' | **20** |
| **21** | 133°30.22' | 14.9955° | 287°54.81' | S 22°24.99' | 0.3114' | 76°04.29' | 14.5100° | 345°20.75' | S 11°43.96' | 13.6769' | 58.0991' | 61°25.04' | **21** |
| **22** | 148°29.95' | 14.9955° | 287°57.55' | S 22°24.68' | 0.3122' | 90°34.99' | 14.5117° | 345°52.51' | S 11°30.24' | 13.7155' | 58.0587' | 76°27.50' | **22** |
| **23** | 163°29.68' | 14.9955° | 288°00.29' | S 22°24.36' | 0.3129' | 105°05.79' | 14.5133° | 346°24.18' | S 11°16.49' | 13.7527' | 58.0182' | 91°29.96' | **23** |
| **24** | 178°29.41' | 14.9955° | 288°03.02' | S 22°24.05' | 0.3137' | 119°36.68' | 14.5149° | 346°55.75' | S 11°02.70' | 13.7884' | 57.9778' | 106°32.43' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2647' | hp (π) 0.1490' | ½Ø 15.9302' | 18.5243450801298<br>73% +cre | |
| EoT at 12:00 UTC : -5m 49s (δ -1.10 s/h) | | Phase at 12:00 UTC : 50.69° | | |
| Meridian Pass. Time : 12:05:49.277 | | Age : 3.9 day(s) | | |

| UT | Venus ♀ (π 0.55') | | | Mars ♂ (π 0.06') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 173°58.56' | 291°34.73' | S 17°45.48' | 210°03.87' | 255°29.42' | S 22°57.35' | 131°38.09' | 333°55.20' | S 11°51.07' | 150°23.74' | 315°09.55' | S 17°51.54' | **00** |
| **01** | 189°02.66' | 291°33.10' | S 17°45.10' | 225°04.41' | 255°31.34' | S 22°57.55' | 146°40.07' | 333°55.68' | S 11°50.89' | 165°25.92' | 315°09.83' | S 17°51.46' | **01** |
| **02** | 204°06.76' | 291°31.46' | S 17°44.72' | 240°04.95' | 255°33.27' | S 22°57.76' | 161°42.05' | 333°56.17' | S 11°50.71' | 180°28.11' | 315°10.11' | S 17°51.38' | **02** |
| **03** | 219°10.85' | 291°29.83' | S 17°44.34' | 255°05.49' | 255°35.20' | S 22°57.96' | 176°44.03' | 333°56.65' | S 11°50.52' | 195°30.29' | 315°10.39' | S 17°51.31' | **03** |
| **04** | 234°14.95' | 291°28.19' | S 17°43.96' | 270°06.02' | 255°37.12' | S 22°58.17' | 191°46.01' | 333°57.13' | S 11°50.34' | 210°32.47' | 315°10.67' | S 17°51.23' | **04** |
| **05** | 249°19.05' | 291°26.56' | S 17°43.58' | 285°06.56' | 255°39.05' | S 22°58.37' | 206°47.99' | 333°57.62' | S 11°50.15' | 225°34.65' | 315°10.96' | S 17°51.15' | **05** |
| **06** | 264°23.16' | 291°24.92' | S 17°43.20' | 300°07.10' | 255°40.98' | S 22°58.58' | 221°49.97' | 333°58.10' | S 11°49.97' | 240°36.84' | 315°11.24' | S 17°51.08' | **06** |
| **07** | 279°27.26' | 291°23.28' | S 17°42.83' | 315°07.64' | 255°42.90' | S 22°58.78' | 236°51.95' | 333°58.58' | S 11°49.79' | 255°39.02' | 315°11.52' | S 17°51.00' | **07** |
| **08** | 294°31.36' | 291°21.64' | S 17°42.45' | 330°08.17' | 255°44.83' | S 22°58.98' | 251°53.93' | 333°59.07' | S 11°49.60' | 270°41.20' | 315°11.80' | S 17°50.92' | **08** |
| **09** | 309°35.47' | 291°20.00' | S 17°42.07' | 345°08.71' | 255°46.76' | S 22°59.18' | 266°55.91' | 333°59.55' | S 11°49.42' | 285°43.39' | 315°12.08' | S 17°50.84' | **09** |
| **10** | 324°39.57' | 291°18.36' | S 17°41.70' | 0°09.25' | 255°48.68' | S 22°59.39' | 281°57.89' | 334°00.04' | S 11°49.23' | 300°45.57' | 315°12.36' | S 17°50.77' | **10** |
| **11** | 339°43.68' | 291°16.72' | S 17°41.32' | 15°09.78' | 255°50.61' | S 22°59.59' | 296°59.87' | 334°00.52' | S 11°49.05' | 315°47.75' | 315°12.64' | S 17°50.69' | **11** |
| **12** | 354°47.79' | 291°15.07' | S 17°40.95' | 30°10.32' | 255°52.54' | S 22°59.79' | 312°01.85' | 334°01.01' | S 11°48.86' | 330°49.93' | 315°12.93' | S 17°50.61' | **12** |
| **13** | 9°51.89' | 291°13.43' | S 17°40.58' | 45°10.86' | 255°54.47' | S 22°59.99' | 327°03.83' | 334°01.49' | S 11°48.68' | 345°52.12' | 315°13.21' | S 17°50.53' | **13** |
| **14** | 24°56.00' | 291°11.78' | S 17°40.20' | 60°11.39' | 255°56.39' | S 23°00.19' | 342°05.81' | 334°01.97' | S 11°48.50' | 0°54.30' | 315°13.49' | S 17°50.46' | **14** |
| **15** | 40°00.11' | 291°10.14' | S 17°39.83' | 75°11.93' | 255°58.32' | S 23°00.39' | 357°07.79' | 334°02.46' | S 11°48.31' | 15°56.48' | 315°13.77' | S 17°50.38' | **15** |
| **16** | 55°04.22' | 291°08.49' | S 17°39.46' | 90°12.47' | 256°00.25' | S 23°00.59' | 12°09.77' | 334°02.94' | S 11°48.13' | 30°58.66' | 315°14.05' | S 17°50.30' | **16** |
| **17** | 70°08.33' | 291°06.84' | S 17°39.09' | 105°13.00' | 256°02.18' | S 23°00.79' | 27°11.75' | 334°03.43' | S 11°47.94' | 46°00.85' | 315°14.33' | S 17°50.22' | **17** |
| **18** | 85°12.45' | 291°05.20' | S 17°38.72' | 120°13.54' | 256°04.11' | S 23°00.99' | 42°13.73' | 334°03.91' | S 11°47.76' | 61°03.03' | 315°14.62' | S 17°50.15' | **18** |
| **19** | 100°16.56' | 291°03.55' | S 17°38.35' | 135°14.07' | 256°06.03' | S 23°01.19' | 57°15.71' | 334°04.40' | S 11°47.57' | 76°05.21' | 315°14.90' | S 17°50.07' | **19** |
| **20** | 115°20.67' | 291°01.90' | S 17°37.98' | 150°14.61' | 256°07.96' | S 23°01.39' | 72°17.69' | 334°04.88' | S 11°47.39' | 91°07.39' | 315°15.18' | S 17°49.99' | **20** |
| **21** | 130°24.79' | 291°00.25' | S 17°37.61' | 165°15.14' | 256°09.89' | S 23°01.59' | 87°19.67' | 334°05.37' | S 11°47.20' | 106°09.57' | 315°15.46' | S 17°49.91' | **21** |
| **22** | 145°28.90' | 290°58.60' | S 17°37.24' | 180°15.68' | 256°11.82' | S 23°01.78' | 102°21.64' | 334°05.86' | S 11°47.02' | 121°11.76' | 315°15.74' | S 17°49.84' | **22** |
| **23** | 160°33.02' | 290°56.94' | S 17°36.87' | 195°16.21' | 256°13.75' | S 23°01.98' | 117°23.62' | 334°06.34' | S 11°46.83' | 136°13.94' | 315°16.03' | S 17°49.76' | **23** |
| **24** | 175°37.14' | 290°55.29' | S 17°36.50' | 210°16.75' | 256°15.68' | S 23°02.18' | 132°25.60' | 334°06.83' | S 11°46.65' | 151°16.12' | 315°16.31' | S 17°49.68' | **24** |
| | δ 15.0683° | | *d* 0.3809' | δ 15.0090° | | *d* 0.2056' | δ 15.0330° | | *d* 0.1837' | δ 15.0364° | | *d* 0.0771' | |

## *Friday, January 7th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°29.41' | 14.9955° | 288°03.02' | S 22°24.05' | 0.3137' | 119°36.68' | 14.5149° | 346°55.75' | S 11°02.70' | 13.7884' | 57.9778' | 106°32.43' | **00** |
| **01** | 193°29.14' | 14.9955° | 288°05.76' | S 22°23.74' | 0.3145' | 134°07.67' | 14.5165° | 347°27.22' | S 10°48.88' | 13.8226' | 57.9374' | 121°34.89' | **01** |
| **02** | 208°28.87' | 14.9955° | 288°08.49' | S 22°23.42' | 0.3152' | 148°38.76' | 14.5181° | 347°58.60' | S 10°35.03' | 13.8555' | 57.8971' | 136°37.36' | **02** |
| **03** | 223°28.59' | 14.9955° | 288°11.23' | S 22°23.11' | 0.3160' | 163°09.94' | 14.5196° | 348°29.89' | S 10°21.14' | 13.8868' | 57.8568' | 151°39.82' | **03** |
| **04** | 238°28.32' | 14.9955° | 288°13.96' | S 22°22.79' | 0.3168' | 177°41.21' | 14.5212° | 349°01.08' | S 10°07.22' | 13.9168' | 57.8166' | 166°42.28' | **04** |
| **05** | 253°28.05' | 14.9955° | 288°16.70' | S 22°22.47' | 0.3175' | 192°12.57' | 14.5227° | 349°32.18' | S 9°53.28' | 13.9454' | 57.7764' | 181°44.75' | **05** |
| **06** | 268°27.78' | 14.9955° | 288°19.43' | S 22°22.15' | 0.3183' | 206°44.02' | 14.5242° | 350°03.20' | S 9°39.30' | 13.9726' | 57.7363' | 196°47.21' | **06** |
| **07** | 283°27.51' | 14.9955° | 288°22.16' | S 22°21.83' | 0.3191' | 221°15.56' | 14.5256° | 350°34.12' | S 9°25.31' | 13.9984' | 57.6962' | 211°49.68' | **07** |
| **08** | 298°27.24' | 14.9955° | 288°24.90' | S 22°21.51' | 0.3198' | 235°47.18' | 14.5271° | 351°04.96' | S 9°11.28' | 14.0230' | 57.6562' | 226°52.14' | **08** |
| **09** | 313°26.97' | 14.9955° | 288°27.63' | S 22°21.19' | 0.3206' | 250°18.89' | 14.5285° | 351°35.71' | S 8°57.24' | 14.0462' | 57.6163' | 241°54.61' | **09** |
| **10** | 328°26.70' | 14.9955° | 288°30.37' | S 22°20.87' | 0.3213' | 264°50.69' | 14.5299° | 352°06.38' | S 8°43.17' | 14.0680' | 57.5765' | 256°57.07' | **10** |
| **11** | 343°26.43' | 14.9955° | 288°33.10' | S 22°20.55' | 0.3221' | 279°22.57' | 14.5313° | 352°36.97' | S 8°29.08' | 14.0886' | 57.5367' | 271°59.53' | **11** |
| **12** | 358°26.17' | 14.9955° | 288°35.83' | S 22°20.23' | 0.3229' | 293°54.53' | 14.5327° | 353°07.47' | S 8°14.97' | 14.1080' | 57.4971' | 287°02.00' | **12** |
| **13** | 13°25.90' | 14.9955° | 288°38.56' | S 22°19.90' | 0.3236' | 308°26.57' | 14.5340° | 353°37.90' | S 8°00.85' | 14.1260' | 57.4575' | 302°04.46' | **13** |
| **14** | 28°25.63' | 14.9955° | 288°41.30' | S 22°19.58' | 0.3244' | 322°58.69' | 14.5353° | 354°08.24' | S 7°46.70' | 14.1429' | 57.4181' | 317°06.93' | **14** |
| **15** | 43°25.36' | 14.9955° | 288°44.03' | S 22°19.25' | 0.3252' | 337°30.88' | 14.5366° | 354°38.51' | S 7°32.54' | 14.1585' | 57.3787' | 332°09.39' | **15** |
| **16** | 58°25.09' | 14.9955° | 288°46.76' | S 22°18.93' | 0.3259' | 352°03.16' | 14.5379° | 355°08.70' | S 7°18.37' | 14.1729' | 57.3395' | 347°11.85' | **16** |
| **17** | 73°24.82' | 14.9955° | 288°49.49' | S 22°18.60' | 0.3267' | 6°35.51' | 14.5391° | 355°38.81' | S 7°04.18' | 14.1861' | 57.3004' | 2°14.32' | **17** |
| **18** | 88°24.56' | 14.9955° | 288°52.22' | S 22°18.27' | 0.3275' | 21°07.93' | 14.5404° | 356°08.85' | S 6°49.99' | 14.1981' | 57.2614' | 17°16.78' | **18** |
| **19** | 103°24.29' | 14.9955° | 288°54.96' | S 22°17.95' | 0.3282' | 35°40.42' | 14.5416° | 356°38.82' | S 6°35.78' | 14.2089' | 57.2225' | 32°19.25' | **19** |
| **20** | 118°24.02' | 14.9955° | 288°57.69' | S 22°17.62' | 0.3290' | 50°12.99' | 14.5428° | 357°08.72' | S 6°21.56' | 14.2186' | 57.1837' | 47°21.71' | **20** |
| **21** | 133°23.76' | 14.9956° | 289°00.42' | S 22°17.29' | 0.3297' | 64°45.62' | 14.5439° | 357°38.55' | S 6°07.33' | 14.2272' | 57.1451' | 62°24.17' | **21** |
| **22** | 148°23.49' | 14.9956° | 289°03.15' | S 22°16.96' | 0.3305' | 79°18.33' | 14.5451° | 358°08.31' | S 5°53.10' | 14.2346' | 57.1066' | 77°26.64' | **22** |
| **23** | 163°23.22' | 14.9956° | 289°05.88' | S 22°16.63' | 0.3313' | 93°51.10' | 14.5462° | 358°38.00' | S 5°38.86' | 14.2410' | 57.0683' | 92°29.10' | **23** |
| **24** | 178°22.96' | 14.9956° | 289°08.61' | S 22°16.29' | 0.3320' | 108°23.94' | 14.5473° | 359°07.63' | S 5°24.61' | 14.2462' | 57.0301' | 107°31.57' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2645' | hp (π) 0.1490' | ½Ø 15.6669' | 27.6925327717106<br>42% +cre | |
| EoT at 12:00 UTC : -6m 15s (δ -1.08 s/h) | | Phase at 12:00 UTC : 63.27° | | |
| Meridian Pass. Time : 12:06:15.336 | | Age : 4.9 day(s) | | |

| UT | Venus ♀ (π 0.55') | | | Mars ♂ (π 0.06') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 175°37.14' | 290°55.29' | S 17°36.50' | 210°16.75' | 256°15.68' | S 23°02.18' | 132°25.60' | 334°06.83' | S 11°46.65' | 151°16.12' | 315°16.31' | S 17°49.68' | **00** |
| **01** | 190°41.25' | 290°53.64' | S 17°36.14' | 225°17.28' | 256°17.61' | S 23°02.37' | 147°27.58' | 334°07.31' | S 11°46.46' | 166°18.30' | 315°16.59' | S 17°49.60' | **01** |
| **02** | 205°45.37' | 290°51.99' | S 17°35.77' | 240°17.82' | 256°19.54' | S 23°02.57' | 162°29.56' | 334°07.80' | S 11°46.28' | 181°20.48' | 315°16.87' | S 17°49.53' | **02** |
| **03** | 220°49.49' | 290°50.33' | S 17°35.41' | 255°18.35' | 256°21.47' | S 23°02.77' | 177°31.53' | 334°08.29' | S 11°46.09' | 196°22.67' | 315°17.16' | S 17°49.45' | **03** |
| **04** | 235°53.61' | 290°48.68' | S 17°35.04' | 270°18.88' | 256°23.40' | S 23°02.96' | 192°33.51' | 334°08.77' | S 11°45.91' | 211°24.85' | 315°17.44' | S 17°49.37' | **04** |
| **05** | 250°57.73' | 290°47.02' | S 17°34.68' | 285°19.42' | 256°25.33' | S 23°03.16' | 207°35.49' | 334°09.26' | S 11°45.72' | 226°27.03' | 315°17.72' | S 17°49.29' | **05** |
| **06** | 266°01.85' | 290°45.36' | S 17°34.32' | 300°19.95' | 256°27.26' | S 23°03.35' | 222°37.47' | 334°09.75' | S 11°45.53' | 241°29.21' | 315°18.00' | S 17°49.22' | **06** |
| **07** | 281°05.97' | 290°43.71' | S 17°33.95' | 315°20.49' | 256°29.19' | S 23°03.54' | 237°39.44' | 334°10.23' | S 11°45.35' | 256°31.39' | 315°18.29' | S 17°49.14' | **07** |
| **08** | 296°10.09' | 290°42.05' | S 17°33.59' | 330°21.02' | 256°31.12' | S 23°03.74' | 252°41.42' | 334°10.72' | S 11°45.16' | 271°33.57' | 315°18.57' | S 17°49.06' | **08** |
| **09** | 311°14.21' | 290°40.39' | S 17°33.23' | 345°21.55' | 256°33.05' | S 23°03.93' | 267°43.40' | 334°11.21' | S 11°44.98' | 286°35.75' | 315°18.85' | S 17°48.98' | **09** |
| **10** | 326°18.33' | 290°38.74' | S 17°32.87' | 0°22.09' | 256°34.98' | S 23°04.13' | 282°45.38' | 334°11.69' | S 11°44.79' | 301°37.94' | 315°19.13' | S 17°48.90' | **10** |
| **11** | 341°22.46' | 290°37.08' | S 17°32.51' | 15°22.62' | 256°36.91' | S 23°04.32' | 297°47.35' | 334°12.18' | S 11°44.61' | 316°40.12' | 315°19.42' | S 17°48.83' | **11** |
| **12** | 356°26.58' | 290°35.42' | S 17°32.15' | 30°23.15' | 256°38.85' | S 23°04.51' | 312°49.33' | 334°12.67' | S 11°44.42' | 331°42.30' | 315°19.70' | S 17°48.75' | **12** |
| **13** | 11°30.70' | 290°33.76' | S 17°31.79' | 45°23.68' | 256°40.78' | S 23°04.70' | 327°51.31' | 334°13.16' | S 11°44.23' | 346°44.48' | 315°19.98' | S 17°48.67' | **13** |
| **14** | 26°34.83' | 290°32.10' | S 17°31.43' | 60°24.22' | 256°42.71' | S 23°04.89' | 342°53.28' | 334°13.64' | S 11°44.05' | 1°46.66' | 315°20.26' | S 17°48.59' | **14** |
| **15** | 41°38.95' | 290°30.44' | S 17°31.07' | 75°24.75' | 256°44.64' | S 23°05.09' | 357°55.26' | 334°14.13' | S 11°43.86' | 16°48.84' | 315°20.55' | S 17°48.52' | **15** |
| **16** | 56°43.08' | 290°28.78' | S 17°30.72' | 90°25.28' | 256°46.57' | S 23°05.28' | 12°57.23' | 334°14.62' | S 11°43.68' | 31°51.02' | 315°20.83' | S 17°48.44' | **16** |
| **17** | 71°47.20' | 290°27.12' | S 17°30.36' | 105°25.81' | 256°48.51' | S 23°05.47' | 27°59.21' | 334°15.11' | S 11°43.49' | 46°53.20' | 315°21.11' | S 17°48.36' | **17** |
| **18** | 86°51.33' | 290°25.46' | S 17°30.01' | 120°26.34' | 256°50.44' | S 23°05.66' | 43°01.19' | 334°15.60' | S 11°43.30' | 61°55.39' | 315°21.40' | S 17°48.28' | **18** |
| **19** | 101°55.45' | 290°23.79' | S 17°29.65' | 135°26.88' | 256°52.37' | S 23°05.85' | 58°03.16' | 334°16.08' | S 11°43.12' | 76°57.57' | 315°21.68' | S 17°48.20' | **19** |
| **20** | 116°59.58' | 290°22.13' | S 17°29.30' | 150°27.41' | 256°54.30' | S 23°06.04' | 73°05.14' | 334°16.57' | S 11°42.93' | 91°59.75' | 315°21.96' | S 17°48.13' | **20** |
| **21** | 132°03.70' | 290°20.47' | S 17°28.94' | 165°27.94' | 256°56.24' | S 23°06.22' | 88°07.11' | 334°17.06' | S 11°42.75' | 107°01.93' | 315°22.25' | S 17°48.05' | **21** |
| **22** | 147°07.83' | 290°18.81' | S 17°28.59' | 180°28.47' | 256°58.17' | S 23°06.41' | 103°09.09' | 334°17.55' | S 11°42.56' | 122°04.11' | 315°22.53' | S 17°47.97' | **22** |
| **23** | 162°11.96' | 290°17.14' | S 17°28.24' | 195°29.00' | 257°00.10' | S 23°06.60' | 118°11.06' | 334°18.04' | S 11°42.37' | 137°06.29' | 315°22.81' | S 17°47.89' | **23** |
| **24** | 177°16.08' | 290°15.48' | S 17°27.89' | 210°29.53' | 257°02.03' | S 23°06.79' | 133°13.04' | 334°18.53' | S 11°42.19' | 152°08.47' | 315°23.10' | S 17°47.81' | **24** |
| | δ 15.0686° | | *d* 0.3664' | δ 15.0089° | | *d* 0.1965' | δ 15.0330° | | *d* 0.1852' | δ 15.0364° | | *d* 0.0776' | |

## *Saturday, January 8th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°22.96' | 14.9956° | 289°08.61' | S 22°16.29' | 0.3320' | 108°23.94' | 14.5473° | 359°07.63' | S 5°24.61' | 14.2462' | 57.0301' | 107°31.57' | **00** |
| **01** | 193°22.69' | 14.9956° | 289°11.34' | S 22°15.96' | 0.3328' | 122°56.84' | 14.5484° | 359°37.19' | S 5°10.36' | 14.2504' | 56.9921' | 122°34.03' | **01** |
| **02** | 208°22.42' | 14.9956° | 289°14.07' | S 22°15.63' | 0.3335' | 137°29.81' | 14.5494° | 0°06.69' | S 4°56.11' | 14.2535' | 56.9542' | 137°36.49' | **02** |
| **03** | 223°22.16' | 14.9956° | 289°16.80' | S 22°15.29' | 0.3343' | 152°02.83' | 14.5505° | 0°36.13' | S 4°41.85' | 14.2555' | 56.9164' | 152°38.96' | **03** |
| **04** | 238°21.89' | 14.9956° | 289°19.53' | S 22°14.96' | 0.3351' | 166°35.92' | 14.5515° | 1°05.50' | S 4°27.59' | 14.2565' | 56.8789' | 167°41.42' | **04** |
| **05** | 253°21.63' | 14.9956° | 289°22.26' | S 22°14.62' | 0.3358' | 181°09.07' | 14.5524° | 1°34.82' | S 4°13.34' | 14.2565' | 56.8414' | 182°43.89' | **05** |
| **06** | 268°21.36' | 14.9956° | 289°24.99' | S 22°14.28' | 0.3366' | 195°42.27' | 14.5534° | 2°04.08' | S 3°59.08' | 14.2555' | 56.8042' | 197°46.35' | **06** |
| **07** | 283°21.10' | 14.9956° | 289°27.72' | S 22°13.95' | 0.3373' | 210°15.53' | 14.5544° | 2°33.28' | S 3°44.83' | 14.2535' | 56.7671' | 212°48.81' | **07** |
| **08** | 298°20.84' | 14.9956° | 289°30.44' | S 22°13.61' | 0.3381' | 224°48.85' | 14.5553° | 3°02.43' | S 3°30.58' | 14.2504' | 56.7302' | 227°51.28' | **08** |
| **09** | 313°20.57' | 14.9956° | 289°33.17' | S 22°13.27' | 0.3389' | 239°22.22' | 14.5562° | 3°31.52' | S 3°16.33' | 14.2464' | 56.6935' | 242°53.74' | **09** |
| **10** | 328°20.31' | 14.9956° | 289°35.90' | S 22°12.93' | 0.3396' | 253°55.64' | 14.5571° | 4°00.56' | S 3°02.09' | 14.2414' | 56.6570' | 257°56.21' | **10** |
| **11** | 343°20.04' | 14.9956° | 289°38.63' | S 22°12.59' | 0.3404' | 268°29.12' | 14.5579° | 4°29.55' | S 2°47.86' | 14.2355' | 56.6206' | 272°58.67' | **11** |
| **12** | 358°19.78' | 14.9956° | 289°41.35' | S 22°12.25' | 0.3411' | 283°02.64' | 14.5588° | 4°58.49' | S 2°33.63' | 14.2286' | 56.5845' | 288°01.14' | **12** |
| **13** | 13°19.52' | 14.9956° | 289°44.08' | S 22°11.91' | 0.3419' | 297°36.22' | 14.5596° | 5°27.38' | S 2°19.41' | 14.2208' | 56.5485' | 303°03.60' | **13** |
| **14** | 28°19.25' | 14.9956° | 289°46.81' | S 22°11.57' | 0.3426' | 312°09.84' | 14.5604° | 5°56.22' | S 2°05.19' | 14.2121' | 56.5127' | 318°06.06' | **14** |
| **15** | 43°18.99' | 14.9956° | 289°49.54' | S 22°11.22' | 0.3434' | 326°43.51' | 14.5611° | 6°25.02' | S 1°50.99' | 14.2025' | 56.4771' | 333°08.53' | **15** |
| **16** | 58°18.73' | 14.9956° | 289°52.26' | S 22°10.88' | 0.3441' | 341°17.22' | 14.5619° | 6°53.77' | S 1°36.80' | 14.1919' | 56.4418' | 348°10.99' | **16** |
| **17** | 73°18.47' | 14.9956° | 289°54.99' | S 22°10.53' | 0.3449' | 355°50.98' | 14.5626° | 7°22.48' | S 1°22.62' | 14.1805' | 56.4066' | 3°13.46' | **17** |
| **18** | 88°18.20' | 14.9956° | 289°57.71' | S 22°10.19' | 0.3457' | 10°24.78' | 14.5633° | 7°51.14' | S 1°08.45' | 14.1682' | 56.3716' | 18°15.92' | **18** |
| **19** | 103°17.94' | 14.9956° | 290°00.44' | S 22°09.84' | 0.3464' | 24°58.62' | 14.5640° | 8°19.77' | S 0°54.30' | 14.1550' | 56.3369' | 33°18.38' | **19** |
| **20** | 118°17.68' | 14.9956° | 290°03.17' | S 22°09.49' | 0.3472' | 39°32.50' | 14.5647° | 8°48.35' | S 0°40.15' | 14.1409' | 56.3023' | 48°20.85' | **20** |
| **21** | 133°17.42' | 14.9956° | 290°05.89' | S 22°09.15' | 0.3479' | 54°06.41' | 14.5653° | 9°16.90' | S 0°26.03' | 14.1260' | 56.2680' | 63°23.31' | **21** |
| **22** | 148°17.16' | 14.9956° | 290°08.62' | S 22°08.80' | 0.3487' | 68°40.37' | 14.5659° | 9°45.41' | S 0°11.92' | 14.1103' | 56.2339' | 78°25.78' | **22** |
| **23** | 163°16.90' | 14.9957° | 290°11.34' | S 22°08.45' | 0.3494' | 83°14.36' | 14.5665° | 10°13.88' | N 0°02.18' | 14.0937' | 56.2000' | 93°28.24' | **23** |
| **24** | 178°16.64' | 14.9957° | 290°14.07' | S 22°08.10' | 0.3502' | 97°48.39' | 14.5671° | 10°42.32' | N 0°16.25' | 14.0763' | 56.1663' | 108°30.70' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2643' | hp (π) 0.1490' | ½Ø 15.4182' | 37.5328456204793<br>85% +cre | |
| EoT at 12:00 UTC : -6m 40s (δ -1.05 s/h) | | Phase at 12:00 UTC : 75.37° | | |
| Meridian Pass. Time : 12:06:40.878 | | Age : 5.9 day(s) | | |

| UT | Venus ♀ (π 0.55') | | | Mars ♂ (π 0.06') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 177°16.08' | 290°15.48' | S 17°27.89' | 210°29.53' | 257°02.03' | S 23°06.79' | 133°13.04' | 334°18.53' | S 11°42.19' | 152°08.47' | 315°23.10' | S 17°47.81' | **00** |
| **01** | 192°20.21' | 290°13.82' | S 17°27.54' | 225°30.06' | 257°03.97' | S 23°06.98' | 148°15.01' | 334°19.02' | S 11°42.00' | 167°10.65' | 315°23.38' | S 17°47.74' | **01** |
| **02** | 207°24.34' | 290°12.16' | S 17°27.18' | 240°30.59' | 257°05.90' | S 23°07.16' | 163°16.99' | 334°19.50' | S 11°41.81' | 182°12.83' | 315°23.66' | S 17°47.66' | **02** |
| **03** | 222°28.47' | 290°10.49' | S 17°26.83' | 255°31.12' | 257°07.83' | S 23°07.35' | 178°18.96' | 334°19.99' | S 11°41.63' | 197°15.01' | 315°23.95' | S 17°47.58' | **03** |
| **04** | 237°32.59' | 290°08.83' | S 17°26.49' | 270°31.65' | 257°09.77' | S 23°07.54' | 193°20.94' | 334°20.48' | S 11°41.44' | 212°17.19' | 315°24.23' | S 17°47.50' | **04** |
| **05** | 252°36.72' | 290°07.16' | S 17°26.14' | 285°32.18' | 257°11.70' | S 23°07.72' | 208°22.91' | 334°20.97' | S 11°41.25' | 227°19.37' | 315°24.51' | S 17°47.42' | **05** |
| **06** | 267°40.85' | 290°05.50' | S 17°25.79' | 300°32.71' | 257°13.64' | S 23°07.91' | 223°24.89' | 334°21.46' | S 11°41.06' | 242°21.55' | 315°24.80' | S 17°47.34' | **06** |
| **07** | 282°44.98' | 290°03.84' | S 17°25.44' | 315°33.24' | 257°15.57' | S 23°08.09' | 238°26.86' | 334°21.95' | S 11°40.88' | 257°23.73' | 315°25.08' | S 17°47.27' | **07** |
| **08** | 297°49.11' | 290°02.17' | S 17°25.10' | 330°33.77' | 257°17.51' | S 23°08.28' | 253°28.84' | 334°22.44' | S 11°40.69' | 272°25.91' | 315°25.37' | S 17°47.19' | **08** |
| **09** | 312°53.23' | 290°00.51' | S 17°24.75' | 345°34.30' | 257°19.44' | S 23°08.46' | 268°30.81' | 334°22.93' | S 11°40.50' | 287°28.09' | 315°25.65' | S 17°47.11' | **09** |
| **10** | 327°57.36' | 289°58.85' | S 17°24.41' | 0°34.83' | 257°21.38' | S 23°08.65' | 283°32.78' | 334°23.42' | S 11°40.32' | 302°30.27' | 315°25.93' | S 17°47.03' | **10** |
| **11** | 343°01.49' | 289°57.18' | S 17°24.06' | 15°35.36' | 257°23.31' | S 23°08.83' | 298°34.76' | 334°23.91' | S 11°40.13' | 317°32.45' | 315°26.22' | S 17°46.95' | **11** |
| **12** | 358°05.62' | 289°55.52' | S 17°23.72' | 30°35.89' | 257°25.25' | S 23°09.01' | 313°36.73' | 334°24.40' | S 11°39.94' | 332°34.63' | 315°26.50' | S 17°46.87' | **12** |
| **13** | 13°09.75' | 289°53.85' | S 17°23.37' | 45°36.42' | 257°27.18' | S 23°09.20' | 328°38.71' | 334°24.89' | S 11°39.75' | 347°36.81' | 315°26.79' | S 17°46.80' | **13** |
| **14** | 28°13.87' | 289°52.19' | S 17°23.03' | 60°36.95' | 257°29.12' | S 23°09.38' | 343°40.68' | 334°25.38' | S 11°39.57' | 2°38.99' | 315°27.07' | S 17°46.72' | **14** |
| **15** | 43°18.00' | 289°50.53' | S 17°22.69' | 75°37.48' | 257°31.05' | S 23°09.56' | 358°42.65' | 334°25.88' | S 11°39.38' | 17°41.17' | 315°27.35' | S 17°46.64' | **15** |
| **16** | 58°22.13' | 289°48.86' | S 17°22.35' | 90°38.00' | 257°32.99' | S 23°09.74' | 13°44.63' | 334°26.37' | S 11°39.19' | 32°43.35' | 315°27.64' | S 17°46.56' | **16** |
| **17** | 73°26.26' | 289°47.20' | S 17°22.01' | 105°38.53' | 257°34.92' | S 23°09.92' | 28°46.60' | 334°26.86' | S 11°39.00' | 47°45.53' | 315°27.92' | S 17°46.48' | **17** |
| **18** | 88°30.38' | 289°45.54' | S 17°21.67' | 120°39.06' | 257°36.86' | S 23°10.10' | 43°48.57' | 334°27.35' | S 11°38.82' | 62°47.71' | 315°28.21' | S 17°46.40' | **18** |
| **19** | 103°34.51' | 289°43.87' | S 17°21.33' | 135°39.59' | 257°38.79' | S 23°10.28' | 58°50.54' | 334°27.84' | S 11°38.63' | 77°49.89' | 315°28.49' | S 17°46.33' | **19** |
| **20** | 118°38.64' | 289°42.21' | S 17°20.99' | 150°40.12' | 257°40.73' | S 23°10.46' | 73°52.52' | 334°28.33' | S 11°38.44' | 92°52.07' | 315°28.78' | S 17°46.25' | **20** |
| **21** | 133°42.76' | 289°40.55' | S 17°20.65' | 165°40.64' | 257°42.67' | S 23°10.64' | 88°54.49' | 334°28.82' | S 11°38.25' | 107°54.25' | 315°29.06' | S 17°46.17' | **21** |
| **22** | 148°46.89' | 289°38.89' | S 17°20.32' | 180°41.17' | 257°44.60' | S 23°10.82' | 103°56.46' | 334°29.31' | S 11°38.07' | 122°56.43' | 315°29.35' | S 17°46.09' | **22** |
| **23** | 163°51.02' | 289°37.22' | S 17°19.98' | 195°41.70' | 257°46.54' | S 23°11.00' | 118°58.43' | 334°29.81' | S 11°37.88' | 137°58.61' | 315°29.63' | S 17°46.01' | **23** |
| **24** | 178°55.14' | 289°35.56' | S 17°19.65' | 210°42.23' | 257°48.48' | S 23°11.18' | 134°00.41' | 334°30.30' | S 11°37.69' | 153°00.79' | 315°29.92' | S 17°45.93' | **24** |
| | δ 15.0688° | | *d* 0.3510' | δ 15.0088° | | *d* 0.1874' | δ 15.0329° | | *d* 0.1866' | δ 15.0363° | | *d* 0.0781' | |

## *Sunday, January 9th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°16.64' | 14.9957° | 290°14.07' | S 22°08.10' | 0.3502' | 97°48.39' | 14.5671° | 10°42.32' | N 0°16.25' | 14.0763' | 56.1663' | 108°30.70' | **00** |
| **01** | 193°16.38' | 14.9957° | 290°16.79' | S 22°07.75' | 0.3509' | 112°22.45' | 14.5677° | 11°10.72' | N 0°30.31' | 14.0581' | 56.1329' | 123°33.17' | **01** |
| **02** | 208°16.12' | 14.9957° | 290°19.51' | S 22°07.39' | 0.3517' | 126°56.54' | 14.5682° | 11°39.09' | N 0°44.35' | 14.0390' | 56.0997' | 138°35.63' | **02** |
| **03** | 223°15.86' | 14.9957° | 290°22.24' | S 22°07.04' | 0.3524' | 141°30.67' | 14.5687° | 12°07.43' | N 0°58.37' | 14.0192' | 56.0667' | 153°38.10' | **03** |
| **04** | 238°15.60' | 14.9957° | 290°24.96' | S 22°06.69' | 0.3532' | 156°04.82' | 14.5692° | 12°35.74' | N 1°12.37' | 13.9985' | 56.0339' | 168°40.56' | **04** |
| **05** | 253°15.34' | 14.9957° | 290°27.69' | S 22°06.33' | 0.3539' | 170°39.00' | 14.5697° | 13°04.02' | N 1°26.34' | 13.9771' | 56.0014' | 183°43.02' | **05** |
| **06** | 268°15.08' | 14.9957° | 290°30.41' | S 22°05.98' | 0.3547' | 185°13.21' | 14.5702° | 13°32.27' | N 1°40.30' | 13.9549' | 55.9691' | 198°45.49' | **06** |
| **07** | 283°14.82' | 14.9957° | 290°33.13' | S 22°05.62' | 0.3554' | 199°47.45' | 14.5706° | 14°00.50' | N 1°54.23' | 13.9319' | 55.9371' | 213°47.95' | **07** |
| **08** | 298°14.56' | 14.9957° | 290°35.85' | S 22°05.27' | 0.3562' | 214°21.71' | 14.5710° | 14°28.70' | N 2°08.14' | 13.9081' | 55.9053' | 228°50.42' | **08** |
| **09** | 313°14.30' | 14.9957° | 290°38.58' | S 22°04.91' | 0.3569' | 228°56.00' | 14.5714° | 14°56.88' | N 2°22.02' | 13.8836' | 55.8737' | 243°52.88' | **09** |
| **10** | 328°14.05' | 14.9957° | 290°41.30' | S 22°04.55' | 0.3577' | 243°30.31' | 14.5718° | 15°25.04' | N 2°35.88' | 13.8583' | 55.8424' | 258°55.35' | **10** |
| **11** | 343°13.79' | 14.9957° | 290°44.02' | S 22°04.20' | 0.3584' | 258°04.64' | 14.5722° | 15°53.17' | N 2°49.71' | 13.8323' | 55.8113' | 273°57.81' | **11** |
| **12** | 358°13.53' | 14.9957° | 290°46.74' | S 22°03.84' | 0.3592' | 272°38.99' | 14.5725° | 16°21.29' | N 3°03.52' | 13.8055' | 55.7805' | 289°00.27' | **12** |
| **13** | 13°13.27' | 14.9957° | 290°49.46' | S 22°03.48' | 0.3599' | 287°13.36' | 14.5728° | 16°49.38' | N 3°17.30' | 13.7780' | 55.7500' | 304°02.74' | **13** |
| **14** | 28°13.02' | 14.9957° | 290°52.19' | S 22°03.12' | 0.3607' | 301°47.74' | 14.5731° | 17°17.46' | N 3°31.05' | 13.7497' | 55.7196' | 319°05.20' | **14** |
| **15** | 43°12.76' | 14.9957° | 290°54.91' | S 22°02.75' | 0.3614' | 316°22.15' | 14.5734° | 17°45.52' | N 3°44.77' | 13.7208' | 55.6896' | 334°07.67' | **15** |
| **16** | 58°12.50' | 14.9957° | 290°57.63' | S 22°02.39' | 0.3622' | 330°56.57' | 14.5737° | 18°13.56' | N 3°58.46' | 13.6911' | 55.6598' | 349°10.13' | **16** |
| **17** | 73°12.25' | 14.9957° | 291°00.35' | S 22°02.03' | 0.3629' | 345°31.00' | 14.5739° | 18°41.59' | N 4°12.12' | 13.6607' | 55.6302' | 4°12.59' | **17** |
| **18** | 88°11.99' | 14.9957° | 291°03.07' | S 22°01.67' | 0.3637' | 0°05.45' | 14.5741° | 19°09.61' | N 4°25.75' | 13.6295' | 55.6009' | 19°15.06' | **18** |
| **19** | 103°11.73' | 14.9957° | 291°05.79' | S 22°01.30' | 0.3644' | 14°39.91' | 14.5743° | 19°37.61' | N 4°39.35' | 13.5977' | 55.5719' | 34°17.52' | **19** |
| **20** | 118°11.48' | 14.9957° | 291°08.51' | S 22°00.94' | 0.3652' | 29°14.38' | 14.5745° | 20°05.60' | N 4°52.91' | 13.5652' | 55.5431' | 49°19.99' | **20** |
| **21** | 133°11.22' | 14.9957° | 291°11.23' | S 22°00.57' | 0.3659' | 43°48.86' | 14.5747° | 20°33.59' | N 5°06.44' | 13.5319' | 55.5146' | 64°22.45' | **21** |
| **22** | 148°10.97' | 14.9957° | 291°13.95' | S 22°00.20' | 0.3667' | 58°23.35' | 14.5748° | 21°01.56' | N 5°19.94' | 13.4980' | 55.4863' | 79°24.91' | **22** |
| **23** | 163°10.71' | 14.9958° | 291°16.67' | S 21°59.84' | 0.3674' | 72°57.85' | 14.5750° | 21°29.53' | N 5°33.40' | 13.4634' | 55.4583' | 94°27.38' | **23** |
| **24** | 178°10.46' | 14.9958° | 291°19.38' | S 21°59.47' | 0.3682' | 87°32.35' | 14.5751° | 21°57.49' | N 5°46.83' | 13.4280' | 55.4306' | 109°29.84' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2639' | hp (π) 0.1490' | ½Ø 15.1992' | 47.5659394222285<br>46% +cre |
| | EoT at 12:00 UTC : -7m 5s (δ -1.03 s/h) | | Phase at 12:00 UTC : 87.05° | |
| | Meridian Pass. Time : 12:07:05.878 | | Age : 6.8 day(s) | |

| UT | Venus ♀ (π 0.55') | | | Mars ♂ (π 0.06') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 178°55.14' | 289°35.56' | S 17°19.65' | 210°42.23' | 257°48.48' | S 23°11.18' | 134°00.41' | 334°30.30' | S 11°37.69' | 153°00.79' | 315°29.92' | S 17°45.93' | **00** |
| **01** | 193°59.27' | 289°33.90' | S 17°19.31' | 225°42.75' | 257°50.42' | S 23°11.36' | 149°02.38' | 334°30.79' | S 11°37.50' | 168°02.97' | 315°30.20' | S 17°45.85' | **01** |
| **02** | 209°03.39' | 289°32.24' | S 17°18.98' | 240°43.28' | 257°52.35' | S 23°11.54' | 164°04.35' | 334°31.28' | S 11°37.31' | 183°05.15' | 315°30.48' | S 17°45.78' | **02** |
| **03** | 224°07.52' | 289°30.58' | S 17°18.64' | 255°43.81' | 257°54.29' | S 23°11.72' | 179°06.32' | 334°31.77' | S 11°37.13' | 198°07.33' | 315°30.77' | S 17°45.70' | **03** |
| **04** | 239°11.64' | 289°28.92' | S 17°18.31' | 270°44.33' | 257°56.23' | S 23°11.89' | 194°08.29' | 334°32.27' | S 11°36.94' | 213°09.51' | 315°31.05' | S 17°45.62' | **04** |
| **05** | 254°15.77' | 289°27.26' | S 17°17.98' | 285°44.86' | 257°58.16' | S 23°12.07' | 209°10.27' | 334°32.76' | S 11°36.75' | 228°11.69' | 315°31.34' | S 17°45.54' | **05** |
| **06** | 269°19.89' | 289°25.60' | S 17°17.65' | 300°45.39' | 258°00.10' | S 23°12.25' | 224°12.24' | 334°33.25' | S 11°36.56' | 243°13.86' | 315°31.62' | S 17°45.46' | **06** |
| **07** | 284°24.02' | 289°23.94' | S 17°17.32' | 315°45.91' | 258°02.04' | S 23°12.42' | 239°14.21' | 334°33.74' | S 11°36.37' | 258°16.04' | 315°31.91' | S 17°45.38' | **07** |
| **08** | 299°28.14' | 289°22.28' | S 17°16.99' | 330°46.44' | 258°03.98' | S 23°12.60' | 254°16.18' | 334°34.24' | S 11°36.18' | 273°18.22' | 315°32.19' | S 17°45.30' | **08** |
| **09** | 314°32.26' | 289°20.62' | S 17°16.66' | 345°46.96' | 258°05.92' | S 23°12.77' | 269°18.15' | 334°34.73' | S 11°35.99' | 288°20.40' | 315°32.48' | S 17°45.22' | **09** |
| **10** | 329°36.39' | 289°18.96' | S 17°16.33' | 0°47.49' | 258°07.86' | S 23°12.95' | 284°20.12' | 334°35.22' | S 11°35.81' | 303°22.58' | 315°32.76' | S 17°45.15' | **10** |
| **11** | 344°40.51' | 289°17.30' | S 17°16.00' | 15°48.01' | 258°09.79' | S 23°13.12' | 299°22.09' | 334°35.72' | S 11°35.62' | 318°24.76' | 315°33.05' | S 17°45.07' | **11** |
| **12** | 359°44.63' | 289°15.64' | S 17°15.67' | 30°48.54' | 258°11.73' | S 23°13.30' | 314°24.06' | 334°36.21' | S 11°35.43' | 333°26.94' | 315°33.34' | S 17°44.99' | **12** |
| **13** | 14°48.75' | 289°13.99' | S 17°15.35' | 45°49.07' | 258°13.67' | S 23°13.47' | 329°26.03' | 334°36.70' | S 11°35.24' | 348°29.12' | 315°33.62' | S 17°44.91' | **13** |
| **14** | 29°52.87' | 289°12.33' | S 17°15.02' | 60°49.59' | 258°15.61' | S 23°13.64' | 344°28.01' | 334°37.20' | S 11°35.05' | 3°31.30' | 315°33.91' | S 17°44.83' | **14** |
| **15** | 44°56.99' | 289°10.67' | S 17°14.70' | 75°50.12' | 258°17.55' | S 23°13.82' | 359°29.98' | 334°37.69' | S 11°34.86' | 18°33.47' | 315°34.19' | S 17°44.75' | **15** |
| **16** | 60°01.11' | 289°09.02' | S 17°14.37' | 90°50.64' | 258°19.49' | S 23°13.99' | 14°31.95' | 334°38.18' | S 11°34.67' | 33°35.65' | 315°34.48' | S 17°44.67' | **16** |
| **17** | 75°05.23' | 289°07.36' | S 17°14.05' | 105°51.16' | 258°21.43' | S 23°14.16' | 29°33.92' | 334°38.68' | S 11°34.48' | 48°37.83' | 315°34.76' | S 17°44.59' | **17** |
| **18** | 90°09.35' | 289°05.71' | S 17°13.72' | 120°51.69' | 258°23.37' | S 23°14.33' | 44°35.89' | 334°39.17' | S 11°34.30' | 63°40.01' | 315°35.05' | S 17°44.51' | **18** |
| **19** | 105°13.46' | 289°04.06' | S 17°13.40' | 135°52.21' | 258°25.31' | S 23°14.50' | 59°37.86' | 334°39.67' | S 11°34.11' | 78°42.19' | 315°35.33' | S 17°44.43' | **19** |
| **20** | 120°17.58' | 289°02.40' | S 17°13.08' | 150°52.74' | 258°27.25' | S 23°14.67' | 74°39.83' | 334°40.16' | S 11°33.92' | 93°44.37' | 315°35.62' | S 17°44.36' | **20** |
| **21** | 135°21.70' | 289°00.75' | S 17°12.76' | 165°53.26' | 258°29.19' | S 23°14.84' | 89°41.80' | 334°40.65' | S 11°33.73' | 108°46.54' | 315°35.91' | S 17°44.28' | **21** |
| **22** | 150°25.81' | 288°59.10' | S 17°12.44' | 180°53.79' | 258°31.13' | S 23°15.01' | 104°43.77' | 334°41.15' | S 11°33.54' | 123°48.72' | 315°36.19' | S 17°44.20' | **22** |
| **23** | 165°29.93' | 288°57.45' | S 17°12.12' | 195°54.31' | 258°33.07' | S 23°15.18' | 119°45.74' | 334°41.64' | S 11°33.35' | 138°50.90' | 315°36.48' | S 17°44.12' | **23** |
| **24** | 180°34.04' | 288°55.80' | S 17°11.80' | 210°54.83' | 258°35.01' | S 23°15.35' | 134°47.70' | 334°42.14' | S 11°33.16' | 153°53.08' | 315°36.76' | S 17°44.04' | **24** |
| | δ 15.0688° | | *d* 0.3349' | δ 15.0088° | | *d* 0.1782' | δ 15.0329° | | *d* 0.1881' | δ 15.0363° | | *d* 0.0786' | |

## *Monday, January 10th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°10.46' | 14.9958° | 291°19.38' | S 21°59.47' | 0.3682' | 87°32.35' | 14.5751° | 21°57.49' | N 5°46.83' | 13.4280' | 55.4306' | 109°29.84' | **00** |
| **01** | 193°10.20' | 14.9958° | 291°22.10' | S 21°59.10' | 0.3689' | 102°06.86' | 14.5752° | 22°25.44' | N 6°00.22' | 13.3920' | 55.4032' | 124°32.31' | **01** |
| **02** | 208°09.95' | 14.9958° | 291°24.82' | S 21°58.73' | 0.3697' | 116°41.38' | 14.5752° | 22°53.39' | N 6°13.58' | 13.3554' | 55.3760' | 139°34.77' | **02** |
| **03** | 223°09.70' | 14.9958° | 291°27.54' | S 21°58.36' | 0.3704' | 131°15.89' | 14.5753° | 23°21.34' | N 6°26.90' | 13.3180' | 55.3491' | 154°37.23' | **03** |
| **04** | 238°09.44' | 14.9958° | 291°30.26' | S 21°57.99' | 0.3711' | 145°50.41' | 14.5753° | 23°49.28' | N 6°40.18' | 13.2799' | 55.3224' | 169°39.70' | **04** |
| **05** | 253°09.19' | 14.9958° | 291°32.97' | S 21°57.62' | 0.3719' | 160°24.93' | 14.5753° | 24°17.23' | N 6°53.42' | 13.2412' | 55.2961' | 184°42.16' | **05** |
| **06** | 268°08.94' | 14.9958° | 291°35.69' | S 21°57.24' | 0.3726' | 174°59.46' | 14.5753° | 24°45.17' | N 7°06.62' | 13.2018' | 55.2700' | 199°44.63' | **06** |
| **07** | 283°08.68' | 14.9958° | 291°38.41' | S 21°56.87' | 0.3734' | 189°33.97' | 14.5753° | 25°13.12' | N 7°19.78' | 13.1618' | 55.2441' | 214°47.09' | **07** |
| **08** | 298°08.43' | 14.9958° | 291°41.12' | S 21°56.50' | 0.3741' | 204°08.49' | 14.5753° | 25°41.06' | N 7°32.90' | 13.1210' | 55.2186' | 229°49.55' | **08** |
| **09** | 313°08.18' | 14.9958° | 291°43.84' | S 21°56.12' | 0.3749' | 218°43.01' | 14.5752° | 26°09.01' | N 7°45.98' | 13.0797' | 55.1933' | 244°52.02' | **09** |
| **10** | 328°07.93' | 14.9958° | 291°46.56' | S 21°55.74' | 0.3756' | 233°17.52' | 14.5752° | 26°36.97' | N 7°59.02' | 13.0376' | 55.1683' | 259°54.48' | **10** |
| **11** | 343°07.67' | 14.9958° | 291°49.27' | S 21°55.37' | 0.3763' | 247°52.02' | 14.5751° | 27°04.92' | N 8°12.02' | 12.9949' | 55.1436' | 274°56.95' | **11** |
| **12** | 358°07.42' | 14.9958° | 291°51.99' | S 21°54.99' | 0.3771' | 262°26.52' | 14.5750° | 27°32.89' | N 8°24.97' | 12.9515' | 55.1191' | 289°59.41' | **12** |
| **13** | 13°07.17' | 14.9958° | 291°54.70' | S 21°54.61' | 0.3778' | 277°01.01' | 14.5749° | 28°00.86' | N 8°37.87' | 12.9075' | 55.0949' | 305°01.88' | **13** |
| **14** | 28°06.92' | 14.9958° | 291°57.42' | S 21°54.24' | 0.3786' | 291°35.50' | 14.5747° | 28°28.84' | N 8°50.74' | 12.8628' | 55.0710' | 320°04.34' | **14** |
| **15** | 43°06.67' | 14.9958° | 292°00.13' | S 21°53.86' | 0.3793' | 306°09.97' | 14.5746° | 28°56.83' | N 9°03.55' | 12.8174' | 55.0474' | 335°06.80' | **15** |
| **16** | 58°06.42' | 14.9958° | 292°02.85' | S 21°53.48' | 0.3801' | 320°44.44' | 14.5744° | 29°24.83' | N 9°16.33' | 12.7714' | 55.0241' | 350°09.27' | **16** |
| **17** | 73°06.17' | 14.9958° | 292°05.56' | S 21°53.09' | 0.3808' | 335°18.89' | 14.5742° | 29°52.84' | N 9°29.05' | 12.7248' | 55.0010' | 5°11.73' | **17** |
| **18** | 88°05.92' | 14.9958° | 292°08.28' | S 21°52.71' | 0.3815' | 349°53.33' | 14.5740° | 30°20.87' | N 9°41.73' | 12.6774' | 54.9782' | 20°14.20' | **18** |
| **19** | 103°05.67' | 14.9958° | 292°10.99' | S 21°52.33' | 0.3823' | 4°27.76' | 14.5738° | 30°48.90' | N 9°54.36' | 12.6295' | 54.9557' | 35°16.66' | **19** |
| **20** | 118°05.42' | 14.9958° | 292°13.71' | S 21°51.95' | 0.3830' | 19°02.17' | 14.5736° | 31°16.95' | N 10°06.94' | 12.5809' | 54.9335' | 50°19.12' | **20** |
| **21** | 133°05.17' | 14.9958° | 292°16.42' | S 21°51.56' | 0.3838' | 33°36.57' | 14.5733° | 31°45.02' | N 10°19.47' | 12.5316' | 54.9116' | 65°21.59' | **21** |
| **22** | 148°04.92' | 14.9958° | 292°19.13' | S 21°51.18' | 0.3845' | 48°10.95' | 14.5730° | 32°13.10' | N 10°31.95' | 12.4817' | 54.8899' | 80°24.05' | **22** |
| **23** | 163°04.67' | 14.9959° | 292°21.84' | S 21°50.79' | 0.3852' | 62°45.32' | 14.5728° | 32°41.20' | N 10°44.38' | 12.4311' | 54.8686' | 95°26.52' | **23** |
| **24** | 178°04.42' | 14.9959° | 292°24.56' | S 21°50.41' | 0.3860' | 77°19.66' | 14.5725° | 33°09.32' | N 10°56.76' | 12.3799' | 54.8475' | 110°28.98' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2635' | hp (π) 0.1490' | ½Ø 15.0190' | 57.4066409370267<br>8% +gib |
| | EoT at 12:00 UTC : -7m 30s (δ -1.01 s/h) | | Phase at 12:00 UTC : 98.38° | |
| | Meridian Pass. Time : 12:07:30.311 | | Age : 7.7 day(s) | |

| UT | Venus ♀ (π 0.55') | | | Mars ♂ (π 0.06') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 180°34.04' | 288°55.80' | S 17°11.80' | 210°54.83' | 258°35.01' | S 23°15.35' | 134°47.70' | 334°42.14' | S 11°33.16' | 153°53.08' | 315°36.76' | S 17°44.04' | **00** |
| **01** | 195°38.16' | 288°54.15' | S 17°11.48' | 225°55.36' | 258°36.95' | S 23°15.52' | 149°49.67' | 334°42.63' | S 11°32.97' | 168°55.26' | 315°37.05' | S 17°43.96' | **01** |
| **02** | 210°42.27' | 288°52.50' | S 17°11.17' | 240°55.88' | 258°38.89' | S 23°15.69' | 164°51.64' | 334°43.13' | S 11°32.78' | 183°57.44' | 315°37.33' | S 17°43.88' | **02** |
| **03** | 225°46.38' | 288°50.85' | S 17°10.85' | 255°56.40' | 258°40.83' | S 23°15.86' | 179°53.61' | 334°43.62' | S 11°32.59' | 198°59.61' | 315°37.62' | S 17°43.80' | **03** |
| **04** | 240°50.49' | 288°49.21' | S 17°10.53' | 270°56.93' | 258°42.77' | S 23°16.03' | 194°55.58' | 334°44.12' | S 11°32.40' | 214°01.79' | 315°37.91' | S 17°43.72' | **04** |
| **05** | 255°54.60' | 288°47.56' | S 17°10.22' | 285°57.45' | 258°44.71' | S 23°16.19' | 209°57.55' | 334°44.61' | S 11°32.21' | 229°03.97' | 315°38.19' | S 17°43.64' | **05** |
| **06** | 270°58.71' | 288°45.92' | S 17°09.91' | 300°57.97' | 258°46.66' | S 23°16.36' | 224°59.52' | 334°45.11' | S 11°32.02' | 244°06.15' | 315°38.48' | S 17°43.56' | **06** |
| **07** | 286°02.82' | 288°44.27' | S 17°09.59' | 315°58.49' | 258°48.60' | S 23°16.53' | 240°01.49' | 334°45.60' | S 11°31.83' | 259°08.33' | 315°38.77' | S 17°43.49' | **07** |
| **08** | 301°06.93' | 288°42.63' | S 17°09.28' | 330°59.02' | 258°50.54' | S 23°16.70' | 255°03.45' | 334°46.10' | S 11°31.64' | 274°10.50' | 315°39.05' | S 17°43.41' | **08** |
| **09** | 316°11.03' | 288°40.99' | S 17°08.97' | 345°59.54' | 258°52.48' | S 23°16.86' | 270°05.42' | 334°46.60' | S 11°31.45' | 289°12.68' | 315°39.34' | S 17°43.33' | **09** |
| **10** | 331°15.14' | 288°39.34' | S 17°08.66' | 1°00.06' | 258°54.42' | S 23°17.03' | 285°07.39' | 334°47.09' | S 11°31.26' | 304°14.86' | 315°39.62' | S 17°43.25' | **10** |
| **11** | 346°19.24' | 288°37.70' | S 17°08.35' | 16°00.58' | 258°56.37' | S 23°17.19' | 300°09.36' | 334°47.59' | S 11°31.07' | 319°17.04' | 315°39.91' | S 17°43.17' | **11** |
| **12** | 1°23.35' | 288°36.06' | S 17°08.04' | 31°01.10' | 258°58.31' | S 23°17.36' | 315°11.33' | 334°48.08' | S 11°30.88' | 334°19.21' | 315°40.20' | S 17°43.09' | **12** |
| **13** | 16°27.45' | 288°34.42' | S 17°07.73' | 46°01.62' | 259°00.25' | S 23°17.52' | 330°13.30' | 334°48.58' | S 11°30.69' | 349°21.39' | 315°40.48' | S 17°43.01' | **13** |
| **14** | 31°31.55' | 288°32.79' | S 17°07.42' | 61°02.15' | 259°02.19' | S 23°17.68' | 345°15.26' | 334°49.08' | S 11°30.50' | 4°23.57' | 315°40.77' | S 17°42.93' | **14** |
| **15** | 46°35.65' | 288°31.15' | S 17°07.11' | 76°02.67' | 259°04.14' | S 23°17.85' | 0°17.23' | 334°49.57' | S 11°30.31' | 19°25.75' | 315°41.06' | S 17°42.85' | **15** |
| **16** | 61°39.75' | 288°29.51' | S 17°06.80' | 91°03.19' | 259°06.08' | S 23°18.01' | 15°19.20' | 334°50.07' | S 11°30.12' | 34°27.92' | 315°41.34' | S 17°42.77' | **16** |
| **17** | 76°43.85' | 288°27.88' | S 17°06.50' | 106°03.71' | 259°08.02' | S 23°18.17' | 30°21.17' | 334°50.57' | S 11°29.93' | 49°30.10' | 315°41.63' | S 17°42.69' | **17** |
| **18** | 91°47.95' | 288°26.24' | S 17°06.19' | 121°04.23' | 259°09.97' | S 23°18.34' | 45°23.13' | 334°51.06' | S 11°29.74' | 64°32.28' | 315°41.92' | S 17°42.61' | **18** |
| **19** | 106°52.05' | 288°24.61' | S 17°05.89' | 136°04.75' | 259°11.91' | S 23°18.50' | 60°25.10' | 334°51.56' | S 11°29.55' | 79°34.46' | 315°42.20' | S 17°42.53' | **19** |
| **20** | 121°56.14' | 288°22.98' | S 17°05.58' | 151°05.27' | 259°13.85' | S 23°18.66' | 75°27.07' | 334°52.06' | S 11°29.36' | 94°36.63' | 315°42.49' | S 17°42.45' | **20** |
| **21** | 137°00.24' | 288°21.35' | S 17°05.28' | 166°05.79' | 259°15.80' | S 23°18.82' | 90°29.03' | 334°52.55' | S 11°29.17' | 109°38.81' | 315°42.78' | S 17°42.37' | **21** |
| **22** | 152°04.33' | 288°19.72' | S 17°04.98' | 181°06.31' | 259°17.74' | S 23°18.98' | 105°31.00' | 334°53.05' | S 11°28.98' | 124°40.99' | 315°43.06' | S 17°42.29' | **22** |
| **23** | 167°08.42' | 288°18.09' | S 17°04.68' | 196°06.83' | 259°19.68' | S 23°19.14' | 120°32.97' | 334°53.55' | S 11°28.79' | 139°43.17' | 315°43.35' | S 17°42.21' | **23** |
| **24** | 182°12.52' | 288°16.47' | S 17°04.38' | 211°07.35' | 259°21.63' | S 23°19.30' | 135°34.93' | 334°54.05' | S 11°28.60' | 154°45.34' | 315°43.64' | S 17°42.14' | **24** |
| | δ 15.0686° | | *d* 0.3179' | δ 15.0087° | | *d* 0.1690' | δ 15.0328° | | *d* 0.1895' | δ 15.0363° | | *d* 0.0791' | |

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°04.42' | 14.9959° | 292°24.56' | S 21°50.41' | 0.3860' | 77°19.66' | 14.5725° | 33°09.32' | N 10°56.76' | 12.3799' | 54.8475' | 110°28.98' | **00** |
| **01** | 193°04.17' | 14.9959° | 292°27.27' | S 21°50.02' | 0.3867' | 91°53.99' | 14.5721° | 33°37.45' | N 11°09.09' | 12.3280' | 54.8266' | 125°31.44' | **01** |
| **02** | 208°03.93' | 14.9959° | 292°29.98' | S 21°49.63' | 0.3874' | 106°28.30' | 14.5718° | 34°05.61' | N 11°21.37' | 12.2754' | 54.8061' | 140°33.91' | **02** |
| **03** | 223°03.68' | 14.9959° | 292°32.69' | S 21°49.25' | 0.3882' | 121°02.59' | 14.5715° | 34°33.78' | N 11°33.59' | 12.2223' | 54.7859' | 155°36.37' | **03** |
| **04** | 238°03.43' | 14.9959° | 292°35.41' | S 21°48.86' | 0.3889' | 135°36.86' | 14.5711° | 35°01.98' | N 11°45.76' | 12.1684' | 54.7659' | 170°38.84' | **04** |
| **05** | 253°03.18' | 14.9959° | 292°38.12' | S 21°48.47' | 0.3897' | 150°11.10' | 14.5707° | 35°30.20' | N 11°57.87' | 12.1139' | 54.7462' | 185°41.30' | **05** |
| **06** | 268°02.94' | 14.9959° | 292°40.83' | S 21°48.08' | 0.3904' | 164°45.32' | 14.5703° | 35°58.45' | N 12°09.93' | 12.0588' | 54.7268' | 200°43.77' | **06** |
| **07** | 283°02.69' | 14.9959° | 292°43.54' | S 21°47.69' | 0.3911' | 179°19.52' | 14.5699° | 36°26.71' | N 12°21.93' | 12.0030' | 54.7077' | 215°46.23' | **07** |
| **08** | 298°02.44' | 14.9959° | 292°46.25' | S 21°47.29' | 0.3919' | 193°53.69' | 14.5695° | 36°55.01' | N 12°33.88' | 11.9466' | 54.6888' | 230°48.69' | **08** |
| **09** | 313°02.20' | 14.9959° | 292°48.96' | S 21°46.90' | 0.3926' | 208°27.83' | 14.5691° | 37°23.33' | N 12°45.77' | 11.8895' | 54.6703' | 245°51.16' | **09** |
| **10** | 328°01.95' | 14.9959° | 292°51.67' | S 21°46.51' | 0.3933' | 223°01.95' | 14.5686° | 37°51.67' | N 12°57.60' | 11.8317' | 54.6520' | 260°53.62' | **10** |
| **11** | 343°01.71' | 14.9959° | 292°54.38' | S 21°46.11' | 0.3941' | 237°36.04' | 14.5682° | 38°20.04' | N 13°09.37' | 11.7733' | 54.6340' | 275°56.09' | **11** |
| **12** | 358°01.46' | 14.9959° | 292°57.09' | S 21°45.72' | 0.3948' | 252°10.10' | 14.5677° | 38°48.45' | N 13°21.09' | 11.7142' | 54.6163' | 290°58.55' | **12** |
| **13** | 13°01.22' | 14.9959° | 292°59.80' | S 21°45.32' | 0.3955' | 266°44.14' | 14.5672° | 39°16.88' | N 13°32.74' | 11.6545' | 54.5988' | 306°01.01' | **13** |
| **14** | 28°00.97' | 14.9959° | 293°02.51' | S 21°44.93' | 0.3963' | 281°18.14' | 14.5667° | 39°45.34' | N 13°44.34' | 11.5941' | 54.5817' | 321°03.48' | **14** |
| **15** | 43°00.73' | 14.9959° | 293°05.22' | S 21°44.53' | 0.3970' | 295°52.11' | 14.5662° | 40°13.83' | N 13°55.87' | 11.5330' | 54.5648' | 336°05.94' | **15** |
| **16** | 58°00.48' | 14.9959° | 293°07.92' | S 21°44.13' | 0.3977' | 310°26.05' | 14.5657° | 40°42.35' | N 14°07.34' | 11.4713' | 54.5482' | 351°08.41' | **16** |
| **17** | 73°00.24' | 14.9959° | 293°10.63' | S 21°43.73' | 0.3985' | 324°59.96' | 14.5651° | 41°10.91' | N 14°18.75' | 11.4089' | 54.5319' | 6°10.87' | **17** |
| **18** | 87°60.00' | 14.9959° | 293°13.34' | S 21°43.34' | 0.3992' | 339°33.84' | 14.5646° | 41°39.50' | N 14°30.10' | 11.3459' | 54.5159' | 21°13.33' | **18** |
| **19** | 102°59.75' | 14.9959° | 293°16.05' | S 21°42.94' | 0.3999' | 354°07.68' | 14.5640° | 42°08.12' | N 14°41.38' | 11.2822' | 54.5001' | 36°15.80' | **19** |
| **20** | 117°59.51' | 14.9959° | 293°18.75' | S 21°42.53' | 0.4007' | 8°41.48' | 14.5634° | 42°36.78' | N 14°52.60' | 11.2178' | 54.4846' | 51°18.26' | **20** |
| **21** | 132°59.27' | 14.9960° | 293°21.46' | S 21°42.13' | 0.4014' | 23°15.25' | 14.5628° | 43°05.47' | N 15°03.75' | 11.1528' | 54.4694' | 66°20.73' | **21** |
| **22** | 147°59.02' | 14.9960° | 293°24.17' | S 21°41.73' | 0.4021' | 37°48.99' | 14.5622° | 43°34.20' | N 15°14.84' | 11.0870' | 54.4545' | 81°23.19' | **22** |
| **23** | 162°58.78' | 14.9960° | 293°26.87' | S 21°41.33' | 0.4028' | 52°22.69' | 14.5616° | 44°02.97' | N 15°25.86' | 11.0206' | 54.4398' | 96°25.66' | **23** |
| **24** | 177°58.54' | 14.9960° | 293°29.58' | S 21°40.92' | 0.4036' | 66°56.35' | 14.5610° | 44°31.77' | N 15°36.81' | 10.9536' | 54.4255' | 111°28.12' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2630' | hp (π) 0.1490' | ½Ø 14.8820' | 66.7464532568488 5% +gib | |
| EoT at 12:00 UTC : -7m 54s (δ -0.98 s/h) | | Phase at 12:00 UTC : 109.43° | | |
| Meridian Pass. Time : 12:07:54.153 | | Age : 8.5 day(s) | | |

| UT | Venus ♀ (π 0.55') | | | Mars ♂ (π 0.06') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 182°12.52' | 288°16.47' | S 17°04.38' | 211°07.35' | 259°21.63' | S 23°19.30' | 135°34.93' | 334°54.05' | S 11°28.60' | 154°45.34' | 315°43.64' | S 17°42.14' | **00** |
| **01** | 197°16.61' | 288°14.84' | S 17°04.08' | 226°07.87' | 259°23.57' | S 23°19.46' | 150°36.90' | 334°54.54' | S 11°28.40' | 169°47.52' | 315°43.93' | S 17°42.06' | **01** |
| **02** | 212°20.69' | 288°13.22' | S 17°03.78' | 241°08.39' | 259°25.52' | S 23°19.62' | 165°38.87' | 334°55.04' | S 11°28.21' | 184°49.70' | 315°44.21' | S 17°41.98' | **02** |
| **03** | 227°24.78' | 288°11.59' | S 17°03.48' | 256°08.91' | 259°27.46' | S 23°19.78' | 180°40.83' | 334°55.54' | S 11°28.02' | 199°51.87' | 315°44.50' | S 17°41.90' | **03** |
| **04** | 242°28.87' | 288°09.97' | S 17°03.18' | 271°09.43' | 259°29.41' | S 23°19.94' | 195°42.80' | 334°56.04' | S 11°27.83' | 214°54.05' | 315°44.79' | S 17°41.82' | **04** |
| **05** | 257°32.95' | 288°08.35' | S 17°02.88' | 286°09.95' | 259°31.35' | S 23°20.10' | 210°44.76' | 334°56.54' | S 11°27.64' | 229°56.23' | 315°45.07' | S 17°41.74' | **05** |
| **06** | 272°37.04' | 288°06.73' | S 17°02.59' | 301°10.47' | 259°33.30' | S 23°20.26' | 225°46.73' | 334°57.03' | S 11°27.45' | 244°58.40' | 315°45.36' | S 17°41.66' | **06** |
| **07** | 287°41.12' | 288°05.11' | S 17°02.29' | 316°10.99' | 259°35.24' | S 23°20.41' | 240°48.70' | 334°57.53' | S 11°27.26' | 260°00.58' | 315°45.65' | S 17°41.58' | **07** |
| **08** | 302°45.20' | 288°03.49' | S 17°02.00' | 331°11.51' | 259°37.19' | S 23°20.57' | 255°50.66' | 334°58.03' | S 11°27.07' | 275°02.76' | 315°45.94' | S 17°41.50' | **08** |
| **09** | 317°49.28' | 288°01.88' | S 17°01.70' | 346°12.03' | 259°39.13' | S 23°20.73' | 270°52.63' | 334°58.53' | S 11°26.88' | 290°04.93' | 315°46.22' | S 17°41.42' | **09** |
| **10** | 332°53.36' | 288°00.26' | S 17°01.41' | 1°12.54' | 259°41.08' | S 23°20.88' | 285°54.59' | 334°59.03' | S 11°26.68' | 305°07.11' | 315°46.51' | S 17°41.34' | **10** |
| **11** | 347°57.43' | 287°58.65' | S 17°01.12' | 16°13.06' | 259°43.02' | S 23°21.04' | 300°56.56' | 334°59.53' | S 11°26.49' | 320°09.29' | 315°46.80' | S 17°41.26' | **11** |
| **12** | 3°01.51' | 287°57.04' | S 17°00.83' | 31°13.58' | 259°44.97' | S 23°21.20' | 315°58.52' | 335°00.03' | S 11°26.30' | 335°11.46' | 315°47.09' | S 17°41.18' | **12** |
| **13** | 18°05.58' | 287°55.43' | S 17°00.53' | 46°14.10' | 259°46.91' | S 23°21.35' | 331°00.49' | 335°00.53' | S 11°26.11' | 350°13.64' | 315°47.37' | S 17°41.10' | **13** |
| **14** | 33°09.66' | 287°53.82' | S 17°00.24' | 61°14.62' | 259°48.86' | S 23°21.50' | 346°02.45' | 335°01.02' | S 11°25.92' | 5°15.82' | 315°47.66' | S 17°41.02' | **14** |
| **15** | 48°13.73' | 287°52.22' | S 16°59.95' | 76°15.14' | 259°50.81' | S 23°21.66' | 1°04.42' | 335°01.52' | S 11°25.73' | 20°17.99' | 315°47.95' | S 17°40.94' | **15** |
| **16** | 63°17.80' | 287°50.61' | S 16°59.67' | 91°15.65' | 259°52.75' | S 23°21.81' | 16°06.38' | 335°02.02' | S 11°25.53' | 35°20.17' | 315°48.24' | S 17°40.86' | **16** |
| **17** | 78°21.86' | 287°49.01' | S 16°59.38' | 106°16.17' | 259°54.70' | S 23°21.97' | 31°08.35' | 335°02.52' | S 11°25.34' | 50°22.35' | 315°48.53' | S 17°40.78' | **17** |
| **18** | 93°25.93' | 287°47.40' | S 16°59.09' | 121°16.69' | 259°56.65' | S 23°22.12' | 46°10.31' | 335°03.02' | S 11°25.15' | 65°24.52' | 315°48.81' | S 17°40.70' | **18** |
| **19** | 108°30.00' | 287°45.80' | S 16°58.80' | 136°17.21' | 259°58.59' | S 23°22.27' | 61°12.28' | 335°03.52' | S 11°24.96' | 80°26.70' | 315°49.10' | S 17°40.62' | **19** |
| **20** | 123°34.06' | 287°44.20' | S 16°58.52' | 151°17.72' | 260°00.54' | S 23°22.42' | 76°14.24' | 335°04.02' | S 11°24.77' | 95°28.87' | 315°49.39' | S 17°40.54' | **20** |
| **21** | 138°38.12' | 287°42.60' | S 16°58.23' | 166°18.24' | 260°02.49' | S 23°22.58' | 91°16.20' | 335°04.52' | S 11°24.57' | 110°31.05' | 315°49.68' | S 17°40.46' | **21** |
| **22** | 153°42.18' | 287°41.01' | S 16°57.95' | 181°18.76' | 260°04.44' | S 23°22.73' | 106°18.17' | 335°05.02' | S 11°24.38' | 125°33.23' | 315°49.97' | S 17°40.38' | **22** |
| **23** | 168°46.24' | 287°39.41' | S 16°57.67' | 196°19.27' | 260°06.38' | S 23°22.88' | 121°20.13' | 335°05.52' | S 11°24.19' | 140°35.40' | 315°50.25' | S 17°40.30' | **23** |
| **24** | 183°50.30' | 287°37.82' | S 16°57.39' | 211°19.79' | 260°08.33' | S 23°23.03' | 136°22.10' | 335°06.02' | S 11°24.00' | 155°37.58' | 315°50.54' | S 17°40.22' | **24** |
| | δ 15.0682° | | *d* 0.3001' | δ 15.0087° | | *d* 0.1597' | δ 15.0328° | | *d* 0.1909' | δ 15.0363° | | *d* 0.0796' | |

## *Wednesday, January 12th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°58.54' | 14.9960° | 293°29.58' | S 21°40.92' | 0.4036' | 66°56.35' | 14.5610° | 44°31.77' | N 15°36.81' | 10.9536' | 54.4255' | 111°28.12' | **00** |
| **01** | 192°58.30' | 14.9960° | 293°32.29' | S 21°40.52' | 0.4043' | 81°29.97' | 14.5604° | 45°00.61' | N 15°47.70' | 10.8858' | 54.4114' | 126°30.58' | **01** |
| **02** | 207°58.05' | 14.9960° | 293°34.99' | S 21°40.12' | 0.4050' | 96°03.55' | 14.5597° | 45°29.50' | N 15°58.51' | 10.8174' | 54.3975' | 141°33.05' | **02** |
| **03** | 222°57.81' | 14.9960° | 293°37.70' | S 21°39.71' | 0.4058' | 110°37.10' | 14.5591° | 45°58.42' | N 16°09.26' | 10.7483' | 54.3840' | 156°35.51' | **03** |
| **04** | 237°57.57' | 14.9960° | 293°40.40' | S 21°39.30' | 0.4065' | 125°10.60' | 14.5584° | 46°27.38' | N 16°19.94' | 10.6785' | 54.3707' | 171°37.98' | **04** |
| **05** | 252°57.33' | 14.9960° | 293°43.11' | S 21°38.90' | 0.4072' | 139°44.06' | 14.5577° | 46°56.38' | N 16°30.55' | 10.6081' | 54.3577' | 186°40.44' | **05** |
| **06** | 267°57.09' | 14.9960° | 293°45.81' | S 21°38.49' | 0.4079' | 154°17.48' | 14.5570° | 47°25.42' | N 16°41.08' | 10.5369' | 54.3450' | 201°42.90' | **06** |
| **07** | 282°56.85' | 14.9960° | 293°48.52' | S 21°38.08' | 0.4087' | 168°50.86' | 14.5563° | 47°54.51' | N 16°51.55' | 10.4651' | 54.3325' | 216°45.37' | **07** |
| **08** | 297°56.61' | 14.9960° | 293°51.22' | S 21°37.67' | 0.4094' | 183°24.20' | 14.5556° | 48°23.63' | N 17°01.94' | 10.3926' | 54.3203' | 231°47.83' | **08** |
| **09** | 312°56.37' | 14.9960° | 293°53.93' | S 21°37.26' | 0.4101' | 197°57.49' | 14.5549° | 48°52.80' | N 17°12.26' | 10.3194' | 54.3084' | 246°50.30' | **09** |
| **10** | 327°56.13' | 14.9960° | 293°56.63' | S 21°36.85' | 0.4108' | 212°30.74' | 14.5542° | 49°22.02' | N 17°22.51' | 10.2455' | 54.2968' | 261°52.76' | **10** |
| **11** | 342°55.89' | 14.9960° | 293°59.33' | S 21°36.44' | 0.4116' | 227°03.95' | 14.5534° | 49°51.28' | N 17°32.68' | 10.1710' | 54.2854' | 276°55.23' | **11** |
| **12** | 357°55.65' | 14.9960° | 294°02.04' | S 21°36.03' | 0.4123' | 241°37.11' | 14.5527° | 50°20.58' | N 17°42.77' | 10.0957' | 54.2743' | 291°57.69' | **12** |
| **13** | 12°55.42' | 14.9960° | 294°04.74' | S 21°35.61' | 0.4130' | 256°10.22' | 14.5519° | 50°49.93' | N 17°52.79' | 10.0197' | 54.2634' | 307°00.15' | **13** |
| **14** | 27°55.18' | 14.9960° | 294°07.44' | S 21°35.20' | 0.4137' | 270°43.29' | 14.5512° | 51°19.33' | N 18°02.74' | 9.9431' | 54.2528' | 322°02.62' | **14** |
| **15** | 42°54.94' | 14.9960° | 294°10.14' | S 21°34.78' | 0.4145' | 285°16.31' | 14.5504° | 51°48.77' | N 18°12.60' | 9.8657' | 54.2425' | 337°05.08' | **15** |
| **16** | 57°54.70' | 14.9960° | 294°12.84' | S 21°34.37' | 0.4152' | 299°49.29' | 14.5496° | 52°18.26' | N 18°22.39' | 9.7877' | 54.2325' | 352°07.55' | **16** |
| **17** | 72°54.46' | 14.9960° | 294°15.55' | S 21°33.95' | 0.4159' | 314°22.22' | 14.5488° | 52°47.79' | N 18°32.10' | 9.7089' | 54.2227' | 7°10.01' | **17** |
| **18** | 87°54.23' | 14.9960° | 294°18.25' | S 21°33.54' | 0.4166' | 328°55.10' | 14.5480° | 53°17.37' | N 18°41.73' | 9.6295' | 54.2131' | 22°12.47' | **18** |
| **19** | 102°53.99' | 14.9961° | 294°20.95' | S 21°33.12' | 0.4174' | 343°27.93' | 14.5472° | 53°47.01' | N 18°51.28' | 9.5493' | 54.2039' | 37°14.94' | **19** |
| **20** | 117°53.75' | 14.9961° | 294°23.65' | S 21°32.70' | 0.4181' | 358°00.72' | 14.5464° | 54°16.69' | N 19°00.75' | 9.4684' | 54.1949' | 52°17.40' | **20** |
| **21** | 132°53.52' | 14.9961° | 294°26.35' | S 21°32.28' | 0.4188' | 12°33.45' | 14.5456° | 54°46.42' | N 19°10.13' | 9.3869' | 54.1861' | 67°19.87' | **21** |
| **22** | 147°53.28' | 14.9961° | 294°29.05' | S 21°31.86' | 0.4195' | 27°06.14' | 14.5448° | 55°16.20' | N 19°19.44' | 9.3046' | 54.1776' | 82°22.33' | **22** |
| **23** | 162°53.04' | 14.9961° | 294°31.75' | S 21°31.44' | 0.4203' | 41°38.77' | 14.5439° | 55°46.02' | N 19°28.66' | 9.2217' | 54.1694' | 97°24.79' | **23** |
| **24** | 177°52.81' | 14.9961° | 294°34.45' | S 21°31.02' | 0.4210' | 56°11.36' | 14.5431° | 56°15.90' | N 19°37.80' | 9.1380' | 54.1614' | 112°27.26' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2624' | hp (π) 0.1490' | ½Ø 14.7888' | 75.3299131893584<br>1% +gib |
| | EoT at 12:00 UTC : -8m 17s (δ -0.96 s/h) | | Phase at 12:00 UTC : 120.30° | |
| | Meridian Pass. Time : 12:08:17.385 | | Age : 9.4 day(s) | |

| UT | Venus ♀ (π 0.55') | | | Mars ♂ (π 0.06') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 183°50.30' | 287°37.82' | S 16°57.39' | 211°19.79' | 260°08.33' | S 23°23.03' | 136°22.10' | 335°06.02' | S 11°24.00' | 155°37.58' | 315°50.54' | S 17°40.22' | **00** |
| **01** | 198°54.35' | 287°36.23' | S 16°57.10' | 226°20.31' | 260°10.28' | S 23°23.18' | 151°24.06' | 335°06.52' | S 11°23.81' | 170°39.75' | 315°50.83' | S 17°40.14' | **01** |
| **02** | 213°58.41' | 287°34.64' | S 16°56.82' | 241°20.82' | 260°12.23' | S 23°23.33' | 166°26.02' | 335°07.02' | S 11°23.61' | 185°41.93' | 315°51.12' | S 17°40.06' | **02** |
| **03** | 229°02.46' | 287°33.05' | S 16°56.54' | 256°21.34' | 260°14.17' | S 23°23.48' | 181°27.99' | 335°07.52' | S 11°23.42' | 200°44.11' | 315°51.41' | S 17°39.98' | **03** |
| **04** | 244°06.51' | 287°31.46' | S 16°56.26' | 271°21.85' | 260°16.12' | S 23°23.63' | 196°29.95' | 335°08.03' | S 11°23.23' | 215°46.28' | 315°51.69' | S 17°39.90' | **04** |
| **05** | 259°10.56' | 287°29.88' | S 16°55.99' | 286°22.37' | 260°18.07' | S 23°23.78' | 211°31.91' | 335°08.53' | S 11°23.04' | 230°48.46' | 315°51.98' | S 17°39.82' | **05** |
| **06** | 274°14.61' | 287°28.30' | S 16°55.71' | 301°22.89' | 260°20.02' | S 23°23.93' | 226°33.88' | 335°09.03' | S 11°22.84' | 245°50.63' | 315°52.27' | S 17°39.74' | **06** |
| **07** | 289°18.65' | 287°26.72' | S 16°55.43' | 316°23.40' | 260°21.97' | S 23°24.08' | 241°35.84' | 335°09.53' | S 11°22.65' | 260°52.81' | 315°52.56' | S 17°39.66' | **07** |
| **08** | 304°22.70' | 287°25.14' | S 16°55.15' | 331°23.92' | 260°23.92' | S 23°24.22' | 256°37.80' | 335°10.03' | S 11°22.46' | 275°54.98' | 315°52.85' | S 17°39.58' | **08** |
| **09** | 319°26.74' | 287°23.56' | S 16°54.88' | 346°24.43' | 260°25.86' | S 23°24.37' | 271°39.77' | 335°10.53' | S 11°22.27' | 290°57.16' | 315°53.14' | S 17°39.50' | **09** |
| **10** | 334°30.78' | 287°21.98' | S 16°54.60' | 1°24.95' | 260°27.81' | S 23°24.52' | 286°41.73' | 335°11.03' | S 11°22.07' | 305°59.34' | 315°53.43' | S 17°39.42' | **10** |
| **11** | 349°34.82' | 287°20.41' | S 16°54.33' | 16°25.46' | 260°29.76' | S 23°24.66' | 301°43.69' | 335°11.53' | S 11°21.88' | 321°01.51' | 315°53.71' | S 17°39.34' | **11** |
| **12** | 4°38.85' | 287°18.84' | S 16°54.06' | 31°25.98' | 260°31.71' | S 23°24.81' | 316°45.65' | 335°12.04' | S 11°21.69' | 336°03.69' | 315°54.00' | S 17°39.26' | **12** |
| **13** | 19°42.89' | 287°17.27' | S 16°53.79' | 46°26.49' | 260°33.66' | S 23°24.96' | 331°47.62' | 335°12.54' | S 11°21.49' | 351°05.86' | 315°54.29' | S 17°39.18' | **13** |
| **14** | 34°46.92' | 287°15.70' | S 16°53.52' | 61°27.01' | 260°35.61' | S 23°25.10' | 346°49.58' | 335°13.04' | S 11°21.30' | 6°08.04' | 315°54.58' | S 17°39.10' | **14** |
| **15** | 49°50.95' | 287°14.13' | S 16°53.24' | 76°27.52' | 260°37.56' | S 23°25.25' | 1°51.54' | 335°13.54' | S 11°21.11' | 21°10.21' | 315°54.87' | S 17°39.02' | **15** |
| **16** | 64°54.98' | 287°12.57' | S 16°52.97' | 91°28.03' | 260°39.51' | S 23°25.39' | 16°53.50' | 335°14.04' | S 11°20.92' | 36°12.39' | 315°55.16' | S 17°38.94' | **16** |
| **17** | 79°59.01' | 287°11.00' | S 16°52.71' | 106°28.55' | 260°41.46' | S 23°25.53' | 31°55.46' | 335°14.55' | S 11°20.72' | 51°14.56' | 315°55.45' | S 17°38.86' | **17** |
| **18** | 95°03.03' | 287°09.44' | S 16°52.44' | 121°29.06' | 260°43.41' | S 23°25.68' | 46°57.43' | 335°15.05' | S 11°20.53' | 66°16.74' | 315°55.74' | S 17°38.78' | **18** |
| **19** | 110°07.05' | 287°07.88' | S 16°52.17' | 136°29.58' | 260°45.36' | S 23°25.82' | 61°59.39' | 335°15.55' | S 11°20.34' | 81°18.91' | 315°56.02' | S 17°38.70' | **19** |
| **20** | 125°11.08' | 287°06.33' | S 16°51.90' | 151°30.09' | 260°47.31' | S 23°25.96' | 77°01.35' | 335°16.05' | S 11°20.14' | 96°21.09' | 315°56.31' | S 17°38.61' | **20** |
| **21** | 140°15.09' | 287°04.77' | S 16°51.64' | 166°30.60' | 260°49.26' | S 23°26.11' | 92°03.31' | 335°16.56' | S 11°19.95' | 111°23.26' | 315°56.60' | S 17°38.53' | **21** |
| **22** | 155°19.11' | 287°03.22' | S 16°51.37' | 181°31.12' | 260°51.21' | S 23°26.25' | 107°05.27' | 335°17.06' | S 11°19.76' | 126°25.44' | 315°56.89' | S 17°38.45' | **22** |
| **23** | 170°23.13' | 287°01.67' | S 16°51.11' | 196°31.63' | 260°53.16' | S 23°26.39' | 122°07.23' | 335°17.56' | S 11°19.56' | 141°27.61' | 315°57.18' | S 17°38.37' | **23** |
| **24** | 185°27.14' | 287°00.12' | S 16°50.85' | 211°32.14' | 260°55.11' | S 23°26.53' | 137°09.19' | 335°18.06' | S 11°19.37' | 156°29.79' | 315°57.47' | S 17°38.29' | **24** |
| | δ 15.0676° | | *d* 0.2816' | δ 15.0086° | | *d* 0.1504' | δ 15.0327° | | *d* 0.1923' | δ 15.0363° | | *d* 0.0801' | |

## *Thursday, January 13th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°52.81' | 14.9961° | 294°34.45' | S 21°31.02' | 0.4210' | 56°11.36' | 14.5431° | 56°15.90' | N 19°37.80' | 9.1380' | 54.1614' | 112°27.26' | **00** |
| **01** | 192°52.57' | 14.9961° | 294°37.15' | S 21°30.60' | 0.4217' | 70°43.89' | 14.5422° | 56°45.83' | N 19°46.85' | 9.0536' | 54.1537' | 127°29.72' | **01** |
| **02** | 207°52.34' | 14.9961° | 294°39.85' | S 21°30.18' | 0.4224' | 85°16.38' | 14.5414° | 57°15.81' | N 19°55.82' | 8.9685' | 54.1462' | 142°32.19' | **02** |
| **03** | 222°52.10' | 14.9961° | 294°42.55' | S 21°29.75' | 0.4231' | 99°48.81' | 14.5405° | 57°45.84' | N 20°04.70' | 8.8827' | 54.1390' | 157°34.65' | **03** |
| **04** | 237°51.87' | 14.9961° | 294°45.25' | S 21°29.33' | 0.4239' | 114°21.19' | 14.5397° | 58°15.93' | N 20°13.50' | 8.7962' | 54.1321' | 172°37.12' | **04** |
| **05** | 252°51.64' | 14.9961° | 294°47.94' | S 21°28.91' | 0.4246' | 128°53.52' | 14.5388° | 58°46.06' | N 20°22.21' | 8.7090' | 54.1254' | 187°39.58' | **05** |
| **06** | 267°51.40' | 14.9961° | 294°50.64' | S 21°28.48' | 0.4253' | 143°25.80' | 14.5380° | 59°16.25' | N 20°30.83' | 8.6211' | 54.1189' | 202°42.04' | **06** |
| **07** | 282°51.17' | 14.9961° | 294°53.34' | S 21°28.05' | 0.4260' | 157°58.02' | 14.5371° | 59°46.49' | N 20°39.36' | 8.5325' | 54.1127' | 217°44.51' | **07** |
| **08** | 297°50.93' | 14.9961° | 294°56.04' | S 21°27.63' | 0.4267' | 172°30.20' | 14.5362° | 60°16.78' | N 20°47.80' | 8.4431' | 54.1067' | 232°46.97' | **08** |
| **09** | 312°50.70' | 14.9961° | 294°58.74' | S 21°27.20' | 0.4274' | 187°02.32' | 14.5353° | 60°47.12' | N 20°56.16' | 8.3531' | 54.1010' | 247°49.44' | **09** |
| **10** | 327°50.47' | 14.9961° | 295°01.43' | S 21°26.77' | 0.4282' | 201°34.39' | 14.5345° | 61°17.52' | N 21°04.42' | 8.2624' | 54.0955' | 262°51.90' | **10** |
| **11** | 342°50.24' | 14.9961° | 295°04.13' | S 21°26.34' | 0.4289' | 216°06.40' | 14.5336° | 61°47.96' | N 21°12.59' | 8.1709' | 54.0903' | 277°54.36' | **11** |
| **12** | 357°50.00' | 14.9961° | 295°06.83' | S 21°25.91' | 0.4296' | 230°38.36' | 14.5327° | 62°18.47' | N 21°20.67' | 8.0787' | 54.0853' | 292°56.83' | **12** |
| **13** | 12°49.77' | 14.9961° | 295°09.52' | S 21°25.48' | 0.4303' | 245°10.27' | 14.5318° | 62°49.02' | N 21°28.66' | 7.9858' | 54.0806' | 307°59.29' | **13** |
| **14** | 27°49.54' | 14.9961° | 295°12.22' | S 21°25.05' | 0.4310' | 259°42.13' | 14.5309° | 63°19.63' | N 21°36.55' | 7.8923' | 54.0760' | 323°01.76' | **14** |
| **15** | 42°49.31' | 14.9961° | 295°14.91' | S 21°24.62' | 0.4317' | 274°13.93' | 14.5300° | 63°50.29' | N 21°44.35' | 7.7980' | 54.0718' | 338°04.22' | **15** |
| **16** | 57°49.08' | 14.9961° | 295°17.61' | S 21°24.19' | 0.4325' | 288°45.68' | 14.5292° | 64°21.01' | N 21°52.05' | 7.7030' | 54.0677' | 353°06.69' | **16** |
| **17** | 72°48.85' | 14.9962° | 295°20.30' | S 21°23.75' | 0.4332' | 303°17.37' | 14.5283° | 64°51.78' | N 21°59.66' | 7.6073' | 54.0640' | 8°09.15' | **17** |
| **18** | 87°48.62' | 14.9962° | 295°23.00' | S 21°23.32' | 0.4339' | 317°49.02' | 14.5274° | 65°22.60' | N 22°07.17' | 7.5109' | 54.0604' | 23°11.61' | **18** |
| **19** | 102°48.39' | 14.9962° | 295°25.69' | S 21°22.89' | 0.4346' | 332°20.61' | 14.5265° | 65°53.47' | N 22°14.58' | 7.4138' | 54.0571' | 38°14.08' | **19** |
| **20** | 117°48.16' | 14.9962° | 295°28.39' | S 21°22.45' | 0.4353' | 346°52.14' | 14.5256° | 66°24.40' | N 22°21.90' | 7.3160' | 54.0540' | 53°16.54' | **20** |
| **21** | 132°47.93' | 14.9962° | 295°31.08' | S 21°22.01' | 0.4360' | 1°23.62' | 14.5247° | 66°55.38' | N 22°29.11' | 7.2175' | 54.0511' | 68°19.01' | **21** |
| **22** | 147°47.70' | 14.9962° | 295°33.77' | S 21°21.58' | 0.4367' | 15°55.05' | 14.5238° | 67°26.42' | N 22°36.23' | 7.1184' | 54.0485' | 83°21.47' | **22** |
| **23** | 162°47.47' | 14.9962° | 295°36.47' | S 21°21.14' | 0.4375' | 30°26.43' | 14.5229° | 67°57.51' | N 22°43.25' | 7.0185' | 54.0461' | 98°23.93' | **23** |
| **24** | 177°47.24' | 14.9962° | 295°39.16' | S 21°20.70' | 0.4382' | 44°57.75' | 14.5220° | 68°28.65' | N 22°50.17' | 6.9179' | 54.0439' | 113°26.40' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2618' | hp (π) 0.1490' | ½Ø 14.7373' | 82.9336932973606<br>5% +gib | |
| EoT at 12:00 UTC : -8m 40s (δ -0.93 s/h) | | Phase at 12:00 UTC : 131.08° | | |
| Meridian Pass. Time : 12:08:39.985 | | Age : 10.2 day(s) | | |

| UT | Venus ♀ (π 0.54') | | | Mars ♂ (π 0.06') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 185°27.14' | 287°00.12' | S 16°50.85' | 211°32.14' | 260°55.11' | S 23°26.53' | 137°09.19' | 335°18.06' | S 11°19.37' | 156°29.79' | 315°57.47' | S 17°38.29' | **00** |
| **01** | 200°31.15' | 286°58.57' | S 16°50.58' | 226°32.66' | 260°57.07' | S 23°26.67' | 152°11.16' | 335°18.57' | S 11°19.17' | 171°31.96' | 315°57.76' | S 17°38.21' | **01** |
| **02** | 215°35.16' | 286°57.03' | S 16°50.32' | 241°33.17' | 260°59.02' | S 23°26.81' | 167°13.12' | 335°19.07' | S 11°18.98' | 186°34.14' | 315°58.05' | S 17°38.13' | **02** |
| **03** | 230°39.17' | 286°55.49' | S 16°50.06' | 256°33.68' | 261°00.97' | S 23°26.95' | 182°15.08' | 335°19.57' | S 11°18.79' | 201°36.31' | 315°58.34' | S 17°38.05' | **03** |
| **04** | 245°43.17' | 286°53.94' | S 16°49.80' | 271°34.20' | 261°02.92' | S 23°27.09' | 197°17.04' | 335°20.08' | S 11°18.59' | 216°38.49' | 315°58.63' | S 17°37.97' | **04** |
| **05** | 260°47.17' | 286°52.41' | S 16°49.54' | 286°34.71' | 261°04.87' | S 23°27.23' | 212°19.00' | 335°20.58' | S 11°18.40' | 231°40.66' | 315°58.92' | S 17°37.89' | **05** |
| **06** | 275°51.17' | 286°50.87' | S 16°49.28' | 301°35.22' | 261°06.82' | S 23°27.37' | 227°20.96' | 335°21.08' | S 11°18.21' | 246°42.84' | 315°59.21' | S 17°37.81' | **06** |
| **07** | 290°55.17' | 286°49.34' | S 16°49.03' | 316°35.73' | 261°08.78' | S 23°27.51' | 242°22.92' | 335°21.59' | S 11°18.01' | 261°45.01' | 315°59.50' | S 17°37.73' | **07** |
| **08** | 305°59.17' | 286°47.80' | S 16°48.77' | 331°36.24' | 261°10.73' | S 23°27.65' | 257°24.88' | 335°22.09' | S 11°17.82' | 276°47.19' | 315°59.79' | S 17°37.65' | **08** |
| **09** | 321°03.16' | 286°46.27' | S 16°48.51' | 346°36.76' | 261°12.68' | S 23°27.79' | 272°26.84' | 335°22.60' | S 11°17.62' | 291°49.36' | 316°00.08' | S 17°37.57' | **09** |
| **10** | 336°07.15' | 286°44.75' | S 16°48.26' | 1°37.27' | 261°14.63' | S 23°27.93' | 287°28.80' | 335°23.10' | S 11°17.43' | 306°51.54' | 316°00.37' | S 17°37.49' | **10** |
| **11** | 351°11.14' | 286°43.22' | S 16°48.01' | 16°37.78' | 261°16.58' | S 23°28.06' | 302°30.76' | 335°23.60' | S 11°17.24' | 321°53.71' | 316°00.65' | S 17°37.41' | **11** |
| **12** | 6°15.13' | 286°41.70' | S 16°47.75' | 31°38.29' | 261°18.54' | S 23°28.20' | 317°32.72' | 335°24.11' | S 11°17.04' | 336°55.88' | 316°00.94' | S 17°37.33' | **12** |
| **13** | 21°19.11' | 286°40.18' | S 16°47.50' | 46°38.80' | 261°20.49' | S 23°28.34' | 332°34.68' | 335°24.61' | S 11°16.85' | 351°58.06' | 316°01.23' | S 17°37.25' | **13** |
| **14** | 36°23.10' | 286°38.66' | S 16°47.25' | 61°39.31' | 261°22.44' | S 23°28.47' | 347°36.64' | 335°25.12' | S 11°16.65' | 7°00.23' | 316°01.52' | S 17°37.16' | **14** |
| **15** | 51°27.08' | 286°37.14' | S 16°47.00' | 76°39.83' | 261°24.40' | S 23°28.61' | 2°38.60' | 335°25.62' | S 11°16.46' | 22°02.41' | 316°01.81' | S 17°37.08' | **15** |
| **16** | 66°31.06' | 286°35.63' | S 16°46.75' | 91°40.34' | 261°26.35' | S 23°28.74' | 17°40.56' | 335°26.13' | S 11°16.26' | 37°04.58' | 316°02.10' | S 17°37.00' | **16** |
| **17** | 81°35.03' | 286°34.12' | S 16°46.50' | 106°40.85' | 261°28.30' | S 23°28.88' | 32°42.52' | 335°26.63' | S 11°16.07' | 52°06.76' | 316°02.39' | S 17°36.92' | **17** |
| **18** | 96°39.00' | 286°32.61' | S 16°46.25' | 121°41.36' | 261°30.26' | S 23°29.01' | 47°44.48' | 335°27.14' | S 11°15.87' | 67°08.93' | 316°02.68' | S 17°36.84' | **18** |
| **19** | 111°42.98' | 286°31.10' | S 16°46.00' | 136°41.87' | 261°32.21' | S 23°29.15' | 62°46.44' | 335°27.64' | S 11°15.68' | 82°11.10' | 316°02.97' | S 17°36.76' | **19** |
| **20** | 126°46.94' | 286°29.60' | S 16°45.75' | 151°42.38' | 261°34.16' | S 23°29.28' | 77°48.39' | 335°28.15' | S 11°15.49' | 97°13.28' | 316°03.26' | S 17°36.68' | **20** |
| **21** | 141°50.91' | 286°28.10' | S 16°45.51' | 166°42.89' | 261°36.12' | S 23°29.41' | 92°50.35' | 335°28.65' | S 11°15.29' | 112°15.45' | 316°03.55' | S 17°36.60' | **21** |
| **22** | 156°54.87' | 286°26.60' | S 16°45.26' | 181°43.40' | 261°38.07' | S 23°29.54' | 107°52.31' | 335°29.16' | S 11°15.10' | 127°17.63' | 316°03.84' | S 17°36.52' | **22** |
| **23** | 171°58.84' | 286°25.10' | S 16°45.02' | 196°43.91' | 261°40.02' | S 23°29.68' | 122°54.27' | 335°29.66' | S 11°14.90' | 142°19.80' | 316°04.13' | S 17°36.44' | **23** |
| **24** | 187°02.79' | 286°23.60' | S 16°44.78' | 211°44.42' | 261°41.98' | S 23°29.81' | 137°56.23' | 335°30.17' | S 11°14.71' | 157°21.97' | 316°04.42' | S 17°36.36' | **24** |
| | δ 15.0668° | | *d* 0.2624' | δ 15.0086° | | *d* 0.1410' | δ 15.0327° | | *d* 0.1936' | δ 15.0362° | | *d* 0.0805' | |

## *Friday, January 14th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°47.24' | 14.9962° | 295°39.16' | S 21°20.70' | 0.4382' | 44°57.75' | 14.5220° | 68°28.65' | N 22°50.17' | 6.9179' | 54.0439' | 113°26.40' | **00** |
| **01** | 192°47.01' | 14.9962° | 295°41.85' | S 21°20.26' | 0.4389' | 59°29.02' | 14.5212° | 68°59.85' | N 22°56.99' | 6.8167' | 54.0419' | 128°28.86' | **01** |
| **02** | 207°46.78' | 14.9962° | 295°44.54' | S 21°19.82' | 0.4396' | 74°00.23' | 14.5203° | 69°31.09' | N 23°03.70' | 6.7148' | 54.0402' | 143°31.33' | **02** |
| **03** | 222°46.55' | 14.9962° | 295°47.24' | S 21°19.38' | 0.4403' | 88°31.40' | 14.5194° | 70°02.39' | N 23°10.31' | 6.6121' | 54.0387' | 158°33.79' | **03** |
| **04** | 237°46.33' | 14.9962° | 295°49.93' | S 21°18.94' | 0.4410' | 103°02.51' | 14.5185° | 70°33.75' | N 23°16.82' | 6.5089' | 54.0374' | 173°36.26' | **04** |
| **05** | 252°46.10' | 14.9962° | 295°52.62' | S 21°18.50' | 0.4417' | 117°33.57' | 14.5176° | 71°05.15' | N 23°23.23' | 6.4049' | 54.0363' | 188°38.72' | **05** |
| **06** | 267°45.87' | 14.9962° | 295°55.31' | S 21°18.06' | 0.4424' | 132°04.57' | 14.5168° | 71°36.61' | N 23°29.53' | 6.3003' | 54.0355' | 203°41.18' | **06** |
| **07** | 282°45.65' | 14.9962° | 295°58.00' | S 21°17.62' | 0.4431' | 146°35.53' | 14.5159° | 72°08.12' | N 23°35.72' | 6.1950' | 54.0349' | 218°43.65' | **07** |
| **08** | 297°45.42' | 14.9962° | 296°00.69' | S 21°17.17' | 0.4439' | 161°06.43' | 14.5151° | 72°39.68' | N 23°41.81' | 6.0890' | 54.0344' | 233°46.11' | **08** |
| **09** | 312°45.19' | 14.9962° | 296°03.38' | S 21°16.73' | 0.4446' | 175°37.28' | 14.5142° | 73°11.29' | N 23°47.79' | 5.9824' | 54.0342' | 248°48.58' | **09** |
| **10** | 327°44.97' | 14.9962° | 296°06.07' | S 21°16.28' | 0.4453' | 190°08.08' | 14.5133° | 73°42.96' | N 23°53.67' | 5.8751' | 54.0343' | 263°51.04' | **10** |
| **11** | 342°44.74' | 14.9962° | 296°08.76' | S 21°15.84' | 0.4460' | 204°38.83' | 14.5125° | 74°14.67' | N 23°59.44' | 5.7672' | 54.0345' | 278°53.51' | **11** |
| **12** | 357°44.52' | 14.9962° | 296°11.45' | S 21°15.39' | 0.4467' | 219°09.53' | 14.5117° | 74°46.44' | N 24°05.09' | 5.6586' | 54.0349' | 293°55.97' | **12** |
| **13** | 12°44.29' | 14.9962° | 296°14.14' | S 21°14.94' | 0.4474' | 233°40.18' | 14.5108° | 75°18.25' | N 24°10.64' | 5.5494' | 54.0356' | 308°58.43' | **13** |
| **14** | 27°44.07' | 14.9963° | 296°16.83' | S 21°14.49' | 0.4481' | 248°10.78' | 14.5100° | 75°50.11' | N 24°16.08' | 5.4396' | 54.0364' | 324°00.90' | **14** |
| **15** | 42°43.84' | 14.9963° | 296°19.52' | S 21°14.04' | 0.4488' | 262°41.34' | 14.5092° | 76°22.03' | N 24°21.41' | 5.3291' | 54.0375' | 339°03.36' | **15** |
| **16** | 57°43.62' | 14.9963° | 296°22.21' | S 21°13.60' | 0.4495' | 277°11.84' | 14.5084° | 76°53.99' | N 24°26.63' | 5.2181' | 54.0387' | 354°05.83' | **16** |
| **17** | 72°43.39' | 14.9963° | 296°24.90' | S 21°13.15' | 0.4502' | 291°42.29' | 14.5076° | 77°26.00' | N 24°31.74' | 5.1064' | 54.0402' | 9°08.29' | **17** |
| **18** | 87°43.17' | 14.9963° | 296°27.58' | S 21°12.69' | 0.4509' | 306°12.70' | 14.5068° | 77°58.06' | N 24°36.73' | 4.9941' | 54.0419' | 24°10.75' | **18** |
| **19** | 102°42.95' | 14.9963° | 296°30.27' | S 21°12.24' | 0.4516' | 320°43.06' | 14.5060° | 78°30.16' | N 24°41.61' | 4.8811' | 54.0437' | 39°13.22' | **19** |
| **20** | 117°42.72' | 14.9963° | 296°32.96' | S 21°11.79' | 0.4523' | 335°13.37' | 14.5052° | 79°02.31' | N 24°46.38' | 4.7676' | 54.0458' | 54°15.68' | **20** |
| **21** | 132°42.50' | 14.9963° | 296°35.65' | S 21°11.34' | 0.4530' | 349°43.64' | 14.5044° | 79°34.51' | N 24°51.03' | 4.6535' | 54.0481' | 69°18.15' | **21** |
| **22** | 147°42.28' | 14.9963° | 296°38.33' | S 21°10.88' | 0.4537' | 4°13.86' | 14.5037° | 80°06.75' | N 24°55.57' | 4.5389' | 54.0505' | 84°20.61' | **22** |
| **23** | 162°42.06' | 14.9963° | 296°41.02' | S 21°10.43' | 0.4545' | 18°44.04' | 14.5029° | 80°39.04' | N 24°60.00' | 4.4236' | 54.0532' | 99°23.08' | **23** |
| **24** | 177°41.83' | 14.9963° | 296°43.71' | S 21°09.97' | 0.4552' | 33°14.17' | 14.5022° | 81°11.37' | N 25°04.30' | 4.3078' | 54.0561' | 114°25.54' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2610' | hp (π) 0.1490' | ½Ø 14.7236' | 89.3526244460416<br>5% +gib | |
| EoT at 12:00 UTC : -9m 1s (δ -0.90 s/h) | | Phase at 12:00 UTC : 141.83° | | |
| Meridian Pass. Time : 12:09:01.937 | | Age : 11.0 day(s) | | |

| UT | Venus ♀ (π 0.54') | | | Mars ♂ (π 0.06') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 187°02.79' | 286°23.60' | S 16°44.78' | 211°44.42' | 261°41.98' | S 23°29.81' | 137°56.23' | 335°30.17' | S 11°14.71' | 157°21.97' | 316°04.42' | S 17°36.36' | **00** |
| **01** | 202°06.75' | 286°22.11' | S 16°44.53' | 226°44.93' | 261°43.93' | S 23°29.94' | 152°58.19' | 335°30.68' | S 11°14.51' | 172°24.15' | 316°04.71' | S 17°36.28' | **01** |
| **02** | 217°10.71' | 286°20.62' | S 16°44.29' | 241°45.44' | 261°45.89' | S 23°30.07' | 168°00.15' | 335°31.18' | S 11°14.32' | 187°26.32' | 316°05.01' | S 17°36.19' | **02** |
| **03** | 232°14.66' | 286°19.13' | S 16°44.05' | 256°45.95' | 261°47.84' | S 23°30.20' | 183°02.10' | 335°31.69' | S 11°14.12' | 202°28.50' | 316°05.30' | S 17°36.11' | **03** |
| **04** | 247°18.61' | 286°17.65' | S 16°43.81' | 271°46.46' | 261°49.80' | S 23°30.33' | 198°04.06' | 335°32.19' | S 11°13.93' | 217°30.67' | 316°05.59' | S 17°36.03' | **04** |
| **05** | 262°22.55' | 286°16.17' | S 16°43.57' | 286°46.97' | 261°51.75' | S 23°30.46' | 213°06.02' | 335°32.70' | S 11°13.73' | 232°32.84' | 316°05.88' | S 17°35.95' | **05** |
| **06** | 277°26.50' | 286°14.69' | S 16°43.33' | 301°47.48' | 261°53.71' | S 23°30.59' | 228°07.98' | 335°33.21' | S 11°13.54' | 247°35.02' | 316°06.17' | S 17°35.87' | **06** |
| **07** | 292°30.44' | 286°13.21' | S 16°43.09' | 316°47.99' | 261°55.66' | S 23°30.72' | 243°09.94' | 335°33.71' | S 11°13.34' | 262°37.19' | 316°06.46' | S 17°35.79' | **07** |
| **08** | 307°34.38' | 286°11.74' | S 16°42.86' | 331°48.49' | 261°57.62' | S 23°30.85' | 258°11.89' | 335°34.22' | S 11°13.15' | 277°39.36' | 316°06.75' | S 17°35.71' | **08** |
| **09** | 322°38.31' | 286°10.26' | S 16°42.62' | 346°49.00' | 261°59.57' | S 23°30.98' | 273°13.85' | 335°34.73' | S 11°12.95' | 292°41.54' | 316°07.04' | S 17°35.63' | **09** |
| **10** | 337°42.25' | 286°08.79' | S 16°42.39' | 1°49.51' | 262°01.53' | S 23°31.11' | 288°15.81' | 335°35.23' | S 11°12.75' | 307°43.71' | 316°07.33' | S 17°35.55' | **10** |
| **11** | 352°46.18' | 286°07.33' | S 16°42.15' | 16°50.02' | 262°03.48' | S 23°31.24' | 303°17.77' | 335°35.74' | S 11°12.56' | 322°45.89' | 316°07.62' | S 17°35.47' | **11** |
| **12** | 7°50.11' | 286°05.86' | S 16°41.92' | 31°50.53' | 262°05.44' | S 23°31.36' | 318°19.72' | 335°36.25' | S 11°12.36' | 337°48.06' | 316°07.91' | S 17°35.38' | **12** |
| **13** | 22°54.03' | 286°04.40' | S 16°41.69' | 46°51.04' | 262°07.40' | S 23°31.49' | 333°21.68' | 335°36.75' | S 11°12.17' | 352°50.23' | 316°08.20' | S 17°35.30' | **13** |
| **14** | 37°57.96' | 286°02.94' | S 16°41.45' | 61°51.54' | 262°09.35' | S 23°31.62' | 348°23.64' | 335°37.26' | S 11°11.97' | 7°52.41' | 316°08.49' | S 17°35.22' | **14** |
| **15** | 53°01.88' | 286°01.49' | S 16°41.22' | 76°52.05' | 262°11.31' | S 23°31.74' | 3°25.59' | 335°37.77' | S 11°11.78' | 22°54.58' | 316°08.78' | S 17°35.14' | **15** |
| **16** | 68°05.79' | 286°00.03' | S 16°40.99' | 91°52.56' | 262°13.27' | S 23°31.87' | 18°27.55' | 335°38.27' | S 11°11.58' | 37°56.75' | 316°09.07' | S 17°35.06' | **16** |
| **17** | 83°09.71' | 285°58.58' | S 16°40.76' | 106°53.07' | 262°15.22' | S 23°31.99' | 33°29.51' | 335°38.78' | S 11°11.38' | 52°58.93' | 316°09.36' | S 17°34.98' | **17** |
| **18** | 98°13.62' | 285°57.13' | S 16°40.54' | 121°53.58' | 262°17.18' | S 23°32.12' | 48°31.47' | 335°39.29' | S 11°11.19' | 68°01.10' | 316°09.66' | S 17°34.90' | **18** |
| **19** | 113°17.53' | 285°55.69' | S 16°40.31' | 136°54.08' | 262°19.14' | S 23°32.24' | 63°33.42' | 335°39.80' | S 11°10.99' | 83°03.27' | 316°09.95' | S 17°34.82' | **19** |
| **20** | 128°21.44' | 285°54.25' | S 16°40.08' | 151°54.59' | 262°21.09' | S 23°32.37' | 78°35.38' | 335°40.30' | S 11°10.80' | 98°05.45' | 316°10.24' | S 17°34.73' | **20** |
| **21** | 143°25.34' | 285°52.81' | S 16°39.86' | 166°55.10' | 262°23.05' | S 23°32.49' | 93°37.33' | 335°40.81' | S 11°10.60' | 113°07.62' | 316°10.53' | S 17°34.65' | **21** |
| **22** | 158°29.24' | 285°51.37' | S 16°39.63' | 181°55.60' | 262°25.01' | S 23°32.61' | 108°39.29' | 335°41.32' | S 11°10.41' | 128°09.79' | 316°10.82' | S 17°34.57' | **22** |
| **23** | 173°33.14' | 285°49.93' | S 16°39.41' | 196°56.11' | 262°26.96' | S 23°32.74' | 123°41.25' | 335°41.83' | S 11°10.21' | 143°11.96' | 316°11.11' | S 17°34.49' | **23** |
| **24** | 188°37.04' | 285°48.50' | S 16°39.18' | 211°56.62' | 262°28.92' | S 23°32.86' | 138°43.20' | 335°42.34' | S 11°10.01' | 158°14.14' | 316°11.40' | S 17°34.41' | **24** |
| | δ 15.0659° | | *d* 0.2426' | δ 15.0085° | | *d* 0.1316' | δ 15.0326° | | *d* 0.1949' | δ 15.0362° | | *d* 0.0809' | |

## *Saturday, January 15th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°41.83' | 14.9963° | 296°43.71' | S 21°09.97' | 0.4552' | 33°14.17' | 14.5022° | 81°11.37' | N 25°04.30' | 4.3078' | 54.0561' | 114°25.54' | **00** |
| **01** | 192°41.61' | 14.9963° | 296°46.39' | S 21°09.52' | 0.4559' | 47°44.26' | 14.5015° | 81°43.75' | N 25°08.49' | 4.1914' | 54.0591' | 129°28.00' | **01** |
| **02** | 207°41.39' | 14.9963° | 296°49.08' | S 21°09.06' | 0.4566' | 62°14.30' | 14.5007° | 82°16.17' | N 25°12.57' | 4.0745' | 54.0623' | 144°30.47' | **02** |
| **03** | 222°41.17' | 14.9963° | 296°51.76' | S 21°08.60' | 0.4573' | 76°44.30' | 14.5000° | 82°48.63' | N 25°16.53' | 3.9570' | 54.0657' | 159°32.93' | **03** |
| **04** | 237°40.95' | 14.9963° | 296°54.45' | S 21°08.15' | 0.4580' | 91°14.26' | 14.4993° | 83°21.13' | N 25°20.37' | 3.8390' | 54.0694' | 174°35.40' | **04** |
| **05** | 252°40.73' | 14.9963° | 296°57.13' | S 21°07.69' | 0.4587' | 105°44.18' | 14.4987° | 83°53.68' | N 25°24.09' | 3.7205' | 54.0732' | 189°37.86' | **05** |
| **06** | 267°40.51' | 14.9963° | 296°59.82' | S 21°07.23' | 0.4594' | 120°14.06' | 14.4980° | 84°26.26' | N 25°27.69' | 3.6015' | 54.0771' | 204°40.32' | **06** |
| **07** | 282°40.29' | 14.9963° | 297°02.50' | S 21°06.77' | 0.4601' | 134°43.90' | 14.4973° | 84°58.89' | N 25°31.17' | 3.4819' | 54.0813' | 219°42.79' | **07** |
| **08** | 297°40.07' | 14.9963° | 297°05.18' | S 21°06.31' | 0.4608' | 149°13.70' | 14.4967° | 85°31.55' | N 25°34.53' | 3.3619' | 54.0856' | 234°45.25' | **08** |
| **09** | 312°39.85' | 14.9963° | 297°07.87' | S 21°05.85' | 0.4615' | 163°43.47' | 14.4960° | 86°04.25' | N 25°37.77' | 3.2414' | 54.0902' | 249°47.72' | **09** |
| **10** | 327°39.63' | 14.9964° | 297°10.55' | S 21°05.38' | 0.4622' | 178°13.19' | 14.4954° | 86°36.99' | N 25°40.89' | 3.1204' | 54.0949' | 264°50.18' | **10** |
| **11** | 342°39.41' | 14.9964° | 297°13.23' | S 21°04.92' | 0.4629' | 192°42.88' | 14.4948° | 87°09.77' | N 25°43.89' | 2.9989' | 54.0998' | 279°52.65' | **11** |
| **12** | 357°39.19' | 14.9964° | 297°15.92' | S 21°04.46' | 0.4636' | 207°12.53' | 14.4942° | 87°42.58' | N 25°46.77' | 2.8770' | 54.1048' | 294°55.11' | **12** |
| **13** | 12°38.98' | 14.9964° | 297°18.60' | S 21°03.99' | 0.4643' | 221°42.15' | 14.4936° | 88°15.42' | N 25°49.52' | 2.7546' | 54.1100' | 309°57.57' | **13** |
| **14** | 27°38.76' | 14.9964° | 297°21.28' | S 21°03.53' | 0.4650' | 236°11.74' | 14.4931° | 88°48.30' | N 25°52.16' | 2.6318' | 54.1154' | 325°00.04' | **14** |
| **15** | 42°38.54' | 14.9964° | 297°23.96' | S 21°03.06' | 0.4657' | 250°41.29' | 14.4925° | 89°21.21' | N 25°54.66' | 2.5086' | 54.1210' | 340°02.50' | **15** |
| **16** | 57°38.32' | 14.9964° | 297°26.64' | S 21°02.60' | 0.4664' | 265°10.81' | 14.4920° | 89°54.16' | N 25°57.05' | 2.3850' | 54.1268' | 355°04.97' | **16** |
| **17** | 72°38.11' | 14.9964° | 297°29.32' | S 21°02.13' | 0.4671' | 279°40.30' | 14.4915° | 90°27.13' | N 25°59.31' | 2.2610' | 54.1327' | 10°07.43' | **17** |
| **18** | 87°37.89' | 14.9964° | 297°32.00' | S 21°01.66' | 0.4678' | 294°09.76' | 14.4910° | 91°00.14' | N 26°01.45' | 2.1366' | 54.1388' | 25°09.89' | **18** |
| **19** | 102°37.67' | 14.9964° | 297°34.68' | S 21°01.19' | 0.4684' | 308°39.18' | 14.4905° | 91°33.17' | N 26°03.46' | 2.0118' | 54.1450' | 40°12.36' | **19** |
| **20** | 117°37.46' | 14.9964° | 297°37.36' | S 21°00.72' | 0.4691' | 323°08.58' | 14.4900° | 92°06.24' | N 26°05.34' | 1.8866' | 54.1514' | 55°14.82' | **20** |
| **21** | 132°37.24' | 14.9964° | 297°40.04' | S 21°00.25' | 0.4698' | 337°37.96' | 14.4895° | 92°39.33' | N 26°07.11' | 1.7611' | 54.1580' | 70°17.29' | **21** |
| **22** | 147°37.03' | 14.9964° | 297°42.72' | S 20°59.78' | 0.4705' | 352°07.30' | 14.4891° | 93°12.45' | N 26°08.74' | 1.6353' | 54.1648' | 85°19.75' | **22** |
| **23** | 162°36.81' | 14.9964° | 297°45.40' | S 20°59.31' | 0.4712' | 6°36.63' | 14.4887° | 93°45.59' | N 26°10.25' | 1.5091' | 54.1717' | 100°22.22' | **23** |
| **24** | 177°36.60' | 14.9964° | 297°48.08' | S 20°58.84' | 0.4719' | 21°05.92' | 14.4883° | 94°18.76' | N 26°11.63' | 1.3827' | 54.1787' | 115°24.68' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2601' | hp (π) 0.1490' | ½Ø 14.7426' | 94.3939118123769<br>7% +gib | |
| EoT at 12:00 UTC : -9m 23s (δ -0.87 s/h) | | Phase at 12:00 UTC : 152.63° | | |
| Meridian Pass. Time : 12:09:23.222 | | Age : 11.9 day(s) | | |

| UT | Venus ♀ (π 0.54') | | | Mars ♂ (π 0.06') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 188°37.04' | 285°48.50' | S 16°39.18' | 211°56.62' | 262°28.92' | S 23°32.86' | 138°43.20' | 335°42.34' | S 11°10.01' | 158°14.14' | 316°11.40' | S 17°34.41' | **00** |
| **01** | 203°40.93' | 285°47.07' | S 16°38.96' | 226°57.12' | 262°30.88' | S 23°32.98' | 153°45.16' | 335°42.85' | S 11°09.82' | 173°16.31' | 316°11.69' | S 17°34.33' | **01** |
| **02** | 218°44.82' | 285°45.65' | S 16°38.74' | 241°57.63' | 262°32.84' | S 23°33.10' | 168°47.11' | 335°43.35' | S 11°09.62' | 188°18.48' | 316°11.98' | S 17°34.25' | **02** |
| **03** | 233°48.71' | 285°44.23' | S 16°38.52' | 256°58.14' | 262°34.79' | S 23°33.22' | 183°49.07' | 335°43.86' | S 11°09.42' | 203°20.66' | 316°12.28' | S 17°34.17' | **03** |
| **04** | 248°52.59' | 285°42.81' | S 16°38.30' | 271°58.64' | 262°36.75' | S 23°33.35' | 198°51.03' | 335°44.37' | S 11°09.23' | 218°22.83' | 316°12.57' | S 17°34.08' | **04** |
| **05** | 263°56.47' | 285°41.39' | S 16°38.08' | 286°59.15' | 262°38.71' | S 23°33.47' | 213°52.98' | 335°44.88' | S 11°09.03' | 233°25.00' | 316°12.86' | S 17°34.00' | **05** |
| **06** | 279°00.35' | 285°39.97' | S 16°37.86' | 301°59.66' | 262°40.67' | S 23°33.59' | 228°54.94' | 335°45.39' | S 11°08.83' | 248°27.17' | 316°13.15' | S 17°33.92' | **06** |
| **07** | 294°04.23' | 285°38.56' | S 16°37.64' | 317°00.16' | 262°42.63' | S 23°33.71' | 243°56.89' | 335°45.90' | S 11°08.64' | 263°29.35' | 316°13.44' | S 17°33.84' | **07** |
| **08** | 309°08.10' | 285°37.15' | S 16°37.43' | 332°00.67' | 262°44.59' | S 23°33.82' | 258°58.85' | 335°46.41' | S 11°08.44' | 278°31.52' | 316°13.73' | S 17°33.76' | **08** |
| **09** | 324°11.97' | 285°35.75' | S 16°37.21' | 347°01.17' | 262°46.54' | S 23°33.94' | 274°00.80' | 335°46.92' | S 11°08.24' | 293°33.69' | 316°14.02' | S 17°33.68' | **09** |
| **10** | 339°15.84' | 285°34.35' | S 16°37.00' | 2°01.68' | 262°48.50' | S 23°34.06' | 289°02.76' | 335°47.42' | S 11°08.05' | 308°35.87' | 316°14.32' | S 17°33.60' | **10** |
| **11** | 354°19.70' | 285°32.95' | S 16°36.78' | 17°02.18' | 262°50.46' | S 23°34.18' | 304°04.71' | 335°47.93' | S 11°07.85' | 323°38.04' | 316°14.61' | S 17°33.51' | **11** |
| **12** | 9°23.56' | 285°31.55' | S 16°36.57' | 32°02.69' | 262°52.42' | S 23°34.30' | 319°06.67' | 335°48.44' | S 11°07.65' | 338°40.21' | 316°14.90' | S 17°33.43' | **12** |
| **13** | 24°27.42' | 285°30.16' | S 16°36.36' | 47°03.19' | 262°54.38' | S 23°34.42' | 334°08.62' | 335°48.95' | S 11°07.46' | 353°42.38' | 316°15.19' | S 17°33.35' | **13** |
| **14** | 39°31.27' | 285°28.76' | S 16°36.15' | 62°03.70' | 262°56.34' | S 23°34.53' | 349°10.58' | 335°49.46' | S 11°07.26' | 8°44.56' | 316°15.48' | S 17°33.27' | **14** |
| **15** | 54°35.13' | 285°27.38' | S 16°35.94' | 77°04.20' | 262°58.30' | S 23°34.65' | 4°12.53' | 335°49.97' | S 11°07.06' | 23°46.73' | 316°15.77' | S 17°33.19' | **15** |
| **16** | 69°38.97' | 285°25.99' | S 16°35.73' | 92°04.71' | 263°00.26' | S 23°34.77' | 19°14.48' | 335°50.48' | S 11°06.87' | 38°48.90' | 316°16.07' | S 17°33.11' | **16** |
| **17** | 84°42.82' | 285°24.61' | S 16°35.52' | 107°05.21' | 263°02.22' | S 23°34.88' | 34°16.44' | 335°50.99' | S 11°06.67' | 53°51.07' | 316°16.36' | S 17°33.02' | **17** |
| **18** | 99°46.66' | 285°23.23' | S 16°35.31' | 122°05.72' | 263°04.18' | S 23°35.00' | 49°18.39' | 335°51.50' | S 11°06.47' | 68°53.24' | 316°16.65' | S 17°32.94' | **18** |
| **19** | 114°50.50' | 285°21.86' | S 16°35.10' | 137°06.22' | 263°06.14' | S 23°35.11' | 64°20.35' | 335°52.01' | S 11°06.28' | 83°55.42' | 316°16.94' | S 17°32.86' | **19** |
| **20** | 129°54.34' | 285°20.48' | S 16°34.90' | 152°06.73' | 263°08.10' | S 23°35.23' | 79°22.30' | 335°52.52' | S 11°06.08' | 98°57.59' | 316°17.23' | S 17°32.78' | **20** |
| **21** | 144°58.17' | 285°19.12' | S 16°34.69' | 167°07.23' | 263°10.06' | S 23°35.34' | 94°24.25' | 335°53.03' | S 11°05.88' | 113°59.76' | 316°17.53' | S 17°32.70' | **21** |
| **22** | 160°02.00' | 285°17.75' | S 16°34.49' | 182°07.73' | 263°12.02' | S 23°35.45' | 109°26.21' | 335°53.54' | S 11°05.68' | 129°01.93' | 316°17.82' | S 17°32.62' | **22** |
| **23** | 175°05.83' | 285°16.39' | S 16°34.28' | 197°08.24' | 263°13.98' | S 23°35.57' | 124°28.16' | 335°54.05' | S 11°05.49' | 144°04.11' | 316°18.11' | S 17°32.53' | **23** |
| **24** | 190°09.65' | 285°15.03' | S 16°34.08' | 212°08.74' | 263°15.94' | S 23°35.68' | 139°30.12' | 335°54.56' | S 11°05.29' | 159°06.28' | 316°18.40' | S 17°32.45' | **24** |
| | δ 15.0649° | | *d* 0.2224' | δ 15.0084° | | *d* 0.1221' | δ 15.0326° | | *d* 0.1962' | δ 15.0362° | | *d* 0.0813' | |

## *Sunday, January 16th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°36.60' | 14.9964° | 297°48.08' | S 20°58.84' | 0.4719' | 21°05.92' | 14.4883° | 94°18.76' | N 26°11.63' | 1.3827' | 54.1787' | 115°24.68' | **00** |
| **01** | 192°36.38' | 14.9964° | 297°50.76' | S 20°58.37' | 0.4726' | 35°35.19' | 14.4879° | 94°51.95' | N 26°12.89' | 1.2559' | 54.1860' | 130°27.14' | **01** |
| **02** | 207°36.17' | 14.9964° | 297°53.44' | S 20°57.89' | 0.4733' | 50°04.45' | 14.4875° | 95°25.16' | N 26°14.02' | 1.1289' | 54.1933' | 145°29.61' | **02** |
| **03** | 222°35.96' | 14.9964° | 297°56.12' | S 20°57.42' | 0.4740' | 64°33.67' | 14.4872° | 95°58.40' | N 26°15.02' | 1.0015' | 54.2009' | 160°32.07' | **03** |
| **04** | 237°35.74' | 14.9964° | 297°58.80' | S 20°56.95' | 0.4747' | 79°02.88' | 14.4868° | 96°31.65' | N 26°15.89' | 0.8740' | 54.2086' | 175°34.54' | **04** |
| **05** | 252°35.53' | 14.9964° | 298°01.47' | S 20°56.47' | 0.4754' | 93°32.07' | 14.4865° | 97°04.93' | N 26°16.64' | 0.7461' | 54.2164' | 190°37.00' | **05** |
| **06** | 267°35.32' | 14.9965° | 298°04.15' | S 20°55.99' | 0.4761' | 108°01.24' | 14.4862° | 97°38.22' | N 26°17.26' | 0.6181' | 54.2244' | 205°39.47' | **06** |
| **07** | 282°35.10' | 14.9965° | 298°06.83' | S 20°55.52' | 0.4768' | 122°30.40' | 14.4859° | 98°11.53' | N 26°17.75' | 0.4898' | 54.2325' | 220°41.93' | **07** |
| **08** | 297°34.89' | 14.9965° | 298°09.50' | S 20°55.04' | 0.4775' | 136°59.54' | 14.4856° | 98°44.86' | N 26°18.11' | 0.3613' | 54.2408' | 235°44.39' | **08** |
| **09** | 312°34.68' | 14.9965° | 298°12.18' | S 20°54.56' | 0.4782' | 151°28.66' | 14.4854° | 99°18.20' | N 26°18.34' | 0.2327' | 54.2493' | 250°46.86' | **09** |
| **10** | 327°34.47' | 14.9965° | 298°14.86' | S 20°54.08' | 0.4788' | 165°57.77' | 14.4852° | 99°51.55' | N 26°18.45' | 0.1038' | 54.2579' | 265°49.32' | **10** |
| **11** | 342°34.25' | 14.9965° | 298°17.53' | S 20°53.60' | 0.4795' | 180°26.87' | 14.4849° | 100°24.92' | N 26°18.42' | 0.0251' | 54.2666' | 280°51.79' | **11** |
| **12** | 357°34.04' | 14.9965° | 298°20.21' | S 20°53.12' | 0.4802' | 194°55.95' | 14.4847° | 100°58.30' | N 26°18.27' | 0.1543' | 54.2755' | 295°54.25' | **12** |
| **13** | 12°33.83' | 14.9965° | 298°22.88' | S 20°52.64' | 0.4809' | 209°25.02' | 14.4846° | 101°31.69' | N 26°17.98' | 0.2835' | 54.2845' | 310°56.71' | **13** |
| **14** | 27°33.62' | 14.9965° | 298°25.56' | S 20°52.16' | 0.4816' | 223°54.09' | 14.4844° | 102°05.09' | N 26°17.57' | 0.4129' | 54.2936' | 325°59.18' | **14** |
| **15** | 42°33.41' | 14.9965° | 298°28.23' | S 20°51.68' | 0.4823' | 238°23.15' | 14.4843° | 102°38.50' | N 26°17.03' | 0.5424' | 54.3029' | 341°01.64' | **15** |
| **16** | 57°33.20' | 14.9965° | 298°30.91' | S 20°51.20' | 0.4830' | 252°52.19' | 14.4841° | 103°11.91' | N 26°16.36' | 0.6719' | 54.3124' | 356°04.11' | **16** |
| **17** | 72°32.99' | 14.9965° | 298°33.58' | S 20°50.71' | 0.4837' | 267°21.24' | 14.4840° | 103°45.33' | N 26°15.55' | 0.8016' | 54.3220' | 11°06.57' | **17** |
| **18** | 87°32.78' | 14.9965° | 298°36.25' | S 20°50.23' | 0.4844' | 281°50.28' | 14.4840° | 104°18.76' | N 26°14.62' | 0.9312' | 54.3317' | 26°09.04' | **18** |
| **19** | 102°32.57' | 14.9965° | 298°38.93' | S 20°49.74' | 0.4850' | 296°19.31' | 14.4839° | 104°52.19' | N 26°13.56' | 1.0610' | 54.3415' | 41°11.50' | **19** |
| **20** | 117°32.37' | 14.9965° | 298°41.60' | S 20°49.26' | 0.4857' | 310°48.34' | 14.4839° | 105°25.62' | N 26°12.37' | 1.1907' | 54.3515' | 56°13.96' | **20** |
| **21** | 132°32.16' | 14.9965° | 298°44.27' | S 20°48.77' | 0.4864' | 325°17.37' | 14.4838° | 105°59.06' | N 26°11.05' | 1.3204' | 54.3616' | 71°16.43' | **21** |
| **22** | 147°31.95' | 14.9965° | 298°46.94' | S 20°48.28' | 0.4871' | 339°46.40' | 14.4838° | 106°32.49' | N 26°09.60' | 1.4502' | 54.3719' | 86°18.89' | **22** |
| **23** | 162°31.74' | 14.9965° | 298°49.62' | S 20°47.79' | 0.4878' | 354°15.43' | 14.4838° | 107°05.93' | N 26°08.02' | 1.5799' | 54.3823' | 101°21.36' | **23** |
| **24** | 177°31.53' | 14.9965° | 298°52.29' | S 20°47.31' | 0.4885' | 8°44.46' | 14.4839° | 107°39.36' | N 26°06.31' | 1.7095' | 54.3928' | 116°23.82' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2591' | hp (π) 0.1490' | ½Ø 14.7891' | 97.8792572251275<br>3% +gib | |
| EoT at 12:00 UTC : -9m 43s (δ -0.84 s/h) | | Phase at 12:00 UTC : 163.51° | | |
| Meridian Pass. Time : 12:09:43.825 | | Age : 12.7 day(s) | | |

| UT | Venus ♀ (π 0.53') | | | Mars ♂ (π 0.06') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 190°09.65' | 285°15.03' | S 16°34.08' | 212°08.74' | 263°15.94' | S 23°35.68' | 139°30.12' | 335°54.56' | S 11°05.29' | 159°06.28' | 316°18.40' | S 17°32.45' | **00** |
| **01** | 205°13.47' | 285°13.67' | S 16°33.88' | 227°09.25' | 263°17.90' | S 23°35.79' | 154°32.07' | 335°55.08' | S 11°05.09' | 174°08.45' | 316°18.69' | S 17°32.37' | **01** |
| **02** | 220°17.29' | 285°12.32' | S 16°33.68' | 242°09.75' | 263°19.86' | S 23°35.91' | 169°34.02' | 335°55.59' | S 11°04.89' | 189°10.62' | 316°18.99' | S 17°32.29' | **02** |
| **03** | 235°21.11' | 285°10.97' | S 16°33.48' | 257°10.25' | 263°21.82' | S 23°36.02' | 184°35.98' | 335°56.10' | S 11°04.70' | 204°12.79' | 316°19.28' | S 17°32.21' | **03** |
| **04** | 250°24.92' | 285°09.62' | S 16°33.28' | 272°10.75' | 263°23.78' | S 23°36.13' | 199°37.93' | 335°56.61' | S 11°04.50' | 219°14.97' | 316°19.57' | S 17°32.13' | **04** |
| **05** | 265°28.73' | 285°08.27' | S 16°33.08' | 287°11.26' | 263°25.74' | S 23°36.24' | 214°39.88' | 335°57.12' | S 11°04.30' | 234°17.14' | 316°19.86' | S 17°32.04' | **05** |
| **06** | 280°32.53' | 285°06.93' | S 16°32.88' | 302°11.76' | 263°27.70' | S 23°36.35' | 229°41.83' | 335°57.63' | S 11°04.10' | 249°19.31' | 316°20.16' | S 17°31.96' | **06** |
| **07** | 295°36.33' | 285°05.60' | S 16°32.69' | 317°12.26' | 263°29.67' | S 23°36.46' | 244°43.79' | 335°58.14' | S 11°03.91' | 264°21.48' | 316°20.45' | S 17°31.88' | **07** |
| **08** | 310°40.13' | 285°04.26' | S 16°32.49' | 332°12.77' | 263°31.63' | S 23°36.57' | 259°45.74' | 335°58.65' | S 11°03.71' | 279°23.65' | 316°20.74' | S 17°31.80' | **08** |
| **09** | 325°43.93' | 285°02.93' | S 16°32.30' | 347°13.27' | 263°33.59' | S 23°36.68' | 274°47.69' | 335°59.16' | S 11°03.51' | 294°25.83' | 316°21.03' | S 17°31.72' | **09** |
| **10** | 340°47.72' | 285°01.60' | S 16°32.10' | 2°13.77' | 263°35.55' | S 23°36.79' | 289°49.65' | 335°59.68' | S 11°03.31' | 309°28.00' | 316°21.33' | S 17°31.64' | **10** |
| **11** | 355°51.51' | 285°00.28' | S 16°31.91' | 17°14.27' | 263°37.51' | S 23°36.90' | 304°51.60' | 336°00.19' | S 11°03.11' | 324°30.17' | 316°21.62' | S 17°31.55' | **11** |
| **12** | 10°55.29' | 284°58.96' | S 16°31.72' | 32°14.78' | 263°39.47' | S 23°37.01' | 319°53.55' | 336°00.70' | S 11°02.92' | 339°32.34' | 316°21.91' | S 17°31.47' | **12** |
| **13** | 25°59.07' | 284°57.64' | S 16°31.53' | 47°15.28' | 263°41.44' | S 23°37.11' | 334°55.50' | 336°01.21' | S 11°02.72' | 354°34.51' | 316°22.20' | S 17°31.39' | **13** |
| **14** | 41°02.85' | 284°56.33' | S 16°31.33' | 62°15.78' | 263°43.40' | S 23°37.22' | 349°57.45' | 336°01.72' | S 11°02.52' | 9°36.68' | 316°22.50' | S 17°31.31' | **14** |
| **15** | 56°06.63' | 284°55.02' | S 16°31.14' | 77°16.28' | 263°45.36' | S 23°37.33' | 4°59.41' | 336°02.24' | S 11°02.32' | 24°38.86' | 316°22.79' | S 17°31.23' | **15** |
| **16** | 71°10.40' | 284°53.71' | S 16°30.96' | 92°16.78' | 263°47.32' | S 23°37.43' | 20°01.36' | 336°02.75' | S 11°02.12' | 39°41.03' | 316°23.08' | S 17°31.14' | **16** |
| **17** | 86°14.17' | 284°52.40' | S 16°30.77' | 107°17.28' | 263°49.29' | S 23°37.54' | 35°03.31' | 336°03.26' | S 11°01.92' | 54°43.20' | 316°23.37' | S 17°31.06' | **17** |
| **18** | 101°17.93' | 284°51.10' | S 16°30.58' | 122°17.79' | 263°51.25' | S 23°37.65' | 50°05.26' | 336°03.77' | S 11°01.73' | 69°45.37' | 316°23.67' | S 17°30.98' | **18** |
| **19** | 116°21.70' | 284°49.80' | S 16°30.39' | 137°18.29' | 263°53.21' | S 23°37.75' | 65°07.21' | 336°04.29' | S 11°01.53' | 84°47.54' | 316°23.96' | S 17°30.90' | **19** |
| **20** | 131°25.45' | 284°48.51' | S 16°30.21' | 152°18.79' | 263°55.18' | S 23°37.86' | 80°09.17' | 336°04.80' | S 11°01.33' | 99°49.71' | 316°24.25' | S 17°30.82' | **20** |
| **21** | 146°29.21' | 284°47.22' | S 16°30.02' | 167°19.29' | 263°57.14' | S 23°37.96' | 95°11.12' | 336°05.31' | S 11°01.13' | 114°51.88' | 316°24.54' | S 17°30.73' | **21** |
| **22** | 161°32.96' | 284°45.93' | S 16°29.84' | 182°19.79' | 263°59.10' | S 23°38.07' | 110°13.07' | 336°05.82' | S 11°00.93' | 129°54.06' | 316°24.84' | S 17°30.65' | **22** |
| **23** | 176°36.71' | 284°44.65' | S 16°29.66' | 197°20.29' | 264°01.07' | S 23°38.17' | 125°15.02' | 336°06.34' | S 11°00.73' | 144°56.23' | 316°25.13' | S 17°30.57' | **23** |
| **24** | 191°40.45' | 284°43.37' | S 16°29.48' | 212°20.79' | 264°03.03' | S 23°38.27' | 140°16.97' | 336°06.85' | S 11°00.53' | 159°58.40' | 316°25.42' | S 17°30.49' | **24** |
| | δ 15.0637° | | *d* 0.2018' | δ 15.0084° | | *d* 0.1126' | δ 15.0326° | | *d* 0.1975' | δ 15.0362° | | *d* 0.0817' | |

## *Monday, January 17th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°31.53' | 14.9965° | 298°52.29' | S 20°47.31' | 0.4885' | 8°44.46' | 14.4839° | 107°39.36' | N 26°06.31' | 1.7095' | 54.3928' | 116°23.82' | **00** |
| **01** | 192°31.33' | 14.9965° | 298°54.96' | S 20°46.82' | 0.4892' | 23°13.49' | 14.4839° | 108°12.79' | N 26°04.47' | 1.8392' | 54.4034' | 131°26.29' | **01** |
| **02** | 207°31.12' | 14.9966° | 298°57.63' | S 20°46.33' | 0.4898' | 37°42.53' | 14.4840° | 108°46.22' | N 26°02.50' | 1.9687' | 54.4142' | 146°28.75' | **02** |
| **03** | 222°30.91' | 14.9966° | 299°00.30' | S 20°45.84' | 0.4905' | 52°11.57' | 14.4840° | 109°19.64' | N 26°00.40' | 2.0982' | 54.4250' | 161°31.21' | **03** |
| **04** | 237°30.71' | 14.9966° | 299°02.97' | S 20°45.35' | 0.4912' | 66°40.62' | 14.4841° | 109°53.06' | N 25°58.18' | 2.2275' | 54.4361' | 176°33.68' | **04** |
| **05** | 252°30.50' | 14.9966° | 299°05.64' | S 20°44.85' | 0.4919' | 81°09.68' | 14.4843° | 110°26.46' | N 25°55.82' | 2.3568' | 54.4472' | 191°36.14' | **05** |
| **06** | 267°30.29' | 14.9966° | 299°08.31' | S 20°44.36' | 0.4926' | 95°38.74' | 14.4844° | 110°59.86' | N 25°53.33' | 2.4859' | 54.4585' | 206°38.61' | **06** |
| **07** | 282°30.09' | 14.9966° | 299°10.98' | S 20°43.87' | 0.4933' | 110°07.82' | 14.4846° | 111°33.25' | N 25°50.72' | 2.6148' | 54.4699' | 221°41.07' | **07** |
| **08** | 297°29.88' | 14.9966° | 299°13.65' | S 20°43.37' | 0.4939' | 124°36.90' | 14.4847° | 112°06.63' | N 25°47.98' | 2.7436' | 54.4814' | 236°43.53' | **08** |
| **09** | 312°29.68' | 14.9966° | 299°16.32' | S 20°42.88' | 0.4946' | 139°06.00' | 14.4849° | 112°40.00' | N 25°45.10' | 2.8722' | 54.4930' | 251°46.00' | **09** |
| **10** | 327°29.47' | 14.9966° | 299°18.99' | S 20°42.38' | 0.4953' | 153°35.10' | 14.4851° | 113°13.36' | N 25°42.10' | 3.0007' | 54.5047' | 266°48.46' | **10** |
| **11** | 342°29.27' | 14.9966° | 299°21.66' | S 20°41.89' | 0.4960' | 168°04.23' | 14.4854° | 113°46.70' | N 25°38.97' | 3.1289' | 54.5166' | 281°50.93' | **11** |
| **12** | 357°29.07' | 14.9966° | 299°24.32' | S 20°41.39' | 0.4967' | 182°33.36' | 14.4856° | 114°20.03' | N 25°35.72' | 3.2569' | 54.5286' | 296°53.39' | **12** |
| **13** | 12°28.86' | 14.9966° | 299°26.99' | S 20°40.89' | 0.4973' | 197°02.51' | 14.4859° | 114°53.34' | N 25°32.33' | 3.3846' | 54.5407' | 311°55.86' | **13** |
| **14** | 27°28.66' | 14.9966° | 299°29.66' | S 20°40.40' | 0.4980' | 211°31.68' | 14.4861° | 115°26.64' | N 25°28.82' | 3.5121' | 54.5529' | 326°58.32' | **14** |
| **15** | 42°28.46' | 14.9966° | 299°32.33' | S 20°39.90' | 0.4987' | 226°00.87' | 14.4864° | 115°59.92' | N 25°25.18' | 3.6394' | 54.5652' | 342°00.78' | **15** |
| **16** | 57°28.25' | 14.9966° | 299°34.99' | S 20°39.40' | 0.4994' | 240°30.07' | 14.4867° | 116°33.18' | N 25°21.41' | 3.7663' | 54.5776' | 357°03.25' | **16** |
| **17** | 72°28.05' | 14.9966° | 299°37.66' | S 20°38.90' | 0.5001' | 254°59.30' | 14.4871° | 117°06.42' | N 25°17.52' | 3.8930' | 54.5902' | 12°05.71' | **17** |
| **18** | 87°27.85' | 14.9966° | 299°40.33' | S 20°38.40' | 0.5007' | 269°28.54' | 14.4874° | 117°39.64' | N 25°13.50' | 4.0193' | 54.6029' | 27°08.18' | **18** |
| **19** | 102°27.65' | 14.9966° | 299°42.99' | S 20°37.90' | 0.5014' | 283°57.81' | 14.4878° | 118°12.83' | N 25°09.36' | 4.1454' | 54.6156' | 42°10.64' | **19** |
| **20** | 117°27.45' | 14.9966° | 299°45.66' | S 20°37.39' | 0.5021' | 298°27.10' | 14.4881° | 118°46.01' | N 25°05.09' | 4.2710' | 54.6285' | 57°13.10' | **20** |
| **21** | 132°27.25' | 14.9966° | 299°48.32' | S 20°36.89' | 0.5028' | 312°56.41' | 14.4885° | 119°19.16' | N 25°00.69' | 4.3964' | 54.6415' | 72°15.57' | **21** |
| **22** | 147°27.05' | 14.9967° | 299°50.99' | S 20°36.39' | 0.5034' | 327°25.74' | 14.4889° | 119°52.29' | N 24°56.17' | 4.5213' | 54.6546' | 87°18.03' | **22** |
| **23** | 162°26.84' | 14.9967° | 299°53.65' | S 20°35.88' | 0.5041' | 341°55.10' | 14.4894° | 120°25.39' | N 24°51.52' | 4.6459' | 54.6678' | 102°20.50' | **23** |
| **24** | 177°26.64' | 14.9967° | 299°56.32' | S 20°35.38' | 0.5048' | 356°24.49' | 14.4898° | 120°58.47' | N 24°46.75' | 4.7701' | 54.6811' | 117°22.96' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2580' | hp (π) 0.1490' | ½Ø 14.8581' | 99.6535958788218 3% +gib | |
| EoT at 12:00 UTC : -10m 3s (δ -0.82 s/h) | | Phase at 12:00 UTC : 174.53° | | |
| Meridian Pass. Time : 12:10:03.733 | | Age : 13.6 day(s) | | |

| UT | Venus ♀ (π 0.53') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 191°40.45' | 284°43.37' | S 16°29.48' | 212°20.79' | 264°03.03' | S 23°38.27' | 140°16.97' | 336°06.85' | S 11°00.53' | 159°58.40' | 316°25.42' | S 17°30.49' | **00** |
| **01** | 206°44.19' | 284°42.09' | S 16°29.30' | 227°21.29' | 264°04.99' | S 23°38.38' | 155°18.92' | 336°07.36' | S 11°00.34' | 175°00.57' | 316°25.72' | S 17°30.41' | **01** |
| **02** | 221°47.93' | 284°40.82' | S 16°29.12' | 242°21.79' | 264°06.96' | S 23°38.48' | 170°20.87' | 336°07.88' | S 11°00.14' | 190°02.74' | 316°26.01' | S 17°30.32' | **02** |
| **03** | 236°51.67' | 284°39.55' | S 16°28.94' | 257°22.29' | 264°08.92' | S 23°38.58' | 185°22.82' | 336°08.39' | S 10°59.94' | 205°04.91' | 316°26.30' | S 17°30.24' | **03** |
| **04** | 251°55.40' | 284°38.28' | S 16°28.76' | 272°22.79' | 264°10.88' | S 23°38.68' | 200°24.77' | 336°08.90' | S 10°59.74' | 220°07.08' | 316°26.60' | S 17°30.16' | **04** |
| **05** | 266°59.12' | 284°37.02' | S 16°28.58' | 287°23.29' | 264°12.85' | S 23°38.78' | 215°26.72' | 336°09.42' | S 10°59.54' | 235°09.25' | 316°26.89' | S 17°30.08' | **05** |
| **06** | 282°02.85' | 284°35.76' | S 16°28.40' | 302°23.79' | 264°14.81' | S 23°38.89' | 230°28.68' | 336°09.93' | S 10°59.34' | 250°11.42' | 316°27.18' | S 17°29.99' | **06** |
| **07** | 297°06.57' | 284°34.50' | S 16°28.23' | 317°24.29' | 264°16.78' | S 23°38.99' | 245°30.63' | 336°10.44' | S 10°59.14' | 265°13.60' | 316°27.47' | S 17°29.91' | **07** |
| **08** | 312°10.29' | 284°33.25' | S 16°28.05' | 332°24.79' | 264°18.74' | S 23°39.09' | 260°32.58' | 336°10.96' | S 10°58.94' | 280°15.77' | 316°27.77' | S 17°29.83' | **08** |
| **09** | 327°14.00' | 284°32.00' | S 16°27.88' | 347°25.29' | 264°20.71' | S 23°39.19' | 275°34.53' | 336°11.47' | S 10°58.74' | 295°17.94' | 316°28.06' | S 17°29.75' | **09** |
| **10** | 342°17.71' | 284°30.75' | S 16°27.71' | 2°25.79' | 264°22.67' | S 23°39.29' | 290°36.48' | 336°11.99' | S 10°58.54' | 310°20.11' | 316°28.35' | S 17°29.67' | **10** |
| **11** | 357°21.41' | 284°29.51' | S 16°27.53' | 17°26.29' | 264°24.64' | S 23°39.38' | 305°38.43' | 336°12.50' | S 10°58.35' | 325°22.28' | 316°28.65' | S 17°29.58' | **11** |
| **12** | 12°25.12' | 284°28.27' | S 16°27.36' | 32°26.79' | 264°26.60' | S 23°39.48' | 320°40.38' | 336°13.01' | S 10°58.15' | 340°24.45' | 316°28.94' | S 17°29.50' | **12** |
| **13** | 27°28.82' | 284°27.04' | S 16°27.19' | 47°27.29' | 264°28.57' | S 23°39.58' | 335°42.33' | 336°13.53' | S 10°57.95' | 355°26.62' | 316°29.23' | S 17°29.42' | **13** |
| **14** | 42°32.51' | 284°25.81' | S 16°27.02' | 62°27.79' | 264°30.53' | S 23°39.68' | 350°44.28' | 336°14.04' | S 10°57.75' | 10°28.79' | 316°29.53' | S 17°29.34' | **14** |
| **15** | 57°36.20' | 284°24.58' | S 16°26.85' | 77°28.29' | 264°32.50' | S 23°39.78' | 5°46.23' | 336°14.56' | S 10°57.55' | 25°30.96' | 316°29.82' | S 17°29.25' | **15** |
| **16** | 72°39.89' | 284°23.36' | S 16°26.68' | 92°28.79' | 264°34.46' | S 23°39.87' | 20°48.18' | 336°15.07' | S 10°57.35' | 40°33.13' | 316°30.11' | S 17°29.17' | **16** |
| **17** | 87°43.57' | 284°22.14' | S 16°26.52' | 107°29.29' | 264°36.43' | S 23°39.97' | 35°50.12' | 336°15.59' | S 10°57.15' | 55°35.30' | 316°30.41' | S 17°29.09' | **17** |
| **18** | 102°47.26' | 284°20.92' | S 16°26.35' | 122°29.78' | 264°38.39' | S 23°40.07' | 50°52.07' | 336°16.10' | S 10°56.95' | 70°37.47' | 316°30.70' | S 17°29.01' | **18** |
| **19** | 117°50.93' | 284°19.71' | S 16°26.19' | 137°30.28' | 264°40.36' | S 23°40.16' | 65°54.02' | 336°16.62' | S 10°56.75' | 85°39.65' | 316°31.00' | S 17°28.92' | **19** |
| **20** | 132°54.61' | 284°18.50' | S 16°26.02' | 152°30.78' | 264°42.32' | S 23°40.26' | 80°55.97' | 336°17.13' | S 10°56.55' | 100°41.82' | 316°31.29' | S 17°28.84' | **20** |
| **21** | 147°58.28' | 284°17.29' | S 16°25.86' | 167°31.28' | 264°44.29' | S 23°40.35' | 95°57.92' | 336°17.65' | S 10°56.35' | 115°43.99' | 316°31.58' | S 17°28.76' | **21** |
| **22** | 163°01.94' | 284°16.09' | S 16°25.69' | 182°31.78' | 264°46.26' | S 23°40.45' | 110°59.87' | 336°18.16' | S 10°56.15' | 130°46.16' | 316°31.88' | S 17°28.68' | **22** |
| **23** | 178°05.60' | 284°14.89' | S 16°25.53' | 197°32.27' | 264°48.22' | S 23°40.54' | 126°01.82' | 336°18.68' | S 10°55.95' | 145°48.33' | 316°32.17' | S 17°28.60' | **23** |
| **24** | 193°09.26' | 284°13.70' | S 16°25.37' | 212°32.77' | 264°50.19' | S 23°40.64' | 141°03.77' | 336°19.19' | S 10°55.75' | 160°50.50' | 316°32.46' | S 17°28.51' | **24** |
| | δ 15.0624° | | *d* 0.1810' | δ 15.0083° | | *d* 0.1030' | δ 15.0325° | | *d* 0.1987' | δ 15.0362° | | *d* 0.0821' | |

## *Tuesday, January 18th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°26.64' | 14.9967° | 299°56.32' | S 20°35.38' | 0.5048' | 356°24.49' | 14.4898° | 120°58.47' | N 24°46.75' | 4.7701' | 54.6811' | 117°22.96' | **00** |
| **01** | 192°26.44' | 14.9967° | 299°58.98' | S 20°34.87' | 0.5055' | 10°53.91' | 14.4902° | 121°31.52' | N 24°41.86' | 4.8939' | 54.6945' | 132°25.43' | **01** |
| **02** | 207°26.25' | 14.9967° | 300°01.64' | S 20°34.37' | 0.5062' | 25°23.35' | 14.4907° | 122°04.54' | N 24°36.84' | 5.0172' | 54.7081' | 147°27.89' | **02** |
| **03** | 222°26.05' | 14.9967° | 300°04.31' | S 20°33.86' | 0.5068' | 39°52.82' | 14.4912° | 122°37.54' | N 24°31.70' | 5.1401' | 54.7217' | 162°30.35' | **03** |
| **04** | 237°25.85' | 14.9967° | 300°06.97' | S 20°33.35' | 0.5075' | 54°22.32' | 14.4917° | 123°10.50' | N 24°26.44' | 5.2626' | 54.7354' | 177°32.82' | **04** |
| **05** | 252°25.65' | 14.9967° | 300°09.63' | S 20°32.84' | 0.5082' | 68°51.85' | 14.4922° | 123°43.43' | N 24°21.05' | 5.3846' | 54.7492' | 192°35.28' | **05** |
| **06** | 267°25.45' | 14.9967° | 300°12.30' | S 20°32.34' | 0.5088' | 83°21.41' | 14.4927° | 124°16.34' | N 24°15.55' | 5.5061' | 54.7632' | 207°37.75' | **06** |
| **07** | 282°25.25' | 14.9967° | 300°14.96' | S 20°31.83' | 0.5095' | 97°51.00' | 14.4932° | 124°49.21' | N 24°09.92' | 5.6271' | 54.7772' | 222°40.21' | **07** |
| **08** | 297°25.05' | 14.9967° | 300°17.62' | S 20°31.32' | 0.5102' | 112°20.63' | 14.4937° | 125°22.05' | N 24°04.17' | 5.7477' | 54.7913' | 237°42.67' | **08** |
| **09** | 312°24.86' | 14.9967° | 300°20.28' | S 20°30.81' | 0.5109' | 126°50.28' | 14.4943° | 125°54.86' | N 23°58.31' | 5.8677' | 54.8056' | 252°45.14' | **09** |
| **10** | 327°24.66' | 14.9967° | 300°22.94' | S 20°30.29' | 0.5115' | 141°19.98' | 14.4949° | 126°27.63' | N 23°52.32' | 5.9872' | 54.8199' | 267°47.60' | **10** |
| **11** | 342°24.46' | 14.9967° | 300°25.60' | S 20°29.78' | 0.5122' | 155°49.70' | 14.4954° | 127°00.37' | N 23°46.21' | 6.1062' | 54.8344' | 282°50.07' | **11** |
| **12** | 357°24.27' | 14.9967° | 300°28.26' | S 20°29.27' | 0.5129' | 170°19.46' | 14.4960° | 127°33.07' | N 23°39.99' | 6.2246' | 54.8489' | 297°52.53' | **12** |
| **13** | 12°24.07' | 14.9967° | 300°30.92' | S 20°28.75' | 0.5136' | 184°49.26' | 14.4966° | 128°05.74' | N 23°33.64' | 6.3425' | 54.8635' | 312°55.00' | **13** |
| **14** | 27°23.88' | 14.9967° | 300°33.58' | S 20°28.24' | 0.5142' | 199°19.09' | 14.4972° | 128°38.37' | N 23°27.18' | 6.4598' | 54.8782' | 327°57.46' | **14** |
| **15** | 42°23.68' | 14.9967° | 300°36.24' | S 20°27.73' | 0.5149' | 213°48.96' | 14.4978° | 129°10.96' | N 23°20.61' | 6.5765' | 54.8931' | 342°59.92' | **15** |
| **16** | 57°23.48' | 14.9967° | 300°38.90' | S 20°27.21' | 0.5156' | 228°18.87' | 14.4985° | 129°43.52' | N 23°13.92' | 6.6927' | 54.9080' | 358°02.39' | **16** |
| **17** | 72°23.29' | 14.9968° | 300°41.56' | S 20°26.69' | 0.5162' | 242°48.82' | 14.4991° | 130°16.04' | N 23°07.11' | 6.8082' | 54.9230' | 13°04.85' | **17** |
| **18** | 87°23.09' | 14.9968° | 300°44.22' | S 20°26.18' | 0.5169' | 257°18.80' | 14.4997° | 130°48.52' | N 23°00.18' | 6.9231' | 54.9381' | 28°07.32' | **18** |
| **19** | 102°22.90' | 14.9968° | 300°46.88' | S 20°25.66' | 0.5176' | 271°48.82' | 14.5004° | 131°20.96' | N 22°53.15' | 7.0374' | 54.9533' | 43°09.78' | **19** |
| **20** | 117°22.71' | 14.9968° | 300°49.54' | S 20°25.14' | 0.5182' | 286°18.89' | 14.5010° | 131°53.36' | N 22°46.00' | 7.1511' | 54.9686' | 58°12.24' | **20** |
| **21** | 132°22.51' | 14.9968° | 300°52.20' | S 20°24.62' | 0.5189' | 300°48.99' | 14.5017° | 132°25.72' | N 22°38.73' | 7.2641' | 54.9840' | 73°14.71' | **21** |
| **22** | 147°22.32' | 14.9968° | 300°54.85' | S 20°24.10' | 0.5196' | 315°19.13' | 14.5024° | 132°58.04' | N 22°31.36' | 7.3765' | 54.9994' | 88°17.17' | **22** |
| **23** | 162°22.13' | 14.9968° | 300°57.51' | S 20°23.58' | 0.5202' | 329°49.32' | 14.5031° | 133°30.32' | N 22°23.87' | 7.4882' | 55.0150' | 103°19.64' | **23** |
| **24** | 177°21.93' | 14.9968° | 301°00.17' | S 20°23.06' | 0.5209' | 344°19.54' | 14.5038° | 134°02.56' | N 22°16.27' | 7.5993' | 55.0307' | 118°22.10' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2569' | hp (π) 0.1490' | ½Ø 14.9454' | 99.5981475171435 9% -gib |
| | EoT at 12:00 UTC : -10m 22s (δ -0.79 s/h) | | Phase at 12:00 UTC : 185.69° | |
| | Meridian Pass. Time : 12:10:22.932 | | Age : 14.4 day(s) | |

| UT | Venus ♀ (π 0.52') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 193°09.26' | 284°13.70' | S 16°25.37' | 212°32.77' | 264°50.19' | S 23°40.64' | 141°03.77' | 336°19.19' | S 10°55.75' | 160°50.50' | 316°32.46' | S 17°28.51' | **00** |
| **01** | 208°12.92' | 284°12.51' | S 16°25.21' | 227°33.27' | 264°52.16' | S 23°40.73' | 156°05.72' | 336°19.71' | S 10°55.55' | 175°52.67' | 316°32.76' | S 17°28.43' | **01** |
| **02** | 223°16.57' | 284°11.32' | S 16°25.05' | 242°33.77' | 264°54.12' | S 23°40.82' | 171°07.67' | 336°20.22' | S 10°55.35' | 190°54.84' | 316°33.05' | S 17°28.35' | **02** |
| **03** | 238°20.22' | 284°10.14' | S 16°24.89' | 257°34.27' | 264°56.09' | S 23°40.91' | 186°09.61' | 336°20.74' | S 10°55.15' | 205°57.01' | 316°33.34' | S 17°28.27' | **03** |
| **04** | 253°23.86' | 284°08.96' | S 16°24.74' | 272°34.76' | 264°58.06' | S 23°41.01' | 201°11.56' | 336°21.26' | S 10°54.95' | 220°59.18' | 316°33.64' | S 17°28.18' | **04** |
| **05** | 268°27.50' | 284°07.78' | S 16°24.58' | 287°35.26' | 265°00.02' | S 23°41.10' | 216°13.51' | 336°21.77' | S 10°54.75' | 236°01.35' | 316°33.93' | S 17°28.10' | **05** |
| **06** | 283°31.14' | 284°06.61' | S 16°24.42' | 302°35.76' | 265°01.99' | S 23°41.19' | 231°15.46' | 336°22.29' | S 10°54.55' | 251°03.52' | 316°34.23' | S 17°28.02' | **06** |
| **07** | 298°34.77' | 284°05.44' | S 16°24.27' | 317°36.25' | 265°03.96' | S 23°41.28' | 246°17.41' | 336°22.80' | S 10°54.35' | 266°05.69' | 316°34.52' | S 17°27.94' | **07** |
| **08** | 313°38.40' | 284°04.28' | S 16°24.11' | 332°36.75' | 265°05.92' | S 23°41.37' | 261°19.35' | 336°23.32' | S 10°54.15' | 281°07.86' | 316°34.81' | S 17°27.85' | **08** |
| **09** | 328°42.02' | 284°03.12' | S 16°23.96' | 347°37.25' | 265°07.89' | S 23°41.46' | 276°21.30' | 336°23.84' | S 10°53.95' | 296°10.03' | 316°35.11' | S 17°27.77' | **09** |
| **10** | 343°45.64' | 284°01.96' | S 16°23.81' | 2°37.74' | 265°09.86' | S 23°41.55' | 291°23.25' | 336°24.35' | S 10°53.75' | 311°12.20' | 316°35.40' | S 17°27.69' | **10** |
| **11** | 358°49.26' | 284°00.81' | S 16°23.66' | 17°38.24' | 265°11.83' | S 23°41.64' | 306°25.20' | 336°24.87' | S 10°53.55' | 326°14.37' | 316°35.70' | S 17°27.60' | **11** |
| **12** | 13°52.87' | 283°59.66' | S 16°23.51' | 32°38.74' | 265°13.79' | S 23°41.73' | 321°27.15' | 336°25.39' | S 10°53.35' | 341°16.54' | 316°35.99' | S 17°27.52' | **12** |
| **13** | 28°56.48' | 283°58.51' | S 16°23.36' | 47°39.23' | 265°15.76' | S 23°41.82' | 336°29.09' | 336°25.90' | S 10°53.15' | 356°18.71' | 316°36.28' | S 17°27.44' | **13** |
| **14** | 44°00.09' | 283°57.37' | S 16°23.21' | 62°39.73' | 265°17.73' | S 23°41.91' | 351°31.04' | 336°26.42' | S 10°52.95' | 11°20.88' | 316°36.58' | S 17°27.36' | **14** |
| **15** | 59°03.69' | 283°56.24' | S 16°23.06' | 77°40.23' | 265°19.70' | S 23°41.99' | 6°32.99' | 336°26.94' | S 10°52.75' | 26°23.05' | 316°36.87' | S 17°27.27' | **15** |
| **16** | 74°07.29' | 283°55.10' | S 16°22.91' | 92°40.72' | 265°21.67' | S 23°42.08' | 21°34.94' | 336°27.45' | S 10°52.54' | 41°25.22' | 316°37.17' | S 17°27.19' | **16** |
| **17** | 89°10.88' | 283°53.97' | S 16°22.77' | 107°41.22' | 265°23.63' | S 23°42.17' | 36°36.88' | 336°27.97' | S 10°52.34' | 56°27.39' | 316°37.46' | S 17°27.11' | **17** |
| **18** | 104°14.47' | 283°52.85' | S 16°22.62' | 122°41.71' | 265°25.60' | S 23°42.26' | 51°38.83' | 336°28.49' | S 10°52.14' | 71°29.56' | 316°37.76' | S 17°27.03' | **18** |
| **19** | 119°18.06' | 283°51.72' | S 16°22.48' | 137°42.21' | 265°27.57' | S 23°42.34' | 66°40.78' | 336°29.00' | S 10°51.94' | 86°31.73' | 316°38.05' | S 17°26.94' | **19** |
| **20** | 134°21.64' | 283°50.61' | S 16°22.33' | 152°42.70' | 265°29.54' | S 23°42.43' | 81°42.72' | 336°29.52' | S 10°51.74' | 101°33.90' | 316°38.34' | S 17°26.86' | **20** |
| **21** | 149°25.22' | 283°49.49' | S 16°22.19' | 167°43.20' | 265°31.51' | S 23°42.51' | 96°44.67' | 336°30.04' | S 10°51.54' | 116°36.07' | 316°38.64' | S 17°26.78' | **21** |
| **22** | 164°28.79' | 283°48.38' | S 16°22.05' | 182°43.69' | 265°33.48' | S 23°42.60' | 111°46.62' | 336°30.56' | S 10°51.34' | 131°38.24' | 316°38.93' | S 17°26.70' | **22** |
| **23** | 179°32.36' | 283°47.28' | S 16°21.91' | 197°44.19' | 265°35.45' | S 23°42.68' | 126°48.56' | 336°31.07' | S 10°51.14' | 146°40.41' | 316°39.23' | S 17°26.61' | **23** |
| **24** | 194°35.93' | 283°46.17' | S 16°21.77' | 212°44.69' | 265°37.42' | S 23°42.77' | 141°50.51' | 336°31.59' | S 10°50.94' | 161°42.58' | 316°39.52' | S 17°26.53' | **24** |
| | δ 15.0609° | | *d* 0.1602' | δ 15.0083° | | *d* 0.0934' | δ 15.0325° | | *d* 0.2000' | δ 15.0362° | | *d* 0.0825' | |

## *Wednesday, January 19th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°21.93' | 14.9968° | 301°00.17' | S 20°23.06' | 0.5209' | 344°19.54' | 14.5038° | 134°02.56' | N 22°16.27' | 7.5993' | 55.0307' | 118°22.10' | **00** |
| **01** | 192°21.74' | 14.9968° | 301°02.82' | S 20°22.54' | 0.5216' | 358°49.81' | 14.5045° | 134°34.75' | N 22°08.56' | 7.7097' | 55.0464' | 133°24.57' | **01** |
| **02** | 207°21.55' | 14.9968° | 301°05.48' | S 20°22.02' | 0.5222' | 13°20.12' | 14.5052° | 135°06.91' | N 22°00.74' | 7.8194' | 55.0623' | 148°27.03' | **02** |
| **03** | 222°21.36' | 14.9968° | 301°08.14' | S 20°21.49' | 0.5229' | 27°50.47' | 14.5059° | 135°39.02' | N 21°52.81' | 7.9284' | 55.0782' | 163°29.49' | **03** |
| **04** | 237°21.17' | 14.9968° | 301°10.79' | S 20°20.97' | 0.5236' | 42°20.87' | 14.5066° | 136°11.09' | N 21°44.77' | 8.0366' | 55.0942' | 178°31.96' | **04** |
| **05** | 252°20.98' | 14.9968° | 301°13.45' | S 20°20.45' | 0.5242' | 56°51.30' | 14.5073° | 136°43.12' | N 21°36.63' | 8.1442' | 55.1103' | 193°34.42' | **05** |
| **06** | 267°20.79' | 14.9968° | 301°16.10' | S 20°19.92' | 0.5249' | 71°21.78' | 14.5080° | 137°15.10' | N 21°28.38' | 8.2511' | 55.1265' | 208°36.89' | **06** |
| **07** | 282°20.59' | 14.9968° | 301°18.76' | S 20°19.40' | 0.5256' | 85°52.31' | 14.5087° | 137°47.04' | N 21°20.02' | 8.3572' | 55.1428' | 223°39.35' | **07** |
| **08** | 297°20.40' | 14.9968° | 301°21.41' | S 20°18.87' | 0.5262' | 100°22.88' | 14.5095° | 138°18.94' | N 21°11.56' | 8.4626' | 55.1592' | 238°41.81' | **08** |
| **09** | 312°20.21' | 14.9968° | 301°24.06' | S 20°18.34' | 0.5269' | 114°53.49' | 14.5102° | 138°50.79' | N 21°02.99' | 8.5673' | 55.1756' | 253°44.28' | **09** |
| **10** | 327°20.03' | 14.9968° | 301°26.72' | S 20°17.82' | 0.5275' | 129°24.14' | 14.5109° | 139°22.60' | N 20°54.32' | 8.6712' | 55.1922' | 268°46.74' | **10** |
| **11** | 342°19.84' | 14.9968° | 301°29.37' | S 20°17.29' | 0.5282' | 143°54.84' | 14.5117° | 139°54.36' | N 20°45.55' | 8.7744' | 55.2088' | 283°49.21' | **11** |
| **12** | 357°19.65' | 14.9969° | 301°32.02' | S 20°16.76' | 0.5289' | 158°25.59' | 14.5124° | 140°26.08' | N 20°36.67' | 8.8768' | 55.2256' | 298°51.67' | **12** |
| **13** | 12°19.46' | 14.9969° | 301°34.68' | S 20°16.23' | 0.5295' | 172°56.38' | 14.5131° | 140°57.76' | N 20°27.69' | 8.9785' | 55.2424' | 313°54.14' | **13** |
| **14** | 27°19.27' | 14.9969° | 301°37.33' | S 20°15.70' | 0.5302' | 187°27.21' | 14.5139° | 141°29.39' | N 20°18.61' | 9.0793' | 55.2593' | 328°56.60' | **14** |
| **15** | 42°19.08' | 14.9969° | 301°39.98' | S 20°15.17' | 0.5309' | 201°58.09' | 14.5146° | 142°00.98' | N 20°09.43' | 9.1794' | 55.2763' | 343°59.06' | **15** |
| **16** | 57°18.89' | 14.9969° | 301°42.63' | S 20°14.64' | 0.5315' | 216°29.01' | 14.5154° | 142°32.52' | N 20°00.15' | 9.2787' | 55.2933' | 359°01.53' | **16** |
| **17** | 72°18.71' | 14.9969° | 301°45.28' | S 20°14.10' | 0.5322' | 230°59.98' | 14.5161° | 143°04.02' | N 19°50.78' | 9.3773' | 55.3105' | 14°03.99' | **17** |
| **18** | 87°18.52' | 14.9969° | 301°47.94' | S 20°13.57' | 0.5328' | 245°30.99' | 14.5169° | 143°35.47' | N 19°41.30' | 9.4750' | 55.3277' | 29°06.46' | **18** |
| **19** | 102°18.33' | 14.9969° | 301°50.59' | S 20°13.04' | 0.5335' | 260°02.04' | 14.5176° | 144°06.88' | N 19°31.73' | 9.5719' | 55.3451' | 44°08.92' | **19** |
| **20** | 117°18.15' | 14.9969° | 301°53.24' | S 20°12.50' | 0.5342' | 274°33.14' | 14.5183° | 144°38.24' | N 19°22.06' | 9.6680' | 55.3625' | 59°11.38' | **20** |
| **21** | 132°17.96' | 14.9969° | 301°55.89' | S 20°11.97' | 0.5348' | 289°04.29' | 14.5191° | 145°09.56' | N 19°12.30' | 9.7633' | 55.3800' | 74°13.85' | **21** |
| **22** | 147°17.78' | 14.9969° | 301°58.54' | S 20°11.43' | 0.5355' | 303°35.48' | 14.5198° | 145°40.83' | N 19°02.44' | 9.8578' | 55.3976' | 89°16.31' | **22** |
| **23** | 162°17.59' | 14.9969° | 302°01.19' | S 20°10.90' | 0.5361' | 318°06.71' | 14.5206° | 146°12.06' | N 18°52.49' | 9.9515' | 55.4152' | 104°18.78' | **23** |
| **24** | 177°17.41' | 14.9969° | 302°03.84' | S 20°10.36' | 0.5368' | 332°37.99' | 14.5213° | 146°43.25' | N 18°42.44' | 10.0443' | 55.4330' | 119°21.24' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2556' | hp (π) 0.1490' | ½Ø 15.0480' | 97.6445556483398 7% -gib | |
| EoT at 12:00 UTC : -10m 41s (δ -0.76 s/h) | | Phase at 12:00 UTC : 197.03° | | |
| Meridian Pass. Time : 12:10:41.412 | | Age : 15.3 day(s) | | |

| UT | Venus ♀ (π 0.52') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 194°35.93' | 283°46.17' | S 16°21.77' | 212°44.69' | 265°37.42' | S 23°42.77' | 141°50.51' | 336°31.59' | S 10°50.94' | 161°42.58' | 316°39.52' | S 17°26.53' | **00** |
| **01** | 209°39.49' | 283°45.07' | S 16°21.63' | 227°45.18' | 265°39.39' | S 23°42.85' | 156°52.46' | 336°32.11' | S 10°50.74' | 176°44.75' | 316°39.82' | S 17°26.45' | **01** |
| **02** | 224°43.05' | 283°43.98' | S 16°21.49' | 242°45.67' | 265°41.35' | S 23°42.93' | 171°54.40' | 336°32.63' | S 10°50.53' | 191°46.92' | 316°40.11' | S 17°26.36' | **02** |
| **03** | 239°46.60' | 283°42.89' | S 16°21.35' | 257°46.17' | 265°43.32' | S 23°43.02' | 186°56.35' | 336°33.14' | S 10°50.33' | 206°49.09' | 316°40.41' | S 17°26.28' | **03** |
| **04** | 254°50.16' | 283°41.80' | S 16°21.21' | 272°46.66' | 265°45.29' | S 23°43.10' | 201°58.29' | 336°33.66' | S 10°50.13' | 221°51.26' | 316°40.70' | S 17°26.20' | **04** |
| **05** | 269°53.70' | 283°40.72' | S 16°21.08' | 287°47.16' | 265°47.26' | S 23°43.18' | 217°00.24' | 336°34.18' | S 10°49.93' | 236°53.43' | 316°40.99' | S 17°26.12' | **05** |
| **06** | 284°57.24' | 283°39.64' | S 16°20.94' | 302°47.65' | 265°49.23' | S 23°43.26' | 232°02.19' | 336°34.70' | S 10°49.73' | 251°55.60' | 316°41.29' | S 17°26.03' | **06** |
| **07** | 300°00.78' | 283°38.57' | S 16°20.81' | 317°48.15' | 265°51.20' | S 23°43.34' | 247°04.13' | 336°35.22' | S 10°49.53' | 266°57.77' | 316°41.58' | S 17°25.95' | **07** |
| **08** | 315°04.32' | 283°37.50' | S 16°20.68' | 332°48.64' | 265°53.17' | S 23°43.43' | 262°06.08' | 336°35.74' | S 10°49.33' | 281°59.94' | 316°41.88' | S 17°25.87' | **08** |
| **09** | 330°07.85' | 283°36.43' | S 16°20.54' | 347°49.14' | 265°55.14' | S 23°43.51' | 277°08.02' | 336°36.25' | S 10°49.13' | 297°02.11' | 316°42.17' | S 17°25.78' | **09** |
| **10** | 345°11.38' | 283°35.37' | S 16°20.41' | 2°49.63' | 265°57.11' | S 23°43.59' | 292°09.97' | 336°36.77' | S 10°48.92' | 312°04.27' | 316°42.47' | S 17°25.70' | **10** |
| **11** | 0°14.90' | 283°34.31' | S 16°20.28' | 17°50.12' | 265°59.08' | S 23°43.67' | 307°11.92' | 336°37.29' | S 10°48.72' | 327°06.44' | 316°42.76' | S 17°25.62' | **11** |
| **12** | 15°18.42' | 283°33.25' | S 16°20.15' | 32°50.62' | 266°01.05' | S 23°43.74' | 322°13.86' | 336°37.81' | S 10°48.52' | 342°08.61' | 316°43.06' | S 17°25.54' | **12** |
| **13** | 30°21.93' | 283°32.20' | S 16°20.02' | 47°51.11' | 266°03.02' | S 23°43.82' | 337°15.81' | 336°38.33' | S 10°48.32' | 357°10.78' | 316°43.35' | S 17°25.45' | **13** |
| **14** | 45°25.44' | 283°31.16' | S 16°19.89' | 62°51.60' | 266°05.00' | S 23°43.90' | 352°17.75' | 336°38.85' | S 10°48.12' | 12°12.95' | 316°43.65' | S 17°25.37' | **14** |
| **15** | 60°28.95' | 283°30.12' | S 16°19.77' | 77°52.10' | 266°06.97' | S 23°43.98' | 7°19.70' | 336°39.37' | S 10°47.91' | 27°15.12' | 316°43.94' | S 17°25.29' | **15** |
| **16** | 75°32.45' | 283°29.08' | S 16°19.64' | 92°52.59' | 266°08.94' | S 23°44.06' | 22°21.64' | 336°39.89' | S 10°47.71' | 42°17.29' | 316°44.24' | S 17°25.20' | **16** |
| **17** | 90°35.95' | 283°28.04' | S 16°19.52' | 107°53.08' | 266°10.91' | S 23°44.14' | 37°23.59' | 336°40.41' | S 10°47.51' | 57°19.46' | 316°44.53' | S 17°25.12' | **17** |
| **18** | 105°39.44' | 283°27.01' | S 16°19.39' | 122°53.58' | 266°12.88' | S 23°44.21' | 52°25.53' | 336°40.93' | S 10°47.31' | 72°21.63' | 316°44.83' | S 17°25.04' | **18** |
| **19** | 120°42.93' | 283°25.99' | S 16°19.27' | 137°54.07' | 266°14.85' | S 23°44.29' | 67°27.48' | 336°41.44' | S 10°47.11' | 87°23.80' | 316°45.12' | S 17°24.95' | **19** |
| **20** | 135°46.42' | 283°24.97' | S 16°19.14' | 152°54.56' | 266°16.82' | S 23°44.36' | 82°29.42' | 336°41.96' | S 10°46.90' | 102°25.97' | 316°45.42' | S 17°24.87' | **20** |
| **21** | 150°49.90' | 283°23.95' | S 16°19.02' | 167°55.05' | 266°18.79' | S 23°44.44' | 97°31.36' | 336°42.48' | S 10°46.70' | 117°28.14' | 316°45.71' | S 17°24.79' | **21** |
| **22** | 165°53.38' | 283°22.93' | S 16°18.90' | 182°55.55' | 266°20.76' | S 23°44.52' | 112°33.31' | 336°43.00' | S 10°46.50' | 132°30.30' | 316°46.01' | S 17°24.70' | **22** |
| **23** | 180°56.85' | 283°21.92' | S 16°18.78' | 197°56.04' | 266°22.74' | S 23°44.59' | 127°35.25' | 336°43.52' | S 10°46.30' | 147°32.47' | 316°46.30' | S 17°24.62' | **23** |
| **24** | 196°00.32' | 283°20.92' | S 16°18.66' | 212°56.53' | 266°24.71' | S 23°44.66' | 142°37.20' | 336°44.04' | S 10°46.10' | 162°34.64' | 316°46.60' | S 17°24.54' | **24** |
| | δ 15.0594° | | *d* 0.1393' | δ 15.0082° | | *d* 0.0837' | δ 15.0324° | | *d* 0.2012' | δ 15.0362° | | *d* 0.0828' | |

## *Thursday, January 20th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°17.41' | 14.9969° | 302°03.84' | S 20°10.36' | 0.5368' | 332°37.99' | 14.5213° | 146°43.25' | N 18°42.44' | 10.0443' | 55.4330' | 119°21.24' | **00** |
| **01** | 192°17.22' | 14.9969° | 302°06.48' | S 20°09.82' | 0.5374' | 347°09.32' | 14.5220° | 147°14.39' | N 18°32.31' | 10.1364' | 55.4508' | 134°23.70' | **01** |
| **02** | 207°17.04' | 14.9969° | 302°09.13' | S 20°09.29' | 0.5381' | 1°40.68' | 14.5228° | 147°45.49' | N 18°22.08' | 10.2275' | 55.4688' | 149°26.17' | **02** |
| **03** | 222°16.85' | 14.9969° | 302°11.78' | S 20°08.75' | 0.5388' | 16°12.09' | 14.5235° | 148°16.54' | N 18°11.76' | 10.3179' | 55.4868' | 164°28.63' | **03** |
| **04** | 237°16.67' | 14.9969° | 302°14.43' | S 20°08.21' | 0.5394' | 30°43.55' | 14.5242° | 148°47.55' | N 18°01.35' | 10.4074' | 55.5049' | 179°31.10' | **04** |
| **05** | 252°16.49' | 14.9969° | 302°17.08' | S 20°07.67' | 0.5401' | 45°15.04' | 14.5250° | 149°18.52' | N 17°50.86' | 10.4961' | 55.5230' | 194°33.56' | **05** |
| **06** | 267°16.30' | 14.9969° | 302°19.72' | S 20°07.13' | 0.5407' | 59°46.58' | 14.5257° | 149°49.44' | N 17°40.27' | 10.5839' | 55.5413' | 209°36.03' | **06** |
| **07** | 282°16.12' | 14.9970° | 302°22.37' | S 20°06.59' | 0.5414' | 74°18.17' | 14.5264° | 150°20.32' | N 17°29.60' | 10.6709' | 55.5596' | 224°38.49' | **07** |
| **08** | 297°15.94' | 14.9970° | 302°25.02' | S 20°06.04' | 0.5420' | 88°49.79' | 14.5271° | 150°51.16' | N 17°18.85' | 10.7570' | 55.5781' | 239°40.95' | **08** |
| **09** | 312°15.75' | 14.9970° | 302°27.66' | S 20°05.50' | 0.5427' | 103°21.46' | 14.5278° | 151°21.96' | N 17°08.00' | 10.8423' | 55.5966' | 254°43.42' | **09** |
| **10** | 327°15.57' | 14.9970° | 302°30.31' | S 20°04.96' | 0.5433' | 117°53.17' | 14.5285° | 151°52.71' | N 16°57.08' | 10.9267' | 55.6152' | 269°45.88' | **10** |
| **11** | 342°15.39' | 14.9970° | 302°32.95' | S 20°04.41' | 0.5440' | 132°24.92' | 14.5292° | 152°23.42' | N 16°46.07' | 11.0102' | 55.6338' | 284°48.35' | **11** |
| **12** | 357°15.21' | 14.9970° | 302°35.60' | S 20°03.87' | 0.5446' | 146°56.71' | 14.5299° | 152°54.10' | N 16°34.97' | 11.0929' | 55.6526' | 299°50.81' | **12** |
| **13** | 12°15.03' | 14.9970° | 302°38.25' | S 20°03.32' | 0.5453' | 161°28.55' | 14.5306° | 153°24.73' | N 16°23.80' | 11.1747' | 55.6715' | 314°53.27' | **13** |
| **14** | 27°14.85' | 14.9970° | 302°40.89' | S 20°02.78' | 0.5459' | 176°00.42' | 14.5312° | 153°55.32' | N 16°12.54' | 11.2556' | 55.6904' | 329°55.74' | **14** |
| **15** | 42°14.67' | 14.9970° | 302°43.53' | S 20°02.23' | 0.5466' | 190°32.34' | 14.5319° | 154°25.87' | N 16°01.21' | 11.3357' | 55.7094' | 344°58.20' | **15** |
| **16** | 57°14.49' | 14.9970° | 302°46.18' | S 20°01.68' | 0.5472' | 205°04.29' | 14.5326° | 154°56.38' | N 15°49.79' | 11.4149' | 55.7285' | 0°00.67' | **16** |
| **17** | 72°14.31' | 14.9970° | 302°48.82' | S 20°01.14' | 0.5479' | 219°36.28' | 14.5332° | 155°26.85' | N 15°38.30' | 11.4932' | 55.7477' | 15°03.13' | **17** |
| **18** | 87°14.13' | 14.9970° | 302°51.47' | S 20°00.59' | 0.5485' | 234°08.31' | 14.5339° | 155°57.28' | N 15°26.73' | 11.5707' | 55.7670' | 30°05.59' | **18** |
| **19** | 102°13.95' | 14.9970° | 302°54.11' | S 20°00.04' | 0.5492' | 248°40.38' | 14.5345° | 156°27.68' | N 15°15.08' | 11.6472' | 55.7863' | 45°08.06' | **19** |
| **20** | 117°13.77' | 14.9970° | 302°56.75' | S 19°59.49' | 0.5498' | 263°12.49' | 14.5351° | 156°58.03' | N 15°03.36' | 11.7229' | 55.8057' | 60°10.52' | **20** |
| **21** | 132°13.59' | 14.9970° | 302°59.39' | S 19°58.94' | 0.5505' | 277°44.63' | 14.5357° | 157°28.35' | N 14°51.56' | 11.7977' | 55.8253' | 75°12.99' | **21** |
| **22** | 147°13.42' | 14.9970° | 303°02.04' | S 19°58.39' | 0.5511' | 292°16.81' | 14.5364° | 157°58.64' | N 14°39.69' | 11.8716' | 55.8449' | 90°15.45' | **22** |
| **23** | 162°13.24' | 14.9970° | 303°04.68' | S 19°57.83' | 0.5518' | 306°49.03' | 14.5370° | 158°28.88' | N 14°27.75' | 11.9446' | 55.8645' | 105°17.92' | **23** |
| **24** | 177°13.06' | 14.9970° | 303°07.32' | S 19°57.28' | 0.5524' | 321°21.28' | 14.5375° | 158°59.09' | N 14°15.73' | 12.0168' | 55.8843' | 120°20.38' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2542' | hp (π) 0.1490' | ½Ø 15.1643' | 93.7868404944702 8% -gib | |
| EoT at 12:00 UTC : -10m 59s (δ -0.72 s/h) | | Phase at 12:00 UTC : 208.53° | | |
| Meridian Pass. Time : 12:10:59.160 | | Age : 16.2 day(s) | | |

| UT | Venus ♀ (π 0.51') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 196°00.32' | 283°20.92' | S 16°18.66' | 212°56.53' | 266°24.71' | S 23°44.66' | 142°37.20' | 336°44.04' | S 10°46.10' | 162°34.64' | 316°46.60' | S 17°24.54' | **00** |
| **01** | 211°03.79' | 283°19.92' | S 16°18.54' | 227°57.02' | 266°26.68' | S 23°44.74' | 157°39.14' | 336°44.56' | S 10°45.89' | 177°36.81' | 316°46.89' | S 17°24.46' | **01** |
| **02** | 226°07.25' | 283°18.92' | S 16°18.42' | 242°57.52' | 266°28.65' | S 23°44.81' | 172°41.09' | 336°45.08' | S 10°45.69' | 192°38.98' | 316°47.19' | S 17°24.37' | **02** |
| **03** | 241°10.70' | 283°17.93' | S 16°18.31' | 257°58.01' | 266°30.62' | S 23°44.89' | 187°43.03' | 336°45.60' | S 10°45.49' | 207°41.15' | 316°47.48' | S 17°24.29' | **03** |
| **04** | 256°14.16' | 283°16.94' | S 16°18.19' | 272°58.50' | 266°32.60' | S 23°44.96' | 202°44.97' | 336°46.12' | S 10°45.29' | 222°43.32' | 316°47.78' | S 17°24.21' | **04** |
| **05** | 271°17.61' | 283°15.95' | S 16°18.08' | 287°58.99' | 266°34.57' | S 23°45.03' | 217°46.92' | 336°46.64' | S 10°45.08' | 237°45.49' | 316°48.07' | S 17°24.12' | **05** |
| **06** | 286°21.05' | 283°14.97' | S 16°17.96' | 302°59.48' | 266°36.54' | S 23°45.10' | 232°48.86' | 336°47.16' | S 10°44.88' | 252°47.66' | 316°48.37' | S 17°24.04' | **06** |
| **07** | 301°24.49' | 283°14.00' | S 16°17.85' | 317°59.98' | 266°38.51' | S 23°45.17' | 247°50.80' | 336°47.68' | S 10°44.68' | 267°49.83' | 316°48.66' | S 17°23.96' | **07** |
| **08** | 316°27.93' | 283°13.03' | S 16°17.73' | 333°00.47' | 266°40.49' | S 23°45.25' | 262°52.75' | 336°48.21' | S 10°44.48' | 282°51.99' | 316°48.96' | S 17°23.87' | **08** |
| **09** | 331°31.36' | 283°12.06' | S 16°17.62' | 348°00.96' | 266°42.46' | S 23°45.32' | 277°54.69' | 336°48.73' | S 10°44.27' | 297°54.16' | 316°49.26' | S 17°23.79' | **09** |
| **10** | 346°34.79' | 283°11.09' | S 16°17.51' | 3°01.45' | 266°44.43' | S 23°45.39' | 292°56.63' | 336°49.25' | S 10°44.07' | 312°56.33' | 316°49.55' | S 17°23.71' | **10** |
| **11** | 1°38.21' | 283°10.14' | S 16°17.40' | 18°01.94' | 266°46.41' | S 23°45.46' | 307°58.58' | 336°49.77' | S 10°43.87' | 327°58.50' | 316°49.85' | S 17°23.62' | **11** |
| **12** | 16°41.63' | 283°09.18' | S 16°17.29' | 33°02.43' | 266°48.38' | S 23°45.53' | 323°00.52' | 336°50.29' | S 10°43.66' | 343°00.67' | 316°50.14' | S 17°23.54' | **12** |
| **13** | 31°45.05' | 283°08.23' | S 16°17.18' | 48°02.92' | 266°50.35' | S 23°45.60' | 338°02.46' | 336°50.81' | S 10°43.46' | 358°02.84' | 316°50.44' | S 17°23.46' | **13** |
| **14** | 46°48.46' | 283°07.28' | S 16°17.08' | 63°03.41' | 266°52.32' | S 23°45.66' | 353°04.41' | 336°51.33' | S 10°43.26' | 13°05.01' | 316°50.73' | S 17°23.37' | **14** |
| **15** | 61°51.86' | 283°06.34' | S 16°16.97' | 78°03.90' | 266°54.30' | S 23°45.73' | 8°06.35' | 336°51.85' | S 10°43.06' | 28°07.17' | 316°51.03' | S 17°23.29' | **15** |
| **16** | 76°55.27' | 283°05.40' | S 16°16.86' | 93°04.40' | 266°56.27' | S 23°45.80' | 23°08.29' | 336°52.37' | S 10°42.85' | 43°09.34' | 316°51.32' | S 17°23.21' | **16** |
| **17** | 91°58.66' | 283°04.47' | S 16°16.76' | 108°04.89' | 266°58.24' | S 23°45.87' | 38°10.24' | 336°52.89' | S 10°42.65' | 58°11.51' | 316°51.62' | S 17°23.12' | **17** |
| **18** | 107°02.06' | 283°03.54' | S 16°16.65' | 123°05.38' | 267°00.22' | S 23°45.94' | 53°12.18' | 336°53.42' | S 10°42.45' | 73°13.68' | 316°51.91' | S 17°23.04' | **18** |
| **19** | 122°05.45' | 283°02.61' | S 16°16.55' | 138°05.87' | 267°02.19' | S 23°46.00' | 68°14.12' | 336°53.94' | S 10°42.24' | 88°15.85' | 316°52.21' | S 17°22.96' | **19** |
| **20** | 137°08.83' | 283°01.69' | S 16°16.45' | 153°06.36' | 267°04.17' | S 23°46.07' | 83°16.06' | 336°54.46' | S 10°42.04' | 103°18.02' | 316°52.51' | S 17°22.87' | **20** |
| **21** | 152°12.21' | 283°00.77' | S 16°16.35' | 168°06.85' | 267°06.14' | S 23°46.13' | 98°18.01' | 336°54.98' | S 10°41.84' | 118°20.19' | 316°52.80' | S 17°22.79' | **21** |
| **22** | 167°15.59' | 282°59.86' | S 16°16.24' | 183°07.34' | 267°08.11' | S 23°46.20' | 113°19.95' | 336°55.50' | S 10°41.63' | 133°22.35' | 316°53.10' | S 17°22.71' | **22** |
| **23** | 182°18.96' | 282°58.95' | S 16°16.14' | 198°07.83' | 267°10.09' | S 23°46.26' | 128°21.89' | 336°56.02' | S 10°41.43' | 148°24.52' | 316°53.39' | S 17°22.62' | **23** |
| **24** | 197°22.33' | 282°58.05' | S 16°16.04' | 213°08.32' | 267°12.06' | S 23°46.33' | 143°23.83' | 336°56.55' | S 10°41.23' | 163°26.69' | 316°53.69' | S 17°22.54' | **24** |
| | δ 15.0578° | | *d* 0.1187' | δ 15.0082° | | *d* 0.0740' | δ 15.0324° | | *d* 0.2023' | δ 15.0361° | | *d* 0.0831' | |

## *Friday, January 21st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°13.06' | 14.9970° | 303°07.32' | S 19°57.28' | 0.5524' | 321°21.28' | 14.5375° | 158°59.09' | N 14°15.73' | 12.0168' | 55.8843' | 120°20.38' | **00** |
| **01** | 192°12.88' | 14.9970° | 303°09.96' | S 19°56.73' | 0.5531' | 335°53.57' | 14.5381° | 159°29.27' | N 14°03.64' | 12.0880' | 55.9042' | 135°22.84' | **01** |
| **02** | 207°12.71' | 14.9971° | 303°12.60' | S 19°56.18' | 0.5537' | 350°25.89' | 14.5387° | 159°59.41' | N 13°51.48' | 12.1583' | 55.9241' | 150°25.31' | **02** |
| **03** | 222°12.53' | 14.9971° | 303°15.24' | S 19°55.62' | 0.5544' | 4°58.25' | 14.5393° | 160°29.52' | N 13°39.25' | 12.2278' | 55.9441' | 165°27.77' | **03** |
| **04** | 237°12.35' | 14.9971° | 303°17.88' | S 19°55.07' | 0.5550' | 19°30.64' | 14.5398° | 160°59.60' | N 13°26.96' | 12.2963' | 55.9642' | 180°30.24' | **04** |
| **05** | 252°12.18' | 14.9971° | 303°20.52' | S 19°54.51' | 0.5557' | 34°03.06' | 14.5404° | 161°29.64' | N 13°14.59' | 12.3640' | 55.9844' | 195°32.70' | **05** |
| **06** | 267°12.00' | 14.9971° | 303°23.16' | S 19°53.95' | 0.5563' | 48°35.51' | 14.5409° | 161°59.65' | N 13°02.16' | 12.4308' | 56.0047' | 210°35.16' | **06** |
| **07** | 282°11.83' | 14.9971° | 303°25.80' | S 19°53.40' | 0.5570' | 63°08.00' | 14.5414° | 162°29.63' | N 12°49.67' | 12.4966' | 56.0251' | 225°37.63' | **07** |
| **08** | 297°11.65' | 14.9971° | 303°28.44' | S 19°52.84' | 0.5576' | 77°40.51' | 14.5419° | 162°59.58' | N 12°37.11' | 12.5616' | 56.0455' | 240°40.09' | **08** |
| **09** | 312°11.48' | 14.9971° | 303°31.08' | S 19°52.28' | 0.5582' | 92°13.06' | 14.5424° | 163°29.50' | N 12°24.48' | 12.6256' | 56.0660' | 255°42.56' | **09** |
| **10** | 327°11.30' | 14.9971° | 303°33.72' | S 19°51.72' | 0.5589' | 106°45.63' | 14.5429° | 163°59.39' | N 12°11.79' | 12.6888' | 56.0867' | 270°45.02' | **10** |
| **11** | 342°11.13' | 14.9971° | 303°36.35' | S 19°51.16' | 0.5595' | 121°18.24' | 14.5434° | 164°29.25' | N 11°59.04' | 12.7510' | 56.1074' | 285°47.48' | **11** |
| **12** | 357°10.96' | 14.9971° | 303°38.99' | S 19°50.60' | 0.5602' | 135°50.87' | 14.5438° | 164°59.08' | N 11°46.23' | 12.8124' | 56.1281' | 300°49.95' | **12** |
| **13** | 12°10.78' | 14.9971° | 303°41.63' | S 19°50.04' | 0.5608' | 150°23.52' | 14.5443° | 165°28.89' | N 11°33.35' | 12.8728' | 56.1490' | 315°52.41' | **13** |
| **14** | 27°10.61' | 14.9971° | 303°44.26' | S 19°49.48' | 0.5615' | 164°56.21' | 14.5447° | 165°58.67' | N 11°20.42' | 12.9323' | 56.1700' | 330°54.88' | **14** |
| **15** | 42°10.44' | 14.9971° | 303°46.90' | S 19°48.92' | 0.5621' | 179°28.92' | 14.5451° | 166°28.42' | N 11°07.43' | 12.9909' | 56.1910' | 345°57.34' | **15** |
| **16** | 57°10.27' | 14.9971° | 303°49.54' | S 19°48.36' | 0.5627' | 194°01.65' | 14.5456° | 166°58.16' | N 10°54.38' | 13.0486' | 56.2121' | 0°59.80' | **16** |
| **17** | 72°10.10' | 14.9971° | 303°52.17' | S 19°47.79' | 0.5634' | 208°34.41' | 14.5460° | 167°27.86' | N 10°41.28' | 13.1054' | 56.2333' | 16°02.27' | **17** |
| **18** | 87°09.92' | 14.9971° | 303°54.81' | S 19°47.23' | 0.5640' | 223°07.19' | 14.5463° | 167°57.55' | N 10°28.12' | 13.1613' | 56.2546' | 31°04.73' | **18** |
| **19** | 102°09.75' | 14.9971° | 303°57.44' | S 19°46.66' | 0.5647' | 237°39.99' | 14.5467° | 168°27.21' | N 10°14.90' | 13.2163' | 56.2760' | 46°07.20' | **19** |
| **20** | 117°09.58' | 14.9972° | 304°00.08' | S 19°46.10' | 0.5653' | 252°12.81' | 14.5471° | 168°56.85' | N 10°01.63' | 13.2703' | 56.2974' | 61°09.66' | **20** |
| **21** | 132°09.41' | 14.9972° | 304°02.71' | S 19°45.53' | 0.5659' | 266°45.66' | 14.5474° | 169°26.47' | N 9°48.31' | 13.3235' | 56.3190' | 76°12.13' | **21** |
| **22** | 147°09.24' | 14.9972° | 304°05.35' | S 19°44.97' | 0.5666' | 281°18.52' | 14.5477° | 169°56.07' | N 9°34.93' | 13.3757' | 56.3406' | 91°14.59' | **22** |
| **23** | 162°09.07' | 14.9972° | 304°07.98' | S 19°44.40' | 0.5672' | 295°51.40' | 14.5480° | 170°25.65' | N 9°21.50' | 13.4270' | 56.3623' | 106°17.05' | **23** |
| **24** | 177°08.90' | 14.9972° | 304°10.62' | S 19°43.83' | 0.5679' | 310°24.30' | 14.5483° | 170°55.21' | N 9°08.03' | 13.4773' | 56.3841' | 121°19.52' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2527' | hp (π) 0.1489' | ½Ø 15.2939' | 88.0893961741404 % -gib | |
| EoT at 12:00 UTC : -11m 16s (δ -0.69 s/h) | | Phase at 12:00 UTC : 220.22° | | |
| Meridian Pass. Time : 12:11:16.170 | | Age : 17.1 day(s) | | |

| UT | Venus ♀ (π 0.51') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 197°22.33' | 282°58.05' | S 16°16.04' | 213°08.32' | 267°12.06' | S 23°46.33' | 143°23.83' | 336°56.55' | S 10°41.23' | 163°26.69' | 316°53.69' | S 17°22.54' | **00** |
| **01** | 212°25.69' | 282°57.15' | S 16°15.95' | 228°08.81' | 267°14.04' | S 23°46.39' | 158°25.77' | 336°57.07' | S 10°41.02' | 178°28.86' | 316°53.98' | S 17°22.46' | **01** |
| **02** | 227°29.05' | 282°56.25' | S 16°15.85' | 243°09.30' | 267°16.01' | S 23°46.46' | 173°27.72' | 336°57.59' | S 10°40.82' | 193°31.03' | 316°54.28' | S 17°22.37' | **02** |
| **03** | 242°32.41' | 282°55.36' | S 16°15.75' | 258°09.78' | 267°17.99' | S 23°46.52' | 188°29.66' | 336°58.11' | S 10°40.62' | 208°33.20' | 316°54.58' | S 17°22.29' | **03** |
| **04** | 257°35.76' | 282°54.47' | S 16°15.66' | 273°10.27' | 267°19.96' | S 23°46.58' | 203°31.60' | 336°58.64' | S 10°40.41' | 223°35.36' | 316°54.87' | S 17°22.21' | **04** |
| **05** | 272°39.11' | 282°53.59' | S 16°15.56' | 288°10.76' | 267°21.94' | S 23°46.65' | 218°33.54' | 336°59.16' | S 10°40.21' | 238°37.53' | 316°55.17' | S 17°22.12' | **05** |
| **06** | 287°42.45' | 282°52.71' | S 16°15.47' | 303°11.25' | 267°23.91' | S 23°46.71' | 233°35.48' | 336°59.68' | S 10°40.00' | 253°39.70' | 316°55.46' | S 17°22.04' | **06** |
| **07** | 302°45.79' | 282°51.84' | S 16°15.37' | 318°11.74' | 267°25.89' | S 23°46.77' | 248°37.42' | 337°00.20' | S 10°39.80' | 268°41.87' | 316°55.76' | S 17°21.95' | **07** |
| **08** | 317°49.12' | 282°50.97' | S 16°15.28' | 333°12.23' | 267°27.86' | S 23°46.83' | 263°39.37' | 337°00.73' | S 10°39.60' | 283°44.04' | 316°56.06' | S 17°21.87' | **08** |
| **09** | 332°52.45' | 282°50.10' | S 16°15.19' | 348°12.72' | 267°29.84' | S 23°46.89' | 278°41.31' | 337°01.25' | S 10°39.39' | 298°46.20' | 316°56.35' | S 17°21.79' | **09** |
| **10** | 347°55.78' | 282°49.24' | S 16°15.10' | 3°13.21' | 267°31.81' | S 23°46.95' | 293°43.25' | 337°01.77' | S 10°39.19' | 313°48.37' | 316°56.65' | S 17°21.70' | **10** |
| **11** | 2°59.10' | 282°48.39' | S 16°15.01' | 18°13.70' | 267°33.79' | S 23°47.01' | 308°45.19' | 337°02.30' | S 10°38.98' | 328°50.54' | 316°56.94' | S 17°21.62' | **11** |
| **12** | 18°02.41' | 282°47.53' | S 16°14.92' | 33°14.19' | 267°35.76' | S 23°47.07' | 323°47.13' | 337°02.82' | S 10°38.78' | 343°52.71' | 316°57.24' | S 17°21.54' | **12** |
| **13** | 33°05.73' | 282°46.69' | S 16°14.83' | 48°14.67' | 267°37.74' | S 23°47.13' | 338°49.07' | 337°03.34' | S 10°38.58' | 358°54.88' | 316°57.54' | S 17°21.45' | **13** |
| **14** | 48°09.03' | 282°45.84' | S 16°14.74' | 63°15.16' | 267°39.71' | S 23°47.19' | 353°51.01' | 337°03.86' | S 10°38.37' | 13°57.04' | 316°57.83' | S 17°21.37' | **14** |
| **15** | 63°12.34' | 282°45.00' | S 16°14.66' | 78°15.65' | 267°41.69' | S 23°47.25' | 8°52.95' | 337°04.39' | S 10°38.17' | 28°59.21' | 316°58.13' | S 17°21.29' | **15** |
| **16** | 78°15.64' | 282°44.17' | S 16°14.57' | 93°16.14' | 267°43.67' | S 23°47.31' | 23°54.89' | 337°04.91' | S 10°37.96' | 44°01.38' | 316°58.42' | S 17°21.20' | **16** |
| **17** | 93°18.93' | 282°43.34' | S 16°14.48' | 108°16.63' | 267°45.64' | S 23°47.37' | 38°56.83' | 337°05.43' | S 10°37.76' | 59°03.55' | 316°58.72' | S 17°21.12' | **17** |
| **18** | 108°22.22' | 282°42.51' | S 16°14.40' | 123°17.11' | 267°47.62' | S 23°47.42' | 53°58.77' | 337°05.96' | S 10°37.56' | 74°05.72' | 316°59.02' | S 17°21.03' | **18** |
| **19** | 123°25.51' | 282°41.69' | S 16°14.32' | 138°17.60' | 267°49.59' | S 23°47.48' | 69°00.71' | 337°06.48' | S 10°37.35' | 89°07.88' | 316°59.31' | S 17°20.95' | **19** |
| **20** | 138°28.79' | 282°40.87' | S 16°14.23' | 153°18.09' | 267°51.57' | S 23°47.54' | 84°02.66' | 337°07.01' | S 10°37.15' | 104°10.05' | 316°59.61' | S 17°20.87' | **20** |
| **21** | 153°32.06' | 282°40.06' | S 16°14.15' | 168°18.58' | 267°53.55' | S 23°47.59' | 99°04.60' | 337°07.53' | S 10°36.94' | 119°12.22' | 316°59.91' | S 17°20.78' | **21** |
| **22** | 168°35.34' | 282°39.25' | S 16°14.07' | 183°19.07' | 267°55.52' | S 23°47.65' | 114°06.54' | 337°08.05' | S 10°36.74' | 134°14.39' | 317°00.20' | S 17°20.70' | **22** |
| **23** | 183°38.60' | 282°38.45' | S 16°13.99' | 198°19.55' | 267°57.50' | S 23°47.70' | 129°08.48' | 337°08.58' | S 10°36.53' | 149°16.55' | 317°00.50' | S 17°20.62' | **23** |
| **24** | 198°41.87' | 282°37.65' | S 16°13.91' | 213°20.04' | 267°59.48' | S 23°47.76' | 144°10.42' | 337°09.10' | S 10°36.33' | 164°18.72' | 317°00.79' | S 17°20.53' | **24** |
| | δ 15.0561° | | *d* 0.0985' | δ 15.0082° | | *d* 0.0643' | δ 15.0324° | | *d* 0.2035' | δ 15.0361° | | *d* 0.0835' | |

## *Saturday, January 22nd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°08.90' | 14.9972° | 304°10.62' | S 19°43.83' | 0.5679' | 310°24.30' | 14.5483° | 170°55.21' | N 9°08.03' | 13.4773' | 56.3841' | 121°19.52' | **00** |
| **01** | 192°08.73' | 14.9972° | 304°13.25' | S 19°43.26' | 0.5685' | 324°57.22' | 14.5486° | 171°24.76' | N 8°54.50' | 13.5268' | 56.4060' | 136°21.98' | **01** |
| **02** | 207°08.56' | 14.9972° | 304°15.88' | S 19°42.69' | 0.5691' | 339°30.16' | 14.5489° | 171°54.29' | N 8°40.92' | 13.5753' | 56.4280' | 151°24.45' | **02** |
| **03** | 222°08.39' | 14.9972° | 304°18.51' | S 19°42.12' | 0.5698' | 354°03.10' | 14.5491° | 172°23.80' | N 8°27.30' | 13.6229' | 56.4500' | 166°26.91' | **03** |
| **04** | 237°08.23' | 14.9972° | 304°21.15' | S 19°41.55' | 0.5704' | 8°36.07' | 14.5494° | 172°53.31' | N 8°13.63' | 13.6695' | 56.4722' | 181°29.37' | **04** |
| **05** | 252°08.06' | 14.9972° | 304°23.78' | S 19°40.98' | 0.5710' | 23°09.04' | 14.5496° | 173°22.79' | N 7°59.92' | 13.7153' | 56.4944' | 196°31.84' | **05** |
| **06** | 267°07.89' | 14.9972° | 304°26.41' | S 19°40.41' | 0.5717' | 37°42.03' | 14.5498° | 173°52.27' | N 7°46.16' | 13.7601' | 56.5167' | 211°34.30' | **06** |
| **07** | 282°07.72' | 14.9972° | 304°29.04' | S 19°39.84' | 0.5723' | 52°15.03' | 14.5500° | 174°21.73' | N 7°32.35' | 13.8040' | 56.5391' | 226°36.77' | **07** |
| **08** | 297°07.56' | 14.9972° | 304°31.67' | S 19°39.26' | 0.5729' | 66°48.05' | 14.5502° | 174°51.18' | N 7°18.51' | 13.8469' | 56.5616' | 241°39.23' | **08** |
| **09** | 312°07.39' | 14.9972° | 304°34.30' | S 19°38.69' | 0.5736' | 81°21.07' | 14.5503° | 175°20.63' | N 7°04.62' | 13.8889' | 56.5841' | 256°41.69' | **09** |
| **10** | 327°07.22' | 14.9972° | 304°36.93' | S 19°38.12' | 0.5742' | 95°54.09' | 14.5505° | 175°50.06' | N 6°50.69' | 13.9300' | 56.6067' | 271°44.16' | **10** |
| **11** | 342°07.06' | 14.9972° | 304°39.56' | S 19°37.54' | 0.5748' | 110°27.13' | 14.5506° | 176°19.49' | N 6°36.72' | 13.9701' | 56.6295' | 286°46.62' | **11** |
| **12** | 357°06.89' | 14.9972° | 304°42.19' | S 19°36.97' | 0.5755' | 125°00.17' | 14.5507° | 176°48.91' | N 6°22.71' | 14.0093' | 56.6523' | 301°49.09' | **12** |
| **13** | 12°06.73' | 14.9972° | 304°44.82' | S 19°36.39' | 0.5761' | 139°33.22' | 14.5508° | 177°18.33' | N 6°08.66' | 14.0475' | 56.6752' | 316°51.55' | **13** |
| **14** | 27°06.56' | 14.9973° | 304°47.45' | S 19°35.81' | 0.5767' | 154°06.28' | 14.5509° | 177°47.74' | N 5°54.57' | 14.0848' | 56.6981' | 331°54.01' | **14** |
| **15** | 42°06.40' | 14.9973° | 304°50.08' | S 19°35.24' | 0.5774' | 168°39.33' | 14.5509° | 178°17.14' | N 5°40.45' | 14.1211' | 56.7212' | 346°56.48' | **15** |
| **16** | 57°06.23' | 14.9973° | 304°52.71' | S 19°34.66' | 0.5780' | 183°12.39' | 14.5510° | 178°46.55' | N 5°26.30' | 14.1565' | 56.7443' | 1°58.94' | **16** |
| **17** | 72°06.07' | 14.9973° | 304°55.34' | S 19°34.08' | 0.5786' | 197°45.45' | 14.5510° | 179°15.95' | N 5°12.11' | 14.1909' | 56.7676' | 17°01.41' | **17** |
| **18** | 87°05.91' | 14.9973° | 304°57.97' | S 19°33.50' | 0.5793' | 212°18.52' | 14.5510° | 179°45.35' | N 4°57.88' | 14.2244' | 56.7909' | 32°03.87' | **18** |
| **19** | 102°05.74' | 14.9973° | 305°00.59' | S 19°32.92' | 0.5799' | 226°51.58' | 14.5510° | 180°14.76' | N 4°43.63' | 14.2569' | 56.8143' | 47°06.33' | **19** |
| **20** | 117°05.58' | 14.9973° | 305°03.22' | S 19°32.34' | 0.5805' | 241°24.64' | 14.5510° | 180°44.16' | N 4°29.34' | 14.2885' | 56.8377' | 62°08.80' | **20** |
| **21** | 132°05.42' | 14.9973° | 305°05.85' | S 19°31.76' | 0.5812' | 255°57.69' | 14.5509° | 181°13.57' | N 4°15.02' | 14.3191' | 56.8613' | 77°11.26' | **21** |
| **22** | 147°05.25' | 14.9973° | 305°08.47' | S 19°31.18' | 0.5818' | 270°30.74' | 14.5509° | 181°42.98' | N 4°00.67' | 14.3487' | 56.8849' | 92°13.73' | **22** |
| **23** | 162°05.09' | 14.9973° | 305°11.10' | S 19°30.59' | 0.5824' | 285°03.79' | 14.5508° | 182°12.40' | N 3°46.29' | 14.3773' | 56.9086' | 107°16.19' | **23** |
| **24** | 177°04.93' | 14.9973° | 305°13.72' | S 19°30.01' | 0.5830' | 299°36.83' | 14.5507° | 182°41.82' | N 3°31.89' | 14.4050' | 56.9324' | 122°18.65' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2511' | hp (π) 0.1489' | ½Ø 15.4367' | 80.6917070585807 9% -gib |
| | EoT at 12:00 UTC : -11m 32s (δ -0.66 s/h) | | Phase at 12:00 UTC : 232.11° | |
| | Meridian Pass. Time : 12:11:32.431 | | Age : 18.1 day(s) | |

| UT | Venus ♀ (π 0.50') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 198°41.87' | 282°37.65' | S 16°13.91' | 213°20.04' | 267°59.48' | S 23°47.76' | 144°10.42' | 337°09.10' | S 10°36.33' | 164°18.72' | 317°00.79' | S 17°20.53' | **00** |
| **01** | 213°45.13' | 282°36.85' | S 16°13.83' | 228°20.53' | 268°01.45' | S 23°47.81' | 159°12.36' | 337°09.63' | S 10°36.12' | 179°20.89' | 317°01.09' | S 17°20.45' | **01** |
| **02** | 228°48.38' | 282°36.06' | S 16°13.75' | 243°21.01' | 268°03.43' | S 23°47.87' | 174°14.30' | 337°10.15' | S 10°35.92' | 194°23.06' | 317°01.39' | S 17°20.36' | **02** |
| **03** | 243°51.63' | 282°35.28' | S 16°13.68' | 258°21.50' | 268°05.41' | S 23°47.92' | 189°16.23' | 337°10.67' | S 10°35.71' | 209°25.23' | 317°01.68' | S 17°20.28' | **03** |
| **04** | 258°54.88' | 282°34.49' | S 16°13.60' | 273°21.99' | 268°07.39' | S 23°47.97' | 204°18.17' | 337°11.20' | S 10°35.51' | 224°27.39' | 317°01.98' | S 17°20.20' | **04** |
| **05** | 273°58.12' | 282°33.72' | S 16°13.53' | 288°22.48' | 268°09.36' | S 23°48.03' | 219°20.11' | 337°11.72' | S 10°35.31' | 239°29.56' | 317°02.28' | S 17°20.11' | **05** |
| **06** | 289°01.36' | 282°32.94' | S 16°13.45' | 303°22.96' | 268°11.34' | S 23°48.08' | 234°22.05' | 337°12.25' | S 10°35.10' | 254°31.73' | 317°02.57' | S 17°20.03' | **06** |
| **07** | 304°04.59' | 282°32.18' | S 16°13.38' | 318°23.45' | 268°13.32' | S 23°48.13' | 249°23.99' | 337°12.77' | S 10°34.90' | 269°33.90' | 317°02.87' | S 17°19.94' | **07** |
| **08** | 319°07.82' | 282°31.41' | S 16°13.30' | 333°23.94' | 268°15.29' | S 23°48.18' | 264°25.93' | 337°13.30' | S 10°34.69' | 284°36.06' | 317°03.17' | S 17°19.86' | **08** |
| **09** | 334°11.04' | 282°30.65' | S 16°13.23' | 348°24.42' | 268°17.27' | S 23°48.24' | 279°27.87' | 337°13.82' | S 10°34.49' | 299°38.23' | 317°03.46' | S 17°19.78' | **09** |
| **10** | 349°14.26' | 282°29.90' | S 16°13.16' | 3°24.91' | 268°19.25' | S 23°48.29' | 294°29.81' | 337°14.35' | S 10°34.28' | 314°40.40' | 317°03.76' | S 17°19.69' | **10** |
| **11** | 4°17.48' | 282°29.14' | S 16°13.09' | 18°25.39' | 268°21.23' | S 23°48.34' | 309°31.75' | 337°14.87' | S 10°34.07' | 329°42.57' | 317°04.06' | S 17°19.61' | **11** |
| **12** | 19°20.69' | 282°28.40' | S 16°13.02' | 33°25.88' | 268°23.21' | S 23°48.39' | 324°33.69' | 337°15.40' | S 10°33.87' | 344°44.73' | 317°04.35' | S 17°19.53' | **12** |
| **13** | 34°23.89' | 282°27.66' | S 16°12.95' | 48°26.37' | 268°25.18' | S 23°48.44' | 339°35.63' | 337°15.92' | S 10°33.66' | 359°46.90' | 317°04.65' | S 17°19.44' | **13** |
| **14** | 49°27.10' | 282°26.92' | S 16°12.88' | 63°26.85' | 268°27.16' | S 23°48.48' | 354°37.57' | 337°16.45' | S 10°33.46' | 14°49.07' | 317°04.95' | S 17°19.36' | **14** |
| **15** | 64°30.29' | 282°26.19' | S 16°12.82' | 78°27.34' | 268°29.14' | S 23°48.53' | 9°39.50' | 337°16.97' | S 10°33.25' | 29°51.24' | 317°05.24' | S 17°19.27' | **15** |
| **16** | 79°33.48' | 282°25.46' | S 16°12.75' | 93°27.82' | 268°31.12' | S 23°48.58' | 24°41.44' | 337°17.50' | S 10°33.05' | 44°53.40' | 317°05.54' | S 17°19.19' | **16** |
| **17** | 94°36.67' | 282°24.73' | S 16°12.68' | 108°28.31' | 268°33.10' | S 23°48.63' | 39°43.38' | 337°18.03' | S 10°32.84' | 59°55.57' | 317°05.84' | S 17°19.11' | **17** |
| **18** | 109°39.86' | 282°24.01' | S 16°12.62' | 123°28.79' | 268°35.08' | S 23°48.68' | 54°45.32' | 337°18.55' | S 10°32.64' | 74°57.74' | 317°06.13' | S 17°19.02' | **18** |
| **19** | 124°43.04' | 282°23.30' | S 16°12.55' | 138°29.28' | 268°37.05' | S 23°48.72' | 69°47.26' | 337°19.08' | S 10°32.43' | 89°59.90' | 317°06.43' | S 17°18.94' | **19** |
| **20** | 139°46.21' | 282°22.59' | S 16°12.49' | 153°29.77' | 268°39.03' | S 23°48.77' | 84°49.20' | 337°19.60' | S 10°32.23' | 105°02.07' | 317°06.73' | S 17°18.85' | **20** |
| **21** | 154°49.38' | 282°21.88' | S 16°12.43' | 168°30.25' | 268°41.01' | S 23°48.82' | 99°51.13' | 337°20.13' | S 10°32.02' | 120°04.24' | 317°07.02' | S 17°18.77' | **21** |
| **22** | 169°52.55' | 282°21.18' | S 16°12.37' | 183°30.74' | 268°42.99' | S 23°48.86' | 114°53.07' | 337°20.65' | S 10°31.82' | 135°06.41' | 317°07.32' | S 17°18.68' | **22** |
| **23** | 184°55.71' | 282°20.48' | S 16°12.30' | 198°31.22' | 268°44.97' | S 23°48.91' | 129°55.01' | 337°21.18' | S 10°31.61' | 150°08.57' | 317°07.62' | S 17°18.60' | **23** |
| **24** | 199°58.86' | 282°19.79' | S 16°12.24' | 213°31.71' | 268°46.95' | S 23°48.95' | 144°56.95' | 337°21.71' | S 10°31.40' | 165°10.74' | 317°07.91' | S 17°18.52' | **24** |
| | δ 15.0543° | | *d* 0.0787' | δ 15.0081° | | *d* 0.0545' | δ 15.0323° | | *d* 0.2047' | δ 15.0361° | | *d* 0.0838' | |

## *Sunday, January 23rd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°04.93' | 14.9973° | 305°13.72' | S 19°30.01' | 0.5830' | 299°36.83' | 14.5507° | 182°41.82' | N 3°31.89' | 14.4050' | 56.9324' | 122°18.65' | **00** |
| **01** | 192°04.77' | 14.9973° | 305°16.35' | S 19°29.43' | 0.5837' | 314°09.87' | 14.5506° | 183°11.25' | N 3°17.45' | 14.4317' | 56.9563' | 137°21.12' | **01** |
| **02** | 207°04.61' | 14.9973° | 305°18.98' | S 19°28.84' | 0.5843' | 328°42.89' | 14.5504° | 183°40.69' | N 3°03.00' | 14.4574' | 56.9802' | 152°23.58' | **02** |
| **03** | 222°04.45' | 14.9973° | 305°21.60' | S 19°28.26' | 0.5849' | 343°15.91' | 14.5503° | 184°10.14' | N 2°48.52' | 14.4821' | 57.0043' | 167°26.05' | **03** |
| **04** | 237°04.29' | 14.9973° | 305°24.22' | S 19°27.67' | 0.5856' | 357°48.92' | 14.5501° | 184°39.59' | N 2°34.01' | 14.5059' | 57.0284' | 182°28.51' | **04** |
| **05** | 252°04.13' | 14.9973° | 305°26.85' | S 19°27.09' | 0.5862' | 12°21.91' | 14.5499° | 185°09.06' | N 2°19.48' | 14.5286' | 57.0525' | 197°30.98' | **05** |
| **06** | 267°03.97' | 14.9973° | 305°29.47' | S 19°26.50' | 0.5868' | 26°54.89' | 14.5497° | 185°38.55' | N 2°04.93' | 14.5503' | 57.0768' | 212°33.44' | **06** |
| **07** | 282°03.81' | 14.9973° | 305°32.10' | S 19°25.91' | 0.5874' | 41°27.86' | 14.5495° | 186°08.04' | N 1°50.36' | 14.5711' | 57.1011' | 227°35.90' | **07** |
| **08** | 297°03.65' | 14.9973° | 305°34.72' | S 19°25.32' | 0.5881' | 56°00.81' | 14.5492° | 186°37.55' | N 1°35.77' | 14.5908' | 57.1256' | 242°38.37' | **08** |
| **09** | 312°03.49' | 14.9974° | 305°37.34' | S 19°24.74' | 0.5887' | 70°33.75' | 14.5489° | 187°07.08' | N 1°21.16' | 14.6096' | 57.1500' | 257°40.83' | **09** |
| **10** | 327°03.33' | 14.9974° | 305°39.96' | S 19°24.15' | 0.5893' | 85°06.67' | 14.5487° | 187°36.63' | N 1°06.53' | 14.6273' | 57.1746' | 272°43.30' | **10** |
| **11** | 342°03.17' | 14.9974° | 305°42.59' | S 19°23.56' | 0.5899' | 99°39.57' | 14.5483° | 188°06.19' | N 0°51.89' | 14.6440' | 57.1992' | 287°45.76' | **11** |
| **12** | 357°03.02' | 14.9974° | 305°45.21' | S 19°22.97' | 0.5905' | 114°12.45' | 14.5480° | 188°35.77' | N 0°37.23' | 14.6596' | 57.2240' | 302°48.22' | **12** |
| **13** | 12°02.86' | 14.9974° | 305°47.83' | S 19°22.38' | 0.5912' | 128°45.31' | 14.5477° | 189°05.38' | N 0°22.55' | 14.6743' | 57.2487' | 317°50.69' | **13** |
| **14** | 27°02.70' | 14.9974° | 305°50.45' | S 19°21.78' | 0.5918' | 143°18.15' | 14.5473° | 189°35.00' | N 0°07.87' | 14.6879' | 57.2736' | 332°53.15' | **14** |
| **15** | 42°02.54' | 14.9974° | 305°53.07' | S 19°21.19' | 0.5924' | 157°50.97' | 14.5469° | 190°04.65' | S 0°06.83' | 14.7005' | 57.2985' | 347°55.62' | **15** |
| **16** | 57°02.39' | 14.9974° | 305°55.69' | S 19°20.60' | 0.5930' | 172°23.76' | 14.5465° | 190°34.32' | S 0°21.55' | 14.7120' | 57.3235' | 2°58.08' | **16** |
| **17** | 72°02.23' | 14.9974° | 305°58.31' | S 19°20.00' | 0.5937' | 186°56.52' | 14.5461° | 191°04.02' | S 0°36.27' | 14.7225' | 57.3486' | 18°00.54' | **17** |
| **18** | 87°02.08' | 14.9974° | 306°00.93' | S 19°19.41' | 0.5943' | 201°29.26' | 14.5456° | 191°33.75' | S 0°51.00' | 14.7319' | 57.3737' | 33°03.01' | **18** |
| **19** | 102°01.92' | 14.9974° | 306°03.55' | S 19°18.82' | 0.5949' | 216°01.97' | 14.5452° | 192°03.50' | S 1°05.74' | 14.7403' | 57.3989' | 48°05.47' | **19** |
| **20** | 117°01.77' | 14.9974° | 306°06.17' | S 19°18.22' | 0.5955' | 230°34.65' | 14.5447° | 192°33.29' | S 1°20.49' | 14.7476' | 57.4242' | 63°07.94' | **20** |
| **21** | 132°01.61' | 14.9974° | 306°08.79' | S 19°17.62' | 0.5961' | 245°07.30' | 14.5442° | 193°03.10' | S 1°35.24' | 14.7538' | 57.4495' | 78°10.40' | **21** |
| **22** | 147°01.46' | 14.9974° | 306°11.41' | S 19°17.03' | 0.5968' | 259°39.92' | 14.5436° | 193°32.95' | S 1°50.00' | 14.7589' | 57.4749' | 93°12.86' | **22** |
| **23** | 162°01.30' | 14.9974° | 306°14.03' | S 19°16.43' | 0.5974' | 274°12.50' | 14.5431° | 194°02.82' | S 2°04.76' | 14.7630' | 57.5004' | 108°15.33' | **23** |
| **24** | 177°01.15' | 14.9974° | 306°16.64' | S 19°15.83' | 0.5980' | 288°45.06' | 14.5425° | 194°32.74' | S 2°19.53' | 14.7660' | 57.5259' | 123°17.79' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2494' | hp (π) 0.1489' | ½Ø 15.5925' | 71.8120928600459<br>1% -gib |
| | EoT at 12:00 UTC : -11m 47s (δ -0.63 s/h) | | Phase at 12:00 UTC : 244.20° | |
| | Meridian Pass. Time : 12:11:47.938 | | Age : 19.0 day(s) | |

| UT | Venus ♀ (π 0.49') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 199°58.86' | 282°19.79' | S 16°12.24' | 213°31.71' | 268°46.95' | S 23°48.95' | 144°56.95' | 337°21.71' | S 10°31.40' | 165°10.74' | 317°07.91' | S 17°18.52' | **00** |
| **01** | 215°02.02' | 282°19.10' | S 16°12.18' | 228°32.19' | 268°48.93' | S 23°49.00' | 159°58.89' | 337°22.23' | S 10°31.20' | 180°12.91' | 317°08.21' | S 17°18.43' | **01** |
| **02** | 230°05.16' | 282°18.42' | S 16°12.13' | 243°32.68' | 268°50.91' | S 23°49.04' | 175°00.82' | 337°22.76' | S 10°30.99' | 195°15.07' | 317°08.51' | S 17°18.35' | **02** |
| **03** | 245°08.31' | 282°17.74' | S 16°12.07' | 258°33.16' | 268°52.89' | S 23°49.09' | 190°02.76' | 337°23.29' | S 10°30.79' | 210°17.24' | 317°08.81' | S 17°18.26' | **03** |
| **04** | 260°11.45' | 282°17.06' | S 16°12.01' | 273°33.65' | 268°54.87' | S 23°49.13' | 205°04.70' | 337°23.81' | S 10°30.58' | 225°19.41' | 317°09.10' | S 17°18.18' | **04** |
| **05** | 275°14.58' | 282°16.39' | S 16°11.95' | 288°34.13' | 268°56.85' | S 23°49.17' | 220°06.64' | 337°24.34' | S 10°30.37' | 240°21.58' | 317°09.40' | S 17°18.10' | **05** |
| **06** | 290°17.71' | 282°15.73' | S 16°11.90' | 303°34.61' | 268°58.83' | S 23°49.22' | 235°08.57' | 337°24.87' | S 10°30.17' | 255°23.74' | 317°09.70' | S 17°18.01' | **06** |
| **07** | 305°20.84' | 282°15.07' | S 16°11.84' | 318°35.10' | 269°00.81' | S 23°49.26' | 250°10.51' | 337°25.39' | S 10°29.96' | 270°25.91' | 317°09.99' | S 17°17.93' | **07** |
| **08** | 320°23.96' | 282°14.41' | S 16°11.79' | 333°35.58' | 269°02.78' | S 23°49.30' | 265°12.45' | 337°25.92' | S 10°29.76' | 285°28.08' | 317°10.29' | S 17°17.84' | **08** |
| **09** | 335°27.07' | 282°13.76' | S 16°11.74' | 348°36.07' | 269°04.76' | S 23°49.34' | 280°14.39' | 337°26.45' | S 10°29.55' | 300°30.24' | 317°10.59' | S 17°17.76' | **09** |
| **10** | 350°30.18' | 282°13.11' | S 16°11.68' | 3°36.55' | 269°06.74' | S 23°49.38' | 295°16.32' | 337°26.97' | S 10°29.34' | 315°32.41' | 317°10.89' | S 17°17.67' | **10** |
| **11** | 5°33.29' | 282°12.47' | S 16°11.63' | 18°37.03' | 269°08.73' | S 23°49.42' | 310°18.26' | 337°27.50' | S 10°29.14' | 330°34.58' | 317°11.18' | S 17°17.59' | **11** |
| **12** | 20°36.39' | 282°11.83' | S 16°11.58' | 33°37.52' | 269°10.71' | S 23°49.46' | 325°20.20' | 337°28.03' | S 10°28.93' | 345°36.74' | 317°11.48' | S 17°17.51' | **12** |
| **13** | 35°39.49' | 282°11.20' | S 16°11.53' | 48°38.00' | 269°12.69' | S 23°49.50' | 340°22.13' | 337°28.55' | S 10°28.73' | 0°38.91' | 317°11.78' | S 17°17.42' | **13** |
| **14** | 50°42.59' | 282°10.57' | S 16°11.48' | 63°38.49' | 269°14.67' | S 23°49.54' | 355°24.07' | 337°29.08' | S 10°28.52' | 15°41.08' | 317°12.07' | S 17°17.34' | **14** |
| **15** | 65°45.67' | 282°09.94' | S 16°11.43' | 78°38.97' | 269°16.65' | S 23°49.58' | 10°26.01' | 337°29.61' | S 10°28.31' | 30°43.24' | 317°12.37' | S 17°17.25' | **15** |
| **16** | 80°48.76' | 282°09.32' | S 16°11.39' | 93°39.45' | 269°18.63' | S 23°49.62' | 25°27.94' | 337°30.14' | S 10°28.11' | 45°45.41' | 317°12.67' | S 17°17.17' | **16** |
| **17** | 95°51.84' | 282°08.71' | S 16°11.34' | 108°39.94' | 269°20.61' | S 23°49.66' | 40°29.88' | 337°30.66' | S 10°27.90' | 60°47.58' | 317°12.97' | S 17°17.08' | **17** |
| **18** | 110°54.91' | 282°08.09' | S 16°11.29' | 123°40.42' | 269°22.59' | S 23°49.69' | 55°31.82' | 337°31.19' | S 10°27.69' | 75°49.74' | 317°13.26' | S 17°17.00' | **18** |
| **19** | 125°57.98' | 282°07.49' | S 16°11.25' | 138°40.90' | 269°24.57' | S 23°49.73' | 70°33.75' | 337°31.72' | S 10°27.49' | 90°51.91' | 317°13.56' | S 17°16.92' | **19** |
| **20** | 141°01.05' | 282°06.89' | S 16°11.20' | 153°41.39' | 269°26.55' | S 23°49.77' | 85°35.69' | 337°32.25' | S 10°27.28' | 105°54.08' | 317°13.86' | S 17°16.83' | **20** |
| **21** | 156°04.11' | 282°06.29' | S 16°11.16' | 168°41.87' | 269°28.53' | S 23°49.80' | 100°37.62' | 337°32.78' | S 10°27.07' | 120°56.24' | 317°14.16' | S 17°16.75' | **21** |
| **22** | 171°07.17' | 282°05.69' | S 16°11.11' | 183°42.35' | 269°30.51' | S 23°49.84' | 115°39.56' | 337°33.30' | S 10°26.87' | 135°58.41' | 317°14.45' | S 17°16.66' | **22** |
| **23** | 186°10.22' | 282°05.11' | S 16°11.07' | 198°42.83' | 269°32.49' | S 23°49.88' | 130°41.50' | 337°33.83' | S 10°26.66' | 151°00.58' | 317°14.75' | S 17°16.58' | **23** |
| **24** | 201°13.27' | 282°04.52' | S 16°11.03' | 213°43.32' | 269°34.48' | S 23°49.91' | 145°43.43' | 337°34.36' | S 10°26.45' | 166°02.74' | 317°15.05' | S 17°16.49' | **24** |
| | δ 15.0525° | | *d* 0.0595' | δ 15.0081° | | *d* 0.0446' | δ 15.0323° | | *d* 0.2058' | δ 15.0361° | | *d* 0.0841' | |

## *Monday, January 24th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°01.15' | 14.9974° | 306°16.64' | S 19°15.83' | 0.5980' | 288°45.06' | 14.5425° | 194°32.74' | S 2°19.53' | 14.7660' | 57.5259' | 123°17.79' | **00** |
| **01** | 192°01.00' | 14.9974° | 306°19.26' | S 19°15.23' | 0.5986' | 303°17.57' | 14.5419° | 195°02.68' | S 2°34.30' | 14.7678' | 57.5515' | 138°20.26' | **01** |
| **02** | 207°00.84' | 14.9974° | 306°21.88' | S 19°14.63' | 0.5992' | 317°50.05' | 14.5413° | 195°32.67' | S 2°49.07' | 14.7686' | 57.5771' | 153°22.72' | **02** |
| **03** | 222°00.69' | 14.9975° | 306°24.50' | S 19°14.03' | 0.5998' | 332°22.49' | 14.5407° | 196°02.69' | S 3°03.84' | 14.7683' | 57.6028' | 168°25.18' | **03** |
| **04** | 237°00.54' | 14.9975° | 306°27.11' | S 19°13.43' | 0.6005' | 346°54.90' | 14.5400° | 196°32.75' | S 3°18.60' | 14.7668' | 57.6286' | 183°27.65' | **04** |
| **05** | 252°00.38' | 14.9975° | 306°29.73' | S 19°12.83' | 0.6011' | 1°27.26' | 14.5394° | 197°02.85' | S 3°33.37' | 14.7642' | 57.6544' | 198°30.11' | **05** |
| **06** | 267°00.23' | 14.9975° | 306°32.34' | S 19°12.23' | 0.6017' | 15°59.58' | 14.5387° | 197°33.00' | S 3°48.13' | 14.7605' | 57.6803' | 213°32.58' | **06** |
| **07** | 282°00.08' | 14.9975° | 306°34.96' | S 19°11.63' | 0.6023' | 30°31.86' | 14.5380° | 198°03.18' | S 4°02.88' | 14.7556' | 57.7062' | 228°35.04' | **07** |
| **08** | 296°59.93' | 14.9975° | 306°37.57' | S 19°11.03' | 0.6029' | 45°04.09' | 14.5372° | 198°33.41' | S 4°17.63' | 14.7496' | 57.7322' | 243°37.51' | **08** |
| **09** | 311°59.78' | 14.9975° | 306°40.19' | S 19°10.42' | 0.6035' | 59°36.28' | 14.5365° | 199°03.69' | S 4°32.37' | 14.7424' | 57.7582' | 258°39.97' | **09** |
| **10** | 326°59.63' | 14.9975° | 306°42.80' | S 19°09.82' | 0.6041' | 74°08.42' | 14.5357° | 199°34.01' | S 4°47.11' | 14.7341' | 57.7843' | 273°42.43' | **10** |
| **11** | 341°59.48' | 14.9975° | 306°45.42' | S 19°09.21' | 0.6048' | 88°40.52' | 14.5349° | 200°04.38' | S 5°01.83' | 14.7246' | 57.8104' | 288°44.90' | **11** |
| **12** | 356°59.33' | 14.9975° | 306°48.03' | S 19°08.61' | 0.6054' | 103°12.56' | 14.5341° | 200°34.80' | S 5°16.55' | 14.7139' | 57.8365' | 303°47.36' | **12** |
| **13** | 11°59.18' | 14.9975° | 306°50.65' | S 19°08.00' | 0.6060' | 117°44.55' | 14.5332° | 201°05.27' | S 5°31.25' | 14.7020' | 57.8628' | 318°49.83' | **13** |
| **14** | 26°59.03' | 14.9975° | 306°53.26' | S 19°07.39' | 0.6066' | 132°16.50' | 14.5324° | 201°35.79' | S 5°45.94' | 14.6889' | 57.8890' | 333°52.29' | **14** |
| **15** | 41°58.88' | 14.9975° | 306°55.87' | S 19°06.79' | 0.6072' | 146°48.39' | 14.5315° | 202°06.37' | S 6°00.61' | 14.6746' | 57.9153' | 348°54.75' | **15** |
| **16** | 56°58.73' | 14.9975° | 306°58.48' | S 19°06.18' | 0.6078' | 161°20.22' | 14.5306° | 202°36.99' | S 6°15.27' | 14.6591' | 57.9416' | 3°57.22' | **16** |
| **17** | 71°58.59' | 14.9975° | 307°01.10' | S 19°05.57' | 0.6084' | 175°52.00' | 14.5297° | 203°07.68' | S 6°29.91' | 14.6424' | 57.9680' | 18°59.68' | **17** |
| **18** | 86°58.44' | 14.9975° | 307°03.71' | S 19°04.96' | 0.6090' | 190°23.73' | 14.5287° | 203°38.42' | S 6°44.54' | 14.6244' | 57.9944' | 34°02.15' | **18** |
| **19** | 101°58.29' | 14.9975° | 307°06.32' | S 19°04.35' | 0.6097' | 204°55.39' | 14.5278° | 204°09.22' | S 6°59.14' | 14.6052' | 58.0209' | 49°04.61' | **19** |
| **20** | 116°58.14' | 14.9975° | 307°08.93' | S 19°03.74' | 0.6103' | 219°27.00' | 14.5268° | 204°40.08' | S 7°13.73' | 14.5848' | 58.0473' | 64°07.07' | **20** |
| **21** | 131°58.00' | 14.9976° | 307°11.54' | S 19°03.13' | 0.6109' | 233°58.54' | 14.5258° | 205°10.99' | S 7°28.29' | 14.5631' | 58.0738' | 79°09.54' | **21** |
| **22** | 146°57.85' | 14.9976° | 307°14.15' | S 19°02.52' | 0.6115' | 248°30.03' | 14.5247° | 205°41.97' | S 7°42.83' | 14.5401' | 58.1004' | 94°12.00' | **22** |
| **23** | 161°57.70' | 14.9976° | 307°16.76' | S 19°01.91' | 0.6121' | 263°01.45' | 14.5237° | 206°13.02' | S 7°57.35' | 14.5158' | 58.1269' | 109°14.47' | **23** |
| **24** | 176°57.56' | 14.9976° | 307°19.37' | S 19°01.30' | 0.6127' | 277°32.81' | 14.5226° | 206°44.12' | S 8°11.84' | 14.4902' | 58.1535' | 124°16.93' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2477' | hp (π) 0.1489' | ½Ø 15.7594' | 61.7524712326921 7% -gib |
| | EoT at 12:00 UTC : -12m 2s (δ -0.60 s/h) | | Phase at 12:00 UTC : 256.53° | |
| | Meridian Pass. Time : 12:12:02.682 | | Age : 20.0 day(s) | |

| UT | Venus ♀ (π 0.49') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 201°13.27' | 282°04.52' | S 16°11.03' | 213°43.32' | 269°34.48' | S 23°49.91' | 145°43.43' | 337°34.36' | S 10°26.45' | 166°02.74' | 317°15.05' | S 17°16.49' | **00** |
| **01** | 216°16.31' | 282°03.94' | S 16°10.99' | 228°43.80' | 269°36.46' | S 23°49.95' | 160°45.37' | 337°34.89' | S 10°26.25' | 181°04.91' | 317°15.35' | S 17°16.41' | **01** |
| **02** | 231°19.35' | 282°03.37' | S 16°10.95' | 243°44.28' | 269°38.44' | S 23°49.98' | 175°47.30' | 337°35.42' | S 10°26.04' | 196°07.08' | 317°15.64' | S 17°16.33' | **02** |
| **03** | 246°22.39' | 282°02.80' | S 16°10.91' | 258°44.77' | 269°40.42' | S 23°50.01' | 190°49.24' | 337°35.94' | S 10°25.83' | 211°09.24' | 317°15.94' | S 17°16.24' | **03** |
| **04** | 261°25.42' | 282°02.23' | S 16°10.87' | 273°45.25' | 269°42.40' | S 23°50.05' | 205°51.18' | 337°36.47' | S 10°25.62' | 226°11.41' | 317°16.24' | S 17°16.16' | **04** |
| **05** | 276°28.44' | 282°01.67' | S 16°10.83' | 288°45.73' | 269°44.38' | S 23°50.08' | 220°53.11' | 337°37.00' | S 10°25.42' | 241°13.58' | 317°16.54' | S 17°16.07' | **05** |
| **06** | 291°31.46' | 282°01.11' | S 16°10.80' | 303°46.21' | 269°46.36' | S 23°50.11' | 235°55.05' | 337°37.53' | S 10°25.21' | 256°15.74' | 317°16.83' | S 17°15.99' | **06** |
| **07** | 306°34.48' | 282°00.56' | S 16°10.76' | 318°46.69' | 269°48.35' | S 23°50.15' | 250°56.98' | 337°38.06' | S 10°25.00' | 271°17.91' | 317°17.13' | S 17°15.90' | **07** |
| **08** | 321°37.49' | 282°00.01' | S 16°10.72' | 333°47.18' | 269°50.33' | S 23°50.18' | 265°58.92' | 337°38.59' | S 10°24.80' | 286°20.08' | 317°17.43' | S 17°15.82' | **08** |
| **09** | 336°40.50' | 281°59.47' | S 16°10.69' | 348°47.66' | 269°52.31' | S 23°50.21' | 281°00.85' | 337°39.12' | S 10°24.59' | 301°22.24' | 317°17.73' | S 17°15.73' | **09** |
| **10** | 351°43.50' | 281°58.93' | S 16°10.65' | 3°48.14' | 269°54.29' | S 23°50.24' | 296°02.79' | 337°39.65' | S 10°24.38' | 316°24.41' | 317°18.02' | S 17°15.65' | **10** |
| **11** | 6°46.50' | 281°58.40' | S 16°10.62' | 18°48.62' | 269°56.28' | S 23°50.27' | 311°04.72' | 337°40.18' | S 10°24.17' | 331°26.58' | 317°18.32' | S 17°15.56' | **11** |
| **12** | 21°49.49' | 281°57.87' | S 16°10.59' | 33°49.10' | 269°58.26' | S 23°50.30' | 326°06.66' | 337°40.70' | S 10°23.97' | 346°28.74' | 317°18.62' | S 17°15.48' | **12** |
| **13** | 36°52.48' | 281°57.35' | S 16°10.56' | 48°49.58' | 270°00.24' | S 23°50.33' | 341°08.59' | 337°41.23' | S 10°23.76' | 1°30.91' | 317°18.92' | S 17°15.40' | **13** |
| **14** | 51°55.46' | 281°56.83' | S 16°10.52' | 63°50.07' | 270°02.22' | S 23°50.36' | 356°10.53' | 337°41.76' | S 10°23.55' | 16°33.08' | 317°19.21' | S 17°15.31' | **14** |
| **15** | 66°58.44' | 281°56.31' | S 16°10.49' | 78°50.55' | 270°04.21' | S 23°50.39' | 11°12.46' | 337°42.29' | S 10°23.34' | 31°35.24' | 317°19.51' | S 17°15.23' | **15** |
| **16** | 82°01.42' | 281°55.80' | S 16°10.46' | 93°51.03' | 270°06.19' | S 23°50.42' | 26°14.40' | 337°42.82' | S 10°23.14' | 46°37.41' | 317°19.81' | S 17°15.14' | **16** |
| **17** | 97°04.39' | 281°55.29' | S 16°10.43' | 108°51.51' | 270°08.17' | S 23°50.45' | 41°16.33' | 337°43.35' | S 10°22.93' | 61°39.57' | 317°20.11' | S 17°15.06' | **17** |
| **18** | 112°07.35' | 281°54.79' | S 16°10.41' | 123°51.99' | 270°10.15' | S 23°50.47' | 56°18.26' | 337°43.88' | S 10°22.72' | 76°41.74' | 317°20.41' | S 17°14.97' | **18** |
| **19** | 127°10.32' | 281°54.29' | S 16°10.38' | 138°52.47' | 270°12.14' | S 23°50.50' | 71°20.20' | 337°44.41' | S 10°22.51' | 91°43.91' | 317°20.70' | S 17°14.89' | **19** |
| **20** | 142°13.27' | 281°53.80' | S 16°10.35' | 153°52.95' | 270°14.12' | S 23°50.53' | 86°22.13' | 337°44.94' | S 10°22.31' | 106°46.07' | 317°21.00' | S 17°14.80' | **20** |
| **21** | 157°16.22' | 281°53.31' | S 16°10.32' | 168°53.43' | 270°16.10' | S 23°50.55' | 101°24.07' | 337°45.47' | S 10°22.10' | 121°48.24' | 317°21.30' | S 17°14.72' | **21** |
| **22** | 172°19.17' | 281°52.83' | S 16°10.30' | 183°53.92' | 270°18.09' | S 23°50.58' | 116°26.00' | 337°46.00' | S 10°21.89' | 136°50.41' | 317°21.60' | S 17°14.63' | **22** |
| **23** | 187°22.11' | 281°52.35' | S 16°10.27' | 198°54.40' | 270°20.07' | S 23°50.61' | 131°27.94' | 337°46.53' | S 10°21.68' | 151°52.57' | 317°21.89' | S 17°14.55' | **23** |
| **24** | 202°25.05' | 281°51.88' | S 16°10.25' | 213°54.88' | 270°22.05' | S 23°50.63' | 146°29.87' | 337°47.06' | S 10°21.47' | 166°54.74' | 317°22.19' | S 17°14.46' | **24** |
| | δ 15.0507° | | *d* 0.0410' | δ 15.0080° | | *d* 0.0347' | δ 15.0323° | | *d* 0.2069' | δ 15.0361° | | *d* 0.0844' | |

## *Tuesday, January 25th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°57.56' | 14.9976° | 307°19.37' | S 19°01.30' | 0.6127' | 277°32.81' | 14.5226° | 206°44.12' | S 8°11.84' | 14.4902' | 58.1535' | 124°16.93' | **00** |
| **01** | 191°57.41' | 14.9976° | 307°21.98' | S 19°00.68' | 0.6133' | 292°04.10' | 14.5215° | 207°15.30' | S 8°26.30' | 14.4633' | 58.1801' | 139°19.39' | **01** |
| **02** | 206°57.27' | 14.9976° | 307°24.59' | S 19°00.07' | 0.6139' | 306°35.32' | 14.5204° | 207°46.54' | S 8°40.74' | 14.4351' | 58.2067' | 154°21.86' | **02** |
| **03** | 221°57.12' | 14.9976° | 307°27.20' | S 18°59.45' | 0.6145' | 321°06.48' | 14.5193° | 208°17.84' | S 8°55.14' | 14.4056' | 58.2334' | 169°24.32' | **03** |
| **04** | 236°56.98' | 14.9976° | 307°29.81' | S 18°58.84' | 0.6151' | 335°37.57' | 14.5181° | 208°49.22' | S 9°09.52' | 14.3748' | 58.2600' | 184°26.79' | **04** |
| **05** | 251°56.83' | 14.9976° | 307°32.42' | S 18°58.22' | 0.6157' | 350°08.58' | 14.5169° | 209°20.67' | S 9°23.86' | 14.3426' | 58.2867' | 199°29.25' | **05** |
| **06** | 266°56.69' | 14.9976° | 307°35.02' | S 18°57.61' | 0.6163' | 4°39.53' | 14.5158° | 209°52.19' | S 9°38.17' | 14.3090' | 58.3133' | 214°31.71' | **06** |
| **07** | 281°56.55' | 14.9976° | 307°37.63' | S 18°56.99' | 0.6169' | 19°10.40' | 14.5145° | 210°23.78' | S 9°52.44' | 14.2741' | 58.3400' | 229°34.18' | **07** |
| **08** | 296°56.40' | 14.9976° | 307°40.24' | S 18°56.37' | 0.6175' | 33°41.20' | 14.5133° | 210°55.44' | S 10°06.68' | 14.2378' | 58.3667' | 244°36.64' | **08** |
| **09** | 311°56.26' | 14.9976° | 307°42.85' | S 18°55.75' | 0.6181' | 48°11.92' | 14.5120° | 211°27.18' | S 10°20.88' | 14.2001' | 58.3934' | 259°39.11' | **09** |
| **10** | 326°56.12' | 14.9976° | 307°45.45' | S 18°55.13' | 0.6188' | 62°42.57' | 14.5108° | 211°59.00' | S 10°35.04' | 14.1610' | 58.4201' | 274°41.57' | **10** |
| **11** | 341°55.98' | 14.9976° | 307°48.06' | S 18°54.52' | 0.6194' | 77°13.14' | 14.5095° | 212°30.90' | S 10°49.16' | 14.1205' | 58.4468' | 289°44.04' | **11** |
| **12** | 356°55.84' | 14.9976° | 307°50.66' | S 18°53.90' | 0.6200' | 91°43.63' | 14.5082° | 213°02.87' | S 11°03.24' | 14.0786' | 58.4734' | 304°46.50' | **12** |
| **13** | 11°55.69' | 14.9976° | 307°53.27' | S 18°53.27' | 0.6206' | 106°14.04' | 14.5068° | 213°34.93' | S 11°17.28' | 14.0352' | 58.5001' | 319°48.96' | **13** |
| **14** | 26°55.55' | 14.9976° | 307°55.87' | S 18°52.65' | 0.6212' | 120°44.36' | 14.5055° | 214°07.06' | S 11°31.27' | 13.9904' | 58.5268' | 334°51.43' | **14** |
| **15** | 41°55.41' | 14.9977° | 307°58.48' | S 18°52.03' | 0.6218' | 135°14.61' | 14.5041° | 214°39.28' | S 11°45.21' | 13.9442' | 58.5534' | 349°53.89' | **15** |
| **16** | 56°55.27' | 14.9977° | 308°01.08' | S 18°51.41' | 0.6224' | 149°44.77' | 14.5027° | 215°11.59' | S 11°59.11' | 13.8964' | 58.5801' | 4°56.36' | **16** |
| **17** | 71°55.13' | 14.9977° | 308°03.69' | S 18°50.79' | 0.6230' | 164°14.85' | 14.5013° | 215°43.97' | S 12°12.95' | 13.8472' | 58.6067' | 19°58.82' | **17** |
| **18** | 86°54.99' | 14.9977° | 308°06.29' | S 18°50.16' | 0.6236' | 178°44.84' | 14.4998° | 216°16.45' | S 12°26.75' | 13.7965' | 58.6333' | 35°01.28' | **18** |
| **19** | 101°54.85' | 14.9977° | 308°08.90' | S 18°49.54' | 0.6242' | 193°14.74' | 14.4984° | 216°49.01' | S 12°40.49' | 13.7443' | 58.6598' | 50°03.75' | **19** |
| **20** | 116°54.71' | 14.9977° | 308°11.50' | S 18°48.91' | 0.6248' | 207°44.56' | 14.4969° | 217°21.65' | S 12°54.18' | 13.6906' | 58.6863' | 65°06.21' | **20** |
| **21** | 131°54.57' | 14.9977° | 308°14.10' | S 18°48.29' | 0.6254' | 222°14.28' | 14.4954° | 217°54.39' | S 13°07.82' | 13.6353' | 58.7128' | 80°08.68' | **21** |
| **22** | 146°54.44' | 14.9977° | 308°16.70' | S 18°47.66' | 0.6260' | 236°43.92' | 14.4939° | 218°27.22' | S 13°21.40' | 13.5785' | 58.7393' | 95°11.14' | **22** |
| **23** | 161°54.30' | 14.9977° | 308°19.31' | S 18°47.04' | 0.6266' | 251°13.46' | 14.4924° | 219°00.14' | S 13°34.92' | 13.5202' | 58.7657' | 110°13.60' | **23** |
| **24** | 176°54.16' | 14.9977° | 308°21.91' | S 18°46.41' | 0.6272' | 265°42.92' | 14.4909° | 219°33.15' | S 13°48.38' | 13.4603' | 58.7921' | 125°16.07' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2458' | hp (π) 0.1489' | ½Ø 15.9329' | 50.9043521051927<br>4% -gib |
| | EoT at 12:00 UTC : -12m 16s (δ -0.57 s/h) | | Phase at 12:00 UTC : 269.11° | |
| | Meridian Pass. Time : 12:12:16.658 | | Age : 20.9 day(s) | |

| UT | Venus ♀ (π 0.48') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 202°25.05' | 281°51.88' | S 16°10.25' | 213°54.88' | 270°22.05' | S 23°50.63' | 146°29.87' | 337°47.06' | S 10°21.47' | 166°54.74' | 317°22.19' | S 17°14.46' | **00** |
| **01** | 217°27.99' | 281°51.41' | S 16°10.23' | 228°55.36' | 270°24.04' | S 23°50.66' | 161°31.80' | 337°47.59' | S 10°21.27' | 181°56.90' | 317°22.49' | S 17°14.38' | **01** |
| **02** | 232°30.92' | 281°50.94' | S 16°10.20' | 243°55.84' | 270°26.02' | S 23°50.68' | 176°33.74' | 337°48.12' | S 10°21.06' | 196°59.07' | 317°22.79' | S 17°14.29' | **02** |
| **03** | 247°33.84' | 281°50.48' | S 16°10.18' | 258°56.32' | 270°28.00' | S 23°50.70' | 191°35.67' | 337°48.65' | S 10°20.85' | 212°01.24' | 317°23.09' | S 17°14.21' | **03** |
| **04** | 262°36.76' | 281°50.03' | S 16°10.16' | 273°56.80' | 270°29.99' | S 23°50.73' | 206°37.60' | 337°49.18' | S 10°20.64' | 227°03.40' | 317°23.38' | S 17°14.13' | **04** |
| **05** | 277°39.68' | 281°49.57' | S 16°10.14' | 288°57.28' | 270°31.97' | S 23°50.75' | 221°39.54' | 337°49.71' | S 10°20.43' | 242°05.57' | 317°23.68' | S 17°14.04' | **05** |
| **06** | 292°42.59' | 281°49.13' | S 16°10.12' | 303°57.76' | 270°33.96' | S 23°50.77' | 236°41.47' | 337°50.24' | S 10°20.22' | 257°07.73' | 317°23.98' | S 17°13.96' | **06** |
| **07** | 307°45.49' | 281°48.69' | S 16°10.10' | 318°58.24' | 270°35.94' | S 23°50.80' | 251°43.40' | 337°50.77' | S 10°20.02' | 272°09.90' | 317°24.28' | S 17°13.87' | **07** |
| **08** | 322°48.39' | 281°48.25' | S 16°10.08' | 333°58.72' | 270°37.92' | S 23°50.82' | 266°45.34' | 337°51.31' | S 10°19.81' | 287°12.07' | 317°24.58' | S 17°13.79' | **08** |
| **09** | 337°51.29' | 281°47.82' | S 16°10.07' | 348°59.20' | 270°39.91' | S 23°50.84' | 281°47.27' | 337°51.84' | S 10°19.60' | 302°14.23' | 317°24.88' | S 17°13.70' | **09** |
| **10** | 352°54.18' | 281°47.39' | S 16°10.05' | 3°59.68' | 270°41.89' | S 23°50.86' | 296°49.20' | 337°52.37' | S 10°19.39' | 317°16.40' | 317°25.17' | S 17°13.62' | **10** |
| **11** | 7°57.07' | 281°46.96' | S 16°10.03' | 19°00.16' | 270°43.88' | S 23°50.88' | 311°51.14' | 337°52.90' | S 10°19.18' | 332°18.56' | 317°25.47' | S 17°13.53' | **11** |
| **12** | 22°59.96' | 281°46.54' | S 16°10.02' | 34°00.64' | 270°45.86' | S 23°50.90' | 326°53.07' | 337°53.43' | S 10°18.97' | 347°20.73' | 317°25.77' | S 17°13.45' | **12** |
| **13** | 38°02.83' | 281°46.13' | S 16°10.00' | 49°01.12' | 270°47.85' | S 23°50.92' | 341°55.00' | 337°53.96' | S 10°18.77' | 2°22.90' | 317°26.07' | S 17°13.36' | **13** |
| **14** | 53°05.71' | 281°45.72' | S 16°09.99' | 64°01.60' | 270°49.83' | S 23°50.94' | 356°56.94' | 337°54.49' | S 10°18.56' | 17°25.06' | 317°26.37' | S 17°13.28' | **14** |
| **15** | 68°08.58' | 281°45.31' | S 16°09.97' | 79°02.08' | 270°51.82' | S 23°50.96' | 11°58.87' | 337°55.02' | S 10°18.35' | 32°27.23' | 317°26.66' | S 17°13.19' | **15** |
| **16** | 83°11.44' | 281°44.91' | S 16°09.96' | 94°02.56' | 270°53.80' | S 23°50.98' | 27°00.80' | 337°55.55' | S 10°18.14' | 47°29.39' | 317°26.96' | S 17°13.11' | **16** |
| **17** | 98°14.30' | 281°44.52' | S 16°09.95' | 109°03.03' | 270°55.79' | S 23°51.00' | 42°02.73' | 337°56.09' | S 10°17.93' | 62°31.56' | 317°27.26' | S 17°13.02' | **17** |
| **18** | 113°17.16' | 281°44.12' | S 16°09.94' | 124°03.51' | 270°57.77' | S 23°51.02' | 57°04.67' | 337°56.62' | S 10°17.72' | 77°33.72' | 317°27.56' | S 17°12.94' | **18** |
| **19** | 128°20.01' | 281°43.74' | S 16°09.93' | 139°03.99' | 270°59.76' | S 23°51.03' | 72°06.60' | 337°57.15' | S 10°17.51' | 92°35.89' | 317°27.86' | S 17°12.85' | **19** |
| **20** | 143°22.86' | 281°43.35' | S 16°09.92' | 154°04.47' | 271°01.74' | S 23°51.05' | 87°08.53' | 337°57.68' | S 10°17.30' | 107°38.06' | 317°28.16' | S 17°12.77' | **20** |
| **21** | 158°25.70' | 281°42.98' | S 16°09.91' | 169°04.95' | 271°03.73' | S 23°51.07' | 102°10.46' | 337°58.21' | S 10°17.10' | 122°40.22' | 317°28.45' | S 17°12.68' | **21** |
| **22** | 173°28.54' | 281°42.60' | S 16°09.90' | 184°05.43' | 271°05.71' | S 23°51.08' | 117°12.40' | 337°58.75' | S 10°16.89' | 137°42.39' | 317°28.75' | S 17°12.60' | **22** |
| **23** | 188°31.37' | 281°42.23' | S 16°09.89' | 199°05.91' | 271°07.70' | S 23°51.10' | 132°14.33' | 337°59.28' | S 10°16.68' | 152°44.55' | 317°29.05' | S 17°12.51' | **23** |
| **24** | 203°34.20' | 281°41.87' | S 16°09.88' | 214°06.39' | 271°09.68' | S 23°51.11' | 147°16.26' | 337°59.81' | S 10°16.47' | 167°46.72' | 317°29.35' | S 17°12.43' | **24** |
| | δ 15.0489° | | *d* 0.0234' | δ 15.0080° | | *d* 0.0248' | δ 15.0322° | | *d* 0.2080' | δ 15.0361° | | *d* 0.0847' | |

## *Wednesday, January 26th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°54.16' | 14.9977° | 308°21.91' | S 18°46.41' | 0.6272' | 265°42.92' | 14.4909° | 219°33.15' | S 13°48.38' | 13.4603' | 58.7921' | 125°16.07' | **00** |
| **01** | 191°54.02' | 14.9977° | 308°24.51' | S 18°45.78' | 0.6277' | 280°12.28' | 14.4893° | 220°06.26' | S 14°01.78' | 13.3988' | 58.8185' | 140°18.53' | **01** |
| **02** | 206°53.89' | 14.9977° | 308°27.11' | S 18°45.15' | 0.6283' | 294°41.54' | 14.4877° | 220°39.46' | S 14°15.11' | 13.3357' | 58.8448' | 155°21.00' | **02** |
| **03** | 221°53.75' | 14.9977° | 308°29.71' | S 18°44.52' | 0.6289' | 309°10.71' | 14.4861° | 221°12.75' | S 14°28.38' | 13.2710' | 58.8710' | 170°23.46' | **03** |
| **04** | 236°53.61' | 14.9977° | 308°32.31' | S 18°43.89' | 0.6295' | 323°39.78' | 14.4845° | 221°46.15' | S 14°41.59' | 13.2047' | 58.8972' | 185°25.93' | **04** |
| **05** | 251°53.48' | 14.9977° | 308°34.91' | S 18°43.26' | 0.6301' | 338°08.75' | 14.4829° | 222°19.64' | S 14°54.73' | 13.1368' | 58.9233' | 200°28.39' | **05** |
| **06** | 266°53.34' | 14.9977° | 308°37.51' | S 18°42.63' | 0.6307' | 352°37.63' | 14.4813° | 222°53.22' | S 15°07.79' | 13.0673' | 58.9494' | 215°30.85' | **06** |
| **07** | 281°53.21' | 14.9977° | 308°40.11' | S 18°42.00' | 0.6313' | 7°06.41' | 14.4796° | 223°26.91' | S 15°20.79' | 12.9961' | 58.9754' | 230°33.32' | **07** |
| **08** | 296°53.07' | 14.9978° | 308°42.71' | S 18°41.37' | 0.6319' | 21°35.08' | 14.4779° | 224°00.70' | S 15°33.71' | 12.9233' | 59.0013' | 245°35.78' | **08** |
| **09** | 311°52.94' | 14.9978° | 308°45.31' | S 18°40.74' | 0.6325' | 36°03.66' | 14.4762° | 224°34.59' | S 15°46.56' | 12.8488' | 59.0272' | 260°38.25' | **09** |
| **10** | 326°52.80' | 14.9978° | 308°47.91' | S 18°40.10' | 0.6331' | 50°32.13' | 14.4745° | 225°08.58' | S 15°59.33' | 12.7726' | 59.0530' | 275°40.71' | **10** |
| **11** | 341°52.67' | 14.9978° | 308°50.51' | S 18°39.47' | 0.6337' | 65°00.50' | 14.4728° | 225°42.68' | S 16°12.03' | 12.6947' | 59.0787' | 290°43.17' | **11** |
| **12** | 356°52.53' | 14.9978° | 308°53.10' | S 18°38.84' | 0.6343' | 79°28.76' | 14.4711° | 226°16.87' | S 16°24.64' | 12.6152' | 59.1043' | 305°45.64' | **12** |
| **13** | 11°52.40' | 14.9978° | 308°55.70' | S 18°38.20' | 0.6349' | 93°56.93' | 14.4694° | 226°51.18' | S 16°37.18' | 12.5339' | 59.1299' | 320°48.10' | **13** |
| **14** | 26°52.27' | 14.9978° | 308°58.30' | S 18°37.57' | 0.6355' | 108°24.98' | 14.4676° | 227°25.58' | S 16°49.63' | 12.4509' | 59.1553' | 335°50.57' | **14** |
| **15** | 41°52.14' | 14.9978° | 309°00.89' | S 18°36.93' | 0.6361' | 122°52.93' | 14.4658° | 228°00.10' | S 17°02.00' | 12.3662' | 59.1806' | 350°53.03' | **15** |
| **16** | 56°52.00' | 14.9978° | 309°03.49' | S 18°36.29' | 0.6366' | 137°20.78' | 14.4641° | 228°34.72' | S 17°14.27' | 12.2797' | 59.2059' | 5°55.49' | **16** |
| **17** | 71°51.87' | 14.9978° | 309°06.09' | S 18°35.66' | 0.6372' | 151°48.51' | 14.4623° | 229°09.45' | S 17°26.47' | 12.1915' | 59.2310' | 20°57.96' | **17** |
| **18** | 86°51.74' | 14.9978° | 309°08.68' | S 18°35.02' | 0.6378' | 166°16.14' | 14.4605° | 229°44.28' | S 17°38.57' | 12.1016' | 59.2561' | 36°00.42' | **18** |
| **19** | 101°51.61' | 14.9978° | 309°11.28' | S 18°34.38' | 0.6384' | 180°43.66' | 14.4587° | 230°19.23' | S 17°50.58' | 12.0098' | 59.2810' | 51°02.89' | **19** |
| **20** | 116°51.48' | 14.9978° | 309°13.87' | S 18°33.74' | 0.6390' | 195°11.07' | 14.4568° | 230°54.28' | S 18°02.49' | 11.9163' | 59.3058' | 66°05.35' | **20** |
| **21** | 131°51.35' | 14.9978° | 309°16.47' | S 18°33.10' | 0.6396' | 209°38.37' | 14.4550° | 231°29.45' | S 18°14.32' | 11.8211' | 59.3305' | 81°07.82' | **21** |
| **22** | 146°51.22' | 14.9978° | 309°19.06' | S 18°32.46' | 0.6402' | 224°05.56' | 14.4532° | 232°04.72' | S 18°26.04' | 11.7240' | 59.3551' | 96°10.28' | **22** |
| **23** | 161°51.09' | 14.9978° | 309°21.66' | S 18°31.82' | 0.6408' | 238°32.64' | 14.4513° | 232°40.11' | S 18°37.66' | 11.6252' | 59.3795' | 111°12.74' | **23** |
| **24** | 176°50.96' | 14.9978° | 309°24.25' | S 18°31.18' | 0.6413' | 252°59.61' | 14.4495° | 233°15.60' | S 18°49.19' | 11.5245' | 59.4038' | 126°15.21' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 16.2439' | hp (π) 0.1489' | ½Ø 16.1048' | 39.7537923840384<br>4% -cre | |
| | EoT at 12:00 UTC : -12m 29s (δ -0.53 s/h) | | Phase at 12:00 UTC : 281.97° | | |
| | Meridian Pass. Time : 12:12:29.860 | | Age : 21.9 day(s) | | |

| UT | Venus ♀ (π 0.47') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 203°34.20' | 281°41.87' | S 16°09.88' | 214°06.39' | 271°09.68' | S 23°51.11' | 147°16.26' | 337°59.81' | S 10°16.47' | 167°46.72' | 317°29.35' | S 17°12.43' | **00** |
| **01** | 218°37.02' | 281°41.51' | S 16°09.88' | 229°06.87' | 271°11.67' | S 23°51.13' | 162°18.19' | 338°00.34' | S 10°16.26' | 182°48.88' | 317°29.65' | S 17°12.34' | **01** |
| **02** | 233°39.84' | 281°41.16' | S 16°09.87' | 244°07.34' | 271°13.65' | S 23°51.14' | 177°20.12' | 338°00.87' | S 10°16.05' | 197°51.05' | 317°29.95' | S 17°12.26' | **02** |
| **03** | 248°42.66' | 281°40.81' | S 16°09.87' | 259°07.82' | 271°15.64' | S 23°51.16' | 192°22.05' | 338°01.41' | S 10°15.84' | 212°53.22' | 317°30.25' | S 17°12.17' | **03** |
| **04** | 263°45.47' | 281°40.46' | S 16°09.86' | 274°08.30' | 271°17.62' | S 23°51.17' | 207°23.99' | 338°01.94' | S 10°15.63' | 227°55.38' | 317°30.54' | S 17°12.09' | **04** |
| **05** | 278°48.27' | 281°40.12' | S 16°09.86' | 289°08.78' | 271°19.61' | S 23°51.18' | 222°25.92' | 338°02.47' | S 10°15.42' | 242°57.55' | 317°30.84' | S 17°12.00' | **05** |
| **06** | 293°51.07' | 281°39.78' | S 16°09.85' | 304°09.26' | 271°21.60' | S 23°51.20' | 237°27.85' | 338°03.00' | S 10°15.21' | 257°59.71' | 317°31.14' | S 17°11.92' | **06** |
| **07** | 308°53.87' | 281°39.45' | S 16°09.85' | 319°09.74' | 271°23.58' | S 23°51.21' | 252°29.78' | 338°03.54' | S 10°15.00' | 273°01.88' | 317°31.44' | S 17°11.83' | **07** |
| **08** | 323°56.66' | 281°39.12' | S 16°09.85' | 334°10.21' | 271°25.57' | S 23°51.22' | 267°31.71' | 338°04.07' | S 10°14.79' | 288°04.04' | 317°31.74' | S 17°11.75' | **08** |
| **09** | 338°59.45' | 281°38.80' | S 16°09.85' | 349°10.69' | 271°27.55' | S 23°51.23' | 282°33.64' | 338°04.60' | S 10°14.58' | 303°06.21' | 317°32.04' | S 17°11.66' | **09** |
| **10** | 354°02.23' | 281°38.48' | S 16°09.85' | 4°11.17' | 271°29.54' | S 23°51.24' | 297°35.58' | 338°05.13' | S 10°14.38' | 318°08.37' | 317°32.34' | S 17°11.58' | **10** |
| **11** | 9°05.01' | 281°38.17' | S 16°09.85' | 19°11.65' | 271°31.53' | S 23°51.25' | 312°37.51' | 338°05.67' | S 10°14.17' | 333°10.54' | 317°32.63' | S 17°11.49' | **11** |
| **12** | 24°07.78' | 281°37.86' | S 16°09.85' | 34°12.13' | 271°33.51' | S 23°51.26' | 327°39.44' | 338°06.20' | S 10°13.96' | 348°12.71' | 317°32.93' | S 17°11.41' | **12** |
| **13** | 39°10.55' | 281°37.55' | S 16°09.85' | 49°12.60' | 271°35.50' | S 23°51.27' | 342°41.37' | 338°06.73' | S 10°13.75' | 3°14.87' | 317°33.23' | S 17°11.32' | **13** |
| **14** | 54°13.31' | 281°37.25' | S 16°09.85' | 64°13.08' | 271°37.49' | S 23°51.28' | 357°43.30' | 338°07.27' | S 10°13.54' | 18°17.04' | 317°33.53' | S 17°11.24' | **14** |
| **15** | 69°16.07' | 281°36.96' | S 16°09.85' | 79°13.56' | 271°39.47' | S 23°51.29' | 12°45.23' | 338°07.80' | S 10°13.33' | 33°19.20' | 317°33.83' | S 17°11.15' | **15** |
| **16** | 84°18.83' | 281°36.67' | S 16°09.86' | 94°14.04' | 271°41.46' | S 23°51.30' | 27°47.16' | 338°08.33' | S 10°13.12' | 48°21.37' | 317°34.13' | S 17°11.07' | **16** |
| **17** | 99°21.58' | 281°36.38' | S 16°09.86' | 109°14.51' | 271°43.45' | S 23°51.31' | 42°49.09' | 338°08.87' | S 10°12.91' | 63°23.53' | 317°34.43' | S 17°10.98' | **17** |
| **18** | 114°24.33' | 281°36.10' | S 16°09.86' | 124°14.99' | 271°45.43' | S 23°51.32' | 57°51.02' | 338°09.40' | S 10°12.70' | 78°25.70' | 317°34.72' | S 17°10.89' | **18** |
| **19** | 129°27.07' | 281°35.82' | S 16°09.87' | 139°15.47' | 271°47.42' | S 23°51.33' | 72°52.95' | 338°09.93' | S 10°12.49' | 93°27.86' | 317°35.02' | S 17°10.81' | **19** |
| **20** | 144°29.80' | 281°35.55' | S 16°09.88' | 154°15.94' | 271°49.41' | S 23°51.33' | 87°54.88' | 338°10.47' | S 10°12.28' | 108°30.03' | 317°35.32' | S 17°10.72' | **20** |
| **21** | 159°32.54' | 281°35.28' | S 16°09.88' | 169°16.42' | 271°51.39' | S 23°51.34' | 102°56.81' | 338°11.00' | S 10°12.07' | 123°32.19' | 317°35.62' | S 17°10.64' | **21** |
| **22** | 174°35.26' | 281°35.02' | S 16°09.89' | 184°16.90' | 271°53.38' | S 23°51.35' | 117°58.74' | 338°11.54' | S 10°11.86' | 138°34.36' | 317°35.92' | S 17°10.55' | **22** |
| **23** | 189°37.99' | 281°34.76' | S 16°09.90' | 199°17.38' | 271°55.37' | S 23°51.35' | 133°00.67' | 338°12.07' | S 10°11.65' | 153°36.53' | 317°36.22' | S 17°10.47' | **23** |
| **24** | 204°40.71' | 281°34.50' | S 16°09.91' | 214°17.85' | 271°57.36' | S 23°51.36' | 148°02.60' | 338°12.60' | S 10°11.44' | 168°38.69' | 317°36.52' | S 17°10.38' | **24** |
| | δ 15.0471° | | *d* 0.0067' | δ 15.0080° | | *d* 0.0149' | δ 15.0322° | | *d* 0.2091' | δ 15.0361° | | *d* 0.0850' | |

## *Thursday, January 27th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°50.96' | 14.9978° | 309°24.25' | S 18°31.18' | 0.6413' | 252°59.61' | 14.4495° | 233°15.60' | S 18°49.19' | 11.5245' | 59.4038' | 126°15.21' | **00** |
| **01** | 191°50.83' | 14.9978° | 309°26.84' | S 18°30.54' | 0.6419' | 267°26.46' | 14.4476° | 233°51.21' | S 19°00.61' | 11.4220' | 59.4280' | 141°17.67' | **01** |
| **02** | 206°50.70' | 14.9979° | 309°29.44' | S 18°29.90' | 0.6425' | 281°53.21' | 14.4457° | 234°26.93' | S 19°11.93' | 11.3178' | 59.4520' | 156°20.14' | **02** |
| **03** | 221°50.57' | 14.9979° | 309°32.03' | S 18°29.25' | 0.6431' | 296°19.84' | 14.4439° | 235°02.76' | S 19°23.14' | 11.2117' | 59.4759' | 171°22.60' | **03** |
| **04** | 236°50.44' | 14.9979° | 309°34.62' | S 18°28.61' | 0.6437' | 310°46.36' | 14.4420° | 235°38.71' | S 19°34.24' | 11.1037' | 59.4997' | 186°25.06' | **04** |
| **05** | 251°50.32' | 14.9979° | 309°37.21' | S 18°27.96' | 0.6443' | 325°12.77' | 14.4401° | 236°14.76' | S 19°45.24' | 10.9940' | 59.5233' | 201°27.53' | **05** |
| **06** | 266°50.19' | 14.9979° | 309°39.81' | S 18°27.32' | 0.6449' | 339°39.06' | 14.4382° | 236°50.93' | S 19°56.12' | 10.8824' | 59.5467' | 216°29.99' | **06** |
| **07** | 281°50.06' | 14.9979° | 309°42.40' | S 18°26.67' | 0.6454' | 354°05.24' | 14.4363° | 237°27.22' | S 20°06.89' | 10.7690' | 59.5700' | 231°32.46' | **07** |
| **08** | 296°49.93' | 14.9979° | 309°44.99' | S 18°26.03' | 0.6460' | 8°31.31' | 14.4345° | 238°03.61' | S 20°17.54' | 10.6537' | 59.5931' | 246°34.92' | **08** |
| **09** | 311°49.81' | 14.9979° | 309°47.58' | S 18°25.38' | 0.6466' | 22°57.26' | 14.4326° | 238°40.12' | S 20°28.08' | 10.5366' | 59.6160' | 261°37.39' | **09** |
| **10** | 326°49.68' | 14.9979° | 309°50.17' | S 18°24.73' | 0.6472' | 37°23.10' | 14.4307° | 239°16.75' | S 20°38.50' | 10.4177' | 59.6387' | 276°39.85' | **10** |
| **11** | 341°49.56' | 14.9979° | 309°52.76' | S 18°24.09' | 0.6478' | 51°48.83' | 14.4288° | 239°53.49' | S 20°48.79' | 10.2969' | 59.6613' | 291°42.31' | **11** |
| **12** | 356°49.43' | 14.9979° | 309°55.35' | S 18°23.44' | 0.6483' | 66°14.44' | 14.4269° | 240°30.34' | S 20°58.97' | 10.1743' | 59.6837' | 306°44.78' | **12** |
| **13** | 11°49.30' | 14.9979° | 309°57.94' | S 18°22.79' | 0.6489' | 80°39.94' | 14.4250° | 241°07.30' | S 21°09.02' | 10.0498' | 59.7059' | 321°47.24' | **13** |
| **14** | 26°49.18' | 14.9979° | 310°00.53' | S 18°22.14' | 0.6495' | 95°05.33' | 14.4231° | 241°44.38' | S 21°18.94' | 9.9235' | 59.7279' | 336°49.71' | **14** |
| **15** | 41°49.06' | 14.9979° | 310°03.12' | S 18°21.49' | 0.6501' | 109°30.61' | 14.4212° | 242°21.57' | S 21°28.74' | 9.7954' | 59.7497' | 351°52.17' | **15** |
| **16** | 56°48.93' | 14.9979° | 310°05.70' | S 18°20.84' | 0.6507' | 123°55.77' | 14.4194° | 242°58.87' | S 21°38.40' | 9.6654' | 59.7713' | 6°54.63' | **16** |
| **17** | 71°48.81' | 14.9979° | 310°08.29' | S 18°20.19' | 0.6512' | 138°20.82' | 14.4175° | 243°36.28' | S 21°47.94' | 9.5336' | 59.7927' | 21°57.10' | **17** |
| **18** | 86°48.68' | 14.9979° | 310°10.88' | S 18°19.54' | 0.6518' | 152°45.76' | 14.4156° | 244°13.81' | S 21°57.34' | 9.4000' | 59.8139' | 36°59.56' | **18** |
| **19** | 101°48.56' | 14.9979° | 310°13.47' | S 18°18.88' | 0.6524' | 167°10.58' | 14.4138° | 244°51.44' | S 22°06.60' | 9.2645' | 59.8349' | 52°02.03' | **19** |
| **20** | 116°48.44' | 14.9980° | 310°16.05' | S 18°18.23' | 0.6530' | 181°35.30' | 14.4119° | 245°29.19' | S 22°15.73' | 9.1273' | 59.8556' | 67°04.49' | **20** |
| **21** | 131°48.32' | 14.9980° | 310°18.64' | S 18°17.58' | 0.6535' | 195°59.91' | 14.4101° | 246°07.05' | S 22°24.72' | 8.9882' | 59.8761' | 82°06.96' | **21** |
| **22** | 146°48.19' | 14.9980° | 310°21.23' | S 18°16.92' | 0.6541' | 210°24.40' | 14.4083° | 246°45.02' | S 22°33.56' | 8.8473' | 59.8964' | 97°09.42' | **22** |
| **23** | 161°48.07' | 14.9980° | 310°23.81' | S 18°16.27' | 0.6547' | 224°48.79' | 14.4065° | 247°23.09' | S 22°42.27' | 8.7046' | 59.9165' | 112°11.88' | **23** |
| **24** | 176°47.95' | 14.9980° | 310°26.40' | S 18°15.61' | 0.6553' | 239°13.07' | 14.4047° | 248°01.28' | S 22°50.83' | 8.5602' | 59.9363' | 127°14.35' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2419' | hp (π) 0.1488' | ½Ø 16.2626' | 28.8792583308400<br>03% -cre |
| | EoT at 12:00 UTC : -12m 42s (δ -0.50 s/h) | | Phase at 12:00 UTC : 295.12° | |
| | Meridian Pass. Time : 12:12:42.281 | | Age : 23.0 day(s) | |

| UT | Venus ♀ (π 0.47') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 204°40.71' | 281°34.50' | S 16°09.91' | 214°17.85' | 271°57.36' | S 23°51.36' | 148°02.60' | 338°12.60' | S 10°11.44' | 168°38.69' | 317°36.52' | S 17°10.38' | **00** |
| **01** | 219°43.42' | 281°34.25' | S 16°09.91' | 229°18.33' | 271°59.34' | S 23°51.36' | 163°04.53' | 338°13.14' | S 10°11.23' | 183°40.86' | 317°36.82' | S 17°10.30' | **01** |
| **02** | 234°46.13' | 281°34.01' | S 16°09.92' | 244°18.81' | 272°01.33' | S 23°51.37' | 178°06.46' | 338°13.67' | S 10°11.02' | 198°43.02' | 317°37.12' | S 17°10.21' | **02** |
| **03** | 249°48.83' | 281°33.77' | S 16°09.94' | 259°19.28' | 272°03.32' | S 23°51.37' | 193°08.39' | 338°14.21' | S 10°10.81' | 213°45.19' | 317°37.41' | S 17°10.13' | **03** |
| **04** | 264°51.53' | 281°33.53' | S 16°09.95' | 274°19.76' | 272°05.31' | S 23°51.37' | 208°10.32' | 338°14.74' | S 10°10.60' | 228°47.35' | 317°37.71' | S 17°10.04' | **04** |
| **05** | 279°54.23' | 281°33.30' | S 16°09.96' | 289°20.24' | 272°07.29' | S 23°51.38' | 223°12.25' | 338°15.27' | S 10°10.39' | 243°49.52' | 317°38.01' | S 17°09.96' | **05** |
| **06** | 294°56.92' | 281°33.07' | S 16°09.97' | 304°20.71' | 272°09.28' | S 23°51.38' | 238°14.18' | 338°15.81' | S 10°10.18' | 258°51.68' | 317°38.31' | S 17°09.87' | **06** |
| **07** | 309°59.61' | 281°32.85' | S 16°09.98' | 319°21.19' | 272°11.27' | S 23°51.38' | 253°16.11' | 338°16.34' | S 10°09.97' | 273°53.85' | 317°38.61' | S 17°09.79' | **07** |
| **08** | 325°02.29' | 281°32.63' | S 16°10.00' | 334°21.66' | 272°13.26' | S 23°51.38' | 268°18.04' | 338°16.88' | S 10°09.75' | 288°56.01' | 317°38.91' | S 17°09.70' | **08** |
| **09** | 340°04.97' | 281°32.42' | S 16°10.01' | 349°22.14' | 272°15.25' | S 23°51.39' | 283°19.97' | 338°17.41' | S 10°09.54' | 303°58.18' | 317°39.21' | S 17°09.62' | **09** |
| **10** | 355°07.64' | 281°32.21' | S 16°10.02' | 4°22.62' | 272°17.23' | S 23°51.39' | 298°21.90' | 338°17.95' | S 10°09.33' | 319°00.34' | 317°39.51' | S 17°09.53' | **10** |
| **11** | 10°10.31' | 281°32.01' | S 16°10.04' | 19°23.09' | 272°19.22' | S 23°51.39' | 313°23.83' | 338°18.48' | S 10°09.12' | 334°02.51' | 317°39.81' | S 17°09.44' | **11** |
| **12** | 25°12.97' | 281°31.81' | S 16°10.06' | 34°23.57' | 272°21.21' | S 23°51.39' | 328°25.76' | 338°19.02' | S 10°08.91' | 349°04.67' | 317°40.11' | S 17°09.36' | **12** |
| **13** | 40°15.63' | 281°31.61' | S 16°10.07' | 49°24.04' | 272°23.20' | S 23°51.39' | 343°27.69' | 338°19.55' | S 10°08.70' | 4°06.84' | 317°40.40' | S 17°09.27' | **13** |
| **14** | 55°18.29' | 281°31.42' | S 16°10.09' | 64°24.52' | 272°25.19' | S 23°51.39' | 358°29.62' | 338°20.09' | S 10°08.49' | 19°09.00' | 317°40.70' | S 17°09.19' | **14** |
| **15** | 70°20.94' | 281°31.23' | S 16°10.11' | 79°25.00' | 272°27.17' | S 23°51.39' | 13°31.55' | 338°20.62' | S 10°08.28' | 34°11.17' | 317°41.00' | S 17°09.10' | **15** |
| **16** | 85°23.58' | 281°31.05' | S 16°10.13' | 94°25.47' | 272°29.16' | S 23°51.39' | 28°33.48' | 338°21.16' | S 10°08.07' | 49°13.33' | 317°41.30' | S 17°09.02' | **16** |
| **17** | 100°26.22' | 281°30.87' | S 16°10.14' | 109°25.95' | 272°31.15' | S 23°51.38' | 43°35.41' | 338°21.69' | S 10°07.86' | 64°15.50' | 317°41.60' | S 17°08.93' | **17** |
| **18** | 115°28.86' | 281°30.70' | S 16°10.16' | 124°26.42' | 272°33.14' | S 23°51.38' | 58°37.33' | 338°22.23' | S 10°07.65' | 79°17.66' | 317°41.90' | S 17°08.85' | **18** |
| **19** | 130°31.49' | 281°30.53' | S 16°10.18' | 139°26.90' | 272°35.13' | S 23°51.38' | 73°39.26' | 338°22.76' | S 10°07.44' | 94°19.83' | 317°42.20' | S 17°08.76' | **19** |
| **20** | 145°34.12' | 281°30.37' | S 16°10.21' | 154°27.37' | 272°37.12' | S 23°51.38' | 88°41.19' | 338°23.30' | S 10°07.23' | 109°21.99' | 317°42.50' | S 17°08.68' | **20** |
| **21** | 160°36.74' | 281°30.21' | S 16°10.23' | 169°27.85' | 272°39.11' | S 23°51.37' | 103°43.12' | 338°23.84' | S 10°07.01' | 124°24.16' | 317°42.80' | S 17°08.59' | **21** |
| **22** | 175°39.36' | 281°30.06' | S 16°10.25' | 184°28.32' | 272°41.10' | S 23°51.37' | 118°45.05' | 338°24.37' | S 10°06.80' | 139°26.32' | 317°43.10' | S 17°08.50' | **22** |
| **23** | 190°41.98' | 281°29.91' | S 16°10.27' | 199°28.80' | 272°43.08' | S 23°51.36' | 133°46.98' | 338°24.91' | S 10°06.59' | 154°28.49' | 317°43.40' | S 17°08.42' | **23** |
| **24** | 205°44.59' | 281°29.76' | S 16°10.29' | 214°29.27' | 272°45.07' | S 23°51.36' | 148°48.91' | 338°25.44' | S 10°06.38' | 169°30.65' | 317°43.70' | S 17°08.33' | **24** |
| | δ 15.0452° | | *d* 0.0091' | δ 15.0079° | | *d* 0.0049' | δ 15.0322° | | *d* 0.2102' | δ 15.0361° | | *d* 0.0853' | |

## *Friday, January 28th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°47.95' | 14.9980° | 310°26.40' | S 18°15.61' | 0.6553' | 239°13.07' | 14.4047° | 248°01.28' | S 22°50.83' | 8.5602' | 59.9363' | 127°14.35' | **00** |
| **01** | 191°47.83' | 14.9980° | 310°28.98' | S 18°14.96' | 0.6558' | 253°37.24' | 14.4029° | 248°39.57' | S 22°59.24' | 8.4139' | 59.9559' | 142°16.81' | **01** |
| **02** | 206°47.71' | 14.9980° | 310°31.57' | S 18°14.30' | 0.6564' | 268°01.31' | 14.4011° | 249°17.97' | S 23°07.51' | 8.2660' | 59.9752' | 157°19.28' | **02** |
| **03** | 221°47.59' | 14.9980° | 310°34.15' | S 18°13.64' | 0.6570' | 282°25.27' | 14.3993° | 249°56.48' | S 23°15.62' | 8.1162' | 59.9943' | 172°21.74' | **03** |
| **04** | 236°47.47' | 14.9980° | 310°36.74' | S 18°12.99' | 0.6576' | 296°49.12' | 14.3976° | 250°35.09' | S 23°23.59' | 7.9648' | 60.0131' | 187°24.21' | **04** |
| **05** | 251°47.35' | 14.9980° | 310°39.32' | S 18°12.33' | 0.6581' | 311°12.87' | 14.3958° | 251°13.80' | S 23°31.40' | 7.8116' | 60.0316' | 202°26.67' | **05** |
| **06** | 266°47.23' | 14.9980° | 310°41.90' | S 18°11.67' | 0.6587' | 325°36.52' | 14.3941° | 251°52.61' | S 23°39.06' | 7.6567' | 60.0499' | 217°29.13' | **06** |
| **07** | 281°47.11' | 14.9980° | 310°44.49' | S 18°11.01' | 0.6593' | 340°00.07' | 14.3924° | 252°31.53' | S 23°46.56' | 7.5001' | 60.0679' | 232°31.60' | **07** |
| **08** | 296°46.99' | 14.9980° | 310°47.07' | S 18°10.35' | 0.6599' | 354°23.51' | 14.3908° | 253°10.55' | S 23°53.90' | 7.3418' | 60.0857' | 247°34.06' | **08** |
| **09** | 311°46.87' | 14.9980° | 310°49.65' | S 18°09.69' | 0.6604' | 8°46.86' | 14.3891° | 253°49.67' | S 24°01.08' | 7.1820' | 60.1031' | 262°36.53' | **09** |
| **10** | 326°46.76' | 14.9980° | 310°52.23' | S 18°09.03' | 0.6610' | 23°10.11' | 14.3875° | 254°28.88' | S 24°08.10' | 7.0204' | 60.1203' | 277°38.99' | **10** |
| **11** | 341°46.64' | 14.9980° | 310°54.82' | S 18°08.37' | 0.6616' | 37°33.26' | 14.3859° | 255°08.19' | S 24°14.96' | 6.8573' | 60.1372' | 292°41.45' | **11** |
| **12** | 356°46.52' | 14.9980° | 310°57.40' | S 18°07.70' | 0.6621' | 51°56.32' | 14.3843° | 255°47.60' | S 24°21.65' | 6.6926' | 60.1538' | 307°43.92' | **12** |
| **13** | 11°46.40' | 14.9981° | 310°59.98' | S 18°07.04' | 0.6627' | 66°19.29' | 14.3828° | 256°27.10' | S 24°28.18' | 6.5263' | 60.1700' | 322°46.38' | **13** |
| **14** | 26°46.29' | 14.9981° | 311°02.56' | S 18°06.38' | 0.6633' | 80°42.16' | 14.3812° | 257°06.69' | S 24°34.54' | 6.3584' | 60.1860' | 337°48.85' | **14** |
| **15** | 41°46.17' | 14.9981° | 311°05.14' | S 18°05.71' | 0.6638' | 95°04.94' | 14.3797° | 257°46.37' | S 24°40.73' | 6.1891' | 60.2017' | 352°51.31' | **15** |
| **16** | 56°46.06' | 14.9981° | 311°07.72' | S 18°05.05' | 0.6644' | 109°27.64' | 14.3782° | 258°26.14' | S 24°46.74' | 6.0183' | 60.2171' | 7°53.78' | **16** |
| **17** | 71°45.94' | 14.9981° | 311°10.30' | S 18°04.39' | 0.6650' | 123°50.25' | 14.3768° | 259°05.99' | S 24°52.59' | 5.8460' | 60.2321' | 22°56.24' | **17** |
| **18** | 86°45.82' | 14.9981° | 311°12.88' | S 18°03.72' | 0.6655' | 138°12.77' | 14.3754° | 259°45.93' | S 24°58.26' | 5.6722' | 60.2468' | 37°58.70' | **18** |
| **19** | 101°45.71' | 14.9981° | 311°15.46' | S 18°03.05' | 0.6661' | 152°35.21' | 14.3740° | 260°25.96' | S 25°03.76' | 5.4971' | 60.2612' | 53°01.17' | **19** |
| **20** | 116°45.60' | 14.9981° | 311°18.04' | S 18°02.39' | 0.6667' | 166°57.57' | 14.3727° | 261°06.06' | S 25°09.08' | 5.3206' | 60.2753' | 68°03.63' | **20** |
| **21** | 131°45.48' | 14.9981° | 311°20.62' | S 18°01.72' | 0.6672' | 181°19.85' | 14.3713° | 261°46.25' | S 25°14.22' | 5.1428' | 60.2890' | 83°06.10' | **21** |
| **22** | 146°45.37' | 14.9981° | 311°23.19' | S 18°01.05' | 0.6678' | 195°42.05' | 14.3701° | 262°26.51' | S 25°19.19' | 4.9636' | 60.3024' | 98°08.56' | **22** |
| **23** | 161°45.25' | 14.9981° | 311°25.77' | S 18°00.38' | 0.6684' | 210°04.18' | 14.3688° | 263°06.84' | S 25°23.97' | 4.7832' | 60.3155' | 113°11.03' | **23** |
| **24** | 176°45.14' | 14.9981° | 311°28.35' | S 17°59.71' | 0.6689' | 224°26.24' | 14.3676° | 263°47.25' | S 25°28.57' | 4.6015' | 60.3282' | 128°13.49' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2399' | hp (π) 0.1488' | ½Ø 16.3907' | 18.9313324950099 9% -cre |
| | EoT at 12:00 UTC : -12m 53s (δ -0.47 s/h) | | Phase at 12:00 UTC : 308.54° | |
| | Meridian Pass. Time : 12:12:53.916 | | Age : 24.0 day(s) | |

| UT | Venus ♀ (π 0.46') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 205°44.59' | 281°29.76' | S 16°10.29' | 214°29.27' | 272°45.07' | S 23°51.36' | 148°48.91' | 338°25.44' | S 10°06.38' | 169°30.65' | 317°43.70' | S 17°08.33' | **00** |
| **01** | 220°47.19' | 281°29.62' | S 16°10.32' | 229°29.75' | 272°47.06' | S 23°51.35' | 163°50.83' | 338°25.98' | S 10°06.17' | 184°32.82' | 317°43.99' | S 17°08.25' | **01** |
| **02** | 235°49.79' | 281°29.48' | S 16°10.34' | 244°30.22' | 272°49.05' | S 23°51.35' | 178°52.76' | 338°26.51' | S 10°05.96' | 199°34.98' | 317°44.29' | S 17°08.16' | **02** |
| **03** | 250°52.39' | 281°29.35' | S 16°10.37' | 259°30.70' | 272°51.04' | S 23°51.34' | 193°54.69' | 338°27.05' | S 10°05.75' | 214°37.15' | 317°44.59' | S 17°08.08' | **03** |
| **04** | 265°54.98' | 281°29.23' | S 16°10.39' | 274°31.17' | 272°53.03' | S 23°51.34' | 208°56.62' | 338°27.59' | S 10°05.54' | 229°39.31' | 317°44.89' | S 17°07.99' | **04** |
| **05** | 280°57.57' | 281°29.10' | S 16°10.42' | 289°31.65' | 272°55.02' | S 23°51.33' | 223°58.55' | 338°28.12' | S 10°05.32' | 244°41.48' | 317°45.19' | S 17°07.90' | **05** |
| **06** | 296°00.15' | 281°28.98' | S 16°10.45' | 304°32.12' | 272°57.01' | S 23°51.32' | 239°00.47' | 338°28.66' | S 10°05.11' | 259°43.64' | 317°45.49' | S 17°07.82' | **06** |
| **07** | 311°02.73' | 281°28.87' | S 16°10.47' | 319°32.60' | 272°59.00' | S 23°51.32' | 254°02.40' | 338°29.20' | S 10°04.90' | 274°45.81' | 317°45.79' | S 17°07.73' | **07** |
| **08** | 326°05.30' | 281°28.76' | S 16°10.50' | 334°33.07' | 273°00.99' | S 23°51.31' | 269°04.33' | 338°29.73' | S 10°04.69' | 289°47.97' | 317°46.09' | S 17°07.65' | **08** |
| **09** | 341°07.87' | 281°28.66' | S 16°10.53' | 349°33.55' | 273°02.98' | S 23°51.30' | 284°06.26' | 338°30.27' | S 10°04.48' | 304°50.14' | 317°46.39' | S 17°07.56' | **09** |
| **10** | 356°10.43' | 281°28.56' | S 16°10.56' | 4°34.02' | 273°04.97' | S 23°51.29' | 299°08.19' | 338°30.80' | S 10°04.27' | 319°52.30' | 317°46.69' | S 17°07.48' | **10** |
| **11** | 11°12.99' | 281°28.46' | S 16°10.59' | 19°34.50' | 273°06.96' | S 23°51.28' | 314°10.11' | 338°31.34' | S 10°04.05' | 334°54.47' | 317°46.99' | S 17°07.39' | **11** |
| **12** | 26°15.55' | 281°28.37' | S 16°10.62' | 34°34.97' | 273°08.95' | S 23°51.27' | 329°12.04' | 338°31.88' | S 10°03.84' | 349°56.63' | 317°47.29' | S 17°07.31' | **12** |
| **13** | 41°18.10' | 281°28.28' | S 16°10.65' | 49°35.45' | 273°10.94' | S 23°51.26' | 344°13.97' | 338°32.41' | S 10°03.63' | 4°58.80' | 317°47.59' | S 17°07.22' | **13** |
| **14** | 56°20.65' | 281°28.20' | S 16°10.68' | 64°35.92' | 273°12.93' | S 23°51.25' | 359°15.90' | 338°32.95' | S 10°03.42' | 20°00.96' | 317°47.89' | S 17°07.13' | **14** |
| **15** | 71°23.19' | 281°28.12' | S 16°10.71' | 79°36.39' | 273°14.92' | S 23°51.24' | 14°17.82' | 338°33.49' | S 10°03.21' | 35°03.13' | 317°48.19' | S 17°07.05' | **15** |
| **16** | 86°25.73' | 281°28.05' | S 16°10.74' | 94°36.87' | 273°16.91' | S 23°51.23' | 29°19.75' | 338°34.03' | S 10°03.00' | 50°05.29' | 317°48.48' | S 17°06.96' | **16** |
| **17** | 101°28.26' | 281°27.98' | S 16°10.78' | 109°37.34' | 273°18.90' | S 23°51.22' | 44°21.68' | 338°34.56' | S 10°02.78' | 65°07.46' | 317°48.78' | S 17°06.88' | **17** |
| **18** | 116°30.79' | 281°27.91' | S 16°10.81' | 124°37.82' | 273°20.89' | S 23°51.21' | 59°23.60' | 338°35.10' | S 10°02.57' | 80°09.62' | 317°49.08' | S 17°06.79' | **18** |
| **19** | 131°33.31' | 281°27.85' | S 16°10.84' | 139°38.29' | 273°22.88' | S 23°51.19' | 74°25.53' | 338°35.64' | S 10°02.36' | 95°11.79' | 317°49.38' | S 17°06.71' | **19** |
| **20** | 146°35.83' | 281°27.80' | S 16°10.88' | 154°38.76' | 273°24.87' | S 23°51.18' | 89°27.46' | 338°36.17' | S 10°02.15' | 110°13.95' | 317°49.68' | S 17°06.62' | **20** |
| **21** | 161°38.35' | 281°27.75' | S 16°10.91' | 169°39.24' | 273°26.86' | S 23°51.17' | 104°29.39' | 338°36.71' | S 10°01.94' | 125°16.11' | 317°49.98' | S 17°06.53' | **21** |
| **22** | 176°40.86' | 281°27.70' | S 16°10.95' | 184°39.71' | 273°28.85' | S 23°51.15' | 119°31.31' | 338°37.25' | S 10°01.72' | 140°18.28' | 317°50.28' | S 17°06.45' | **22** |
| **23** | 191°43.37' | 281°27.66' | S 16°10.99' | 199°40.19' | 273°30.84' | S 23°51.14' | 134°33.24' | 338°37.79' | S 10°01.51' | 155°20.44' | 317°50.58' | S 17°06.36' | **23** |
| **24** | 206°45.87' | 281°27.62' | S 16°11.02' | 214°40.66' | 273°32.83' | S 23°51.12' | 149°35.17' | 338°38.32' | S 10°01.30' | 170°22.61' | 317°50.88' | S 17°06.28' | **24** |
| | δ 15.0434° | | *d* 0.0237' | δ 15.0079° | | *d* 0.0050' | δ 15.0321° | | *d* 0.2112' | δ 15.0361° | | *d* 0.0856' | |

## *Saturday, January 29th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°45.14' | 14.9981° | 311°28.35' | S 17°59.71' | 0.6689' | 224°26.24' | 14.3676° | 263°47.25' | S 25°28.57' | 4.6015' | 60.3282' | 128°13.49' | **00** |
| **01** | 191°45.03' | 14.9981° | 311°30.93' | S 17°59.05' | 0.6695' | 238°48.22' | 14.3664° | 264°27.73' | S 25°32.99' | 4.4186' | 60.3406' | 143°15.95' | **01** |
| **02** | 206°44.92' | 14.9981° | 311°33.50' | S 17°58.38' | 0.6700' | 253°10.14' | 14.3653° | 265°08.28' | S 25°37.22' | 4.2346' | 60.3526' | 158°18.42' | **02** |
| **03** | 221°44.80' | 14.9981° | 311°36.08' | S 17°57.70' | 0.6706' | 267°31.99' | 14.3642° | 265°48.89' | S 25°41.27' | 4.0494' | 60.3642' | 173°20.88' | **03** |
| **04** | 236°44.69' | 14.9981° | 311°38.65' | S 17°57.03' | 0.6712' | 281°53.78' | 14.3631° | 266°29.57' | S 25°45.14' | 3.8632' | 60.3755' | 188°23.35' | **04** |
| **05** | 251°44.58' | 14.9981° | 311°41.23' | S 17°56.36' | 0.6717' | 296°15.50' | 14.3621° | 267°10.31' | S 25°48.81' | 3.6758' | 60.3864' | 203°25.81' | **05** |
| **06** | 266°44.47' | 14.9981° | 311°43.81' | S 17°55.69' | 0.6723' | 310°37.17' | 14.3611° | 267°51.10' | S 25°52.30' | 3.4875' | 60.3970' | 218°28.28' | **06** |
| **07** | 281°44.36' | 14.9982° | 311°46.38' | S 17°55.02' | 0.6728' | 324°58.78' | 14.3602° | 268°31.96' | S 25°55.60' | 3.2982' | 60.4072' | 233°30.74' | **07** |
| **08** | 296°44.25' | 14.9982° | 311°48.96' | S 17°54.34' | 0.6734' | 339°20.34' | 14.3593° | 269°12.86' | S 25°58.71' | 3.1080' | 60.4170' | 248°33.20' | **08** |
| **09** | 311°44.14' | 14.9982° | 311°51.53' | S 17°53.67' | 0.6740' | 353°41.85' | 14.3584° | 269°53.82' | S 26°01.62' | 2.9169' | 60.4264' | 263°35.67' | **09** |
| **10** | 326°44.03' | 14.9982° | 311°54.10' | S 17°52.99' | 0.6745' | 8°03.30' | 14.3576° | 270°34.83' | S 26°04.35' | 2.7250' | 60.4354' | 278°38.13' | **10** |
| **11** | 341°43.92' | 14.9982° | 311°56.68' | S 17°52.32' | 0.6751' | 22°24.72' | 14.3569° | 271°15.88' | S 26°06.88' | 2.5323' | 60.4441' | 293°40.60' | **11** |
| **12** | 356°43.81' | 14.9982° | 311°59.25' | S 17°51.64' | 0.6756' | 36°46.08' | 14.3561° | 271°56.98' | S 26°09.22' | 2.3388' | 60.4524' | 308°43.06' | **12** |
| **13** | 11°43.70' | 14.9982° | 312°01.82' | S 17°50.97' | 0.6762' | 51°07.41' | 14.3555° | 272°38.11' | S 26°11.36' | 2.1446' | 60.4602' | 323°45.52' | **13** |
| **14** | 26°43.59' | 14.9982° | 312°04.40' | S 17°50.29' | 0.6767' | 65°28.70' | 14.3549° | 273°19.28' | S 26°13.31' | 1.9498' | 60.4677' | 338°47.99' | **14** |
| **15** | 41°43.49' | 14.9982° | 312°06.97' | S 17°49.61' | 0.6773' | 79°49.96' | 14.3543° | 274°00.49' | S 26°15.07' | 1.7544' | 60.4748' | 353°50.45' | **15** |
| **16** | 56°43.38' | 14.9982° | 312°09.54' | S 17°48.94' | 0.6779' | 94°11.18' | 14.3537° | 274°41.73' | S 26°16.63' | 1.5584' | 60.4814' | 8°52.92' | **16** |
| **17** | 71°43.27' | 14.9982° | 312°12.11' | S 17°48.26' | 0.6784' | 108°32.38' | 14.3533° | 275°23.00' | S 26°17.99' | 1.3619' | 60.4877' | 23°55.38' | **17** |
| **18** | 86°43.16' | 14.9982° | 312°14.68' | S 17°47.58' | 0.6790' | 122°53.55' | 14.3528° | 276°04.30' | S 26°19.15' | 1.1649' | 60.4935' | 38°57.85' | **18** |
| **19** | 101°43.06' | 14.9982° | 312°17.25' | S 17°46.90' | 0.6795' | 137°14.69' | 14.3524° | 276°45.62' | S 26°20.12' | 0.9675' | 60.4990' | 54°00.31' | **19** |
| **20** | 116°42.95' | 14.9982° | 312°19.82' | S 17°46.22' | 0.6801' | 151°35.82' | 14.3521° | 277°26.95' | S 26°20.89' | 0.7698' | 60.5040' | 69°02.77' | **20** |
| **21** | 131°42.85' | 14.9982° | 312°22.39' | S 17°45.54' | 0.6806' | 165°56.93' | 14.3518° | 278°08.31' | S 26°21.46' | 0.5718' | 60.5086' | 84°05.24' | **21** |
| **22** | 146°42.74' | 14.9982° | 312°24.96' | S 17°44.86' | 0.6812' | 180°18.02' | 14.3516° | 278°49.68' | S 26°21.84' | 0.3735' | 60.5128' | 99°07.70' | **22** |
| **23** | 161°42.64' | 14.9982° | 312°27.53' | S 17°44.18' | 0.6817' | 194°39.10' | 14.3514° | 279°31.06' | S 26°22.01' | 0.1750' | 60.5166' | 114°10.17' | **23** |
| **24** | 176°42.53' | 14.9983° | 312°30.10' | S 17°43.49' | 0.6823' | 209°00.18' | 14.3512° | 280°12.45' | S 26°21.99' | 0.0237' | 60.5199' | 129°12.63' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2377' | hp (π) 0.1488' | ½Ø 16.4721' | 10.5815738539740<br>03% -cre |
| | EoT at 12:00 UTC : -13m 4s (δ -0.44 s/h) | | Phase at 12:00 UTC : 322.20° | |
| | Meridian Pass. Time : 12:13:04.757 | | Age : 25.1 day(s) | |

| UT | Venus ♀ (π 0.45') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 206°45.87' | 281°27.62' | S 16°11.02' | 214°40.66' | 273°32.83' | S 23°51.12' | 149°35.17' | 338°38.32' | S 10°01.30' | 170°22.61' | 317°50.88' | S 17°06.28' | **00** |
| **01** | 221°48.37' | 281°27.59' | S 16°11.06' | 229°41.13' | 273°34.82' | S 23°51.11' | 164°37.09' | 338°38.86' | S 10°01.09' | 185°24.77' | 317°51.18' | S 17°06.19' | **01** |
| **02** | 236°50.86' | 281°27.56' | S 16°11.10' | 244°41.61' | 273°36.81' | S 23°51.09' | 179°39.02' | 338°39.40' | S 10°00.87' | 200°26.94' | 317°51.48' | S 17°06.11' | **02** |
| **03** | 251°53.35' | 281°27.54' | S 16°11.14' | 259°42.08' | 273°38.80' | S 23°51.08' | 194°40.94' | 338°39.94' | S 10°00.66' | 215°29.10' | 317°51.78' | S 17°06.02' | **03** |
| **04** | 266°55.83' | 281°27.52' | S 16°11.17' | 274°42.55' | 273°40.79' | S 23°51.06' | 209°42.87' | 338°40.48' | S 10°00.45' | 230°31.27' | 317°52.08' | S 17°05.93' | **04** |
| **05** | 281°58.31' | 281°27.50' | S 16°11.21' | 289°43.03' | 273°42.78' | S 23°51.04' | 224°44.80' | 338°41.01' | S 10°00.24' | 245°33.43' | 317°52.38' | S 17°05.85' | **05** |
| **06** | 297°00.79' | 281°27.49' | S 16°11.25' | 304°43.50' | 273°44.78' | S 23°51.03' | 239°46.72' | 338°41.55' | S 10°00.03' | 260°35.60' | 317°52.68' | S 17°05.76' | **06** |
| **07** | 312°03.26' | 281°27.48' | S 16°11.29' | 319°43.97' | 273°46.77' | S 23°51.01' | 254°48.65' | 338°42.09' | S 9°59.81' | 275°37.76' | 317°52.98' | S 17°05.68' | **07** |
| **08** | 327°05.72' | 281°27.48' | S 16°11.34' | 334°44.45' | 273°48.76' | S 23°50.99' | 269°50.58' | 338°42.63' | S 9°59.60' | 290°39.93' | 317°53.28' | S 17°05.59' | **08** |
| **09** | 342°08.19' | 281°27.48' | S 16°11.38' | 349°44.92' | 273°50.75' | S 23°50.97' | 284°52.50' | 338°43.17' | S 9°59.39' | 305°42.09' | 317°53.58' | S 17°05.50' | **09** |
| **10** | 357°10.64' | 281°27.49' | S 16°11.42' | 4°45.39' | 273°52.74' | S 23°50.96' | 299°54.43' | 338°43.70' | S 9°59.17' | 320°44.25' | 317°53.88' | S 17°05.42' | **10** |
| **11** | 12°13.10' | 281°27.50' | S 16°11.46' | 19°45.87' | 273°54.73' | S 23°50.94' | 314°56.35' | 338°44.24' | S 9°58.96' | 335°46.42' | 317°54.18' | S 17°05.33' | **11** |
| **12** | 27°15.54' | 281°27.52' | S 16°11.50' | 34°46.34' | 273°56.72' | S 23°50.92' | 329°58.28' | 338°44.78' | S 9°58.75' | 350°48.58' | 317°54.48' | S 17°05.25' | **12** |
| **13** | 42°17.99' | 281°27.54' | S 16°11.55' | 49°46.81' | 273°58.71' | S 23°50.90' | 345°00.21' | 338°45.32' | S 9°58.54' | 5°50.75' | 317°54.78' | S 17°05.16' | **13** |
| **14** | 57°20.43' | 281°27.56' | S 16°11.59' | 64°47.28' | 274°00.71' | S 23°50.88' | 0°02.13' | 338°45.86' | S 9°58.32' | 20°52.91' | 317°55.08' | S 17°05.07' | **14** |
| **15** | 72°22.86' | 281°27.59' | S 16°11.64' | 79°47.76' | 274°02.70' | S 23°50.85' | 15°04.06' | 338°46.40' | S 9°58.11' | 35°55.08' | 317°55.38' | S 17°04.99' | **15** |
| **16** | 87°25.30' | 281°27.62' | S 16°11.68' | 94°48.23' | 274°04.69' | S 23°50.83' | 30°05.98' | 338°46.94' | S 9°57.90' | 50°57.24' | 317°55.68' | S 17°04.90' | **16** |
| **17** | 102°27.72' | 281°27.66' | S 16°11.73' | 109°48.70' | 274°06.68' | S 23°50.81' | 45°07.91' | 338°47.47' | S 9°57.69' | 65°59.41' | 317°55.98' | S 17°04.82' | **17** |
| **18** | 117°30.14' | 281°27.70' | S 16°11.77' | 124°49.17' | 274°08.67' | S 23°50.79' | 60°09.83' | 338°48.01' | S 9°57.47' | 81°01.57' | 317°56.28' | S 17°04.73' | **18** |
| **19** | 132°32.56' | 281°27.75' | S 16°11.82' | 139°49.65' | 274°10.66' | S 23°50.77' | 75°11.76' | 338°48.55' | S 9°57.26' | 96°03.74' | 317°56.57' | S 17°04.65' | **19** |
| **20** | 147°34.98' | 281°27.80' | S 16°11.87' | 154°50.12' | 274°12.65' | S 23°50.74' | 90°13.68' | 338°49.09' | S 9°57.05' | 111°05.90' | 317°56.87' | S 17°04.56' | **20** |
| **21** | 162°37.38' | 281°27.85' | S 16°11.92' | 169°50.59' | 274°14.65' | S 23°50.72' | 105°15.61' | 338°49.63' | S 9°56.83' | 126°08.06' | 317°57.17' | S 17°04.47' | **21** |
| **22** | 177°39.79' | 281°27.91' | S 16°11.96' | 184°51.06' | 274°16.64' | S 23°50.70' | 120°17.53' | 338°50.17' | S 9°56.62' | 141°10.23' | 317°57.47' | S 17°04.39' | **22** |
| **23** | 192°42.19' | 281°27.98' | S 16°12.01' | 199°51.54' | 274°18.63' | S 23°50.67' | 135°19.46' | 338°50.71' | S 9°56.41' | 156°12.39' | 317°57.77' | S 17°04.30' | **23** |
| **24** | 207°44.58' | 281°28.05' | S 16°12.06' | 214°52.01' | 274°20.62' | S 23°50.65' | 150°21.38' | 338°51.25' | S 9°56.19' | 171°14.56' | 317°58.07' | S 17°04.22' | **24** |
| | δ 15.0416° | | *d* 0.0373' | δ 15.0079° | | *d* 0.0150' | δ 15.0321° | | *d* 0.2122' | δ 15.0361° | | *d* 0.0858' | |

## *Sunday, January 30th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°42.53' | 14.9983° | 312°30.10' | S 17°43.49' | 0.6823' | 209°00.18' | 14.3512° | 280°12.45' | S 26°21.99' | 0.0237' | 60.5199' | 129°12.63' | **00** |
| **01** | 191°42.43' | 14.9983° | 312°32.67' | S 17°42.81' | 0.6828' | 223°21.25' | 14.3511° | 280°53.85' | S 26°21.76' | 0.2224' | 60.5228' | 144°15.10' | **01** |
| **02** | 206°42.32' | 14.9983° | 312°35.24' | S 17°42.13' | 0.6834' | 237°42.31' | 14.3511° | 281°35.25' | S 26°21.34' | 0.4213' | 60.5253' | 159°17.56' | **02** |
| **03** | 221°42.22' | 14.9983° | 312°37.81' | S 17°41.44' | 0.6839' | 252°03.38' | 14.3511° | 282°16.65' | S 26°20.72' | 0.6201' | 60.5273' | 174°20.02' | **03** |
| **04** | 236°42.11' | 14.9983° | 312°40.37' | S 17°40.76' | 0.6845' | 266°24.45' | 14.3512° | 282°58.04' | S 26°19.90' | 0.8188' | 60.5289' | 189°22.49' | **04** |
| **05** | 251°42.01' | 14.9983° | 312°42.94' | S 17°40.07' | 0.6850' | 280°45.52' | 14.3513° | 283°39.43' | S 26°18.89' | 1.0174' | 60.5301' | 204°24.95' | **05** |
| **06** | 266°41.91' | 14.9983° | 312°45.51' | S 17°39.39' | 0.6856' | 295°06.61' | 14.3514° | 284°20.81' | S 26°17.67' | 1.2159' | 60.5309' | 219°27.42' | **06** |
| **07** | 281°41.81' | 14.9983° | 312°48.07' | S 17°38.70' | 0.6861' | 309°27.71' | 14.3516° | 285°02.17' | S 26°16.26' | 1.4142' | 60.5312' | 234°29.88' | **07** |
| **08** | 296°41.70' | 14.9983° | 312°50.64' | S 17°38.02' | 0.6867' | 323°48.82' | 14.3519° | 285°43.52' | S 26°14.64' | 1.6122' | 60.5310' | 249°32.35' | **08** |
| **09** | 311°41.60' | 14.9983° | 312°53.21' | S 17°37.33' | 0.6872' | 338°09.95' | 14.3522° | 286°24.86' | S 26°12.83' | 1.8099' | 60.5304' | 264°34.81' | **09** |
| **10** | 326°41.50' | 14.9983° | 312°55.77' | S 17°36.64' | 0.6878' | 352°31.11' | 14.3526° | 287°06.17' | S 26°10.83' | 2.0072' | 60.5294' | 279°37.27' | **10** |
| **11** | 341°41.40' | 14.9983° | 312°58.34' | S 17°35.95' | 0.6883' | 6°52.28' | 14.3530° | 287°47.45' | S 26°08.62' | 2.2041' | 60.5279' | 294°39.74' | **11** |
| **12** | 356°41.30' | 14.9983° | 313°00.90' | S 17°35.26' | 0.6889' | 21°13.49' | 14.3534° | 288°28.71' | S 26°06.22' | 2.4005' | 60.5260' | 309°42.20' | **12** |
| **13** | 11°41.20' | 14.9983° | 313°03.47' | S 17°34.57' | 0.6894' | 35°34.72' | 14.3539° | 289°09.94' | S 26°03.63' | 2.5964' | 60.5236' | 324°44.67' | **13** |
| **14** | 26°41.10' | 14.9983° | 313°06.03' | S 17°33.88' | 0.6899' | 49°55.99' | 14.3545° | 289°51.14' | S 26°00.83' | 2.7918' | 60.5208' | 339°47.13' | **14** |
| **15** | 41°41.00' | 14.9983° | 313°08.59' | S 17°33.19' | 0.6905' | 64°17.30' | 14.3551° | 290°32.30' | S 25°57.85' | 2.9865' | 60.5175' | 354°49.59' | **15** |
| **16** | 56°40.90' | 14.9983° | 313°11.16' | S 17°32.50' | 0.6910' | 78°38.64' | 14.3557° | 291°13.42' | S 25°54.67' | 3.1805' | 60.5138' | 9°52.06' | **16** |
| **17** | 71°40.80' | 14.9984° | 313°13.72' | S 17°31.81' | 0.6916' | 93°00.02' | 14.3564° | 291°54.50' | S 25°51.29' | 3.3738' | 60.5096' | 24°54.52' | **17** |
| **18** | 86°40.70' | 14.9984° | 313°16.28' | S 17°31.12' | 0.6921' | 107°21.45' | 14.3571° | 292°35.54' | S 25°47.73' | 3.5663' | 60.5050' | 39°56.99' | **18** |
| **19** | 101°40.61' | 14.9984° | 313°18.85' | S 17°30.43' | 0.6927' | 121°42.93' | 14.3579° | 293°16.53' | S 25°43.97' | 3.7581' | 60.4999' | 54°59.45' | **19** |
| **20** | 116°40.51' | 14.9984° | 313°21.41' | S 17°29.73' | 0.6932' | 136°04.45' | 14.3587° | 293°57.46' | S 25°40.02' | 3.9489' | 60.4944' | 70°01.92' | **20** |
| **21** | 131°40.41' | 14.9984° | 313°23.97' | S 17°29.04' | 0.6937' | 150°26.03' | 14.3596° | 294°38.35' | S 25°35.88' | 4.1389' | 60.4884' | 85°04.38' | **21** |
| **22** | 146°40.31' | 14.9984° | 313°26.53' | S 17°28.34' | 0.6943' | 164°47.66' | 14.3605° | 295°19.18' | S 25°31.55' | 4.3279' | 60.4820' | 100°06.84' | **22** |
| **23** | 161°40.22' | 14.9984° | 313°29.09' | S 17°27.65' | 0.6948' | 179°09.35' | 14.3615° | 295°59.96' | S 25°27.04' | 4.5158' | 60.4751' | 115°09.31' | **23** |
| **24** | 176°40.12' | 14.9984° | 313°31.65' | S 17°26.95' | 0.6954' | 193°31.10' | 14.3625° | 296°40.67' | S 25°22.34' | 4.7028' | 60.4677' | 130°11.77' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 16.2356' | hp (π) 0.1488' | ½Ø 16.4921' | 4.43716393616854 8% -cre | |
| | EoT at 12:00 UTC : -13m 14s (δ -0.40 s/h) | | Phase at 12:00 UTC : 336.01° | | |
| | Meridian Pass. Time : 12:13:14.798 | | Age : 26.1 day(s) | | |

| UT | Venus ♀ (π 0.45') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 207°44.58' | 281°28.05' | S 16°12.06' | 214°52.01' | 274°20.62' | S 23°50.65' | 150°21.38' | 338°51.25' | S 9°56.19' | 171°14.56' | 317°58.07' | S 17°04.22' | **00** |
| **01** | 222°46.98' | 281°28.12' | S 16°12.11' | 229°52.48' | 274°22.61' | S 23°50.62' | 165°23.31' | 338°51.79' | S 9°55.98' | 186°16.72' | 317°58.37' | S 17°04.13' | **01** |
| **02** | 237°49.36' | 281°28.20' | S 16°12.16' | 244°52.95' | 274°24.61' | S 23°50.60' | 180°25.23' | 338°52.33' | S 9°55.77' | 201°18.89' | 317°58.67' | S 17°04.04' | **02** |
| **03** | 252°51.75' | 281°28.28' | S 16°12.21' | 259°53.43' | 274°26.60' | S 23°50.57' | 195°27.16' | 338°52.87' | S 9°55.55' | 216°21.05' | 317°58.97' | S 17°03.96' | **03** |
| **04** | 267°54.12' | 281°28.36' | S 16°12.26' | 274°53.90' | 274°28.59' | S 23°50.55' | 210°29.08' | 338°53.41' | S 9°55.34' | 231°23.22' | 317°59.27' | S 17°03.87' | **04** |
| **05** | 282°56.50' | 281°28.45' | S 16°12.32' | 289°54.37' | 274°30.58' | S 23°50.52' | 225°31.01' | 338°53.94' | S 9°55.13' | 246°25.38' | 317°59.57' | S 17°03.79' | **05** |
| **06** | 297°58.87' | 281°28.55' | S 16°12.37' | 304°54.84' | 274°32.58' | S 23°50.49' | 240°32.93' | 338°54.48' | S 9°54.91' | 261°27.54' | 317°59.87' | S 17°03.70' | **06** |
| **07** | 313°01.23' | 281°28.65' | S 16°12.42' | 319°55.31' | 274°34.57' | S 23°50.46' | 255°34.86' | 338°55.02' | S 9°54.70' | 276°29.71' | 318°00.17' | S 17°03.61' | **07** |
| **08** | 328°03.59' | 281°28.75' | S 16°12.47' | 334°55.78' | 274°36.56' | S 23°50.44' | 270°36.78' | 338°55.56' | S 9°54.49' | 291°31.87' | 318°00.47' | S 17°03.53' | **08** |
| **09** | 343°05.95' | 281°28.86' | S 16°12.53' | 349°56.26' | 274°38.55' | S 23°50.41' | 285°38.71' | 338°56.10' | S 9°54.27' | 306°34.04' | 318°00.77' | S 17°03.44' | **09** |
| **10** | 358°08.30' | 281°28.97' | S 16°12.58' | 4°56.73' | 274°40.55' | S 23°50.38' | 300°40.63' | 338°56.64' | S 9°54.06' | 321°36.20' | 318°01.07' | S 17°03.36' | **10** |
| **11** | 13°10.65' | 281°29.09' | S 16°12.64' | 19°57.20' | 274°42.54' | S 23°50.35' | 315°42.55' | 338°57.18' | S 9°53.85' | 336°38.37' | 318°01.37' | S 17°03.27' | **11** |
| **12** | 28°12.99' | 281°29.21' | S 16°12.69' | 34°57.67' | 274°44.53' | S 23°50.32' | 330°44.48' | 338°57.72' | S 9°53.63' | 351°40.53' | 318°01.67' | S 17°03.18' | **12** |
| **13** | 43°15.33' | 281°29.33' | S 16°12.75' | 49°58.14' | 274°46.52' | S 23°50.29' | 345°46.40' | 338°58.26' | S 9°53.42' | 6°42.69' | 318°01.97' | S 17°03.10' | **13** |
| **14** | 58°17.67' | 281°29.46' | S 16°12.80' | 64°58.61' | 274°48.52' | S 23°50.26' | 0°48.33' | 338°58.80' | S 9°53.21' | 21°44.86' | 318°02.27' | S 17°03.01' | **14** |
| **15** | 73°20.00' | 281°29.60' | S 16°12.86' | 79°59.09' | 274°50.51' | S 23°50.23' | 15°50.25' | 338°59.34' | S 9°52.99' | 36°47.02' | 318°02.57' | S 17°02.92' | **15** |
| **16** | 88°22.33' | 281°29.73' | S 16°12.92' | 94°59.56' | 274°52.50' | S 23°50.20' | 30°52.17' | 338°59.88' | S 9°52.78' | 51°49.19' | 318°02.87' | S 17°02.84' | **16** |
| **17** | 103°24.65' | 281°29.88' | S 16°12.97' | 110°00.03' | 274°54.49' | S 23°50.17' | 45°54.10' | 339°00.43' | S 9°52.56' | 66°51.35' | 318°03.17' | S 17°02.75' | **17** |
| **18** | 118°26.97' | 281°30.02' | S 16°13.03' | 125°00.50' | 274°56.49' | S 23°50.13' | 60°56.02' | 339°00.97' | S 9°52.35' | 81°53.52' | 318°03.47' | S 17°02.67' | **18** |
| **19** | 133°29.28' | 281°30.17' | S 16°13.09' | 140°00.97' | 274°58.48' | S 23°50.10' | 75°57.95' | 339°01.51' | S 9°52.14' | 96°55.68' | 318°03.77' | S 17°02.58' | **19** |
| **20** | 148°31.59' | 281°30.33' | S 16°13.15' | 155°01.44' | 275°00.47' | S 23°50.07' | 90°59.87' | 339°02.05' | S 9°51.92' | 111°57.84' | 318°04.07' | S 17°02.49' | **20** |
| **21** | 163°33.89' | 281°30.49' | S 16°13.21' | 170°01.91' | 275°02.47' | S 23°50.03' | 106°01.79' | 339°02.59' | S 9°51.71' | 127°00.01' | 318°04.37' | S 17°02.41' | **21** |
| **22** | 178°36.19' | 281°30.65' | S 16°13.27' | 185°02.39' | 275°04.46' | S 23°50.00' | 121°03.72' | 339°03.13' | S 9°51.49' | 142°02.17' | 318°04.67' | S 17°02.32' | **22** |
| **23** | 193°38.49' | 281°30.82' | S 16°13.33' | 200°02.86' | 275°06.45' | S 23°49.97' | 136°05.64' | 339°03.67' | S 9°51.28' | 157°04.34' | 318°04.97' | S 17°02.24' | **23** |
| **24** | 208°40.78' | 281°30.99' | S 16°13.39' | 215°03.33' | 275°08.44' | S 23°49.93' | 151°07.56' | 339°04.21' | S 9°51.07' | 172°06.50' | 318°05.27' | S 17°02.15' | **24** |
| | δ 15.0399° | | *d* 0.0497' | δ 15.0079° | | *d* 0.0250' | δ 15.0321° | | *d* 0.2132' | δ 15.0361° | | *d* 0.0860' | |

## *Monday, January 31st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°40.12' | 14.9984° | 313°31.65' | S 17°26.95' | 0.6954' | 193°31.10' | 14.3625° | 296°40.67' | S 25°22.34' | 4.7028' | 60.4677' | 130°11.77' | **00** |
| **01** | 191°40.02' | 14.9984° | 313°34.21' | S 17°26.26' | 0.6959' | 207°52.91' | 14.3635° | 297°21.33' | S 25°17.45' | 4.8886' | 60.4599' | 145°14.24' | **01** |
| **02** | 206°39.93' | 14.9984° | 313°36.77' | S 17°25.56' | 0.6964' | 222°14.79' | 14.3646° | 298°01.91' | S 25°12.37' | 5.0733' | 60.4517' | 160°16.70' | **02** |
| **03** | 221°39.83' | 14.9984° | 313°39.33' | S 17°24.87' | 0.6970' | 236°36.73' | 14.3657° | 298°42.43' | S 25°07.12' | 5.2568' | 60.4429' | 175°19.17' | **03** |
| **04** | 236°39.74' | 14.9984° | 313°41.89' | S 17°24.17' | 0.6975' | 250°58.75' | 14.3669° | 299°22.88' | S 25°01.68' | 5.4391' | 60.4338' | 190°21.63' | **04** |
| **05** | 251°39.64' | 14.9984° | 313°44.45' | S 17°23.47' | 0.6980' | 265°20.83' | 14.3681° | 300°03.26' | S 24°56.06' | 5.6202' | 60.4242' | 205°24.09' | **05** |
| **06** | 266°39.55' | 14.9984° | 313°47.01' | S 17°22.77' | 0.6986' | 279°42.99' | 14.3693° | 300°43.56' | S 24°50.26' | 5.7999' | 60.4141' | 220°26.56' | **06** |
| **07** | 281°39.46' | 14.9984° | 313°49.57' | S 17°22.07' | 0.6991' | 294°05.23' | 14.3706° | 301°23.79' | S 24°44.28' | 5.9783' | 60.4036' | 235°29.02' | **07** |
| **08** | 296°39.36' | 14.9984° | 313°52.12' | S 17°21.37' | 0.6996' | 308°27.54' | 14.3719° | 302°03.94' | S 24°38.12' | 6.1553' | 60.3926' | 250°31.49' | **08** |
| **09** | 311°39.27' | 14.9984° | 313°54.68' | S 17°20.67' | 0.7002' | 322°49.94' | 14.3733° | 302°44.01' | S 24°31.79' | 6.3310' | 60.3812' | 265°33.95' | **09** |
| **10** | 326°39.18' | 14.9985° | 313°57.24' | S 17°19.97' | 0.7007' | 337°12.42' | 14.3746° | 303°24.00' | S 24°25.29' | 6.5051' | 60.3693' | 280°36.41' | **10** |
| **11** | 341°39.08' | 14.9985° | 313°59.79' | S 17°19.27' | 0.7012' | 351°34.98' | 14.3760° | 304°03.90' | S 24°18.61' | 6.6778' | 60.3570' | 295°38.88' | **11** |
| **12** | 356°38.99' | 14.9985° | 314°02.35' | S 17°18.57' | 0.7018' | 5°57.63' | 14.3775° | 304°43.71' | S 24°11.76' | 6.8490' | 60.3442' | 310°41.34' | **12** |
| **13** | 11°38.90' | 14.9985° | 314°04.91' | S 17°17.87' | 0.7023' | 20°20.37' | 14.3790° | 305°23.44' | S 24°04.74' | 7.0187' | 60.3310' | 325°43.81' | **13** |
| **14** | 26°38.81' | 14.9985° | 314°07.46' | S 17°17.16' | 0.7028' | 34°43.20' | 14.3805° | 306°03.07' | S 23°57.56' | 7.1867' | 60.3174' | 340°46.27' | **14** |
| **15** | 41°38.72' | 14.9985° | 314°10.02' | S 17°16.46' | 0.7034' | 49°06.12' | 14.3820° | 306°42.62' | S 23°50.20' | 7.3532' | 60.3033' | 355°48.74' | **15** |
| **16** | 56°38.63' | 14.9985° | 314°12.57' | S 17°15.76' | 0.7039' | 63°29.13' | 14.3836° | 307°22.07' | S 23°42.68' | 7.5180' | 60.2888' | 10°51.20' | **16** |
| **17** | 71°38.54' | 14.9985° | 314°15.13' | S 17°15.05' | 0.7044' | 77°52.24' | 14.3851° | 308°01.43' | S 23°35.00' | 7.6811' | 60.2738' | 25°53.66' | **17** |
| **18** | 86°38.45' | 14.9985° | 314°17.68' | S 17°14.35' | 0.7050' | 92°15.44' | 14.3868° | 308°40.68' | S 23°27.16' | 7.8426' | 60.2584' | 40°56.13' | **18** |
| **19** | 101°38.36' | 14.9985° | 314°20.24' | S 17°13.64' | 0.7055' | 106°38.75' | 14.3884° | 309°19.85' | S 23°19.16' | 8.0023' | 60.2426' | 55°58.59' | **19** |
| **20** | 116°38.27' | 14.9985° | 314°22.79' | S 17°12.94' | 0.7060' | 121°02.15' | 14.3901° | 309°58.91' | S 23°11.00' | 8.1603' | 60.2264' | 71°01.06' | **20** |
| **21** | 131°38.18' | 14.9985° | 314°25.34' | S 17°12.23' | 0.7066' | 135°25.65' | 14.3917° | 310°37.87' | S 23°02.68' | 8.3166' | 60.2097' | 86°03.52' | **21** |
| **22** | 146°38.09' | 14.9985° | 314°27.89' | S 17°11.52' | 0.7071' | 149°49.26' | 14.3934° | 311°16.72' | S 22°54.21' | 8.4710' | 60.1926' | 101°05.98' | **22** |
| **23** | 161°38.00' | 14.9985° | 314°30.45' | S 17°10.81' | 0.7076' | 164°12.97' | 14.3952° | 311°55.48' | S 22°45.59' | 8.6237' | 60.1750' | 116°08.45' | **23** |
| **24** | 176°37.91' | 14.9985° | 314°33.00' | S 17°10.11' | 0.7081' | 178°36.79' | 14.3969° | 312°34.13' | S 22°36.81' | 8.7745' | 60.1571' | 131°10.91' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2333' | hp (π) 0.1488' | ½Ø 16.4426' | 0.93893982772247<br>36% -cre |
| | EoT at 12:00 UTC : -13m 24s (δ -0.37 s/h) | | Phase at 12:00 UTC : 349.83° | |
| | Meridian Pass. Time : 12:13:24.032 | | Age : 27.2 day(s) | |

| UT | Venus ♀ (π 0.44') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 208°40.78' | 281°30.99' | S 16°13.39' | 215°03.33' | 275°08.44' | S 23°49.93' | 151°07.56' | 339°04.21' | S 9°51.07' | 172°06.50' | 318°05.27' | S 17°02.15' | **00** |
| **01** | 223°43.07' | 281°31.17' | S 16°13.45' | 230°03.80' | 275°10.44' | S 23°49.90' | 166°09.49' | 339°04.75' | S 9°50.85' | 187°08.67' | 318°05.57' | S 17°02.06' | **01** |
| **02** | 238°45.35' | 281°31.35' | S 16°13.51' | 245°04.27' | 275°12.43' | S 23°49.86' | 181°11.41' | 339°05.29' | S 9°50.64' | 202°10.83' | 318°05.87' | S 17°01.98' | **02** |
| **03** | 253°47.63' | 281°31.54' | S 16°13.57' | 260°04.74' | 275°14.42' | S 23°49.83' | 196°13.33' | 339°05.83' | S 9°50.42' | 217°12.99' | 318°06.17' | S 17°01.89' | **03** |
| **04** | 268°49.90' | 281°31.73' | S 16°13.63' | 275°05.21' | 275°16.42' | S 23°49.79' | 211°15.26' | 339°06.37' | S 9°50.21' | 232°15.16' | 318°06.47' | S 17°01.80' | **04** |
| **05** | 283°52.17' | 281°31.92' | S 16°13.70' | 290°05.68' | 275°18.41' | S 23°49.75' | 226°17.18' | 339°06.91' | S 9°49.99' | 247°17.32' | 318°06.77' | S 17°01.72' | **05** |
| **06** | 298°54.44' | 281°32.12' | S 16°13.76' | 305°06.15' | 275°20.40' | S 23°49.72' | 241°19.10' | 339°07.46' | S 9°49.78' | 262°19.49' | 318°07.07' | S 17°01.63' | **06** |
| **07** | 313°56.70' | 281°32.32' | S 16°13.82' | 320°06.62' | 275°22.40' | S 23°49.68' | 256°21.02' | 339°08.00' | S 9°49.57' | 277°21.65' | 318°07.37' | S 17°01.55' | **07** |
| **08** | 328°58.96' | 281°32.53' | S 16°13.89' | 335°07.09' | 275°24.39' | S 23°49.64' | 271°22.95' | 339°08.54' | S 9°49.35' | 292°23.81' | 318°07.67' | S 17°01.46' | **08** |
| **09** | 344°01.21' | 281°32.74' | S 16°13.95' | 350°07.57' | 275°26.39' | S 23°49.60' | 286°24.87' | 339°09.08' | S 9°49.14' | 307°25.98' | 318°07.97' | S 17°01.37' | **09** |
| **10** | 359°03.46' | 281°32.95' | S 16°14.02' | 5°08.04' | 275°28.38' | S 23°49.56' | 301°26.79' | 339°09.62' | S 9°48.92' | 322°28.14' | 318°08.27' | S 17°01.29' | **10** |
| **11** | 14°05.71' | 281°33.17' | S 16°14.08' | 20°08.51' | 275°30.37' | S 23°49.52' | 316°28.72' | 339°10.16' | S 9°48.71' | 337°30.31' | 318°08.57' | S 17°01.20' | **11** |
| **12** | 29°07.95' | 281°33.40' | S 16°14.15' | 35°08.98' | 275°32.37' | S 23°49.48' | 331°30.64' | 339°10.70' | S 9°48.49' | 352°32.47' | 318°08.87' | S 17°01.11' | **12** |
| **13** | 44°10.18' | 281°33.62' | S 16°14.21' | 50°09.45' | 275°34.36' | S 23°49.44' | 346°32.56' | 339°11.25' | S 9°48.28' | 7°34.64' | 318°09.17' | S 17°01.03' | **13** |
| **14** | 59°12.42' | 281°33.86' | S 16°14.28' | 65°09.92' | 275°36.35' | S 23°49.40' | 1°34.48' | 339°11.79' | S 9°48.06' | 22°36.80' | 318°09.47' | S 17°00.94' | **14** |
| **15** | 74°14.64' | 281°34.09' | S 16°14.35' | 80°10.39' | 275°38.35' | S 23°49.36' | 16°36.41' | 339°12.33' | S 9°47.85' | 37°38.96' | 318°09.77' | S 17°00.86' | **15** |
| **16** | 89°16.87' | 281°34.33' | S 16°14.41' | 95°10.86' | 275°40.34' | S 23°49.32' | 31°38.33' | 339°12.87' | S 9°47.63' | 52°41.13' | 318°10.07' | S 17°00.77' | **16** |
| **17** | 104°19.09' | 281°34.58' | S 16°14.48' | 110°11.33' | 275°42.33' | S 23°49.28' | 46°40.25' | 339°13.41' | S 9°47.42' | 67°43.29' | 318°10.37' | S 17°00.68' | **17** |
| **18** | 119°21.30' | 281°34.83' | S 16°14.55' | 125°11.80' | 275°44.33' | S 23°49.24' | 61°42.17' | 339°13.96' | S 9°47.20' | 82°45.46' | 318°10.67' | S 17°00.60' | **18** |
| **19** | 134°23.51' | 281°35.08' | S 16°14.62' | 140°12.27' | 275°46.32' | S 23°49.19' | 76°44.09' | 339°14.50' | S 9°46.99' | 97°47.62' | 318°10.97' | S 17°00.51' | **19** |
| **20** | 149°25.72' | 281°35.34' | S 16°14.69' | 155°12.74' | 275°48.32' | S 23°49.15' | 91°46.02' | 339°15.04' | S 9°46.77' | 112°49.78' | 318°11.27' | S 17°00.42' | **20** |
| **21** | 164°27.92' | 281°35.60' | S 16°14.76' | 170°13.21' | 275°50.31' | S 23°49.11' | 106°47.94' | 339°15.58' | S 9°46.56' | 127°51.95' | 318°11.57' | S 17°00.34' | **21** |
| **22** | 179°30.12' | 281°35.86' | S 16°14.83' | 185°13.68' | 275°52.30' | S 23°49.06' | 121°49.86' | 339°16.12' | S 9°46.34' | 142°54.11' | 318°11.87' | S 17°00.25' | **22** |
| **23** | 194°32.31' | 281°36.14' | S 16°14.90' | 200°14.15' | 275°54.30' | S 23°49.02' | 136°51.78' | 339°16.67' | S 9°46.13' | 157°56.28' | 318°12.17' | S 17°00.17' | **23** |
| **24** | 209°34.50' | 281°36.41' | S 16°14.97' | 215°14.62' | 275°56.29' | S 23°48.98' | 151°53.70' | 339°17.21' | S 9°45.91' | 172°58.44' | 318°12.47' | S 17°00.08' | **24** |
| | δ 15.0381° | | *d* 0.0609' | δ 15.0079° | | *d* 0.0351' | δ 15.0321° | | *d* 0.2142' | δ 15.0361° | | *d* 0.0862' | |

## *Tuesday, February 1st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°37.91' | 14.9985° | 314°33.00' | S 17°10.11' | 0.7081' | 178°36.79' | 14.3969° | 312°34.13' | S 22°36.81' | 8.7745' | 60.1571' | 131°10.91' | **00** |
| **01** | 191°37.83' | 14.9985° | 314°35.55' | S 17°09.40' | 0.7087' | 193°00.71' | 14.3987° | 313°12.67' | S 22°27.89' | 8.9235' | 60.1387' | 146°13.38' | **01** |
| **02** | 206°37.74' | 14.9985° | 314°38.10' | S 17°08.69' | 0.7092' | 207°24.74' | 14.4005° | 313°51.11' | S 22°18.82' | 9.0706' | 60.1199' | 161°15.84' | **02** |
| **03** | 221°37.65' | 14.9986° | 314°40.65' | S 17°07.98' | 0.7097' | 221°48.87' | 14.4023° | 314°29.43' | S 22°09.60' | 9.2158' | 60.1007' | 176°18.31' | **03** |
| **04** | 236°37.57' | 14.9986° | 314°43.20' | S 17°07.27' | 0.7102' | 236°13.12' | 14.4041° | 315°07.65' | S 22°00.24' | 9.3591' | 60.0811' | 191°20.77' | **04** |
| **05** | 251°37.48' | 14.9986° | 314°45.75' | S 17°06.56' | 0.7108' | 250°37.47' | 14.4059° | 315°45.76' | S 21°50.74' | 9.5005' | 60.0611' | 206°23.23' | **05** |
| **06** | 266°37.39' | 14.9986° | 314°48.30' | S 17°05.85' | 0.7113' | 265°01.94' | 14.4078° | 316°23.76' | S 21°41.10' | 9.6400' | 60.0407' | 221°25.70' | **06** |
| **07** | 281°37.31' | 14.9986° | 314°50.85' | S 17°05.13' | 0.7118' | 279°26.51' | 14.4096° | 317°01.65' | S 21°31.33' | 9.7776' | 60.0199' | 236°28.16' | **07** |
| **08** | 296°37.22' | 14.9986° | 314°53.40' | S 17°04.42' | 0.7123' | 293°51.20' | 14.4115° | 317°39.42' | S 21°21.41' | 9.9132' | 59.9987' | 251°30.63' | **08** |
| **09** | 311°37.14' | 14.9986° | 314°55.95' | S 17°03.71' | 0.7129' | 308°16.01' | 14.4134° | 318°17.09' | S 21°11.37' | 10.0468' | 59.9771' | 266°33.09' | **09** |
| **10** | 326°37.05' | 14.9986° | 314°58.50' | S 17°03.00' | 0.7134' | 322°40.92' | 14.4153° | 318°54.63' | S 21°01.19' | 10.1785' | 59.9551' | 281°35.55' | **10** |
| **11** | 341°36.97' | 14.9986° | 315°01.05' | S 17°02.28' | 0.7139' | 337°05.95' | 14.4172° | 319°32.07' | S 20°50.88' | 10.3082' | 59.9327' | 296°38.02' | **11** |
| **12** | 356°36.89' | 14.9986° | 315°03.60' | S 17°01.57' | 0.7144' | 351°31.09' | 14.4191° | 320°09.39' | S 20°40.44' | 10.4359' | 59.9100' | 311°40.48' | **12** |
| **13** | 11°36.80' | 14.9986° | 315°06.14' | S 17°00.85' | 0.7149' | 5°56.35' | 14.4210° | 320°46.59' | S 20°29.88' | 10.5616' | 59.8868' | 326°42.95' | **13** |
| **14** | 26°36.72' | 14.9986° | 315°08.69' | S 17°00.14' | 0.7155' | 20°21.73' | 14.4229° | 321°23.68' | S 20°19.20' | 10.6853' | 59.8633' | 341°45.41' | **14** |
| **15** | 41°36.64' | 14.9986° | 315°11.24' | S 16°59.42' | 0.7160' | 34°47.22' | 14.4248° | 322°00.66' | S 20°08.39' | 10.8070' | 59.8395' | 356°47.88' | **15** |
| **16** | 56°36.56' | 14.9986° | 315°13.78' | S 16°58.70' | 0.7165' | 49°12.82' | 14.4268° | 322°37.52' | S 19°57.46' | 10.9266' | 59.8152' | 11°50.34' | **16** |
| **17** | 71°36.47' | 14.9986° | 315°16.33' | S 16°57.99' | 0.7170' | 63°38.55' | 14.4287° | 323°14.26' | S 19°46.42' | 11.0443' | 59.7906' | 26°52.80' | **17** |
| **18** | 86°36.39' | 14.9986° | 315°18.88' | S 16°57.27' | 0.7175' | 78°04.38' | 14.4306° | 323°50.88' | S 19°35.26' | 11.1600' | 59.7657' | 41°55.27' | **18** |
| **19** | 101°36.31' | 14.9986° | 315°21.42' | S 16°56.55' | 0.7180' | 92°30.34' | 14.4326° | 324°27.39' | S 19°23.98' | 11.2736' | 59.7404' | 56°57.73' | **19** |
| **20** | 116°36.23' | 14.9987° | 315°23.97' | S 16°55.83' | 0.7186' | 106°56.41' | 14.4345° | 325°03.78' | S 19°12.60' | 11.3852' | 59.7147' | 72°00.20' | **20** |
| **21** | 131°36.15' | 14.9987° | 315°26.51' | S 16°55.11' | 0.7191' | 121°22.60' | 14.4365° | 325°40.06' | S 19°01.10' | 11.4949' | 59.6887' | 87°02.66' | **21** |
| **22** | 146°36.07' | 14.9987° | 315°29.05' | S 16°54.39' | 0.7196' | 135°48.91' | 14.4384° | 326°16.22' | S 18°49.50' | 11.6025' | 59.6624' | 102°05.12' | **22** |
| **23** | 161°35.99' | 14.9987° | 315°31.60' | S 16°53.67' | 0.7201' | 150°15.33' | 14.4404° | 326°52.26' | S 18°37.79' | 11.7080' | 59.6357' | 117°07.59' | **23** |
| **24** | 176°35.91' | 14.9987° | 315°34.14' | S 16°52.95' | 0.7206' | 164°41.86' | 14.4423° | 327°28.19' | S 18°25.98' | 11.8116' | 59.6087' | 132°10.05' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2311' | hp (π) 0.1487' | ½Ø 16.3243' | 0.27953213704680 07% +cre |
| | EoT at 12:00 UTC : -13m 32s (δ -0.33 s/h) | | Phase at 12:00 UTC : 3.54° | |
| | Meridian Pass. Time : 12:13:32.452 | | Age : 0.3 day(s) | |

| UT | Venus ♀ (π 0.43') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 209°34.50' | 281°36.41' | S 16°14.97' | 215°14.62' | 275°56.29' | S 23°48.98' | 151°53.70' | 339°17.21' | S 9°45.91' | 172°58.44' | 318°12.47' | S 17°00.08' | **00** |
| **01** | 224°36.69' | 281°36.69' | S 16°15.04' | 230°15.09' | 275°58.29' | S 23°48.93' | 166°55.63' | 339°17.75' | S 9°45.70' | 188°00.61' | 318°12.77' | S 16°59.99' | **01** |
| **02** | 239°38.87' | 281°36.97' | S 16°15.11' | 245°15.56' | 276°00.28' | S 23°48.88' | 181°57.55' | 339°18.29' | S 9°45.48' | 203°02.77' | 318°13.07' | S 16°59.91' | **02** |
| **03** | 254°41.05' | 281°37.26' | S 16°15.18' | 260°16.03' | 276°02.28' | S 23°48.84' | 196°59.47' | 339°18.84' | S 9°45.27' | 218°04.93' | 318°13.37' | S 16°59.82' | **03** |
| **04** | 269°43.22' | 281°37.55' | S 16°15.25' | 275°16.50' | 276°04.27' | S 23°48.79' | 212°01.39' | 339°19.38' | S 9°45.05' | 233°07.10' | 318°13.67' | S 16°59.73' | **04** |
| **05** | 284°45.39' | 281°37.84' | S 16°15.33' | 290°16.97' | 276°06.26' | S 23°48.75' | 227°03.31' | 339°19.92' | S 9°44.84' | 248°09.26' | 318°13.97' | S 16°59.65' | **05** |
| **06** | 299°47.55' | 281°38.14' | S 16°15.40' | 305°17.44' | 276°08.26' | S 23°48.70' | 242°05.23' | 339°20.46' | S 9°44.62' | 263°11.43' | 318°14.27' | S 16°59.56' | **06** |
| **07** | 314°49.72' | 281°38.45' | S 16°15.47' | 320°17.91' | 276°10.25' | S 23°48.65' | 257°07.16' | 339°21.01' | S 9°44.41' | 278°13.59' | 318°14.57' | S 16°59.47' | **07** |
| **08** | 329°51.87' | 281°38.75' | S 16°15.55' | 335°18.38' | 276°12.25' | S 23°48.60' | 272°09.08' | 339°21.55' | S 9°44.19' | 293°15.75' | 318°14.87' | S 16°59.39' | **08** |
| **09** | 344°54.02' | 281°39.07' | S 16°15.62' | 350°18.85' | 276°14.24' | S 23°48.55' | 287°11.00' | 339°22.09' | S 9°43.98' | 308°17.92' | 318°15.17' | S 16°59.30' | **09** |
| **10** | 359°56.17' | 281°39.38' | S 16°15.69' | 5°19.32' | 276°16.24' | S 23°48.51' | 302°12.92' | 339°22.64' | S 9°43.76' | 323°20.08' | 318°15.47' | S 16°59.22' | **10** |
| **11** | 14°58.32' | 281°39.70' | S 16°15.77' | 20°19.79' | 276°18.23' | S 23°48.46' | 317°14.84' | 339°23.18' | S 9°43.55' | 338°22.25' | 318°15.77' | S 16°59.13' | **11** |
| **12** | 30°00.46' | 281°40.03' | S 16°15.84' | 35°20.26' | 276°20.23' | S 23°48.41' | 332°16.76' | 339°23.72' | S 9°43.33' | 353°24.41' | 318°16.07' | S 16°59.04' | **12** |
| **13** | 45°02.59' | 281°40.36' | S 16°15.92' | 50°20.73' | 276°22.22' | S 23°48.36' | 347°18.68' | 339°24.26' | S 9°43.12' | 8°26.57' | 318°16.37' | S 16°58.96' | **13** |
| **14** | 60°04.72' | 281°40.69' | S 16°16.00' | 65°21.20' | 276°24.22' | S 23°48.31' | 2°20.60' | 339°24.81' | S 9°42.90' | 23°28.74' | 318°16.67' | S 16°58.87' | **14** |
| **15** | 75°06.85' | 281°41.03' | S 16°16.07' | 80°21.67' | 276°26.21' | S 23°48.26' | 17°22.52' | 339°25.35' | S 9°42.68' | 38°30.90' | 318°16.97' | S 16°58.78' | **15** |
| **16** | 90°08.97' | 281°41.37' | S 16°16.15' | 95°22.14' | 276°28.20' | S 23°48.20' | 32°24.45' | 339°25.89' | S 9°42.47' | 53°33.07' | 318°17.27' | S 16°58.70' | **16** |
| **17** | 105°11.09' | 281°41.71' | S 16°16.23' | 110°22.60' | 276°30.20' | S 23°48.15' | 47°26.37' | 339°26.44' | S 9°42.25' | 68°35.23' | 318°17.57' | S 16°58.61' | **17** |
| **18** | 120°13.21' | 281°42.06' | S 16°16.30' | 125°23.07' | 276°32.19' | S 23°48.10' | 62°28.29' | 339°26.98' | S 9°42.04' | 83°37.39' | 318°17.87' | S 16°58.52' | **18** |
| **19** | 135°15.32' | 281°42.41' | S 16°16.38' | 140°23.54' | 276°34.19' | S 23°48.05' | 77°30.21' | 339°27.52' | S 9°41.82' | 98°39.56' | 318°18.17' | S 16°58.44' | **19** |
| **20** | 150°17.42' | 281°42.77' | S 16°16.46' | 155°24.01' | 276°36.18' | S 23°47.99' | 92°32.13' | 339°28.07' | S 9°41.61' | 113°41.72' | 318°18.47' | S 16°58.35' | **20** |
| **21** | 165°19.53' | 281°43.13' | S 16°16.54' | 170°24.48' | 276°38.18' | S 23°47.94' | 107°34.05' | 339°28.61' | S 9°41.39' | 128°43.89' | 318°18.77' | S 16°58.26' | **21** |
| **22** | 180°21.63' | 281°43.50' | S 16°16.62' | 185°24.95' | 276°40.17' | S 23°47.89' | 122°35.97' | 339°29.16' | S 9°41.17' | 143°46.05' | 318°19.07' | S 16°58.18' | **22** |
| **23** | 195°23.72' | 281°43.87' | S 16°16.70' | 200°25.42' | 276°42.17' | S 23°47.83' | 137°37.89' | 339°29.70' | S 9°40.96' | 158°48.21' | 318°19.37' | S 16°58.09' | **23** |
| **24** | 210°25.81' | 281°44.24' | S 16°16.77' | 215°25.89' | 276°44.16' | S 23°47.78' | 152°39.81' | 339°30.24' | S 9°40.74' | 173°50.38' | 318°19.67' | S 16°58.01' | **24** |
| | δ 15.0364° | | *d* 0.0710' | δ 15.0078° | | *d* 0.0451' | δ 15.0320° | | *d* 0.2151' | δ 15.0361° | | *d* 0.0863' | |

## *Wednesday, February 2nd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°35.91' | 14.9987° | 315°34.14' | S 16°52.95' | 0.7206' | 164°41.86' | 14.4423° | 327°28.19' | S 18°25.98' | 11.8116' | 59.6087' | 132°10.05' | **00** |
| **01** | 191°35.83' | 14.9987° | 315°36.68' | S 16°52.23' | 0.7211' | 179°08.52' | 14.4442° | 328°04.00' | S 18°14.07' | 11.9132' | 59.5814' | 147°12.52' | **01** |
| **02** | 206°35.75' | 14.9987° | 315°39.23' | S 16°51.51' | 0.7217' | 193°35.29' | 14.4462° | 328°39.69' | S 18°02.06' | 12.0127' | 59.5538' | 162°14.98' | **02** |
| **03** | 221°35.68' | 14.9987° | 315°41.77' | S 16°50.79' | 0.7222' | 208°02.18' | 14.4481° | 329°15.27' | S 17°49.95' | 12.1103' | 59.5258' | 177°17.44' | **03** |
| **04** | 236°35.60' | 14.9987° | 315°44.31' | S 16°50.07' | 0.7227' | 222°29.18' | 14.4500° | 329°50.73' | S 17°37.74' | 12.2058' | 59.4976' | 192°19.91' | **04** |
| **05** | 251°35.52' | 14.9987° | 315°46.85' | S 16°49.34' | 0.7232' | 236°56.29' | 14.4520° | 330°26.08' | S 17°25.44' | 12.2994' | 59.4690' | 207°22.37' | **05** |
| **06** | 266°35.44' | 14.9987° | 315°49.39' | S 16°48.62' | 0.7237' | 251°23.53' | 14.4539° | 331°01.31' | S 17°13.05' | 12.3910' | 59.4401' | 222°24.84' | **06** |
| **07** | 281°35.37' | 14.9987° | 315°51.94' | S 16°47.90' | 0.7242' | 265°50.87' | 14.4558° | 331°36.43' | S 17°00.57' | 12.4806' | 59.4110' | 237°27.30' | **07** |
| **08** | 296°35.29' | 14.9987° | 315°54.48' | S 16°47.17' | 0.7247' | 280°18.34' | 14.4577° | 332°11.43' | S 16°48.00' | 12.5682' | 59.3815' | 252°29.77' | **08** |
| **09** | 311°35.21' | 14.9987° | 315°57.02' | S 16°46.45' | 0.7252' | 294°45.91' | 14.4596° | 332°46.32' | S 16°35.35' | 12.6539' | 59.3518' | 267°32.23' | **09** |
| **10** | 326°35.14' | 14.9987° | 315°59.56' | S 16°45.72' | 0.7257' | 309°13.60' | 14.4615° | 333°21.10' | S 16°22.61' | 12.7376' | 59.3218' | 282°34.69' | **10** |
| **11** | 341°35.06' | 14.9987° | 316°02.10' | S 16°44.99' | 0.7263' | 323°41.40' | 14.4633° | 333°55.76' | S 16°09.79' | 12.8193' | 59.2915' | 297°37.16' | **11** |
| **12** | 356°34.99' | 14.9987° | 316°04.64' | S 16°44.27' | 0.7268' | 338°09.31' | 14.4652° | 334°30.31' | S 15°56.89' | 12.8992' | 59.2610' | 312°39.62' | **12** |
| **13** | 11°34.91' | 14.9988° | 316°07.17' | S 16°43.54' | 0.7273' | 352°37.34' | 14.4671° | 335°04.75' | S 15°43.91' | 12.9771' | 59.2302' | 327°42.09' | **13** |
| **14** | 26°34.84' | 14.9988° | 316°09.71' | S 16°42.81' | 0.7278' | 7°05.47' | 14.4689° | 335°39.08' | S 15°30.86' | 13.0531' | 59.1991' | 342°44.55' | **14** |
| **15** | 41°34.76' | 14.9988° | 316°12.25' | S 16°42.08' | 0.7283' | 21°33.72' | 14.4708° | 336°13.30' | S 15°17.73' | 13.1272' | 59.1678' | 357°47.01' | **15** |
| **16** | 56°34.69' | 14.9988° | 316°14.79' | S 16°41.35' | 0.7288' | 36°02.07' | 14.4726° | 336°47.41' | S 15°04.53' | 13.1994' | 59.1362' | 12°49.48' | **16** |
| **17** | 71°34.62' | 14.9988° | 316°17.33' | S 16°40.63' | 0.7293' | 50°30.54' | 14.4744° | 337°21.41' | S 14°51.26' | 13.2697' | 59.1044' | 27°51.94' | **17** |
| **18** | 86°34.54' | 14.9988° | 316°19.86' | S 16°39.90' | 0.7298' | 64°59.11' | 14.4762° | 337°55.30' | S 14°37.93' | 13.3381' | 59.0724' | 42°54.41' | **18** |
| **19** | 101°34.47' | 14.9988° | 316°22.40' | S 16°39.16' | 0.7303' | 79°27.79' | 14.4780° | 338°29.08' | S 14°24.52' | 13.4047' | 59.0401' | 57°56.87' | **19** |
| **20** | 116°34.40' | 14.9988° | 316°24.94' | S 16°38.43' | 0.7308' | 93°56.58' | 14.4798° | 339°02.76' | S 14°11.05' | 13.4694' | 59.0076' | 72°59.33' | **20** |
| **21** | 131°34.33' | 14.9988° | 316°27.47' | S 16°37.70' | 0.7313' | 108°25.47' | 14.4815° | 339°36.33' | S 13°57.52' | 13.5323' | 58.9749' | 88°01.80' | **21** |
| **22** | 146°34.26' | 14.9988° | 316°30.01' | S 16°36.97' | 0.7318' | 122°54.46' | 14.4833° | 340°09.80' | S 13°43.93' | 13.5934' | 58.9420' | 103°04.26' | **22** |
| **23** | 161°34.18' | 14.9988° | 316°32.54' | S 16°36.24' | 0.7323' | 137°23.57' | 14.4850° | 340°43.16' | S 13°30.27' | 13.6527' | 58.9089' | 118°06.73' | **23** |
| **24** | 176°34.11' | 14.9988° | 316°35.08' | S 16°35.51' | 0.7328' | 151°52.77' | 14.4867° | 341°16.42' | S 13°16.56' | 13.7102' | 58.8755' | 133°09.19' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2287' | hp (π) 0.1487' | ½Ø 16.1475' | 2.37715046294480<br>46% +cre |
| | EoT at 12:00 UTC : -13m 40s (δ -0.30 s/h) | | Phase at 12:00 UTC : 16.99° | |
| | Meridian Pass. Time : 12:13:40.053 | | Age : 1.3 day(s) | |

| UT | Venus ♀ (π 0.43') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 210°25.81' | 281°44.24' | S 16°16.77' | 215°25.89' | 276°44.16' | S 23°47.78' | 152°39.81' | 339°30.24' | S 9°40.74' | 173°50.38' | 318°19.67' | S 16°58.01' | **00** |
| **01** | 225°27.90' | 281°44.62' | S 16°16.85' | 230°26.36' | 276°46.16' | S 23°47.72' | 167°41.73' | 339°30.79' | S 9°40.53' | 188°52.54' | 318°19.97' | S 16°57.92' | **01** |
| **02** | 240°29.98' | 281°45.00' | S 16°16.93' | 245°26.83' | 276°48.15' | S 23°47.67' | 182°43.65' | 339°31.33' | S 9°40.31' | 203°54.71' | 318°20.27' | S 16°57.83' | **02** |
| **03** | 255°32.06' | 281°45.39' | S 16°17.01' | 260°27.30' | 276°50.15' | S 23°47.61' | 197°45.57' | 339°31.87' | S 9°40.09' | 218°56.87' | 318°20.57' | S 16°57.75' | **03** |
| **04** | 270°34.13' | 281°45.78' | S 16°17.10' | 275°27.77' | 276°52.14' | S 23°47.55' | 212°47.49' | 339°32.42' | S 9°39.88' | 233°59.04' | 318°20.87' | S 16°57.66' | **04** |
| **05** | 285°36.20' | 281°46.17' | S 16°17.18' | 290°28.23' | 276°54.14' | S 23°47.50' | 227°49.41' | 339°32.96' | S 9°39.66' | 249°01.20' | 318°21.17' | S 16°57.57' | **05** |
| **06** | 300°38.27' | 281°46.57' | S 16°17.26' | 305°28.70' | 276°56.13' | S 23°47.44' | 242°51.33' | 339°33.51' | S 9°39.45' | 264°03.36' | 318°21.47' | S 16°57.49' | **06** |
| **07** | 315°40.33' | 281°46.97' | S 16°17.34' | 320°29.17' | 276°58.13' | S 23°47.38' | 257°53.25' | 339°34.05' | S 9°39.23' | 279°05.53' | 318°21.77' | S 16°57.40' | **07** |
| **08** | 330°42.39' | 281°47.38' | S 16°17.42' | 335°29.64' | 277°00.12' | S 23°47.32' | 272°55.17' | 339°34.60' | S 9°39.01' | 294°07.69' | 318°22.07' | S 16°57.31' | **08** |
| **09** | 345°44.44' | 281°47.79' | S 16°17.50' | 350°30.11' | 277°02.12' | S 23°47.27' | 287°57.09' | 339°35.14' | S 9°38.80' | 309°09.86' | 318°22.37' | S 16°57.23' | **09** |
| **10** | 0°46.49' | 281°48.20' | S 16°17.59' | 5°30.58' | 277°04.11' | S 23°47.21' | 302°59.01' | 339°35.68' | S 9°38.58' | 324°12.02' | 318°22.67' | S 16°57.14' | **10** |
| **11** | 15°48.53' | 281°48.62' | S 16°17.67' | 20°31.05' | 277°06.11' | S 23°47.15' | 318°00.93' | 339°36.23' | S 9°38.36' | 339°14.18' | 318°22.97' | S 16°57.05' | **11** |
| **12** | 30°50.58' | 281°49.05' | S 16°17.75' | 35°31.52' | 277°08.11' | S 23°47.09' | 333°02.85' | 339°36.77' | S 9°38.15' | 354°16.35' | 318°23.27' | S 16°56.97' | **12** |
| **13** | 45°52.61' | 281°49.47' | S 16°17.84' | 50°31.99' | 277°10.10' | S 23°47.03' | 348°04.77' | 339°37.32' | S 9°37.93' | 9°18.51' | 318°23.57' | S 16°56.88' | **13** |
| **14** | 60°54.65' | 281°49.90' | S 16°17.92' | 65°32.45' | 277°12.10' | S 23°46.97' | 3°06.69' | 339°37.86' | S 9°37.71' | 24°20.68' | 318°23.87' | S 16°56.79' | **14** |
| **15** | 75°56.68' | 281°50.34' | S 16°18.01' | 80°32.92' | 277°14.09' | S 23°46.91' | 18°08.61' | 339°38.41' | S 9°37.50' | 39°22.84' | 318°24.17' | S 16°56.71' | **15** |
| **16** | 90°58.70' | 281°50.78' | S 16°18.09' | 95°33.39' | 277°16.09' | S 23°46.84' | 33°10.53' | 339°38.95' | S 9°37.28' | 54°25.00' | 318°24.47' | S 16°56.62' | **16** |
| **17** | 106°00.72' | 281°51.22' | S 16°18.18' | 110°33.86' | 277°18.08' | S 23°46.78' | 48°12.45' | 339°39.50' | S 9°37.06' | 69°27.17' | 318°24.77' | S 16°56.53' | **17** |
| **18** | 121°02.74' | 281°51.67' | S 16°18.26' | 125°34.33' | 277°20.08' | S 23°46.72' | 63°14.37' | 339°40.04' | S 9°36.85' | 84°29.33' | 318°25.08' | S 16°56.45' | **18** |
| **19** | 136°04.75' | 281°52.12' | S 16°18.35' | 140°34.80' | 277°22.07' | S 23°46.66' | 78°16.29' | 339°40.59' | S 9°36.63' | 99°31.50' | 318°25.38' | S 16°56.36' | **19** |
| **20** | 151°06.76' | 281°52.57' | S 16°18.43' | 155°35.27' | 277°24.07' | S 23°46.59' | 93°18.20' | 339°41.13' | S 9°36.41' | 114°33.66' | 318°25.68' | S 16°56.27' | **20** |
| **21** | 166°08.77' | 281°53.03' | S 16°18.52' | 170°35.73' | 277°26.06' | S 23°46.53' | 108°20.12' | 339°41.68' | S 9°36.20' | 129°35.82' | 318°25.98' | S 16°56.19' | **21** |
| **22** | 181°10.77' | 281°53.49' | S 16°18.61' | 185°36.20' | 277°28.06' | S 23°46.47' | 123°22.04' | 339°42.22' | S 9°35.98' | 144°37.99' | 318°26.28' | S 16°56.10' | **22** |
| **23** | 196°12.77' | 281°53.96' | S 16°18.69' | 200°36.67' | 277°30.06' | S 23°46.40' | 138°23.96' | 339°42.77' | S 9°35.76' | 159°40.15' | 318°26.58' | S 16°56.01' | **23** |
| **24** | 211°14.76' | 281°54.43' | S 16°18.78' | 215°37.14' | 277°32.05' | S 23°46.34' | 153°25.88' | 339°43.31' | S 9°35.55' | 174°42.32' | 318°26.88' | S 16°55.93' | **24** |
| | δ 15.0348° | | *d* 0.0798' | δ 15.0078° | | *d* 0.0552' | δ 15.0320° | | *d* 0.2160' | δ 15.0361° | | *d* 0.0865' | |

## *Thursday, February 3rd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°34.11' | 14.9988° | 316°35.08' | S 16°35.51' | 0.7328' | 151°52.77' | 14.4867° | 341°16.42' | S 13°16.56' | 13.7102' | 58.8755' | 133°09.19' | **00** |
| **01** | 191°34.04' | 14.9988° | 316°37.61' | S 16°34.77' | 0.7333' | 166°22.08' | 14.4885° | 341°49.58' | S 13°02.80' | 13.7659' | 58.8420' | 148°11.66' | **01** |
| **02** | 206°33.97' | 14.9988° | 316°40.15' | S 16°34.04' | 0.7338' | 180°51.49' | 14.4901° | 342°22.63' | S 12°48.98' | 13.8199' | 58.8083' | 163°14.12' | **02** |
| **03** | 221°33.90' | 14.9988° | 316°42.68' | S 16°33.30' | 0.7343' | 195°21.00' | 14.4918° | 342°55.59' | S 12°35.11' | 13.8720' | 58.7744' | 178°16.58' | **03** |
| **04** | 236°33.83' | 14.9988° | 316°45.21' | S 16°32.57' | 0.7348' | 209°50.60' | 14.4935° | 343°28.44' | S 12°21.18' | 13.9225' | 58.7403' | 193°19.05' | **04** |
| **05** | 251°33.77' | 14.9989° | 316°47.75' | S 16°31.83' | 0.7353' | 224°20.31' | 14.4951° | 344°01.20' | S 12°07.21' | 13.9712' | 58.7061' | 208°21.51' | **05** |
| **06** | 266°33.70' | 14.9989° | 316°50.28' | S 16°31.10' | 0.7358' | 238°50.12' | 14.4967° | 344°33.86' | S 11°53.19' | 14.0183' | 58.6717' | 223°23.98' | **06** |
| **07** | 281°33.63' | 14.9989° | 316°52.81' | S 16°30.36' | 0.7363' | 253°20.02' | 14.4984° | 345°06.42' | S 11°39.13' | 14.0636' | 58.6371' | 238°26.44' | **07** |
| **08** | 296°33.56' | 14.9989° | 316°55.34' | S 16°29.63' | 0.7368' | 267°50.02' | 14.5000° | 345°38.89' | S 11°25.02' | 14.1073' | 58.6024' | 253°28.90' | **08** |
| **09** | 311°33.49' | 14.9989° | 316°57.87' | S 16°28.89' | 0.7373' | 282°20.11' | 14.5015° | 346°11.26' | S 11°10.87' | 14.1493' | 58.5675' | 268°31.37' | **09** |
| **10** | 326°33.43' | 14.9989° | 317°00.41' | S 16°28.15' | 0.7378' | 296°50.29' | 14.5031° | 346°43.54' | S 10°56.68' | 14.1896' | 58.5325' | 283°33.83' | **10** |
| **11** | 341°33.36' | 14.9989° | 317°02.94' | S 16°27.41' | 0.7383' | 311°20.57' | 14.5046° | 347°15.73' | S 10°42.46' | 14.2284' | 58.4974' | 298°36.30' | **11** |
| **12** | 356°33.29' | 14.9989° | 317°05.47' | S 16°26.67' | 0.7388' | 325°50.94' | 14.5062° | 347°47.82' | S 10°28.19' | 14.2655' | 58.4621' | 313°38.76' | **12** |
| **13** | 11°33.23' | 14.9989° | 317°08.00' | S 16°25.93' | 0.7393' | 340°21.40' | 14.5077° | 348°19.82' | S 10°13.89' | 14.3010' | 58.4267' | 328°41.22' | **13** |
| **14** | 26°33.16' | 14.9989° | 317°10.53' | S 16°25.19' | 0.7398' | 354°51.95' | 14.5091° | 348°51.74' | S 9°59.55' | 14.3349' | 58.3912' | 343°43.69' | **14** |
| **15** | 41°33.09' | 14.9989° | 317°13.06' | S 16°24.45' | 0.7403' | 9°22.59' | 14.5106° | 349°23.57' | S 9°45.19' | 14.3673' | 58.3555' | 358°46.15' | **15** |
| **16** | 56°33.03' | 14.9989° | 317°15.59' | S 16°23.71' | 0.7408' | 23°53.31' | 14.5121° | 349°55.31' | S 9°30.79' | 14.3981' | 58.3198' | 13°48.62' | **16** |
| **17** | 71°32.97' | 14.9989° | 317°18.12' | S 16°22.97' | 0.7413' | 38°24.12' | 14.5135° | 350°26.96' | S 9°16.36' | 14.4274' | 58.2839' | 28°51.08' | **17** |
| **18** | 86°32.90' | 14.9989° | 317°20.64' | S 16°22.23' | 0.7418' | 52°55.01' | 14.5149° | 350°58.53' | S 9°01.91' | 14.4551' | 58.2480' | 43°53.54' | **18** |
| **19** | 101°32.84' | 14.9989° | 317°23.17' | S 16°21.49' | 0.7423' | 67°25.99' | 14.5163° | 351°30.02' | S 8°47.43' | 14.4814' | 58.2120' | 58°56.01' | **19** |
| **20** | 116°32.77' | 14.9989° | 317°25.70' | S 16°20.74' | 0.7428' | 81°57.05' | 14.5177° | 352°01.42' | S 8°32.92' | 14.5061' | 58.1759' | 73°58.47' | **20** |
| **21** | 131°32.71' | 14.9989° | 317°28.23' | S 16°20.00' | 0.7433' | 96°28.19' | 14.5190° | 352°32.74' | S 8°18.39' | 14.5294' | 58.1397' | 89°00.94' | **21** |
| **22** | 146°32.65' | 14.9990° | 317°30.75' | S 16°19.26' | 0.7438' | 110°59.42' | 14.5204° | 353°03.99' | S 8°03.84' | 14.5512' | 58.1034' | 104°03.40' | **22** |
| **23** | 161°32.58' | 14.9990° | 317°33.28' | S 16°18.51' | 0.7443' | 125°30.72' | 14.5217° | 353°35.15' | S 7°49.27' | 14.5716' | 58.0671' | 119°05.86' | **23** |
| **24** | 176°32.52' | 14.9990° | 317°35.81' | S 16°17.77' | 0.7447' | 140°02.09' | 14.5230° | 354°06.23' | S 7°34.68' | 14.5906' | 58.0307' | 134°08.33' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2264' | hp (π) 0.1487' | ½Ø 15.9298' | 6.91563049680473<br>1% +cre |
| | EoT at 12:00 UTC : -13m 46s (δ -0.27 s/h) | | Phase at 12:00 UTC : 30.07° | |
| | Meridian Pass. Time : 12:13:46.831 | | Age : 2.3 day(s) | |

| UT | Venus ♀ (π 0.42') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 211°14.76' | 281°54.43' | S 16°18.78' | 215°37.14' | 277°32.05' | S 23°46.34' | 153°25.88' | 339°43.31' | S 9°35.55' | 174°42.32' | 318°26.88' | S 16°55.93' | **00** |
| **01** | 226°16.75' | 281°54.91' | S 16°18.87' | 230°37.61' | 277°34.05' | S 23°46.27' | 168°27.80' | 339°43.86' | S 9°35.33' | 189°44.48' | 318°27.18' | S 16°55.84' | **01** |
| **02** | 241°18.73' | 281°55.39' | S 16°18.95' | 245°38.08' | 277°36.04' | S 23°46.21' | 183°29.72' | 339°44.40' | S 9°35.11' | 204°46.64' | 318°27.48' | S 16°55.75' | **02** |
| **03** | 256°20.71' | 281°55.87' | S 16°19.04' | 260°38.54' | 277°38.04' | S 23°46.14' | 198°31.64' | 339°44.95' | S 9°34.90' | 219°48.81' | 318°27.78' | S 16°55.67' | **03** |
| **04** | 271°22.69' | 281°56.36' | S 16°19.13' | 275°39.01' | 277°40.03' | S 23°46.07' | 213°33.56' | 339°45.49' | S 9°34.68' | 234°50.97' | 318°28.08' | S 16°55.58' | **04** |
| **05** | 286°24.67' | 281°56.85' | S 16°19.22' | 290°39.48' | 277°42.03' | S 23°46.01' | 228°35.47' | 339°46.04' | S 9°34.46' | 249°53.14' | 318°28.38' | S 16°55.49' | **05** |
| **06** | 301°26.63' | 281°57.34' | S 16°19.31' | 305°39.95' | 277°44.03' | S 23°45.94' | 243°37.39' | 339°46.58' | S 9°34.25' | 264°55.30' | 318°28.68' | S 16°55.41' | **06** |
| **07** | 316°28.60' | 281°57.84' | S 16°19.40' | 320°40.42' | 277°46.02' | S 23°45.87' | 258°39.31' | 339°47.13' | S 9°34.03' | 279°57.46' | 318°28.98' | S 16°55.32' | **07** |
| **08** | 331°30.56' | 281°58.34' | S 16°19.49' | 335°40.89' | 277°48.02' | S 23°45.80' | 273°41.23' | 339°47.67' | S 9°33.81' | 294°59.63' | 318°29.28' | S 16°55.23' | **08** |
| **09** | 346°32.52' | 281°58.85' | S 16°19.58' | 350°41.35' | 277°50.01' | S 23°45.74' | 288°43.15' | 339°48.22' | S 9°33.59' | 310°01.79' | 318°29.58' | S 16°55.15' | **09** |
| **10** | 1°34.47' | 281°59.36' | S 16°19.67' | 5°41.82' | 277°52.01' | S 23°45.67' | 303°45.07' | 339°48.76' | S 9°33.38' | 325°03.96' | 318°29.88' | S 16°55.06' | **10** |
| **11** | 16°36.42' | 281°59.87' | S 16°19.76' | 20°42.29' | 277°54.01' | S 23°45.60' | 318°46.99' | 339°49.31' | S 9°33.16' | 340°06.12' | 318°30.18' | S 16°54.97' | **11** |
| **12** | 31°38.37' | 282°00.39' | S 16°19.85' | 35°42.76' | 277°56.00' | S 23°45.53' | 333°48.90' | 339°49.86' | S 9°32.94' | 355°08.28' | 318°30.48' | S 16°54.89' | **12** |
| **13** | 46°40.31' | 282°00.91' | S 16°19.94' | 50°43.23' | 277°58.00' | S 23°45.46' | 348°50.82' | 339°50.40' | S 9°32.73' | 10°10.45' | 318°30.78' | S 16°54.80' | **13** |
| **14** | 61°42.25' | 282°01.44' | S 16°20.03' | 65°43.69' | 277°59.99' | S 23°45.39' | 3°52.74' | 339°50.95' | S 9°32.51' | 25°12.61' | 318°31.08' | S 16°54.71' | **14** |
| **15** | 76°44.18' | 282°01.97' | S 16°20.12' | 80°44.16' | 278°01.99' | S 23°45.32' | 18°54.66' | 339°51.49' | S 9°32.29' | 40°14.78' | 318°31.38' | S 16°54.63' | **15** |
| **16** | 91°46.11' | 282°02.51' | S 16°20.21' | 95°44.63' | 278°03.99' | S 23°45.24' | 33°56.58' | 339°52.04' | S 9°32.07' | 55°16.94' | 318°31.68' | S 16°54.54' | **16** |
| **17** | 106°48.04' | 282°03.04' | S 16°20.30' | 110°45.10' | 278°05.98' | S 23°45.17' | 48°58.49' | 339°52.59' | S 9°31.86' | 70°19.10' | 318°31.98' | S 16°54.45' | **17** |
| **18** | 121°49.96' | 282°03.59' | S 16°20.39' | 125°45.57' | 278°07.98' | S 23°45.10' | 64°00.41' | 339°53.13' | S 9°31.64' | 85°21.27' | 318°32.28' | S 16°54.37' | **18** |
| **19** | 136°51.88' | 282°04.13' | S 16°20.49' | 140°46.03' | 278°09.97' | S 23°45.03' | 79°02.33' | 339°53.68' | S 9°31.42' | 100°23.43' | 318°32.58' | S 16°54.28' | **19** |
| **20** | 151°53.79' | 282°04.68' | S 16°20.58' | 155°46.50' | 278°11.97' | S 23°44.95' | 94°04.25' | 339°54.22' | S 9°31.20' | 115°25.60' | 318°32.88' | S 16°54.19' | **20** |
| **21** | 166°55.70' | 282°05.23' | S 16°20.67' | 170°46.97' | 278°13.97' | S 23°44.88' | 109°06.17' | 339°54.77' | S 9°30.99' | 130°27.76' | 318°33.18' | S 16°54.11' | **21** |
| **22** | 181°57.61' | 282°05.79' | S 16°20.77' | 185°47.44' | 278°15.96' | S 23°44.81' | 124°08.08' | 339°55.32' | S 9°30.77' | 145°29.92' | 318°33.48' | S 16°54.02' | **22** |
| **23** | 196°59.51' | 282°06.35' | S 16°20.86' | 200°47.91' | 278°17.96' | S 23°44.73' | 139°10.00' | 339°55.86' | S 9°30.55' | 160°32.09' | 318°33.78' | S 16°53.93' | **23** |
| **24** | 212°01.41' | 282°06.92' | S 16°20.95' | 215°48.37' | 278°19.96' | S 23°44.66' | 154°11.92' | 339°56.41' | S 9°30.33' | 175°34.25' | 318°34.08' | S 16°53.85' | **24** |
| | δ 15.0332° | | *d* 0.0874' | δ 15.0078° | | *d* 0.0652' | δ 15.0320° | | *d* 0.2169' | δ 15.0361° | | *d* 0.0866' | |

## *Friday, February 4th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°32.52' | 14.9990° | 317°35.81' | S 16°17.77' | 0.7447' | 140°02.09' | 14.5230° | 354°06.23' | S 7°34.68' | 14.5906' | 58.0307' | 134°08.33' | **00** |
| **01** | 191°32.46' | 14.9990° | 317°38.33' | S 16°17.02' | 0.7452' | 154°33.55' | 14.5243° | 354°37.24' | S 7°20.07' | 14.6081' | 57.9942' | 149°10.79' | **01** |
| **02** | 206°32.40' | 14.9990° | 317°40.86' | S 16°16.28' | 0.7457' | 169°05.08' | 14.5255° | 355°08.18' | S 7°05.44' | 14.6242' | 57.9577' | 164°13.26' | **02** |
| **03** | 221°32.34' | 14.9990° | 317°43.38' | S 16°15.53' | 0.7462' | 183°36.69' | 14.5267° | 355°39.03' | S 6°50.81' | 14.6390' | 57.9212' | 179°15.72' | **03** |
| **04** | 236°32.28' | 14.9990° | 317°45.91' | S 16°14.78' | 0.7467' | 198°08.36' | 14.5280° | 356°09.82' | S 6°36.15' | 14.6524' | 57.8846' | 194°18.18' | **04** |
| **05** | 251°32.22' | 14.9990° | 317°48.43' | S 16°14.04' | 0.7472' | 212°40.11' | 14.5292° | 356°40.54' | S 6°21.49' | 14.6645' | 57.8480' | 209°20.65' | **05** |
| **06** | 266°32.16' | 14.9990° | 317°50.96' | S 16°13.29' | 0.7477' | 227°11.93' | 14.5303° | 357°11.18' | S 6°06.81' | 14.6752' | 57.8113' | 224°23.11' | **06** |
| **07** | 281°32.10' | 14.9990° | 317°53.48' | S 16°12.54' | 0.7482' | 241°43.82' | 14.5315° | 357°41.75' | S 5°52.13' | 14.6846' | 57.7747' | 239°25.58' | **07** |
| **08** | 296°32.04' | 14.9990° | 317°56.00' | S 16°11.79' | 0.7486' | 256°15.78' | 14.5326° | 358°12.26' | S 5°37.44' | 14.6927' | 57.7380' | 254°28.04' | **08** |
| **09** | 311°31.98' | 14.9990° | 317°58.53' | S 16°11.04' | 0.7491' | 270°47.81' | 14.5337° | 358°42.70' | S 5°22.74' | 14.6995' | 57.7013' | 269°30.51' | **09** |
| **10** | 326°31.92' | 14.9990° | 318°01.05' | S 16°10.29' | 0.7496' | 285°19.90' | 14.5348° | 359°13.07' | S 5°08.03' | 14.7050' | 57.6646' | 284°32.97' | **10** |
| **11** | 341°31.86' | 14.9990° | 318°03.57' | S 16°09.54' | 0.7501' | 299°52.05' | 14.5359° | 359°43.38' | S 4°53.32' | 14.7092' | 57.6279' | 299°35.43' | **11** |
| **12** | 356°31.80' | 14.9990° | 318°06.09' | S 16°08.79' | 0.7506' | 314°24.27' | 14.5370° | 0°13.63' | S 4°38.61' | 14.7123' | 57.5912' | 314°37.90' | **12** |
| **13** | 11°31.75' | 14.9990° | 318°08.62' | S 16°08.04' | 0.7511' | 328°56.55' | 14.5380° | 0°43.81' | S 4°23.90' | 14.7140' | 57.5545' | 329°40.36' | **13** |
| **14** | 26°31.69' | 14.9990° | 318°11.14' | S 16°07.29' | 0.7516' | 343°28.89' | 14.5390° | 1°13.93' | S 4°09.18' | 14.7146' | 57.5178' | 344°42.83' | **14** |
| **15** | 41°31.63' | 14.9991° | 318°13.66' | S 16°06.54' | 0.7520' | 358°01.29' | 14.5400° | 1°43.99' | S 3°54.47' | 14.7140' | 57.4812' | 359°45.29' | **15** |
| **16** | 56°31.58' | 14.9991° | 318°16.18' | S 16°05.79' | 0.7525' | 12°33.75' | 14.5410° | 2°14.00' | S 3°39.76' | 14.7121' | 57.4445' | 14°47.75' | **16** |
| **17** | 71°31.52' | 14.9991° | 318°18.70' | S 16°05.03' | 0.7530' | 27°06.27' | 14.5420° | 2°43.95' | S 3°25.05' | 14.7091' | 57.4079' | 29°50.22' | **17** |
| **18** | 86°31.46' | 14.9991° | 318°21.22' | S 16°04.28' | 0.7535' | 41°38.84' | 14.5429° | 3°13.84' | S 3°10.34' | 14.7050' | 57.3714' | 44°52.68' | **18** |
| **19** | 101°31.41' | 14.9991° | 318°23.74' | S 16°03.53' | 0.7540' | 56°11.47' | 14.5438° | 3°43.67' | S 2°55.64' | 14.6996' | 57.3348' | 59°55.15' | **19** |
| **20** | 116°31.35' | 14.9991° | 318°26.26' | S 16°02.77' | 0.7544' | 70°44.15' | 14.5447° | 4°13.46' | S 2°40.95' | 14.6932' | 57.2984' | 74°57.61' | **20** |
| **21** | 131°31.30' | 14.9991° | 318°28.77' | S 16°02.02' | 0.7549' | 85°16.89' | 14.5456° | 4°43.19' | S 2°26.26' | 14.6856' | 57.2619' | 90°00.07' | **21** |
| **22** | 146°31.24' | 14.9991° | 318°31.29' | S 16°01.26' | 0.7554' | 99°49.67' | 14.5464° | 5°12.87' | S 2°11.59' | 14.6769' | 57.2256' | 105°02.54' | **22** |
| **23** | 161°31.19' | 14.9991° | 318°33.81' | S 16°00.51' | 0.7559' | 114°22.51' | 14.5472° | 5°42.49' | S 1°56.92' | 14.6671' | 57.1893' | 120°05.00' | **23** |
| **24** | 176°31.14' | 14.9991° | 318°36.33' | S 15°59.75' | 0.7564' | 128°55.39' | 14.5481° | 6°12.07' | S 1°42.26' | 14.6563' | 57.1530' | 135°07.47' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2239' | hp (π) 0.1487' | ½Ø 15.6925' | 13.4302110768649<br>78% +cre | |
| EoT at 12:00 UTC : -13m 52s (δ -0.23 s/h) | | Phase at 12:00 UTC : 42.72° | | |
| Meridian Pass. Time : 12:13:52.785 | | Age : 3.3 day(s) | | |

| UT | Venus ♀ (π 0.41') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 212°01.41' | 282°06.92' | S 16°20.95' | 215°48.37' | 278°19.96' | S 23°44.66' | 154°11.92' | 339°56.41' | S 9°30.33' | 175°34.25' | 318°34.08' | S 16°53.85' | **00** |
| **01** | 227°03.30' | 282°07.49' | S 16°21.05' | 230°48.84' | 278°21.95' | S 23°44.58' | 169°13.84' | 339°56.96' | S 9°30.12' | 190°36.42' | 318°34.38' | S 16°53.76' | **01** |
| **02** | 242°05.20' | 282°08.06' | S 16°21.14' | 245°49.31' | 278°23.95' | S 23°44.51' | 184°15.75' | 339°57.50' | S 9°29.90' | 205°38.58' | 318°34.68' | S 16°53.67' | **02** |
| **03** | 257°07.08' | 282°08.64' | S 16°21.23' | 260°49.78' | 278°25.94' | S 23°44.43' | 199°17.67' | 339°58.05' | S 9°29.68' | 220°40.74' | 318°34.98' | S 16°53.59' | **03** |
| **04** | 272°08.97' | 282°09.22' | S 16°21.33' | 275°50.24' | 278°27.94' | S 23°44.35' | 214°19.59' | 339°58.60' | S 9°29.46' | 235°42.91' | 318°35.28' | S 16°53.50' | **04** |
| **05** | 287°10.85' | 282°09.80' | S 16°21.42' | 290°50.71' | 278°29.94' | S 23°44.28' | 229°21.51' | 339°59.14' | S 9°29.24' | 250°45.07' | 318°35.58' | S 16°53.41' | **05** |
| **06** | 302°12.72' | 282°10.39' | S 16°21.52' | 305°51.18' | 278°31.93' | S 23°44.20' | 244°23.42' | 339°59.69' | S 9°29.03' | 265°47.24' | 318°35.88' | S 16°53.33' | **06** |
| **07** | 317°14.59' | 282°10.98' | S 16°21.61' | 320°51.65' | 278°33.93' | S 23°44.12' | 259°25.34' | 340°00.24' | S 9°28.81' | 280°49.40' | 318°36.18' | S 16°53.24' | **07** |
| **08** | 332°16.46' | 282°11.58' | S 16°21.71' | 335°52.12' | 278°35.93' | S 23°44.04' | 274°27.26' | 340°00.78' | S 9°28.59' | 295°51.57' | 318°36.48' | S 16°53.15' | **08** |
| **09** | 347°18.32' | 282°12.18' | S 16°21.80' | 350°52.58' | 278°37.92' | S 23°43.96' | 289°29.17' | 340°01.33' | S 9°28.37' | 310°53.73' | 318°36.78' | S 16°53.07' | **09** |
| **10** | 2°20.18' | 282°12.78' | S 16°21.90' | 5°53.05' | 278°39.92' | S 23°43.88' | 304°31.09' | 340°01.88' | S 9°28.15' | 325°55.89' | 318°37.08' | S 16°52.98' | **10** |
| **11** | 17°22.04' | 282°13.39' | S 16°22.00' | 20°53.52' | 278°41.92' | S 23°43.81' | 319°33.01' | 340°02.42' | S 9°27.94' | 340°58.06' | 318°37.38' | S 16°52.89' | **11** |
| **12** | 32°23.89' | 282°14.00' | S 16°22.09' | 35°53.99' | 278°43.91' | S 23°43.73' | 334°34.93' | 340°02.97' | S 9°27.72' | 356°00.22' | 318°37.68' | S 16°52.80' | **12** |
| **13** | 47°25.74' | 282°14.62' | S 16°22.19' | 50°54.45' | 278°45.91' | S 23°43.65' | 349°36.84' | 340°03.52' | S 9°27.50' | 11°02.39' | 318°37.98' | S 16°52.72' | **13** |
| **14** | 62°27.59' | 282°15.24' | S 16°22.29' | 65°54.92' | 278°47.90' | S 23°43.56' | 4°38.76' | 340°04.07' | S 9°27.28' | 26°04.55' | 318°38.28' | S 16°52.63' | **14** |
| **15** | 77°29.43' | 282°15.86' | S 16°22.38' | 80°55.39' | 278°49.90' | S 23°43.48' | 19°40.68' | 340°04.61' | S 9°27.06' | 41°06.71' | 318°38.58' | S 16°52.54' | **15** |
| **16** | 92°31.26' | 282°16.49' | S 16°22.48' | 95°55.86' | 278°51.90' | S 23°43.40' | 34°42.59' | 340°05.16' | S 9°26.85' | 56°08.88' | 318°38.88' | S 16°52.46' | **16** |
| **17** | 107°33.10' | 282°17.12' | S 16°22.58' | 110°56.32' | 278°53.89' | S 23°43.32' | 49°44.51' | 340°05.71' | S 9°26.63' | 71°11.04' | 318°39.18' | S 16°52.37' | **17** |
| **18** | 122°34.93' | 282°17.75' | S 16°22.67' | 125°56.79' | 278°55.89' | S 23°43.24' | 64°46.43' | 340°06.25' | S 9°26.41' | 86°13.21' | 318°39.48' | S 16°52.28' | **18** |
| **19** | 137°36.75' | 282°18.39' | S 16°22.77' | 140°57.26' | 278°57.89' | S 23°43.15' | 79°48.34' | 340°06.80' | S 9°26.19' | 101°15.37' | 318°39.78' | S 16°52.20' | **19** |
| **20** | 152°38.58' | 282°19.03' | S 16°22.87' | 155°57.73' | 278°59.88' | S 23°43.07' | 94°50.26' | 340°07.35' | S 9°25.97' | 116°17.53' | 318°40.07' | S 16°52.11' | **20** |
| **21** | 167°40.39' | 282°19.68' | S 16°22.97' | 170°58.19' | 279°01.88' | S 23°42.99' | 109°52.18' | 340°07.90' | S 9°25.75' | 131°19.70' | 318°40.37' | S 16°52.02' | **21** |
| **22** | 182°42.21' | 282°20.33' | S 16°23.07' | 185°58.66' | 279°03.88' | S 23°42.90' | 124°54.09' | 340°08.45' | S 9°25.53' | 146°21.86' | 318°40.67' | S 16°51.94' | **22** |
| **23** | 197°44.02' | 282°20.98' | S 16°23.16' | 200°59.13' | 279°05.87' | S 23°42.82' | 139°56.01' | 340°08.99' | S 9°25.32' | 161°24.03' | 318°40.97' | S 16°51.85' | **23** |
| **24** | 212°45.83' | 282°21.64' | S 16°23.26' | 215°59.59' | 279°07.87' | S 23°42.73' | 154°57.93' | 340°09.54' | S 9°25.10' | 176°26.19' | 318°41.27' | S 16°51.76' | **24** |
| | δ 15.0316° | | *d* 0.0937' | δ 15.0078° | | *d* 0.0753' | δ 15.0320° | | *d* 0.2177' | δ 15.0361° | | *d* 0.0868' | |

## *Saturday, February 5th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°31.14' | 14.9991° | 318°36.33' | S 15°59.75' | 0.7564' | 128°55.39' | 14.5481° | 6°12.07' | S 1°42.26' | 14.6563' | 57.1530' | 135°07.47' | **00** |
| **01** | 191°31.08' | 14.9991° | 318°38.85' | S 15°58.99' | 0.7568' | 143°28.32' | 14.5489° | 6°41.61' | S 1°27.62' | 14.6443' | 57.1169' | 150°09.93' | **01** |
| **02** | 206°31.03' | 14.9991° | 318°41.36' | S 15°58.23' | 0.7573' | 158°01.30' | 14.5496° | 7°11.09' | S 1°12.99' | 14.6313' | 57.0808' | 165°12.39' | **02** |
| **03** | 221°30.98' | 14.9991° | 318°43.88' | S 15°57.48' | 0.7578' | 172°34.32' | 14.5504° | 7°40.54' | S 0°58.37' | 14.6173' | 57.0447' | 180°14.86' | **03** |
| **04** | 236°30.93' | 14.9991° | 318°46.40' | S 15°56.72' | 0.7583' | 187°07.39' | 14.5511° | 8°09.93' | S 0°43.77' | 14.6022' | 57.0088' | 195°17.32' | **04** |
| **05** | 251°30.87' | 14.9991° | 318°48.91' | S 15°55.96' | 0.7587' | 201°40.50' | 14.5518° | 8°39.29' | S 0°29.18' | 14.5861' | 56.9730' | 210°19.79' | **05** |
| **06** | 266°30.82' | 14.9991° | 318°51.43' | S 15°55.20' | 0.7592' | 216°13.65' | 14.5525° | 9°08.60' | S 0°14.61' | 14.5689' | 56.9372' | 225°22.25' | **06** |
| **07** | 281°30.77' | 14.9991° | 318°53.94' | S 15°54.44' | 0.7597' | 230°46.84' | 14.5532° | 9°37.87' | S 0°00.06' | 14.5508' | 56.9016' | 240°24.71' | **07** |
| **08** | 296°30.72' | 14.9992° | 318°56.46' | S 15°53.68' | 0.7602' | 245°20.07' | 14.5538° | 10°07.11' | N 0°14.47' | 14.5317' | 56.8660' | 255°27.18' | **08** |
| **09** | 311°30.67' | 14.9992° | 318°58.97' | S 15°52.92' | 0.7606' | 259°53.34' | 14.5545° | 10°36.30' | N 0°28.98' | 14.5116' | 56.8306' | 270°29.64' | **09** |
| **10** | 326°30.62' | 14.9992° | 319°01.49' | S 15°52.16' | 0.7611' | 274°26.64' | 14.5551° | 11°05.46' | N 0°43.47' | 14.4905' | 56.7952' | 285°32.11' | **10** |
| **11** | 341°30.57' | 14.9992° | 319°04.00' | S 15°51.40' | 0.7616' | 288°59.98' | 14.5557° | 11°34.59' | N 0°57.94' | 14.4685' | 56.7600' | 300°34.57' | **11** |
| **12** | 356°30.52' | 14.9992° | 319°06.51' | S 15°50.64' | 0.7621' | 303°33.36' | 14.5562° | 12°03.68' | N 1°12.39' | 14.4455' | 56.7249' | 315°37.03' | **12** |
| **13** | 11°30.47' | 14.9992° | 319°09.03' | S 15°49.87' | 0.7625' | 318°06.77' | 14.5568° | 12°32.73' | N 1°26.81' | 14.4216' | 56.6899' | 330°39.50' | **13** |
| **14** | 26°30.42' | 14.9992° | 319°11.54' | S 15°49.11' | 0.7630' | 332°40.21' | 14.5573° | 13°01.76' | N 1°41.20' | 14.3968' | 56.6551' | 345°41.96' | **14** |
| **15** | 41°30.38' | 14.9992° | 319°14.05' | S 15°48.35' | 0.7635' | 347°13.68' | 14.5578° | 13°30.75' | N 1°55.58' | 14.3710' | 56.6204' | 0°44.43' | **15** |
| **16** | 56°30.33' | 14.9992° | 319°16.56' | S 15°47.58' | 0.7639' | 1°47.18' | 14.5583° | 13°59.71' | N 2°09.92' | 14.3444' | 56.5858' | 15°46.89' | **16** |
| **17** | 71°30.28' | 14.9992° | 319°19.07' | S 15°46.82' | 0.7644' | 16°20.71' | 14.5588° | 14°28.65' | N 2°24.24' | 14.3168' | 56.5514' | 30°49.35' | **17** |
| **18** | 86°30.23' | 14.9992° | 319°21.59' | S 15°46.05' | 0.7649' | 30°54.26' | 14.5593° | 14°57.55' | N 2°38.53' | 14.2883' | 56.5171' | 45°51.82' | **18** |
| **19** | 101°30.19' | 14.9992° | 319°24.10' | S 15°45.29' | 0.7653' | 45°27.85' | 14.5597° | 15°26.44' | N 2°52.78' | 14.2590' | 56.4829' | 60°54.28' | **19** |
| **20** | 116°30.14' | 14.9992° | 319°26.61' | S 15°44.52' | 0.7658' | 60°01.45' | 14.5601° | 15°55.29' | N 3°07.01' | 14.2288' | 56.4490' | 75°56.75' | **20** |
| **21** | 131°30.09' | 14.9992° | 319°29.12' | S 15°43.76' | 0.7663' | 74°35.09' | 14.5605° | 16°24.12' | N 3°21.21' | 14.1977' | 56.4151' | 90°59.21' | **21** |
| **22** | 146°30.05' | 14.9992° | 319°31.63' | S 15°42.99' | 0.7667' | 89°08.74' | 14.5609° | 16°52.93' | N 3°35.38' | 14.1658' | 56.3814' | 106°01.67' | **22** |
| **23** | 161°30.00' | 14.9992° | 319°34.14' | S 15°42.22' | 0.7672' | 103°42.42' | 14.5613° | 17°21.72' | N 3°49.51' | 14.1330' | 56.3479' | 121°04.14' | **23** |
| **24** | 176°29.96' | 14.9992° | 319°36.65' | S 15°41.45' | 0.7677' | 118°16.12' | 14.5616° | 17°50.49' | N 4°03.61' | 14.0994' | 56.3146' | 136°06.60' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2215' | hp (π) 0.1487' | ½Ø 15.4565' | 21.4026811550896<br>8% +cre |
| | EoT at 12:00 UTC : -13m 57s (δ -0.20 s/h) | | Phase at 12:00 UTC : 54.91° | |
| | Meridian Pass. Time : 12:13:57.914 | | Age : 4.3 day(s) | |

| UT | Venus ♀ (π 0.40') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 212°45.83' | 282°21.64' | S 16°23.26' | 215°59.59' | 279°07.87' | S 23°42.73' | 154°57.93' | 340°09.54' | S 9°25.10' | 176°26.19' | 318°41.27' | S 16°51.76' | **00** |
| **01** | 227°47.63' | 282°22.30' | S 16°23.36' | 231°00.06' | 279°09.87' | S 23°42.65' | 169°59.84' | 340°10.09' | S 9°24.88' | 191°28.36' | 318°41.57' | S 16°51.68' | **01** |
| **02** | 242°49.43' | 282°22.97' | S 16°23.46' | 246°00.53' | 279°11.86' | S 23°42.56' | 185°01.76' | 340°10.64' | S 9°24.66' | 206°30.52' | 318°41.87' | S 16°51.59' | **02** |
| **03** | 257°51.22' | 282°23.63' | S 16°23.56' | 261°01.00' | 279°13.86' | S 23°42.48' | 200°03.67' | 340°11.18' | S 9°24.44' | 221°32.68' | 318°42.17' | S 16°51.50' | **03** |
| **04** | 272°53.02' | 282°24.31' | S 16°23.66' | 276°01.46' | 279°15.86' | S 23°42.39' | 215°05.59' | 340°11.73' | S 9°24.22' | 236°34.85' | 318°42.47' | S 16°51.41' | **04** |
| **05** | 287°54.80' | 282°24.98' | S 16°23.76' | 291°01.93' | 279°17.85' | S 23°42.30' | 230°07.51' | 340°12.28' | S 9°24.00' | 251°37.01' | 318°42.77' | S 16°51.33' | **05** |
| **06** | 302°56.59' | 282°25.66' | S 16°23.86' | 306°02.40' | 279°19.85' | S 23°42.21' | 245°09.42' | 340°12.83' | S 9°23.79' | 266°39.18' | 318°43.07' | S 16°51.24' | **06** |
| **07** | 317°58.37' | 282°26.35' | S 16°23.96' | 321°02.87' | 279°21.85' | S 23°42.13' | 260°11.34' | 340°13.38' | S 9°23.57' | 281°41.34' | 318°43.37' | S 16°51.15' | **07** |
| **08** | 333°00.14' | 282°27.03' | S 16°24.06' | 336°03.33' | 279°23.85' | S 23°42.04' | 275°13.25' | 340°13.92' | S 9°23.35' | 296°43.50' | 318°43.67' | S 16°51.07' | **08** |
| **09** | 348°01.92' | 282°27.72' | S 16°24.16' | 351°03.80' | 279°25.84' | S 23°41.95' | 290°15.17' | 340°14.47' | S 9°23.13' | 311°45.67' | 318°43.97' | S 16°50.98' | **09** |
| **10** | 3°03.69' | 282°28.42' | S 16°24.26' | 6°04.27' | 279°27.84' | S 23°41.86' | 305°17.09' | 340°15.02' | S 9°22.91' | 326°47.83' | 318°44.27' | S 16°50.89' | **10** |
| **11** | 18°05.45' | 282°29.12' | S 16°24.36' | 21°04.73' | 279°29.84' | S 23°41.77' | 320°19.00' | 340°15.57' | S 9°22.69' | 341°50.00' | 318°44.57' | S 16°50.81' | **11** |
| **12** | 33°07.21' | 282°29.82' | S 16°24.46' | 36°05.20' | 279°31.83' | S 23°41.68' | 335°20.92' | 340°16.12' | S 9°22.47' | 356°52.16' | 318°44.87' | S 16°50.72' | **12** |
| **13** | 48°08.97' | 282°30.53' | S 16°24.56' | 51°05.67' | 279°33.83' | S 23°41.59' | 350°22.83' | 340°16.67' | S 9°22.25' | 11°54.33' | 318°45.17' | S 16°50.63' | **13** |
| **14** | 63°10.73' | 282°31.23' | S 16°24.66' | 66°06.14' | 279°35.83' | S 23°41.50' | 5°24.75' | 340°17.21' | S 9°22.04' | 26°56.49' | 318°45.47' | S 16°50.55' | **14** |
| **15** | 78°12.48' | 282°31.95' | S 16°24.77' | 81°06.60' | 279°37.82' | S 23°41.41' | 20°26.66' | 340°17.76' | S 9°21.82' | 41°58.65' | 318°45.77' | S 16°50.46' | **15** |
| **16** | 93°14.23' | 282°32.67' | S 16°24.87' | 96°07.07' | 279°39.82' | S 23°41.32' | 35°28.58' | 340°18.31' | S 9°21.60' | 57°00.82' | 318°46.07' | S 16°50.37' | **16** |
| **17** | 108°15.97' | 282°33.39' | S 16°24.97' | 111°07.54' | 279°41.82' | S 23°41.22' | 50°30.50' | 340°18.86' | S 9°21.38' | 72°02.98' | 318°46.37' | S 16°50.28' | **17** |
| **18** | 123°17.71' | 282°34.11' | S 16°25.07' | 126°08.00' | 279°43.81' | S 23°41.13' | 65°32.41' | 340°19.41' | S 9°21.16' | 87°05.15' | 318°46.67' | S 16°50.20' | **18** |
| **19** | 138°19.44' | 282°34.84' | S 16°25.17' | 141°08.47' | 279°45.81' | S 23°41.04' | 80°34.33' | 340°19.96' | S 9°20.94' | 102°07.31' | 318°46.97' | S 16°50.11' | **19** |
| **20** | 153°21.18' | 282°35.57' | S 16°25.27' | 156°08.94' | 279°47.81' | S 23°40.95' | 95°36.24' | 340°20.51' | S 9°20.72' | 117°09.48' | 318°47.27' | S 16°50.02' | **20** |
| **21** | 168°22.91' | 282°36.31' | S 16°25.38' | 171°09.41' | 279°49.80' | S 23°40.85' | 110°38.16' | 340°21.05' | S 9°20.50' | 132°11.64' | 318°47.57' | S 16°49.94' | **21** |
| **22** | 183°24.63' | 282°37.04' | S 16°25.48' | 186°09.87' | 279°51.80' | S 23°40.76' | 125°40.07' | 340°21.60' | S 9°20.28' | 147°13.80' | 318°47.87' | S 16°49.85' | **22** |
| **23** | 198°26.35' | 282°37.79' | S 16°25.58' | 201°10.34' | 279°53.80' | S 23°40.66' | 140°41.99' | 340°22.15' | S 9°20.06' | 162°15.97' | 318°48.17' | S 16°49.76' | **23** |
| **24** | 213°28.07' | 282°38.53' | S 16°25.68' | 216°10.81' | 279°55.80' | S 23°40.57' | 155°43.90' | 340°22.70' | S 9°19.84' | 177°18.13' | 318°48.47' | S 16°49.68' | **24** |
| | δ 15.0301° | | *d* 0.0989' | δ 15.0078° | | *d* 0.0854' | δ 15.0319° | | *d* 0.2186' | δ 15.0361° | | *d* 0.0869' | |

## *Sunday, February 6th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°29.96' | 14.9992° | 319°36.65' | S 15°41.45' | 0.7677' | 118°16.12' | 14.5616° | 17°50.49' | N 4°03.61' | 14.0994' | 56.3146' | 136°06.60' | **00** |
| **01** | 191°29.91' | 14.9993° | 319°39.15' | S 15°40.69' | 0.7681' | 132°49.83' | 14.5619° | 18°19.24' | N 4°17.67' | 14.0650' | 56.2814' | 151°09.07' | **01** |
| **02** | 206°29.87' | 14.9993° | 319°41.66' | S 15°39.92' | 0.7686' | 147°23.57' | 14.5622° | 18°47.96' | N 4°31.70' | 14.0297' | 56.2484' | 166°11.53' | **02** |
| **03** | 221°29.82' | 14.9993° | 319°44.17' | S 15°39.15' | 0.7691' | 161°57.32' | 14.5625° | 19°16.68' | N 4°45.70' | 13.9937' | 56.2156' | 181°14.00' | **03** |
| **04** | 236°29.78' | 14.9993° | 319°46.68' | S 15°38.38' | 0.7695' | 176°31.09' | 14.5628° | 19°45.37' | N 4°59.65' | 13.9568' | 56.1830' | 196°16.46' | **04** |
| **05** | 251°29.74' | 14.9993° | 319°49.19' | S 15°37.61' | 0.7700' | 191°04.87' | 14.5631° | 20°14.05' | N 5°13.57' | 13.9191' | 56.1505' | 211°18.92' | **05** |
| **06** | 266°29.69' | 14.9993° | 319°51.69' | S 15°36.84' | 0.7705' | 205°38.67' | 14.5633° | 20°42.72' | N 5°27.45' | 13.8806' | 56.1182' | 226°21.39' | **06** |
| **07** | 281°29.65' | 14.9993° | 319°54.20' | S 15°36.07' | 0.7709' | 220°12.48' | 14.5635° | 21°11.37' | N 5°41.30' | 13.8414' | 56.0861' | 241°23.85' | **07** |
| **08** | 296°29.61' | 14.9993° | 319°56.71' | S 15°35.30' | 0.7714' | 234°46.30' | 14.5637° | 21°40.02' | N 5°55.10' | 13.8013' | 56.0543' | 256°26.32' | **08** |
| **09** | 311°29.57' | 14.9993° | 319°59.21' | S 15°34.52' | 0.7718' | 249°20.13' | 14.5639° | 22°08.65' | N 6°08.86' | 13.7605' | 56.0226' | 271°28.78' | **09** |
| **10** | 326°29.53' | 14.9993° | 320°01.72' | S 15°33.75' | 0.7723' | 263°53.97' | 14.5640° | 22°37.27' | N 6°22.58' | 13.7189' | 55.9911' | 286°31.24' | **10** |
| **11** | 341°29.49' | 14.9993° | 320°04.22' | S 15°32.98' | 0.7728' | 278°27.82' | 14.5642° | 23°05.88' | N 6°36.25' | 13.6766' | 55.9598' | 301°33.71' | **11** |
| **12** | 356°29.44' | 14.9993° | 320°06.73' | S 15°32.21' | 0.7732' | 293°01.68' | 14.5643° | 23°34.49' | N 6°49.89' | 13.6334' | 55.9287' | 316°36.17' | **12** |
| **13** | 11°29.40' | 14.9993° | 320°09.23' | S 15°31.43' | 0.7737' | 307°35.55' | 14.5644° | 24°03.09' | N 7°03.48' | 13.5896' | 55.8979' | 331°38.64' | **13** |
| **14** | 26°29.36' | 14.9993° | 320°11.74' | S 15°30.66' | 0.7741' | 322°09.42' | 14.5645° | 24°31.68' | N 7°17.02' | 13.5450' | 55.8672' | 346°41.10' | **14** |
| **15** | 41°29.32' | 14.9993° | 320°14.24' | S 15°29.88' | 0.7746' | 336°43.29' | 14.5646° | 25°00.27' | N 7°30.52' | 13.4996' | 55.8368' | 1°43.56' | **15** |
| **16** | 56°29.29' | 14.9993° | 320°16.74' | S 15°29.11' | 0.7751' | 351°17.17' | 14.5646° | 25°28.86' | N 7°43.97' | 13.4536' | 55.8065' | 16°46.03' | **16** |
| **17** | 71°29.25' | 14.9994° | 320°19.25' | S 15°28.33' | 0.7755' | 5°51.05' | 14.5647° | 25°57.44' | N 7°57.38' | 13.4068' | 55.7765' | 31°48.49' | **17** |
| **18** | 86°29.21' | 14.9994° | 320°21.75' | S 15°27.56' | 0.7760' | 20°24.93' | 14.5647° | 26°26.03' | N 8°10.74' | 13.3592' | 55.7468' | 46°50.96' | **18** |
| **19** | 101°29.17' | 14.9994° | 320°24.25' | S 15°26.78' | 0.7764' | 34°58.81' | 14.5647° | 26°54.61' | N 8°24.05' | 13.3110' | 55.7172' | 61°53.42' | **19** |
| **20** | 116°29.13' | 14.9994° | 320°26.75' | S 15°26.00' | 0.7769' | 49°32.69' | 14.5647° | 27°23.19' | N 8°37.31' | 13.2620' | 55.6879' | 76°55.88' | **20** |
| **21** | 131°29.09' | 14.9994° | 320°29.25' | S 15°25.23' | 0.7773' | 64°06.57' | 14.5647° | 27°51.78' | N 8°50.53' | 13.2123' | 55.6588' | 91°58.35' | **21** |
| **22** | 146°29.06' | 14.9994° | 320°31.76' | S 15°24.45' | 0.7778' | 78°40.45' | 14.5646° | 28°20.36' | N 9°03.69' | 13.1619' | 55.6299' | 107°00.81' | **22** |
| **23** | 161°29.02' | 14.9994° | 320°34.26' | S 15°23.67' | 0.7783' | 93°14.32' | 14.5645° | 28°48.96' | N 9°16.80' | 13.1109' | 55.6013' | 122°03.28' | **23** |
| **24** | 176°28.98' | 14.9994° | 320°36.76' | S 15°22.89' | 0.7787' | 107°48.19' | 14.5645° | 29°17.55' | N 9°29.86' | 13.0591' | 55.5729' | 137°05.74' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2189' | hp (π) 0.1486' | ½Ø 15.2396' | 30.3354098341895<br>87% +cre | |
| EoT at 12:00 UTC : -14m 2s (δ -0.16 s/h) | | Phase at 12:00 UTC : 66.67° | | |
| Meridian Pass. Time : 12:14:02.222 | | Age : 5.2 day(s) | | |

| UT | Venus ♀ (π 0.40') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 213°28.07' | 282°38.53' | S 16°25.68' | 216°10.81' | 279°55.80' | S 23°40.57' | 155°43.90' | 340°22.70' | S 9°19.84' | 177°18.13' | 318°48.47' | S 16°49.68' | **00** |
| **01** | 228°29.78' | 282°39.28' | S 16°25.79' | 231°11.27' | 279°57.79' | S 23°40.47' | 170°45.82' | 340°23.25' | S 9°19.62' | 192°20.30' | 318°48.77' | S 16°49.59' | **01** |
| **02** | 243°31.49' | 282°40.04' | S 16°25.89' | 246°11.74' | 279°59.79' | S 23°40.38' | 185°47.73' | 340°23.80' | S 9°19.40' | 207°22.46' | 318°49.07' | S 16°49.50' | **02** |
| **03** | 258°33.20' | 282°40.79' | S 16°25.99' | 261°12.21' | 280°01.79' | S 23°40.28' | 200°49.65' | 340°24.35' | S 9°19.18' | 222°24.63' | 318°49.37' | S 16°49.41' | **03** |
| **04** | 273°34.90' | 282°41.56' | S 16°26.10' | 276°12.68' | 280°03.78' | S 23°40.18' | 215°51.56' | 340°24.90' | S 9°18.97' | 237°26.79' | 318°49.67' | S 16°49.33' | **04** |
| **05** | 288°36.60' | 282°42.32' | S 16°26.20' | 291°13.14' | 280°05.78' | S 23°40.09' | 230°53.48' | 340°25.45' | S 9°18.75' | 252°28.95' | 318°49.97' | S 16°49.24' | **05** |
| **06** | 303°38.30' | 282°43.09' | S 16°26.30' | 306°13.61' | 280°07.78' | S 23°39.99' | 245°55.39' | 340°26.00' | S 9°18.53' | 267°31.12' | 318°50.27' | S 16°49.15' | **06** |
| **07** | 318°39.99' | 282°43.86' | S 16°26.41' | 321°14.08' | 280°09.78' | S 23°39.89' | 260°57.31' | 340°26.54' | S 9°18.31' | 282°33.28' | 318°50.57' | S 16°49.07' | **07** |
| **08** | 333°41.68' | 282°44.64' | S 16°26.51' | 336°14.54' | 280°11.77' | S 23°39.79' | 275°59.22' | 340°27.09' | S 9°18.09' | 297°35.45' | 318°50.87' | S 16°48.98' | **08** |
| **09** | 348°43.36' | 282°45.42' | S 16°26.61' | 351°15.01' | 280°13.77' | S 23°39.69' | 291°01.14' | 340°27.64' | S 9°17.87' | 312°37.61' | 318°51.17' | S 16°48.89' | **09** |
| **10** | 3°45.05' | 282°46.20' | S 16°26.72' | 6°15.48' | 280°15.77' | S 23°39.60' | 306°03.05' | 340°28.19' | S 9°17.65' | 327°39.78' | 318°51.47' | S 16°48.80' | **10** |
| **11** | 18°46.72' | 282°46.98' | S 16°26.82' | 21°15.94' | 280°17.76' | S 23°39.50' | 321°04.97' | 340°28.74' | S 9°17.43' | 342°41.94' | 318°51.77' | S 16°48.72' | **11** |
| **12** | 33°48.40' | 282°47.78' | S 16°26.93' | 36°16.41' | 280°19.76' | S 23°39.40' | 336°06.88' | 340°29.29' | S 9°17.21' | 357°44.10' | 318°52.07' | S 16°48.63' | **12** |
| **13** | 48°50.07' | 282°48.57' | S 16°27.03' | 51°16.88' | 280°21.76' | S 23°39.29' | 351°08.79' | 340°29.84' | S 9°16.99' | 12°46.27' | 318°52.37' | S 16°48.54' | **13** |
| **14** | 63°51.73' | 282°49.37' | S 16°27.14' | 66°17.34' | 280°23.76' | S 23°39.19' | 6°10.71' | 340°30.39' | S 9°16.77' | 27°48.43' | 318°52.67' | S 16°48.46' | **14** |
| **15** | 78°53.40' | 282°50.17' | S 16°27.24' | 81°17.81' | 280°25.75' | S 23°39.09' | 21°12.62' | 340°30.94' | S 9°16.55' | 42°50.60' | 318°52.97' | S 16°48.37' | **15** |
| **16** | 93°55.06' | 282°50.97' | S 16°27.35' | 96°18.28' | 280°27.75' | S 23°38.99' | 36°14.54' | 340°31.49' | S 9°16.33' | 57°52.76' | 318°53.27' | S 16°48.28' | **16** |
| **17** | 108°56.71' | 282°51.78' | S 16°27.45' | 111°18.74' | 280°29.75' | S 23°38.89' | 51°16.45' | 340°32.04' | S 9°16.11' | 72°54.93' | 318°53.57' | S 16°48.20' | **17** |
| **18** | 123°58.37' | 282°52.59' | S 16°27.55' | 126°19.21' | 280°31.74' | S 23°38.79' | 66°18.37' | 340°32.59' | S 9°15.89' | 87°57.09' | 318°53.87' | S 16°48.11' | **18** |
| **19** | 139°00.01' | 282°53.41' | S 16°27.66' | 141°19.68' | 280°33.74' | S 23°38.68' | 81°20.28' | 340°33.14' | S 9°15.67' | 102°59.26' | 318°54.16' | S 16°48.02' | **19** |
| **20** | 154°01.66' | 282°54.22' | S 16°27.77' | 156°20.15' | 280°35.74' | S 23°38.58' | 96°22.20' | 340°33.69' | S 9°15.45' | 118°01.42' | 318°54.46' | S 16°47.93' | **20** |
| **21** | 169°03.30' | 282°55.05' | S 16°27.87' | 171°20.61' | 280°37.74' | S 23°38.48' | 111°24.11' | 340°34.24' | S 9°15.23' | 133°03.58' | 318°54.76' | S 16°47.85' | **21** |
| **22** | 184°04.94' | 282°55.87' | S 16°27.98' | 186°21.08' | 280°39.73' | S 23°38.37' | 126°26.02' | 340°34.79' | S 9°15.01' | 148°05.75' | 318°55.06' | S 16°47.76' | **22** |
| **23** | 199°06.57' | 282°56.70' | S 16°28.08' | 201°21.55' | 280°41.73' | S 23°38.27' | 141°27.94' | 340°35.34' | S 9°14.79' | 163°07.91' | 318°55.36' | S 16°47.67' | **23** |
| **24** | 214°08.21' | 282°57.54' | S 16°28.19' | 216°22.01' | 280°43.73' | S 23°38.16' | 156°29.85' | 340°35.89' | S 9°14.57' | 178°10.08' | 318°55.66' | S 16°47.59' | **24** |
| | δ 15.0286° | | *d* 0.1028' | δ 15.0078° | | *d* 0.0955' | δ 15.0319° | | *d* 0.2194' | δ 15.0361° | | *d* 0.0870' | |

## *Monday, February 7th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°28.98' | 14.9994° | 320°36.76' | S 15°22.89' | 0.7787' | 107°48.19' | 14.5645° | 29°17.55' | N 9°29.86' | 13.0591' | 55.5729' | 137°05.74' | **00** |
| **01** | 191°28.95' | 14.9994° | 320°39.26' | S 15°22.11' | 0.7792' | 122°22.05' | 14.5644° | 29°46.15' | N 9°42.86' | 13.0066' | 55.5448' | 152°08.20' | **01** |
| **02** | 206°28.91' | 14.9994° | 320°41.76' | S 15°21.33' | 0.7796' | 136°55.91' | 14.5643° | 30°14.76' | N 9°55.82' | 12.9534' | 55.5169' | 167°10.67' | **02** |
| **03** | 221°28.88' | 14.9994° | 320°44.26' | S 15°20.55' | 0.7801' | 151°29.76' | 14.5641° | 30°43.38' | N 10°08.72' | 12.8995' | 55.4893' | 182°13.13' | **03** |
| **04** | 236°28.84' | 14.9994° | 320°46.76' | S 15°19.77' | 0.7805' | 166°03.59' | 14.5640° | 31°12.00' | N 10°21.56' | 12.8450' | 55.4618' | 197°15.60' | **04** |
| **05** | 251°28.81' | 14.9994° | 320°49.26' | S 15°18.99' | 0.7810' | 180°37.42' | 14.5638° | 31°40.64' | N 10°34.35' | 12.7898' | 55.4347' | 212°18.06' | **05** |
| **06** | 266°28.77' | 14.9994° | 320°51.75' | S 15°18.21' | 0.7814' | 195°11.24' | 14.5637° | 32°09.28' | N 10°47.09' | 12.7338' | 55.4078' | 227°20.53' | **06** |
| **07** | 281°28.74' | 14.9994° | 320°54.25' | S 15°17.43' | 0.7819' | 209°45.05' | 14.5635° | 32°37.94' | N 10°59.76' | 12.6772' | 55.3811' | 242°22.99' | **07** |
| **08** | 296°28.70' | 14.9994° | 320°56.75' | S 15°16.65' | 0.7823' | 224°18.85' | 14.5633° | 33°06.60' | N 11°12.38' | 12.6200' | 55.3547' | 257°25.45' | **08** |
| **09** | 311°28.67' | 14.9994° | 320°59.25' | S 15°15.86' | 0.7828' | 238°52.63' | 14.5630° | 33°35.29' | N 11°24.94' | 12.5620' | 55.3286' | 272°27.92' | **09** |
| **10** | 326°28.64' | 14.9995° | 321°01.74' | S 15°15.08' | 0.7832' | 253°26.40' | 14.5628° | 34°03.98' | N 11°37.45' | 12.5034' | 55.3027' | 287°30.38' | **10** |
| **11** | 341°28.60' | 14.9995° | 321°04.24' | S 15°14.30' | 0.7837' | 268°00.15' | 14.5626° | 34°32.69' | N 11°49.89' | 12.4442' | 55.2771' | 302°32.85' | **11** |
| **12** | 356°28.57' | 14.9995° | 321°06.74' | S 15°13.51' | 0.7841' | 282°33.89' | 14.5623° | 35°01.42' | N 12°02.28' | 12.3842' | 55.2518' | 317°35.31' | **12** |
| **13** | 11°28.54' | 14.9995° | 321°09.23' | S 15°12.73' | 0.7846' | 297°07.61' | 14.5620° | 35°30.16' | N 12°14.60' | 12.3236' | 55.2267' | 332°37.77' | **13** |
| **14** | 26°28.51' | 14.9995° | 321°11.73' | S 15°11.94' | 0.7850' | 311°41.32' | 14.5617° | 35°58.92' | N 12°26.86' | 12.2624' | 55.2019' | 347°40.24' | **14** |
| **15** | 41°28.48' | 14.9995° | 321°14.22' | S 15°11.16' | 0.7854' | 326°15.00' | 14.5614° | 36°27.70' | N 12°39.06' | 12.2005' | 55.1773' | 2°42.70' | **15** |
| **16** | 56°28.45' | 14.9995° | 321°16.72' | S 15°10.37' | 0.7859' | 340°48.67' | 14.5611° | 36°56.50' | N 12°51.20' | 12.1379' | 55.1530' | 17°45.17' | **16** |
| **17** | 71°28.42' | 14.9995° | 321°19.21' | S 15°09.58' | 0.7863' | 355°22.31' | 14.5608° | 37°25.32' | N 13°03.28' | 12.0746' | 55.1290' | 32°47.63' | **17** |
| **18** | 86°28.39' | 14.9995° | 321°21.71' | S 15°08.80' | 0.7868' | 9°55.94' | 14.5604° | 37°54.16' | N 13°15.29' | 12.0108' | 55.1053' | 47°50.09' | **18** |
| **19** | 101°28.36' | 14.9995° | 321°24.20' | S 15°08.01' | 0.7872' | 24°29.54' | 14.5600° | 38°23.02' | N 13°27.23' | 11.9462' | 55.0818' | 62°52.56' | **19** |
| **20** | 116°28.33' | 14.9995° | 321°26.70' | S 15°07.22' | 0.7877' | 39°03.12' | 14.5597° | 38°51.90' | N 13°39.11' | 11.8810' | 55.0587' | 77°55.02' | **20** |
| **21** | 131°28.30' | 14.9995° | 321°29.19' | S 15°06.43' | 0.7881' | 53°36.68' | 14.5593° | 39°20.81' | N 13°50.93' | 11.8152' | 55.0358' | 92°57.49' | **21** |
| **22** | 146°28.27' | 14.9995° | 321°31.68' | S 15°05.65' | 0.7885' | 68°10.21' | 14.5589° | 39°49.74' | N 14°02.68' | 11.7487' | 55.0131' | 107°59.95' | **22** |
| **23** | 161°28.24' | 14.9995° | 321°34.17' | S 15°04.86' | 0.7890' | 82°43.72' | 14.5585° | 40°18.70' | N 14°14.36' | 11.6816' | 54.9908' | 123°02.41' | **23** |
| **24** | 176°28.21' | 14.9995° | 321°36.67' | S 15°04.07' | 0.7894' | 97°17.20' | 14.5580° | 40°47.68' | N 14°25.97' | 11.6138' | 54.9687' | 138°04.88' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2163' | hp (π) 0.1486' | ½Ø 15.0551' | 39.7914979600694 5% +cre | |
| EoT at 12:00 UTC : -14m 5s (δ -0.13 s/h) | | Phase at 12:00 UTC : 78.06° | | |
| Meridian Pass. Time : 12:14:05.711 | | Age : 6.1 day(s) | | |

| UT | Venus ♀ (π 0.39') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 214°08.21' | 282°57.54' | S 16°28.19' | 216°22.01' | 280°43.73' | S 23°38.16' | 156°29.85' | 340°35.89' | S 9°14.57' | 178°10.08' | 318°55.66' | S 16°47.59' | **00** |
| **01** | 229°09.83' | 282°58.37' | S 16°28.29' | 231°22.48' | 280°45.73' | S 23°38.06' | 171°31.77' | 340°36.44' | S 9°14.35' | 193°12.24' | 318°55.96' | S 16°47.50' | **01** |
| **02** | 244°11.46' | 282°59.21' | S 16°28.40' | 246°22.95' | 280°47.72' | S 23°37.95' | 186°33.68' | 340°36.99' | S 9°14.13' | 208°14.41' | 318°56.26' | S 16°47.41' | **02** |
| **03** | 259°13.08' | 283°00.06' | S 16°28.50' | 261°23.41' | 280°49.72' | S 23°37.84' | 201°35.59' | 340°37.54' | S 9°13.91' | 223°16.57' | 318°56.56' | S 16°47.32' | **03** |
| **04** | 274°14.69' | 283°00.90' | S 16°28.61' | 276°23.88' | 280°51.72' | S 23°37.74' | 216°37.51' | 340°38.09' | S 9°13.69' | 238°18.74' | 318°56.86' | S 16°47.24' | **04** |
| **05** | 289°16.31' | 283°01.75' | S 16°28.72' | 291°24.35' | 280°53.71' | S 23°37.63' | 231°39.42' | 340°38.64' | S 9°13.47' | 253°20.90' | 318°57.16' | S 16°47.15' | **05** |
| **06** | 304°17.92' | 283°02.61' | S 16°28.82' | 306°24.81' | 280°55.71' | S 23°37.52' | 246°41.33' | 340°39.19' | S 9°13.25' | 268°23.06' | 318°57.46' | S 16°47.06' | **06** |
| **07** | 319°19.52' | 283°03.47' | S 16°28.93' | 321°25.28' | 280°57.71' | S 23°37.41' | 261°43.25' | 340°39.74' | S 9°13.03' | 283°25.23' | 318°57.76' | S 16°46.98' | **07** |
| **08** | 334°21.13' | 283°04.33' | S 16°29.03' | 336°25.75' | 280°59.71' | S 23°37.31' | 276°45.16' | 340°40.29' | S 9°12.81' | 298°27.39' | 318°58.06' | S 16°46.89' | **08** |
| **09** | 349°22.73' | 283°05.19' | S 16°29.14' | 351°26.21' | 281°01.70' | S 23°37.20' | 291°47.08' | 340°40.84' | S 9°12.59' | 313°29.56' | 318°58.36' | S 16°46.80' | **09** |
| **10** | 4°24.32' | 283°06.06' | S 16°29.25' | 6°26.68' | 281°03.70' | S 23°37.09' | 306°48.99' | 340°41.39' | S 9°12.37' | 328°31.72' | 318°58.66' | S 16°46.71' | **10** |
| **11** | 19°25.91' | 283°06.93' | S 16°29.35' | 21°27.15' | 281°05.70' | S 23°36.98' | 321°50.90' | 340°41.94' | S 9°12.15' | 343°33.89' | 318°58.96' | S 16°46.63' | **11** |
| **12** | 34°27.50' | 283°07.81' | S 16°29.46' | 36°27.61' | 281°07.70' | S 23°36.87' | 336°52.82' | 340°42.49' | S 9°11.92' | 358°36.05' | 318°59.26' | S 16°46.54' | **12** |
| **13** | 49°29.09' | 283°08.69' | S 16°29.57' | 51°28.08' | 281°09.69' | S 23°36.76' | 351°54.73' | 340°43.04' | S 9°11.70' | 13°38.22' | 318°59.56' | S 16°46.45' | **13** |
| **14** | 64°30.67' | 283°09.57' | S 16°29.67' | 66°28.55' | 281°11.69' | S 23°36.65' | 6°56.64' | 340°43.60' | S 9°11.48' | 28°40.38' | 318°59.86' | S 16°46.37' | **14** |
| **15** | 79°32.25' | 283°10.45' | S 16°29.78' | 81°29.01' | 281°13.69' | S 23°36.54' | 21°58.56' | 340°44.15' | S 9°11.26' | 43°42.55' | 319°00.16' | S 16°46.28' | **15** |
| **16** | 94°33.82' | 283°11.34' | S 16°29.89' | 96°29.48' | 281°15.68' | S 23°36.42' | 37°00.47' | 340°44.70' | S 9°11.04' | 58°44.71' | 319°00.46' | S 16°46.19' | **16** |
| **17** | 109°35.40' | 283°12.24' | S 16°29.99' | 111°29.95' | 281°17.68' | S 23°36.31' | 52°02.38' | 340°45.25' | S 9°10.82' | 73°46.88' | 319°00.75' | S 16°46.10' | **17** |
| **18** | 124°36.96' | 283°13.13' | S 16°30.10' | 126°30.41' | 281°19.68' | S 23°36.20' | 67°04.30' | 340°45.80' | S 9°10.60' | 88°49.04' | 319°01.05' | S 16°46.02' | **18** |
| **19** | 139°38.53' | 283°14.03' | S 16°30.21' | 141°30.88' | 281°21.68' | S 23°36.09' | 82°06.21' | 340°46.35' | S 9°10.38' | 103°51.20' | 319°01.35' | S 16°45.93' | **19** |
| **20** | 154°40.09' | 283°14.93' | S 16°30.31' | 156°31.35' | 281°23.67' | S 23°35.97' | 97°08.12' | 340°46.90' | S 9°10.16' | 118°53.37' | 319°01.65' | S 16°45.84' | **20** |
| **21** | 169°41.65' | 283°15.84' | S 16°30.42' | 171°31.81' | 281°25.67' | S 23°35.86' | 112°10.03' | 340°47.45' | S 9°09.94' | 133°55.53' | 319°01.95' | S 16°45.75' | **21** |
| **22** | 184°43.20' | 283°16.75' | S 16°30.53' | 186°32.28' | 281°27.67' | S 23°35.74' | 127°11.95' | 340°48.00' | S 9°09.72' | 148°57.70' | 319°02.25' | S 16°45.67' | **22** |
| **23** | 199°44.75' | 283°17.66' | S 16°30.63' | 201°32.75' | 281°29.67' | S 23°35.63' | 142°13.86' | 340°48.55' | S 9°09.50' | 163°59.86' | 319°02.55' | S 16°45.58' | **23** |
| **24** | 214°46.30' | 283°18.58' | S 16°30.74' | 216°33.21' | 281°31.66' | S 23°35.51' | 157°15.77' | 340°49.11' | S 9°09.28' | 179°02.03' | 319°02.85' | S 16°45.49' | **24** |
| | δ 15.0271° | | *d* 0.1056' | δ 15.0078° | | *d* 0.1055' | δ 15.0319° | | *d* 0.2202' | δ 15.0361° | | *d* 0.0871' | |

## *Tuesday, February 8th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°28.21' | 14.9995° | 321°36.67' | S 15°04.07' | 0.7894' | 97°17.20' | 14.5580° | 40°47.68' | N 14°25.97' | 11.6138' | 54.9687' | 138°04.88' | **00** |
| **01** | 191°28.18' | 14.9995° | 321°39.16' | S 15°03.28' | 0.7899' | 111°50.65' | 14.5576° | 41°16.69' | N 14°37.52' | 11.5453' | 54.9469' | 153°07.34' | **01** |
| **02** | 206°28.16' | 14.9995° | 321°41.65' | S 15°02.49' | 0.7903' | 126°24.08' | 14.5571° | 41°45.73' | N 14°48.99' | 11.4763' | 54.9254' | 168°09.81' | **02** |
| **03** | 221°28.13' | 14.9995° | 321°44.14' | S 15°01.70' | 0.7907' | 140°57.48' | 14.5567° | 42°14.79' | N 15°00.40' | 11.4065' | 54.9042' | 183°12.27' | **03** |
| **04** | 236°28.10' | 14.9996° | 321°46.63' | S 15°00.91' | 0.7912' | 155°30.85' | 14.5562° | 42°43.88' | N 15°11.74' | 11.3362' | 54.8833' | 198°14.74' | **04** |
| **05** | 251°28.08' | 14.9996° | 321°49.12' | S 15°00.11' | 0.7916' | 170°04.19' | 14.5557° | 43°13.01' | N 15°23.00' | 11.2651' | 54.8627' | 213°17.20' | **05** |
| **06** | 266°28.05' | 14.9996° | 321°51.61' | S 14°59.32' | 0.7921' | 184°37.51' | 14.5552° | 43°42.16' | N 15°34.20' | 11.1935' | 54.8423' | 228°19.66' | **06** |
| **07** | 281°28.03' | 14.9996° | 321°54.10' | S 14°58.53' | 0.7925' | 199°10.79' | 14.5547° | 44°11.34' | N 15°45.32' | 11.1212' | 54.8223' | 243°22.13' | **07** |
| **08** | 296°28.00' | 14.9996° | 321°56.59' | S 14°57.74' | 0.7929' | 213°44.03' | 14.5541° | 44°40.56' | N 15°56.36' | 11.0483' | 54.8025' | 258°24.59' | **08** |
| **09** | 311°27.98' | 14.9996° | 321°59.08' | S 14°56.94' | 0.7934' | 228°17.25' | 14.5536° | 45°09.80' | N 16°07.34' | 10.9747' | 54.7830' | 273°27.06' | **09** |
| **10** | 326°27.95' | 14.9996° | 322°01.57' | S 14°56.15' | 0.7938' | 242°50.43' | 14.5531° | 45°39.09' | N 16°18.24' | 10.9004' | 54.7638' | 288°29.52' | **10** |
| **11** | 341°27.93' | 14.9996° | 322°04.06' | S 14°55.36' | 0.7942' | 257°23.58' | 14.5525° | 46°08.40' | N 16°29.07' | 10.8256' | 54.7449' | 303°31.98' | **11** |
| **12** | 356°27.90' | 14.9996° | 322°06.54' | S 14°54.56' | 0.7947' | 271°56.70' | 14.5519° | 46°37.75' | N 16°39.82' | 10.7501' | 54.7263' | 318°34.45' | **12** |
| **13** | 11°27.88' | 14.9996° | 322°09.03' | S 14°53.77' | 0.7951' | 286°29.78' | 14.5513° | 47°07.13' | N 16°50.49' | 10.6739' | 54.7080' | 333°36.91' | **13** |
| **14** | 26°27.86' | 14.9996° | 322°11.52' | S 14°52.97' | 0.7955' | 301°02.83' | 14.5508° | 47°36.55' | N 17°01.09' | 10.5971' | 54.6900' | 348°39.38' | **14** |
| **15** | 41°27.83' | 14.9996° | 322°14.01' | S 14°52.17' | 0.7960' | 315°35.83' | 14.5501° | 48°06.01' | N 17°11.61' | 10.5197' | 54.6723' | 3°41.84' | **15** |
| **16** | 56°27.81' | 14.9996° | 322°16.49' | S 14°51.38' | 0.7964' | 330°08.81' | 14.5495° | 48°35.50' | N 17°22.05' | 10.4416' | 54.6549' | 18°44.30' | **16** |
| **17** | 71°27.79' | 14.9996° | 322°18.98' | S 14°50.58' | 0.7968' | 344°41.74' | 14.5489° | 49°05.03' | N 17°32.41' | 10.3629' | 54.6378' | 33°46.77' | **17** |
| **18** | 86°27.77' | 14.9996° | 322°21.47' | S 14°49.78' | 0.7973' | 359°14.64' | 14.5483° | 49°34.59' | N 17°42.69' | 10.2835' | 54.6210' | 48°49.23' | **18** |
| **19** | 101°27.75' | 14.9996° | 322°23.95' | S 14°48.99' | 0.7977' | 13°47.50' | 14.5476° | 50°04.20' | N 17°52.90' | 10.2035' | 54.6044' | 63°51.70' | **19** |
| **20** | 116°27.73' | 14.9996° | 322°26.44' | S 14°48.19' | 0.7981' | 28°20.32' | 14.5470° | 50°33.84' | N 18°03.02' | 10.1229' | 54.5882' | 78°54.16' | **20** |
| **21** | 131°27.70' | 14.9997° | 322°28.92' | S 14°47.39' | 0.7986' | 42°53.10' | 14.5463° | 51°03.53' | N 18°13.06' | 10.0416' | 54.5723' | 93°56.63' | **21** |
| **22** | 146°27.68' | 14.9997° | 322°31.41' | S 14°46.59' | 0.7990' | 57°25.84' | 14.5457° | 51°33.25' | N 18°23.02' | 9.9597' | 54.5566' | 108°59.09' | **22** |
| **23** | 161°27.66' | 14.9997° | 322°33.89' | S 14°45.79' | 0.7994' | 71°58.54' | 14.5450° | 52°03.02' | N 18°32.90' | 9.8771' | 54.5413' | 124°01.55' | **23** |
| **24** | 176°27.64' | 14.9997° | 322°36.37' | S 14°44.99' | 0.7999' | 86°31.19' | 14.5443° | 52°32.82' | N 18°42.69' | 9.7939' | 54.5263' | 139°04.02' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2137' | hp (π) 0.1486' | ½Ø 14.9120' | 49.4043197930056<br>8% +cre |
| | EoT at 12:00 UTC : -14m 8s (δ -0.10 s/h) | | Phase at 12:00 UTC : 89.16° | |
| | Meridian Pass. Time : 12:14:08.387 | | Age : 6.9 day(s) | |

| UT | Venus ♀ (π 0.38') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 214°46.30' | 283°18.58' | S 16°30.74' | 216°33.21' | 281°31.66' | S 23°35.51' | 157°15.77' | 340°49.11' | S 9°09.28' | 179°02.03' | 319°02.85' | S 16°45.49' | **00** |
| **01** | 229°47.84' | 283°19.50' | S 16°30.85' | 231°33.68' | 281°33.66' | S 23°35.40' | 172°17.69' | 340°49.66' | S 9°09.06' | 194°04.19' | 319°03.15' | S 16°45.41' | **01** |
| **02** | 244°49.38' | 283°20.42' | S 16°30.96' | 246°34.15' | 281°35.66' | S 23°35.28' | 187°19.60' | 340°50.21' | S 9°08.83' | 209°06.36' | 319°03.45' | S 16°45.32' | **02** |
| **03** | 259°50.92' | 283°21.35' | S 16°31.06' | 261°34.62' | 281°37.66' | S 23°35.17' | 202°21.51' | 340°50.76' | S 9°08.61' | 224°08.52' | 319°03.75' | S 16°45.23' | **03** |
| **04** | 274°52.45' | 283°22.28' | S 16°31.17' | 276°35.08' | 281°39.65' | S 23°35.05' | 217°23.42' | 340°51.31' | S 9°08.39' | 239°10.69' | 319°04.05' | S 16°45.14' | **04** |
| **05** | 289°53.98' | 283°23.22' | S 16°31.28' | 291°35.55' | 281°41.65' | S 23°34.93' | 232°25.34' | 340°51.86' | S 9°08.17' | 254°12.85' | 319°04.35' | S 16°45.06' | **05** |
| **06** | 304°55.51' | 283°24.15' | S 16°31.38' | 306°36.02' | 281°43.65' | S 23°34.81' | 247°27.25' | 340°52.41' | S 9°07.95' | 269°15.02' | 319°04.65' | S 16°44.97' | **06** |
| **07** | 319°57.03' | 283°25.09' | S 16°31.49' | 321°36.48' | 281°45.65' | S 23°34.70' | 262°29.16' | 340°52.97' | S 9°07.73' | 284°17.18' | 319°04.95' | S 16°44.88' | **07** |
| **08** | 334°58.55' | 283°26.04' | S 16°31.60' | 336°36.95' | 281°47.64' | S 23°34.58' | 277°31.07' | 340°53.52' | S 9°07.51' | 299°19.35' | 319°05.25' | S 16°44.80' | **08** |
| **09** | 350°00.07' | 283°26.99' | S 16°31.71' | 351°37.42' | 281°49.64' | S 23°34.46' | 292°32.99' | 340°54.07' | S 9°07.29' | 314°21.51' | 319°05.54' | S 16°44.71' | **09** |
| **10** | 5°01.58' | 283°27.94' | S 16°31.81' | 6°37.88' | 281°51.64' | S 23°34.34' | 307°34.90' | 340°54.62' | S 9°07.07' | 329°23.68' | 319°05.84' | S 16°44.62' | **10** |
| **11** | 20°03.09' | 283°28.89' | S 16°31.92' | 21°38.35' | 281°53.64' | S 23°34.22' | 322°36.81' | 340°55.17' | S 9°06.84' | 344°25.84' | 319°06.14' | S 16°44.53' | **11** |
| **12** | 35°04.60' | 283°29.85' | S 16°32.03' | 36°38.82' | 281°55.63' | S 23°34.10' | 337°38.72' | 340°55.72' | S 9°06.62' | 359°28.01' | 319°06.44' | S 16°44.45' | **12** |
| **13** | 50°06.10' | 283°30.81' | S 16°32.14' | 51°39.28' | 281°57.63' | S 23°33.98' | 352°40.64' | 340°56.28' | S 9°06.40' | 14°30.17' | 319°06.74' | S 16°44.36' | **13** |
| **14** | 65°07.60' | 283°31.78' | S 16°32.24' | 66°39.75' | 281°59.63' | S 23°33.86' | 7°42.55' | 340°56.83' | S 9°06.18' | 29°32.34' | 319°07.04' | S 16°44.27' | **14** |
| **15** | 80°09.10' | 283°32.74' | S 16°32.35' | 81°40.22' | 282°01.62' | S 23°33.74' | 22°44.46' | 340°57.38' | S 9°05.96' | 44°34.50' | 319°07.34' | S 16°44.18' | **15** |
| **16** | 95°10.59' | 283°33.71' | S 16°32.46' | 96°40.68' | 282°03.62' | S 23°33.61' | 37°46.37' | 340°57.93' | S 9°05.74' | 59°36.67' | 319°07.64' | S 16°44.10' | **16** |
| **17** | 110°12.08' | 283°34.69' | S 16°32.57' | 111°41.15' | 282°05.62' | S 23°33.49' | 52°48.29' | 340°58.48' | S 9°05.52' | 74°38.83' | 319°07.94' | S 16°44.01' | **17** |
| **18** | 125°13.57' | 283°35.67' | S 16°32.68' | 126°41.62' | 282°07.62' | S 23°33.37' | 67°50.20' | 340°59.03' | S 9°05.29' | 89°40.99' | 319°08.24' | S 16°43.92' | **18** |
| **19** | 140°15.05' | 283°36.65' | S 16°32.78' | 141°42.08' | 282°09.61' | S 23°33.25' | 82°52.11' | 340°59.59' | S 9°05.07' | 104°43.16' | 319°08.54' | S 16°43.84' | **19** |
| **20** | 155°16.53' | 283°37.63' | S 16°32.89' | 156°42.55' | 282°11.61' | S 23°33.12' | 97°54.02' | 341°00.14' | S 9°04.85' | 119°45.32' | 319°08.84' | S 16°43.75' | **20** |
| **21** | 170°18.00' | 283°38.62' | S 16°33.00' | 171°43.02' | 282°13.61' | S 23°33.00' | 112°55.93' | 341°00.69' | S 9°04.63' | 134°47.49' | 319°09.14' | S 16°43.66' | **21** |
| **22** | 185°19.48' | 283°39.61' | S 16°33.11' | 186°43.48' | 282°15.61' | S 23°32.87' | 127°57.85' | 341°01.24' | S 9°04.41' | 149°49.65' | 319°09.43' | S 16°43.57' | **22** |
| **23** | 200°20.95' | 283°40.61' | S 16°33.21' | 201°43.95' | 282°17.60' | S 23°32.75' | 142°59.76' | 341°01.80' | S 9°04.19' | 164°51.82' | 319°09.73' | S 16°43.49' | **23** |
| **24** | 215°22.41' | 283°41.61' | S 16°33.32' | 216°44.42' | 282°19.60' | S 23°32.63' | 158°01.67' | 341°02.35' | S 9°03.97' | 179°53.98' | 319°10.03' | S 16°43.40' | **24** |
| | δ 15.0257° | | *d* 0.1072' | δ 15.0078° | | *d* 0.1156' | δ 15.0319° | | *d* 0.2209' | δ 15.0361° | | *d* 0.0872' | |

## *Wednesday, February 9th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°27.64' | 14.9997° | 322°36.37' | S 14°44.99' | 0.7999' | 86°31.19' | 14.5443° | 52°32.82' | N 18°42.69' | 9.7939' | 54.5263' | 139°04.02' | **00** |
| **01** | 191°27.63' | 14.9997° | 322°38.86' | S 14°44.19' | 0.8003' | 101°03.81' | 14.5436° | 53°02.67' | N 18°52.40' | 9.7101' | 54.5116' | 154°06.48' | **01** |
| **02** | 206°27.61' | 14.9997° | 322°41.34' | S 14°43.39' | 0.8007' | 115°36.39' | 14.5429° | 53°32.56' | N 19°02.03' | 9.6256' | 54.4971' | 169°08.95' | **02** |
| **03** | 221°27.59' | 14.9997° | 322°43.82' | S 14°42.59' | 0.8011' | 130°08.92' | 14.5422° | 54°02.49' | N 19°11.57' | 9.5404' | 54.4830' | 184°11.41' | **03** |
| **04** | 236°27.57' | 14.9997° | 322°46.30' | S 14°41.79' | 0.8016' | 144°41.41' | 14.5415° | 54°32.47' | N 19°21.02' | 9.4546' | 54.4692' | 199°13.87' | **04** |
| **05** | 251°27.55' | 14.9997° | 322°48.79' | S 14°40.98' | 0.8020' | 159°13.85' | 14.5408° | 55°02.48' | N 19°30.39' | 9.3682' | 54.4557' | 214°16.34' | **05** |
| **06** | 266°27.53' | 14.9997° | 322°51.27' | S 14°40.18' | 0.8024' | 173°46.26' | 14.5400° | 55°32.54' | N 19°39.67' | 9.2812' | 54.4424' | 229°18.80' | **06** |
| **07** | 281°27.52' | 14.9997° | 322°53.75' | S 14°39.38' | 0.8028' | 188°18.62' | 14.5393° | 56°02.65' | N 19°48.87' | 9.1935' | 54.4295' | 244°21.27' | **07** |
| **08** | 296°27.50' | 14.9997° | 322°56.23' | S 14°38.58' | 0.8033' | 202°50.93' | 14.5386° | 56°32.80' | N 19°57.97' | 9.1051' | 54.4169' | 259°23.73' | **08** |
| **09** | 311°27.48' | 14.9997° | 322°58.71' | S 14°37.77' | 0.8037' | 217°23.20' | 14.5378° | 57°02.99' | N 20°06.99' | 9.0161' | 54.4046' | 274°26.19' | **09** |
| **10** | 326°27.47' | 14.9997° | 323°01.19' | S 14°36.97' | 0.8041' | 231°55.42' | 14.5371° | 57°33.23' | N 20°15.91' | 8.9265' | 54.3926' | 289°28.66' | **10** |
| **11** | 341°27.45' | 14.9997° | 323°03.67' | S 14°36.16' | 0.8045' | 246°27.60' | 14.5363° | 58°03.52' | N 20°24.75' | 8.8362' | 54.3809' | 304°31.12' | **11** |
| **12** | 356°27.44' | 14.9997° | 323°06.15' | S 14°35.36' | 0.8050' | 260°59.74' | 14.5356° | 58°33.85' | N 20°33.50' | 8.7453' | 54.3694' | 319°33.59' | **12** |
| **13** | 11°27.42' | 14.9997° | 323°08.63' | S 14°34.55' | 0.8054' | 275°31.82' | 14.5348° | 59°04.23' | N 20°42.15' | 8.6538' | 54.3583' | 334°36.05' | **13** |
| **14** | 26°27.41' | 14.9998° | 323°11.11' | S 14°33.75' | 0.8058' | 290°03.86' | 14.5340° | 59°34.65' | N 20°50.71' | 8.5616' | 54.3475' | 349°38.52' | **14** |
| **15** | 41°27.39' | 14.9998° | 323°13.59' | S 14°32.94' | 0.8062' | 304°35.86' | 14.5332° | 60°05.12' | N 20°59.18' | 8.4688' | 54.3370' | 4°40.98' | **15** |
| **16** | 56°27.38' | 14.9998° | 323°16.07' | S 14°32.14' | 0.8066' | 319°07.81' | 14.5325° | 60°35.64' | N 21°07.56' | 8.3753' | 54.3268' | 19°43.44' | **16** |
| **17** | 71°27.36' | 14.9998° | 323°18.54' | S 14°31.33' | 0.8071' | 333°39.71' | 14.5317° | 61°06.20' | N 21°15.84' | 8.2812' | 54.3169' | 34°45.91' | **17** |
| **18** | 86°27.35' | 14.9998° | 323°21.02' | S 14°30.52' | 0.8075' | 348°11.56' | 14.5309° | 61°36.81' | N 21°24.02' | 8.1865' | 54.3073' | 49°48.37' | **18** |
| **19** | 101°27.34' | 14.9998° | 323°23.50' | S 14°29.71' | 0.8079' | 2°43.37' | 14.5301° | 62°07.47' | N 21°32.11' | 8.0911' | 54.2980' | 64°50.84' | **19** |
| **20** | 116°27.32' | 14.9998° | 323°25.98' | S 14°28.90' | 0.8083' | 17°15.12' | 14.5293° | 62°38.18' | N 21°40.11' | 7.9951' | 54.2890' | 79°53.30' | **20** |
| **21** | 131°27.31' | 14.9998° | 323°28.45' | S 14°28.10' | 0.8087' | 31°46.83' | 14.5285° | 63°08.93' | N 21°48.01' | 7.8984' | 54.2803' | 94°55.76' | **21** |
| **22** | 146°27.30' | 14.9998° | 323°30.93' | S 14°27.29' | 0.8092' | 46°18.50' | 14.5277° | 63°39.73' | N 21°55.81' | 7.8012' | 54.2719' | 109°58.23' | **22** |
| **23** | 161°27.29' | 14.9998° | 323°33.40' | S 14°26.48' | 0.8096' | 60°50.11' | 14.5269° | 64°10.58' | N 22°03.51' | 7.7032' | 54.2637' | 125°00.69' | **23** |
| **24** | 176°27.28' | 14.9998° | 323°35.88' | S 14°25.67' | 0.8100' | 75°21.68' | 14.5261° | 64°41.48' | N 22°11.12' | 7.6047' | 54.2559' | 140°03.16' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2110' | hp (π) 0.1486' | ½Ø 14.8147' | 58.867246922102% +gib |
| | EoT at 12:00 UTC : -14m 10s (δ -0.06 s/h) | | Phase at 12:00 UTC : 100.06° | |
| | Meridian Pass. Time : 12:14:10.258 | | Age : 7.8 day(s) | |

| UT | Venus ♀ (π 0.38') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 215°22.41' | 283°41.61' | S 16°33.32' | 216°44.42' | 282°19.60' | S 23°32.63' | 158°01.67' | 341°02.35' | S 9°03.97' | 179°53.98' | 319°10.03' | S 16°43.40' | **00** |
| **01** | 230°23.87' | 283°42.61' | S 16°33.43' | 231°44.88' | 282°21.60' | S 23°32.50' | 173°03.58' | 341°02.90' | S 9°03.74' | 194°56.15' | 319°10.33' | S 16°43.31' | **01** |
| **02** | 245°25.33' | 283°43.61' | S 16°33.54' | 246°45.35' | 282°23.60' | S 23°32.37' | 188°05.49' | 341°03.45' | S 9°03.52' | 209°58.31' | 319°10.63' | S 16°43.22' | **02** |
| **03** | 260°26.79' | 283°44.62' | S 16°33.64' | 261°45.82' | 282°25.59' | S 23°32.25' | 203°07.41' | 341°04.00' | S 9°03.30' | 225°00.48' | 319°10.93' | S 16°43.14' | **03** |
| **04** | 275°28.24' | 283°45.63' | S 16°33.75' | 276°46.28' | 282°27.59' | S 23°32.12' | 218°09.32' | 341°04.56' | S 9°03.08' | 240°02.64' | 319°11.23' | S 16°43.05' | **04** |
| **05** | 290°29.69' | 283°46.65' | S 16°33.86' | 291°46.75' | 282°29.59' | S 23°31.99' | 233°11.23' | 341°05.11' | S 9°02.86' | 255°04.81' | 319°11.53' | S 16°42.96' | **05** |
| **06** | 305°31.14' | 283°47.66' | S 16°33.97' | 306°47.22' | 282°31.59' | S 23°31.87' | 248°13.14' | 341°05.66' | S 9°02.63' | 270°06.97' | 319°11.83' | S 16°42.88' | **06** |
| **07** | 320°32.58' | 283°48.68' | S 16°34.07' | 321°47.68' | 282°33.58' | S 23°31.74' | 263°15.05' | 341°06.21' | S 9°02.41' | 285°09.14' | 319°12.13' | S 16°42.79' | **07** |
| **08** | 335°34.02' | 283°49.71' | S 16°34.18' | 336°48.15' | 282°35.58' | S 23°31.61' | 278°16.96' | 341°06.77' | S 9°02.19' | 300°11.31' | 319°12.43' | S 16°42.70' | **08** |
| **09** | 350°35.46' | 283°50.74' | S 16°34.29' | 351°48.62' | 282°37.58' | S 23°31.48' | 293°18.87' | 341°07.32' | S 9°01.97' | 315°13.47' | 319°12.72' | S 16°42.61' | **09** |
| **10** | 5°36.89' | 283°51.77' | S 16°34.40' | 6°49.08' | 282°39.57' | S 23°31.35' | 308°20.79' | 341°07.87' | S 9°01.75' | 330°15.64' | 319°13.02' | S 16°42.53' | **10** |
| **11** | 20°38.32' | 283°52.80' | S 16°34.50' | 21°49.55' | 282°41.57' | S 23°31.22' | 323°22.70' | 341°08.43' | S 9°01.53' | 345°17.80' | 319°13.32' | S 16°42.44' | **11** |
| **12** | 35°39.75' | 283°53.84' | S 16°34.61' | 36°50.02' | 282°43.57' | S 23°31.09' | 338°24.61' | 341°08.98' | S 9°01.30' | 0°19.97' | 319°13.62' | S 16°42.35' | **12** |
| **13** | 50°41.17' | 283°54.88' | S 16°34.72' | 51°50.48' | 282°45.57' | S 23°30.96' | 353°26.52' | 341°09.53' | S 9°01.08' | 15°22.13' | 319°13.92' | S 16°42.26' | **13** |
| **14** | 65°42.59' | 283°55.92' | S 16°34.83' | 66°50.95' | 282°47.56' | S 23°30.83' | 8°28.43' | 341°10.08' | S 9°00.86' | 30°24.30' | 319°14.22' | S 16°42.18' | **14** |
| **15** | 80°44.01' | 283°56.97' | S 16°34.93' | 81°51.42' | 282°49.56' | S 23°30.70' | 23°30.34' | 341°10.64' | S 9°00.64' | 45°26.46' | 319°14.52' | S 16°42.09' | **15** |
| **16** | 95°45.42' | 283°58.02' | S 16°35.04' | 96°51.88' | 282°51.56' | S 23°30.57' | 38°32.25' | 341°11.19' | S 9°00.42' | 60°28.63' | 319°14.82' | S 16°42.00' | **16** |
| **17** | 110°46.83' | 283°59.08' | S 16°35.15' | 111°52.35' | 282°53.56' | S 23°30.43' | 53°34.17' | 341°11.74' | S 9°00.19' | 75°30.79' | 319°15.12' | S 16°41.92' | **17** |
| **18** | 125°48.24' | 284°00.13' | S 16°35.25' | 126°52.82' | 282°55.55' | S 23°30.30' | 68°36.08' | 341°12.30' | S 8°59.97' | 90°32.96' | 319°15.42' | S 16°41.83' | **18** |
| **19** | 140°49.64' | 284°01.19' | S 16°35.36' | 141°53.29' | 282°57.55' | S 23°30.17' | 83°37.99' | 341°12.85' | S 8°59.75' | 105°35.12' | 319°15.71' | S 16°41.74' | **19** |
| **20** | 155°51.04' | 284°02.26' | S 16°35.47' | 156°53.75' | 282°59.55' | S 23°30.03' | 98°39.90' | 341°13.40' | S 8°59.53' | 120°37.29' | 319°16.01' | S 16°41.65' | **20** |
| **21** | 170°52.44' | 284°03.32' | S 16°35.58' | 171°54.22' | 283°01.55' | S 23°29.90' | 113°41.81' | 341°13.96' | S 8°59.30' | 135°39.45' | 319°16.31' | S 16°41.57' | **21** |
| **22** | 185°53.83' | 284°04.40' | S 16°35.68' | 186°54.69' | 283°03.54' | S 23°29.77' | 128°43.72' | 341°14.51' | S 8°59.08' | 150°41.62' | 319°16.61' | S 16°41.48' | **22** |
| **23** | 200°55.22' | 284°05.47' | S 16°35.79' | 201°55.15' | 283°05.54' | S 23°29.63' | 143°45.63' | 341°15.06' | S 8°58.86' | 165°43.78' | 319°16.91' | S 16°41.39' | **23** |
| **24** | 215°56.61' | 284°06.54' | S 16°35.90' | 216°55.62' | 283°07.54' | S 23°29.50' | 158°47.54' | 341°15.61' | S 8°58.64' | 180°45.95' | 319°17.21' | S 16°41.30' | **24** |
| | δ 15.0244° | | *d* 0.1076' | δ 15.0078° | | *d* 0.1256' | δ 15.0319° | | *d* 0.2217' | δ 15.0361° | | *d* 0.0873' | |

## *Thursday, February 10th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°27.28' | 14.9998° | 323°35.88' | S 14°25.67' | 0.8100' | 75°21.68' | 14.5261° | 64°41.48' | N 22°11.12' | 7.6047' | 54.2559' | 140°03.16' | **00** |
| **01** | 191°27.27' | 14.9998° | 323°38.36' | S 14°24.86' | 0.8104' | 89°53.20' | 14.5253° | 65°12.42' | N 22°18.62' | 7.5055' | 54.2484' | 155°05.62' | **01** |
| **02** | 206°27.25' | 14.9998° | 323°40.83' | S 14°24.05' | 0.8108' | 104°24.67' | 14.5245° | 65°43.42' | N 22°26.03' | 7.4057' | 54.2412' | 170°08.09' | **02** |
| **03** | 221°27.24' | 14.9998° | 323°43.30' | S 14°23.23' | 0.8112' | 118°56.09' | 14.5237° | 66°14.46' | N 22°33.33' | 7.3053' | 54.2343' | 185°10.55' | **03** |
| **04** | 236°27.23' | 14.9998° | 323°45.78' | S 14°22.42' | 0.8116' | 133°27.46' | 14.5229° | 66°45.55' | N 22°40.54' | 7.2043' | 54.2276' | 200°13.01' | **04** |
| **05** | 251°27.22' | 14.9998° | 323°48.25' | S 14°21.61' | 0.8121' | 147°58.79' | 14.5221° | 67°16.69' | N 22°47.64' | 7.1026' | 54.2213' | 215°15.48' | **05** |
| **06** | 266°27.22' | 14.9998° | 323°50.73' | S 14°20.80' | 0.8125' | 162°30.06' | 14.5213° | 67°47.88' | N 22°54.64' | 7.0003' | 54.2153' | 230°17.94' | **06** |
| **07** | 281°27.21' | 14.9999° | 323°53.20' | S 14°19.99' | 0.8129' | 177°01.29' | 14.5205° | 68°19.11' | N 23°01.54' | 6.8974' | 54.2095' | 245°20.41' | **07** |
| **08** | 296°27.20' | 14.9999° | 323°55.67' | S 14°19.17' | 0.8133' | 191°32.47' | 14.5197° | 68°50.40' | N 23°08.33' | 6.7939' | 54.2041' | 260°22.87' | **08** |
| **09** | 311°27.19' | 14.9999° | 323°58.14' | S 14°18.36' | 0.8137' | 206°03.60' | 14.5189° | 69°21.73' | N 23°15.02' | 6.6897' | 54.1989' | 275°25.33' | **09** |
| **10** | 326°27.18' | 14.9999° | 324°00.62' | S 14°17.54' | 0.8141' | 220°34.69' | 14.5181° | 69°53.11' | N 23°21.61' | 6.5850' | 54.1941' | 290°27.80' | **10** |
| **11** | 341°27.17' | 14.9999° | 324°03.09' | S 14°16.73' | 0.8145' | 235°05.72' | 14.5173° | 70°24.54' | N 23°28.09' | 6.4796' | 54.1895' | 305°30.26' | **11** |
| **12** | 356°27.17' | 14.9999° | 324°05.56' | S 14°15.91' | 0.8149' | 249°36.71' | 14.5165° | 70°56.02' | N 23°34.46' | 6.3736' | 54.1852' | 320°32.73' | **12** |
| **13** | 11°27.16' | 14.9999° | 324°08.03' | S 14°15.10' | 0.8153' | 264°07.65' | 14.5157° | 71°27.54' | N 23°40.73' | 6.2671' | 54.1812' | 335°35.19' | **13** |
| **14** | 26°27.15' | 14.9999° | 324°10.50' | S 14°14.28' | 0.8158' | 278°38.54' | 14.5149° | 71°59.11' | N 23°46.89' | 6.1599' | 54.1775' | 350°37.65' | **14** |
| **15** | 41°27.15' | 14.9999° | 324°12.97' | S 14°13.47' | 0.8162' | 293°09.39' | 14.5141° | 72°30.73' | N 23°52.94' | 6.0522' | 54.1741' | 5°40.12' | **15** |
| **16** | 56°27.14' | 14.9999° | 324°15.44' | S 14°12.65' | 0.8166' | 307°40.19' | 14.5133° | 73°02.40' | N 23°58.88' | 5.9438' | 54.1709' | 20°42.58' | **16** |
| **17** | 71°27.14' | 14.9999° | 324°17.91' | S 14°11.83' | 0.8170' | 322°10.94' | 14.5125° | 73°34.11' | N 24°04.72' | 5.8349' | 54.1681' | 35°45.05' | **17** |
| **18** | 86°27.13' | 14.9999° | 324°20.38' | S 14°11.02' | 0.8174' | 336°41.64' | 14.5117° | 74°05.87' | N 24°10.44' | 5.7253' | 54.1655' | 50°47.51' | **18** |
| **19** | 101°27.13' | 14.9999° | 324°22.85' | S 14°10.20' | 0.8178' | 351°12.30' | 14.5110° | 74°37.67' | N 24°16.06' | 5.6152' | 54.1633' | 65°49.98' | **19** |
| **20** | 116°27.12' | 14.9999° | 324°25.32' | S 14°09.38' | 0.8182' | 5°42.91' | 14.5102° | 75°09.53' | N 24°21.56' | 5.5046' | 54.1613' | 80°52.44' | **20** |
| **21** | 131°27.12' | 14.9999° | 324°27.79' | S 14°08.56' | 0.8186' | 20°13.48' | 14.5094° | 75°41.42' | N 24°26.96' | 5.3933' | 54.1596' | 95°54.90' | **21** |
| **22** | 146°27.11' | 14.9999° | 324°30.25' | S 14°07.74' | 0.8190' | 34°44.00' | 14.5087° | 76°13.37' | N 24°32.24' | 5.2815' | 54.1581' | 110°57.37' | **22** |
| **23** | 161°27.11' | 14.9999° | 324°32.72' | S 14°06.92' | 0.8194' | 49°14.48' | 14.5079° | 76°45.36' | N 24°37.41' | 5.1691' | 54.1570' | 125°59.83' | **23** |
| **24** | 176°27.11' | 14.9999° | 324°35.19' | S 14°06.10' | 0.8198' | 63°44.91' | 14.5072° | 77°17.39' | N 24°42.46' | 5.0562' | 54.1561' | 141°02.30' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2082' | hp (π) 0.1485' | ½Ø 14.7645' | 67.9144423080619<br>6% +gib |
| | EoT at 12:00 UTC : -14m 11s (δ -0.03 s/h) | | Phase at 12:00 UTC : 110.85° | |
| | Meridian Pass. Time : 12:14:11.332 | | Age : 8.6 day(s) | |

| UT | Venus ♀ (π 0.37') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 215°56.61' | 284°06.54' | S 16°35.90' | 216°55.62' | 283°07.54' | S 23°29.50' | 158°47.54' | 341°15.61' | S 8°58.64' | 180°45.95' | 319°17.21' | S 16°41.30' | **00** |
| **01** | 230°58.00' | 284°07.62' | S 16°36.00' | 231°56.09' | 283°09.53' | S 23°29.36' | 173°49.45' | 341°16.17' | S 8°58.41' | 195°48.11' | 319°17.51' | S 16°41.22' | **01** |
| **02** | 245°59.38' | 284°08.71' | S 16°36.11' | 246°56.55' | 283°11.53' | S 23°29.22' | 188°51.36' | 341°16.72' | S 8°58.19' | 210°50.28' | 319°17.81' | S 16°41.13' | **02** |
| **03** | 261°00.76' | 284°09.79' | S 16°36.22' | 261°57.02' | 283°13.53' | S 23°29.09' | 203°53.27' | 341°17.27' | S 8°57.97' | 225°52.44' | 319°18.10' | S 16°41.04' | **03** |
| **04** | 276°02.13' | 284°10.88' | S 16°36.32' | 276°57.49' | 283°15.53' | S 23°28.95' | 218°55.19' | 341°17.83' | S 8°57.75' | 240°54.61' | 319°18.40' | S 16°40.95' | **04** |
| **05** | 291°03.50' | 284°11.98' | S 16°36.43' | 291°57.95' | 283°17.52' | S 23°28.81' | 233°57.10' | 341°18.38' | S 8°57.52' | 255°56.78' | 319°18.70' | S 16°40.87' | **05** |
| **06** | 306°04.87' | 284°13.07' | S 16°36.54' | 306°58.42' | 283°19.52' | S 23°28.68' | 248°59.01' | 341°18.94' | S 8°57.30' | 270°58.94' | 319°19.00' | S 16°40.78' | **06** |
| **07** | 321°06.24' | 284°14.17' | S 16°36.64' | 321°58.89' | 283°21.52' | S 23°28.54' | 264°00.92' | 341°19.49' | S 8°57.08' | 286°01.11' | 319°19.30' | S 16°40.69' | **07** |
| **08** | 336°07.60' | 284°15.27' | S 16°36.75' | 336°59.36' | 283°23.51' | S 23°28.40' | 279°02.83' | 341°20.04' | S 8°56.86' | 301°03.27' | 319°19.60' | S 16°40.61' | **08** |
| **09** | 351°08.96' | 284°16.38' | S 16°36.86' | 351°59.82' | 283°25.51' | S 23°28.26' | 294°04.74' | 341°20.60' | S 8°56.63' | 316°05.44' | 319°19.90' | S 16°40.52' | **09** |
| **10** | 6°10.31' | 284°17.49' | S 16°36.96' | 7°00.29' | 283°27.51' | S 23°28.12' | 309°06.65' | 341°21.15' | S 8°56.41' | 331°07.60' | 319°20.20' | S 16°40.43' | **10** |
| **11** | 21°11.66' | 284°18.60' | S 16°37.07' | 22°00.76' | 283°29.51' | S 23°27.98' | 324°08.56' | 341°21.70' | S 8°56.19' | 346°09.77' | 319°20.49' | S 16°40.34' | **11** |
| **12** | 36°13.01' | 284°19.71' | S 16°37.18' | 37°01.22' | 283°31.50' | S 23°27.84' | 339°10.47' | 341°22.26' | S 8°55.97' | 1°11.93' | 319°20.79' | S 16°40.26' | **12** |
| **13** | 51°14.36' | 284°20.83' | S 16°37.28' | 52°01.69' | 283°33.50' | S 23°27.70' | 354°12.38' | 341°22.81' | S 8°55.74' | 16°14.10' | 319°21.09' | S 16°40.17' | **13** |
| **14** | 66°15.70' | 284°21.95' | S 16°37.39' | 67°02.16' | 283°35.50' | S 23°27.56' | 9°14.29' | 341°23.36' | S 8°55.52' | 31°16.26' | 319°21.39' | S 16°40.08' | **14** |
| **15** | 81°17.04' | 284°23.08' | S 16°37.49' | 82°02.62' | 283°37.49' | S 23°27.42' | 24°16.20' | 341°23.92' | S 8°55.30' | 46°18.43' | 319°21.69' | S 16°39.99' | **15** |
| **16** | 96°18.38' | 284°24.20' | S 16°37.60' | 97°03.09' | 283°39.49' | S 23°27.28' | 39°18.11' | 341°24.47' | S 8°55.08' | 61°20.60' | 319°21.99' | S 16°39.91' | **16** |
| **17** | 111°19.71' | 284°25.33' | S 16°37.71' | 112°03.56' | 283°41.49' | S 23°27.13' | 54°20.02' | 341°25.03' | S 8°54.85' | 76°22.76' | 319°22.29' | S 16°39.82' | **17** |
| **18** | 126°21.04' | 284°26.47' | S 16°37.81' | 127°04.03' | 283°43.49' | S 23°26.99' | 69°21.93' | 341°25.58' | S 8°54.63' | 91°24.93' | 319°22.59' | S 16°39.73' | **18** |
| **19** | 141°22.37' | 284°27.60' | S 16°37.92' | 142°04.49' | 283°45.48' | S 23°26.85' | 84°23.84' | 341°26.13' | S 8°54.41' | 106°27.09' | 319°22.88' | S 16°39.64' | **19** |
| **20** | 156°23.70' | 284°28.74' | S 16°38.02' | 157°04.96' | 283°47.48' | S 23°26.70' | 99°25.75' | 341°26.69' | S 8°54.18' | 121°29.26' | 319°23.18' | S 16°39.56' | **20** |
| **21** | 171°25.02' | 284°29.89' | S 16°38.13' | 172°05.43' | 283°49.48' | S 23°26.56' | 114°27.66' | 341°27.24' | S 8°53.96' | 136°31.42' | 319°23.48' | S 16°39.47' | **21** |
| **22** | 186°26.33' | 284°31.03' | S 16°38.23' | 187°05.89' | 283°51.47' | S 23°26.42' | 129°29.57' | 341°27.80' | S 8°53.74' | 151°33.59' | 319°23.78' | S 16°39.38' | **22** |
| **23** | 201°27.65' | 284°32.18' | S 16°38.34' | 202°06.36' | 283°53.47' | S 23°26.27' | 144°31.48' | 341°28.35' | S 8°53.52' | 166°35.75' | 319°24.08' | S 16°39.29' | **23** |
| **24** | 216°28.96' | 284°33.34' | S 16°38.44' | 217°06.83' | 283°55.47' | S 23°26.13' | 159°33.39' | 341°28.91' | S 8°53.29' | 181°37.92' | 319°24.38' | S 16°39.21' | **24** |
| | δ 15.0231° | | *d* 0.1069' | δ 15.0078° | | *d* 0.1356' | δ 15.0318° | | *d* 0.2224' | δ 15.0361° | | *d* 0.0873' | |

## *Friday, February 11th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°27.11' | 14.9999° | 324°35.19' | S 14°06.10' | 0.8198' | 63°44.91' | 14.5072° | 77°17.39' | N 24°42.46' | 5.0562' | 54.1561' | 141°02.30' | **00** |
| **01** | 191°27.10' | 15.0000° | 324°37.66' | S 14°05.28' | 0.8202' | 78°15.29' | 14.5064° | 77°49.47' | N 24°47.41' | 4.9427' | 54.1555' | 156°04.76' | **01** |
| **02** | 206°27.10' | 15.0000° | 324°40.12' | S 14°04.46' | 0.8206' | 92°45.64' | 14.5057° | 78°21.59' | N 24°52.23' | 4.8287' | 54.1552' | 171°07.22' | **02** |
| **03** | 221°27.10' | 15.0000° | 324°42.59' | S 14°03.64' | 0.8210' | 107°15.93' | 14.5050° | 78°53.76' | N 24°56.95' | 4.7141' | 54.1552' | 186°09.69' | **03** |
| **04** | 236°27.10' | 15.0000° | 324°45.06' | S 14°02.82' | 0.8214' | 121°46.19' | 14.5043° | 79°25.96' | N 25°01.55' | 4.5990' | 54.1554' | 201°12.15' | **04** |
| **05** | 251°27.10' | 15.0000° | 324°47.52' | S 14°02.00' | 0.8218' | 136°16.40' | 14.5035° | 79°58.22' | N 25°06.03' | 4.4833' | 54.1559' | 216°14.62' | **05** |
| **06** | 266°27.10' | 15.0000° | 324°49.99' | S 14°01.18' | 0.8222' | 150°46.57' | 14.5028° | 80°30.51' | N 25°10.40' | 4.3671' | 54.1567' | 231°17.08' | **06** |
| **07** | 281°27.09' | 15.0000° | 324°52.45' | S 14°00.35' | 0.8226' | 165°16.70' | 14.5021° | 81°02.84' | N 25°14.65' | 4.2505' | 54.1578' | 246°19.55' | **07** |
| **08** | 296°27.09' | 15.0000° | 324°54.92' | S 13°59.53' | 0.8230' | 179°46.79' | 14.5015° | 81°35.22' | N 25°18.78' | 4.1333' | 54.1591' | 261°22.01' | **08** |
| **09** | 311°27.09' | 15.0000° | 324°57.38' | S 13°58.71' | 0.8234' | 194°16.84' | 14.5008° | 82°07.64' | N 25°22.80' | 4.0156' | 54.1607' | 276°24.47' | **09** |
| **10** | 326°27.09' | 15.0000° | 324°59.84' | S 13°57.88' | 0.8238' | 208°46.84' | 14.5001° | 82°40.10' | N 25°26.69' | 3.8974' | 54.1625' | 291°26.94' | **10** |
| **11** | 341°27.09' | 15.0000° | 325°02.31' | S 13°57.06' | 0.8242' | 223°16.81' | 14.4995° | 83°12.59' | N 25°30.47' | 3.7787' | 54.1647' | 306°29.40' | **11** |
| **12** | 356°27.10' | 15.0000° | 325°04.77' | S 13°56.23' | 0.8246' | 237°46.74' | 14.4988° | 83°45.13' | N 25°34.13' | 3.6595' | 54.1671' | 321°31.87' | **12** |
| **13** | 11°27.10' | 15.0000° | 325°07.23' | S 13°55.41' | 0.8250' | 252°16.63' | 14.4982° | 84°17.70' | N 25°37.67' | 3.5399' | 54.1697' | 336°34.33' | **13** |
| **14** | 26°27.10' | 15.0000° | 325°09.70' | S 13°54.58' | 0.8254' | 266°46.48' | 14.4975° | 84°50.31' | N 25°41.09' | 3.4198' | 54.1726' | 351°36.79' | **14** |
| **15** | 41°27.10' | 15.0000° | 325°12.16' | S 13°53.76' | 0.8258' | 281°16.30' | 14.4969° | 85°22.96' | N 25°44.39' | 3.2992' | 54.1758' | 6°39.26' | **15** |
| **16** | 56°27.10' | 15.0000° | 325°14.62' | S 13°52.93' | 0.8262' | 295°46.07' | 14.4963° | 85°55.65' | N 25°47.57' | 3.1782' | 54.1792' | 21°41.72' | **16** |
| **17** | 71°27.11' | 15.0000° | 325°17.08' | S 13°52.11' | 0.8266' | 310°15.82' | 14.4957° | 86°28.37' | N 25°50.63' | 3.0567' | 54.1829' | 36°44.19' | **17** |
| **18** | 86°27.11' | 15.0000° | 325°19.54' | S 13°51.28' | 0.8270' | 324°45.52' | 14.4951° | 87°01.13' | N 25°53.56' | 2.9348' | 54.1869' | 51°46.65' | **18** |
| **19** | 101°27.11' | 15.0001° | 325°22.00' | S 13°50.45' | 0.8274' | 339°15.20' | 14.4946° | 87°33.92' | N 25°56.37' | 2.8125' | 54.1911' | 66°49.12' | **19** |
| **20** | 116°27.11' | 15.0001° | 325°24.46' | S 13°49.62' | 0.8278' | 353°44.84' | 14.4940° | 88°06.74' | N 25°59.06' | 2.6897' | 54.1955' | 81°51.58' | **20** |
| **21** | 131°27.12' | 15.0001° | 325°26.93' | S 13°48.80' | 0.8282' | 8°14.44' | 14.4934° | 88°39.60' | N 26°01.63' | 2.5666' | 54.2002' | 96°54.04' | **21** |
| **22** | 146°27.12' | 15.0001° | 325°29.39' | S 13°47.97' | 0.8286' | 22°44.02' | 14.4929° | 89°12.49' | N 26°04.07' | 2.4430' | 54.2052' | 111°56.51' | **22** |
| **23** | 161°27.13' | 15.0001° | 325°31.84' | S 13°47.14' | 0.8290' | 37°13.56' | 14.4924° | 89°45.41' | N 26°06.39' | 2.3191' | 54.2104' | 126°58.97' | **23** |
| **24** | 176°27.13' | 15.0001° | 325°34.30' | S 13°46.31' | 0.8294' | 51°43.08' | 14.4919° | 90°18.36' | N 26°08.59' | 2.1947' | 54.2159' | 142°01.44' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2053' | hp (π) 0.1485' | ½Ø 14.7596' | 76.3005932603503 % +gib | |
| EoT at 12:00 UTC : -14m 11s (δ 0.00 s/h) | | Phase at 12:00 UTC : 121.63° | | |
| Meridian Pass. Time : 12:14:11.618 | | Age : 9.5 day(s) | | |

| UT | Venus ♀ (π 0.37') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 216°28.96' | 284°33.34' | S 16°38.44' | 217°06.83' | 283°55.47' | S 23°26.13' | 159°33.39' | 341°28.91' | S 8°53.29' | 181°37.92' | 319°24.38' | S 16°39.21' | **00** |
| **01** | 231°30.27' | 284°34.49' | S 16°38.55' | 232°07.30' | 283°57.47' | S 23°25.98' | 174°35.30' | 341°29.46' | S 8°53.07' | 196°40.09' | 319°24.67' | S 16°39.12' | **01** |
| **02** | 246°31.58' | 284°35.65' | S 16°38.65' | 247°07.76' | 283°59.46' | S 23°25.83' | 189°37.21' | 341°30.01' | S 8°52.85' | 211°42.25' | 319°24.97' | S 16°39.03' | **02** |
| **03** | 261°32.88' | 284°36.81' | S 16°38.76' | 262°08.23' | 284°01.46' | S 23°25.69' | 204°39.12' | 341°30.57' | S 8°52.62' | 226°44.42' | 319°25.27' | S 16°38.95' | **03** |
| **04** | 276°34.18' | 284°37.98' | S 16°38.86' | 277°08.70' | 284°03.46' | S 23°25.54' | 219°41.03' | 341°31.12' | S 8°52.40' | 241°46.58' | 319°25.57' | S 16°38.86' | **04** |
| **05** | 291°35.47' | 284°39.14' | S 16°38.97' | 292°09.16' | 284°05.45' | S 23°25.39' | 234°42.94' | 341°31.68' | S 8°52.18' | 256°48.75' | 319°25.87' | S 16°38.77' | **05** |
| **06** | 306°36.77' | 284°40.31' | S 16°39.07' | 307°09.63' | 284°07.45' | S 23°25.25' | 249°44.85' | 341°32.23' | S 8°51.95' | 271°50.91' | 319°26.17' | S 16°38.68' | **06** |
| **07** | 321°38.06' | 284°41.49' | S 16°39.18' | 322°10.10' | 284°09.45' | S 23°25.10' | 264°46.76' | 341°32.79' | S 8°51.73' | 286°53.08' | 319°26.47' | S 16°38.60' | **07** |
| **08** | 336°39.34' | 284°42.67' | S 16°39.28' | 337°10.57' | 284°11.44' | S 23°24.95' | 279°48.67' | 341°33.34' | S 8°51.51' | 301°55.25' | 319°26.76' | S 16°38.51' | **08** |
| **09** | 351°40.63' | 284°43.85' | S 16°39.39' | 352°11.03' | 284°13.44' | S 23°24.80' | 294°50.58' | 341°33.89' | S 8°51.28' | 316°57.41' | 319°27.06' | S 16°38.42' | **09** |
| **10** | 6°41.91' | 284°45.03' | S 16°39.49' | 7°11.50' | 284°15.44' | S 23°24.65' | 309°52.49' | 341°34.45' | S 8°51.06' | 331°59.58' | 319°27.36' | S 16°38.33' | **10** |
| **11** | 21°43.19' | 284°46.22' | S 16°39.59' | 22°11.97' | 284°17.43' | S 23°24.50' | 324°54.40' | 341°35.00' | S 8°50.84' | 347°01.74' | 319°27.66' | S 16°38.25' | **11** |
| **12** | 36°44.46' | 284°47.41' | S 16°39.70' | 37°12.43' | 284°19.43' | S 23°24.35' | 339°56.31' | 341°35.56' | S 8°50.61' | 2°03.91' | 319°27.96' | S 16°38.16' | **12** |
| **13** | 51°45.73' | 284°48.60' | S 16°39.80' | 52°12.90' | 284°21.43' | S 23°24.20' | 354°58.22' | 341°36.11' | S 8°50.39' | 17°06.08' | 319°28.26' | S 16°38.07' | **13** |
| **14** | 66°47.00' | 284°49.79' | S 16°39.91' | 67°13.37' | 284°23.43' | S 23°24.05' | 10°00.13' | 341°36.67' | S 8°50.17' | 32°08.24' | 319°28.55' | S 16°37.98' | **14** |
| **15** | 81°48.27' | 284°50.99' | S 16°40.01' | 82°13.84' | 284°25.42' | S 23°23.90' | 25°02.04' | 341°37.22' | S 8°49.94' | 47°10.41' | 319°28.85' | S 16°37.90' | **15** |
| **16** | 96°49.53' | 284°52.19' | S 16°40.11' | 97°14.30' | 284°27.42' | S 23°23.75' | 40°03.95' | 341°37.78' | S 8°49.72' | 62°12.57' | 319°29.15' | S 16°37.81' | **16** |
| **17** | 111°50.79' | 284°53.40' | S 16°40.22' | 112°14.77' | 284°29.42' | S 23°23.59' | 55°05.85' | 341°38.33' | S 8°49.50' | 77°14.74' | 319°29.45' | S 16°37.72' | **17** |
| **18** | 126°52.05' | 284°54.61' | S 16°40.32' | 127°15.24' | 284°31.41' | S 23°23.44' | 70°07.76' | 341°38.89' | S 8°49.27' | 92°16.91' | 319°29.75' | S 16°37.64' | **18** |
| **19** | 141°53.30' | 284°55.82' | S 16°40.42' | 142°15.71' | 284°33.41' | S 23°23.29' | 85°09.67' | 341°39.44' | S 8°49.05' | 107°19.07' | 319°30.04' | S 16°37.55' | **19** |
| **20** | 156°54.55' | 284°57.03' | S 16°40.52' | 157°16.17' | 284°35.41' | S 23°23.14' | 100°11.58' | 341°40.00' | S 8°48.83' | 122°21.24' | 319°30.34' | S 16°37.46' | **20** |
| **21** | 171°55.80' | 284°58.25' | S 16°40.63' | 172°16.64' | 284°37.40' | S 23°22.98' | 115°13.49' | 341°40.55' | S 8°48.60' | 137°23.40' | 319°30.64' | S 16°37.37' | **21** |
| **22** | 186°57.04' | 284°59.47' | S 16°40.73' | 187°17.11' | 284°39.40' | S 23°22.83' | 130°15.40' | 341°41.11' | S 8°48.38' | 152°25.57' | 319°30.94' | S 16°37.29' | **22** |
| **23** | 201°58.28' | 285°00.69' | S 16°40.83' | 202°17.58' | 284°41.40' | S 23°22.67' | 145°17.31' | 341°41.66' | S 8°48.15' | 167°27.74' | 319°31.24' | S 16°37.20' | **23** |
| **24** | 216°59.52' | 285°01.91' | S 16°40.93' | 217°18.04' | 284°43.39' | S 23°22.52' | 160°19.22' | 341°42.22' | S 8°47.93' | 182°29.90' | 319°31.53' | S 16°37.11' | **24** |
| | δ 15.0218° | | *d* 0.1051' | δ 15.0078° | | *d* 0.1456' | δ 15.0318° | | *d* 0.2231' | δ 15.0361° | | *d* 0.0874' | |

## *Saturday, February 12th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°27.13' | 15.0001° | 325°34.30' | S 13°46.31' | 0.8294' | 51°43.08' | 14.4919° | 90°18.36' | N 26°08.59' | 2.1947' | 54.2159' | 142°01.44' | **00** |
| **01** | 191°27.14' | 15.0001° | 325°36.76' | S 13°45.48' | 0.8298' | 66°12.56' | 14.4914° | 90°51.34' | N 26°10.66' | 2.0700' | 54.2216' | 157°03.90' | **01** |
| **02** | 206°27.14' | 15.0001° | 325°39.22' | S 13°44.65' | 0.8301' | 80°42.01' | 14.4909° | 91°24.35' | N 26°12.60' | 1.9450' | 54.2275' | 172°06.36' | **02** |
| **03** | 221°27.15' | 15.0001° | 325°41.68' | S 13°43.82' | 0.8305' | 95°11.44' | 14.4904° | 91°57.39' | N 26°14.42' | 1.8196' | 54.2337' | 187°08.83' | **03** |
| **04** | 236°27.16' | 15.0001° | 325°44.14' | S 13°42.99' | 0.8309' | 109°40.84' | 14.4900° | 92°30.46' | N 26°16.11' | 1.6938' | 54.2401' | 202°11.29' | **04** |
| **05** | 251°27.16' | 15.0001° | 325°46.59' | S 13°42.16' | 0.8313' | 124°10.21' | 14.4895° | 93°03.55' | N 26°17.68' | 1.5678' | 54.2468' | 217°13.76' | **05** |
| **06** | 266°27.17' | 15.0001° | 325°49.05' | S 13°41.32' | 0.8317' | 138°39.55' | 14.4891° | 93°36.67' | N 26°19.12' | 1.4414' | 54.2537' | 232°16.22' | **06** |
| **07** | 281°27.18' | 15.0001° | 325°51.51' | S 13°40.49' | 0.8321' | 153°08.88' | 14.4887° | 94°09.81' | N 26°20.44' | 1.3147' | 54.2608' | 247°18.69' | **07** |
| **08** | 296°27.18' | 15.0001° | 325°53.97' | S 13°39.66' | 0.8325' | 167°38.17' | 14.4883° | 94°42.98' | N 26°21.63' | 1.1877' | 54.2682' | 262°21.15' | **08** |
| **09** | 311°27.19' | 15.0001° | 325°56.42' | S 13°38.83' | 0.8329' | 182°07.45' | 14.4879° | 95°16.17' | N 26°22.69' | 1.0604' | 54.2758' | 277°23.61' | **09** |
| **10** | 326°27.20' | 15.0001° | 325°58.88' | S 13°37.99' | 0.8333' | 196°36.70' | 14.4875° | 95°49.38' | N 26°23.62' | 0.9328' | 54.2836' | 292°26.08' | **10** |
| **11** | 341°27.21' | 15.0001° | 326°01.33' | S 13°37.16' | 0.8336' | 211°05.93' | 14.4872° | 96°22.61' | N 26°24.42' | 0.8050' | 54.2917' | 307°28.54' | **11** |
| **12** | 356°27.22' | 15.0001° | 326°03.79' | S 13°36.33' | 0.8340' | 225°35.14' | 14.4869° | 96°55.86' | N 26°25.10' | 0.6770' | 54.3000' | 322°31.01' | **12** |
| **13** | 11°27.23' | 15.0002° | 326°06.24' | S 13°35.49' | 0.8344' | 240°04.34' | 14.4865° | 97°29.13' | N 26°25.65' | 0.5487' | 54.3085' | 337°33.47' | **13** |
| **14** | 26°27.24' | 15.0002° | 326°08.70' | S 13°34.66' | 0.8348' | 254°33.51' | 14.4862° | 98°02.42' | N 26°26.07' | 0.4201' | 54.3172' | 352°35.93' | **14** |
| **15** | 41°27.25' | 15.0002° | 326°11.15' | S 13°33.82' | 0.8352' | 269°02.67' | 14.4859° | 98°35.73' | N 26°26.36' | 0.2914' | 54.3262' | 7°38.40' | **15** |
| **16** | 56°27.26' | 15.0002° | 326°13.61' | S 13°32.99' | 0.8356' | 283°31.81' | 14.4857° | 99°09.06' | N 26°26.52' | 0.1625' | 54.3354' | 22°40.86' | **16** |
| **17** | 71°27.27' | 15.0002° | 326°16.06' | S 13°32.15' | 0.8359' | 298°00.93' | 14.4854° | 99°42.39' | N 26°26.56' | 0.0333' | 54.3448' | 37°43.33' | **17** |
| **18** | 86°27.28' | 15.0002° | 326°18.51' | S 13°31.31' | 0.8363' | 312°30.04' | 14.4852° | 100°15.75' | N 26°26.46' | 0.0960' | 54.3544' | 52°45.79' | **18** |
| **19** | 101°27.29' | 15.0002° | 326°20.97' | S 13°30.48' | 0.8367' | 326°59.14' | 14.4849° | 100°49.12' | N 26°26.24' | 0.2254' | 54.3642' | 67°48.26' | **19** |
| **20** | 116°27.30' | 15.0002° | 326°23.42' | S 13°29.64' | 0.8371' | 341°28.22' | 14.4847° | 101°22.50' | N 26°25.88' | 0.3551' | 54.3742' | 82°50.72' | **20** |
| **21** | 131°27.31' | 15.0002° | 326°25.87' | S 13°28.80' | 0.8375' | 355°57.30' | 14.4846° | 101°55.89' | N 26°25.40' | 0.4848' | 54.3845' | 97°53.18' | **21** |
| **22** | 146°27.33' | 15.0002° | 326°28.32' | S 13°27.96' | 0.8379' | 10°26.36' | 14.4844° | 102°29.29' | N 26°24.78' | 0.6147' | 54.3950' | 112°55.65' | **22** |
| **23** | 161°27.34' | 15.0002° | 326°30.77' | S 13°27.13' | 0.8382' | 24°55.41' | 14.4842° | 103°02.70' | N 26°24.04' | 0.7447' | 54.4056' | 127°58.11' | **23** |
| **24** | 176°27.35' | 15.0002° | 326°33.23' | S 13°26.29' | 0.8386' | 39°24.46' | 14.4841° | 103°36.12' | N 26°23.16' | 0.8748' | 54.4165' | 143°00.58' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2024' | hp (π) 0.1485' | ½Ø 14.7958' | 83.7845569889284 9% +gib |
| | EoT at 12:00 UTC : -14m 11s (δ 0.04 s/h) | | Phase at 12:00 UTC : 132.47° | |
| | Meridian Pass. Time : 12:14:11.127 | | Age : 10.3 day(s) | |

| UT | Venus ♀ (π 0.36') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 216°59.52' | 285°01.91' | S 16°40.93' | 217°18.04' | 284°43.39' | S 23°22.52' | 160°19.22' | 341°42.22' | S 8°47.93' | 182°29.90' | 319°31.53' | S 16°37.11' | **00** |
| **01** | 232°00.76' | 285°03.14' | S 16°41.04' | 232°18.51' | 284°45.39' | S 23°22.36' | 175°21.13' | 341°42.77' | S 8°47.71' | 197°32.07' | 319°31.83' | S 16°37.02' | **01** |
| **02** | 247°01.99' | 285°04.37' | S 16°41.14' | 247°18.98' | 284°47.39' | S 23°22.21' | 190°23.04' | 341°43.33' | S 8°47.48' | 212°34.23' | 319°32.13' | S 16°36.94' | **02** |
| **03** | 262°03.22' | 285°05.61' | S 16°41.24' | 262°19.45' | 284°49.38' | S 23°22.05' | 205°24.95' | 341°43.88' | S 8°47.26' | 227°36.40' | 319°32.43' | S 16°36.85' | **03** |
| **04** | 277°04.45' | 285°06.85' | S 16°41.34' | 277°19.91' | 284°51.38' | S 23°21.89' | 220°26.85' | 341°44.44' | S 8°47.04' | 242°38.57' | 319°32.73' | S 16°36.76' | **04** |
| **05** | 292°05.67' | 285°08.09' | S 16°41.44' | 292°20.38' | 284°53.38' | S 23°21.74' | 235°28.76' | 341°44.99' | S 8°46.81' | 257°40.73' | 319°33.02' | S 16°36.67' | **05** |
| **06** | 307°06.89' | 285°09.33' | S 16°41.55' | 307°20.85' | 284°55.37' | S 23°21.58' | 250°30.67' | 341°45.55' | S 8°46.59' | 272°42.90' | 319°33.32' | S 16°36.59' | **06** |
| **07** | 322°08.11' | 285°10.58' | S 16°41.65' | 322°21.32' | 284°57.37' | S 23°21.42' | 265°32.58' | 341°46.10' | S 8°46.36' | 287°45.06' | 319°33.62' | S 16°36.50' | **07** |
| **08** | 337°09.32' | 285°11.83' | S 16°41.75' | 337°21.78' | 284°59.37' | S 23°21.26' | 280°34.49' | 341°46.66' | S 8°46.14' | 302°47.23' | 319°33.92' | S 16°36.41' | **08** |
| **09** | 352°10.54' | 285°13.08' | S 16°41.85' | 352°22.25' | 285°01.36' | S 23°21.10' | 295°36.40' | 341°47.22' | S 8°45.92' | 317°49.40' | 319°34.22' | S 16°36.32' | **09** |
| **10** | 7°11.74' | 285°14.33' | S 16°41.95' | 7°22.72' | 285°03.36' | S 23°20.94' | 310°38.31' | 341°47.77' | S 8°45.69' | 332°51.56' | 319°34.51' | S 16°36.24' | **10** |
| **11** | 22°12.95' | 285°15.59' | S 16°42.05' | 22°23.19' | 285°05.35' | S 23°20.78' | 325°40.22' | 341°48.33' | S 8°45.47' | 347°53.73' | 319°34.81' | S 16°36.15' | **11** |
| **12** | 37°14.15' | 285°16.85' | S 16°42.15' | 37°23.66' | 285°07.35' | S 23°20.62' | 340°42.13' | 341°48.88' | S 8°45.24' | 2°55.90' | 319°35.11' | S 16°36.06' | **12** |
| **13** | 52°15.35' | 285°18.12' | S 16°42.25' | 52°24.12' | 285°09.35' | S 23°20.46' | 355°44.03' | 341°49.44' | S 8°45.02' | 17°58.06' | 319°35.41' | S 16°35.98' | **13** |
| **14** | 67°16.55' | 285°19.38' | S 16°42.35' | 67°24.59' | 285°11.34' | S 23°20.30' | 10°45.94' | 341°49.99' | S 8°44.80' | 33°00.23' | 319°35.71' | S 16°35.89' | **14** |
| **15** | 82°17.74' | 285°20.66' | S 16°42.45' | 82°25.06' | 285°13.34' | S 23°20.14' | 25°47.85' | 341°50.55' | S 8°44.57' | 48°02.40' | 319°36.00' | S 16°35.80' | **15** |
| **16** | 97°18.94' | 285°21.93' | S 16°42.55' | 97°25.53' | 285°15.34' | S 23°19.98' | 40°49.76' | 341°51.10' | S 8°44.35' | 63°04.56' | 319°36.30' | S 16°35.71' | **16** |
| **17** | 112°20.12' | 285°23.20' | S 16°42.65' | 112°25.99' | 285°17.33' | S 23°19.82' | 55°51.67' | 341°51.66' | S 8°44.12' | 78°06.73' | 319°36.60' | S 16°35.63' | **17** |
| **18** | 127°21.31' | 285°24.48' | S 16°42.75' | 127°26.46' | 285°19.33' | S 23°19.65' | 70°53.58' | 341°52.22' | S 8°43.90' | 93°08.89' | 319°36.90' | S 16°35.54' | **18** |
| **19** | 142°22.49' | 285°25.76' | S 16°42.85' | 142°26.93' | 285°21.33' | S 23°19.49' | 85°55.48' | 341°52.77' | S 8°43.68' | 108°11.06' | 319°37.19' | S 16°35.45' | **19** |
| **20** | 157°23.67' | 285°27.05' | S 16°42.95' | 157°27.40' | 285°23.32' | S 23°19.33' | 100°57.39' | 341°53.33' | S 8°43.45' | 123°13.23' | 319°37.49' | S 16°35.36' | **20** |
| **21** | 172°24.85' | 285°28.34' | S 16°43.05' | 172°27.87' | 285°25.32' | S 23°19.16' | 115°59.30' | 341°53.88' | S 8°43.23' | 138°15.39' | 319°37.79' | S 16°35.28' | **21** |
| **22** | 187°26.02' | 285°29.63' | S 16°43.15' | 187°28.33' | 285°27.31' | S 23°19.00' | 131°01.21' | 341°54.44' | S 8°43.00' | 153°17.56' | 319°38.09' | S 16°35.19' | **22** |
| **23** | 202°27.19' | 285°30.92' | S 16°43.24' | 202°28.80' | 285°29.31' | S 23°18.84' | 146°03.12' | 341°54.99' | S 8°42.78' | 168°19.73' | 319°38.39' | S 16°35.10' | **23** |
| **24** | 217°28.36' | 285°32.22' | S 16°43.34' | 217°29.27' | 285°31.31' | S 23°18.67' | 161°05.03' | 341°55.55' | S 8°42.55' | 183°21.89' | 319°38.68' | S 16°35.01' | **24** |
| | δ 15.0206° | | *d* 0.1022' | δ 15.0078° | | *d* 0.1556' | δ 15.0318° | | *d* 0.2237' | δ 15.0361° | | *d* 0.0874' | |

## *Sunday, February 13th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°27.35' | 15.0002° | 326°33.23' | S 13°26.29' | 0.8386' | 39°24.46' | 14.4841° | 103°36.12' | N 26°23.16' | 0.8748' | 54.4165' | 143°00.58' | **00** |
| **01** | 191°27.36' | 15.0002° | 326°35.68' | S 13°25.45' | 0.8390' | 53°53.49' | 14.4840° | 104°09.55' | N 26°22.16' | 1.0050' | 54.4276' | 158°03.04' | **01** |
| **02** | 206°27.38' | 15.0002° | 326°38.13' | S 13°24.61' | 0.8394' | 68°22.53' | 14.4838° | 104°42.98' | N 26°21.02' | 1.1352' | 54.4388' | 173°05.50' | **02** |
| **03** | 221°27.39' | 15.0002° | 326°40.58' | S 13°23.77' | 0.8397' | 82°51.55' | 14.4838° | 105°16.42' | N 26°19.76' | 1.2655' | 54.4503' | 188°07.97' | **03** |
| **04** | 236°27.41' | 15.0002° | 326°43.03' | S 13°22.93' | 0.8401' | 97°20.57' | 14.4837° | 105°49.86' | N 26°18.36' | 1.3958' | 54.4620' | 203°10.43' | **04** |
| **05** | 251°27.42' | 15.0002° | 326°45.48' | S 13°22.09' | 0.8405' | 111°49.59' | 14.4836° | 106°23.31' | N 26°16.83' | 1.5262' | 54.4739' | 218°12.90' | **05** |
| **06** | 266°27.44' | 15.0002° | 326°47.93' | S 13°21.25' | 0.8409' | 126°18.60' | 14.4836° | 106°56.76' | N 26°15.18' | 1.6566' | 54.4859' | 233°15.36' | **06** |
| **07** | 281°27.45' | 15.0003° | 326°50.37' | S 13°20.41' | 0.8413' | 140°47.62' | 14.4836° | 107°30.21' | N 26°13.39' | 1.7870' | 54.4982' | 248°17.83' | **07** |
| **08** | 296°27.47' | 15.0003° | 326°52.82' | S 13°19.56' | 0.8416' | 155°16.63' | 14.4836° | 108°03.66' | N 26°11.47' | 1.9174' | 54.5106' | 263°20.29' | **08** |
| **09** | 311°27.48' | 15.0003° | 326°55.27' | S 13°18.72' | 0.8420' | 169°45.65' | 14.4836° | 108°37.11' | N 26°09.43' | 2.0477' | 54.5232' | 278°22.75' | **09** |
| **10** | 326°27.50' | 15.0003° | 326°57.72' | S 13°17.88' | 0.8424' | 184°14.66' | 14.4836° | 109°10.56' | N 26°07.25' | 2.1781' | 54.5361' | 293°25.22' | **10** |
| **11** | 341°27.52' | 15.0003° | 327°00.17' | S 13°17.04' | 0.8428' | 198°43.68' | 14.4836° | 109°44.00' | N 26°04.94' | 2.3083' | 54.5491' | 308°27.68' | **11** |
| **12** | 356°27.53' | 15.0003° | 327°02.61' | S 13°16.19' | 0.8431' | 213°12.70' | 14.4837° | 110°17.44' | N 26°02.50' | 2.4385' | 54.5622' | 323°30.15' | **12** |
| **13** | 11°27.55' | 15.0003° | 327°05.06' | S 13°15.35' | 0.8435' | 227°41.73' | 14.4838° | 110°50.88' | N 25°59.93' | 2.5686' | 54.5756' | 338°32.61' | **13** |
| **14** | 26°27.57' | 15.0003° | 327°07.51' | S 13°14.51' | 0.8439' | 242°10.76' | 14.4839° | 111°24.31' | N 25°57.23' | 2.6986' | 54.5891' | 353°35.07' | **14** |
| **15** | 41°27.58' | 15.0003° | 327°09.95' | S 13°13.66' | 0.8442' | 256°39.80' | 14.4840° | 111°57.74' | N 25°54.40' | 2.8285' | 54.6028' | 8°37.54' | **15** |
| **16** | 56°27.60' | 15.0003° | 327°12.40' | S 13°12.82' | 0.8446' | 271°08.85' | 14.4841° | 112°31.16' | N 25°51.45' | 2.9583' | 54.6167' | 23°40.00' | **16** |
| **17** | 71°27.62' | 15.0003° | 327°14.85' | S 13°11.97' | 0.8450' | 285°37.90' | 14.4843° | 113°04.57' | N 25°48.36' | 3.0880' | 54.6308' | 38°42.47' | **17** |
| **18** | 86°27.64' | 15.0003° | 327°17.29' | S 13°11.13' | 0.8454' | 300°06.97' | 14.4844° | 113°37.96' | N 25°45.14' | 3.2175' | 54.6450' | 53°44.93' | **18** |
| **19** | 101°27.66' | 15.0003° | 327°19.74' | S 13°10.28' | 0.8457' | 314°36.04' | 14.4846° | 114°11.35' | N 25°41.79' | 3.3468' | 54.6594' | 68°47.40' | **19** |
| **20** | 116°27.68' | 15.0003° | 327°22.18' | S 13°09.44' | 0.8461' | 329°05.13' | 14.4848° | 114°44.73' | N 25°38.32' | 3.4759' | 54.6739' | 83°49.86' | **20** |
| **21** | 131°27.70' | 15.0003° | 327°24.63' | S 13°08.59' | 0.8465' | 343°34.23' | 14.4850° | 115°18.10' | N 25°34.71' | 3.6049' | 54.6887' | 98°52.32' | **21** |
| **22** | 146°27.72' | 15.0003° | 327°27.07' | S 13°07.74' | 0.8468' | 358°03.34' | 14.4852° | 115°51.45' | N 25°30.98' | 3.7336' | 54.7035' | 113°54.79' | **22** |
| **23** | 161°27.74' | 15.0003° | 327°29.51' | S 13°06.90' | 0.8472' | 12°32.47' | 14.4854° | 116°24.78' | N 25°27.12' | 3.8621' | 54.7186' | 128°57.25' | **23** |
| **24** | 176°27.76' | 15.0003° | 327°31.96' | S 13°06.05' | 0.8476' | 27°01.61' | 14.4857° | 116°58.11' | N 25°23.13' | 3.9904' | 54.7338' | 143°59.72' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1994' | hp (π) 0.1485' | ½Ø 14.8673' | 90.1201004011638 7% +gib |
| | EoT at 12:00 UTC : -14m 9s (δ 0.07 s/h) | | Phase at 12:00 UTC : 143.44° | |
| | Meridian Pass. Time : 12:14:09.872 | | Age : 11.2 day(s) | |

| UT | Venus ♀ (π 0.35') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 217°28.36' | 285°32.22' | S 16°43.34' | 217°29.27' | 285°31.31' | S 23°18.67' | 161°05.03' | 341°55.55' | S 8°42.55' | 183°21.89' | 319°38.68' | S 16°35.01' | **00** |
| **01** | 232°29.52' | 285°33.52' | S 16°43.44' | 232°29.74' | 285°33.30' | S 23°18.50' | 176°06.93' | 341°56.11' | S 8°42.33' | 198°24.06' | 319°38.98' | S 16°34.93' | **01** |
| **02** | 247°30.69' | 285°34.82' | S 16°43.54' | 247°30.21' | 285°35.30' | S 23°18.34' | 191°08.84' | 341°56.66' | S 8°42.11' | 213°26.23' | 319°39.28' | S 16°34.84' | **02** |
| **03** | 262°31.85' | 285°36.12' | S 16°43.64' | 262°30.67' | 285°37.30' | S 23°18.17' | 206°10.75' | 341°57.22' | S 8°41.88' | 228°28.39' | 319°39.58' | S 16°34.75' | **03** |
| **04** | 277°33.00' | 285°37.43' | S 16°43.74' | 277°31.14' | 285°39.29' | S 23°18.01' | 221°12.66' | 341°57.77' | S 8°41.66' | 243°30.56' | 319°39.87' | S 16°34.67' | **04** |
| **05** | 292°34.16' | 285°38.74' | S 16°43.83' | 292°31.61' | 285°41.29' | S 23°17.84' | 236°14.57' | 341°58.33' | S 8°41.43' | 258°32.73' | 319°40.17' | S 16°34.58' | **05** |
| **06** | 307°35.31' | 285°40.05' | S 16°43.93' | 307°32.08' | 285°43.28' | S 23°17.67' | 251°16.47' | 341°58.89' | S 8°41.21' | 273°34.89' | 319°40.47' | S 16°34.49' | **06** |
| **07** | 322°36.45' | 285°41.37' | S 16°44.03' | 322°32.55' | 285°45.28' | S 23°17.50' | 266°18.38' | 341°59.44' | S 8°40.98' | 288°37.06' | 319°40.77' | S 16°34.40' | **07** |
| **08** | 337°37.60' | 285°42.69' | S 16°44.12' | 337°33.01' | 285°47.28' | S 23°17.33' | 281°20.29' | 341°60.00' | S 8°40.76' | 303°39.23' | 319°41.06' | S 16°34.32' | **08** |
| **09** | 352°38.74' | 285°44.01' | S 16°44.22' | 352°33.48' | 285°49.27' | S 23°17.17' | 296°22.20' | 342°00.56' | S 8°40.53' | 318°41.39' | 319°41.36' | S 16°34.23' | **09** |
| **10** | 7°39.88' | 285°45.34' | S 16°44.32' | 7°33.95' | 285°51.27' | S 23°17.00' | 311°24.11' | 342°01.11' | S 8°40.31' | 333°43.56' | 319°41.66' | S 16°34.14' | **10** |
| **11** | 22°41.02' | 285°46.67' | S 16°44.41' | 22°34.42' | 285°53.26' | S 23°16.83' | 326°26.01' | 342°01.67' | S 8°40.08' | 348°45.73' | 319°41.96' | S 16°34.05' | **11** |
| **12** | 37°42.15' | 285°48.00' | S 16°44.51' | 37°34.89' | 285°55.26' | S 23°16.66' | 341°27.92' | 342°02.22' | S 8°39.86' | 3°47.89' | 319°42.25' | S 16°33.97' | **12** |
| **13** | 52°43.28' | 285°49.33' | S 16°44.61' | 52°35.36' | 285°57.26' | S 23°16.49' | 356°29.83' | 342°02.78' | S 8°39.64' | 18°50.06' | 319°42.55' | S 16°33.88' | **13** |
| **14** | 67°44.41' | 285°50.67' | S 16°44.70' | 67°35.82' | 285°59.25' | S 23°16.32' | 11°31.74' | 342°03.34' | S 8°39.41' | 33°52.23' | 319°42.85' | S 16°33.79' | **14** |
| **15** | 82°45.53' | 285°52.00' | S 16°44.80' | 82°36.29' | 286°01.25' | S 23°16.14' | 26°33.65' | 342°03.89' | S 8°39.19' | 48°54.39' | 319°43.14' | S 16°33.70' | **15** |
| **16** | 97°46.66' | 285°53.35' | S 16°44.89' | 97°36.76' | 286°03.24' | S 23°15.97' | 41°35.55' | 342°04.45' | S 8°38.96' | 63°56.56' | 319°43.44' | S 16°33.62' | **16** |
| **17** | 112°47.78' | 285°54.69' | S 16°44.99' | 112°37.23' | 286°05.24' | S 23°15.80' | 56°37.46' | 342°05.01' | S 8°38.74' | 78°58.73' | 319°43.74' | S 16°33.53' | **17** |
| **18** | 127°48.89' | 285°56.04' | S 16°45.08' | 127°37.70' | 286°07.23' | S 23°15.63' | 71°39.37' | 342°05.56' | S 8°38.51' | 94°00.89' | 319°44.04' | S 16°33.44' | **18** |
| **19** | 142°50.01' | 285°57.39' | S 16°45.18' | 142°38.17' | 286°09.23' | S 23°15.45' | 86°41.28' | 342°06.12' | S 8°38.29' | 109°03.06' | 319°44.33' | S 16°33.35' | **19** |
| **20** | 157°51.12' | 285°58.74' | S 16°45.27' | 157°38.63' | 286°11.23' | S 23°15.28' | 101°43.18' | 342°06.68' | S 8°38.06' | 124°05.23' | 319°44.63' | S 16°33.27' | **20** |
| **21** | 172°52.23' | 286°00.10' | S 16°45.36' | 172°39.10' | 286°13.22' | S 23°15.11' | 116°45.09' | 342°07.23' | S 8°37.84' | 139°07.40' | 319°44.93' | S 16°33.18' | **21** |
| **22** | 187°53.33' | 286°01.46' | S 16°45.46' | 187°39.57' | 286°15.22' | S 23°14.93' | 131°47.00' | 342°07.79' | S 8°37.61' | 154°09.56' | 319°45.23' | S 16°33.09' | **22** |
| **23** | 202°54.43' | 286°02.82' | S 16°45.55' | 202°40.04' | 286°17.21' | S 23°14.76' | 146°48.91' | 342°08.35' | S 8°37.39' | 169°11.73' | 319°45.52' | S 16°33.01' | **23** |
| **24** | 217°55.53' | 286°04.18' | S 16°45.65' | 217°40.51' | 286°19.21' | S 23°14.58' | 161°50.81' | 342°08.90' | S 8°37.16' | 184°13.90' | 319°45.82' | S 16°32.92' | **24** |
| | δ 15.0194° | | *d* 0.0982' | δ 15.0078° | | *d* 0.1655' | δ 15.0318° | | *d* 0.2244' | δ 15.0361° | | *d* 0.0873' | |

## *Monday, February 14th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°27.76' | 15.0003° | 327°31.96' | S 13°06.05' | 0.8476' | 27°01.61' | 14.4857° | 116°58.11' | N 25°23.13' | 3.9904' | 54.7338' | 143°59.72' | **00** |
| **01** | 191°27.78' | 15.0004° | 327°34.40' | S 13°05.20' | 0.8479' | 41°30.77' | 14.4860° | 117°31.41' | N 25°19.01' | 4.1184' | 54.7491' | 159°02.18' | **01** |
| **02** | 206°27.80' | 15.0004° | 327°36.84' | S 13°04.35' | 0.8483' | 55°59.94' | 14.4863° | 118°04.70' | N 25°14.76' | 4.2462' | 54.7646' | 174°04.64' | **02** |
| **03** | 221°27.82' | 15.0004° | 327°39.28' | S 13°03.50' | 0.8487' | 70°29.14' | 14.4866° | 118°37.97' | N 25°10.39' | 4.3736' | 54.7803' | 189°07.11' | **03** |
| **04** | 236°27.85' | 15.0004° | 327°41.73' | S 13°02.65' | 0.8490' | 84°58.35' | 14.4869° | 119°11.23' | N 25°05.89' | 4.5008' | 54.7960' | 204°09.57' | **04** |
| **05** | 251°27.87' | 15.0004° | 327°44.17' | S 13°01.80' | 0.8494' | 99°27.58' | 14.4872° | 119°44.46' | N 25°01.26' | 4.6277' | 54.8120' | 219°12.04' | **05** |
| **06** | 266°27.89' | 15.0004° | 327°46.61' | S 13°00.95' | 0.8498' | 113°56.83' | 14.4875° | 120°17.67' | N 24°56.51' | 4.7542' | 54.8281' | 234°14.50' | **06** |
| **07** | 281°27.91' | 15.0004° | 327°49.05' | S 13°00.10' | 0.8501' | 128°26.10' | 14.4879° | 120°50.86' | N 24°51.63' | 4.8805' | 54.8443' | 249°16.97' | **07** |
| **08** | 296°27.94' | 15.0004° | 327°51.49' | S 12°59.25' | 0.8505' | 142°55.40' | 14.4883° | 121°24.03' | N 24°46.62' | 5.0063' | 54.8607' | 264°19.43' | **08** |
| **09** | 311°27.96' | 15.0004° | 327°53.93' | S 12°58.40' | 0.8509' | 157°24.72' | 14.4886° | 121°57.18' | N 24°41.49' | 5.1318' | 54.8772' | 279°21.89' | **09** |
| **10** | 326°27.99' | 15.0004° | 327°56.37' | S 12°57.55' | 0.8512' | 171°54.06' | 14.4890° | 122°30.30' | N 24°36.23' | 5.2570' | 54.8938' | 294°24.36' | **10** |
| **11** | 341°28.01' | 15.0004° | 327°58.81' | S 12°56.70' | 0.8516' | 186°23.43' | 14.4894° | 123°03.40' | N 24°30.85' | 5.3817' | 54.9106' | 309°26.82' | **11** |
| **12** | 356°28.03' | 15.0004° | 328°01.25' | S 12°55.85' | 0.8519' | 200°52.82' | 14.4899° | 123°36.47' | N 24°25.34' | 5.5061' | 54.9275' | 324°29.29' | **12** |
| **13** | 11°28.06' | 15.0004° | 328°03.69' | S 12°55.00' | 0.8523' | 215°22.24' | 14.4903° | 124°09.51' | N 24°19.71' | 5.6300' | 54.9445' | 339°31.75' | **13** |
| **14** | 26°28.08' | 15.0004° | 328°06.13' | S 12°54.14' | 0.8527' | 229°51.68' | 14.4907° | 124°42.53' | N 24°13.96' | 5.7535' | 54.9617' | 354°34.21' | **14** |
| **15** | 41°28.11' | 15.0004° | 328°08.57' | S 12°53.29' | 0.8530' | 244°21.15' | 14.4912° | 125°15.53' | N 24°08.08' | 5.8766' | 54.9789' | 9°36.68' | **15** |
| **16** | 56°28.14' | 15.0004° | 328°11.01' | S 12°52.44' | 0.8534' | 258°50.65' | 14.4917° | 125°48.49' | N 24°02.08' | 5.9992' | 54.9963' | 24°39.14' | **16** |
| **17** | 71°28.16' | 15.0004° | 328°13.44' | S 12°51.58' | 0.8537' | 273°20.18' | 14.4921° | 126°21.43' | N 23°55.96' | 6.1213' | 55.0139' | 39°41.61' | **17** |
| **18** | 86°28.19' | 15.0004° | 328°15.88' | S 12°50.73' | 0.8541' | 287°49.74' | 14.4926° | 126°54.33' | N 23°49.72' | 6.2430' | 55.0315' | 54°44.07' | **18** |
| **19** | 101°28.22' | 15.0004° | 328°18.32' | S 12°49.88' | 0.8545' | 302°19.33' | 14.4931° | 127°27.21' | N 23°43.36' | 6.3641' | 55.0493' | 69°46.54' | **19** |
| **20** | 116°28.24' | 15.0005° | 328°20.76' | S 12°49.02' | 0.8548' | 316°48.95' | 14.4937° | 128°00.05' | N 23°36.87' | 6.4848' | 55.0671' | 84°49.00' | **20** |
| **21** | 131°28.27' | 15.0005° | 328°23.19' | S 12°48.16' | 0.8552' | 331°18.60' | 14.4942° | 128°32.87' | N 23°30.27' | 6.6050' | 55.0851' | 99°51.46' | **21** |
| **22** | 146°28.30' | 15.0005° | 328°25.63' | S 12°47.31' | 0.8555' | 345°48.28' | 14.4947° | 129°05.65' | N 23°23.54' | 6.7246' | 55.1032' | 114°53.93' | **22** |
| **23** | 161°28.33' | 15.0005° | 328°28.07' | S 12°46.45' | 0.8559' | 0°18.00' | 14.4953° | 129°38.40' | N 23°16.70' | 6.8437' | 55.1214' | 129°56.39' | **23** |
| **24** | 176°28.35' | 15.0005° | 328°30.50' | S 12°45.60' | 0.8562' | 14°47.74' | 14.4958° | 130°11.11' | N 23°09.74' | 6.9622' | 55.1397' | 144°58.86' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1963' | hp (π) 0.1484' | ½Ø 14.9668' | 95.0558423835743<br>2% +gib |
| | EoT at 12:00 UTC : -14m 7s (δ 0.10 s/h) | | Phase at 12:00 UTC : 154.60° | |
| | Meridian Pass. Time : 12:14:07.864 | | Age : 12.0 day(s) | |

| UT | Venus ♀ (π 0.35') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 217°55.53' | 286°04.18' | S 16°45.65' | 217°40.51' | 286°19.21' | S 23°14.58' | 161°50.81' | 342°08.90' | S 8°37.16' | 184°13.90' | 319°45.82' | S 16°32.92' | **00** |
| **01** | 232°56.63' | 286°05.55' | S 16°45.74' | 232°40.98' | 286°21.20' | S 23°14.41' | 176°52.72' | 342°09.46' | S 8°36.94' | 199°16.06' | 319°46.12' | S 16°32.83' | **01** |
| **02** | 247°57.72' | 286°06.92' | S 16°45.83' | 247°41.45' | 286°23.20' | S 23°14.23' | 191°54.63' | 342°10.02' | S 8°36.71' | 214°18.23' | 319°46.41' | S 16°32.74' | **02** |
| **03** | 262°58.82' | 286°08.29' | S 16°45.92' | 262°41.91' | 286°25.19' | S 23°14.06' | 206°56.54' | 342°10.57' | S 8°36.49' | 229°20.40' | 319°46.71' | S 16°32.66' | **03** |
| **04** | 277°59.90' | 286°09.67' | S 16°46.02' | 277°42.38' | 286°27.19' | S 23°13.88' | 221°58.44' | 342°11.13' | S 8°36.26' | 244°22.57' | 319°47.01' | S 16°32.57' | **04** |
| **05** | 293°00.99' | 286°11.05' | S 16°46.11' | 292°42.85' | 286°29.19' | S 23°13.70' | 237°00.35' | 342°11.69' | S 8°36.04' | 259°24.73' | 319°47.30' | S 16°32.48' | **05** |
| **06** | 308°02.07' | 286°12.43' | S 16°46.20' | 307°43.32' | 286°31.18' | S 23°13.53' | 252°02.26' | 342°12.24' | S 8°35.81' | 274°26.90' | 319°47.60' | S 16°32.39' | **06** |
| **07** | 323°03.15' | 286°13.81' | S 16°46.29' | 322°43.79' | 286°33.18' | S 23°13.35' | 267°04.17' | 342°12.80' | S 8°35.59' | 289°29.07' | 319°47.90' | S 16°32.31' | **07** |
| **08** | 338°04.23' | 286°15.20' | S 16°46.38' | 337°44.26' | 286°35.17' | S 23°13.17' | 282°06.07' | 342°13.36' | S 8°35.36' | 304°31.23' | 319°48.20' | S 16°32.22' | **08** |
| **09** | 353°05.31' | 286°16.59' | S 16°46.48' | 352°44.73' | 286°37.17' | S 23°12.99' | 297°07.98' | 342°13.91' | S 8°35.14' | 319°33.40' | 319°48.49' | S 16°32.13' | **09** |
| **10** | 8°06.38' | 286°17.98' | S 16°46.57' | 7°45.20' | 286°39.16' | S 23°12.81' | 312°09.89' | 342°14.47' | S 8°34.91' | 334°35.57' | 319°48.79' | S 16°32.05' | **10** |
| **11** | 23°07.45' | 286°19.37' | S 16°46.66' | 22°45.66' | 286°41.16' | S 23°12.63' | 327°11.79' | 342°15.03' | S 8°34.69' | 349°37.74' | 319°49.09' | S 16°31.96' | **11** |
| **12** | 38°08.51' | 286°20.77' | S 16°46.75' | 37°46.13' | 286°43.15' | S 23°12.45' | 342°13.70' | 342°15.59' | S 8°34.46' | 4°39.90' | 319°49.38' | S 16°31.87' | **12** |
| **13** | 53°09.58' | 286°22.17' | S 16°46.84' | 52°46.60' | 286°45.15' | S 23°12.27' | 357°15.61' | 342°16.14' | S 8°34.24' | 19°42.07' | 319°49.68' | S 16°31.78' | **13** |
| **14** | 68°10.64' | 286°23.57' | S 16°46.93' | 67°47.07' | 286°47.14' | S 23°12.09' | 12°17.52' | 342°16.70' | S 8°34.01' | 34°44.24' | 319°49.98' | S 16°31.70' | **14** |
| **15** | 83°11.70' | 286°24.98' | S 16°47.02' | 82°47.54' | 286°49.14' | S 23°11.91' | 27°19.42' | 342°17.26' | S 8°33.79' | 49°46.41' | 319°50.27' | S 16°31.61' | **15** |
| **16** | 98°12.75' | 286°26.39' | S 16°47.11' | 97°48.01' | 286°51.13' | S 23°11.73' | 42°21.33' | 342°17.81' | S 8°33.56' | 64°48.57' | 319°50.57' | S 16°31.52' | **16** |
| **17** | 113°13.81' | 286°27.80' | S 16°47.20' | 112°48.48' | 286°53.13' | S 23°11.55' | 57°23.24' | 342°18.37' | S 8°33.34' | 79°50.74' | 319°50.87' | S 16°31.43' | **17** |
| **18** | 128°14.86' | 286°29.21' | S 16°47.29' | 127°48.95' | 286°55.12' | S 23°11.36' | 72°25.14' | 342°18.93' | S 8°33.11' | 94°52.91' | 319°51.16' | S 16°31.35' | **18** |
| **19** | 143°15.91' | 286°30.63' | S 16°47.38' | 142°49.42' | 286°57.12' | S 23°11.18' | 87°27.05' | 342°19.49' | S 8°32.88' | 109°55.08' | 319°51.46' | S 16°31.26' | **19** |
| **20** | 158°16.95' | 286°32.05' | S 16°47.46' | 157°49.89' | 286°59.11' | S 23°11.00' | 102°28.96' | 342°20.04' | S 8°32.66' | 124°57.24' | 319°51.76' | S 16°31.17' | **20** |
| **21** | 173°17.99' | 286°33.47' | S 16°47.55' | 172°50.35' | 287°01.11' | S 23°10.81' | 117°30.86' | 342°20.60' | S 8°32.43' | 139°59.41' | 319°52.05' | S 16°31.08' | **21** |
| **22** | 188°19.03' | 286°34.90' | S 16°47.64' | 187°50.82' | 287°03.10' | S 23°10.63' | 132°32.77' | 342°21.16' | S 8°32.21' | 155°01.58' | 319°52.35' | S 16°31.00' | **22** |
| **23** | 203°20.07' | 286°36.32' | S 16°47.73' | 202°51.29' | 287°05.10' | S 23°10.45' | 147°34.68' | 342°21.71' | S 8°31.98' | 170°03.75' | 319°52.65' | S 16°30.91' | **23** |
| **24** | 218°21.10' | 286°37.75' | S 16°47.82' | 217°51.76' | 287°07.09' | S 23°10.26' | 162°36.58' | 342°22.27' | S 8°31.76' | 185°05.91' | 319°52.94' | S 16°30.82' | **24** |
| | δ 15.0183° | | *d* 0.0932' | δ 15.0078° | | *d* 0.1754' | δ 15.0318° | | *d* 0.2250' | δ 15.0361° | | *d* 0.0873' | |

## *Tuesday, February 15th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°28.35' | 15.0005° | 328°30.50' | S 12°45.60' | 0.8562' | 14°47.74' | 14.4958° | 130°11.11' | N 23°09.74' | 6.9622' | 55.1397' | 144°58.86' | **00** |
| **01** | 191°28.38' | 15.0005° | 328°32.94' | S 12°44.74' | 0.8566' | 29°17.53' | 14.4964° | 130°43.79' | N 23°02.65' | 7.0802' | 55.1581' | 160°01.32' | **01** |
| **02** | 206°28.41' | 15.0005° | 328°35.37' | S 12°43.88' | 0.8570' | 43°47.34' | 14.4969° | 131°16.44' | N 22°55.46' | 7.1976' | 55.1766' | 175°03.78' | **02** |
| **03** | 221°28.44' | 15.0005° | 328°37.81' | S 12°43.03' | 0.8573' | 58°17.19' | 14.4975° | 131°49.05' | N 22°48.14' | 7.3144' | 55.1952' | 190°06.25' | **03** |
| **04** | 236°28.47' | 15.0005° | 328°40.24' | S 12°42.17' | 0.8577' | 72°47.08' | 14.4981° | 132°21.63' | N 22°40.71' | 7.4307' | 55.2139' | 205°08.71' | **04** |
| **05** | 251°28.50' | 15.0005° | 328°42.68' | S 12°41.31' | 0.8580' | 87°17.00' | 14.4987° | 132°54.17' | N 22°33.17' | 7.5463' | 55.2327' | 220°11.18' | **05** |
| **06** | 266°28.53' | 15.0005° | 328°45.11' | S 12°40.45' | 0.8584' | 101°46.96' | 14.4993° | 133°26.68' | N 22°25.50' | 7.6613' | 55.2516' | 235°13.64' | **06** |
| **07** | 281°28.56' | 15.0005° | 328°47.54' | S 12°39.59' | 0.8587' | 116°16.95' | 14.4999° | 133°59.15' | N 22°17.73' | 7.7756' | 55.2706' | 250°16.10' | **07** |
| **08** | 296°28.59' | 15.0005° | 328°49.98' | S 12°38.73' | 0.8591' | 130°46.99' | 14.5005° | 134°31.58' | N 22°09.84' | 7.8894' | 55.2896' | 265°18.57' | **08** |
| **09** | 311°28.62' | 15.0005° | 328°52.41' | S 12°37.88' | 0.8594' | 145°17.05' | 14.5011° | 135°03.98' | N 22°01.84' | 8.0025' | 55.3088' | 280°21.03' | **09** |
| **10** | 326°28.66' | 15.0005° | 328°54.84' | S 12°37.02' | 0.8598' | 159°47.16' | 14.5018° | 135°36.34' | N 21°53.72' | 8.1149' | 55.3280' | 295°23.50' | **10** |
| **11** | 341°28.69' | 15.0005° | 328°57.27' | S 12°36.16' | 0.8601' | 174°17.30' | 14.5024° | 136°08.66' | N 21°45.50' | 8.2266' | 55.3473' | 310°25.96' | **11** |
| **12** | 356°28.72' | 15.0005° | 328°59.70' | S 12°35.29' | 0.8605' | 188°47.49' | 14.5030° | 136°40.94' | N 21°37.16' | 8.3377' | 55.3667' | 325°28.43' | **12** |
| **13** | 11°28.75' | 15.0005° | 329°02.14' | S 12°34.43' | 0.8608' | 203°17.71' | 14.5037° | 137°13.18' | N 21°28.71' | 8.4481' | 55.3862' | 340°30.89' | **13** |
| **14** | 26°28.79' | 15.0005° | 329°04.57' | S 12°33.57' | 0.8612' | 217°47.97' | 14.5043° | 137°45.39' | N 21°20.15' | 8.5578' | 55.4057' | 355°33.35' | **14** |
| **15** | 41°28.82' | 15.0006° | 329°07.00' | S 12°32.71' | 0.8615' | 232°18.27' | 14.5050° | 138°17.55' | N 21°11.49' | 8.6667' | 55.4254' | 10°35.82' | **15** |
| **16** | 56°28.85' | 15.0006° | 329°09.43' | S 12°31.85' | 0.8619' | 246°48.61' | 14.5056° | 138°49.68' | N 21°02.71' | 8.7750' | 55.4450' | 25°38.28' | **16** |
| **17** | 71°28.89' | 15.0006° | 329°11.86' | S 12°30.99' | 0.8622' | 261°18.98' | 14.5063° | 139°21.76' | N 20°53.83' | 8.8825' | 55.4648' | 40°40.75' | **17** |
| **18** | 86°28.92' | 15.0006° | 329°14.29' | S 12°30.12' | 0.8626' | 275°49.40' | 14.5070° | 139°53.81' | N 20°44.84' | 8.9893' | 55.4846' | 55°43.21' | **18** |
| **19** | 101°28.96' | 15.0006° | 329°16.72' | S 12°29.26' | 0.8629' | 290°19.86' | 14.5076° | 140°25.81' | N 20°35.74' | 9.0954' | 55.5045' | 70°45.67' | **19** |
| **20** | 116°28.99' | 15.0006° | 329°19.15' | S 12°28.40' | 0.8633' | 304°50.36' | 14.5083° | 140°57.78' | N 20°26.54' | 9.2007' | 55.5245' | 85°48.14' | **20** |
| **21** | 131°29.02' | 15.0006° | 329°21.58' | S 12°27.53' | 0.8636' | 319°20.90' | 14.5090° | 141°29.71' | N 20°17.24' | 9.3052' | 55.5445' | 100°50.60' | **21** |
| **22** | 146°29.06' | 15.0006° | 329°24.01' | S 12°26.67' | 0.8640' | 333°51.48' | 14.5097° | 142°01.59' | N 20°07.83' | 9.4090' | 55.5646' | 115°53.07' | **22** |
| **23** | 161°29.10' | 15.0006° | 329°26.43' | S 12°25.81' | 0.8643' | 348°22.10' | 14.5103° | 142°33.43' | N 19°58.32' | 9.5119' | 55.5847' | 130°55.53' | **23** |
| **24** | 176°29.13' | 15.0006° | 329°28.86' | S 12°24.94' | 0.8646' | 2°52.76' | 14.5110° | 143°05.24' | N 19°48.70' | 9.6141' | 55.6049' | 145°57.99' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.1931' | hp (π) 0.1484' | ½Ø 15.0865' | 98.3454162012776 9% +gib | |
| EoT at 12:00 UTC : -14m 5s (δ 0.13 s/h) | | Phase at 12:00 UTC : 165.98° | | |
| Meridian Pass. Time : 12:14:05.118 | | Age : 12.9 day(s) | | |

| UT | Venus ♀ (π 0.34') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 218°21.10' | 286°37.75' | S 16°47.82' | 217°51.76' | 287°07.09' | S 23°10.26' | 162°36.58' | 342°22.27' | S 8°31.76' | 185°05.91' | 319°52.94' | S 16°30.82' | **00** |
| **01** | 233°22.13' | 286°39.19' | S 16°47.90' | 232°52.23' | 287°09.09' | S 23°10.08' | 177°38.49' | 342°22.83' | S 8°31.53' | 200°08.08' | 319°53.24' | S 16°30.74' | **01** |
| **02** | 248°23.16' | 286°40.62' | S 16°47.99' | 247°52.70' | 287°11.08' | S 23°09.89' | 192°40.40' | 342°23.39' | S 8°31.31' | 215°10.25' | 319°53.54' | S 16°30.65' | **02** |
| **03** | 263°24.19' | 286°42.06' | S 16°48.08' | 262°53.17' | 287°13.08' | S 23°09.70' | 207°42.30' | 342°23.94' | S 8°31.08' | 230°12.42' | 319°53.83' | S 16°30.56' | **03** |
| **04** | 278°25.21' | 286°43.50' | S 16°48.16' | 277°53.64' | 287°15.07' | S 23°09.52' | 222°44.21' | 342°24.50' | S 8°30.85' | 245°14.58' | 319°54.13' | S 16°30.47' | **04** |
| **05** | 293°26.23' | 286°44.94' | S 16°48.25' | 292°54.11' | 287°17.07' | S 23°09.33' | 237°46.12' | 342°25.06' | S 8°30.63' | 260°16.75' | 319°54.43' | S 16°30.39' | **05** |
| **06** | 308°27.25' | 286°46.39' | S 16°48.34' | 307°54.58' | 287°19.06' | S 23°09.14' | 252°48.02' | 342°25.62' | S 8°30.40' | 275°18.92' | 319°54.72' | S 16°30.30' | **06** |
| **07** | 323°28.27' | 286°47.84' | S 16°48.42' | 322°55.05' | 287°21.06' | S 23°08.95' | 267°49.93' | 342°26.17' | S 8°30.18' | 290°21.09' | 319°55.02' | S 16°30.21' | **07** |
| **08** | 338°29.28' | 286°49.29' | S 16°48.51' | 337°55.52' | 287°23.05' | S 23°08.77' | 282°51.84' | 342°26.73' | S 8°29.95' | 305°23.25' | 319°55.31' | S 16°30.12' | **08** |
| **09** | 353°30.29' | 286°50.74' | S 16°48.59' | 352°55.99' | 287°25.05' | S 23°08.58' | 297°53.74' | 342°27.29' | S 8°29.73' | 320°25.42' | 319°55.61' | S 16°30.04' | **09** |
| **10** | 8°31.30' | 286°52.20' | S 16°48.68' | 7°56.46' | 287°27.04' | S 23°08.39' | 312°55.65' | 342°27.85' | S 8°29.50' | 335°27.59' | 319°55.91' | S 16°29.95' | **10** |
| **11** | 23°32.30' | 286°53.66' | S 16°48.76' | 22°56.93' | 287°29.04' | S 23°08.20' | 327°57.56' | 342°28.41' | S 8°29.27' | 350°29.76' | 319°56.20' | S 16°29.86' | **11** |
| **12** | 38°33.31' | 286°55.12' | S 16°48.85' | 37°57.40' | 287°31.03' | S 23°08.01' | 342°59.46' | 342°28.96' | S 8°29.05' | 5°31.93' | 319°56.50' | S 16°29.78' | **12** |
| **13** | 53°34.31' | 286°56.58' | S 16°48.93' | 52°57.87' | 287°33.02' | S 23°07.82' | 358°01.37' | 342°29.52' | S 8°28.82' | 20°34.09' | 319°56.80' | S 16°29.69' | **13** |
| **14** | 68°35.30' | 286°58.05' | S 16°49.01' | 67°58.33' | 287°35.02' | S 23°07.63' | 13°03.28' | 342°30.08' | S 8°28.60' | 35°36.26' | 319°57.09' | S 16°29.60' | **14** |
| **15** | 83°36.30' | 286°59.52' | S 16°49.10' | 82°58.80' | 287°37.01' | S 23°07.44' | 28°05.18' | 342°30.64' | S 8°28.37' | 50°38.43' | 319°57.39' | S 16°29.51' | **15** |
| **16** | 98°37.29' | 287°00.99' | S 16°49.18' | 97°59.27' | 287°39.01' | S 23°07.25' | 43°07.09' | 342°31.19' | S 8°28.15' | 65°40.60' | 319°57.68' | S 16°29.43' | **16** |
| **17** | 113°38.28' | 287°02.47' | S 16°49.26' | 112°59.74' | 287°41.00' | S 23°07.05' | 58°08.99' | 342°31.75' | S 8°27.92' | 80°42.77' | 319°57.98' | S 16°29.34' | **17** |
| **18** | 128°39.26' | 287°03.95' | S 16°49.34' | 128°00.21' | 287°43.00' | S 23°06.86' | 73°10.90' | 342°32.31' | S 8°27.69' | 95°44.93' | 319°58.28' | S 16°29.25' | **18** |
| **19** | 143°40.25' | 287°05.43' | S 16°49.43' | 143°00.68' | 287°44.99' | S 23°06.67' | 88°12.81' | 342°32.87' | S 8°27.47' | 110°47.10' | 319°58.57' | S 16°29.17' | **19** |
| **20** | 158°41.23' | 287°06.91' | S 16°49.51' | 158°01.15' | 287°46.98' | S 23°06.48' | 103°14.71' | 342°33.43' | S 8°27.24' | 125°49.27' | 319°58.87' | S 16°29.08' | **20** |
| **21** | 173°42.21' | 287°08.39' | S 16°49.59' | 173°01.62' | 287°48.98' | S 23°06.28' | 118°16.62' | 342°33.98' | S 8°27.02' | 140°51.44' | 319°59.16' | S 16°28.99' | **21** |
| **22** | 188°43.18' | 287°09.88' | S 16°49.67' | 188°02.09' | 287°50.97' | S 23°06.09' | 133°18.52' | 342°34.54' | S 8°26.79' | 155°53.61' | 319°59.46' | S 16°28.90' | **22** |
| **23** | 203°44.16' | 287°11.37' | S 16°49.75' | 203°02.56' | 287°52.97' | S 23°05.89' | 148°20.43' | 342°35.10' | S 8°26.56' | 170°55.77' | 319°59.76' | S 16°28.82' | **23** |
| **24** | 218°45.13' | 287°12.87' | S 16°49.83' | 218°03.03' | 287°54.96' | S 23°05.70' | 163°22.34' | 342°35.66' | S 8°26.34' | 185°57.94' | 320°00.05' | S 16°28.73' | **24** |
| | δ 15.0172° | | *d* 0.0873' | δ 15.0078° | | *d* 0.1853' | δ 15.0318° | | *d* 0.2255' | δ 15.0361° | | *d* 0.0873' | |

## *Wednesday, February 16th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°29.13' | 15.0006° | 329°28.86' | S 12°24.94' | 0.8646' | 2°52.76' | 14.5110° | 143°05.24' | N 19°48.70' | 9.6141' | 55.6049' | 145°57.99' | **00** |
| **01** | 191°29.17' | 15.0006° | 329°31.29' | S 12°24.08' | 0.8650' | 17°23.46' | 14.5117° | 143°37.00' | N 19°38.99' | 9.7155' | 55.6252' | 161°00.46' | **01** |
| **02** | 206°29.20' | 15.0006° | 329°33.72' | S 12°23.21' | 0.8653' | 31°54.20' | 14.5124° | 144°08.72' | N 19°29.17' | 9.8161' | 55.6455' | 176°02.92' | **02** |
| **03** | 221°29.24' | 15.0006° | 329°36.15' | S 12°22.35' | 0.8657' | 46°24.98' | 14.5130° | 144°40.41' | N 19°19.25' | 9.9159' | 55.6658' | 191°05.39' | **03** |
| **04** | 236°29.28' | 15.0006° | 329°38.57' | S 12°21.48' | 0.8660' | 60°55.80' | 14.5137° | 145°12.05' | N 19°09.24' | 10.0149' | 55.6862' | 206°07.85' | **04** |
| **05** | 251°29.32' | 15.0006° | 329°41.00' | S 12°20.61' | 0.8664' | 75°26.67' | 14.5144° | 145°43.65' | N 18°59.13' | 10.1131' | 55.7066' | 221°10.32' | **05** |
| **06** | 266°29.35' | 15.0006° | 329°43.43' | S 12°19.75' | 0.8667' | 89°57.57' | 14.5151° | 146°15.21' | N 18°48.92' | 10.2104' | 55.7271' | 236°12.78' | **06** |
| **07** | 281°29.39' | 15.0006° | 329°45.85' | S 12°18.88' | 0.8670' | 104°28.52' | 14.5158° | 146°46.73' | N 18°38.61' | 10.3069' | 55.7476' | 251°15.24' | **07** |
| **08** | 296°29.43' | 15.0006° | 329°48.28' | S 12°18.01' | 0.8674' | 118°59.50' | 14.5164° | 147°18.20' | N 18°28.21' | 10.4025' | 55.7682' | 266°17.71' | **08** |
| **09** | 311°29.47' | 15.0006° | 329°50.70' | S 12°17.14' | 0.8677' | 133°30.53' | 14.5171° | 147°49.64' | N 18°17.71' | 10.4973' | 55.7888' | 281°20.17' | **09** |
| **10** | 326°29.51' | 15.0007° | 329°53.13' | S 12°16.28' | 0.8681' | 148°01.60' | 14.5178° | 148°21.04' | N 18°07.12' | 10.5912' | 55.8095' | 296°22.64' | **10** |
| **11** | 341°29.55' | 15.0007° | 329°55.55' | S 12°15.41' | 0.8684' | 162°32.70' | 14.5184° | 148°52.40' | N 17°56.43' | 10.6843' | 55.8301' | 311°25.10' | **11** |
| **12** | 356°29.59' | 15.0007° | 329°57.98' | S 12°14.54' | 0.8687' | 177°03.85' | 14.5191° | 149°23.72' | N 17°45.66' | 10.7765' | 55.8508' | 326°27.56' | **12** |
| **13** | 11°29.63' | 15.0007° | 330°00.40' | S 12°13.67' | 0.8691' | 191°35.04' | 14.5198° | 149°54.99' | N 17°34.79' | 10.8678' | 55.8716' | 341°30.03' | **13** |
| **14** | 26°29.67' | 15.0007° | 330°02.82' | S 12°12.80' | 0.8694' | 206°06.26' | 14.5204° | 150°26.23' | N 17°23.83' | 10.9582' | 55.8923' | 356°32.49' | **14** |
| **15** | 41°29.71' | 15.0007° | 330°05.25' | S 12°11.93' | 0.8698' | 220°37.53' | 14.5211° | 150°57.43' | N 17°12.78' | 11.0478' | 55.9131' | 11°34.96' | **15** |
| **16** | 56°29.75' | 15.0007° | 330°07.67' | S 12°11.06' | 0.8701' | 235°08.83' | 14.5218° | 151°28.59' | N 17°01.65' | 11.1364' | 55.9340' | 26°37.42' | **16** |
| **17** | 71°29.79' | 15.0007° | 330°10.09' | S 12°10.19' | 0.8704' | 249°40.18' | 14.5224° | 151°59.71' | N 16°50.42' | 11.2242' | 55.9548' | 41°39.88' | **17** |
| **18** | 86°29.83' | 15.0007° | 330°12.52' | S 12°09.32' | 0.8708' | 264°11.56' | 14.5230° | 152°30.79' | N 16°39.11' | 11.3110' | 55.9757' | 56°42.35' | **18** |
| **19** | 101°29.87' | 15.0007° | 330°14.94' | S 12°08.45' | 0.8711' | 278°42.98' | 14.5237° | 153°01.83' | N 16°27.72' | 11.3970' | 55.9966' | 71°44.81' | **19** |
| **20** | 116°29.92' | 15.0007° | 330°17.36' | S 12°07.58' | 0.8714' | 293°14.44' | 14.5243° | 153°32.84' | N 16°16.23' | 11.4820' | 56.0175' | 86°47.28' | **20** |
| **21** | 131°29.96' | 15.0007° | 330°19.78' | S 12°06.71' | 0.8718' | 307°45.94' | 14.5250° | 154°03.80' | N 16°04.67' | 11.5661' | 56.0384' | 101°49.74' | **21** |
| **22** | 146°30.00' | 15.0007° | 330°22.20' | S 12°05.83' | 0.8721' | 322°17.47' | 14.5256° | 154°34.73' | N 15°53.02' | 11.6493' | 56.0593' | 116°52.20' | **22** |
| **23** | 161°30.04' | 15.0007° | 330°24.62' | S 12°04.96' | 0.8724' | 336°49.04' | 14.5262° | 155°05.63' | N 15°41.29' | 11.7315' | 56.0803' | 131°54.67' | **23** |
| **24** | 176°30.09' | 15.0007° | 330°27.04' | S 12°04.09' | 0.8728' | 351°20.65' | 14.5268° | 155°36.48' | N 15°29.47' | 11.8128' | 56.1013' | 146°57.13' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.1899' | hp (π) 0.1484' | ½Ø 15.2184' | 99.7671732722539 7% +gib | |
| EoT at 12:00 UTC : -14m 1s (δ 0.16 s/h) | | Phase at 12:00 UTC : 177.58° | | |
| Meridian Pass. Time : 12:14:01.648 | | Age : 13.8 day(s) | | |

| UT | Venus ♀ (π 0.34') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 218°45.13' | 287°12.87' | S 16°49.83' | 218°03.03' | 287°54.96' | S 23°05.70' | 163°22.34' | 342°35.66' | S 8°26.34' | 185°57.94' | 320°00.05' | S 16°28.73' | **00** |
| **01** | 233°46.10' | 287°14.36' | S 16°49.91' | 233°03.50' | 287°56.96' | S 23°05.50' | 178°24.24' | 342°36.22' | S 8°26.11' | 201°00.11' | 320°00.35' | S 16°28.64' | **01** |
| **02** | 248°47.06' | 287°15.86' | S 16°49.99' | 248°03.97' | 287°58.95' | S 23°05.31' | 193°26.15' | 342°36.77' | S 8°25.89' | 216°02.28' | 320°00.64' | S 16°28.55' | **02** |
| **03** | 263°48.03' | 287°17.36' | S 16°50.07' | 263°04.44' | 288°00.94' | S 23°05.11' | 208°28.05' | 342°37.33' | S 8°25.66' | 231°04.45' | 320°00.94' | S 16°28.47' | **03** |
| **04** | 278°48.99' | 287°18.86' | S 16°50.15' | 278°04.91' | 288°02.94' | S 23°04.92' | 223°29.96' | 342°37.89' | S 8°25.43' | 246°06.62' | 320°01.24' | S 16°28.38' | **04** |
| **05** | 293°49.95' | 287°20.37' | S 16°50.23' | 293°05.38' | 288°04.93' | S 23°04.72' | 238°31.87' | 342°38.45' | S 8°25.21' | 261°08.78' | 320°01.53' | S 16°28.29' | **05** |
| **06** | 308°50.90' | 287°21.88' | S 16°50.31' | 308°05.85' | 288°06.93' | S 23°04.52' | 253°33.77' | 342°39.01' | S 8°24.98' | 276°10.95' | 320°01.83' | S 16°28.21' | **06** |
| **07** | 323°51.85' | 287°23.39' | S 16°50.39' | 323°06.32' | 288°08.92' | S 23°04.32' | 268°35.68' | 342°39.57' | S 8°24.75' | 291°13.12' | 320°02.12' | S 16°28.12' | **07** |
| **08** | 338°52.80' | 287°24.90' | S 16°50.47' | 338°06.79' | 288°10.91' | S 23°04.13' | 283°37.58' | 342°40.12' | S 8°24.53' | 306°15.29' | 320°02.42' | S 16°28.03' | **08** |
| **09** | 353°53.75' | 287°26.42' | S 16°50.54' | 353°07.27' | 288°12.91' | S 23°03.93' | 298°39.49' | 342°40.68' | S 8°24.30' | 321°17.46' | 320°02.71' | S 16°27.94' | **09** |
| **10** | 8°54.70' | 287°27.94' | S 16°50.62' | 8°07.74' | 288°14.90' | S 23°03.73' | 313°41.40' | 342°41.24' | S 8°24.08' | 336°19.63' | 320°03.01' | S 16°27.86' | **10** |
| **11** | 23°55.64' | 287°29.46' | S 16°50.70' | 23°08.21' | 288°16.89' | S 23°03.53' | 328°43.30' | 342°41.80' | S 8°23.85' | 351°21.79' | 320°03.31' | S 16°27.77' | **11** |
| **12** | 38°56.58' | 287°30.98' | S 16°50.78' | 38°08.68' | 288°18.89' | S 23°03.33' | 343°45.21' | 342°42.36' | S 8°23.62' | 6°23.96' | 320°03.60' | S 16°27.68' | **12** |
| **13** | 53°57.52' | 287°32.51' | S 16°50.85' | 53°09.15' | 288°20.88' | S 23°03.13' | 358°47.11' | 342°42.92' | S 8°23.40' | 21°26.13' | 320°03.90' | S 16°27.60' | **13** |
| **14** | 68°58.45' | 287°34.04' | S 16°50.93' | 68°09.62' | 288°22.87' | S 23°02.93' | 13°49.02' | 342°43.47' | S 8°23.17' | 36°28.30' | 320°04.19' | S 16°27.51' | **14** |
| **15** | 83°59.39' | 287°35.57' | S 16°51.00' | 83°10.09' | 288°24.87' | S 23°02.73' | 28°50.92' | 342°44.03' | S 8°22.94' | 51°30.47' | 320°04.49' | S 16°27.42' | **15** |
| **16** | 99°00.32' | 287°37.10' | S 16°51.08' | 98°10.56' | 288°26.86' | S 23°02.53' | 43°52.83' | 342°44.59' | S 8°22.72' | 66°32.64' | 320°04.78' | S 16°27.33' | **16** |
| **17** | 114°01.24' | 287°38.64' | S 16°51.15' | 113°11.03' | 288°28.85' | S 23°02.33' | 58°54.74' | 342°45.15' | S 8°22.49' | 81°34.81' | 320°05.08' | S 16°27.25' | **17** |
| **18** | 129°02.17' | 287°40.18' | S 16°51.23' | 128°11.50' | 288°30.85' | S 23°02.12' | 73°56.64' | 342°45.71' | S 8°22.26' | 96°36.97' | 320°05.37' | S 16°27.16' | **18** |
| **19** | 144°03.09' | 287°41.72' | S 16°51.30' | 143°11.97' | 288°32.84' | S 23°01.92' | 88°58.55' | 342°46.27' | S 8°22.04' | 111°39.14' | 320°05.67' | S 16°27.07' | **19** |
| **20** | 159°04.01' | 287°43.26' | S 16°51.38' | 158°12.44' | 288°34.84' | S 23°01.72' | 104°00.45' | 342°46.82' | S 8°21.81' | 126°41.31' | 320°05.96' | S 16°26.99' | **20** |
| **21** | 174°04.93' | 287°44.81' | S 16°51.45' | 173°12.91' | 288°36.83' | S 23°01.51' | 119°02.36' | 342°47.38' | S 8°21.59' | 141°43.48' | 320°06.26' | S 16°26.90' | **21** |
| **22** | 189°05.85' | 287°46.36' | S 16°51.53' | 188°13.38' | 288°38.82' | S 23°01.31' | 134°04.26' | 342°47.94' | S 8°21.36' | 156°45.65' | 320°06.56' | S 16°26.81' | **22** |
| **23** | 204°06.76' | 287°47.91' | S 16°51.60' | 203°13.85' | 288°40.81' | S 23°01.11' | 149°06.17' | 342°48.50' | S 8°21.13' | 171°47.82' | 320°06.85' | S 16°26.72' | **23** |
| **24** | 219°07.67' | 287°49.46' | S 16°51.67' | 218°14.33' | 288°42.81' | S 23°00.90' | 164°08.07' | 342°49.06' | S 8°20.91' | 186°49.99' | 320°07.15' | S 16°26.64' | **24** |
| | δ 15.0161° | | *d* 0.0803' | δ 15.0078° | | *d* 0.1952' | δ 15.0318° | | *d* 0.2261' | δ 15.0361° | | *d* 0.0872' | |

## *Thursday, February 17th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°30.09' | 15.0007° | 330°27.04' | S 12°04.09' | 0.8728' | 351°20.65' | 14.5268° | 155°36.48' | N 15°29.47' | 11.8128' | 56.1013' | 146°57.13' | **00** |
| **01** | 191°30.13' | 15.0007° | 330°29.47' | S 12°03.22' | 0.8731' | 5°52.30' | 14.5274° | 156°07.30' | N 15°17.58' | 11.8932' | 56.1223' | 161°59.60' | **01** |
| **02** | 206°30.18' | 15.0007° | 330°31.89' | S 12°02.34' | 0.8734' | 20°23.98' | 14.5280° | 156°38.08' | N 15°05.61' | 11.9726' | 56.1432' | 177°02.06' | **02** |
| **03** | 221°30.22' | 15.0007° | 330°34.31' | S 12°01.47' | 0.8738' | 34°55.70' | 14.5286° | 157°08.83' | N 14°53.56' | 12.0511' | 56.1642' | 192°04.53' | **03** |
| **04** | 236°30.26' | 15.0007° | 330°36.72' | S 12°00.59' | 0.8741' | 49°27.45' | 14.5292° | 157°39.54' | N 14°41.43' | 12.1286' | 56.1852' | 207°06.99' | **04** |
| **05** | 251°30.31' | 15.0007° | 330°39.14' | S 11°59.72' | 0.8744' | 63°59.23' | 14.5298° | 158°10.22' | N 14°29.22' | 12.2051' | 56.2063' | 222°09.45' | **05** |
| **06** | 266°30.35' | 15.0008° | 330°41.56' | S 11°58.84' | 0.8748' | 78°31.06' | 14.5303° | 158°40.86' | N 14°16.94' | 12.2807' | 56.2273' | 237°11.92' | **06** |
| **07** | 281°30.40' | 15.0008° | 330°43.98' | S 11°57.97' | 0.8751' | 93°02.91' | 14.5309° | 159°11.47' | N 14°04.59' | 12.3554' | 56.2483' | 252°14.38' | **07** |
| **08** | 296°30.45' | 15.0008° | 330°46.40' | S 11°57.09' | 0.8754' | 107°34.80' | 14.5315° | 159°42.05' | N 13°52.16' | 12.4290' | 56.2693' | 267°16.85' | **08** |
| **09** | 311°30.49' | 15.0008° | 330°48.82' | S 11°56.22' | 0.8758' | 122°06.72' | 14.5320° | 160°12.59' | N 13°39.66' | 12.5017' | 56.2903' | 282°19.31' | **09** |
| **10** | 326°30.54' | 15.0008° | 330°51.24' | S 11°55.34' | 0.8761' | 136°38.67' | 14.5326° | 160°43.10' | N 13°27.08' | 12.5734' | 56.3113' | 297°21.77' | **10** |
| **11** | 341°30.59' | 15.0008° | 330°53.65' | S 11°54.47' | 0.8764' | 151°10.66' | 14.5331° | 161°13.58' | N 13°14.44' | 12.6441' | 56.3323' | 312°24.24' | **11** |
| **12** | 356°30.63' | 15.0008° | 330°56.07' | S 11°53.59' | 0.8767' | 165°42.67' | 14.5336° | 161°44.03' | N 13°01.72' | 12.7139' | 56.3533' | 327°26.70' | **12** |
| **13** | 11°30.68' | 15.0008° | 330°58.49' | S 11°52.71' | 0.8771' | 180°14.72' | 14.5341° | 162°14.45' | N 12°48.94' | 12.7826' | 56.3743' | 342°29.17' | **13** |
| **14** | 26°30.73' | 15.0008° | 331°00.90' | S 11°51.83' | 0.8774' | 194°46.80' | 14.5346° | 162°44.83' | N 12°36.09' | 12.8504' | 56.3953' | 357°31.63' | **14** |
| **15** | 41°30.77' | 15.0008° | 331°03.32' | S 11°50.96' | 0.8777' | 209°18.90' | 14.5351° | 163°15.19' | N 12°23.17' | 12.9171' | 56.4163' | 12°34.09' | **15** |
| **16** | 56°30.82' | 15.0008° | 331°05.73' | S 11°50.08' | 0.8780' | 223°51.04' | 14.5356° | 163°45.52' | N 12°10.19' | 12.9829' | 56.4373' | 27°36.56' | **16** |
| **17** | 71°30.87' | 15.0008° | 331°08.15' | S 11°49.20' | 0.8784' | 238°23.20' | 14.5360° | 164°15.82' | N 11°57.14' | 13.0477' | 56.4582' | 42°39.02' | **17** |
| **18** | 86°30.92' | 15.0008° | 331°10.57' | S 11°48.32' | 0.8787' | 252°55.39' | 14.5365° | 164°46.10' | N 11°44.03' | 13.1114' | 56.4792' | 57°41.49' | **18** |
| **19** | 101°30.97' | 15.0008° | 331°12.98' | S 11°47.44' | 0.8790' | 267°27.61' | 14.5370° | 165°16.34' | N 11°30.86' | 13.1742' | 56.5001' | 72°43.95' | **19** |
| **20** | 116°31.02' | 15.0008° | 331°15.40' | S 11°46.56' | 0.8793' | 281°59.85' | 14.5374° | 165°46.56' | N 11°17.62' | 13.2359' | 56.5210' | 87°46.41' | **20** |
| **21** | 131°31.07' | 15.0008° | 331°17.81' | S 11°45.68' | 0.8797' | 296°32.12' | 14.5378° | 166°16.76' | N 11°04.33' | 13.2966' | 56.5419' | 102°48.88' | **21** |
| **22** | 146°31.12' | 15.0008° | 331°20.22' | S 11°44.80' | 0.8800' | 311°04.41' | 14.5382° | 166°46.93' | N 10°50.97' | 13.3563' | 56.5628' | 117°51.34' | **22** |
| **23** | 161°31.17' | 15.0008° | 331°22.64' | S 11°43.92' | 0.8803' | 325°36.73' | 14.5386° | 167°17.07' | N 10°37.55' | 13.4150' | 56.5837' | 132°53.81' | **23** |
| **24** | 176°31.22' | 15.0008° | 331°25.05' | S 11°43.04' | 0.8806' | 340°09.07' | 14.5390° | 167°47.20' | N 10°24.08' | 13.4726' | 56.6045' | 147°56.27' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1866' | hp (π) 0.1483' | ½Ø 15.3553' | 99.1504083439068 8% -gib |
| | EoT at 12:00 UTC : -13m 57s (δ 0.19 s/h) | | Phase at 12:00 UTC : 189.42° | |
| | Meridian Pass. Time : 12:13:57.471 | | Age : 14.7 day(s) | |

| UT | Venus ♀ (π 0.33') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 219°07.67' | 287°49.46' | S 16°51.67' | 218°14.33' | 288°42.81' | S 23°00.90' | 164°08.07' | 342°49.06' | S 8°20.91' | 186°49.99' | 320°07.15' | S 16°26.64' | **00** |
| **01** | 234°08.58' | 287°51.02' | S 16°51.74' | 233°14.80' | 288°44.80' | S 23°00.70' | 179°09.98' | 342°49.62' | S 8°20.68' | 201°52.16' | 320°07.44' | S 16°26.55' | **01** |
| **02** | 249°09.48' | 287°52.58' | S 16°51.82' | 248°15.27' | 288°46.79' | S 23°00.49' | 194°11.88' | 342°50.18' | S 8°20.45' | 216°54.32' | 320°07.74' | S 16°26.46' | **02** |
| **03** | 264°10.38' | 287°54.14' | S 16°51.89' | 263°15.74' | 288°48.79' | S 23°00.29' | 209°13.79' | 342°50.74' | S 8°20.23' | 231°56.49' | 320°08.03' | S 16°26.38' | **03** |
| **04** | 279°11.28' | 287°55.70' | S 16°51.96' | 278°16.21' | 288°50.78' | S 23°00.08' | 224°15.70' | 342°51.29' | S 8°20.00' | 246°58.66' | 320°08.33' | S 16°26.29' | **04** |
| **05** | 294°12.18' | 287°57.27' | S 16°52.03' | 293°16.68' | 288°52.77' | S 22°59.87' | 239°17.60' | 342°51.85' | S 8°19.77' | 262°00.83' | 320°08.62' | S 16°26.20' | **05** |
| **06** | 309°13.08' | 287°58.84' | S 16°52.10' | 308°17.15' | 288°54.77' | S 22°59.67' | 254°19.51' | 342°52.41' | S 8°19.55' | 277°03.00' | 320°08.92' | S 16°26.11' | **06** |
| **07** | 324°13.97' | 288°00.41' | S 16°52.17' | 323°17.62' | 288°56.76' | S 22°59.46' | 269°21.41' | 342°52.97' | S 8°19.32' | 292°05.17' | 320°09.21' | S 16°26.03' | **07** |
| **08** | 339°14.86' | 288°01.98' | S 16°52.24' | 338°18.09' | 288°58.75' | S 22°59.25' | 284°23.32' | 342°53.53' | S 8°19.09' | 307°07.34' | 320°09.51' | S 16°25.94' | **08** |
| **09** | 354°15.75' | 288°03.56' | S 16°52.31' | 353°18.57' | 289°00.74' | S 22°59.04' | 299°25.22' | 342°54.09' | S 8°18.86' | 322°09.51' | 320°09.80' | S 16°25.85' | **09** |
| **10** | 9°16.63' | 288°05.14' | S 16°52.38' | 8°19.04' | 289°02.74' | S 22°58.83' | 314°27.13' | 342°54.65' | S 8°18.64' | 337°11.68' | 320°10.10' | S 16°25.77' | **10** |
| **11** | 24°17.52' | 288°06.72' | S 16°52.45' | 23°19.51' | 289°04.73' | S 22°58.62' | 329°29.03' | 342°55.21' | S 8°18.41' | 352°13.85' | 320°10.39' | S 16°25.68' | **11** |
| **12** | 39°18.40' | 288°08.30' | S 16°52.52' | 38°19.98' | 289°06.72' | S 22°58.41' | 344°30.94' | 342°55.77' | S 8°18.18' | 7°16.02' | 320°10.69' | S 16°25.59' | **12** |
| **13** | 54°19.28' | 288°09.89' | S 16°52.59' | 53°20.45' | 289°08.72' | S 22°58.20' | 359°32.84' | 342°56.32' | S 8°17.96' | 22°18.18' | 320°10.98' | S 16°25.50' | **13** |
| **14** | 69°20.15' | 288°11.48' | S 16°52.65' | 68°20.92' | 289°10.71' | S 22°57.99' | 14°34.75' | 342°56.88' | S 8°17.73' | 37°20.35' | 320°11.28' | S 16°25.42' | **14** |
| **15** | 84°21.03' | 288°13.07' | S 16°52.72' | 83°21.39' | 289°12.70' | S 22°57.78' | 29°36.65' | 342°57.44' | S 8°17.50' | 52°22.52' | 320°11.57' | S 16°25.33' | **15** |
| **16** | 99°21.90' | 288°14.66' | S 16°52.79' | 98°21.87' | 289°14.69' | S 22°57.57' | 44°38.56' | 342°58.00' | S 8°17.28' | 67°24.69' | 320°11.87' | S 16°25.24' | **16** |
| **17** | 114°22.77' | 288°16.26' | S 16°52.85' | 113°22.34' | 289°16.69' | S 22°57.36' | 59°40.46' | 342°58.56' | S 8°17.05' | 82°26.86' | 320°12.16' | S 16°25.16' | **17** |
| **18** | 129°23.63' | 288°17.85' | S 16°52.92' | 128°22.81' | 289°18.68' | S 22°57.15' | 74°42.37' | 342°59.12' | S 8°16.82' | 97°29.03' | 320°12.46' | S 16°25.07' | **18** |
| **19** | 144°24.50' | 288°19.45' | S 16°52.99' | 143°23.28' | 289°20.67' | S 22°56.94' | 89°44.27' | 342°59.68' | S 8°16.60' | 112°31.20' | 320°12.75' | S 16°24.98' | **19** |
| **20** | 159°25.36' | 288°21.06' | S 16°53.05' | 158°23.75' | 289°22.66' | S 22°56.72' | 104°46.18' | 343°00.24' | S 8°16.37' | 127°33.37' | 320°13.04' | S 16°24.89' | **20** |
| **21** | 174°26.22' | 288°22.66' | S 16°53.12' | 173°24.22' | 289°24.65' | S 22°56.51' | 119°48.08' | 343°00.80' | S 8°16.14' | 142°35.54' | 320°13.34' | S 16°24.81' | **21** |
| **22** | 189°27.07' | 288°24.27' | S 16°53.18' | 188°24.70' | 289°26.65' | S 22°56.30' | 134°49.99' | 343°01.36' | S 8°15.91' | 157°37.71' | 320°13.63' | S 16°24.72' | **22** |
| **23** | 204°27.93' | 288°25.88' | S 16°53.25' | 203°25.17' | 289°28.64' | S 22°56.08' | 149°51.89' | 343°01.92' | S 8°15.69' | 172°39.88' | 320°13.93' | S 16°24.63' | **23** |
| **24** | 219°28.78' | 288°27.49' | S 16°53.31' | 218°25.64' | 289°30.63' | S 22°55.87' | 164°53.80' | 343°02.47' | S 8°15.46' | 187°42.05' | 320°14.22' | S 16°24.55' | **24** |
| | δ 15.0151° | | *d* 0.0724' | δ 15.0078° | | *d* 0.2050' | δ 15.0318° | | *d* 0.2266' | δ 15.0361° | | *d* 0.0871' | |

## *Friday, February 18th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°31.22' | 15.0008° | 331°25.05' | S 11°43.04' | 0.8806' | 340°09.07' | 14.5390° | 167°47.20' | N 10°24.08' | 13.4726' | 56.6045' | 147°56.27' | **00** |
| **01** | 191°31.27' | 15.0008° | 331°27.46' | S 11°42.16' | 0.8810' | 354°41.44' | 14.5394° | 168°17.30' | N 10°10.55' | 13.5292' | 56.6253' | 162°58.73' | **01** |
| **02** | 206°31.32' | 15.0009° | 331°29.88' | S 11°41.28' | 0.8813' | 9°13.82' | 14.5398° | 168°47.37' | N 9°56.97' | 13.5848' | 56.6461' | 178°01.20' | **02** |
| **03** | 221°31.37' | 15.0009° | 331°32.29' | S 11°40.40' | 0.8816' | 23°46.23' | 14.5401° | 169°17.43' | N 9°43.33' | 13.6394' | 56.6669' | 193°03.66' | **03** |
| **04** | 236°31.42' | 15.0009° | 331°34.70' | S 11°39.52' | 0.8819' | 38°18.66' | 14.5405° | 169°47.47' | N 9°29.64' | 13.6929' | 56.6877' | 208°06.13' | **04** |
| **05** | 251°31.48' | 15.0009° | 331°37.11' | S 11°38.63' | 0.8822' | 52°51.11' | 14.5408° | 170°17.48' | N 9°15.89' | 13.7453' | 56.7084' | 223°08.59' | **05** |
| **06** | 266°31.53' | 15.0009° | 331°39.53' | S 11°37.75' | 0.8826' | 67°23.57' | 14.5411° | 170°47.48' | N 9°02.09' | 13.7968' | 56.7291' | 238°11.05' | **06** |
| **07** | 281°31.58' | 15.0009° | 331°41.94' | S 11°36.87' | 0.8829' | 81°56.06' | 14.5414° | 171°17.46' | N 8°48.25' | 13.8472' | 56.7498' | 253°13.52' | **07** |
| **08** | 296°31.63' | 15.0009° | 331°44.35' | S 11°35.99' | 0.8832' | 96°28.56' | 14.5417° | 171°47.42' | N 8°34.35' | 13.8965' | 56.7704' | 268°15.98' | **08** |
| **09** | 311°31.69' | 15.0009° | 331°46.76' | S 11°35.10' | 0.8835' | 111°01.08' | 14.5420° | 172°17.37' | N 8°20.41' | 13.9448' | 56.7911' | 283°18.45' | **09** |
| **10** | 326°31.74' | 15.0009° | 331°49.17' | S 11°34.22' | 0.8838' | 125°33.62' | 14.5422° | 172°47.30' | N 8°06.41' | 13.9920' | 56.8116' | 298°20.91' | **10** |
| **11** | 341°31.80' | 15.0009° | 331°51.58' | S 11°33.33' | 0.8841' | 140°06.16' | 14.5425° | 173°17.21' | N 7°52.37' | 14.0382' | 56.8322' | 313°23.38' | **11** |
| **12** | 356°31.85' | 15.0009° | 331°53.99' | S 11°32.45' | 0.8845' | 154°38.73' | 14.5427° | 173°47.11' | N 7°38.29' | 14.0833' | 56.8527' | 328°25.84' | **12** |
| **13** | 11°31.90' | 15.0009° | 331°56.40' | S 11°31.57' | 0.8848' | 169°11.30' | 14.5429° | 174°17.00' | N 7°24.16' | 14.1273' | 56.8732' | 343°28.30' | **13** |
| **14** | 26°31.96' | 15.0009° | 331°58.81' | S 11°30.68' | 0.8851' | 183°43.89' | 14.5431° | 174°46.87' | N 7°09.99' | 14.1703' | 56.8937' | 358°30.77' | **14** |
| **15** | 41°32.01' | 15.0009° | 332°01.22' | S 11°29.80' | 0.8854' | 198°16.49' | 14.5433° | 175°16.74' | N 6°55.78' | 14.2122' | 56.9141' | 13°33.23' | **15** |
| **16** | 56°32.07' | 15.0009° | 332°03.63' | S 11°28.91' | 0.8857' | 212°49.11' | 14.5435° | 175°46.59' | N 6°41.53' | 14.2531' | 56.9345' | 28°35.70' | **16** |
| **17** | 71°32.12' | 15.0009° | 332°06.04' | S 11°28.02' | 0.8860' | 227°21.73' | 14.5437° | 176°16.43' | N 6°27.24' | 14.2929' | 56.9549' | 43°38.16' | **17** |
| **18** | 86°32.18' | 15.0009° | 332°08.44' | S 11°27.14' | 0.8863' | 241°54.36' | 14.5438° | 176°46.27' | N 6°12.90' | 14.3316' | 56.9752' | 58°40.62' | **18** |
| **19** | 101°32.24' | 15.0009° | 332°10.85' | S 11°26.25' | 0.8867' | 256°26.99' | 14.5440° | 177°16.09' | N 5°58.53' | 14.3692' | 56.9955' | 73°43.09' | **19** |
| **20** | 116°32.29' | 15.0009° | 332°13.26' | S 11°25.36' | 0.8870' | 270°59.64' | 14.5441° | 177°45.91' | N 5°44.13' | 14.4057' | 57.0158' | 88°45.55' | **20** |
| **21** | 131°32.35' | 15.0009° | 332°15.67' | S 11°24.48' | 0.8873' | 285°32.29' | 14.5442° | 178°15.73' | N 5°29.69' | 14.4411' | 57.0360' | 103°48.02' | **21** |
| **22** | 146°32.41' | 15.0010° | 332°18.07' | S 11°23.59' | 0.8876' | 300°04.94' | 14.5443° | 178°45.54' | N 5°15.21' | 14.4755' | 57.0562' | 118°50.48' | **22** |
| **23** | 161°32.46' | 15.0010° | 332°20.48' | S 11°22.70' | 0.8879' | 314°37.60' | 14.5443° | 179°15.34' | N 5°00.70' | 14.5088' | 57.0763' | 133°52.94' | **23** |
| **24** | 176°32.52' | 15.0010° | 332°22.89' | S 11°21.81' | 0.8882' | 329°10.26' | 14.5444° | 179°45.14' | N 4°46.16' | 14.5409' | 57.0964' | 148°55.41' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.1832' | hp (π) 0.1483' | ½Ø 15.4913' | 96.4029286742909 5% -gib | |
| EoT at 12:00 UTC : -13m 52s (δ 0.22 s/h) | | Phase at 12:00 UTC : 201.47° | | |
| Meridian Pass. Time : 12:13:52.604 | | Age : 15.7 day(s) | | |

| UT | Venus ♀ (π 0.33') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 219°28.78' | 288°27.49' | S 16°53.31' | 218°25.64' | 289°30.63' | S 22°55.87' | 164°53.80' | 343°02.47' | S 8°15.46' | 187°42.05' | 320°14.22' | S 16°24.55' | **00** |
| **01** | 234°29.63' | 288°29.11' | S 16°53.37' | 233°26.11' | 289°32.62' | S 22°55.65' | 179°55.70' | 343°03.03' | S 8°15.23' | 202°44.22' | 320°14.52' | S 16°24.46' | **01** |
| **02** | 249°30.47' | 288°30.72' | S 16°53.44' | 248°26.58' | 289°34.62' | S 22°55.44' | 194°57.61' | 343°03.59' | S 8°15.01' | 217°46.39' | 320°14.81' | S 16°24.37' | **02** |
| **03** | 264°31.32' | 288°32.34' | S 16°53.50' | 263°27.06' | 289°36.61' | S 22°55.22' | 209°59.51' | 343°04.15' | S 8°14.78' | 232°48.56' | 320°15.11' | S 16°24.28' | **03** |
| **04** | 279°32.16' | 288°33.96' | S 16°53.56' | 278°27.53' | 289°38.60' | S 22°55.01' | 225°01.41' | 343°04.71' | S 8°14.55' | 247°50.73' | 320°15.40' | S 16°24.20' | **04** |
| **05** | 294°33.00' | 288°35.59' | S 16°53.63' | 293°28.00' | 289°40.59' | S 22°54.79' | 240°03.32' | 343°05.27' | S 8°14.32' | 262°52.90' | 320°15.70' | S 16°24.11' | **05** |
| **06** | 309°33.84' | 288°37.22' | S 16°53.69' | 308°28.47' | 289°42.58' | S 22°54.57' | 255°05.22' | 343°05.83' | S 8°14.10' | 277°55.06' | 320°15.99' | S 16°24.02' | **06** |
| **07** | 324°34.67' | 288°38.84' | S 16°53.75' | 323°28.94' | 289°44.58' | S 22°54.36' | 270°07.13' | 343°06.39' | S 8°13.87' | 292°57.23' | 320°16.28' | S 16°23.94' | **07** |
| **08** | 339°35.51' | 288°40.48' | S 16°53.81' | 338°29.42' | 289°46.57' | S 22°54.14' | 285°09.03' | 343°06.95' | S 8°13.64' | 307°59.40' | 320°16.58' | S 16°23.85' | **08** |
| **09** | 354°36.34' | 288°42.11' | S 16°53.87' | 353°29.89' | 289°48.56' | S 22°53.92' | 300°10.94' | 343°07.51' | S 8°13.42' | 323°01.57' | 320°16.87' | S 16°23.76' | **09** |
| **10** | 9°37.17' | 288°43.75' | S 16°53.93' | 8°30.36' | 289°50.55' | S 22°53.70' | 315°12.84' | 343°08.07' | S 8°13.19' | 338°03.74' | 320°17.17' | S 16°23.68' | **10** |
| **11** | 24°37.99' | 288°45.38' | S 16°53.99' | 23°30.83' | 289°52.54' | S 22°53.48' | 330°14.75' | 343°08.63' | S 8°12.96' | 353°05.91' | 320°17.46' | S 16°23.59' | **11** |
| **12** | 39°38.81' | 288°47.02' | S 16°54.05' | 38°31.31' | 289°54.53' | S 22°53.26' | 345°16.65' | 343°09.19' | S 8°12.73' | 8°08.08' | 320°17.76' | S 16°23.50' | **12** |
| **13** | 54°39.64' | 288°48.67' | S 16°54.11' | 53°31.78' | 289°56.53' | S 22°53.04' | 0°18.56' | 343°09.75' | S 8°12.51' | 23°10.25' | 320°18.05' | S 16°23.41' | **13** |
| **14** | 69°40.45' | 288°50.31' | S 16°54.17' | 68°32.25' | 289°58.52' | S 22°52.82' | 15°20.46' | 343°10.31' | S 8°12.28' | 38°12.42' | 320°18.34' | S 16°23.33' | **14** |
| **15** | 84°41.27' | 288°51.96' | S 16°54.23' | 83°32.72' | 290°00.51' | S 22°52.60' | 30°22.37' | 343°10.87' | S 8°12.05' | 53°14.59' | 320°18.64' | S 16°23.24' | **15** |
| **16** | 99°42.09' | 288°53.61' | S 16°54.28' | 98°33.20' | 290°02.50' | S 22°52.38' | 45°24.27' | 343°11.43' | S 8°11.82' | 68°16.76' | 320°18.93' | S 16°23.15' | **16** |
| **17** | 114°42.90' | 288°55.26' | S 16°54.34' | 113°33.67' | 290°04.49' | S 22°52.16' | 60°26.17' | 343°11.99' | S 8°11.60' | 83°18.93' | 320°19.23' | S 16°23.07' | **17** |
| **18** | 129°43.71' | 288°56.92' | S 16°54.40' | 128°34.14' | 290°06.48' | S 22°51.94' | 75°28.08' | 343°12.54' | S 8°11.37' | 98°21.10' | 320°19.52' | S 16°22.98' | **18** |
| **19** | 144°44.51' | 288°58.57' | S 16°54.45' | 143°34.61' | 290°08.47' | S 22°51.72' | 90°29.98' | 343°13.10' | S 8°11.14' | 113°23.27' | 320°19.81' | S 16°22.89' | **19** |
| **20** | 159°45.32' | 289°00.23' | S 16°54.51' | 158°35.09' | 290°10.46' | S 22°51.49' | 105°31.89' | 343°13.66' | S 8°10.91' | 128°25.44' | 320°20.11' | S 16°22.81' | **20** |
| **21** | 174°46.12' | 289°01.89' | S 16°54.57' | 173°35.56' | 290°12.46' | S 22°51.27' | 120°33.79' | 343°14.22' | S 8°10.69' | 143°27.61' | 320°20.40' | S 16°22.72' | **21** |
| **22** | 189°46.92' | 289°03.56' | S 16°54.62' | 188°36.03' | 290°14.45' | S 22°51.05' | 135°35.70' | 343°14.78' | S 8°10.46' | 158°29.78' | 320°20.70' | S 16°22.63' | **22** |
| **23** | 204°47.72' | 289°05.22' | S 16°54.68' | 203°36.51' | 290°16.44' | S 22°50.82' | 150°37.60' | 343°15.34' | S 8°10.23' | 173°31.95' | 320°20.99' | S 16°22.54' | **23** |
| **24** | 219°48.51' | 289°06.89' | S 16°54.73' | 218°36.98' | 290°18.43' | S 22°50.60' | 165°39.50' | 343°15.90' | S 8°10.00' | 188°34.12' | 320°21.28' | S 16°22.46' | **24** |
| | δ 15.0142° | | *d* 0.0637' | δ 15.0079° | | *d* 0.2148' | δ 15.0317° | | *d* 0.2271' | δ 15.0362° | | *d* 0.0871' | |

## *Saturday, February 19th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°32.52' | 15.0010° | 332°22.89' | S 11°21.81' | 0.8882' | 329°10.26' | 14.5444° | 179°45.14' | N 4°46.16' | 14.5409' | 57.0964' | 148°55.41' | **00** |
| **01** | 191°32.58' | 15.0010° | 332°25.29' | S 11°20.92' | 0.8885' | 343°42.93' | 14.5444° | 180°14.94' | N 4°31.59' | 14.5720' | 57.1165' | 163°57.87' | **01** |
| **02** | 206°32.64' | 15.0010° | 332°27.70' | S 11°20.03' | 0.8888' | 358°15.60' | 14.5444° | 180°44.74' | N 4°16.99' | 14.6020' | 57.1365' | 179°00.34' | **02** |
| **03** | 221°32.70' | 15.0010° | 332°30.10' | S 11°19.15' | 0.8891' | 12°48.26' | 14.5444° | 181°14.54' | N 4°02.36' | 14.6308' | 57.1564' | 194°02.80' | **03** |
| **04** | 236°32.75' | 15.0010° | 332°32.51' | S 11°18.26' | 0.8895' | 27°20.93' | 14.5444° | 181°44.33' | N 3°47.70' | 14.6586' | 57.1764' | 209°05.26' | **04** |
| **05** | 251°32.81' | 15.0010° | 332°34.91' | S 11°17.37' | 0.8898' | 41°53.59' | 14.5444° | 182°14.13' | N 3°33.01' | 14.6853' | 57.1963' | 224°07.73' | **05** |
| **06** | 266°32.87' | 15.0010° | 332°37.32' | S 11°16.48' | 0.8901' | 56°26.26' | 14.5444° | 182°43.94' | N 3°18.30' | 14.7108' | 57.2161' | 239°10.19' | **06** |
| **07** | 281°32.93' | 15.0010° | 332°39.72' | S 11°15.59' | 0.8904' | 70°58.91' | 14.5443° | 183°13.74' | N 3°03.57' | 14.7352' | 57.2359' | 254°12.66' | **07** |
| **08** | 296°32.99' | 15.0010° | 332°42.13' | S 11°14.70' | 0.8907' | 85°31.57' | 14.5442° | 183°43.55' | N 2°48.81' | 14.7585' | 57.2557' | 269°15.12' | **08** |
| **09** | 311°33.05' | 15.0010° | 332°44.53' | S 11°13.80' | 0.8910' | 100°04.21' | 14.5441° | 184°13.37' | N 2°34.03' | 14.7807' | 57.2754' | 284°17.58' | **09** |
| **10** | 326°33.11' | 15.0010° | 332°46.94' | S 11°12.91' | 0.8913' | 114°36.86' | 14.5440° | 184°43.19' | N 2°19.23' | 14.8018' | 57.2951' | 299°20.05' | **10** |
| **11** | 341°33.17' | 15.0010° | 332°49.34' | S 11°12.02' | 0.8916' | 129°09.49' | 14.5439° | 185°13.02' | N 2°04.41' | 14.8217' | 57.3147' | 314°22.51' | **11** |
| **12** | 356°33.23' | 15.0010° | 332°51.74' | S 11°11.13' | 0.8919' | 143°42.11' | 14.5437° | 185°42.86' | N 1°49.56' | 14.8405' | 57.3343' | 329°24.98' | **12** |
| **13** | 11°33.30' | 15.0010° | 332°54.14' | S 11°10.24' | 0.8922' | 158°14.73' | 14.5436° | 186°12.71' | N 1°34.71' | 14.8582' | 57.3538' | 344°27.44' | **13** |
| **14** | 26°33.36' | 15.0010° | 332°56.55' | S 11°09.34' | 0.8925' | 172°47.33' | 14.5434° | 186°42.57' | N 1°19.83' | 14.8747' | 57.3733' | 359°29.90' | **14** |
| **15** | 41°33.42' | 15.0010° | 332°58.95' | S 11°08.45' | 0.8928' | 187°19.92' | 14.5432° | 187°12.44' | N 1°04.94' | 14.8901' | 57.3927' | 14°32.37' | **15** |
| **16** | 56°33.48' | 15.0010° | 333°01.35' | S 11°07.56' | 0.8931' | 201°52.50' | 14.5430° | 187°42.33' | N 0°50.04' | 14.9043' | 57.4121' | 29°34.83' | **16** |
| **17** | 71°33.54' | 15.0010° | 333°03.75' | S 11°06.67' | 0.8934' | 216°25.07' | 14.5428° | 188°12.23' | N 0°35.12' | 14.9174' | 57.4315' | 44°37.30' | **17** |
| **18** | 86°33.61' | 15.0010° | 333°06.15' | S 11°05.77' | 0.8937' | 230°57.62' | 14.5425° | 188°42.14' | N 0°20.19' | 14.9293' | 57.4508' | 59°39.76' | **18** |
| **19** | 101°33.67' | 15.0011° | 333°08.55' | S 11°04.88' | 0.8940' | 245°30.15' | 14.5422° | 189°12.07' | N 0°05.25' | 14.9401' | 57.4700' | 74°42.22' | **19** |
| **20** | 116°33.73' | 15.0011° | 333°10.96' | S 11°03.98' | 0.8943' | 260°02.67' | 14.5419° | 189°42.02' | S 0°09.70' | 14.9497' | 57.4892' | 89°44.69' | **20** |
| **21** | 131°33.80' | 15.0011° | 333°13.36' | S 11°03.09' | 0.8946' | 274°35.17' | 14.5416° | 190°11.98' | S 0°24.66' | 14.9581' | 57.5084' | 104°47.15' | **21** |
| **22** | 146°33.86' | 15.0011° | 333°15.76' | S 11°02.19' | 0.8949' | 289°07.65' | 14.5413° | 190°41.97' | S 0°39.62' | 14.9654' | 57.5275' | 119°49.62' | **22** |
| **23** | 161°33.92' | 15.0011° | 333°18.16' | S 11°01.30' | 0.8952' | 303°40.11' | 14.5410° | 191°11.97' | S 0°54.59' | 14.9715' | 57.5465' | 134°52.08' | **23** |
| **24** | 176°33.99' | 15.0011° | 333°20.56' | S 11°00.40' | 0.8955' | 318°12.55' | 14.5406° | 191°42.00' | S 1°09.57' | 14.9764' | 57.5656' | 149°54.54' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.1797' | hp (π) 0.1483' | ½Ø 15.6225' | 91.5341072781661 % -gib | |
| EoT at 12:00 UTC : -13m 47s (δ 0.24 s/h) | | Phase at 12:00 UTC : 213.71° | | |
| Meridian Pass. Time : 12:13:47.062 | | Age : 16.6 day(s) | | |

| UT | Venus ♀ (π 0.32') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 219°48.51' | 289°06.89' | S 16°54.73' | 218°36.98' | 290°18.43' | S 22°50.60' | 165°39.50' | 343°15.90' | S 8°10.00' | 188°34.12' | 320°21.28' | S 16°22.46' | **00** |
| **01** | 234°49.31' | 289°08.56' | S 16°54.78' | 233°37.45' | 290°20.42' | S 22°50.38' | 180°41.41' | 343°16.46' | S 8°09.78' | 203°36.29' | 320°21.58' | S 16°22.37' | **01** |
| **02** | 249°50.10' | 289°10.24' | S 16°54.84' | 248°37.92' | 290°22.41' | S 22°50.15' | 195°43.31' | 343°17.02' | S 8°09.55' | 218°38.46' | 320°21.87' | S 16°22.28' | **02** |
| **03** | 264°50.89' | 289°11.91' | S 16°54.89' | 263°38.40' | 290°24.40' | S 22°49.92' | 210°45.22' | 343°17.58' | S 8°09.32' | 233°40.63' | 320°22.16' | S 16°22.20' | **03** |
| **04** | 279°51.67' | 289°13.59' | S 16°54.94' | 278°38.87' | 290°26.39' | S 22°49.70' | 225°47.12' | 343°18.14' | S 8°09.09' | 248°42.81' | 320°22.46' | S 16°22.11' | **04** |
| **05** | 294°52.46' | 289°15.27' | S 16°55.00' | 293°39.34' | 290°28.38' | S 22°49.47' | 240°49.03' | 343°18.70' | S 8°08.86' | 263°44.98' | 320°22.75' | S 16°22.02' | **05** |
| **06** | 309°53.24' | 289°16.95' | S 16°55.05' | 308°39.82' | 290°30.37' | S 22°49.25' | 255°50.93' | 343°19.26' | S 8°08.64' | 278°47.15' | 320°23.05' | S 16°21.94' | **06** |
| **07** | 324°54.02' | 289°18.64' | S 16°55.10' | 323°40.29' | 290°32.37' | S 22°49.02' | 270°52.83' | 343°19.82' | S 8°08.41' | 293°49.32' | 320°23.34' | S 16°21.85' | **07** |
| **08** | 339°54.80' | 289°20.32' | S 16°55.15' | 338°40.76' | 290°34.36' | S 22°48.79' | 285°54.74' | 343°20.38' | S 8°08.18' | 308°51.49' | 320°23.63' | S 16°21.76' | **08** |
| **09** | 354°55.57' | 289°22.01' | S 16°55.20' | 353°41.24' | 290°36.35' | S 22°48.56' | 300°56.64' | 343°20.94' | S 8°07.95' | 323°53.66' | 320°23.93' | S 16°21.67' | **09** |
| **10** | 9°56.35' | 289°23.70' | S 16°55.25' | 8°41.71' | 290°38.34' | S 22°48.34' | 315°58.55' | 343°21.50' | S 8°07.73' | 338°55.83' | 320°24.22' | S 16°21.59' | **10** |
| **11** | 24°57.12' | 289°25.40' | S 16°55.30' | 23°42.18' | 290°40.33' | S 22°48.11' | 331°00.45' | 343°22.06' | S 8°07.50' | 353°58.00' | 320°24.51' | S 16°21.50' | **11** |
| **12** | 39°57.88' | 289°27.09' | S 16°55.35' | 38°42.66' | 290°42.32' | S 22°47.88' | 346°02.35' | 343°22.62' | S 8°07.27' | 9°00.17' | 320°24.81' | S 16°21.41' | **12** |
| **13** | 54°58.65' | 289°28.79' | S 16°55.40' | 53°43.13' | 290°44.31' | S 22°47.65' | 1°04.26' | 343°23.18' | S 8°07.04' | 24°02.34' | 320°25.10' | S 16°21.33' | **13** |
| **14** | 69°59.41' | 289°30.49' | S 16°55.45' | 68°43.60' | 290°46.30' | S 22°47.42' | 16°06.16' | 343°23.74' | S 8°06.81' | 39°04.51' | 320°25.39' | S 16°21.24' | **14** |
| **15** | 85°00.18' | 289°32.19' | S 16°55.50' | 83°44.08' | 290°48.29' | S 22°47.19' | 31°08.07' | 343°24.30' | S 8°06.59' | 54°06.68' | 320°25.69' | S 16°21.15' | **15** |
| **16** | 100°00.94' | 289°33.90' | S 16°55.54' | 98°44.55' | 290°50.28' | S 22°46.96' | 46°09.97' | 343°24.86' | S 8°06.36' | 69°08.85' | 320°25.98' | S 16°21.07' | **16** |
| **17** | 115°01.69' | 289°35.60' | S 16°55.59' | 113°45.03' | 290°52.27' | S 22°46.73' | 61°11.87' | 343°25.42' | S 8°06.13' | 84°11.02' | 320°26.27' | S 16°20.98' | **17** |
| **18** | 130°02.45' | 289°37.31' | S 16°55.64' | 128°45.50' | 290°54.26' | S 22°46.49' | 76°13.78' | 343°25.98' | S 8°05.90' | 99°13.19' | 320°26.57' | S 16°20.89' | **18** |
| **19** | 145°03.20' | 289°39.02' | S 16°55.68' | 143°45.97' | 290°56.25' | S 22°46.26' | 91°15.68' | 343°26.54' | S 8°05.67' | 114°15.36' | 320°26.86' | S 16°20.81' | **19** |
| **20** | 160°03.95' | 289°40.74' | S 16°55.73' | 158°46.45' | 290°58.24' | S 22°46.03' | 106°17.59' | 343°27.10' | S 8°05.45' | 129°17.54' | 320°27.15' | S 16°20.72' | **20** |
| **21** | 175°04.70' | 289°42.45' | S 16°55.77' | 173°46.92' | 291°00.23' | S 22°45.80' | 121°19.49' | 343°27.66' | S 8°05.22' | 144°19.71' | 320°27.45' | S 16°20.63' | **21** |
| **22** | 190°05.45' | 289°44.17' | S 16°55.82' | 188°47.40' | 291°02.22' | S 22°45.56' | 136°21.39' | 343°28.22' | S 8°04.99' | 159°21.88' | 320°27.74' | S 16°20.54' | **22** |
| **23** | 205°06.19' | 289°45.89' | S 16°55.86' | 203°47.87' | 291°04.21' | S 22°45.33' | 151°23.30' | 343°28.78' | S 8°04.76' | 174°24.05' | 320°28.03' | S 16°20.46' | **23** |
| **24** | 220°06.93' | 289°47.61' | S 16°55.91' | 218°48.34' | 291°06.20' | S 22°45.10' | 166°25.20' | 343°29.34' | S 8°04.53' | 189°26.22' | 320°28.33' | S 16°20.37' | **24** |
| | δ 15.0132° | | *d* 0.0540' | δ 15.0079° | | *d* 0.2246' | δ 15.0317° | | *d* 0.2277' | δ 15.0362° | | *d* 0.0870' | |

## *Sunday, February 20th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°33.99' | 15.0011° | 333°20.56' | S 11°00.40' | 0.8955' | 318°12.55' | 14.5406° | 191°42.00' | S 1°09.57' | 14.9764' | 57.5656' | 149°54.54' | **00** |
| **01** | 191°34.05' | 15.0011° | 333°22.95' | S 10°59.51' | 0.8958' | 332°44.96' | 14.5402° | 192°12.05' | S 1°24.55' | 14.9802' | 57.5845' | 164°57.01' | **01** |
| **02** | 206°34.12' | 15.0011° | 333°25.35' | S 10°58.61' | 0.8961' | 347°17.35' | 14.5399° | 192°42.12' | S 1°39.53' | 14.9827' | 57.6034' | 179°59.47' | **02** |
| **03** | 221°34.18' | 15.0011° | 333°27.75' | S 10°57.71' | 0.8964' | 1°49.72' | 14.5394° | 193°12.22' | S 1°54.52' | 14.9841' | 57.6223' | 195°01.94' | **03** |
| **04** | 236°34.25' | 15.0011° | 333°30.15' | S 10°56.82' | 0.8967' | 16°22.06' | 14.5390° | 193°42.34' | S 2°09.50' | 14.9842' | 57.6411' | 210°04.40' | **04** |
| **05** | 251°34.32' | 15.0011° | 333°32.55' | S 10°55.92' | 0.8970' | 30°54.37' | 14.5386° | 194°12.49' | S 2°24.48' | 14.9832' | 57.6598' | 225°06.86' | **05** |
| **06** | 266°34.38' | 15.0011° | 333°34.95' | S 10°55.02' | 0.8973' | 45°26.66' | 14.5381° | 194°42.67' | S 2°39.47' | 14.9810' | 57.6785' | 240°09.33' | **06** |
| **07** | 281°34.45' | 15.0011° | 333°37.34' | S 10°54.13' | 0.8976' | 59°58.91' | 14.5376° | 195°12.88' | S 2°54.44' | 14.9775' | 57.6972' | 255°11.79' | **07** |
| **08** | 296°34.51' | 15.0011° | 333°39.74' | S 10°53.23' | 0.8979' | 74°31.14' | 14.5371° | 195°43.12' | S 3°09.42' | 14.9729' | 57.7158' | 270°14.26' | **08** |
| **09** | 311°34.58' | 15.0011° | 333°42.14' | S 10°52.33' | 0.8982' | 89°03.33' | 14.5366° | 196°13.39' | S 3°24.38' | 14.9670' | 57.7343' | 285°16.72' | **09** |
| **10** | 326°34.65' | 15.0011° | 333°44.54' | S 10°51.43' | 0.8985' | 103°35.49' | 14.5360° | 196°43.69' | S 3°39.34' | 14.9599' | 57.7528' | 300°19.18' | **10** |
| **11** | 341°34.72' | 15.0011° | 333°46.93' | S 10°50.53' | 0.8988' | 118°07.62' | 14.5355° | 197°14.03' | S 3°54.29' | 14.9516' | 57.7713' | 315°21.65' | **11** |
| **12** | 356°34.78' | 15.0011° | 333°49.33' | S 10°49.63' | 0.8991' | 132°39.71' | 14.5349° | 197°44.40' | S 4°09.24' | 14.9420' | 57.7897' | 330°24.11' | **12** |
| **13** | 11°34.85' | 15.0011° | 333°51.73' | S 10°48.73' | 0.8994' | 147°11.77' | 14.5343° | 198°14.81' | S 4°24.17' | 14.9313' | 57.8080' | 345°26.58' | **13** |
| **14** | 26°34.92' | 15.0011° | 333°54.12' | S 10°47.83' | 0.8997' | 161°43.79' | 14.5337° | 198°45.25' | S 4°39.09' | 14.9192' | 57.8263' | 0°29.04' | **14** |
| **15** | 41°34.99' | 15.0011° | 333°56.52' | S 10°46.93' | 0.9000' | 176°15.77' | 14.5330° | 199°15.73' | S 4°53.99' | 14.9059' | 57.8445' | 15°31.51' | **15** |
| **16** | 56°35.06' | 15.0011° | 333°58.91' | S 10°46.03' | 0.9003' | 190°47.72' | 14.5324° | 199°46.25' | S 5°08.88' | 14.8914' | 57.8627' | 30°33.97' | **16** |
| **17** | 71°35.13' | 15.0012° | 334°01.31' | S 10°45.13' | 0.9006' | 205°19.62' | 14.5317° | 200°16.82' | S 5°23.76' | 14.8756' | 57.8809' | 45°36.43' | **17** |
| **18** | 86°35.20' | 15.0012° | 334°03.70' | S 10°44.23' | 0.9009' | 219°51.48' | 14.5310° | 200°47.42' | S 5°38.62' | 14.8586' | 57.8989' | 60°38.90' | **18** |
| **19** | 101°35.27' | 15.0012° | 334°06.10' | S 10°43.33' | 0.9012' | 234°23.30' | 14.5303° | 201°18.07' | S 5°53.46' | 14.8403' | 57.9170' | 75°41.36' | **19** |
| **20** | 116°35.34' | 15.0012° | 334°08.49' | S 10°42.43' | 0.9015' | 248°55.07' | 14.5296° | 201°48.76' | S 6°08.28' | 14.8207' | 57.9349' | 90°43.83' | **20** |
| **21** | 131°35.41' | 15.0012° | 334°10.88' | S 10°41.53' | 0.9017' | 263°26.80' | 14.5288° | 202°19.49' | S 6°23.08' | 14.7998' | 57.9529' | 105°46.29' | **21** |
| **22** | 146°35.48' | 15.0012° | 334°13.28' | S 10°40.63' | 0.9020' | 277°58.48' | 14.5280° | 202°50.27' | S 6°37.86' | 14.7776' | 57.9707' | 120°48.75' | **22** |
| **23** | 161°35.55' | 15.0012° | 334°15.67' | S 10°39.72' | 0.9023' | 292°30.12' | 14.5273° | 203°21.10' | S 6°52.61' | 14.7542' | 57.9885' | 135°51.22' | **23** |
| **24** | 176°35.62' | 15.0012° | 334°18.06' | S 10°38.82' | 0.9026' | 307°01.70' | 14.5265° | 203°51.98' | S 7°07.34' | 14.7294' | 58.0063' | 150°53.68' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.1761' | hp (π) 0.1482' | ½Ø 15.7466' | 84.6689792283345<br>8% -gib | |
| EoT at 12:00 UTC : -13m 40s (δ 0.27 s/h) | | Phase at 12:00 UTC : 226.13° | | |
| Meridian Pass. Time : 12:13:40.865 | | Age : 17.6 day(s) | | |

| UT | Venus ♀ (π 0.32') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 220°06.93' | 289°47.61' | S 16°55.91' | 218°48.34' | 291°06.20' | S 22°45.10' | 166°25.20' | 343°29.34' | S 8°04.53' | 189°26.22' | 320°28.33' | S 16°20.37' | **00** |
| **01** | 235°07.67' | 289°49.34' | S 16°55.95' | 233°48.82' | 291°08.19' | S 22°44.86' | 181°27.10' | 343°29.90' | S 8°04.31' | 204°28.39' | 320°28.62' | S 16°20.28' | **01** |
| **02** | 250°08.41' | 289°51.06' | S 16°55.99' | 248°49.29' | 291°10.18' | S 22°44.63' | 196°29.01' | 343°30.46' | S 8°04.08' | 219°30.56' | 320°28.91' | S 16°20.20' | **02** |
| **03** | 265°09.14' | 289°52.79' | S 16°56.04' | 263°49.77' | 291°12.17' | S 22°44.39' | 211°30.91' | 343°31.03' | S 8°03.85' | 234°32.73' | 320°29.20' | S 16°20.11' | **03** |
| **04** | 280°09.88' | 289°54.52' | S 16°56.08' | 278°50.24' | 291°14.16' | S 22°44.16' | 226°32.81' | 343°31.59' | S 8°03.62' | 249°34.90' | 320°29.50' | S 16°20.02' | **04** |
| **05** | 295°10.61' | 289°56.26' | S 16°56.12' | 293°50.72' | 291°16.15' | S 22°43.92' | 241°34.72' | 343°32.15' | S 8°03.39' | 264°37.07' | 320°29.79' | S 16°19.94' | **05** |
| **06** | 310°11.34' | 289°57.99' | S 16°56.16' | 308°51.19' | 291°18.14' | S 22°43.68' | 256°36.62' | 343°32.71' | S 8°03.16' | 279°39.25' | 320°30.08' | S 16°19.85' | **06** |
| **07** | 325°12.06' | 289°59.73' | S 16°56.20' | 323°51.67' | 291°20.13' | S 22°43.45' | 271°38.53' | 343°33.27' | S 8°02.94' | 294°41.42' | 320°30.38' | S 16°19.76' | **07** |
| **08** | 340°12.79' | 290°01.47' | S 16°56.24' | 338°52.14' | 291°22.12' | S 22°43.21' | 286°40.43' | 343°33.83' | S 8°02.71' | 309°43.59' | 320°30.67' | S 16°19.68' | **08** |
| **09** | 355°13.51' | 290°03.21' | S 16°56.28' | 353°52.61' | 291°24.11' | S 22°42.97' | 301°42.33' | 343°34.39' | S 8°02.48' | 324°45.76' | 320°30.96' | S 16°19.59' | **09** |
| **10** | 10°14.23' | 290°04.96' | S 16°56.32' | 8°53.09' | 291°26.10' | S 22°42.73' | 316°44.24' | 343°34.95' | S 8°02.25' | 339°47.93' | 320°31.25' | S 16°19.50' | **10** |
| **11** | 25°14.95' | 290°06.70' | S 16°56.36' | 23°53.56' | 291°28.09' | S 22°42.50' | 331°46.14' | 343°35.51' | S 8°02.02' | 354°50.10' | 320°31.55' | S 16°19.42' | **11** |
| **12** | 40°15.66' | 290°08.45' | S 16°56.40' | 38°54.04' | 291°30.07' | S 22°42.26' | 346°48.04' | 343°36.07' | S 8°01.79' | 9°52.27' | 320°31.84' | S 16°19.33' | **12** |
| **13** | 55°16.37' | 290°10.20' | S 16°56.44' | 53°54.51' | 291°32.06' | S 22°42.02' | 1°49.95' | 343°36.63' | S 8°01.57' | 24°54.44' | 320°32.13' | S 16°19.24' | **13** |
| **14** | 70°17.09' | 290°11.96' | S 16°56.48' | 68°54.99' | 291°34.05' | S 22°41.78' | 16°51.85' | 343°37.19' | S 8°01.34' | 39°56.62' | 320°32.43' | S 16°19.15' | **14** |
| **15** | 85°17.79' | 290°13.71' | S 16°56.51' | 83°55.46' | 291°36.04' | S 22°41.54' | 31°53.75' | 343°37.75' | S 8°01.11' | 54°58.79' | 320°32.72' | S 16°19.07' | **15** |
| **16** | 100°18.50' | 290°15.47' | S 16°56.55' | 98°55.94' | 291°38.03' | S 22°41.30' | 46°55.66' | 343°38.31' | S 8°00.88' | 70°00.96' | 320°33.01' | S 16°18.98' | **16** |
| **17** | 115°19.21' | 290°17.23' | S 16°56.59' | 113°56.41' | 291°40.02' | S 22°41.06' | 61°57.56' | 343°38.87' | S 8°00.65' | 85°03.13' | 320°33.30' | S 16°18.89' | **17** |
| **18** | 130°19.91' | 290°18.99' | S 16°56.62' | 128°56.89' | 291°42.01' | S 22°40.82' | 76°59.46' | 343°39.43' | S 8°00.42' | 100°05.30' | 320°33.60' | S 16°18.81' | **18** |
| **19** | 145°20.61' | 290°20.75' | S 16°56.66' | 143°57.36' | 291°44.00' | S 22°40.57' | 92°01.37' | 343°39.99' | S 8°00.20' | 115°07.47' | 320°33.89' | S 16°18.72' | **19** |
| **20** | 160°21.31' | 290°22.52' | S 16°56.69' | 158°57.84' | 291°45.99' | S 22°40.33' | 107°03.27' | 343°40.55' | S 7°59.97' | 130°09.65' | 320°34.18' | S 16°18.63' | **20** |
| **21** | 175°22.00' | 290°24.28' | S 16°56.73' | 173°58.31' | 291°47.97' | S 22°40.09' | 122°05.17' | 343°41.11' | S 7°59.74' | 145°11.82' | 320°34.47' | S 16°18.55' | **21** |
| **22** | 190°22.70' | 290°26.05' | S 16°56.76' | 188°58.79' | 291°49.96' | S 22°39.85' | 137°07.08' | 343°41.68' | S 7°59.51' | 160°13.99' | 320°34.76' | S 16°18.46' | **22** |
| **23** | 205°23.39' | 290°27.83' | S 16°56.79' | 203°59.27' | 291°51.95' | S 22°39.60' | 152°08.98' | 343°42.24' | S 7°59.28' | 175°16.16' | 320°35.06' | S 16°18.37' | **23** |
| **24** | 220°24.08' | 290°29.60' | S 16°56.83' | 218°59.74' | 291°53.94' | S 22°39.36' | 167°10.88' | 343°42.80' | S 7°59.05' | 190°18.33' | 320°35.35' | S 16°18.29' | **24** |
| | δ 15.0123° | | *d* 0.0436' | δ 15.0079° | | *d* 0.2344' | δ 15.0317° | | *d* 0.2281' | δ 15.0362° | | *d* 0.0869' | |

## *Monday, February 21st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°35.62' | 15.0012° | 334°18.06' | S 10°38.82' | 0.9026' | 307°01.70' | 14.5265° | 203°51.98' | S 7°07.34' | 14.7294' | 58.0063' | 150°53.68' | **00** |
| **01** | 191°35.69' | 15.0012° | 334°20.46' | S 10°37.92' | 0.9029' | 321°33.24' | 14.5256° | 204°22.90' | S 7°22.04' | 14.7034' | 58.0240' | 165°56.15' | **01** |
| **02** | 206°35.76' | 15.0012° | 334°22.85' | S 10°37.01' | 0.9032' | 336°04.73' | 14.5248° | 204°53.88' | S 7°36.72' | 14.6760' | 58.0416' | 180°58.61' | **02** |
| **03** | 221°35.83' | 15.0012° | 334°25.24' | S 10°36.11' | 0.9035' | 350°36.16' | 14.5239° | 205°24.91' | S 7°51.37' | 14.6474' | 58.0592' | 196°01.07' | **03** |
| **04** | 236°35.91' | 15.0012° | 334°27.63' | S 10°35.21' | 0.9038' | 5°07.55' | 14.5230° | 205°55.99' | S 8°05.98' | 14.6174' | 58.0768' | 211°03.54' | **04** |
| **05** | 251°35.98' | 15.0012° | 334°30.02' | S 10°34.30' | 0.9041' | 19°38.87' | 14.5221° | 206°27.13' | S 8°20.57' | 14.5861' | 58.0942' | 226°06.00' | **05** |
| **06** | 266°36.05' | 15.0012° | 334°32.42' | S 10°33.40' | 0.9043' | 34°10.15' | 14.5212° | 206°58.32' | S 8°35.12' | 14.5534' | 58.1117' | 241°08.47' | **06** |
| **07** | 281°36.12' | 15.0012° | 334°34.81' | S 10°32.49' | 0.9046' | 48°41.37' | 14.5203° | 207°29.56' | S 8°49.64' | 14.5194' | 58.1290' | 256°10.93' | **07** |
| **08** | 296°36.20' | 15.0012° | 334°37.20' | S 10°31.59' | 0.9049' | 63°12.53' | 14.5193° | 208°00.87' | S 9°04.13' | 14.4841' | 58.1464' | 271°13.39' | **08** |
| **09** | 311°36.27' | 15.0012° | 334°39.59' | S 10°30.68' | 0.9052' | 77°43.63' | 14.5184° | 208°32.23' | S 9°18.58' | 14.4474' | 58.1636' | 286°15.86' | **09** |
| **10** | 326°36.34' | 15.0012° | 334°41.98' | S 10°29.78' | 0.9055' | 92°14.67' | 14.5174° | 209°03.65' | S 9°32.98' | 14.4094' | 58.1808' | 301°18.32' | **10** |
| **11** | 341°36.42' | 15.0012° | 334°44.37' | S 10°28.87' | 0.9058' | 106°45.65' | 14.5164° | 209°35.13' | S 9°47.35' | 14.3700' | 58.1980' | 316°20.79' | **11** |
| **12** | 356°36.49' | 15.0012° | 334°46.76' | S 10°27.97' | 0.9060' | 121°16.57' | 14.5153° | 210°06.68' | S 10°01.68' | 14.3293' | 58.2151' | 331°23.25' | **12** |
| **13** | 11°36.57' | 15.0012° | 334°49.15' | S 10°27.06' | 0.9063' | 135°47.43' | 14.5143° | 210°38.28' | S 10°15.97' | 14.2871' | 58.2321' | 346°25.71' | **13** |
| **14** | 26°36.64' | 15.0012° | 334°51.54' | S 10°26.15' | 0.9066' | 150°18.22' | 14.5132° | 211°09.96' | S 10°30.21' | 14.2436' | 58.2491' | 1°28.18' | **14** |
| **15** | 41°36.72' | 15.0013° | 334°53.93' | S 10°25.25' | 0.9069' | 164°48.95' | 14.5122° | 211°41.69' | S 10°44.41' | 14.1987' | 58.2660' | 16°30.64' | **15** |
| **16** | 56°36.79' | 15.0013° | 334°56.31' | S 10°24.34' | 0.9072' | 179°19.62' | 14.5111° | 212°13.49' | S 10°58.57' | 14.1524' | 58.2828' | 31°33.11' | **16** |
| **17** | 71°36.87' | 15.0013° | 334°58.70' | S 10°23.43' | 0.9075' | 193°50.21' | 14.5099° | 212°45.36' | S 11°12.67' | 14.1047' | 58.2996' | 46°35.57' | **17** |
| **18** | 86°36.94' | 15.0013° | 335°01.09' | S 10°22.52' | 0.9077' | 208°20.74' | 14.5088° | 213°17.29' | S 11°26.73' | 14.0556' | 58.3164' | 61°38.03' | **18** |
| **19** | 101°37.02' | 15.0013° | 335°03.48' | S 10°21.62' | 0.9080' | 222°51.20' | 14.5077° | 213°49.30' | S 11°40.73' | 14.0050' | 58.3331' | 76°40.50' | **19** |
| **20** | 116°37.10' | 15.0013° | 335°05.87' | S 10°20.71' | 0.9083' | 237°21.59' | 14.5065° | 214°21.37' | S 11°54.68' | 13.9531' | 58.3497' | 91°42.96' | **20** |
| **21** | 131°37.17' | 15.0013° | 335°08.25' | S 10°19.80' | 0.9086' | 251°51.91' | 14.5053° | 214°53.52' | S 12°08.58' | 13.8997' | 58.3663' | 106°45.43' | **21** |
| **22** | 146°37.25' | 15.0013° | 335°10.64' | S 10°18.89' | 0.9089' | 266°22.15' | 14.5041° | 215°25.74' | S 12°22.43' | 13.8449' | 58.3828' | 121°47.89' | **22** |
| **23** | 161°37.33' | 15.0013° | 335°13.03' | S 10°17.98' | 0.9091' | 280°52.33' | 14.5029° | 215°58.03' | S 12°36.22' | 13.7887' | 58.3992' | 136°50.36' | **23** |
| **24** | 176°37.41' | 15.0013° | 335°15.41' | S 10°17.07' | 0.9094' | 295°22.43' | 14.5017° | 216°30.39' | S 12°49.95' | 13.7310' | 58.4156' | 151°52.82' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.1725' | hp (π) 0.1482' | ½Ø 15.8625' | 76.0517655487464<br>6% -gib | |
| EoT at 12:00 UTC : -13m 34s (δ 0.30 s/h) | | Phase at 12:00 UTC : 238.70° | | |
| Meridian Pass. Time : 12:13:34.030 | | Age : 18.6 day(s) | | |

| UT | Venus ♀ (π 0.31') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 220°24.08' | 290°29.60' | S 16°56.83' | 218°59.74' | 291°53.94' | S 22°39.36' | 167°10.88' | 343°42.80' | S 7°59.05' | 190°18.33' | 320°35.35' | S 16°18.29' | **00** |
| **01** | 235°24.77' | 290°31.38' | S 16°56.86' | 234°00.22' | 291°55.93' | S 22°39.12' | 182°12.79' | 343°43.36' | S 7°58.82' | 205°20.50' | 320°35.64' | S 16°18.20' | **01** |
| **02** | 250°25.45' | 290°33.15' | S 16°56.89' | 249°00.69' | 291°57.92' | S 22°38.87' | 197°14.69' | 343°43.92' | S 7°58.60' | 220°22.68' | 320°35.93' | S 16°18.11' | **02** |
| **03** | 265°26.14' | 290°34.94' | S 16°56.92' | 264°01.17' | 291°59.91' | S 22°38.63' | 212°16.59' | 343°44.48' | S 7°58.37' | 235°24.85' | 320°36.23' | S 16°18.03' | **03** |
| **04** | 280°26.82' | 290°36.72' | S 16°56.95' | 279°01.64' | 292°01.89' | S 22°38.38' | 227°18.50' | 343°45.04' | S 7°58.14' | 250°27.02' | 320°36.52' | S 16°17.94' | **04** |
| **05** | 295°27.50' | 290°38.50' | S 16°56.98' | 294°02.12' | 292°03.88' | S 22°38.14' | 242°20.40' | 343°45.60' | S 7°57.91' | 265°29.19' | 320°36.81' | S 16°17.85' | **05** |
| **06** | 310°28.18' | 290°40.29' | S 16°57.01' | 309°02.59' | 292°05.87' | S 22°37.89' | 257°22.30' | 343°46.16' | S 7°57.68' | 280°31.36' | 320°37.10' | S 16°17.77' | **06** |
| **07** | 325°28.85' | 290°42.08' | S 16°57.04' | 324°03.07' | 292°07.86' | S 22°37.64' | 272°24.21' | 343°46.72' | S 7°57.45' | 295°33.54' | 320°37.39' | S 16°17.68' | **07** |
| **08** | 340°29.53' | 290°43.87' | S 16°57.07' | 339°03.55' | 292°09.85' | S 22°37.40' | 287°26.11' | 343°47.28' | S 7°57.22' | 310°35.71' | 320°37.69' | S 16°17.59' | **08** |
| **09** | 355°30.20' | 290°45.66' | S 16°57.10' | 354°04.02' | 292°11.84' | S 22°37.15' | 302°28.01' | 343°47.84' | S 7°56.99' | 325°37.88' | 320°37.98' | S 16°17.51' | **09** |
| **10** | 10°30.87' | 290°47.46' | S 16°57.13' | 9°04.50' | 292°13.82' | S 22°36.90' | 317°29.92' | 343°48.41' | S 7°56.77' | 340°40.05' | 320°38.27' | S 16°17.42' | **10** |
| **11** | 25°31.53' | 290°49.25' | S 16°57.15' | 24°04.97' | 292°15.81' | S 22°36.65' | 332°31.82' | 343°48.97' | S 7°56.54' | 355°42.22' | 320°38.56' | S 16°17.33' | **11** |
| **12** | 40°32.20' | 290°51.05' | S 16°57.18' | 39°05.45' | 292°17.80' | S 22°36.40' | 347°33.72' | 343°49.53' | S 7°56.31' | 10°44.40' | 320°38.85' | S 16°17.25' | **12** |
| **13** | 55°32.86' | 290°52.85' | S 16°57.21' | 54°05.93' | 292°19.79' | S 22°36.16' | 2°35.63' | 343°50.09' | S 7°56.08' | 25°46.57' | 320°39.15' | S 16°17.16' | **13** |
| **14** | 70°33.52' | 290°54.66' | S 16°57.23' | 69°06.40' | 292°21.78' | S 22°35.91' | 17°37.53' | 343°50.65' | S 7°55.85' | 40°48.74' | 320°39.44' | S 16°17.07' | **14** |
| **15** | 85°34.18' | 290°56.46' | S 16°57.26' | 84°06.88' | 292°23.76' | S 22°35.66' | 32°39.43' | 343°51.21' | S 7°55.62' | 55°50.91' | 320°39.73' | S 16°16.99' | **15** |
| **16** | 100°34.84' | 290°58.27' | S 16°57.28' | 99°07.36' | 292°25.75' | S 22°35.41' | 47°41.33' | 343°51.77' | S 7°55.39' | 70°53.09' | 320°40.02' | S 16°16.90' | **16** |
| **17** | 115°35.49' | 291°00.08' | S 16°57.31' | 114°07.83' | 292°27.74' | S 22°35.16' | 62°43.24' | 343°52.33' | S 7°55.16' | 85°55.26' | 320°40.31' | S 16°16.81' | **17** |
| **18** | 130°36.14' | 291°01.89' | S 16°57.33' | 129°08.31' | 292°29.73' | S 22°34.90' | 77°45.14' | 343°52.89' | S 7°54.93' | 100°57.43' | 320°40.60' | S 16°16.73' | **18** |
| **19** | 145°36.80' | 291°03.70' | S 16°57.35' | 144°08.79' | 292°31.71' | S 22°34.65' | 92°47.04' | 343°53.46' | S 7°54.71' | 115°59.60' | 320°40.90' | S 16°16.64' | **19** |
| **20** | 160°37.44' | 291°05.52' | S 16°57.38' | 159°09.26' | 292°33.70' | S 22°34.40' | 107°48.95' | 343°54.02' | S 7°54.48' | 131°01.77' | 320°41.19' | S 16°16.55' | **20** |
| **21** | 175°38.09' | 291°07.34' | S 16°57.40' | 174°09.74' | 292°35.69' | S 22°34.15' | 122°50.85' | 343°54.58' | S 7°54.25' | 146°03.95' | 320°41.48' | S 16°16.47' | **21** |
| **22** | 190°38.73' | 291°09.16' | S 16°57.42' | 189°10.22' | 292°37.68' | S 22°33.90' | 137°52.75' | 343°55.14' | S 7°54.02' | 161°06.12' | 320°41.77' | S 16°16.38' | **22** |
| **23** | 205°39.38' | 291°10.98' | S 16°57.44' | 204°10.69' | 292°39.66' | S 22°33.64' | 152°54.65' | 343°55.70' | S 7°53.79' | 176°08.29' | 320°42.06' | S 16°16.29' | **23** |
| **24** | 220°40.02' | 291°12.80' | S 16°57.46' | 219°11.17' | 292°41.65' | S 22°33.39' | 167°56.56' | 343°56.26' | S 7°53.56' | 191°10.47' | 320°42.35' | S 16°16.21' | **24** |
| | δ 15.0115° | | *d* 0.0323' | δ 15.0079° | | *d* 0.2441' | δ 15.0317° | | *d* 0.2286' | δ 15.0362° | | *d* 0.0868' | |

## *Tuesday, February 22nd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°37.41' | 15.0013° | 335°15.41' | S 10°17.07' | 0.9094' | 295°22.43' | 14.5017° | 216°30.39' | S 12°49.95' | 13.7310' | 58.4156' | 151°52.82' | **00** |
| **01** | 191°37.48' | 15.0013° | 335°17.80' | S 10°16.16' | 0.9097' | 309°52.45' | 14.5004° | 217°02.83' | S 13°03.62' | 13.6719' | 58.4319' | 166°55.28' | **01** |
| **02** | 206°37.56' | 15.0013° | 335°20.19' | S 10°15.25' | 0.9100' | 324°22.40' | 14.4991° | 217°35.35' | S 13°17.23' | 13.6113' | 58.4482' | 181°57.75' | **02** |
| **03** | 221°37.64' | 15.0013° | 335°22.57' | S 10°14.34' | 0.9102' | 338°52.27' | 14.4979° | 218°07.94' | S 13°30.78' | 13.5492' | 58.4644' | 197°00.21' | **03** |
| **04** | 236°37.72' | 15.0013° | 335°24.96' | S 10°13.43' | 0.9105' | 353°22.07' | 14.4966° | 218°40.61' | S 13°44.27' | 13.4857' | 58.4805' | 212°02.68' | **04** |
| **05** | 251°37.80' | 15.0013° | 335°27.34' | S 10°12.52' | 0.9108' | 7°51.78' | 14.4953° | 219°13.36' | S 13°57.69' | 13.4207' | 58.4966' | 227°05.14' | **05** |
| **06** | 266°37.88' | 15.0013° | 335°29.73' | S 10°11.61' | 0.9111' | 22°21.42' | 14.4939° | 219°46.19' | S 14°11.04' | 13.3542' | 58.5126' | 242°07.60' | **06** |
| **07** | 281°37.96' | 15.0013° | 335°32.11' | S 10°10.70' | 0.9113' | 36°50.97' | 14.4926° | 220°19.09' | S 14°24.33' | 13.2862' | 58.5285' | 257°10.07' | **07** |
| **08** | 296°38.04' | 15.0013° | 335°34.50' | S 10°09.79' | 0.9116' | 51°20.45' | 14.4912° | 220°52.08' | S 14°37.54' | 13.2167' | 58.5444' | 272°12.53' | **08** |
| **09** | 311°38.12' | 15.0013° | 335°36.88' | S 10°08.88' | 0.9119' | 65°49.84' | 14.4899° | 221°25.16' | S 14°50.69' | 13.1458' | 58.5602' | 287°15.00' | **09** |
| **10** | 326°38.20' | 15.0013° | 335°39.26' | S 10°07.96' | 0.9122' | 80°19.15' | 14.4885° | 221°58.31' | S 15°03.76' | 13.0733' | 58.5760' | 302°17.46' | **10** |
| **11** | 341°38.28' | 15.0013° | 335°41.65' | S 10°07.05' | 0.9124' | 94°48.37' | 14.4871° | 222°31.55' | S 15°16.76' | 12.9993' | 58.5917' | 317°19.92' | **11** |
| **12** | 356°38.36' | 15.0013° | 335°44.03' | S 10°06.14' | 0.9127' | 109°17.52' | 14.4857° | 223°04.87' | S 15°29.69' | 12.9238' | 58.6073' | 332°22.39' | **12** |
| **13** | 11°38.44' | 15.0013° | 335°46.41' | S 10°05.23' | 0.9130' | 123°46.57' | 14.4843° | 223°38.28' | S 15°42.53' | 12.8468' | 58.6228' | 347°24.85' | **13** |
| **14** | 26°38.52' | 15.0014° | 335°48.80' | S 10°04.31' | 0.9133' | 138°15.54' | 14.4828° | 224°11.78' | S 15°55.30' | 12.7682' | 58.6383' | 2°27.32' | **14** |
| **15** | 41°38.60' | 15.0014° | 335°51.18' | S 10°03.40' | 0.9135' | 152°44.42' | 14.4814° | 224°45.36' | S 16°07.99' | 12.6881' | 58.6537' | 17°29.78' | **15** |
| **16** | 56°38.68' | 15.0014° | 335°53.56' | S 10°02.48' | 0.9138' | 167°13.22' | 14.4799° | 225°19.03' | S 16°20.60' | 12.6065' | 58.6691' | 32°32.24' | **16** |
| **17** | 71°38.76' | 15.0014° | 335°55.94' | S 10°01.57' | 0.9141' | 181°41.92' | 14.4784° | 225°52.79' | S 16°33.12' | 12.5233' | 58.6843' | 47°34.71' | **17** |
| **18** | 86°38.85' | 15.0014° | 335°58.33' | S 10°00.66' | 0.9143' | 196°10.54' | 14.4770° | 226°26.63' | S 16°45.56' | 12.4386' | 58.6995' | 62°37.17' | **18** |
| **19** | 101°38.93' | 15.0014° | 336°00.71' | S 9°59.74' | 0.9146' | 210°39.07' | 14.4755° | 227°00.57' | S 16°57.91' | 12.3523' | 58.7146' | 77°39.64' | **19** |
| **20** | 116°39.01' | 15.0014° | 336°03.09' | S 9°58.83' | 0.9149' | 225°07.50' | 14.4740° | 227°34.60' | S 17°10.17' | 12.2645' | 58.7297' | 92°42.10' | **20** |
| **21** | 131°39.09' | 15.0014° | 336°05.47' | S 9°57.91' | 0.9151' | 239°35.85' | 14.4724° | 228°08.71' | S 17°22.35' | 12.1751' | 58.7447' | 107°44.57' | **21** |
| **22** | 146°39.18' | 15.0014° | 336°07.85' | S 9°57.00' | 0.9154' | 254°04.11' | 14.4709° | 228°42.92' | S 17°34.43' | 12.0842' | 58.7596' | 122°47.03' | **22** |
| **23** | 161°39.26' | 15.0014° | 336°10.23' | S 9°56.08' | 0.9157' | 268°32.27' | 14.4694° | 229°17.23' | S 17°46.43' | 11.9917' | 58.7744' | 137°49.49' | **23** |
| **24** | 176°39.35' | 15.0014° | 336°12.61' | S 9°55.16' | 0.9159' | 283°00.34' | 14.4678° | 229°51.62' | S 17°58.32' | 11.8976' | 58.7891' | 152°51.96' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1688' | hp (π) 0.1482' | ½Ø 15.9694' | 66.0400157341090<br>2% -gib |
| | EoT at 12:00 UTC : -13m 26s (δ 0.32 s/h) | | Phase at 12:00 UTC : 251.42° | |
| | Meridian Pass. Time : 12:13:26.574 | | Age : 19.6 day(s) | |

| UT | Venus ♀ (π 0.31') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 220°40.02' | 291°12.80' | S 16°57.46' | 219°11.17' | 292°41.65' | S 22°33.39' | 167°56.56' | 343°56.26' | S 7°53.56' | 191°10.47' | 320°42.35' | S 16°16.21' | **00** |
| **01** | 235°40.66' | 291°14.63' | S 16°57.48' | 234°11.65' | 292°43.64' | S 22°33.14' | 182°58.46' | 343°56.82' | S 7°53.33' | 206°12.64' | 320°42.65' | S 16°16.12' | **01** |
| **02** | 250°41.29' | 291°16.45' | S 16°57.50' | 249°12.12' | 292°45.62' | S 22°32.88' | 198°00.36' | 343°57.38' | S 7°53.10' | 221°14.81' | 320°42.94' | S 16°16.03' | **02** |
| **03** | 265°41.93' | 291°18.28' | S 16°57.52' | 264°12.60' | 292°47.61' | S 22°32.63' | 213°02.27' | 343°57.95' | S 7°52.87' | 236°16.98' | 320°43.23' | S 16°15.95' | **03** |
| **04** | 280°42.56' | 291°20.12' | S 16°57.54' | 279°13.08' | 292°49.60' | S 22°32.37' | 228°04.17' | 343°58.51' | S 7°52.64' | 251°19.16' | 320°43.52' | S 16°15.86' | **04** |
| **05** | 295°43.19' | 291°21.95' | S 16°57.56' | 294°13.55' | 292°51.59' | S 22°32.12' | 243°06.07' | 343°59.07' | S 7°52.41' | 266°21.33' | 320°43.81' | S 16°15.77' | **05** |
| **06** | 310°43.82' | 291°23.79' | S 16°57.58' | 309°14.03' | 292°53.57' | S 22°31.86' | 258°07.97' | 343°59.63' | S 7°52.19' | 281°23.50' | 320°44.10' | S 16°15.69' | **06** |
| **07** | 325°44.45' | 291°25.62' | S 16°57.60' | 324°14.51' | 292°55.56' | S 22°31.61' | 273°09.88' | 344°00.19' | S 7°51.96' | 296°25.67' | 320°44.39' | S 16°15.60' | **07** |
| **08** | 340°45.07' | 291°27.46' | S 16°57.61' | 339°14.99' | 292°57.55' | S 22°31.35' | 288°11.78' | 344°00.75' | S 7°51.73' | 311°27.85' | 320°44.68' | S 16°15.51' | **08** |
| **09** | 355°45.69' | 291°29.30' | S 16°57.63' | 354°15.46' | 292°59.53' | S 22°31.09' | 303°13.68' | 344°01.31' | S 7°51.50' | 326°30.02' | 320°44.98' | S 16°15.43' | **09** |
| **10** | 10°46.31' | 291°31.15' | S 16°57.64' | 9°15.94' | 293°01.52' | S 22°30.83' | 318°15.59' | 344°01.87' | S 7°51.27' | 341°32.19' | 320°45.27' | S 16°15.34' | **10** |
| **11** | 25°46.93' | 291°32.99' | S 16°57.66' | 24°16.42' | 293°03.51' | S 22°30.58' | 333°17.49' | 344°02.44' | S 7°51.04' | 356°34.37' | 320°45.56' | S 16°15.25' | **11** |
| **12** | 40°47.55' | 291°34.84' | S 16°57.67' | 39°16.90' | 293°05.49' | S 22°30.32' | 348°19.39' | 344°03.00' | S 7°50.81' | 11°36.54' | 320°45.85' | S 16°15.17' | **12** |
| **13** | 55°48.16' | 291°36.69' | S 16°57.69' | 54°17.37' | 293°07.48' | S 22°30.06' | 3°21.29' | 344°03.56' | S 7°50.58' | 26°38.71' | 320°46.14' | S 16°15.08' | **13** |
| **14** | 70°48.77' | 291°38.54' | S 16°57.70' | 69°17.85' | 293°09.46' | S 22°29.80' | 18°23.20' | 344°04.12' | S 7°50.35' | 41°40.89' | 320°46.43' | S 16°14.99' | **14** |
| **15** | 85°49.39' | 291°40.40' | S 16°57.71' | 84°18.33' | 293°11.45' | S 22°29.54' | 33°25.10' | 344°04.68' | S 7°50.12' | 56°43.06' | 320°46.72' | S 16°14.91' | **15** |
| **16** | 100°49.99' | 291°42.25' | S 16°57.73' | 99°18.81' | 293°13.44' | S 22°29.28' | 48°27.00' | 344°05.24' | S 7°49.89' | 71°45.23' | 320°47.01' | S 16°14.82' | **16** |
| **17** | 115°50.60' | 291°44.11' | S 16°57.74' | 114°19.29' | 293°15.42' | S 22°29.02' | 63°28.90' | 344°05.80' | S 7°49.66' | 86°47.41' | 320°47.30' | S 16°14.73' | **17** |
| **18** | 130°51.21' | 291°45.97' | S 16°57.75' | 129°19.76' | 293°17.41' | S 22°28.76' | 78°30.81' | 344°06.37' | S 7°49.43' | 101°49.58' | 320°47.59' | S 16°14.65' | **18** |
| **19** | 145°51.81' | 291°47.83' | S 16°57.76' | 144°20.24' | 293°19.40' | S 22°28.50' | 93°32.71' | 344°06.93' | S 7°49.20' | 116°51.75' | 320°47.89' | S 16°14.56' | **19** |
| **20** | 160°52.41' | 291°49.69' | S 16°57.77' | 159°20.72' | 293°21.38' | S 22°28.24' | 108°34.61' | 344°07.49' | S 7°48.98' | 131°53.93' | 320°48.18' | S 16°14.47' | **20** |
| **21** | 175°53.01' | 291°51.56' | S 16°57.78' | 174°21.20' | 293°23.37' | S 22°27.98' | 123°36.51' | 344°08.05' | S 7°48.75' | 146°56.10' | 320°48.47' | S 16°14.39' | **21** |
| **22** | 190°53.60' | 291°53.42' | S 16°57.79' | 189°21.68' | 293°25.35' | S 22°27.71' | 138°38.42' | 344°08.61' | S 7°48.52' | 161°58.27' | 320°48.76' | S 16°14.30' | **22** |
| **23** | 205°54.20' | 291°55.29' | S 16°57.80' | 204°22.15' | 293°27.34' | S 22°27.45' | 153°40.32' | 344°09.17' | S 7°48.29' | 177°00.45' | 320°49.05' | S 16°14.21' | **23** |
| **24** | 220°54.79' | 291°57.16' | S 16°57.81' | 219°22.63' | 293°29.33' | S 22°27.19' | 168°42.22' | 344°09.74' | S 7°48.06' | 192°02.62' | 320°49.34' | S 16°14.13' | **24** |
| | δ 15.0106° | | *d* 0.0203' | δ 15.0079° | | *d* 0.2538' | δ 15.0317° | | *d* 0.2291' | δ 15.0362° | | *d* 0.0867' | |

## *Wednesday, February 23rd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°39.35' | 15.0014° | 336°12.61' | S 9°55.16' | 0.9159' | 283°00.34' | 14.4678° | 229°51.62' | S 17°58.32' | 11.8976' | 58.7891' | 152°51.96' | **00** |
| **01** | 191°39.43' | 15.0014° | 336°14.99' | S 9°54.25' | 0.9162' | 297°28.32' | 14.4663° | 230°26.11' | S 18°10.13' | 11.8019' | 58.8038' | 167°54.42' | **01** |
| **02** | 206°39.51' | 15.0014° | 336°17.37' | S 9°53.33' | 0.9165' | 311°56.20' | 14.4647° | 231°00.69' | S 18°21.83' | 11.7047' | 58.8184' | 182°56.89' | **02** |
| **03** | 221°39.60' | 15.0014° | 336°19.75' | S 9°52.42' | 0.9167' | 326°23.99' | 14.4632° | 231°35.36' | S 18°33.44' | 11.6059' | 58.8329' | 197°59.35' | **03** |
| **04** | 236°39.68' | 15.0014° | 336°22.13' | S 9°51.50' | 0.9170' | 340°51.68' | 14.4616° | 232°10.13' | S 18°44.94' | 11.5055' | 58.8474' | 213°01.81' | **04** |
| **05** | 251°39.77' | 15.0014° | 336°24.51' | S 9°50.58' | 0.9173' | 355°19.29' | 14.4600° | 232°44.99' | S 18°56.34' | 11.4035' | 58.8617' | 228°04.28' | **05** |
| **06** | 266°39.85' | 15.0014° | 336°26.89' | S 9°49.66' | 0.9175' | 9°46.79' | 14.4584° | 233°19.95' | S 19°07.64' | 11.2999' | 58.8760' | 243°06.74' | **06** |
| **07** | 281°39.94' | 15.0014° | 336°29.27' | S 9°48.75' | 0.9178' | 24°14.20' | 14.4568° | 233°55.01' | S 19°18.84' | 11.1948' | 58.8902' | 258°09.21' | **07** |
| **08** | 296°40.03' | 15.0014° | 336°31.65' | S 9°47.83' | 0.9181' | 38°41.52' | 14.4552° | 234°30.16' | S 19°29.93' | 11.0880' | 58.9043' | 273°11.67' | **08** |
| **09** | 311°40.11' | 15.0014° | 336°34.02' | S 9°46.91' | 0.9183' | 53°08.73' | 14.4536° | 235°05.40' | S 19°40.91' | 10.9797' | 58.9183' | 288°14.13' | **09** |
| **10** | 326°40.20' | 15.0014° | 336°36.40' | S 9°45.99' | 0.9186' | 67°35.86' | 14.4520° | 235°40.74' | S 19°51.78' | 10.8698' | 58.9322' | 303°16.60' | **10** |
| **11** | 341°40.28' | 15.0014° | 336°38.78' | S 9°45.07' | 0.9189' | 82°02.88' | 14.4504° | 236°16.18' | S 20°02.54' | 10.7583' | 58.9460' | 318°19.06' | **11** |
| **12** | 356°40.37' | 15.0014° | 336°41.16' | S 9°44.15' | 0.9191' | 96°29.81' | 14.4488° | 236°51.72' | S 20°13.18' | 10.6452' | 58.9598' | 333°21.53' | **12** |
| **13** | 11°40.46' | 15.0015° | 336°43.53' | S 9°43.23' | 0.9194' | 110°56.64' | 14.4472° | 237°27.35' | S 20°23.71' | 10.5306' | 58.9734' | 348°23.99' | **13** |
| **14** | 26°40.55' | 15.0015° | 336°45.91' | S 9°42.31' | 0.9196' | 125°23.38' | 14.4456° | 238°03.08' | S 20°34.13' | 10.4143' | 58.9870' | 3°26.46' | **14** |
| **15** | 41°40.63' | 15.0015° | 336°48.29' | S 9°41.39' | 0.9199' | 139°50.02' | 14.4440° | 238°38.90' | S 20°44.42' | 10.2965' | 59.0005' | 18°28.92' | **15** |
| **16** | 56°40.72' | 15.0015° | 336°50.66' | S 9°40.47' | 0.9202' | 154°16.56' | 14.4424° | 239°14.82' | S 20°54.60' | 10.1771' | 59.0139' | 33°31.38' | **16** |
| **17** | 71°40.81' | 15.0015° | 336°53.04' | S 9°39.55' | 0.9204' | 168°43.01' | 14.4408° | 239°50.84' | S 21°04.65' | 10.0561' | 59.0271' | 48°33.85' | **17** |
| **18** | 86°40.90' | 15.0015° | 336°55.41' | S 9°38.63' | 0.9207' | 183°09.36' | 14.4391° | 240°26.96' | S 21°14.59' | 9.9335' | 59.0403' | 63°36.31' | **18** |
| **19** | 101°40.99' | 15.0015° | 336°57.79' | S 9°37.71' | 0.9209' | 197°35.61' | 14.4375° | 241°03.17' | S 21°24.40' | 9.8093' | 59.0534' | 78°38.78' | **19** |
| **20** | 116°41.08' | 15.0015° | 337°00.17' | S 9°36.79' | 0.9212' | 212°01.76' | 14.4359° | 241°39.48' | S 21°34.08' | 9.6836' | 59.0664' | 93°41.24' | **20** |
| **21** | 131°41.16' | 15.0015° | 337°02.54' | S 9°35.87' | 0.9214' | 226°27.82' | 14.4343° | 242°15.88' | S 21°43.64' | 9.5564' | 59.0793' | 108°43.70' | **21** |
| **22** | 146°41.25' | 15.0015° | 337°04.91' | S 9°34.95' | 0.9217' | 240°53.79' | 14.4327° | 242°52.38' | S 21°53.07' | 9.4276' | 59.0920' | 123°46.17' | **22** |
| **23** | 161°41.34' | 15.0015° | 337°07.29' | S 9°34.03' | 0.9220' | 255°19.66' | 14.4311° | 243°28.98' | S 22°02.36' | 9.2972' | 59.1047' | 138°48.63' | **23** |
| **24** | 176°41.43' | 15.0015° | 337°09.66' | S 9°33.10' | 0.9222' | 269°45.43' | 14.4296° | 244°05.67' | S 22°11.53' | 9.1653' | 59.1173' | 153°51.10' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1650' | hp (π) 0.1481' | ½Ø 16.0654' | 55.0920936541451<br>7% -gib |
| | EoT at 12:00 UTC : -13m 18s (δ 0.35 s/h) | | Phase at 12:00 UTC : 264.30° | |
| | Meridian Pass. Time : 12:13:18.516 | | Age : 20.6 day(s) | |

| UT | Venus ♀ (π 0.30') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 220°54.79' | 291°57.16' | S 16°57.81' | 219°22.63' | 293°29.33' | S 22°27.19' | 168°42.22' | 344°09.74' | S 7°48.06' | 192°02.62' | 320°49.34' | S 16°14.13' | **00** |
| **01** | 235°55.38' | 291°59.04' | S 16°57.81' | 234°23.11' | 293°31.31' | S 22°26.93' | 183°44.12' | 344°10.30' | S 7°47.83' | 207°04.79' | 320°49.63' | S 16°14.04' | **01** |
| **02** | 250°55.97' | 292°00.91' | S 16°57.82' | 249°23.59' | 293°33.30' | S 22°26.66' | 198°46.03' | 344°10.86' | S 7°47.60' | 222°06.97' | 320°49.92' | S 16°13.95' | **02** |
| **03** | 265°56.56' | 292°02.79' | S 16°57.83' | 264°24.07' | 293°35.28' | S 22°26.40' | 213°47.93' | 344°11.42' | S 7°47.37' | 237°09.14' | 320°50.21' | S 16°13.87' | **03** |
| **04** | 280°57.15' | 292°04.67' | S 16°57.83' | 279°24.55' | 293°37.27' | S 22°26.13' | 228°49.83' | 344°11.98' | S 7°47.14' | 252°11.31' | 320°50.50' | S 16°13.78' | **04** |
| **05** | 295°57.73' | 292°06.55' | S 16°57.84' | 294°25.03' | 293°39.25' | S 22°25.87' | 243°51.73' | 344°12.54' | S 7°46.91' | 267°13.49' | 320°50.79' | S 16°13.69' | **05** |
| **06** | 310°58.31' | 292°08.43' | S 16°57.84' | 309°25.50' | 293°41.24' | S 22°25.60' | 258°53.64' | 344°13.11' | S 7°46.68' | 282°15.66' | 320°51.08' | S 16°13.61' | **06** |
| **07** | 325°58.89' | 292°10.32' | S 16°57.85' | 324°25.98' | 293°43.22' | S 22°25.34' | 273°55.54' | 344°13.67' | S 7°46.45' | 297°17.83' | 320°51.37' | S 16°13.52' | **07** |
| **08** | 340°59.47' | 292°12.20' | S 16°57.85' | 339°26.46' | 293°45.21' | S 22°25.07' | 288°57.44' | 344°14.23' | S 7°46.22' | 312°20.01' | 320°51.66' | S 16°13.43' | **08** |
| **09** | 356°00.04' | 292°14.09' | S 16°57.86' | 354°26.94' | 293°47.19' | S 22°24.80' | 303°59.34' | 344°14.79' | S 7°45.99' | 327°22.18' | 320°51.95' | S 16°13.35' | **09** |
| **10** | 11°00.62' | 292°15.98' | S 16°57.86' | 9°27.42' | 293°49.18' | S 22°24.54' | 319°01.25' | 344°15.35' | S 7°45.76' | 342°24.36' | 320°52.24' | S 16°13.26' | **10** |
| **11** | 26°01.19' | 292°17.87' | S 16°57.86' | 24°27.90' | 293°51.16' | S 22°24.27' | 334°03.15' | 344°15.92' | S 7°45.53' | 357°26.53' | 320°52.53' | S 16°13.18' | **11** |
| **12** | 41°01.76' | 292°19.77' | S 16°57.86' | 39°28.38' | 293°53.15' | S 22°24.00' | 349°05.05' | 344°16.48' | S 7°45.30' | 12°28.70' | 320°52.82' | S 16°13.09' | **12** |
| **13** | 56°02.33' | 292°21.66' | S 16°57.86' | 54°28.86' | 293°55.13' | S 22°23.73' | 4°06.95' | 344°17.04' | S 7°45.07' | 27°30.88' | 320°53.11' | S 16°13.00' | **13** |
| **14** | 71°02.89' | 292°23.56' | S 16°57.86' | 69°29.34' | 293°57.12' | S 22°23.46' | 19°08.85' | 344°17.60' | S 7°44.84' | 42°33.05' | 320°53.40' | S 16°12.92' | **14** |
| **15** | 86°03.46' | 292°25.46' | S 16°57.86' | 84°29.82' | 293°59.10' | S 22°23.20' | 34°10.76' | 344°18.16' | S 7°44.61' | 57°35.23' | 320°53.69' | S 16°12.83' | **15** |
| **16** | 101°04.02' | 292°27.36' | S 16°57.86' | 99°30.30' | 294°01.09' | S 22°22.93' | 49°12.66' | 344°18.72' | S 7°44.38' | 72°37.40' | 320°53.98' | S 16°12.74' | **16** |
| **17** | 116°04.58' | 292°29.27' | S 16°57.86' | 114°30.77' | 294°03.07' | S 22°22.66' | 64°14.56' | 344°19.29' | S 7°44.15' | 87°39.57' | 320°54.27' | S 16°12.66' | **17** |
| **18** | 131°05.14' | 292°31.17' | S 16°57.86' | 129°31.25' | 294°05.06' | S 22°22.39' | 79°16.46' | 344°19.85' | S 7°43.92' | 102°41.75' | 320°54.56' | S 16°12.57' | **18** |
| **19** | 146°05.70' | 292°33.08' | S 16°57.86' | 144°31.73' | 294°07.04' | S 22°22.12' | 94°18.37' | 344°20.41' | S 7°43.69' | 117°43.92' | 320°54.85' | S 16°12.48' | **19** |
| **20** | 161°06.25' | 292°34.99' | S 16°57.85' | 159°32.21' | 294°09.03' | S 22°21.85' | 109°20.27' | 344°20.97' | S 7°43.46' | 132°46.10' | 320°55.14' | S 16°12.40' | **20** |
| **21** | 176°06.81' | 292°36.90' | S 16°57.85' | 174°32.69' | 294°11.01' | S 22°21.57' | 124°22.17' | 344°21.53' | S 7°43.23' | 147°48.27' | 320°55.43' | S 16°12.31' | **21** |
| **22** | 191°07.36' | 292°38.81' | S 16°57.85' | 189°33.17' | 294°13.00' | S 22°21.30' | 139°24.07' | 344°22.10' | S 7°43.00' | 162°50.45' | 320°55.72' | S 16°12.22' | **22** |
| **23** | 206°07.91' | 292°40.72' | S 16°57.84' | 204°33.65' | 294°14.98' | S 22°21.03' | 154°25.97' | 344°22.66' | S 7°42.77' | 177°52.62' | 320°56.01' | S 16°12.14' | **23** |
| **24** | 221°08.46' | 292°42.64' | S 16°57.84' | 219°34.13' | 294°16.96' | S 22°20.76' | 169°27.88' | 344°23.22' | S 7°42.54' | 192°54.79' | 320°56.30' | S 16°12.05' | **24** |
| | δ 15.0099° | | *d* 0.0076' | δ 15.0080° | | *d* 0.2634' | δ 15.0317° | | *d* 0.2295' | δ 15.0362° | | *d* 0.0865' | |

## *Thursday, February 24th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°41.43' | 15.0015° | 337°09.66' | S 9°33.10' | 0.9222' | 269°45.43' | 14.4296° | 244°05.67' | S 22°11.53' | 9.1653' | 59.1173' | 153°51.10' | **00** |
| **01** | 191°41.52' | 15.0015° | 337°12.04' | S 9°32.18' | 0.9225' | 284°11.11' | 14.4280° | 244°42.45' | S 22°20.56' | 9.0318' | 59.1297' | 168°53.56' | **01** |
| **02** | 206°41.61' | 15.0015° | 337°14.41' | S 9°31.26' | 0.9227' | 298°36.69' | 14.4264° | 245°19.33' | S 22°29.46' | 8.8968' | 59.1421' | 183°56.03' | **02** |
| **03** | 221°41.70' | 15.0015° | 337°16.78' | S 9°30.33' | 0.9230' | 313°02.18' | 14.4248° | 245°56.31' | S 22°38.22' | 8.7603' | 59.1543' | 198°58.49' | **03** |
| **04** | 236°41.80' | 15.0015° | 337°19.16' | S 9°29.41' | 0.9232' | 327°27.58' | 14.4233° | 246°33.38' | S 22°46.84' | 8.6223' | 59.1665' | 214°00.95' | **04** |
| **05** | 251°41.89' | 15.0015° | 337°21.53' | S 9°28.49' | 0.9235' | 341°52.88' | 14.4217° | 247°10.54' | S 22°55.32' | 8.4828' | 59.1785' | 229°03.42' | **05** |
| **06** | 266°41.98' | 15.0015° | 337°23.90' | S 9°27.56' | 0.9237' | 356°18.09' | 14.4202° | 247°47.79' | S 23°03.66' | 8.3418' | 59.1904' | 244°05.88' | **06** |
| **07** | 281°42.07' | 15.0015° | 337°26.28' | S 9°26.64' | 0.9240' | 10°43.21' | 14.4187° | 248°25.14' | S 23°11.86' | 8.1993' | 59.2021' | 259°08.35' | **07** |
| **08** | 296°42.16' | 15.0015° | 337°28.65' | S 9°25.72' | 0.9242' | 25°08.24' | 14.4171° | 249°02.57' | S 23°19.92' | 8.0554' | 59.2138' | 274°10.81' | **08** |
| **09** | 311°42.25' | 15.0015° | 337°31.02' | S 9°24.79' | 0.9245' | 39°33.18' | 14.4156° | 249°40.10' | S 23°27.83' | 7.9100' | 59.2253' | 289°13.27' | **09** |
| **10** | 326°42.35' | 15.0015° | 337°33.39' | S 9°23.87' | 0.9247' | 53°58.02' | 14.4141° | 250°17.71' | S 23°35.59' | 7.7631' | 59.2367' | 304°15.74' | **10** |
| **11** | 341°42.44' | 15.0015° | 337°35.76' | S 9°22.94' | 0.9250' | 68°22.78' | 14.4127° | 250°55.42' | S 23°43.21' | 7.6148' | 59.2480' | 319°18.20' | **11** |
| **12** | 356°42.53' | 15.0015° | 337°38.13' | S 9°22.02' | 0.9252' | 82°47.46' | 14.4112° | 251°33.21' | S 23°50.67' | 7.4651' | 59.2592' | 334°20.67' | **12** |
| **13** | 11°42.63' | 15.0016° | 337°40.51' | S 9°21.09' | 0.9255' | 97°12.04' | 14.4098° | 252°11.09' | S 23°57.99' | 7.3140' | 59.2702' | 349°23.13' | **13** |
| **14** | 26°42.72' | 15.0016° | 337°42.88' | S 9°20.17' | 0.9257' | 111°36.54' | 14.4083° | 252°49.05' | S 24°05.15' | 7.1615' | 59.2811' | 4°25.60' | **14** |
| **15** | 41°42.81' | 15.0016° | 337°45.25' | S 9°19.24' | 0.9260' | 126°00.96' | 14.4069° | 253°27.10' | S 24°12.15' | 7.0077' | 59.2919' | 19°28.06' | **15** |
| **16** | 56°42.91' | 15.0016° | 337°47.62' | S 9°18.31' | 0.9262' | 140°25.29' | 14.4055° | 254°05.24' | S 24°19.01' | 6.8524' | 59.3025' | 34°30.52' | **16** |
| **17** | 71°43.00' | 15.0016° | 337°49.99' | S 9°17.39' | 0.9265' | 154°49.53' | 14.4041° | 254°43.45' | S 24°25.70' | 6.6959' | 59.3130' | 49°32.99' | **17** |
| **18** | 86°43.09' | 15.0016° | 337°52.36' | S 9°16.46' | 0.9267' | 169°13.70' | 14.4028° | 255°21.75' | S 24°32.24' | 6.5380' | 59.3234' | 64°35.45' | **18** |
| **19** | 101°43.19' | 15.0016° | 337°54.73' | S 9°15.53' | 0.9270' | 183°37.79' | 14.4014° | 256°00.13' | S 24°38.62' | 6.3789' | 59.3336' | 79°37.92' | **19** |
| **20** | 116°43.28' | 15.0016° | 337°57.10' | S 9°14.61' | 0.9272' | 198°01.80' | 14.4001° | 256°38.58' | S 24°44.84' | 6.2184' | 59.3437' | 94°40.38' | **20** |
| **21** | 131°43.38' | 15.0016° | 337°59.47' | S 9°13.68' | 0.9275' | 212°25.73' | 14.3988° | 257°17.12' | S 24°50.89' | 6.0567' | 59.3536' | 109°42.84' | **21** |
| **22** | 146°43.47' | 15.0016° | 338°01.83' | S 9°12.75' | 0.9277' | 226°49.58' | 14.3976° | 257°55.73' | S 24°56.79' | 5.8938' | 59.3634' | 124°45.31' | **22** |
| **23** | 161°43.57' | 15.0016° | 338°04.20' | S 9°11.82' | 0.9279' | 241°13.36' | 14.3963° | 258°34.41' | S 25°02.52' | 5.7297' | 59.3731' | 139°47.77' | **23** |
| **24** | 176°43.67' | 15.0016° | 338°06.57' | S 9°10.89' | 0.9282' | 255°37.07' | 14.3951° | 259°13.17' | S 25°08.08' | 5.5644' | 59.3826' | 154°50.24' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1612' | hp (π) 0.1481' | ½Ø 16.1470' | 43.7501120595442 9% -cre |
| | EoT at 12:00 UTC : -13m 9s (δ 0.37 s/h) | | Phase at 12:00 UTC : 277.33° | |
| | Meridian Pass. Time : 12:13:09.871 | | Age : 21.6 day(s) | |

| UT | Venus ♀ (π 0.30') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 221°08.46' | 292°42.64' | S 16°57.84' | 219°34.13' | 294°16.96' | S 22°20.76' | 169°27.88' | 344°23.22' | S 7°42.54' | 192°54.79' | 320°56.30' | S 16°12.05' | **00** |
| **01** | 236°09.00' | 292°44.56' | S 16°57.83' | 234°34.61' | 294°18.95' | S 22°20.48' | 184°29.78' | 344°23.78' | S 7°42.31' | 207°56.97' | 320°56.59' | S 16°11.97' | **01** |
| **02** | 251°09.55' | 292°46.48' | S 16°57.83' | 249°35.09' | 294°20.93' | S 22°20.21' | 199°31.68' | 344°24.34' | S 7°42.08' | 222°59.14' | 320°56.88' | S 16°11.88' | **02** |
| **03** | 266°10.09' | 292°48.40' | S 16°57.82' | 264°35.57' | 294°22.92' | S 22°19.94' | 214°33.58' | 344°24.91' | S 7°41.85' | 238°01.32' | 320°57.17' | S 16°11.79' | **03** |
| **04** | 281°10.63' | 292°50.32' | S 16°57.81' | 279°36.05' | 294°24.90' | S 22°19.66' | 229°35.49' | 344°25.47' | S 7°41.62' | 253°03.49' | 320°57.46' | S 16°11.71' | **04** |
| **05** | 296°11.17' | 292°52.25' | S 16°57.80' | 294°36.53' | 294°26.88' | S 22°19.39' | 244°37.39' | 344°26.03' | S 7°41.39' | 268°05.67' | 320°57.75' | S 16°11.62' | **05** |
| **06** | 311°11.70' | 292°54.18' | S 16°57.79' | 309°37.01' | 294°28.87' | S 22°19.11' | 259°39.29' | 344°26.59' | S 7°41.16' | 283°07.84' | 320°58.04' | S 16°11.53' | **06** |
| **07** | 326°12.24' | 292°56.11' | S 16°57.79' | 324°37.50' | 294°30.85' | S 22°18.84' | 274°41.19' | 344°27.15' | S 7°40.93' | 298°10.02' | 320°58.33' | S 16°11.45' | **07** |
| **08** | 341°12.77' | 292°58.04' | S 16°57.78' | 339°37.98' | 294°32.83' | S 22°18.56' | 289°43.09' | 344°27.72' | S 7°40.70' | 313°12.19' | 320°58.62' | S 16°11.36' | **08** |
| **09** | 356°13.30' | 292°59.97' | S 16°57.77' | 354°38.46' | 294°34.82' | S 22°18.29' | 304°45.00' | 344°28.28' | S 7°40.47' | 328°14.37' | 320°58.91' | S 16°11.27' | **09** |
| **10** | 11°13.83' | 293°01.91' | S 16°57.75' | 9°38.94' | 294°36.80' | S 22°18.01' | 319°46.90' | 344°28.84' | S 7°40.24' | 343°16.54' | 320°59.20' | S 16°11.19' | **10** |
| **11** | 26°14.36' | 293°03.84' | S 16°57.74' | 24°39.42' | 294°38.78' | S 22°17.73' | 334°48.80' | 344°29.40' | S 7°40.01' | 358°18.72' | 320°59.49' | S 16°11.10' | **11** |
| **12** | 41°14.89' | 293°05.78' | S 16°57.73' | 39°39.90' | 294°40.77' | S 22°17.46' | 349°50.70' | 344°29.97' | S 7°39.78' | 13°20.89' | 320°59.78' | S 16°11.02' | **12** |
| **13** | 56°15.41' | 293°07.72' | S 16°57.72' | 54°40.38' | 294°42.75' | S 22°17.18' | 4°52.60' | 344°30.53' | S 7°39.55' | 28°23.07' | 321°00.07' | S 16°10.93' | **13** |
| **14** | 71°15.93' | 293°09.66' | S 16°57.71' | 69°40.86' | 294°44.73' | S 22°16.90' | 19°54.51' | 344°31.09' | S 7°39.32' | 43°25.24' | 321°00.35' | S 16°10.84' | **14** |
| **15** | 86°16.45' | 293°11.61' | S 16°57.69' | 84°41.34' | 294°46.72' | S 22°16.62' | 34°56.41' | 344°31.65' | S 7°39.09' | 58°27.42' | 321°00.64' | S 16°10.76' | **15** |
| **16** | 101°16.97' | 293°13.55' | S 16°57.68' | 99°41.82' | 294°48.70' | S 22°16.34' | 49°58.31' | 344°32.21' | S 7°38.86' | 73°29.59' | 321°00.93' | S 16°10.67' | **16** |
| **17** | 116°17.49' | 293°15.50' | S 16°57.66' | 114°42.30' | 294°50.68' | S 22°16.06' | 65°00.21' | 344°32.78' | S 7°38.63' | 88°31.77' | 321°01.22' | S 16°10.58' | **17** |
| **18** | 131°18.00' | 293°17.45' | S 16°57.65' | 129°42.79' | 294°52.67' | S 22°15.78' | 80°02.11' | 344°33.34' | S 7°38.40' | 103°33.94' | 321°01.51' | S 16°10.50' | **18** |
| **19** | 146°18.52' | 293°19.40' | S 16°57.63' | 144°43.27' | 294°54.65' | S 22°15.50' | 95°04.01' | 344°33.90' | S 7°38.17' | 118°36.12' | 321°01.80' | S 16°10.41' | **19** |
| **20** | 161°19.03' | 293°21.35' | S 16°57.61' | 159°43.75' | 294°56.63' | S 22°15.22' | 110°05.92' | 344°34.46' | S 7°37.94' | 133°38.29' | 321°02.09' | S 16°10.33' | **20** |
| **21** | 176°19.54' | 293°23.31' | S 16°57.60' | 174°44.23' | 294°58.61' | S 22°14.94' | 125°07.82' | 344°35.03' | S 7°37.71' | 148°40.47' | 321°02.38' | S 16°10.24' | **21** |
| **22** | 191°20.05' | 293°25.26' | S 16°57.58' | 189°44.71' | 295°00.60' | S 22°14.66' | 140°09.72' | 344°35.59' | S 7°37.48' | 163°42.64' | 321°02.67' | S 16°10.15' | **22** |
| **23** | 206°20.55' | 293°27.22' | S 16°57.56' | 204°45.19' | 295°02.58' | S 22°14.38' | 155°11.62' | 344°36.15' | S 7°37.25' | 178°44.82' | 321°02.96' | S 16°10.07' | **23** |
| **24** | 221°21.06' | 293°29.18' | S 16°57.54' | 219°45.67' | 295°04.56' | S 22°14.10' | 170°13.52' | 344°36.71' | S 7°37.02' | 193°46.99' | 321°03.24' | S 16°09.98' | **24** |
| | δ 15.0091° | | *d* 0.0057' | δ 15.0080° | | *d* 0.2730' | δ 15.0317° | | *d* 0.2299' | δ 15.0362° | | *d* 0.0864' | |

## *Friday, February 25th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°43.67' | 15.0016° | 338°06.57' | S 9°10.89' | 0.9282' | 255°37.07' | 14.3951° | 259°13.17' | S 25°08.08' | 5.5644' | 59.3826' | 154°50.24' | **00** |
| **01** | 191°43.76' | 15.0016° | 338°08.94' | S 9°09.97' | 0.9284' | 270°00.70' | 14.3939° | 259°52.00' | S 25°13.48' | 5.3979' | 59.3919' | 169°52.70' | **01** |
| **02** | 206°43.86' | 15.0016° | 338°11.31' | S 9°09.04' | 0.9287' | 284°24.27' | 14.3927° | 260°30.90' | S 25°18.71' | 5.2302' | 59.4011' | 184°55.17' | **02** |
| **03** | 221°43.96' | 15.0016° | 338°13.67' | S 9°08.11' | 0.9289' | 298°47.76' | 14.3916° | 261°09.87' | S 25°23.77' | 5.0615' | 59.4101' | 199°57.63' | **03** |
| **04** | 236°44.05' | 15.0016° | 338°16.04' | S 9°07.18' | 0.9292' | 313°11.19' | 14.3905° | 261°48.90' | S 25°28.66' | 4.8916' | 59.4190' | 215°00.09' | **04** |
| **05** | 251°44.15' | 15.0016° | 338°18.41' | S 9°06.25' | 0.9294' | 327°34.56' | 14.3894° | 262°28.00' | S 25°33.38' | 4.7208' | 59.4277' | 230°02.56' | **05** |
| **06** | 266°44.25' | 15.0016° | 338°20.78' | S 9°05.32' | 0.9296' | 341°57.86' | 14.3883° | 263°07.17' | S 25°37.93' | 4.5488' | 59.4362' | 245°05.02' | **06** |
| **07** | 281°44.34' | 15.0016° | 338°23.14' | S 9°04.39' | 0.9299' | 356°21.09' | 14.3873° | 263°46.39' | S 25°42.31' | 4.3759' | 59.4446' | 260°07.49' | **07** |
| **08** | 296°44.44' | 15.0016° | 338°25.51' | S 9°03.46' | 0.9301' | 10°44.27' | 14.3863° | 264°25.68' | S 25°46.51' | 4.2020' | 59.4528' | 275°09.95' | **08** |
| **09** | 311°44.54' | 15.0016° | 338°27.87' | S 9°02.53' | 0.9304' | 25°07.39' | 14.3853° | 265°05.02' | S 25°50.54' | 4.0271' | 59.4609' | 290°12.41' | **09** |
| **10** | 326°44.64' | 15.0016° | 338°30.24' | S 9°01.60' | 0.9306' | 39°30.46' | 14.3844° | 265°44.42' | S 25°54.39' | 3.8513' | 59.4688' | 305°14.88' | **10** |
| **11** | 341°44.74' | 15.0016° | 338°32.61' | S 9°00.67' | 0.9308' | 53°53.47' | 14.3835° | 266°23.87' | S 25°58.06' | 3.6746' | 59.4765' | 320°17.34' | **11** |
| **12** | 356°44.84' | 15.0016° | 338°34.97' | S 8°59.74' | 0.9311' | 68°16.43' | 14.3826° | 267°03.38' | S 26°01.56' | 3.4971' | 59.4840' | 335°19.81' | **12** |
| **13** | 11°44.93' | 15.0017° | 338°37.34' | S 8°58.81' | 0.9313' | 82°39.33' | 14.3818° | 267°42.94' | S 26°04.88' | 3.3188' | 59.4913' | 350°22.27' | **13** |
| **14** | 26°45.03' | 15.0017° | 338°39.70' | S 8°57.87' | 0.9315' | 97°02.19' | 14.3810° | 268°22.54' | S 26°08.02' | 3.1396' | 59.4985' | 5°24.74' | **14** |
| **15** | 41°45.13' | 15.0017° | 338°42.07' | S 8°56.94' | 0.9318' | 111°25.01' | 14.3802° | 269°02.19' | S 26°10.98' | 2.9597' | 59.5055' | 20°27.20' | **15** |
| **16** | 56°45.23' | 15.0017° | 338°44.43' | S 8°56.01' | 0.9320' | 125°47.78' | 14.3795° | 269°41.89' | S 26°13.76' | 2.7791' | 59.5123' | 35°29.66' | **16** |
| **17** | 71°45.33' | 15.0017° | 338°46.80' | S 8°55.08' | 0.9322' | 140°10.51' | 14.3788° | 270°21.62' | S 26°16.36' | 2.5978' | 59.5189' | 50°32.13' | **17** |
| **18** | 86°45.43' | 15.0017° | 338°49.16' | S 8°54.15' | 0.9325' | 154°33.20' | 14.3781° | 271°01.40' | S 26°18.77' | 2.4159' | 59.5253' | 65°34.59' | **18** |
| **19** | 101°45.53' | 15.0017° | 338°51.52' | S 8°53.21' | 0.9327' | 168°55.85' | 14.3775° | 271°41.21' | S 26°21.01' | 2.2333' | 59.5315' | 80°37.06' | **19** |
| **20** | 116°45.63' | 15.0017° | 338°53.89' | S 8°52.28' | 0.9329' | 183°18.46' | 14.3769° | 272°21.06' | S 26°23.06' | 2.0501' | 59.5376' | 95°39.52' | **20** |
| **21** | 131°45.74' | 15.0017° | 338°56.25' | S 8°51.35' | 0.9332' | 197°41.05' | 14.3764° | 273°00.94' | S 26°24.92' | 1.8664' | 59.5434' | 110°41.99' | **21** |
| **22** | 146°45.84' | 15.0017° | 338°58.61' | S 8°50.41' | 0.9334' | 212°03.60' | 14.3759° | 273°40.85' | S 26°26.60' | 1.6822' | 59.5491' | 125°44.45' | **22** |
| **23** | 161°45.94' | 15.0017° | 339°00.98' | S 8°49.48' | 0.9336' | 226°26.12' | 14.3754° | 274°20.79' | S 26°28.10' | 1.4975' | 59.5545' | 140°46.91' | **23** |
| **24** | 176°46.04' | 15.0017° | 339°03.34' | S 8°48.55' | 0.9339' | 240°48.62' | 14.3750° | 275°00.76' | S 26°29.41' | 1.3124' | 59.5598' | 155°49.38' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1574' | hp (π) 0.1481' | ½Ø 16.2082' | 32.6174338953521<br>36% -cre |
| | EoT at 12:00 UTC : -13m 0s (δ 0.40 s/h) | | Phase at 12:00 UTC : 290.50° | |
| | Meridian Pass. Time : 12:13:00.657 | | Age : 22.6 day(s) | |

| UT | Venus ♀ (π 0.29') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 221°21.06' | 293°29.18' | S 16°57.54' | 219°45.67' | 295°04.56' | S 22°14.10' | 170°13.52' | 344°36.71' | S 7°37.02' | 193°46.99' | 321°03.24' | S 16°09.98' | **00** |
| **01** | 236°21.56' | 293°31.14' | S 16°57.52' | 234°46.16' | 295°06.54' | S 22°13.81' | 185°15.43' | 344°37.28' | S 7°36.79' | 208°49.17' | 321°03.53' | S 16°09.89' | **01** |
| **02** | 251°22.06' | 293°33.10' | S 16°57.50' | 249°46.64' | 295°08.53' | S 22°13.53' | 200°17.33' | 344°37.84' | S 7°36.56' | 223°51.34' | 321°03.82' | S 16°09.81' | **02** |
| **03** | 266°22.56' | 293°35.07' | S 16°57.48' | 264°47.12' | 295°10.51' | S 22°13.25' | 215°19.23' | 344°38.40' | S 7°36.33' | 238°53.52' | 321°04.11' | S 16°09.72' | **03** |
| **04** | 281°23.06' | 293°37.04' | S 16°57.46' | 279°47.60' | 295°12.49' | S 22°12.96' | 230°21.13' | 344°38.96' | S 7°36.10' | 253°55.70' | 321°04.40' | S 16°09.64' | **04** |
| **05** | 296°23.55' | 293°39.00' | S 16°57.44' | 294°48.08' | 295°14.47' | S 22°12.68' | 245°23.03' | 344°39.52' | S 7°35.87' | 268°57.87' | 321°04.69' | S 16°09.55' | **05** |
| **06** | 311°24.05' | 293°40.97' | S 16°57.41' | 309°48.57' | 295°16.46' | S 22°12.40' | 260°24.94' | 344°40.09' | S 7°35.64' | 284°00.05' | 321°04.98' | S 16°09.46' | **06** |
| **07** | 326°24.54' | 293°42.95' | S 16°57.39' | 324°49.05' | 295°18.44' | S 22°12.11' | 275°26.84' | 344°40.65' | S 7°35.41' | 299°02.22' | 321°05.26' | S 16°09.38' | **07** |
| **08** | 341°25.03' | 293°44.92' | S 16°57.37' | 339°49.53' | 295°20.42' | S 22°11.83' | 290°28.74' | 344°41.21' | S 7°35.18' | 314°04.40' | 321°05.55' | S 16°09.29' | **08** |
| **09** | 356°25.52' | 293°46.90' | S 16°57.34' | 354°50.01' | 295°22.40' | S 22°11.54' | 305°30.64' | 344°41.77' | S 7°34.95' | 329°06.57' | 321°05.84' | S 16°09.21' | **09** |
| **10** | 11°26.01' | 293°48.87' | S 16°57.32' | 9°50.50' | 295°24.38' | S 22°11.25' | 320°32.54' | 344°42.34' | S 7°34.72' | 344°08.75' | 321°06.13' | S 16°09.12' | **10** |
| **11** | 26°26.49' | 293°50.85' | S 16°57.29' | 24°50.98' | 295°26.36' | S 22°10.97' | 335°34.44' | 344°42.90' | S 7°34.49' | 359°10.93' | 321°06.42' | S 16°09.03' | **11** |
| **12** | 41°26.98' | 293°52.83' | S 16°57.27' | 39°51.46' | 295°28.35' | S 22°10.68' | 350°36.35' | 344°43.46' | S 7°34.26' | 14°13.10' | 321°06.71' | S 16°08.95' | **12** |
| **13** | 56°27.46' | 293°54.81' | S 16°57.24' | 54°51.94' | 295°30.33' | S 22°10.39' | 5°38.25' | 344°44.02' | S 7°34.03' | 29°15.28' | 321°06.99' | S 16°08.86' | **13** |
| **14** | 71°27.94' | 293°56.80' | S 16°57.21' | 69°52.43' | 295°32.31' | S 22°10.11' | 20°40.15' | 344°44.59' | S 7°33.79' | 44°17.45' | 321°07.28' | S 16°08.78' | **14** |
| **15** | 86°28.42' | 293°58.78' | S 16°57.18' | 84°52.91' | 295°34.29' | S 22°09.82' | 35°42.05' | 344°45.15' | S 7°33.56' | 59°19.63' | 321°07.57' | S 16°08.69' | **15** |
| **16** | 101°28.89' | 294°00.77' | S 16°57.15' | 99°53.39' | 295°36.27' | S 22°09.53' | 50°43.95' | 344°45.71' | S 7°33.33' | 74°21.81' | 321°07.86' | S 16°08.60' | **16** |
| **17** | 116°29.37' | 294°02.76' | S 16°57.12' | 114°53.88' | 295°38.25' | S 22°09.24' | 65°45.85' | 344°46.27' | S 7°33.10' | 89°23.98' | 321°08.15' | S 16°08.52' | **17** |
| **18** | 131°29.84' | 294°04.75' | S 16°57.09' | 129°54.36' | 295°40.23' | S 22°08.95' | 80°47.76' | 344°46.84' | S 7°32.87' | 104°26.16' | 321°08.44' | S 16°08.43' | **18** |
| **19** | 146°30.31' | 294°06.74' | S 16°57.06' | 144°54.84' | 295°42.21' | S 22°08.66' | 95°49.66' | 344°47.40' | S 7°32.64' | 119°28.33' | 321°08.72' | S 16°08.34' | **19** |
| **20** | 161°30.78' | 294°08.74' | S 16°57.03' | 159°55.33' | 295°44.20' | S 22°08.37' | 110°51.56' | 344°47.96' | S 7°32.41' | 134°30.51' | 321°09.01' | S 16°08.26' | **20** |
| **21** | 176°31.25' | 294°10.73' | S 16°57.00' | 174°55.81' | 295°46.18' | S 22°08.08' | 125°53.46' | 344°48.52' | S 7°32.18' | 149°32.69' | 321°09.30' | S 16°08.17' | **21** |
| **22** | 191°31.72' | 294°12.73' | S 16°56.97' | 189°56.29' | 295°48.16' | S 22°07.79' | 140°55.36' | 344°49.09' | S 7°31.95' | 164°34.86' | 321°09.59' | S 16°08.09' | **22** |
| **23** | 206°32.18' | 294°14.73' | S 16°56.94' | 204°56.78' | 295°50.14' | S 22°07.50' | 155°57.26' | 344°49.65' | S 7°31.72' | 179°37.04' | 321°09.87' | S 16°08.00' | **23** |
| **24** | 221°32.65' | 294°16.73' | S 16°56.90' | 219°57.26' | 295°52.12' | S 22°07.21' | 170°59.17' | 344°50.21' | S 7°31.49' | 194°39.22' | 321°10.16' | S 16°07.91' | **24** |
| | δ 15.0084° | | *d* 0.0197' | δ 15.0080° | | *d* 0.2825' | δ 15.0317° | | *d* 0.2303' | δ 15.0363° | | *d* 0.0862' | |

## *Saturday, February 26th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°46.04' | 15.0017° | 339°03.34' | S 8°48.55' | 0.9339' | 240°48.62' | 14.3750° | 275°00.76' | S 26°29.41' | 1.3124' | 59.5598' | 155°49.38' | **00** |
| **01** | 191°46.14' | 15.0017° | 339°05.70' | S 8°47.61' | 0.9341' | 255°11.10' | 14.3746° | 275°40.74' | S 26°30.54' | 1.1269' | 59.5648' | 170°51.84' | **01** |
| **02** | 206°46.24' | 15.0017° | 339°08.06' | S 8°46.68' | 0.9343' | 269°33.55' | 14.3742° | 276°20.75' | S 26°31.48' | 0.9411' | 59.5696' | 185°54.31' | **02** |
| **03** | 221°46.35' | 15.0017° | 339°10.42' | S 8°45.74' | 0.9346' | 283°55.99' | 14.3739° | 277°00.78' | S 26°32.24' | 0.7549' | 59.5742' | 200°56.77' | **03** |
| **04** | 236°46.45' | 15.0017° | 339°12.79' | S 8°44.81' | 0.9348' | 298°18.41' | 14.3736° | 277°40.83' | S 26°32.81' | 0.5685' | 59.5786' | 215°59.23' | **04** |
| **05** | 251°46.55' | 15.0017° | 339°15.15' | S 8°43.87' | 0.9350' | 312°40.81' | 14.3734° | 278°20.89' | S 26°33.19' | 0.3818' | 59.5828' | 231°01.70' | **05** |
| **06** | 266°46.65' | 15.0017° | 339°17.51' | S 8°42.94' | 0.9353' | 327°03.20' | 14.3732° | 279°00.96' | S 26°33.38' | 0.1949' | 59.5868' | 246°04.16' | **06** |
| **07** | 281°46.76' | 15.0017° | 339°19.87' | S 8°42.00' | 0.9355' | 341°25.59' | 14.3731° | 279°41.04' | S 26°33.39' | 0.0079' | 59.5906' | 261°06.63' | **07** |
| **08** | 296°46.86' | 15.0017° | 339°22.23' | S 8°41.07' | 0.9357' | 355°47.97' | 14.3730° | 280°21.13' | S 26°33.21' | 0.1793' | 59.5941' | 276°09.09' | **08** |
| **09** | 311°46.96' | 15.0017° | 339°24.59' | S 8°40.13' | 0.9359' | 10°10.34' | 14.3729° | 281°01.22' | S 26°32.85' | 0.3665' | 59.5974' | 291°11.56' | **09** |
| **10** | 326°47.07' | 15.0017° | 339°26.95' | S 8°39.20' | 0.9362' | 24°32.71' | 14.3729° | 281°41.31' | S 26°32.29' | 0.5537' | 59.6005' | 306°14.02' | **10** |
| **11** | 341°47.17' | 15.0017° | 339°29.31' | S 8°38.26' | 0.9364' | 38°55.08' | 14.3729° | 282°21.40' | S 26°31.55' | 0.7410' | 59.6034' | 321°16.48' | **11** |
| **12** | 356°47.28' | 15.0017° | 339°31.67' | S 8°37.32' | 0.9366' | 53°17.46' | 14.3729° | 283°01.49' | S 26°30.62' | 0.9282' | 59.6060' | 336°18.95' | **12** |
| **13** | 11°47.38' | 15.0017° | 339°34.03' | S 8°36.39' | 0.9368' | 67°39.84' | 14.3730° | 283°41.57' | S 26°29.51' | 1.1153' | 59.6084' | 351°21.41' | **13** |
| **14** | 26°47.49' | 15.0017° | 339°36.39' | S 8°35.45' | 0.9371' | 82°02.23' | 14.3732° | 284°21.65' | S 26°28.20' | 1.3022' | 59.6106' | 6°23.88' | **14** |
| **15** | 41°47.59' | 15.0018° | 339°38.75' | S 8°34.51' | 0.9373' | 96°24.63' | 14.3733° | 285°01.71' | S 26°26.72' | 1.4890' | 59.6125' | 21°26.34' | **15** |
| **16** | 56°47.70' | 15.0018° | 339°41.11' | S 8°33.57' | 0.9375' | 110°47.04' | 14.3736° | 285°41.76' | S 26°25.04' | 1.6756' | 59.6142' | 36°28.81' | **16** |
| **17** | 71°47.80' | 15.0018° | 339°43.47' | S 8°32.64' | 0.9377' | 125°09.47' | 14.3738° | 286°21.80' | S 26°23.18' | 1.8620' | 59.6157' | 51°31.27' | **17** |
| **18** | 86°47.91' | 15.0018° | 339°45.82' | S 8°31.70' | 0.9380' | 139°31.92' | 14.3741° | 287°01.81' | S 26°21.13' | 2.0480' | 59.6169' | 66°33.73' | **18** |
| **19** | 101°48.02' | 15.0018° | 339°48.18' | S 8°30.76' | 0.9382' | 153°54.39' | 14.3744° | 287°41.81' | S 26°18.90' | 2.2337' | 59.6179' | 81°36.20' | **19** |
| **20** | 116°48.12' | 15.0018° | 339°50.54' | S 8°29.82' | 0.9384' | 168°16.88' | 14.3748° | 288°21.79' | S 26°16.48' | 2.4190' | 59.6186' | 96°38.66' | **20** |
| **21** | 131°48.23' | 15.0018° | 339°52.90' | S 8°28.88' | 0.9386' | 182°39.39' | 14.3752° | 289°01.74' | S 26°13.87' | 2.6039' | 59.6191' | 111°41.13' | **21** |
| **22** | 146°48.34' | 15.0018° | 339°55.25' | S 8°27.94' | 0.9388' | 197°01.93' | 14.3757° | 289°41.66' | S 26°11.08' | 2.7884' | 59.6194' | 126°43.59' | **22** |
| **23** | 161°48.44' | 15.0018° | 339°57.61' | S 8°27.00' | 0.9391' | 211°24.50' | 14.3762° | 290°21.55' | S 26°08.11' | 2.9724' | 59.6193' | 141°46.05' | **23** |
| **24** | 176°48.55' | 15.0018° | 339°59.97' | S 8°26.07' | 0.9393' | 225°47.11' | 14.3767° | 291°01.41' | S 26°04.96' | 3.1558' | 59.6191' | 156°48.52' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1535' | hp (π) 0.1480' | ½Ø 16.2415' | 22.3261608198162 5% -cre |
| | EoT at 12:00 UTC : -12m 50s (δ 0.42 s/h) | | Phase at 12:00 UTC : 303.80° | |
| | Meridian Pass. Time : 12:12:50.889 | | Age : 23.6 day(s) | |

| UT | Venus ♀ (π 0.29') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 221°32.65' | 294°16.73' | S 16°56.90' | 219°57.26' | 295°52.12' | S 22°07.21' | 170°59.17' | 344°50.21' | S 7°31.49' | 194°39.22' | 321°10.16' | S 16°07.91' | **00** |
| **01** | 236°33.11' | 294°18.73' | S 16°56.87' | 234°57.74' | 295°54.10' | S 22°06.92' | 186°01.07' | 344°50.77' | S 7°31.26' | 209°41.39' | 321°10.45' | S 16°07.83' | **01** |
| **02** | 251°33.57' | 294°20.74' | S 16°56.83' | 249°58.23' | 295°56.08' | S 22°06.62' | 201°02.97' | 344°51.34' | S 7°31.03' | 224°43.57' | 321°10.74' | S 16°07.74' | **02** |
| **03** | 266°34.03' | 294°22.74' | S 16°56.80' | 264°58.71' | 295°58.06' | S 22°06.33' | 216°04.87' | 344°51.90' | S 7°30.80' | 239°45.74' | 321°11.03' | S 16°07.66' | **03** |
| **04** | 281°34.48' | 294°24.75' | S 16°56.76' | 279°59.20' | 296°00.04' | S 22°06.04' | 231°06.77' | 344°52.46' | S 7°30.57' | 254°47.92' | 321°11.31' | S 16°07.57' | **04** |
| **05** | 296°34.94' | 294°26.76' | S 16°56.73' | 294°59.68' | 296°02.02' | S 22°05.75' | 246°08.67' | 344°53.03' | S 7°30.34' | 269°50.10' | 321°11.60' | S 16°07.49' | **05** |
| **06** | 311°35.39' | 294°28.77' | S 16°56.69' | 310°00.16' | 296°04.00' | S 22°05.45' | 261°10.58' | 344°53.59' | S 7°30.10' | 284°52.27' | 321°11.89' | S 16°07.40' | **06** |
| **07** | 326°35.84' | 294°30.78' | S 16°56.65' | 325°00.65' | 296°05.98' | S 22°05.16' | 276°12.48' | 344°54.15' | S 7°29.87' | 299°54.45' | 321°12.18' | S 16°07.31' | **07** |
| **08** | 341°36.29' | 294°32.80' | S 16°56.61' | 340°01.13' | 296°07.96' | S 22°04.86' | 291°14.38' | 344°54.71' | S 7°29.64' | 314°56.63' | 321°12.46' | S 16°07.23' | **08** |
| **09** | 356°36.74' | 294°34.81' | S 16°56.57' | 355°01.62' | 296°09.94' | S 22°04.57' | 306°16.28' | 344°55.28' | S 7°29.41' | 329°58.81' | 321°12.75' | S 16°07.14' | **09** |
| **10** | 11°37.19' | 294°36.83' | S 16°56.53' | 10°02.10' | 296°11.92' | S 22°04.27' | 321°18.18' | 344°55.84' | S 7°29.18' | 345°00.98' | 321°13.04' | S 16°07.06' | **10** |
| **11** | 26°37.63' | 294°38.85' | S 16°56.49' | 25°02.59' | 296°13.90' | S 22°03.98' | 336°20.08' | 344°56.40' | S 7°28.95' | 0°03.16' | 321°13.33' | S 16°06.97' | **11** |
| **12** | 41°38.08' | 294°40.87' | S 16°56.45' | 40°03.07' | 296°15.88' | S 22°03.68' | 351°21.98' | 344°56.96' | S 7°28.72' | 15°05.34' | 321°13.61' | S 16°06.88' | **12** |
| **13** | 56°38.52' | 294°42.89' | S 16°56.41' | 55°03.55' | 296°17.86' | S 22°03.38' | 6°23.89' | 344°57.53' | S 7°28.49' | 30°07.51' | 321°13.90' | S 16°06.80' | **13** |
| **14** | 71°38.96' | 294°44.92' | S 16°56.37' | 70°04.04' | 296°19.84' | S 22°03.09' | 21°25.79' | 344°58.09' | S 7°28.26' | 45°09.69' | 321°14.19' | S 16°06.71' | **14** |
| **15** | 86°39.40' | 294°46.94' | S 16°56.32' | 85°04.52' | 296°21.82' | S 22°02.79' | 36°27.69' | 344°58.65' | S 7°28.03' | 60°11.87' | 321°14.47' | S 16°06.63' | **15** |
| **16** | 101°39.83' | 294°48.97' | S 16°56.28' | 100°05.01' | 296°23.80' | S 22°02.49' | 51°29.59' | 344°59.21' | S 7°27.80' | 75°14.04' | 321°14.76' | S 16°06.54' | **16** |
| **17** | 116°40.27' | 294°51.00' | S 16°56.24' | 115°05.49' | 296°25.78' | S 22°02.19' | 66°31.49' | 344°59.78' | S 7°27.57' | 90°16.22' | 321°15.05' | S 16°06.45' | **17** |
| **18** | 131°40.70' | 294°53.03' | S 16°56.19' | 130°05.98' | 296°27.75' | S 22°01.89' | 81°33.39' | 345°00.34' | S 7°27.33' | 105°18.40' | 321°15.33' | S 16°06.37' | **18** |
| **19** | 146°41.13' | 294°55.06' | S 16°56.15' | 145°06.46' | 296°29.73' | S 22°01.60' | 96°35.29' | 345°00.90' | S 7°27.10' | 120°20.58' | 321°15.62' | S 16°06.28' | **19** |
| **20** | 161°41.56' | 294°57.10' | S 16°56.10' | 160°06.95' | 296°31.71' | S 22°01.30' | 111°37.20' | 345°01.47' | S 7°26.87' | 135°22.75' | 321°15.91' | S 16°06.20' | **20** |
| **21** | 176°41.99' | 294°59.13' | S 16°56.05' | 175°07.44' | 296°33.69' | S 22°01.00' | 126°39.10' | 345°02.03' | S 7°26.64' | 150°24.93' | 321°16.20' | S 16°06.11' | **21** |
| **22** | 191°42.42' | 295°01.17' | S 16°56.01' | 190°07.92' | 296°35.67' | S 22°00.70' | 141°41.00' | 345°02.59' | S 7°26.41' | 165°27.11' | 321°16.48' | S 16°06.03' | **22** |
| **23** | 206°42.85' | 295°03.21' | S 16°55.96' | 205°08.41' | 296°37.65' | S 22°00.40' | 156°42.90' | 345°03.15' | S 7°26.18' | 180°29.29' | 321°16.77' | S 16°05.94' | **23** |
| **24** | 221°43.27' | 295°05.25' | S 16°55.91' | 220°08.89' | 296°39.63' | S 22°00.09' | 171°44.80' | 345°03.72' | S 7°25.95' | 195°31.46' | 321°17.06' | S 16°05.85' | **24** |
| | δ 15.0077° | | *d* 0.0342' | δ 15.0081° | | *d* 0.2919' | δ 15.0317° | | *d* 0.2307' | δ 15.0363° | | *d* 0.0860' | |

## *Sunday, February 27th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°48.55' | 15.0018° | 339°59.97' | S 8°26.07' | 0.9393' | 225°47.11' | 14.3767° | 291°01.41' | S 26°04.96' | 3.1558' | 59.6191' | 156°48.52' | **00** |
| **01** | 191°48.66' | 15.0018° | 340°02.33' | S 8°25.13' | 0.9395' | 240°09.75' | 14.3773° | 291°41.24' | S 26°01.62' | 3.3386' | 59.6185' | 171°50.98' | **01** |
| **02** | 206°48.76' | 15.0018° | 340°04.68' | S 8°24.19' | 0.9397' | 254°32.42' | 14.3779° | 292°21.03' | S 25°58.10' | 3.5209' | 59.6178' | 186°53.45' | **02** |
| **03** | 221°48.87' | 15.0018° | 340°07.04' | S 8°23.25' | 0.9399' | 268°55.14' | 14.3786° | 293°00.78' | S 25°54.39' | 3.7024' | 59.6167' | 201°55.91' | **03** |
| **04** | 236°48.98' | 15.0018° | 340°09.39' | S 8°22.31' | 0.9401' | 283°17.89' | 14.3793° | 293°40.49' | S 25°50.51' | 3.8833' | 59.6154' | 216°58.38' | **04** |
| **05** | 251°49.09' | 15.0018° | 340°11.75' | S 8°21.37' | 0.9404' | 297°40.69' | 14.3800° | 294°20.15' | S 25°46.45' | 4.0635' | 59.6139' | 232°00.84' | **05** |
| **06** | 266°49.20' | 15.0018° | 340°14.11' | S 8°20.43' | 0.9406' | 312°03.53' | 14.3807° | 294°59.77' | S 25°42.21' | 4.2429' | 59.6120' | 247°03.30' | **06** |
| **07** | 281°49.31' | 15.0018° | 340°16.46' | S 8°19.48' | 0.9408' | 326°26.42' | 14.3815° | 295°39.34' | S 25°37.78' | 4.4215' | 59.6100' | 262°05.77' | **07** |
| **08** | 296°49.42' | 15.0018° | 340°18.82' | S 8°18.54' | 0.9410' | 340°49.37' | 14.3824° | 296°18.87' | S 25°33.18' | 4.5993' | 59.6076' | 277°08.23' | **08** |
| **09** | 311°49.53' | 15.0018° | 340°21.17' | S 8°17.60' | 0.9412' | 355°12.36' | 14.3832° | 296°58.34' | S 25°28.41' | 4.7761' | 59.6050' | 292°10.70' | **09** |
| **10** | 326°49.63' | 15.0018° | 340°23.53' | S 8°16.66' | 0.9414' | 9°35.41' | 14.3841° | 297°37.75' | S 25°23.46' | 4.9521' | 59.6021' | 307°13.16' | **10** |
| **11** | 341°49.74' | 15.0018° | 340°25.88' | S 8°15.72' | 0.9417' | 23°58.51' | 14.3851° | 298°17.11' | S 25°18.33' | 5.1271' | 59.5989' | 322°15.62' | **11** |
| **12** | 356°49.85' | 15.0018° | 340°28.23' | S 8°14.78' | 0.9419' | 38°21.67' | 14.3860° | 298°56.42' | S 25°13.03' | 5.3012' | 59.5955' | 337°18.09' | **12** |
| **13** | 11°49.96' | 15.0018° | 340°30.59' | S 8°13.84' | 0.9421' | 52°44.89' | 14.3870° | 299°35.66' | S 25°07.55' | 5.4742' | 59.5918' | 352°20.55' | **13** |
| **14** | 26°50.08' | 15.0018° | 340°32.94' | S 8°12.89' | 0.9423' | 67°08.18' | 14.3880° | 300°14.84' | S 25°01.91' | 5.6462' | 59.5878' | 7°23.02' | **14** |
| **15** | 41°50.19' | 15.0018° | 340°35.30' | S 8°11.95' | 0.9425' | 81°31.52' | 14.3891° | 300°53.96' | S 24°56.09' | 5.8171' | 59.5835' | 22°25.48' | **15** |
| **16** | 56°50.30' | 15.0018° | 340°37.65' | S 8°11.01' | 0.9427' | 95°54.93' | 14.3902° | 301°33.01' | S 24°50.10' | 5.9869' | 59.5790' | 37°27.95' | **16** |
| **17** | 71°50.41' | 15.0019° | 340°40.00' | S 8°10.06' | 0.9429' | 110°18.41' | 14.3913° | 302°12.00' | S 24°43.95' | 6.1556' | 59.5742' | 52°30.41' | **17** |
| **18** | 86°50.52' | 15.0019° | 340°42.35' | S 8°09.12' | 0.9431' | 124°41.96' | 14.3925° | 302°50.92' | S 24°37.62' | 6.3231' | 59.5691' | 67°32.87' | **18** |
| **19** | 101°50.63' | 15.0019° | 340°44.71' | S 8°08.18' | 0.9433' | 139°05.58' | 14.3936° | 303°29.76' | S 24°31.14' | 6.4893' | 59.5637' | 82°35.34' | **19** |
| **20** | 116°50.74' | 15.0019° | 340°47.06' | S 8°07.23' | 0.9435' | 153°29.27' | 14.3948° | 304°08.54' | S 24°24.48' | 6.6544' | 59.5580' | 97°37.80' | **20** |
| **21** | 131°50.86' | 15.0019° | 340°49.41' | S 8°06.29' | 0.9438' | 167°53.03' | 14.3961° | 304°47.24' | S 24°17.66' | 6.8182' | 59.5521' | 112°40.27' | **21** |
| **22** | 146°50.97' | 15.0019° | 340°51.76' | S 8°05.35' | 0.9440' | 182°16.87' | 14.3973° | 305°25.86' | S 24°10.68' | 6.9807' | 59.5459' | 127°42.73' | **22** |
| **23** | 161°51.08' | 15.0019° | 340°54.11' | S 8°04.40' | 0.9442' | 196°40.78' | 14.3986° | 306°04.41' | S 24°03.54' | 7.1419' | 59.5393' | 142°45.19' | **23** |
| **24** | 176°51.19' | 15.0019° | 340°56.47' | S 8°03.46' | 0.9444' | 211°04.78' | 14.3999° | 306°42.88' | S 23°56.24' | 7.3018' | 59.5325' | 157°47.66' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1496' | hp (π) 0.1480' | ½Ø 16.2386' | 13.4894932058118<br>03% -cre |
| | EoT at 12:00 UTC : -12m 40s (δ 0.44 s/h) | | Phase at 12:00 UTC : 317.18° | |
| | Meridian Pass. Time : 12:12:40.582 | | Age : 24.7 day(s) | |

| UT | Venus ♀ (π 0.29') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 221°43.27' | 295°05.25' | S 16°55.91' | 220°08.89' | 296°39.63' | S 22°00.09' | 171°44.80' | 345°03.72' | S 7°25.95' | 195°31.46' | 321°17.06' | S 16°05.85' | **00** |
| **01** | 236°43.69' | 295°07.29' | S 16°55.86' | 235°09.38' | 296°41.61' | S 21°59.79' | 186°46.70' | 345°04.28' | S 7°25.72' | 210°33.64' | 321°17.34' | S 16°05.77' | **01** |
| **02** | 251°44.11' | 295°09.33' | S 16°55.81' | 250°09.86' | 296°43.58' | S 21°59.49' | 201°48.60' | 345°04.84' | S 7°25.49' | 225°35.82' | 321°17.63' | S 16°05.68' | **02** |
| **03** | 266°44.53' | 295°11.38' | S 16°55.76' | 265°10.35' | 296°45.56' | S 21°59.19' | 216°50.51' | 345°05.41' | S 7°25.26' | 240°38.00' | 321°17.92' | S 16°05.60' | **03** |
| **04** | 281°44.95' | 295°13.43' | S 16°55.71' | 280°10.84' | 296°47.54' | S 21°58.89' | 231°52.41' | 345°05.97' | S 7°25.02' | 255°40.17' | 321°18.20' | S 16°05.51' | **04** |
| **05** | 296°45.37' | 295°15.47' | S 16°55.66' | 295°11.32' | 296°49.52' | S 21°58.58' | 246°54.31' | 345°06.53' | S 7°24.79' | 270°42.35' | 321°18.49' | S 16°05.43' | **05** |
| **06** | 311°45.78' | 295°17.52' | S 16°55.60' | 310°11.81' | 296°51.50' | S 21°58.28' | 261°56.21' | 345°07.09' | S 7°24.56' | 285°44.53' | 321°18.77' | S 16°05.34' | **06** |
| **07** | 326°46.19' | 295°19.57' | S 16°55.55' | 325°12.29' | 296°53.47' | S 21°57.98' | 276°58.11' | 345°07.66' | S 7°24.33' | 300°46.71' | 321°19.06' | S 16°05.25' | **07** |
| **08** | 341°46.60' | 295°21.63' | S 16°55.50' | 340°12.78' | 296°55.45' | S 21°57.67' | 292°00.01' | 345°08.22' | S 7°24.10' | 315°48.88' | 321°19.35' | S 16°05.17' | **08** |
| **09** | 356°47.01' | 295°23.68' | S 16°55.44' | 355°13.27' | 296°57.43' | S 21°57.37' | 307°01.91' | 345°08.78' | S 7°23.87' | 330°51.06' | 321°19.63' | S 16°05.08' | **09** |
| **10** | 11°47.42' | 295°25.74' | S 16°55.39' | 10°13.75' | 296°59.41' | S 21°57.06' | 322°03.82' | 345°09.34' | S 7°23.64' | 345°53.24' | 321°19.92' | S 16°05.00' | **10** |
| **11** | 26°47.83' | 295°27.80' | S 16°55.33' | 25°14.24' | 297°01.39' | S 21°56.76' | 337°05.72' | 345°09.91' | S 7°23.41' | 0°55.42' | 321°20.21' | S 16°04.91' | **11** |
| **12** | 41°48.23' | 295°29.86' | S 16°55.28' | 40°14.73' | 297°03.36' | S 21°56.45' | 352°07.62' | 345°10.47' | S 7°23.18' | 15°57.60' | 321°20.49' | S 16°04.83' | **12** |
| **13** | 56°48.64' | 295°31.92' | S 16°55.22' | 55°15.21' | 297°05.34' | S 21°56.15' | 7°09.52' | 345°11.03' | S 7°22.94' | 30°59.77' | 321°20.78' | S 16°04.74' | **13** |
| **14** | 71°49.04' | 295°33.98' | S 16°55.16' | 70°15.70' | 297°07.32' | S 21°55.84' | 22°11.42' | 345°11.60' | S 7°22.71' | 46°01.95' | 321°21.06' | S 16°04.65' | **14** |
| **15** | 86°49.44' | 295°36.04' | S 16°55.10' | 85°16.19' | 297°09.29' | S 21°55.53' | 37°13.32' | 345°12.16' | S 7°22.48' | 61°04.13' | 321°21.35' | S 16°04.57' | **15** |
| **16** | 101°49.84' | 295°38.11' | S 16°55.04' | 100°16.67' | 297°11.27' | S 21°55.23' | 52°15.22' | 345°12.72' | S 7°22.25' | 76°06.31' | 321°21.64' | S 16°04.48' | **16** |
| **17** | 116°50.24' | 295°40.17' | S 16°54.99' | 115°17.16' | 297°13.25' | S 21°54.92' | 67°17.13' | 345°13.28' | S 7°22.02' | 91°08.49' | 321°21.92' | S 16°04.40' | **17** |
| **18** | 131°50.63' | 295°42.24' | S 16°54.92' | 130°17.65' | 297°15.23' | S 21°54.61' | 82°19.03' | 345°13.85' | S 7°21.79' | 106°10.67' | 321°22.21' | S 16°04.31' | **18** |
| **19** | 146°51.03' | 295°44.31' | S 16°54.86' | 145°18.14' | 297°17.20' | S 21°54.30' | 97°20.93' | 345°14.41' | S 7°21.56' | 121°12.84' | 321°22.49' | S 16°04.23' | **19** |
| **20** | 161°51.42' | 295°46.38' | S 16°54.80' | 160°18.62' | 297°19.18' | S 21°53.99' | 112°22.83' | 345°14.97' | S 7°21.33' | 136°15.02' | 321°22.78' | S 16°04.14' | **20** |
| **21** | 176°51.81' | 295°48.46' | S 16°54.74' | 175°19.11' | 297°21.16' | S 21°53.69' | 127°24.73' | 345°15.54' | S 7°21.10' | 151°17.20' | 321°23.07' | S 16°04.06' | **21** |
| **22** | 191°52.20' | 295°50.53' | S 16°54.68' | 190°19.60' | 297°23.13' | S 21°53.38' | 142°26.63' | 345°16.10' | S 7°20.86' | 166°19.38' | 321°23.35' | S 16°03.97' | **22** |
| **23** | 206°52.59' | 295°52.61' | S 16°54.61' | 205°20.09' | 297°25.11' | S 21°53.07' | 157°28.53' | 345°16.66' | S 7°20.63' | 181°21.56' | 321°23.64' | S 16°03.88' | **23** |
| **24** | 221°52.97' | 295°54.69' | S 16°54.55' | 220°20.57' | 297°27.09' | S 21°52.76' | 172°30.43' | 345°17.22' | S 7°20.40' | 196°23.74' | 321°23.92' | S 16°03.80' | **24** |
| | δ 15.0070° | | *d* 0.0493' | δ 15.0081° | | *d* 0.3013' | δ 15.0317° | | *d* 0.2310' | δ 15.0363° | | *d* 0.0857' | |

## *Monday, February 28th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°51.19' | 15.0019° | 340°56.47' | S 8°03.46' | 0.9444' | 211°04.78' | 14.3999° | 306°42.88' | S 23°56.24' | 7.3018' | 59.5325' | 157°47.66' | **00** |
| **01** | 191°51.31' | 15.0019° | 340°58.82' | S 8°02.51' | 0.9446' | 225°28.85' | 14.4012° | 307°21.27' | S 23°48.78' | 7.4603' | 59.5254' | 172°50.12' | **01** |
| **02** | 206°51.42' | 15.0019° | 341°01.17' | S 8°01.57' | 0.9448' | 239°53.00' | 14.4026° | 307°59.58' | S 23°41.16' | 7.6174' | 59.5181' | 187°52.59' | **02** |
| **03** | 221°51.53' | 15.0019° | 341°03.52' | S 8°00.62' | 0.9450' | 254°17.24' | 14.4039° | 308°37.81' | S 23°33.39' | 7.7731' | 59.5104' | 202°55.05' | **03** |
| **04** | 236°51.65' | 15.0019° | 341°05.87' | S 7°59.68' | 0.9452' | 268°41.56' | 14.4053° | 309°15.95' | S 23°25.46' | 7.9274' | 59.5024' | 217°57.52' | **04** |
| **05** | 251°51.76' | 15.0019° | 341°08.22' | S 7°58.73' | 0.9454' | 283°05.97' | 14.4067° | 309°54.01' | S 23°17.38' | 8.0802' | 59.4942' | 232°59.98' | **05** |
| **06** | 266°51.87' | 15.0019° | 341°10.57' | S 7°57.79' | 0.9456' | 297°30.46' | 14.4082° | 310°31.99' | S 23°09.15' | 8.2315' | 59.4857' | 248°02.44' | **06** |
| **07** | 281°51.99' | 15.0019° | 341°12.92' | S 7°56.84' | 0.9458' | 311°55.03' | 14.4096° | 311°09.87' | S 23°00.77' | 8.3813' | 59.4768' | 263°04.91' | **07** |
| **08** | 296°52.10' | 15.0019° | 341°15.27' | S 7°55.90' | 0.9460' | 326°19.70' | 14.4111° | 311°47.67' | S 22°52.24' | 8.5296' | 59.4677' | 278°07.37' | **08** |
| **09** | 311°52.22' | 15.0019° | 341°17.62' | S 7°54.95' | 0.9462' | 340°44.45' | 14.4126° | 312°25.38' | S 22°43.56' | 8.6764' | 59.4583' | 293°09.84' | **09** |
| **10** | 326°52.33' | 15.0019° | 341°19.97' | S 7°54.00' | 0.9464' | 355°09.30' | 14.4141° | 313°03.00' | S 22°34.74' | 8.8216' | 59.4486' | 308°12.30' | **10** |
| **11** | 341°52.45' | 15.0019° | 341°22.32' | S 7°53.06' | 0.9466' | 9°34.23' | 14.4156° | 313°40.53' | S 22°25.77' | 8.9652' | 59.4386' | 323°14.76' | **11** |
| **12** | 356°52.56' | 15.0019° | 341°24.67' | S 7°52.11' | 0.9468' | 23°59.26' | 14.4171° | 314°17.97' | S 22°16.67' | 9.1073' | 59.4283' | 338°17.23' | **12** |
| **13** | 11°52.68' | 15.0019° | 341°27.01' | S 7°51.16' | 0.9470' | 38°24.38' | 14.4187° | 314°55.31' | S 22°07.42' | 9.2477' | 59.4177' | 353°19.69' | **13** |
| **14** | 26°52.79' | 15.0019° | 341°29.36' | S 7°50.22' | 0.9472' | 52°49.59' | 14.4202° | 315°32.56' | S 21°58.03' | 9.3865' | 59.4069' | 8°22.16' | **14** |
| **15** | 41°52.91' | 15.0019° | 341°31.71' | S 7°49.27' | 0.9474' | 67°14.90' | 14.4218° | 316°09.72' | S 21°48.51' | 9.5237' | 59.3957' | 23°24.62' | **15** |
| **16** | 56°53.03' | 15.0019° | 341°34.06' | S 7°48.32' | 0.9476' | 81°40.30' | 14.4234° | 316°46.78' | S 21°38.85' | 9.6592' | 59.3842' | 38°27.08' | **16** |
| **17** | 71°53.14' | 15.0019° | 341°36.41' | S 7°47.37' | 0.9478' | 96°05.80' | 14.4250° | 317°23.75' | S 21°29.06' | 9.7930' | 59.3725' | 53°29.55' | **17** |
| **18** | 86°53.26' | 15.0019° | 341°38.75' | S 7°46.43' | 0.9480' | 110°31.39' | 14.4266° | 318°00.62' | S 21°19.13' | 9.9252' | 59.3605' | 68°32.01' | **18** |
| **19** | 101°53.38' | 15.0019° | 341°41.10' | S 7°45.48' | 0.9482' | 124°57.08' | 14.4282° | 318°37.39' | S 21°09.08' | 10.0557' | 59.3481' | 83°34.48' | **19** |
| **20** | 116°53.49' | 15.0020° | 341°43.45' | S 7°44.53' | 0.9484' | 139°22.87' | 14.4298° | 319°14.07' | S 20°58.89' | 10.1844' | 59.3355' | 98°36.94' | **20** |
| **21** | 131°53.61' | 15.0020° | 341°45.79' | S 7°43.58' | 0.9486' | 153°48.76' | 14.4314° | 319°50.65' | S 20°48.58' | 10.3115' | 59.3226' | 113°39.41' | **21** |
| **22** | 146°53.73' | 15.0020° | 341°48.14' | S 7°42.63' | 0.9488' | 168°14.74' | 14.4330° | 320°27.13' | S 20°38.14' | 10.4368' | 59.3094' | 128°41.87' | **22** |
| **23** | 161°53.85' | 15.0020° | 341°50.49' | S 7°41.68' | 0.9490' | 182°40.82' | 14.4347° | 321°03.51' | S 20°27.58' | 10.5605' | 59.2959' | 143°44.33' | **23** |
| **24** | 176°53.97' | 15.0020° | 341°52.83' | S 7°40.73' | 0.9492' | 197°07.00' | 14.4363° | 321°39.80' | S 20°16.90' | 10.6823' | 59.2821' | 158°46.80' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1457' | hp (π) 0.1480' | ½Ø 16.1931' | 6.63972062779402<br>2% -cre |
| | EoT at 12:00 UTC : -12m 29s (δ 0.46 s/h) | | Phase at 12:00 UTC : 330.57° | |
| | Meridian Pass. Time : 12:12:29.748 | | Age : 25.7 day(s) | |

| UT | Venus ♀ (π 0.28') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 221°52.97' | 295°54.69' | S 16°54.55' | 220°20.57' | 297°27.09' | S 21°52.76' | 172°30.43' | 345°17.22' | S 7°20.40' | 196°23.74' | 321°23.92' | S 16°03.80' | **00** |
| **01** | 236°53.36' | 295°56.76' | S 16°54.49' | 235°21.06' | 297°29.06' | S 21°52.45' | 187°32.34' | 345°17.79' | S 7°20.17' | 211°25.92' | 321°24.21' | S 16°03.71' | **01** |
| **02** | 251°53.74' | 295°58.85' | S 16°54.42' | 250°21.55' | 297°31.04' | S 21°52.13' | 202°34.24' | 345°18.35' | S 7°19.94' | 226°28.09' | 321°24.49' | S 16°03.63' | **02** |
| **03** | 266°54.12' | 296°00.93' | S 16°54.35' | 265°22.04' | 297°33.01' | S 21°51.82' | 217°36.14' | 345°18.91' | S 7°19.71' | 241°30.27' | 321°24.78' | S 16°03.54' | **03** |
| **04** | 281°54.50' | 296°03.01' | S 16°54.29' | 280°22.52' | 297°34.99' | S 21°51.51' | 232°38.04' | 345°19.48' | S 7°19.48' | 256°32.45' | 321°25.06' | S 16°03.46' | **04** |
| **05** | 296°54.88' | 296°05.10' | S 16°54.22' | 295°23.01' | 297°36.97' | S 21°51.20' | 247°39.94' | 345°20.04' | S 7°19.24' | 271°34.63' | 321°25.35' | S 16°03.37' | **05** |
| **06** | 311°55.26' | 296°07.18' | S 16°54.15' | 310°23.50' | 297°38.94' | S 21°50.89' | 262°41.84' | 345°20.60' | S 7°19.01' | 286°36.81' | 321°25.63' | S 16°03.29' | **06** |
| **07** | 326°55.64' | 296°09.27' | S 16°54.08' | 325°23.99' | 297°40.92' | S 21°50.57' | 277°43.74' | 345°21.16' | S 7°18.78' | 301°38.99' | 321°25.92' | S 16°03.20' | **07** |
| **08** | 341°56.01' | 296°11.36' | S 16°54.01' | 340°24.48' | 297°42.89' | S 21°50.26' | 292°45.64' | 345°21.73' | S 7°18.55' | 316°41.17' | 321°26.20' | S 16°03.12' | **08** |
| **09** | 356°56.38' | 296°13.45' | S 16°53.94' | 355°24.97' | 297°44.87' | S 21°49.95' | 307°47.55' | 345°22.29' | S 7°18.32' | 331°43.35' | 321°26.49' | S 16°03.03' | **09** |
| **10** | 11°56.76' | 296°15.54' | S 16°53.87' | 10°25.46' | 297°46.84' | S 21°49.63' | 322°49.45' | 345°22.85' | S 7°18.09' | 346°45.53' | 321°26.77' | S 16°02.94' | **10** |
| **11** | 26°57.13' | 296°17.64' | S 16°53.80' | 25°25.94' | 297°48.82' | S 21°49.32' | 337°51.35' | 345°23.42' | S 7°17.86' | 1°47.70' | 321°27.06' | S 16°02.86' | **11** |
| **12** | 41°57.49' | 296°19.73' | S 16°53.73' | 40°26.43' | 297°50.80' | S 21°49.00' | 352°53.25' | 345°23.98' | S 7°17.63' | 16°49.88' | 321°27.34' | S 16°02.77' | **12** |
| **13** | 56°57.86' | 296°21.83' | S 16°53.66' | 55°26.92' | 297°52.77' | S 21°48.69' | 7°55.15' | 345°24.54' | S 7°17.39' | 31°52.06' | 321°27.63' | S 16°02.69' | **13** |
| **14** | 71°58.23' | 296°23.93' | S 16°53.58' | 70°27.41' | 297°54.75' | S 21°48.37' | 22°57.05' | 345°25.10' | S 7°17.16' | 46°54.24' | 321°27.91' | S 16°02.60' | **14** |
| **15** | 86°58.59' | 296°26.03' | S 16°53.51' | 85°27.90' | 297°56.72' | S 21°48.06' | 37°58.95' | 345°25.67' | S 7°16.93' | 61°56.42' | 321°28.20' | S 16°02.52' | **15** |
| **16** | 101°58.95' | 296°28.13' | S 16°53.43' | 100°28.39' | 297°58.70' | S 21°47.74' | 53°00.85' | 345°26.23' | S 7°16.70' | 76°58.60' | 321°28.48' | S 16°02.43' | **16** |
| **17** | 116°59.31' | 296°30.23' | S 16°53.36' | 115°28.88' | 298°00.67' | S 21°47.42' | 68°02.76' | 345°26.79' | S 7°16.47' | 92°00.78' | 321°28.77' | S 16°02.35' | **17** |
| **18** | 131°59.67' | 296°32.34' | S 16°53.28' | 130°29.37' | 298°02.64' | S 21°47.11' | 83°04.66' | 345°27.36' | S 7°16.24' | 107°02.96' | 321°29.05' | S 16°02.26' | **18** |
| **19** | 147°00.03' | 296°34.44' | S 16°53.21' | 145°29.86' | 298°04.62' | S 21°46.79' | 98°06.56' | 345°27.92' | S 7°16.00' | 122°05.14' | 321°29.34' | S 16°02.18' | **19** |
| **20** | 162°00.39' | 296°36.55' | S 16°53.13' | 160°30.35' | 298°06.59' | S 21°46.47' | 113°08.46' | 345°28.48' | S 7°15.77' | 137°07.32' | 321°29.62' | S 16°02.09' | **20** |
| **21** | 177°00.74' | 296°38.66' | S 16°53.05' | 175°30.84' | 298°08.57' | S 21°46.15' | 128°10.36' | 345°29.05' | S 7°15.54' | 152°09.50' | 321°29.91' | S 16°02.01' | **21** |
| **22** | 192°01.10' | 296°40.77' | S 16°52.97' | 190°31.33' | 298°10.54' | S 21°45.83' | 143°12.26' | 345°29.61' | S 7°15.31' | 167°11.68' | 321°30.19' | S 16°01.92' | **22** |
| **23** | 207°01.45' | 296°42.88' | S 16°52.89' | 205°31.82' | 298°12.52' | S 21°45.51' | 158°14.16' | 345°30.17' | S 7°15.08' | 182°13.86' | 321°30.48' | S 16°01.84' | **23** |
| **24** | 222°01.80' | 296°45.00' | S 16°52.81' | 220°32.31' | 298°14.49' | S 21°45.20' | 173°16.06' | 345°30.73' | S 7°14.85' | 197°16.04' | 321°30.76' | S 16°01.75' | **24** |
| | δ 15.0064° | | *d* 0.0648' | δ 15.0081° | | *d* 0.3106' | δ 15.0317° | | *d* 0.2313' | δ 15.0363° | | *d* 0.0855' | |

## *Tuesday, March 1st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°53.97' | 15.0020° | 341°52.83' | S 7°40.73' | 0.9492' | 197°07.00' | 14.4363° | 321°39.80' | S 20°16.90' | 10.6823' | 59.2821' | 158°46.80' | **00** |
| **01** | 191°54.08' | 15.0020° | 341°55.18' | S 7°39.78' | 0.9494' | 211°33.28' | 14.4380° | 322°15.98' | S 20°06.10' | 10.8024' | 59.2680' | 173°49.26' | **01** |
| **02** | 206°54.20' | 15.0020° | 341°57.52' | S 7°38.83' | 0.9496' | 225°59.66' | 14.4396° | 322°52.07' | S 19°55.18' | 10.9208' | 59.2536' | 188°51.73' | **02** |
| **03** | 221°54.32' | 15.0020° | 341°59.87' | S 7°37.88' | 0.9498' | 240°26.13' | 14.4413° | 323°28.06' | S 19°44.14' | 11.0374' | 59.2390' | 203°54.19' | **03** |
| **04** | 236°54.44' | 15.0020° | 342°02.21' | S 7°36.93' | 0.9500' | 254°52.71' | 14.4429° | 324°03.94' | S 19°32.99' | 11.1523' | 59.2240' | 218°56.65' | **04** |
| **05** | 251°54.56' | 15.0020° | 342°04.56' | S 7°35.98' | 0.9502' | 269°19.39' | 14.4446° | 324°39.73' | S 19°21.72' | 11.2653' | 59.2088' | 233°59.12' | **05** |
| **06** | 266°54.68' | 15.0020° | 342°06.90' | S 7°35.03' | 0.9504' | 283°46.16' | 14.4463° | 325°15.42' | S 19°10.35' | 11.3766' | 59.1933' | 249°01.58' | **06** |
| **07** | 281°54.80' | 15.0020° | 342°09.25' | S 7°34.08' | 0.9505' | 298°13.04' | 14.4479° | 325°51.01' | S 18°58.86' | 11.4862' | 59.1775' | 264°04.05' | **07** |
| **08** | 296°54.92' | 15.0020° | 342°11.59' | S 7°33.13' | 0.9507' | 312°40.01' | 14.4496° | 326°26.50' | S 18°47.27' | 11.5939' | 59.1614' | 279°06.51' | **08** |
| **09** | 311°55.04' | 15.0020° | 342°13.94' | S 7°32.18' | 0.9509' | 327°07.09' | 14.4513° | 327°01.89' | S 18°35.57' | 11.6999' | 59.1451' | 294°08.97' | **09** |
| **10** | 326°55.16' | 15.0020° | 342°16.28' | S 7°31.23' | 0.9511' | 341°34.26' | 14.4529° | 327°37.18' | S 18°23.76' | 11.8040' | 59.1284' | 309°11.44' | **10** |
| **11** | 341°55.28' | 15.0020° | 342°18.62' | S 7°30.28' | 0.9513' | 356°01.54' | 14.4546° | 328°12.37' | S 18°11.86' | 11.9064' | 59.1115' | 324°13.90' | **11** |
| **12** | 356°55.40' | 15.0020° | 342°20.97' | S 7°29.33' | 0.9515' | 10°28.91' | 14.4562° | 328°47.46' | S 17°59.85' | 12.0070' | 59.0943' | 339°16.37' | **12** |
| **13** | 11°55.52' | 15.0020° | 342°23.31' | S 7°28.38' | 0.9517' | 24°56.38' | 14.4579° | 329°22.45' | S 17°47.74' | 12.1058' | 59.0768' | 354°18.83' | **13** |
| **14** | 26°55.64' | 15.0020° | 342°25.65' | S 7°27.42' | 0.9519' | 39°23.96' | 14.4595° | 329°57.34' | S 17°35.54' | 12.2028' | 59.0591' | 9°21.30' | **14** |
| **15** | 41°55.76' | 15.0020° | 342°28.00' | S 7°26.47' | 0.9521' | 53°51.63' | 14.4612° | 330°32.13' | S 17°23.24' | 12.2980' | 59.0410' | 24°23.76' | **15** |
| **16** | 56°55.88' | 15.0020° | 342°30.34' | S 7°25.52' | 0.9522' | 68°19.39' | 14.4628° | 331°06.83' | S 17°10.85' | 12.3914' | 59.0228' | 39°26.22' | **16** |
| **17** | 71°56.01' | 15.0020° | 342°32.68' | S 7°24.57' | 0.9524' | 82°47.26' | 14.4644° | 331°41.43' | S 16°58.37' | 12.4831' | 59.0042' | 54°28.69' | **17** |
| **18** | 86°56.13' | 15.0020° | 342°35.02' | S 7°23.61' | 0.9526' | 97°15.23' | 14.4661° | 332°15.93' | S 16°45.79' | 12.5729' | 58.9854' | 69°31.15' | **18** |
| **19** | 101°56.25' | 15.0020° | 342°37.37' | S 7°22.66' | 0.9528' | 111°43.29' | 14.4677° | 332°50.33' | S 16°33.13' | 12.6610' | 58.9663' | 84°33.62' | **19** |
| **20** | 116°56.37' | 15.0020° | 342°39.71' | S 7°21.71' | 0.9530' | 126°11.45' | 14.4693° | 333°24.63' | S 16°20.39' | 12.7473' | 58.9469' | 99°36.08' | **20** |
| **21** | 131°56.50' | 15.0020° | 342°42.05' | S 7°20.76' | 0.9532' | 140°39.70' | 14.4709° | 333°58.84' | S 16°07.55' | 12.8318' | 58.9273' | 114°38.54' | **21** |
| **22** | 146°56.62' | 15.0020° | 342°44.39' | S 7°19.80' | 0.9534' | 155°08.05' | 14.4725° | 334°32.96' | S 15°54.64' | 12.9145' | 58.9074' | 129°41.01' | **22** |
| **23** | 161°56.74' | 15.0021° | 342°46.73' | S 7°18.85' | 0.9535' | 169°36.50' | 14.4741° | 335°06.97' | S 15°41.64' | 12.9955' | 58.8872' | 144°43.47' | **23** |
| **24** | 176°56.86' | 15.0021° | 342°49.07' | S 7°17.89' | 0.9537' | 184°05.04' | 14.4757° | 335°40.90' | S 15°28.57' | 13.0747' | 58.8668' | 159°45.94' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1417' | hp (π) 0.1479' | ½Ø 16.1021' | 2.16318818761584<br>45% -cre |
| | EoT at 12:00 UTC : -12m 18s (δ 0.48 s/h) | | Phase at 12:00 UTC : 343.87° | |
| | Meridian Pass. Time : 12:12:18.403 | | Age : 26.7 day(s) | |

| UT | Venus ♀ (π 0.28') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°01.80' | 296°45.00' | S 16°52.81' | 220°32.31' | 298°14.49' | S 21°45.20' | 173°16.06' | 345°30.73' | S 7°14.85' | 197°16.04' | 321°30.76' | S 16°01.75' | **00** |
| **01** | 237°02.15' | 296°47.11' | S 16°52.73' | 235°32.80' | 298°16.46' | S 21°44.88' | 188°17.97' | 345°31.30' | S 7°14.62' | 212°18.22' | 321°31.04' | S 16°01.66' | **01** |
| **02** | 252°02.50' | 296°49.23' | S 16°52.65' | 250°33.29' | 298°18.44' | S 21°44.56' | 203°19.87' | 345°31.86' | S 7°14.38' | 227°20.40' | 321°31.33' | S 16°01.58' | **02** |
| **03** | 267°02.85' | 296°51.34' | S 16°52.57' | 265°33.78' | 298°20.41' | S 21°44.23' | 218°21.77' | 345°32.42' | S 7°14.15' | 242°22.58' | 321°31.61' | S 16°01.49' | **03** |
| **04** | 282°03.19' | 296°53.46' | S 16°52.48' | 280°34.27' | 298°22.39' | S 21°43.91' | 233°23.67' | 345°32.99' | S 7°13.92' | 257°24.76' | 321°31.90' | S 16°01.41' | **04** |
| **05** | 297°03.54' | 296°55.58' | S 16°52.40' | 295°34.76' | 298°24.36' | S 21°43.59' | 248°25.57' | 345°33.55' | S 7°13.69' | 272°26.94' | 321°32.18' | S 16°01.32' | **05** |
| **06** | 312°03.88' | 296°57.71' | S 16°52.32' | 310°35.25' | 298°26.33' | S 21°43.27' | 263°27.47' | 345°34.11' | S 7°13.46' | 287°29.12' | 321°32.46' | S 16°01.24' | **06** |
| **07** | 327°04.22' | 296°59.83' | S 16°52.23' | 325°35.74' | 298°28.31' | S 21°42.95' | 278°29.37' | 345°34.67' | S 7°13.23' | 302°31.30' | 321°32.75' | S 16°01.15' | **07** |
| **08** | 342°04.56' | 297°01.95' | S 16°52.15' | 340°36.23' | 298°30.28' | S 21°42.63' | 293°31.27' | 345°35.24' | S 7°12.99' | 317°33.48' | 321°33.03' | S 16°01.07' | **08** |
| **09** | 357°04.90' | 297°04.08' | S 16°52.06' | 355°36.72' | 298°32.25' | S 21°42.30' | 308°33.17' | 345°35.80' | S 7°12.76' | 332°35.66' | 321°33.32' | S 16°00.98' | **09** |
| **10** | 12°05.23' | 297°06.21' | S 16°51.97' | 10°37.21' | 298°34.23' | S 21°41.98' | 323°35.08' | 345°36.36' | S 7°12.53' | 347°37.84' | 321°33.60' | S 16°00.90' | **10** |
| **11** | 27°05.57' | 297°08.34' | S 16°51.89' | 25°37.70' | 298°36.20' | S 21°41.66' | 338°36.98' | 345°36.93' | S 7°12.30' | 2°40.02' | 321°33.88' | S 16°00.81' | **11** |
| **12** | 42°05.90' | 297°10.47' | S 16°51.80' | 40°38.19' | 298°38.17' | S 21°41.33' | 353°38.88' | 345°37.49' | S 7°12.07' | 17°42.20' | 321°34.17' | S 16°00.73' | **12** |
| **13** | 57°06.23' | 297°12.60' | S 16°51.71' | 55°38.69' | 298°40.14' | S 21°41.01' | 8°40.78' | 345°38.05' | S 7°11.84' | 32°44.38' | 321°34.45' | S 16°00.64' | **13** |
| **14** | 72°06.57' | 297°14.73' | S 16°51.62' | 70°39.18' | 298°42.12' | S 21°40.68' | 23°42.68' | 345°38.61' | S 7°11.60' | 47°46.56' | 321°34.73' | S 16°00.56' | **14** |
| **15** | 87°06.89' | 297°16.86' | S 16°51.53' | 85°39.67' | 298°44.09' | S 21°40.36' | 38°44.58' | 345°39.18' | S 7°11.37' | 62°48.74' | 321°35.02' | S 16°00.47' | **15** |
| **16** | 102°07.22' | 297°19.00' | S 16°51.44' | 100°40.16' | 298°46.06' | S 21°40.03' | 53°46.48' | 345°39.74' | S 7°11.14' | 77°50.92' | 321°35.30' | S 16°00.39' | **16** |
| **17** | 117°07.55' | 297°21.14' | S 16°51.35' | 115°40.65' | 298°48.04' | S 21°39.71' | 68°48.38' | 345°40.30' | S 7°10.91' | 92°53.10' | 321°35.59' | S 16°00.30' | **17** |
| **18** | 132°07.88' | 297°23.28' | S 16°51.25' | 130°41.14' | 298°50.01' | S 21°39.38' | 83°50.29' | 345°40.87' | S 7°10.68' | 107°55.28' | 321°35.87' | S 16°00.22' | **18** |
| **19** | 147°08.20' | 297°25.42' | S 16°51.16' | 145°41.64' | 298°51.98' | S 21°39.05' | 98°52.19' | 345°41.43' | S 7°10.45' | 122°57.46' | 321°36.15' | S 16°00.13' | **19** |
| **20** | 162°08.52' | 297°27.56' | S 16°51.07' | 160°42.13' | 298°53.95' | S 21°38.73' | 113°54.09' | 345°41.99' | S 7°10.21' | 137°59.64' | 321°36.44' | S 16°00.05' | **20** |
| **21** | 177°08.84' | 297°29.70' | S 16°50.97' | 175°42.62' | 298°55.92' | S 21°38.40' | 128°55.99' | 345°42.55' | S 7°09.98' | 153°01.83' | 321°36.72' | S 15°59.96' | **21** |
| **22** | 192°09.16' | 297°31.84' | S 16°50.88' | 190°43.11' | 298°57.90' | S 21°38.07' | 143°57.89' | 345°43.12' | S 7°09.75' | 168°04.01' | 321°37.00' | S 15°59.88' | **22** |
| **23** | 207°09.48' | 297°33.99' | S 16°50.78' | 205°43.60' | 298°59.87' | S 21°37.74' | 158°59.79' | 345°43.68' | S 7°09.52' | 183°06.19' | 321°37.28' | S 15°59.79' | **23** |
| **24** | 222°09.80' | 297°36.14' | S 16°50.68' | 220°44.10' | 299°01.84' | S 21°37.41' | 174°01.69' | 345°44.24' | S 7°09.29' | 198°08.37' | 321°37.57' | S 15°59.71' | **24** |
| | δ 15.0058° | | *d* 0.0808' | δ 15.0082° | | *d* 0.3199' | δ 15.0317° | | *d* 0.2315' | δ 15.0363° | | *d* 0.0852' | |

## *Wednesday, March 2nd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°56.86' | 15.0021° | 342°49.07' | S 7°17.89' | 0.9537' | 184°05.04' | 14.4757° | 335°40.90' | S 15°28.57' | 13.0747' | 58.8668' | 159°45.94' | **00** |
| **01** | 191°56.99' | 15.0021° | 342°51.41' | S 7°16.94' | 0.9539' | 198°33.68' | 14.4773° | 336°14.72' | S 15°15.42' | 13.1522' | 58.8462' | 174°48.40' | **01** |
| **02** | 206°57.11' | 15.0021° | 342°53.75' | S 7°15.99' | 0.9541' | 213°02.41' | 14.4788° | 336°48.46' | S 15°02.19' | 13.2279' | 58.8253' | 189°50.86' | **02** |
| **03** | 221°57.24' | 15.0021° | 342°56.09' | S 7°15.03' | 0.9543' | 227°31.23' | 14.4804° | 337°22.10' | S 14°48.89' | 13.3018' | 58.8041' | 204°53.33' | **03** |
| **04** | 236°57.36' | 15.0021° | 342°58.43' | S 7°14.08' | 0.9544' | 242°00.15' | 14.4819° | 337°55.65' | S 14°35.51' | 13.3740' | 58.7827' | 219°55.79' | **04** |
| **05** | 251°57.48' | 15.0021° | 343°00.77' | S 7°13.12' | 0.9546' | 256°29.16' | 14.4835° | 338°29.10' | S 14°22.07' | 13.4445' | 58.7610' | 234°58.26' | **05** |
| **06** | 266°57.61' | 15.0021° | 343°03.11' | S 7°12.17' | 0.9548' | 270°58.26' | 14.4850° | 339°02.47' | S 14°08.56' | 13.5132' | 58.7391' | 250°00.72' | **06** |
| **07** | 281°57.73' | 15.0021° | 343°05.45' | S 7°11.21' | 0.9550' | 285°27.45' | 14.4865° | 339°35.74' | S 13°54.98' | 13.5802' | 58.7170' | 265°03.18' | **07** |
| **08** | 296°57.86' | 15.0021° | 343°07.79' | S 7°10.26' | 0.9552' | 299°56.73' | 14.4880° | 340°08.92' | S 13°41.33' | 13.6455' | 58.6946' | 280°05.65' | **08** |
| **09** | 311°57.98' | 15.0021° | 343°10.13' | S 7°09.30' | 0.9553' | 314°26.10' | 14.4895° | 340°42.02' | S 13°27.62' | 13.7091' | 58.6720' | 295°08.11' | **09** |
| **10** | 326°58.11' | 15.0021° | 343°12.47' | S 7°08.35' | 0.9555' | 328°55.56' | 14.4910° | 341°15.02' | S 13°13.85' | 13.7710' | 58.6492' | 310°10.58' | **10** |
| **11** | 341°58.23' | 15.0021° | 343°14.81' | S 7°07.39' | 0.9557' | 343°25.10' | 14.4924° | 341°47.94' | S 13°00.02' | 13.8312' | 58.6261' | 325°13.04' | **11** |
| **12** | 356°58.36' | 15.0021° | 343°17.14' | S 7°06.44' | 0.9559' | 357°54.74' | 14.4939° | 342°20.77' | S 12°46.13' | 13.8897' | 58.6028' | 340°15.50' | **12** |
| **13** | 11°58.49' | 15.0021° | 343°19.48' | S 7°05.48' | 0.9561' | 12°24.45' | 14.4953° | 342°53.51' | S 12°32.18' | 13.9465' | 58.5793' | 355°17.97' | **13** |
| **14** | 26°58.61' | 15.0021° | 343°21.82' | S 7°04.52' | 0.9562' | 26°54.26' | 14.4968° | 343°26.17' | S 12°18.18' | 14.0016' | 58.5556' | 10°20.43' | **14** |
| **15** | 41°58.74' | 15.0021° | 343°24.16' | S 7°03.57' | 0.9564' | 41°24.15' | 14.4982° | 343°58.75' | S 12°04.13' | 14.0551' | 58.5316' | 25°22.90' | **15** |
| **16** | 56°58.87' | 15.0021° | 343°26.50' | S 7°02.61' | 0.9566' | 55°54.12' | 14.4996° | 344°31.24' | S 11°50.02' | 14.1070' | 58.5074' | 40°25.36' | **16** |
| **17** | 71°58.99' | 15.0021° | 343°28.83' | S 7°01.65' | 0.9568' | 70°24.18' | 14.5009° | 345°03.65' | S 11°35.86' | 14.1572' | 58.4830' | 55°27.83' | **17** |
| **18** | 86°59.12' | 15.0021° | 343°31.17' | S 7°00.70' | 0.9569' | 84°54.32' | 14.5023° | 345°35.97' | S 11°21.66' | 14.2058' | 58.4585' | 70°30.29' | **18** |
| **19** | 101°59.25' | 15.0021° | 343°33.51' | S 6°59.74' | 0.9571' | 99°24.54' | 14.5037° | 346°08.22' | S 11°07.40' | 14.2527' | 58.4337' | 85°32.75' | **19** |
| **20** | 116°59.37' | 15.0021° | 343°35.84' | S 6°58.78' | 0.9573' | 113°54.84' | 14.5050° | 346°40.38' | S 10°53.11' | 14.2981' | 58.4087' | 100°35.22' | **20** |
| **21** | 131°59.50' | 15.0021° | 343°38.18' | S 6°57.83' | 0.9574' | 128°25.22' | 14.5063° | 347°12.46' | S 10°38.76' | 14.3418' | 58.3835' | 115°37.68' | **21** |
| **22** | 146°59.63' | 15.0021° | 343°40.52' | S 6°56.87' | 0.9576' | 142°55.67' | 14.5076° | 347°44.47' | S 10°24.38' | 14.3839' | 58.3581' | 130°40.15' | **22** |
| **23** | 161°59.76' | 15.0021° | 343°42.85' | S 6°55.91' | 0.9578' | 157°26.21' | 14.5089° | 348°16.40' | S 10°09.96' | 14.4245' | 58.3325' | 145°42.61' | **23** |
| **24** | 176°59.89' | 15.0021° | 343°45.19' | S 6°54.95' | 0.9580' | 171°56.82' | 14.5102° | 348°48.25' | S 9°55.49' | 14.4635' | 58.3067' | 160°45.07' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 16.1377' | hp (π) 0.1479' | ½Ø 15.9682' | 0.25167251499335 075% -cre | [redacted] |
| | EoT at 12:00 UTC : -12m 6s (δ 0.50 s/h) | | Phase at 12:00 UTC : 356.99° | | |
| | Meridian Pass. Time : 12:12:06.560 | | Age : 27.8 day(s) | | |

| UT | Venus ♀ (π 0.27') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°09.80' | 297°36.14' | S 16°50.68' | 220°44.10' | 299°01.84' | S 21°37.41' | 174°01.69' | 345°44.24' | S 7°09.29' | 198°08.37' | 321°37.57' | S 15°59.71' | **00** |
| **01** | 237°10.11' | 297°38.29' | S 16°50.59' | 235°44.59' | 299°03.81' | S 21°37.08' | 189°03.59' | 345°44.81' | S 7°09.06' | 213°10.55' | 321°37.85' | S 15°59.62' | **01** |
| **02** | 252°10.43' | 297°40.44' | S 16°50.49' | 250°45.08' | 299°05.78' | S 21°36.75' | 204°05.50' | 345°45.37' | S 7°08.82' | 228°12.73' | 321°38.13' | S 15°59.54' | **02** |
| **03** | 267°10.74' | 297°42.59' | S 16°50.39' | 265°45.57' | 299°07.75' | S 21°36.42' | 219°07.40' | 345°45.93' | S 7°08.59' | 243°14.91' | 321°38.42' | S 15°59.45' | **03** |
| **04** | 282°11.05' | 297°44.74' | S 16°50.29' | 280°46.07' | 299°09.72' | S 21°36.09' | 234°09.30' | 345°46.49' | S 7°08.36' | 258°17.09' | 321°38.70' | S 15°59.37' | **04** |
| **05** | 297°11.36' | 297°46.89' | S 16°50.19' | 295°46.56' | 299°11.70' | S 21°35.76' | 249°11.20' | 345°47.06' | S 7°08.13' | 273°19.27' | 321°38.98' | S 15°59.28' | **05** |
| **06** | 312°11.67' | 297°49.05' | S 16°50.09' | 310°47.05' | 299°13.67' | S 21°35.43' | 264°13.10' | 345°47.62' | S 7°07.90' | 288°21.46' | 321°39.26' | S 15°59.20' | **06** |
| **07** | 327°11.98' | 297°51.20' | S 16°49.99' | 325°47.55' | 299°15.64' | S 21°35.10' | 279°15.00' | 345°48.18' | S 7°07.66' | 303°23.64' | 321°39.55' | S 15°59.11' | **07** |
| **08** | 342°12.29' | 297°53.36' | S 16°49.89' | 340°48.04' | 299°17.61' | S 21°34.77' | 294°16.90' | 345°48.75' | S 7°07.43' | 318°25.82' | 321°39.83' | S 15°59.03' | **08** |
| **09** | 357°12.59' | 297°55.52' | S 16°49.78' | 355°48.53' | 299°19.58' | S 21°34.44' | 309°18.80' | 345°49.31' | S 7°07.20' | 333°28.00' | 321°40.11' | S 15°58.94' | **09** |
| **10** | 12°12.89' | 297°57.68' | S 16°49.68' | 10°49.03' | 299°21.55' | S 21°34.10' | 324°20.70' | 345°49.87' | S 7°06.97' | 348°30.18' | 321°40.40' | S 15°58.86' | **10** |
| **11** | 27°13.20' | 297°59.84' | S 16°49.58' | 25°49.52' | 299°23.52' | S 21°33.77' | 339°22.61' | 345°50.43' | S 7°06.74' | 3°32.36' | 321°40.68' | S 15°58.77' | **11** |
| **12** | 42°13.50' | 298°02.01' | S 16°49.47' | 40°50.01' | 299°25.49' | S 21°33.44' | 354°24.51' | 345°51.00' | S 7°06.51' | 18°34.54' | 321°40.96' | S 15°58.69' | **12** |
| **13** | 57°13.80' | 298°04.17' | S 16°49.37' | 55°50.51' | 299°27.46' | S 21°33.11' | 9°26.41' | 345°51.56' | S 7°06.27' | 33°36.73' | 321°41.24' | S 15°58.60' | **13** |
| **14** | 72°14.10' | 298°06.34' | S 16°49.26' | 70°51.00' | 299°29.43' | S 21°32.77' | 24°28.31' | 345°52.12' | S 7°06.04' | 48°38.91' | 321°41.52' | S 15°58.52' | **14** |
| **15** | 87°14.39' | 298°08.50' | S 16°49.15' | 85°51.50' | 299°31.40' | S 21°32.44' | 39°30.21' | 345°52.69' | S 7°05.81' | 63°41.09' | 321°41.81' | S 15°58.43' | **15** |
| **16** | 102°14.69' | 298°10.67' | S 16°49.05' | 100°51.99' | 299°33.37' | S 21°32.10' | 54°32.11' | 345°53.25' | S 7°05.58' | 78°43.27' | 321°42.09' | S 15°58.35' | **16** |
| **17** | 117°14.98' | 298°12.84' | S 16°48.94' | 115°52.48' | 299°35.34' | S 21°31.77' | 69°34.01' | 345°53.81' | S 7°05.35' | 93°45.45' | 321°42.37' | S 15°58.27' | **17** |
| **18** | 132°15.27' | 298°15.01' | S 16°48.83' | 130°52.98' | 299°37.31' | S 21°31.43' | 84°35.91' | 345°54.37' | S 7°05.11' | 108°47.64' | 321°42.65' | S 15°58.18' | **18** |
| **19** | 147°15.57' | 298°17.19' | S 16°48.72' | 145°53.47' | 299°39.28' | S 21°31.10' | 99°37.82' | 345°54.94' | S 7°04.88' | 123°49.82' | 321°42.94' | S 15°58.10' | **19** |
| **20** | 162°15.86' | 298°19.36' | S 16°48.61' | 160°53.97' | 299°41.25' | S 21°30.76' | 114°39.72' | 345°55.50' | S 7°04.65' | 138°52.00' | 321°43.22' | S 15°58.01' | **20** |
| **21** | 177°16.15' | 298°21.54' | S 16°48.50' | 175°54.46' | 299°43.22' | S 21°30.42' | 129°41.62' | 345°56.06' | S 7°04.42' | 153°54.18' | 321°43.50' | S 15°57.93' | **21** |
| **22** | 192°16.43' | 298°23.71' | S 16°48.38' | 190°54.96' | 299°45.19' | S 21°30.09' | 144°43.52' | 345°56.63' | S 7°04.19' | 168°56.36' | 321°43.78' | S 15°57.84' | **22** |
| **23** | 207°16.72' | 298°25.89' | S 16°48.27' | 205°55.45' | 299°47.16' | S 21°29.75' | 159°45.42' | 345°57.19' | S 7°03.95' | 183°58.55' | 321°44.06' | S 15°57.76' | **23** |
| **24** | 222°17.00' | 298°28.07' | S 16°48.16' | 220°55.95' | 299°49.13' | S 21°29.41' | 174°47.32' | 345°57.75' | S 7°03.72' | 199°00.73' | 321°44.34' | S 15°57.67' | **24** |
| | δ 15.0053° | | *d* 0.0972' | δ 15.0082° | | *d* 0.3291' | δ 15.0317° | | *d* 0.2318' | δ 15.0364° | | *d* 0.0849' | |

## *Thursday, March 3rd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 176°59.89' | 15.0021° | 343°45.19' | S 6°54.95' | 0.9580' | 171°56.82' | 14.5102° | 348°48.25' | S 9°55.49' | 14.4635' | 58.3067' | 160°45.07' | **00** |
| **01** | 192°00.01' | 15.0021° | 343°47.52' | S 6°53.99' | 0.9581' | 186°27.51' | 14.5115° | 349°20.03' | S 9°40.99' | 14.5009' | 58.2807' | 175°47.54' | **01** |
| **02** | 207°00.14' | 15.0021° | 343°49.86' | S 6°53.04' | 0.9583' | 200°58.27' | 14.5127° | 349°51.73' | S 9°26.45' | 14.5368' | 58.2546' | 190°50.00' | **02** |
| **03** | 222°00.27' | 15.0021° | 343°52.19' | S 6°52.08' | 0.9585' | 215°29.11' | 14.5139° | 350°23.36' | S 9°11.88' | 14.5711' | 58.2283' | 205°52.47' | **03** |
| **04** | 237°00.40' | 15.0022° | 343°54.53' | S 6°51.12' | 0.9586' | 230°00.02' | 14.5151° | 350°54.91' | S 8°57.28' | 14.6039' | 58.2018' | 220°54.93' | **04** |
| **05** | 252°00.53' | 15.0022° | 343°56.86' | S 6°50.16' | 0.9588' | 244°31.00' | 14.5163° | 351°26.40' | S 8°42.64' | 14.6351' | 58.1751' | 235°57.39' | **05** |
| **06** | 267°00.66' | 15.0022° | 343°59.20' | S 6°49.20' | 0.9590' | 259°02.05' | 14.5175° | 351°57.81' | S 8°27.98' | 14.6649' | 58.1483' | 250°59.86' | **06** |
| **07** | 282°00.79' | 15.0022° | 344°01.53' | S 6°48.24' | 0.9591' | 273°33.17' | 14.5187° | 352°29.16' | S 8°13.29' | 14.6932' | 58.1213' | 266°02.32' | **07** |
| **08** | 297°00.92' | 15.0022° | 344°03.87' | S 6°47.28' | 0.9593' | 288°04.36' | 14.5198° | 353°00.43' | S 7°58.57' | 14.7200' | 58.0941' | 281°04.79' | **08** |
| **09** | 312°01.05' | 15.0022° | 344°06.20' | S 6°46.32' | 0.9595' | 302°35.61' | 14.5209° | 353°31.64' | S 7°43.82' | 14.7453' | 58.0668' | 296°07.25' | **09** |
| **10** | 327°01.18' | 15.0022° | 344°08.53' | S 6°45.36' | 0.9596' | 317°06.94' | 14.5221° | 354°02.78' | S 7°29.05' | 14.7691' | 58.0393' | 311°09.71' | **10** |
| **11** | 342°01.31' | 15.0022° | 344°10.87' | S 6°44.40' | 0.9598' | 331°38.32' | 14.5231° | 354°33.85' | S 7°14.26' | 14.7915' | 58.0117' | 326°12.18' | **11** |
| **12** | 357°01.44' | 15.0022° | 344°13.20' | S 6°43.44' | 0.9600' | 346°09.78' | 14.5242° | 355°04.86' | S 6°59.45' | 14.8124' | 57.9840' | 341°14.64' | **12** |
| **13** | 12°01.57' | 15.0022° | 344°15.53' | S 6°42.48' | 0.9601' | 0°41.29' | 14.5253° | 355°35.81' | S 6°44.62' | 14.8319' | 57.9561' | 356°17.11' | **13** |
| **14** | 27°01.70' | 15.0022° | 344°17.87' | S 6°41.52' | 0.9603' | 15°12.87' | 14.5263° | 356°06.70' | S 6°29.77' | 14.8500' | 57.9280' | 11°19.57' | **14** |
| **15** | 42°01.84' | 15.0022° | 344°20.20' | S 6°40.56' | 0.9605' | 29°44.51' | 14.5273° | 356°37.52' | S 6°14.90' | 14.8667' | 57.8998' | 26°22.03' | **15** |
| **16** | 57°01.97' | 15.0022° | 344°22.53' | S 6°39.60' | 0.9606' | 44°16.22' | 14.5284° | 357°08.28' | S 6°00.02' | 14.8820' | 57.8715' | 41°24.50' | **16** |
| **17** | 72°02.10' | 15.0022° | 344°24.86' | S 6°38.64' | 0.9608' | 58°47.98' | 14.5293° | 357°38.99' | S 5°45.12' | 14.8959' | 57.8431' | 56°26.96' | **17** |
| **18** | 87°02.23' | 15.0022° | 344°27.19' | S 6°37.68' | 0.9609' | 73°19.79' | 14.5303° | 358°09.63' | S 5°30.21' | 14.9084' | 57.8145' | 71°29.43' | **18** |
| **19** | 102°02.36' | 15.0022° | 344°29.53' | S 6°36.72' | 0.9611' | 87°51.67' | 14.5313° | 358°40.22' | S 5°15.29' | 14.9195' | 57.7859' | 86°31.89' | **19** |
| **20** | 117°02.50' | 15.0022° | 344°31.86' | S 6°35.76' | 0.9613' | 102°23.60' | 14.5322° | 359°10.75' | S 5°00.36' | 14.9293' | 57.7571' | 101°34.35' | **20** |
| **21** | 132°02.63' | 15.0022° | 344°34.19' | S 6°34.80' | 0.9614' | 116°55.59' | 14.5331° | 359°41.23' | S 4°45.43' | 14.9378' | 57.7282' | 116°36.82' | **21** |
| **22** | 147°02.76' | 15.0022° | 344°36.52' | S 6°33.83' | 0.9616' | 131°27.63' | 14.5340° | 0°11.65' | S 4°30.48' | 14.9449' | 57.6992' | 131°39.28' | **22** |
| **23** | 162°02.89' | 15.0022° | 344°38.85' | S 6°32.87' | 0.9617' | 145°59.72' | 14.5349° | 0°42.02' | S 4°15.53' | 14.9507' | 57.6701' | 146°41.75' | **23** |
| **24** | 177°03.03' | 15.0022° | 344°41.18' | S 6°31.91' | 0.9619' | 160°31.87' | 14.5358° | 1°12.34' | S 4°00.58' | 14.9552' | 57.6409' | 161°44.21' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1337' | hp (π) 0.1478' | ½Ø 15.7995' | 0.88790316358149<br>93% +cre |
| | EoT at 12:00 UTC : -11m 54s (δ 0.52 s/h) | | Phase at 12:00 UTC : 9.83° | |
| | Meridian Pass. Time : 12:11:54.232 | | Age : 0.8 day(s) | |

| UT | Venus ♀ (π 0.27') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°17.00' | 298°28.07' | S 16°48.16' | 220°55.95' | 299°49.13' | S 21°29.41' | 174°47.32' | 345°57.75' | S 7°03.72' | 199°00.73' | 321°44.34' | S 15°57.67' | **00** |
| **01** | 237°17.29' | 298°30.25' | S 16°48.04' | 235°56.44' | 299°51.10' | S 21°29.07' | 189°49.22' | 345°58.31' | S 7°03.49' | 214°02.91' | 321°44.63' | S 15°57.59' | **01** |
| **02** | 252°17.57' | 298°32.43' | S 16°47.93' | 250°56.94' | 299°53.07' | S 21°28.73' | 204°51.12' | 345°58.88' | S 7°03.26' | 229°05.09' | 321°44.91' | S 15°57.50' | **02** |
| **03** | 267°17.85' | 298°34.61' | S 16°47.81' | 265°57.43' | 299°55.03' | S 21°28.39' | 219°53.03' | 345°59.44' | S 7°03.03' | 244°07.28' | 321°45.19' | S 15°57.42' | **03** |
| **04** | 282°18.13' | 298°36.80' | S 16°47.70' | 280°57.93' | 299°57.00' | S 21°28.06' | 234°54.93' | 346°00.00' | S 7°02.79' | 259°09.46' | 321°45.47' | S 15°57.33' | **04** |
| **05** | 297°18.41' | 298°38.98' | S 16°47.58' | 295°58.42' | 299°58.97' | S 21°27.72' | 249°56.83' | 346°00.57' | S 7°02.56' | 274°11.64' | 321°45.75' | S 15°57.25' | **05** |
| **06** | 312°18.69' | 298°41.17' | S 16°47.46' | 310°58.92' | 300°00.94' | S 21°27.38' | 264°58.73' | 346°01.13' | S 7°02.33' | 289°13.82' | 321°46.03' | S 15°57.16' | **06** |
| **07** | 327°18.96' | 298°43.36' | S 16°47.34' | 325°59.41' | 300°02.91' | S 21°27.03' | 280°00.63' | 346°01.69' | S 7°02.10' | 304°16.01' | 321°46.32' | S 15°57.08' | **07** |
| **08** | 342°19.24' | 298°45.55' | S 16°47.23' | 340°59.91' | 300°04.88' | S 21°26.69' | 295°02.53' | 346°02.25' | S 7°01.87' | 319°18.19' | 321°46.60' | S 15°57.00' | **08** |
| **09** | 357°19.51' | 298°47.74' | S 16°47.11' | 356°00.40' | 300°06.85' | S 21°26.35' | 310°04.43' | 346°02.82' | S 7°01.63' | 334°20.37' | 321°46.88' | S 15°56.91' | **09** |
| **10** | 12°19.78' | 298°49.93' | S 16°46.99' | 11°00.90' | 300°08.81' | S 21°26.01' | 325°06.33' | 346°03.38' | S 7°01.40' | 349°22.55' | 321°47.16' | S 15°56.83' | **10** |
| **11** | 27°20.05' | 298°52.12' | S 16°46.86' | 26°01.40' | 300°10.78' | S 21°25.67' | 340°08.24' | 346°03.94' | S 7°01.17' | 4°24.74' | 321°47.44' | S 15°56.74' | **11** |
| **12** | 42°20.32' | 298°54.32' | S 16°46.74' | 41°01.89' | 300°12.75' | S 21°25.33' | 355°10.14' | 346°04.51' | S 7°00.94' | 19°26.92' | 321°47.72' | S 15°56.66' | **12** |
| **13** | 57°20.59' | 298°56.51' | S 16°46.62' | 56°02.39' | 300°14.72' | S 21°24.98' | 10°12.04' | 346°05.07' | S 7°00.71' | 34°29.10' | 321°48.00' | S 15°56.57' | **13** |
| **14** | 72°20.86' | 298°58.71' | S 16°46.50' | 71°02.88' | 300°16.69' | S 21°24.64' | 25°13.94' | 346°05.63' | S 7°00.47' | 49°31.29' | 321°48.28' | S 15°56.49' | **14** |
| **15** | 87°21.12' | 299°00.91' | S 16°46.37' | 86°03.38' | 300°18.65' | S 21°24.30' | 40°15.84' | 346°06.19' | S 7°00.24' | 64°33.47' | 321°48.56' | S 15°56.40' | **15** |
| **16** | 102°21.39' | 299°03.11' | S 16°46.25' | 101°03.88' | 300°20.62' | S 21°23.95' | 55°17.74' | 346°06.76' | S 7°00.01' | 79°35.65' | 321°48.84' | S 15°56.32' | **16** |
| **17** | 117°21.65' | 299°05.31' | S 16°46.12' | 116°04.37' | 300°22.59' | S 21°23.61' | 70°19.64' | 346°07.32' | S 6°59.78' | 94°37.84' | 321°49.13' | S 15°56.23' | **17** |
| **18** | 132°21.91' | 299°07.51' | S 16°46.00' | 131°04.87' | 300°24.55' | S 21°23.27' | 85°21.54' | 346°07.88' | S 6°59.55' | 109°40.02' | 321°49.41' | S 15°56.15' | **18** |
| **19** | 147°22.17' | 299°09.72' | S 16°45.87' | 146°05.37' | 300°26.52' | S 21°22.92' | 100°23.45' | 346°08.44' | S 6°59.31' | 124°42.20' | 321°49.69' | S 15°56.07' | **19** |
| **20** | 162°22.43' | 299°11.92' | S 16°45.74' | 161°05.87' | 300°28.49' | S 21°22.57' | 115°25.35' | 346°09.01' | S 6°59.08' | 139°44.39' | 321°49.97' | S 15°55.98' | **20** |
| **21** | 177°22.69' | 299°14.13' | S 16°45.61' | 176°06.36' | 300°30.46' | S 21°22.23' | 130°27.25' | 346°09.57' | S 6°58.85' | 154°46.57' | 321°50.25' | S 15°55.90' | **21** |
| **22** | 192°22.95' | 299°16.33' | S 16°45.48' | 191°06.86' | 300°32.42' | S 21°21.88' | 145°29.15' | 346°10.13' | S 6°58.62' | 169°48.75' | 321°50.53' | S 15°55.81' | **22** |
| **23** | 207°23.20' | 299°18.54' | S 16°45.35' | 206°07.36' | 300°34.39' | S 21°21.54' | 160°31.05' | 346°10.70' | S 6°58.38' | 184°50.94' | 321°50.81' | S 15°55.73' | **23** |
| **24** | 222°23.46' | 299°20.75' | S 16°45.22' | 221°07.85' | 300°36.36' | S 21°21.19' | 175°32.95' | 346°11.26' | S 6°58.15' | 199°53.12' | 321°51.09' | S 15°55.64' | **24** |
| | δ 15.0047° | | *d* 0.1140' | δ 15.0082° | | *d* 0.3382' | δ 15.0317° | | *d* 0.2320' | δ 15.0364° | | *d* 0.0847' | |

## *Friday, March 4th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°03.03' | 15.0022° | 344°41.18' | S 6°31.91' | 0.9619' | 160°31.87' | 14.5358° | 1°12.34' | S 4°00.58' | 14.9552' | 57.6409' | 161°44.21' | **00** |
| **01** | 192°03.16' | 15.0022° | 344°43.51' | S 6°30.95' | 0.9621' | 175°04.06' | 14.5366° | 1°42.61' | S 3°45.62' | 14.9584' | 57.6116' | 176°46.67' | **01** |
| **02** | 207°03.29' | 15.0022° | 344°45.84' | S 6°29.99' | 0.9622' | 189°36.31' | 14.5374° | 2°12.83' | S 3°30.66' | 14.9603' | 57.5822' | 191°49.14' | **02** |
| **03** | 222°03.43' | 15.0022° | 344°48.17' | S 6°29.02' | 0.9624' | 204°08.60' | 14.5382° | 2°43.00' | S 3°15.70' | 14.9609' | 57.5528' | 206°51.60' | **03** |
| **04** | 237°03.56' | 15.0022° | 344°50.50' | S 6°28.06' | 0.9625' | 218°40.95' | 14.5390° | 3°13.12' | S 3°00.74' | 14.9603' | 57.5232' | 221°54.07' | **04** |
| **05** | 252°03.70' | 15.0022° | 344°52.83' | S 6°27.10' | 0.9627' | 233°13.33' | 14.5398° | 3°43.20' | S 2°45.78' | 14.9584' | 57.4936' | 236°56.53' | **05** |
| **06** | 267°03.83' | 15.0022° | 344°55.16' | S 6°26.14' | 0.9628' | 247°45.77' | 14.5406° | 4°13.23' | S 2°30.82' | 14.9553' | 57.4639' | 251°58.99' | **06** |
| **07** | 282°03.97' | 15.0022° | 344°57.49' | S 6°25.17' | 0.9630' | 262°18.24' | 14.5413° | 4°43.21' | S 2°15.87' | 14.9509' | 57.4341' | 267°01.46' | **07** |
| **08** | 297°04.10' | 15.0022° | 344°59.82' | S 6°24.21' | 0.9632' | 276°50.77' | 14.5420° | 5°13.16' | S 2°00.93' | 14.9453' | 57.4043' | 282°03.92' | **08** |
| **09** | 312°04.24' | 15.0023° | 345°02.15' | S 6°23.25' | 0.9633' | 291°23.33' | 14.5427° | 5°43.06' | S 1°45.99' | 14.9385' | 57.3744' | 297°06.39' | **09** |
| **10** | 327°04.37' | 15.0023° | 345°04.48' | S 6°22.28' | 0.9635' | 305°55.93' | 14.5434° | 6°12.92' | S 1°31.06' | 14.9305' | 57.3444' | 312°08.85' | **10** |
| **11** | 342°04.51' | 15.0023° | 345°06.81' | S 6°21.32' | 0.9636' | 320°28.58' | 14.5441° | 6°42.74' | S 1°16.14' | 14.9214' | 57.3144' | 327°11.31' | **11** |
| **12** | 357°04.64' | 15.0023° | 345°09.14' | S 6°20.36' | 0.9638' | 335°01.26' | 14.5447° | 7°12.52' | S 1°01.22' | 14.9110' | 57.2844' | 342°13.78' | **12** |
| **13** | 12°04.78' | 15.0023° | 345°11.47' | S 6°19.39' | 0.9639' | 349°33.98' | 14.5453° | 7°42.26' | S 0°46.32' | 14.8995' | 57.2543' | 357°16.24' | **13** |
| **14** | 27°04.91' | 15.0023° | 345°13.79' | S 6°18.43' | 0.9641' | 4°06.73' | 14.5459° | 8°11.97' | S 0°31.44' | 14.8868' | 57.2242' | 12°18.71' | **14** |
| **15** | 42°05.05' | 15.0023° | 345°16.12' | S 6°17.46' | 0.9642' | 18°39.53' | 14.5465° | 8°41.64' | S 0°16.57' | 14.8729' | 57.1940' | 27°21.17' | **15** |
| **16** | 57°05.19' | 15.0023° | 345°18.45' | S 6°16.50' | 0.9644' | 33°12.35' | 14.5471° | 9°11.28' | S 0°01.71' | 14.8579' | 57.1638' | 42°23.63' | **16** |
| **17** | 72°05.32' | 15.0023° | 345°20.78' | S 6°15.54' | 0.9645' | 47°45.21' | 14.5477° | 9°40.89' | N 0°13.13' | 14.8418' | 57.1336' | 57°26.10' | **17** |
| **18** | 87°05.46' | 15.0023° | 345°23.10' | S 6°14.57' | 0.9647' | 62°18.11' | 14.5482° | 10°10.46' | N 0°27.96' | 14.8246' | 57.1033' | 72°28.56' | **18** |
| **19** | 102°05.60' | 15.0023° | 345°25.43' | S 6°13.61' | 0.9648' | 76°51.03' | 14.5487° | 10°40.00' | N 0°42.77' | 14.8062' | 57.0731' | 87°31.03' | **19** |
| **20** | 117°05.73' | 15.0023° | 345°27.76' | S 6°12.64' | 0.9650' | 91°23.98' | 14.5492° | 11°09.51' | N 0°57.55' | 14.7868' | 57.0428' | 102°33.49' | **20** |
| **21** | 132°05.87' | 15.0023° | 345°30.08' | S 6°11.68' | 0.9651' | 105°56.97' | 14.5497° | 11°38.99' | N 1°12.32' | 14.7663' | 57.0125' | 117°35.95' | **21** |
| **22** | 147°06.01' | 15.0023° | 345°32.41' | S 6°10.71' | 0.9653' | 120°29.98' | 14.5502° | 12°08.44' | N 1°27.06' | 14.7447' | 56.9822' | 132°38.42' | **22** |
| **23** | 162°06.15' | 15.0023° | 345°34.74' | S 6°09.74' | 0.9654' | 135°03.02' | 14.5506° | 12°37.87' | N 1°41.79' | 14.7220' | 56.9519' | 147°40.88' | **23** |
| **24** | 177°06.28' | 15.0023° | 345°37.06' | S 6°08.78' | 0.9656' | 149°36.08' | 14.5511° | 13°07.27' | N 1°56.48' | 14.6982' | 56.9216' | 162°43.35' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.1297' | hp (π) 0.1478' | ½Ø 15.6089' | 3.87078537594692 8% +cre | |
| EoT at 12:00 UTC : -11m 41s (δ 0.54 s/h) | | Phase at 12:00 UTC : 22.33° | | |
| Meridian Pass. Time : 12:11:41.434 | | Age : 1.7 day(s) | | |

| UT | Venus ♀ (π 0.27') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°23.46' | 299°20.75' | S 16°45.22' | 221°07.85' | 300°36.36' | S 21°21.19' | 175°32.95' | 346°11.26' | S 6°58.15' | 199°53.12' | 321°51.09' | S 15°55.64' | **00** |
| **01** | 237°23.71' | 299°22.96' | S 16°45.09' | 236°08.35' | 300°38.32' | S 21°20.84' | 190°34.85' | 346°11.82' | S 6°57.92' | 214°55.30' | 321°51.37' | S 15°55.56' | **01** |
| **02** | 252°23.96' | 299°25.17' | S 16°44.96' | 251°08.85' | 300°40.29' | S 21°20.49' | 205°36.75' | 346°12.38' | S 6°57.69' | 229°57.49' | 321°51.65' | S 15°55.48' | **02** |
| **03** | 267°24.21' | 299°27.39' | S 16°44.83' | 266°09.35' | 300°42.25' | S 21°20.15' | 220°38.66' | 346°12.95' | S 6°57.46' | 244°59.67' | 321°51.93' | S 15°55.39' | **03** |
| **04** | 282°24.46' | 299°29.60' | S 16°44.69' | 281°09.85' | 300°44.22' | S 21°19.80' | 235°40.56' | 346°13.51' | S 6°57.22' | 260°01.86' | 321°52.21' | S 15°55.31' | **04** |
| **05** | 297°24.71' | 299°31.82' | S 16°44.56' | 296°10.34' | 300°46.19' | S 21°19.45' | 250°42.46' | 346°14.07' | S 6°56.99' | 275°04.04' | 321°52.49' | S 15°55.22' | **05** |
| **06** | 312°24.96' | 299°34.03' | S 16°44.43' | 311°10.84' | 300°48.15' | S 21°19.10' | 265°44.36' | 346°14.63' | S 6°56.76' | 290°06.22' | 321°52.77' | S 15°55.14' | **06** |
| **07** | 327°25.21' | 299°36.25' | S 16°44.29' | 326°11.34' | 300°50.12' | S 21°18.75' | 280°46.26' | 346°15.20' | S 6°56.53' | 305°08.41' | 321°53.05' | S 15°55.05' | **07** |
| **08** | 342°25.45' | 299°38.47' | S 16°44.15' | 341°11.84' | 300°52.08' | S 21°18.40' | 295°48.16' | 346°15.76' | S 6°56.29' | 320°10.59' | 321°53.33' | S 15°54.97' | **08** |
| **09** | 357°25.69' | 299°40.69' | S 16°44.02' | 356°12.34' | 300°54.05' | S 21°18.05' | 310°50.06' | 346°16.32' | S 6°56.06' | 335°12.78' | 321°53.61' | S 15°54.89' | **09** |
| **10** | 12°25.94' | 299°42.91' | S 16°43.88' | 11°12.84' | 300°56.02' | S 21°17.70' | 325°51.97' | 346°16.88' | S 6°55.83' | 350°14.96' | 321°53.89' | S 15°54.80' | **10** |
| **11** | 27°26.18' | 299°45.14' | S 16°43.74' | 26°13.33' | 300°57.98' | S 21°17.35' | 340°53.87' | 346°17.45' | S 6°55.60' | 5°17.14' | 321°54.17' | S 15°54.72' | **11** |
| **12** | 42°26.42' | 299°47.36' | S 16°43.60' | 41°13.83' | 300°59.95' | S 21°17.00' | 355°55.77' | 346°18.01' | S 6°55.37' | 20°19.33' | 321°54.45' | S 15°54.63' | **12** |
| **13** | 57°26.65' | 299°49.59' | S 16°43.46' | 56°14.33' | 301°01.91' | S 21°16.65' | 10°57.67' | 346°18.57' | S 6°55.13' | 35°21.51' | 321°54.73' | S 15°54.55' | **13** |
| **14** | 72°26.89' | 299°51.81' | S 16°43.32' | 71°14.83' | 301°03.88' | S 21°16.29' | 25°59.57' | 346°19.14' | S 6°54.90' | 50°23.70' | 321°55.01' | S 15°54.46' | **14** |
| **15** | 87°27.13' | 299°54.04' | S 16°43.18' | 86°15.33' | 301°05.84' | S 21°15.94' | 41°01.47' | 346°19.70' | S 6°54.67' | 65°25.88' | 321°55.29' | S 15°54.38' | **15** |
| **16** | 102°27.36' | 299°56.27' | S 16°43.04' | 101°15.83' | 301°07.81' | S 21°15.59' | 56°03.37' | 346°20.26' | S 6°54.44' | 80°28.07' | 321°55.57' | S 15°54.30' | **16** |
| **17** | 117°27.60' | 299°58.50' | S 16°42.89' | 116°16.33' | 301°09.77' | S 21°15.24' | 71°05.28' | 346°20.82' | S 6°54.20' | 95°30.25' | 321°55.85' | S 15°54.21' | **17** |
| **18** | 132°27.83' | 300°00.73' | S 16°42.75' | 131°16.83' | 301°11.73' | S 21°14.88' | 86°07.18' | 346°21.39' | S 6°53.97' | 110°32.44' | 321°56.13' | S 15°54.13' | **18** |
| **19** | 147°28.06' | 300°02.97' | S 16°42.61' | 146°17.33' | 301°13.70' | S 21°14.53' | 101°09.08' | 346°21.95' | S 6°53.74' | 125°34.62' | 321°56.41' | S 15°54.04' | **19** |
| **20** | 162°28.29' | 300°05.20' | S 16°42.46' | 161°17.83' | 301°15.66' | S 21°14.17' | 116°10.98' | 346°22.51' | S 6°53.51' | 140°36.81' | 321°56.69' | S 15°53.96' | **20** |
| **21** | 177°28.52' | 300°07.44' | S 16°42.32' | 176°18.33' | 301°17.63' | S 21°13.82' | 131°12.88' | 346°23.07' | S 6°53.27' | 155°38.99' | 321°56.96' | S 15°53.88' | **21** |
| **22** | 192°28.75' | 300°09.67' | S 16°42.17' | 191°18.83' | 301°19.59' | S 21°13.46' | 146°14.78' | 346°23.64' | S 6°53.04' | 170°41.17' | 321°57.24' | S 15°53.79' | **22** |
| **23** | 207°28.97' | 300°11.91' | S 16°42.02' | 206°19.33' | 301°21.56' | S 21°13.11' | 161°16.68' | 346°24.20' | S 6°52.81' | 185°43.36' | 321°57.52' | S 15°53.71' | **23** |
| **24** | 222°29.20' | 300°14.15' | S 16°41.87' | 221°19.83' | 301°23.52' | S 21°12.75' | 176°18.59' | 346°24.76' | S 6°52.58' | 200°45.54' | 321°57.80' | S 15°53.62' | **24** |
| | δ 15.0042° | | *d* 0.1312' | δ 15.0083° | | *d* 0.3472' | δ 15.0317° | | *d* 0.2322' | δ 15.0364° | | *d* 0.0844' | |

## *Saturday, March 5th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°06.28' | 15.0023° | 345°37.06' | S 6°08.78' | 0.9656' | 149°36.08' | 14.5511° | 13°07.27' | N 1°56.48' | 14.6982' | 56.9216' | 162°43.35' | **00** |
| **01** | 192°06.42' | 15.0023° | 345°39.39' | S 6°07.81' | 0.9657' | 164°09.17' | 14.5515° | 13°36.64' | N 2°11.16' | 14.6735' | 56.8913' | 177°45.81' | **01** |
| **02** | 207°06.56' | 15.0023° | 345°41.71' | S 6°06.85' | 0.9659' | 178°42.28' | 14.5519° | 14°05.99' | N 2°25.80' | 14.6476' | 56.8610' | 192°48.27' | **02** |
| **03** | 222°06.70' | 15.0023° | 345°44.04' | S 6°05.88' | 0.9660' | 193°15.42' | 14.5523° | 14°35.32' | N 2°40.43' | 14.6207' | 56.8308' | 207°50.74' | **03** |
| **04** | 237°06.84' | 15.0023° | 345°46.36' | S 6°04.92' | 0.9662' | 207°48.58' | 14.5526° | 15°04.62' | N 2°55.02' | 14.5929' | 56.8005' | 222°53.20' | **04** |
| **05** | 252°06.98' | 15.0023° | 345°48.69' | S 6°03.95' | 0.9663' | 222°21.76' | 14.5530° | 15°33.91' | N 3°09.58' | 14.5639' | 56.7703' | 237°55.67' | **05** |
| **06** | 267°07.12' | 15.0023° | 345°51.01' | S 6°02.98' | 0.9664' | 236°54.96' | 14.5533° | 16°03.17' | N 3°24.12' | 14.5340' | 56.7401' | 252°58.13' | **06** |
| **07** | 282°07.26' | 15.0023° | 345°53.34' | S 6°02.02' | 0.9666' | 251°28.17' | 14.5536° | 16°32.42' | N 3°38.62' | 14.5031' | 56.7099' | 268°00.59' | **07** |
| **08** | 297°07.39' | 15.0023° | 345°55.66' | S 6°01.05' | 0.9667' | 266°01.41' | 14.5539° | 17°01.65' | N 3°53.09' | 14.4712' | 56.6798' | 283°03.06' | **08** |
| **09** | 312°07.53' | 15.0023° | 345°57.99' | S 6°00.08' | 0.9669' | 280°34.66' | 14.5542° | 17°30.86' | N 4°07.53' | 14.4383' | 56.6497' | 298°05.52' | **09** |
| **10** | 327°07.67' | 15.0023° | 346°00.31' | S 5°59.12' | 0.9670' | 295°07.93' | 14.5545° | 18°00.06' | N 4°21.93' | 14.4044' | 56.6197' | 313°07.99' | **10** |
| **11** | 342°07.81' | 15.0023° | 346°02.64' | S 5°58.15' | 0.9672' | 309°41.21' | 14.5547° | 18°29.24' | N 4°36.30' | 14.3696' | 56.5897' | 328°10.45' | **11** |
| **12** | 357°07.95' | 15.0023° | 346°04.96' | S 5°57.18' | 0.9673' | 324°14.51' | 14.5549° | 18°58.41' | N 4°50.64' | 14.3338' | 56.5597' | 343°12.92' | **12** |
| **13** | 12°08.10' | 15.0023° | 346°07.28' | S 5°56.21' | 0.9674' | 338°47.82' | 14.5551° | 19°27.56' | N 5°04.93' | 14.2971' | 56.5298' | 358°15.38' | **13** |
| **14** | 27°08.24' | 15.0023° | 346°09.61' | S 5°55.25' | 0.9676' | 353°21.14' | 14.5553° | 19°56.71' | N 5°19.19' | 14.2594' | 56.5000' | 13°17.84' | **14** |
| **15** | 42°08.38' | 15.0023° | 346°11.93' | S 5°54.28' | 0.9677' | 7°54.47' | 14.5555° | 20°25.84' | N 5°33.41' | 14.2208' | 56.4702' | 28°20.31' | **15** |
| **16** | 57°08.52' | 15.0024° | 346°14.25' | S 5°53.31' | 0.9679' | 22°27.81' | 14.5557° | 20°54.96' | N 5°47.59' | 14.1812' | 56.4405' | 43°22.77' | **16** |
| **17** | 72°08.66' | 15.0024° | 346°16.58' | S 5°52.34' | 0.9680' | 37°01.16' | 14.5558° | 21°24.08' | N 6°01.74' | 14.1408' | 56.4109' | 58°25.24' | **17** |
| **18** | 87°08.80' | 15.0024° | 346°18.90' | S 5°51.37' | 0.9681' | 51°34.52' | 14.5560° | 21°53.18' | N 6°15.84' | 14.0994' | 56.3813' | 73°27.70' | **18** |
| **19** | 102°08.94' | 15.0024° | 346°21.22' | S 5°50.41' | 0.9683' | 66°07.88' | 14.5561° | 22°22.28' | N 6°29.89' | 14.0571' | 56.3519' | 88°30.16' | **19** |
| **20** | 117°09.08' | 15.0024° | 346°23.54' | S 5°49.44' | 0.9684' | 80°41.25' | 14.5562° | 22°51.38' | N 6°43.91' | 14.0139' | 56.3225' | 103°32.63' | **20** |
| **21** | 132°09.23' | 15.0024° | 346°25.87' | S 5°48.47' | 0.9685' | 95°14.63' | 14.5563° | 23°20.46' | N 6°57.88' | 13.9699' | 56.2931' | 118°35.09' | **21** |
| **22** | 147°09.37' | 15.0024° | 346°28.19' | S 5°47.50' | 0.9687' | 109°48.01' | 14.5563° | 23°49.55' | N 7°11.80' | 13.9249' | 56.2639' | 133°37.56' | **22** |
| **23** | 162°09.51' | 15.0024° | 346°30.51' | S 5°46.53' | 0.9688' | 124°21.39' | 14.5564° | 24°18.63' | N 7°25.68' | 13.8791' | 56.2348' | 148°40.02' | **23** |
| **24** | 177°09.65' | 15.0024° | 346°32.83' | S 5°45.56' | 0.9689' | 138°54.77' | 14.5564° | 24°47.71' | N 7°39.51' | 13.8324' | 56.2058' | 163°42.48' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.1256' | hp (π) 0.1478' | ½Ø 15.4115' | 8.87028449769277 % +cre | |
| EoT at 12:00 UTC : -11m 28s (δ 0.56 s/h) | | Phase at 12:00 UTC : 34.46° | | |
| Meridian Pass. Time : 12:11:28.181 | | Age : 2.7 day(s) | | |

| UT | Venus ♀ (π 0.26') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°29.20' | 300°14.15' | S 16°41.87' | 221°19.83' | 301°23.52' | S 21°12.75' | 176°18.59' | 346°24.76' | S 6°52.58' | 200°45.54' | 321°57.80' | S 15°53.62' | **00** |
| **01** | 237°29.42' | 300°16.39' | S 16°41.73' | 236°20.33' | 301°25.48' | S 21°12.40' | 191°20.49' | 346°25.32' | S 6°52.35' | 215°47.73' | 321°58.08' | S 15°53.54' | **01** |
| **02** | 252°29.65' | 300°18.63' | S 16°41.58' | 251°20.83' | 301°27.45' | S 21°12.04' | 206°22.39' | 346°25.89' | S 6°52.11' | 230°49.91' | 321°58.36' | S 15°53.46' | **02** |
| **03** | 267°29.87' | 300°20.87' | S 16°41.43' | 266°21.33' | 301°29.41' | S 21°11.68' | 221°24.29' | 346°26.45' | S 6°51.88' | 245°52.10' | 321°58.64' | S 15°53.37' | **03** |
| **04** | 282°30.09' | 300°23.11' | S 16°41.27' | 281°21.83' | 301°31.37' | S 21°11.32' | 236°26.19' | 346°27.01' | S 6°51.65' | 260°54.29' | 321°58.92' | S 15°53.29' | **04** |
| **05** | 297°30.31' | 300°25.36' | S 16°41.12' | 296°22.33' | 301°33.34' | S 21°10.97' | 251°28.09' | 346°27.57' | S 6°51.42' | 275°56.47' | 321°59.20' | S 15°53.20' | **05** |
| **06** | 312°30.53' | 300°27.60' | S 16°40.97' | 311°22.83' | 301°35.30' | S 21°10.61' | 266°29.99' | 346°28.14' | S 6°51.18' | 290°58.66' | 321°59.47' | S 15°53.12' | **06** |
| **07** | 327°30.74' | 300°29.85' | S 16°40.82' | 326°23.33' | 301°37.26' | S 21°10.25' | 281°31.90' | 346°28.70' | S 6°50.95' | 306°00.84' | 321°59.75' | S 15°53.04' | **07** |
| **08** | 342°30.96' | 300°32.10' | S 16°40.66' | 341°23.83' | 301°39.23' | S 21°09.89' | 296°33.80' | 346°29.26' | S 6°50.72' | 321°03.03' | 322°00.03' | S 15°52.95' | **08** |
| **09** | 357°31.18' | 300°34.35' | S 16°40.51' | 356°24.33' | 301°41.19' | S 21°09.53' | 311°35.70' | 346°29.82' | S 6°50.49' | 336°05.21' | 322°00.31' | S 15°52.87' | **09** |
| **10** | 12°31.39' | 300°36.60' | S 16°40.35' | 11°24.83' | 301°43.15' | S 21°09.17' | 326°37.60' | 346°30.39' | S 6°50.25' | 351°07.40' | 322°00.59' | S 15°52.78' | **10** |
| **11** | 27°31.60' | 300°38.85' | S 16°40.20' | 26°25.34' | 301°45.12' | S 21°08.81' | 341°39.50' | 346°30.95' | S 6°50.02' | 6°09.58' | 322°00.87' | S 15°52.70' | **11** |
| **12** | 42°31.81' | 300°41.10' | S 16°40.04' | 41°25.84' | 301°47.08' | S 21°08.45' | 356°41.40' | 346°31.51' | S 6°49.79' | 21°11.77' | 322°01.15' | S 15°52.62' | **12** |
| **13** | 57°32.02' | 300°43.36' | S 16°39.88' | 56°26.34' | 301°49.04' | S 21°08.09' | 11°43.31' | 346°32.07' | S 6°49.56' | 36°13.96' | 322°01.42' | S 15°52.53' | **13** |
| **14** | 72°32.23' | 300°45.61' | S 16°39.72' | 71°26.84' | 301°51.00' | S 21°07.73' | 26°45.21' | 346°32.64' | S 6°49.32' | 51°16.14' | 322°01.70' | S 15°52.45' | **14** |
| **15** | 87°32.44' | 300°47.87' | S 16°39.57' | 86°27.34' | 301°52.96' | S 21°07.37' | 41°47.11' | 346°33.20' | S 6°49.09' | 66°18.33' | 322°01.98' | S 15°52.36' | **15** |
| **16** | 102°32.65' | 300°50.12' | S 16°39.41' | 101°27.84' | 301°54.93' | S 21°07.01' | 56°49.01' | 346°33.76' | S 6°48.86' | 81°20.51' | 322°02.26' | S 15°52.28' | **16** |
| **17** | 117°32.85' | 300°52.38' | S 16°39.24' | 116°28.35' | 301°56.89' | S 21°06.65' | 71°50.91' | 346°34.32' | S 6°48.63' | 96°22.70' | 322°02.54' | S 15°52.20' | **17** |
| **18** | 132°33.06' | 300°54.64' | S 16°39.08' | 131°28.85' | 301°58.85' | S 21°06.28' | 86°52.81' | 346°34.89' | S 6°48.39' | 111°24.88' | 322°02.81' | S 15°52.11' | **18** |
| **19** | 147°33.26' | 300°56.90' | S 16°38.92' | 146°29.35' | 302°00.81' | S 21°05.92' | 101°54.71' | 346°35.45' | S 6°48.16' | 126°27.07' | 322°03.09' | S 15°52.03' | **19** |
| **20** | 162°33.46' | 300°59.16' | S 16°38.76' | 161°29.85' | 302°02.77' | S 21°05.56' | 116°56.62' | 346°36.01' | S 6°47.93' | 141°29.26' | 322°03.37' | S 15°51.94' | **20** |
| **21** | 177°33.66' | 301°01.43' | S 16°38.60' | 176°30.36' | 302°04.74' | S 21°05.19' | 131°58.52' | 346°36.57' | S 6°47.70' | 156°31.44' | 322°03.65' | S 15°51.86' | **21** |
| **22** | 192°33.86' | 301°03.69' | S 16°38.43' | 191°30.86' | 302°06.70' | S 21°04.83' | 147°00.42' | 346°37.14' | S 6°47.46' | 171°33.63' | 322°03.93' | S 15°51.78' | **22** |
| **23** | 207°34.06' | 301°05.96' | S 16°38.27' | 206°31.36' | 302°08.66' | S 21°04.46' | 162°02.32' | 346°37.70' | S 6°47.23' | 186°35.82' | 322°04.20' | S 15°51.69' | **23** |
| **24** | 222°34.26' | 301°08.22' | S 16°38.10' | 221°31.86' | 302°10.62' | S 21°04.10' | 177°04.22' | 346°38.26' | S 6°47.00' | 201°38.00' | 322°04.48' | S 15°51.61' | **24** |
| | δ 15.0037° | | *d* 0.1487' | δ 15.0083° | | *d* 0.3562' | δ 15.0317° | | *d* 0.2324' | δ 15.0364° | | *d* 0.0840' | |

## *Sunday, March 6th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°09.65' | 15.0024° | 346°32.83' | S 5°45.56' | 0.9689' | 138°54.77' | 14.5564° | 24°47.71' | N 7°39.51' | 13.8324' | 56.2058' | 163°42.48' | **00** |
| **01** | 192°09.80' | 15.0024° | 346°35.15' | S 5°44.59' | 0.9691' | 153°28.16' | 14.5564° | 25°16.79' | N 7°53.30' | 13.7848' | 56.1768' | 178°44.95' | **01** |
| **02** | 207°09.94' | 15.0024° | 346°37.47' | S 5°43.62' | 0.9692' | 168°01.55' | 14.5564° | 25°45.87' | N 8°07.03' | 13.7364' | 56.1480' | 193°47.41' | **02** |
| **03** | 222°10.08' | 15.0024° | 346°39.79' | S 5°42.66' | 0.9694' | 182°34.93' | 14.5564° | 26°14.95' | N 8°20.72' | 13.6871' | 56.1193' | 208°49.88' | **03** |
| **04** | 237°10.22' | 15.0024° | 346°42.12' | S 5°41.69' | 0.9695' | 197°08.31' | 14.5564° | 26°44.03' | N 8°34.36' | 13.6370' | 56.0907' | 223°52.34' | **04** |
| **05** | 252°10.37' | 15.0024° | 346°44.44' | S 5°40.72' | 0.9696' | 211°41.69' | 14.5564° | 27°13.11' | N 8°47.94' | 13.5860' | 56.0622' | 238°54.80' | **05** |
| **06** | 267°10.51' | 15.0024° | 346°46.76' | S 5°39.75' | 0.9697' | 226°15.07' | 14.5563° | 27°42.20' | N 9°01.48' | 13.5342' | 56.0338' | 253°57.27' | **06** |
| **07** | 282°10.66' | 15.0024° | 346°49.08' | S 5°38.78' | 0.9699' | 240°48.45' | 14.5562° | 28°11.29' | N 9°14.96' | 13.4816' | 56.0056' | 268°59.73' | **07** |
| **08** | 297°10.80' | 15.0024° | 346°51.40' | S 5°37.81' | 0.9700' | 255°21.81' | 14.5561° | 28°40.38' | N 9°28.39' | 13.4282' | 55.9775' | 284°02.20' | **08** |
| **09** | 312°10.94' | 15.0024° | 346°53.72' | S 5°36.84' | 0.9701' | 269°55.18' | 14.5560° | 29°09.48' | N 9°41.76' | 13.3739' | 55.9495' | 299°04.66' | **09** |
| **10** | 327°11.09' | 15.0024° | 346°56.04' | S 5°35.87' | 0.9703' | 284°28.53' | 14.5559° | 29°38.59' | N 9°55.08' | 13.3188' | 55.9216' | 314°07.12' | **10** |
| **11** | 342°11.23' | 15.0024° | 346°58.36' | S 5°34.90' | 0.9704' | 299°01.88' | 14.5558° | 30°07.71' | N 10°08.34' | 13.2629' | 55.8939' | 329°09.59' | **11** |
| **12** | 357°11.38' | 15.0024° | 347°00.67' | S 5°33.92' | 0.9705' | 313°35.22' | 14.5556° | 30°36.83' | N 10°21.55' | 13.2063' | 55.8663' | 344°12.05' | **12** |
| **13** | 12°11.52' | 15.0024° | 347°02.99' | S 5°32.95' | 0.9707' | 328°08.55' | 14.5555° | 31°05.97' | N 10°34.70' | 13.1488' | 55.8389' | 359°14.52' | **13** |
| **14** | 27°11.67' | 15.0024° | 347°05.31' | S 5°31.98' | 0.9708' | 342°41.87' | 14.5553° | 31°35.11' | N 10°47.79' | 13.0905' | 55.8116' | 14°16.98' | **14** |
| **15** | 42°11.81' | 15.0024° | 347°07.63' | S 5°31.01' | 0.9709' | 357°15.17' | 14.5551° | 32°04.27' | N 11°00.82' | 13.0315' | 55.7844' | 29°19.44' | **15** |
| **16** | 57°11.96' | 15.0024° | 347°09.95' | S 5°30.04' | 0.9710' | 11°48.47' | 14.5549° | 32°33.44' | N 11°13.79' | 12.9716' | 55.7574' | 44°21.91' | **16** |
| **17** | 72°12.10' | 15.0024° | 347°12.27' | S 5°29.07' | 0.9712' | 26°21.75' | 14.5547° | 33°02.62' | N 11°26.70' | 12.9110' | 55.7306' | 59°24.37' | **17** |
| **18** | 87°12.25' | 15.0024° | 347°14.59' | S 5°28.10' | 0.9713' | 40°55.02' | 14.5545° | 33°31.81' | N 11°39.55' | 12.8496' | 55.7039' | 74°26.84' | **18** |
| **19** | 102°12.40' | 15.0024° | 347°16.90' | S 5°27.13' | 0.9714' | 55°28.28' | 14.5542° | 34°01.02' | N 11°52.34' | 12.7875' | 55.6774' | 89°29.30' | **19** |
| **20** | 117°12.54' | 15.0024° | 347°19.22' | S 5°26.16' | 0.9715' | 70°01.52' | 14.5540° | 34°30.25' | N 12°05.06' | 12.7246' | 55.6511' | 104°31.76' | **20** |
| **21** | 132°12.69' | 15.0024° | 347°21.54' | S 5°25.18' | 0.9717' | 84°34.74' | 14.5537° | 34°59.49' | N 12°17.73' | 12.6609' | 55.6249' | 119°34.23' | **21** |
| **22** | 147°12.83' | 15.0024° | 347°23.86' | S 5°24.21' | 0.9718' | 99°07.95' | 14.5534° | 35°28.75' | N 12°30.32' | 12.5965' | 55.5989' | 134°36.69' | **22** |
| **23** | 162°12.98' | 15.0024° | 347°26.18' | S 5°23.24' | 0.9719' | 113°41.14' | 14.5532° | 35°58.02' | N 12°42.85' | 12.5313' | 55.5731' | 149°39.16' | **23** |
| **24** | 177°13.13' | 15.0024° | 347°28.49' | S 5°22.27' | 0.9720' | 128°14.31' | 14.5528° | 36°27.31' | N 12°55.32' | 12.4654' | 55.5474' | 164°41.62' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.1216' | hp (π) 0.1477' | ½Ø 15.2226' | 15.4922213841853<br>4% +cre | |
| EoT at 12:00 UTC : -11m 14s (δ 0.58 s/h) | | Phase at 12:00 UTC : 46.22° | | |
| Meridian Pass. Time : 12:11:14.490 | | Age : 3.6 day(s) | | |

| UT | Venus ♀ (π 0.26') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°34.26' | 301°08.22' | S 16°38.10' | 221°31.86' | 302°10.62' | S 21°04.10' | 177°04.22' | 346°38.26' | S 6°47.00' | 201°38.00' | 322°04.48' | S 15°51.61' | **00** |
| **01** | 237°34.46' | 301°10.49' | S 16°37.93' | 236°32.37' | 302°12.58' | S 21°03.73' | 192°06.12' | 346°38.82' | S 6°46.77' | 216°40.19' | 322°04.76' | S 15°51.53' | **01** |
| **02** | 252°34.65' | 301°12.76' | S 16°37.77' | 251°32.87' | 302°14.54' | S 21°03.37' | 207°08.03' | 346°39.39' | S 6°46.53' | 231°42.38' | 322°05.04' | S 15°51.44' | **02** |
| **03** | 267°34.85' | 301°15.03' | S 16°37.60' | 266°33.37' | 302°16.50' | S 21°03.00' | 222°09.93' | 346°39.95' | S 6°46.30' | 246°44.56' | 322°05.31' | S 15°51.36' | **03** |
| **04** | 282°35.04' | 301°17.30' | S 16°37.43' | 281°33.88' | 302°18.46' | S 21°02.64' | 237°11.83' | 346°40.51' | S 6°46.07' | 261°46.75' | 322°05.59' | S 15°51.28' | **04** |
| **05** | 297°35.23' | 301°19.57' | S 16°37.26' | 296°34.38' | 302°20.42' | S 21°02.27' | 252°13.73' | 346°41.07' | S 6°45.84' | 276°48.94' | 322°05.87' | S 15°51.19' | **05** |
| **06** | 312°35.42' | 301°21.84' | S 16°37.09' | 311°34.88' | 302°22.38' | S 21°01.90' | 267°15.63' | 346°41.63' | S 6°45.60' | 291°51.12' | 322°06.15' | S 15°51.11' | **06** |
| **07** | 327°35.61' | 301°24.12' | S 16°36.92' | 326°35.39' | 302°24.34' | S 21°01.54' | 282°17.53' | 346°42.20' | S 6°45.37' | 306°53.31' | 322°06.42' | S 15°51.02' | **07** |
| **08** | 342°35.80' | 301°26.39' | S 16°36.75' | 341°35.89' | 302°26.30' | S 21°01.17' | 297°19.44' | 346°42.76' | S 6°45.14' | 321°55.50' | 322°06.70' | S 15°50.94' | **08** |
| **09** | 357°35.99' | 301°28.67' | S 16°36.57' | 356°36.40' | 302°28.26' | S 21°00.80' | 312°21.34' | 346°43.32' | S 6°44.91' | 336°57.68' | 322°06.98' | S 15°50.86' | **09** |
| **10** | 12°36.18' | 301°30.95' | S 16°36.40' | 11°36.90' | 302°30.22' | S 21°00.43' | 327°23.24' | 346°43.88' | S 6°44.67' | 351°59.87' | 322°07.25' | S 15°50.77' | **10** |
| **11** | 27°36.36' | 301°33.22' | S 16°36.23' | 26°37.40' | 302°32.18' | S 21°00.06' | 342°25.14' | 346°44.45' | S 6°44.44' | 7°02.06' | 322°07.53' | S 15°50.69' | **11** |
| **12** | 42°36.55' | 301°35.50' | S 16°36.05' | 41°37.91' | 302°34.14' | S 20°59.69' | 357°27.04' | 346°45.01' | S 6°44.21' | 22°04.24' | 322°07.81' | S 15°50.61' | **12** |
| **13** | 57°36.73' | 301°37.78' | S 16°35.88' | 56°38.41' | 302°36.10' | S 20°59.32' | 12°28.95' | 346°45.57' | S 6°43.98' | 37°06.43' | 322°08.08' | S 15°50.52' | **13** |
| **14** | 72°36.91' | 301°40.07' | S 16°35.70' | 71°38.92' | 302°38.06' | S 20°58.95' | 27°30.85' | 346°46.13' | S 6°43.74' | 52°08.62' | 322°08.36' | S 15°50.44' | **14** |
| **15** | 87°37.10' | 301°42.35' | S 16°35.52' | 86°39.42' | 302°40.02' | S 20°58.58' | 42°32.75' | 346°46.70' | S 6°43.51' | 67°10.81' | 322°08.64' | S 15°50.36' | **15** |
| **16** | 102°37.28' | 301°44.63' | S 16°35.35' | 101°39.93' | 302°41.98' | S 20°58.21' | 57°34.65' | 346°47.26' | S 6°43.28' | 82°12.99' | 322°08.92' | S 15°50.27' | **16** |
| **17** | 117°37.45' | 301°46.92' | S 16°35.17' | 116°40.43' | 302°43.94' | S 20°57.84' | 72°36.55' | 346°47.82' | S 6°43.05' | 97°15.18' | 322°09.19' | S 15°50.19' | **17** |
| **18** | 132°37.63' | 301°49.20' | S 16°34.99' | 131°40.94' | 302°45.90' | S 20°57.47' | 87°38.45' | 346°48.38' | S 6°42.81' | 112°17.37' | 322°09.47' | S 15°50.11' | **18** |
| **19** | 147°37.81' | 301°51.49' | S 16°34.81' | 146°41.44' | 302°47.86' | S 20°57.10' | 102°40.36' | 346°48.94' | S 6°42.58' | 127°19.56' | 322°09.74' | S 15°50.02' | **19** |
| **20** | 162°37.99' | 301°53.78' | S 16°34.63' | 161°41.95' | 302°49.82' | S 20°56.73' | 117°42.26' | 346°49.51' | S 6°42.35' | 142°21.74' | 322°10.02' | S 15°49.94' | **20** |
| **21** | 177°38.16' | 301°56.07' | S 16°34.45' | 176°42.45' | 302°51.78' | S 20°56.35' | 132°44.16' | 346°50.07' | S 6°42.12' | 157°23.93' | 322°10.30' | S 15°49.85' | **21** |
| **22** | 192°38.33' | 301°58.36' | S 16°34.26' | 191°42.96' | 302°53.73' | S 20°55.98' | 147°46.06' | 346°50.63' | S 6°41.88' | 172°26.12' | 322°10.57' | S 15°49.77' | **22** |
| **23** | 207°38.51' | 302°00.65' | S 16°34.08' | 206°43.46' | 302°55.69' | S 20°55.61' | 162°47.96' | 346°51.19' | S 6°41.65' | 187°28.31' | 322°10.85' | S 15°49.69' | **23** |
| **24** | 222°38.68' | 302°02.94' | S 16°33.90' | 221°43.97' | 302°57.65' | S 20°55.23' | 177°49.87' | 346°51.76' | S 6°41.42' | 202°30.49' | 322°11.13' | S 15°49.60' | **24** |
| | δ 15.0033° | | *d* 0.1665' | δ 15.0084° | | *d* 0.3651' | δ 15.0317° | | *d* 0.2325' | δ 15.0364° | | *d* 0.0837' | |

## *Monday, March 7th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°13.13' | 15.0024° | 347°28.49' | S 5°22.27' | 0.9720' | 128°14.31' | 14.5528° | 36°27.31' | N 12°55.32' | 12.4654' | 55.5474' | 164°41.62' | **00** |
| **01** | 192°13.28' | 15.0025° | 347°30.81' | S 5°21.30' | 0.9722' | 142°47.46' | 14.5525° | 36°56.63' | N 13°07.72' | 12.3987' | 55.5220' | 179°44.09' | **01** |
| **02** | 207°13.42' | 15.0025° | 347°33.13' | S 5°20.32' | 0.9723' | 157°20.59' | 14.5522° | 37°25.96' | N 13°20.05' | 12.3313' | 55.4967' | 194°46.55' | **02** |
| **03** | 222°13.57' | 15.0025° | 347°35.44' | S 5°19.35' | 0.9724' | 171°53.70' | 14.5519° | 37°55.31' | N 13°32.31' | 12.2632' | 55.4716' | 209°49.01' | **03** |
| **04** | 237°13.72' | 15.0025° | 347°37.76' | S 5°18.38' | 0.9725' | 186°26.79' | 14.5515° | 38°24.68' | N 13°44.51' | 12.1943' | 55.4467' | 224°51.48' | **04** |
| **05** | 252°13.87' | 15.0025° | 347°40.08' | S 5°17.41' | 0.9727' | 200°59.86' | 14.5511° | 38°54.08' | N 13°56.63' | 12.1247' | 55.4219' | 239°53.94' | **05** |
| **06** | 267°14.01' | 15.0025° | 347°42.39' | S 5°16.43' | 0.9728' | 215°32.91' | 14.5508° | 39°23.50' | N 14°08.69' | 12.0544' | 55.3974' | 254°56.41' | **06** |
| **07** | 282°14.16' | 15.0025° | 347°44.71' | S 5°15.46' | 0.9729' | 230°05.93' | 14.5504° | 39°52.94' | N 14°20.67' | 11.9833' | 55.3731' | 269°58.87' | **07** |
| **08** | 297°14.31' | 15.0025° | 347°47.02' | S 5°14.49' | 0.9730' | 244°38.93' | 14.5500° | 40°22.41' | N 14°32.58' | 11.9116' | 55.3490' | 285°01.33' | **08** |
| **09** | 312°14.46' | 15.0025° | 347°49.34' | S 5°13.51' | 0.9731' | 259°11.90' | 14.5496° | 40°51.90' | N 14°44.42' | 11.8391' | 55.3251' | 300°03.80' | **09** |
| **10** | 327°14.61' | 15.0025° | 347°51.65' | S 5°12.54' | 0.9733' | 273°44.85' | 14.5491° | 41°21.41' | N 14°56.19' | 11.7659' | 55.3013' | 315°06.26' | **10** |
| **11** | 342°14.76' | 15.0025° | 347°53.97' | S 5°11.57' | 0.9734' | 288°17.77' | 14.5487° | 41°50.96' | N 15°07.88' | 11.6920' | 55.2778' | 330°08.73' | **11** |
| **12** | 357°14.91' | 15.0025° | 347°56.28' | S 5°10.59' | 0.9735' | 302°50.66' | 14.5483° | 42°20.53' | N 15°19.49' | 11.6174' | 55.2546' | 345°11.19' | **12** |
| **13** | 12°15.05' | 15.0025° | 347°58.60' | S 5°09.62' | 0.9736' | 317°23.53' | 14.5478° | 42°50.12' | N 15°31.04' | 11.5421' | 55.2315' | 0°13.65' | **13** |
| **14** | 27°15.20' | 15.0025° | 348°00.91' | S 5°08.65' | 0.9737' | 331°56.37' | 14.5473° | 43°19.75' | N 15°42.50' | 11.4662' | 55.2086' | 15°16.12' | **14** |
| **15** | 42°15.35' | 15.0025° | 348°03.23' | S 5°07.67' | 0.9738' | 346°29.18' | 14.5469° | 43°49.40' | N 15°53.89' | 11.3895' | 55.1860' | 30°18.58' | **15** |
| **16** | 57°15.50' | 15.0025° | 348°05.54' | S 5°06.70' | 0.9740' | 1°01.97' | 14.5464° | 44°19.08' | N 16°05.20' | 11.3121' | 55.1636' | 45°21.05' | **16** |
| **17** | 72°15.65' | 15.0025° | 348°07.86' | S 5°05.73' | 0.9741' | 15°34.72' | 14.5459° | 44°48.79' | N 16°16.44' | 11.2340' | 55.1414' | 60°23.51' | **17** |
| **18** | 87°15.80' | 15.0025° | 348°10.17' | S 5°04.75' | 0.9742' | 30°07.44' | 14.5454° | 45°18.54' | N 16°27.59' | 11.1553' | 55.1194' | 75°25.97' | **18** |
| **19** | 102°15.95' | 15.0025° | 348°12.48' | S 5°03.78' | 0.9743' | 44°40.13' | 14.5448° | 45°48.31' | N 16°38.67' | 11.0758' | 55.0976' | 90°28.44' | **19** |
| **20** | 117°16.10' | 15.0025° | 348°14.80' | S 5°02.80' | 0.9744' | 59°12.79' | 14.5443° | 46°18.11' | N 16°49.67' | 10.9957' | 55.0761' | 105°30.90' | **20** |
| **21** | 132°16.25' | 15.0025° | 348°17.11' | S 5°01.83' | 0.9745' | 73°45.42' | 14.5438° | 46°47.95' | N 17°00.58' | 10.9149' | 55.0549' | 120°33.37' | **21** |
| **22** | 147°16.41' | 15.0025° | 348°19.43' | S 5°00.85' | 0.9746' | 88°18.01' | 14.5432° | 47°17.82' | N 17°11.41' | 10.8334' | 55.0338' | 135°35.83' | **22** |
| **23** | 162°16.56' | 15.0025° | 348°21.74' | S 4°59.88' | 0.9747' | 102°50.57' | 14.5427° | 47°47.72' | N 17°22.16' | 10.7513' | 55.0130' | 150°38.29' | **23** |
| **24** | 177°16.71' | 15.0025° | 348°24.05' | S 4°58.90' | 0.9749' | 117°23.10' | 14.5421° | 48°17.66' | N 17°32.83' | 10.6685' | 54.9924' | 165°40.76' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.1175' | hp (π) 0.1477' | ½Ø 15.0559' | 23.3338910239053<br>3% +cre | |
| EoT at 12:00 UTC : -11m 0s (δ 0.60 s/h) | | Phase at 12:00 UTC : 57.64° | | |
| Meridian Pass. Time : 12:11:00.378 | | Age : 4.5 day(s) | | |

| UT | Venus ♀ (π 0.26') | | | Mars ♂ (π 0.07') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°38.68' | 302°02.94' | S 16°33.90' | 221°43.97' | 302°57.65' | S 20°55.23' | 177°49.87' | 346°51.76' | S 6°41.42' | 202°30.49' | 322°11.13' | S 15°49.60' | **00** |
| **01** | 237°38.85' | 302°05.24' | S 16°33.71' | 236°44.48' | 302°59.61' | S 20°54.86' | 192°51.77' | 346°52.32' | S 6°41.19' | 217°32.68' | 322°11.40' | S 15°49.52' | **01** |
| **02** | 252°39.02' | 302°07.53' | S 16°33.53' | 251°44.98' | 303°01.57' | S 20°54.49' | 207°53.67' | 346°52.88' | S 6°40.95' | 232°34.87' | 322°11.68' | S 15°49.44' | **02** |
| **03** | 267°39.19' | 302°09.83' | S 16°33.34' | 266°45.49' | 303°03.53' | S 20°54.11' | 222°55.57' | 346°53.44' | S 6°40.72' | 247°37.06' | 322°11.95' | S 15°49.35' | **03** |
| **04** | 282°39.35' | 302°12.12' | S 16°33.15' | 281°45.99' | 303°05.48' | S 20°53.74' | 237°57.47' | 346°54.00' | S 6°40.49' | 262°39.25' | 322°12.23' | S 15°49.27' | **04** |
| **05** | 297°39.52' | 302°14.42' | S 16°32.97' | 296°46.50' | 303°07.44' | S 20°53.36' | 252°59.38' | 346°54.57' | S 6°40.25' | 277°41.43' | 322°12.51' | S 15°49.19' | **05** |
| **06** | 312°39.69' | 302°16.72' | S 16°32.78' | 311°47.01' | 303°09.40' | S 20°52.99' | 268°01.28' | 346°55.13' | S 6°40.02' | 292°43.62' | 322°12.78' | S 15°49.10' | **06** |
| **07** | 327°39.85' | 302°19.02' | S 16°32.59' | 326°47.51' | 303°11.36' | S 20°52.61' | 283°03.18' | 346°55.69' | S 6°39.79' | 307°45.81' | 322°13.06' | S 15°49.02' | **07** |
| **08** | 342°40.01' | 302°21.32' | S 16°32.40' | 341°48.02' | 303°13.31' | S 20°52.23' | 298°05.08' | 346°56.25' | S 6°39.56' | 322°48.00' | 322°13.33' | S 15°48.94' | **08** |
| **09** | 357°40.18' | 302°23.62' | S 16°32.21' | 356°48.53' | 303°15.27' | S 20°51.86' | 313°06.98' | 346°56.81' | S 6°39.32' | 337°50.19' | 322°13.61' | S 15°48.86' | **09** |
| **10** | 12°40.34' | 302°25.92' | S 16°32.02' | 11°49.03' | 303°17.23' | S 20°51.48' | 328°08.89' | 346°57.38' | S 6°39.09' | 352°52.38' | 322°13.88' | S 15°48.77' | **10** |
| **11** | 27°40.50' | 302°28.23' | S 16°31.82' | 26°49.54' | 303°19.19' | S 20°51.10' | 343°10.79' | 346°57.94' | S 6°38.86' | 7°54.57' | 322°14.16' | S 15°48.69' | **11** |
| **12** | 42°40.66' | 302°30.53' | S 16°31.63' | 41°50.05' | 303°21.14' | S 20°50.72' | 358°12.69' | 346°58.50' | S 6°38.63' | 22°56.75' | 322°14.44' | S 15°48.61' | **12** |
| **13** | 57°40.81' | 302°32.84' | S 16°31.44' | 56°50.56' | 303°23.10' | S 20°50.34' | 13°14.59' | 346°59.06' | S 6°38.39' | 37°58.94' | 322°14.71' | S 15°48.52' | **13** |
| **14** | 72°40.97' | 302°35.15' | S 16°31.24' | 71°51.06' | 303°25.06' | S 20°49.97' | 28°16.49' | 346°59.62' | S 6°38.16' | 53°01.13' | 322°14.99' | S 15°48.44' | **14** |
| **15** | 87°41.13' | 302°37.45' | S 16°31.05' | 86°51.57' | 303°27.01' | S 20°49.59' | 43°18.40' | 347°00.19' | S 6°37.93' | 68°03.32' | 322°15.26' | S 15°48.36' | **15** |
| **16** | 102°41.28' | 302°39.76' | S 16°30.85' | 101°52.08' | 303°28.97' | S 20°49.21' | 58°20.30' | 347°00.75' | S 6°37.70' | 83°05.51' | 322°15.54' | S 15°48.27' | **16** |
| **17** | 117°41.44' | 302°42.07' | S 16°30.65' | 116°52.59' | 303°30.92' | S 20°48.83' | 73°22.20' | 347°01.31' | S 6°37.46' | 98°07.70' | 322°15.81' | S 15°48.19' | **17** |
| **18** | 132°41.59' | 302°44.39' | S 16°30.46' | 131°53.09' | 303°32.88' | S 20°48.45' | 88°24.10' | 347°01.87' | S 6°37.23' | 113°09.89' | 322°16.09' | S 15°48.11' | **18** |
| **19** | 147°41.74' | 302°46.70' | S 16°30.26' | 146°53.60' | 303°34.84' | S 20°48.07' | 103°26.00' | 347°02.43' | S 6°37.00' | 128°12.08' | 322°16.36' | S 15°48.02' | **19** |
| **20** | 162°41.89' | 302°49.01' | S 16°30.06' | 161°54.11' | 303°36.79' | S 20°47.69' | 118°27.91' | 347°03.00' | S 6°36.76' | 143°14.27' | 322°16.64' | S 15°47.94' | **20** |
| **21** | 177°42.04' | 302°51.33' | S 16°29.86' | 176°54.62' | 303°38.75' | S 20°47.30' | 133°29.81' | 347°03.56' | S 6°36.53' | 158°16.45' | 322°16.91' | S 15°47.86' | **21** |
| **22** | 192°42.19' | 302°53.64' | S 16°29.66' | 191°55.13' | 303°40.70' | S 20°46.92' | 148°31.71' | 347°04.12' | S 6°36.30' | 173°18.64' | 322°17.19' | S 15°47.77' | **22** |
| **23** | 207°42.34' | 302°55.96' | S 16°29.46' | 206°55.63' | 303°42.66' | S 20°46.54' | 163°33.61' | 347°04.68' | S 6°36.07' | 188°20.83' | 322°17.46' | S 15°47.69' | **23** |
| **24** | 222°42.48' | 302°58.27' | S 16°29.26' | 221°56.14' | 303°44.62' | S 20°46.16' | 178°35.52' | 347°05.24' | S 6°35.83' | 203°23.02' | 322°17.74' | S 15°47.61' | **24** |
| | δ 15.0028° | | *d* 0.1846' | δ 15.0084° | | *d* 0.3740' | δ 15.0317° | | *d* 0.2326' | δ 15.0365° | | *d* 0.0834' | |

## *Tuesday, March 8th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°16.71' | 15.0025° | 348°24.05' | S 4°58.90' | 0.9749' | 117°23.10' | 14.5421° | 48°17.66' | N 17°32.83' | 10.6685' | 54.9924' | 165°40.76' | **00** |
| **01** | 192°16.86' | 15.0025° | 348°26.36' | S 4°57.93' | 0.9750' | 131°55.60' | 14.5416° | 48°47.63' | N 17°43.42' | 10.5850' | 54.9721' | 180°43.22' | **01** |
| **02** | 207°17.01' | 15.0025° | 348°28.68' | S 4°56.95' | 0.9751' | 146°28.05' | 14.5410° | 49°17.63' | N 17°53.92' | 10.5008' | 54.9520' | 195°45.69' | **02** |
| **03** | 222°17.16' | 15.0025° | 348°30.99' | S 4°55.98' | 0.9752' | 161°00.48' | 14.5404° | 49°47.67' | N 18°04.34' | 10.4160' | 54.9322' | 210°48.15' | **03** |
| **04** | 237°17.31' | 15.0025° | 348°33.30' | S 4°55.00' | 0.9753' | 175°32.87' | 14.5398° | 50°17.75' | N 18°14.67' | 10.3305' | 54.9126' | 225°50.62' | **04** |
| **05** | 252°17.47' | 15.0025° | 348°35.61' | S 4°54.03' | 0.9754' | 190°05.22' | 14.5392° | 50°47.86' | N 18°24.91' | 10.2444' | 54.8933' | 240°53.08' | **05** |
| **06** | 267°17.62' | 15.0025° | 348°37.93' | S 4°53.05' | 0.9755' | 204°37.54' | 14.5386° | 51°18.01' | N 18°35.07' | 10.1576' | 54.8742' | 255°55.54' | **06** |
| **07** | 282°17.77' | 15.0025° | 348°40.24' | S 4°52.08' | 0.9756' | 219°09.82' | 14.5380° | 51°48.19' | N 18°45.14' | 10.0702' | 54.8554' | 270°58.01' | **07** |
| **08** | 297°17.92' | 15.0025° | 348°42.55' | S 4°51.10' | 0.9757' | 233°42.06' | 14.5374° | 52°18.41' | N 18°55.12' | 9.9821' | 54.8368' | 286°00.47' | **08** |
| **09** | 312°18.08' | 15.0025° | 348°44.86' | S 4°50.13' | 0.9758' | 248°14.26' | 14.5367° | 52°48.67' | N 19°05.01' | 9.8933' | 54.8185' | 301°02.94' | **09** |
| **10** | 327°18.23' | 15.0025° | 348°47.17' | S 4°49.15' | 0.9759' | 262°46.43' | 14.5361° | 53°18.97' | N 19°14.82' | 9.8039' | 54.8004' | 316°05.40' | **10** |
| **11** | 342°18.38' | 15.0025° | 348°49.48' | S 4°48.17' | 0.9761' | 277°18.56' | 14.5355° | 53°49.30' | N 19°24.53' | 9.7139' | 54.7826' | 331°07.86' | **11** |
| **12** | 357°18.53' | 15.0026° | 348°51.79' | S 4°47.20' | 0.9762' | 291°50.65' | 14.5348° | 54°19.68' | N 19°34.15' | 9.6232' | 54.7651' | 346°10.33' | **12** |
| **13** | 12°18.69' | 15.0026° | 348°54.10' | S 4°46.22' | 0.9763' | 306°22.70' | 14.5342° | 54°50.09' | N 19°43.69' | 9.5319' | 54.7478' | 1°12.79' | **13** |
| **14** | 27°18.84' | 15.0026° | 348°56.42' | S 4°45.24' | 0.9764' | 320°54.71' | 14.5335° | 55°20.54' | N 19°53.13' | 9.4399' | 54.7308' | 16°15.26' | **14** |
| **15** | 42°18.99' | 15.0026° | 348°58.73' | S 4°44.27' | 0.9765' | 335°26.68' | 14.5329° | 55°51.04' | N 20°02.47' | 9.3473' | 54.7141' | 31°17.72' | **15** |
| **16** | 57°19.15' | 15.0026° | 349°01.04' | S 4°43.29' | 0.9766' | 349°58.62' | 14.5322° | 56°21.57' | N 20°11.73' | 9.2541' | 54.6976' | 46°20.18' | **16** |
| **17** | 72°19.30' | 15.0026° | 349°03.35' | S 4°42.31' | 0.9767' | 4°30.51' | 14.5315° | 56°52.14' | N 20°20.89' | 9.1603' | 54.6814' | 61°22.65' | **17** |
| **18** | 87°19.46' | 15.0026° | 349°05.66' | S 4°41.34' | 0.9768' | 19°02.36' | 14.5309° | 57°22.75' | N 20°29.95' | 9.0658' | 54.6655' | 76°25.11' | **18** |
| **19** | 102°19.61' | 15.0026° | 349°07.97' | S 4°40.36' | 0.9769' | 33°34.17' | 14.5302° | 57°53.41' | N 20°38.92' | 8.9707' | 54.6499' | 91°27.58' | **19** |
| **20** | 117°19.77' | 15.0026° | 349°10.28' | S 4°39.38' | 0.9770' | 48°05.94' | 14.5295° | 58°24.10' | N 20°47.80' | 8.8750' | 54.6345' | 106°30.04' | **20** |
| **21** | 132°19.92' | 15.0026° | 349°12.59' | S 4°38.41' | 0.9771' | 62°37.67' | 14.5288° | 58°54.84' | N 20°56.58' | 8.7786' | 54.6194' | 121°32.51' | **21** |
| **22** | 147°20.07' | 15.0026° | 349°14.89' | S 4°37.43' | 0.9772' | 77°09.36' | 14.5281° | 59°25.61' | N 21°05.26' | 8.6817' | 54.6046' | 136°34.97' | **22** |
| **23** | 162°20.23' | 15.0026° | 349°17.20' | S 4°36.45' | 0.9773' | 91°41.00' | 14.5274° | 59°56.43' | N 21°13.84' | 8.5841' | 54.5901' | 151°37.43' | **23** |
| **24** | 177°20.39' | 15.0026° | 349°19.51' | S 4°35.48' | 0.9774' | 106°12.60' | 14.5267° | 60°27.29' | N 21°22.33' | 8.4859' | 54.5758' | 166°39.90' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 16.1134' | hp (π) 0.1477' | ½Ø 14.9225' | 32.0196825315550<br>06% +cre | |
| | EoT at 12:00 UTC : -10m 45s (δ 0.61 s/h) | | Phase at 12:00 UTC : 68.78° | | |
| | Meridian Pass. Time : 12:10:45.863 | | Age : 5.3 day(s) | | |

| UT | Venus ♀ (π 0.25') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°42.48' | 302°58.27' | S 16°29.26' | 221°56.14' | 303°44.62' | S 20°46.16' | 178°35.52' | 347°05.24' | S 6°35.83' | 203°23.02' | 322°17.74' | S 15°47.61' | **00** |
| **01** | 237°42.63' | 303°00.59' | S 16°29.05' | 236°56.65' | 303°46.57' | S 20°45.78' | 193°37.42' | 347°05.81' | S 6°35.60' | 218°25.21' | 322°18.01' | S 15°47.53' | **01** |
| **02** | 252°42.78' | 303°02.91' | S 16°28.85' | 251°57.16' | 303°48.53' | S 20°45.39' | 208°39.32' | 347°06.37' | S 6°35.37' | 233°27.40' | 322°18.29' | S 15°47.44' | **02** |
| **03** | 267°42.92' | 303°05.23' | S 16°28.64' | 266°57.67' | 303°50.48' | S 20°45.01' | 223°41.22' | 347°06.93' | S 6°35.14' | 248°29.59' | 322°18.56' | S 15°47.36' | **03** |
| **04** | 282°43.06' | 303°07.55' | S 16°28.44' | 281°58.18' | 303°52.44' | S 20°44.63' | 238°43.12' | 347°07.49' | S 6°34.90' | 263°31.78' | 322°18.83' | S 15°47.28' | **04** |
| **05** | 297°43.20' | 303°09.88' | S 16°28.23' | 296°58.69' | 303°54.39' | S 20°44.24' | 253°45.03' | 347°08.05' | S 6°34.67' | 278°33.97' | 322°19.11' | S 15°47.19' | **05** |
| **06** | 312°43.34' | 303°12.20' | S 16°28.03' | 311°59.20' | 303°56.35' | S 20°43.86' | 268°46.93' | 347°08.61' | S 6°34.44' | 293°36.16' | 322°19.38' | S 15°47.11' | **06** |
| **07** | 327°43.48' | 303°14.52' | S 16°27.82' | 326°59.71' | 303°58.30' | S 20°43.47' | 283°48.83' | 347°09.18' | S 6°34.20' | 308°38.35' | 322°19.66' | S 15°47.03' | **07** |
| **08** | 342°43.62' | 303°16.85' | S 16°27.61' | 342°00.22' | 304°00.25' | S 20°43.09' | 298°50.73' | 347°09.74' | S 6°33.97' | 323°40.54' | 322°19.93' | S 15°46.94' | **08** |
| **09** | 357°43.76' | 303°19.17' | S 16°27.40' | 357°00.73' | 304°02.21' | S 20°42.70' | 313°52.64' | 347°10.30' | S 6°33.74' | 338°42.73' | 322°20.21' | S 15°46.86' | **09** |
| **10** | 12°43.90' | 303°21.50' | S 16°27.19' | 12°01.24' | 304°04.16' | S 20°42.32' | 328°54.54' | 347°10.86' | S 6°33.51' | 353°44.92' | 322°20.48' | S 15°46.78' | **10** |
| **11** | 27°44.03' | 303°23.83' | S 16°26.98' | 27°01.75' | 304°06.12' | S 20°41.93' | 343°56.44' | 347°11.42' | S 6°33.27' | 8°47.11' | 322°20.75' | S 15°46.70' | **11** |
| **12** | 42°44.17' | 303°26.16' | S 16°26.77' | 42°02.26' | 304°08.07' | S 20°41.54' | 358°58.34' | 347°11.99' | S 6°33.04' | 23°49.30' | 322°21.03' | S 15°46.61' | **12** |
| **13** | 57°44.30' | 303°28.49' | S 16°26.56' | 57°02.77' | 304°10.03' | S 20°41.16' | 14°00.25' | 347°12.55' | S 6°32.81' | 38°51.49' | 322°21.30' | S 15°46.53' | **13** |
| **14** | 72°44.44' | 303°30.82' | S 16°26.34' | 72°03.28' | 304°11.98' | S 20°40.77' | 29°02.15' | 347°13.11' | S 6°32.57' | 53°53.68' | 322°21.58' | S 15°46.45' | **14** |
| **15** | 87°44.57' | 303°33.15' | S 16°26.13' | 87°03.79' | 304°13.93' | S 20°40.38' | 44°04.05' | 347°13.67' | S 6°32.34' | 68°55.87' | 322°21.85' | S 15°46.36' | **15** |
| **16** | 102°44.70' | 303°35.49' | S 16°25.92' | 102°04.30' | 304°15.89' | S 20°39.99' | 59°05.95' | 347°14.23' | S 6°32.11' | 83°58.06' | 322°22.12' | S 15°46.28' | **16** |
| **17** | 117°44.83' | 303°37.82' | S 16°25.70' | 117°04.81' | 304°17.84' | S 20°39.60' | 74°07.86' | 347°14.79' | S 6°31.88' | 99°00.25' | 322°22.40' | S 15°46.20' | **17** |
| **18** | 132°44.96' | 303°40.16' | S 16°25.49' | 132°05.32' | 304°19.79' | S 20°39.21' | 89°09.76' | 347°15.36' | S 6°31.64' | 114°02.44' | 322°22.67' | S 15°46.12' | **18** |
| **19** | 147°45.09' | 303°42.49' | S 16°25.27' | 147°05.83' | 304°21.75' | S 20°38.83' | 104°11.66' | 347°15.92' | S 6°31.41' | 129°04.63' | 322°22.94' | S 15°46.03' | **19** |
| **20** | 162°45.21' | 303°44.83' | S 16°25.05' | 162°06.34' | 304°23.70' | S 20°38.44' | 119°13.56' | 347°16.48' | S 6°31.18' | 144°06.82' | 322°23.22' | S 15°45.95' | **20** |
| **21** | 177°45.34' | 303°47.17' | S 16°24.83' | 177°06.85' | 304°25.65' | S 20°38.05' | 134°15.47' | 347°17.04' | S 6°30.95' | 159°09.01' | 322°23.49' | S 15°45.87' | **21** |
| **22** | 192°45.46' | 303°49.51' | S 16°24.61' | 192°07.36' | 304°27.60' | S 20°37.66' | 149°17.37' | 347°17.60' | S 6°30.71' | 174°11.20' | 322°23.76' | S 15°45.79' | **22** |
| **23** | 207°45.59' | 303°51.85' | S 16°24.39' | 207°07.88' | 304°29.56' | S 20°37.26' | 164°19.27' | 347°18.16' | S 6°30.48' | 189°13.40' | 322°24.04' | S 15°45.70' | **23** |
| **24** | 222°45.71' | 303°54.19' | S 16°24.17' | 222°08.39' | 304°31.51' | S 20°36.87' | 179°21.17' | 347°18.72' | S 6°30.25' | 204°15.59' | 322°24.31' | S 15°45.62' | **24** |
| | δ 15.0024° | | *d* 0.2029' | δ 15.0085° | | *d* 0.3827' | δ 15.0317° | | *d* 0.2327' | δ 15.0365° | | *d* 0.0830' | |

## *Wednesday, March 9th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°20.39' | 15.0026° | 349°19.51' | S 4°35.48' | 0.9774' | 106°12.60' | 14.5267° | 60°27.29' | N 21°22.33' | 8.4859' | 54.5758' | 166°39.90' | **00** |
| **01** | 192°20.54' | 15.0026° | 349°21.82' | S 4°34.50' | 0.9775' | 120°44.17' | 14.5260° | 60°58.20' | N 21°30.72' | 8.3871' | 54.5618' | 181°42.36' | **01** |
| **02** | 207°20.70' | 15.0026° | 349°24.13' | S 4°33.52' | 0.9776' | 135°15.69' | 14.5253° | 61°29.14' | N 21°39.00' | 8.2877' | 54.5481' | 196°44.83' | **02** |
| **03** | 222°20.85' | 15.0026° | 349°26.44' | S 4°32.54' | 0.9777' | 149°47.16' | 14.5246° | 62°00.13' | N 21°47.19' | 8.1877' | 54.5347' | 211°47.29' | **03** |
| **04** | 237°21.01' | 15.0026° | 349°28.75' | S 4°31.56' | 0.9778' | 164°18.60' | 14.5239° | 62°31.15' | N 21°55.28' | 8.0871' | 54.5216' | 226°49.75' | **04** |
| **05** | 252°21.16' | 15.0026° | 349°31.06' | S 4°30.59' | 0.9779' | 178°49.99' | 14.5232° | 63°02.23' | N 22°03.26' | 7.9859' | 54.5088' | 241°52.22' | **05** |
| **06** | 267°21.32' | 15.0026° | 349°33.36' | S 4°29.61' | 0.9780' | 193°21.34' | 14.5225° | 63°33.34' | N 22°11.15' | 7.8841' | 54.4963' | 256°54.68' | **06** |
| **07** | 282°21.48' | 15.0026° | 349°35.67' | S 4°28.63' | 0.9781' | 207°52.65' | 14.5218° | 64°04.49' | N 22°18.93' | 7.7817' | 54.4840' | 271°57.15' | **07** |
| **08** | 297°21.63' | 15.0026° | 349°37.98' | S 4°27.65' | 0.9782' | 222°23.92' | 14.5211° | 64°35.69' | N 22°26.61' | 7.6788' | 54.4720' | 286°59.61' | **08** |
| **09** | 312°21.79' | 15.0026° | 349°40.29' | S 4°26.67' | 0.9783' | 236°55.14' | 14.5204° | 65°06.93' | N 22°34.18' | 7.5752' | 54.4604' | 302°02.07' | **09** |
| **10** | 327°21.95' | 15.0026° | 349°42.59' | S 4°25.70' | 0.9784' | 251°26.32' | 14.5197° | 65°38.22' | N 22°41.66' | 7.4711' | 54.4490' | 317°04.54' | **10** |
| **11** | 342°22.10' | 15.0026° | 349°44.90' | S 4°24.72' | 0.9785' | 265°57.46' | 14.5190° | 66°09.54' | N 22°49.02' | 7.3664' | 54.4379' | 332°07.00' | **11** |
| **12** | 357°22.26' | 15.0026° | 349°47.21' | S 4°23.74' | 0.9786' | 280°28.56' | 14.5183° | 66°40.91' | N 22°56.28' | 7.2611' | 54.4271' | 347°09.47' | **12** |
| **13** | 12°22.42' | 15.0026° | 349°49.51' | S 4°22.76' | 0.9787' | 294°59.61' | 14.5176° | 67°12.32' | N 23°03.44' | 7.1552' | 54.4166' | 2°11.93' | **13** |
| **14** | 27°22.57' | 15.0026° | 349°51.82' | S 4°21.78' | 0.9787' | 309°30.62' | 14.5169° | 67°43.77' | N 23°10.49' | 7.0488' | 54.4064' | 17°14.40' | **14** |
| **15** | 42°22.73' | 15.0026° | 349°54.13' | S 4°20.80' | 0.9788' | 324°01.59' | 14.5161° | 68°15.27' | N 23°17.43' | 6.9418' | 54.3965' | 32°16.86' | **15** |
| **16** | 57°22.89' | 15.0026° | 349°56.43' | S 4°19.82' | 0.9789' | 338°32.52' | 14.5154° | 68°46.81' | N 23°24.26' | 6.8343' | 54.3869' | 47°19.32' | **16** |
| **17** | 72°23.05' | 15.0026° | 349°58.74' | S 4°18.84' | 0.9790' | 353°03.40' | 14.5147° | 69°18.39' | N 23°30.99' | 6.7262' | 54.3776' | 62°21.79' | **17** |
| **18** | 87°23.20' | 15.0026° | 350°01.05' | S 4°17.87' | 0.9791' | 7°34.24' | 14.5140° | 69°50.01' | N 23°37.61' | 6.6175' | 54.3686' | 77°24.25' | **18** |
| **19** | 102°23.36' | 15.0026° | 350°03.35' | S 4°16.89' | 0.9792' | 22°05.04' | 14.5133° | 70°21.67' | N 23°44.12' | 6.5083' | 54.3599' | 92°26.72' | **19** |
| **20** | 117°23.52' | 15.0026° | 350°05.66' | S 4°15.91' | 0.9793' | 36°35.80' | 14.5127° | 70°53.38' | N 23°50.51' | 6.3986' | 54.3515' | 107°29.18' | **20** |
| **21** | 132°23.68' | 15.0026° | 350°07.96' | S 4°14.93' | 0.9794' | 51°06.52' | 14.5120° | 71°25.12' | N 23°56.80' | 6.2883' | 54.3434' | 122°31.64' | **21** |
| **22** | 147°23.84' | 15.0026° | 350°10.27' | S 4°13.95' | 0.9795' | 65°37.20' | 14.5113° | 71°56.91' | N 24°02.98' | 6.1775' | 54.3356' | 137°34.11' | **22** |
| **23** | 162°24.00' | 15.0026° | 350°12.58' | S 4°12.97' | 0.9796' | 80°07.83' | 14.5106° | 72°28.74' | N 24°09.05' | 6.0662' | 54.3281' | 152°36.57' | **23** |
| **24** | 177°24.16' | 15.0026° | 350°14.88' | S 4°11.99' | 0.9797' | 94°38.43' | 14.5099° | 73°00.61' | N 24°15.00' | 5.9543' | 54.3209' | 167°39.04' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.1093' | hp (π) 0.1476' | ½Ø 14.8304' | 41.2153127744523 9% +cre | |
| EoT at 12:00 UTC : -10m 31s (δ 0.63 s/h) | | Phase at 12:00 UTC : 79.73° | | |
| Meridian Pass. Time : 12:10:30.963 | | Age : 6.2 day(s) | | |

| UT | Venus ♀ (π 0.25') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°45.71' | 303°54.19' | S 16°24.17' | 222°08.39' | 304°31.51' | S 20°36.87' | 179°21.17' | 347°18.72' | S 6°30.25' | 204°15.59' | 322°24.31' | S 15°45.62' | **00** |
| **01** | 237°45.83' | 303°56.53' | S 16°23.95' | 237°08.90' | 304°33.46' | S 20°36.48' | 194°23.08' | 347°19.29' | S 6°30.01' | 219°17.78' | 322°24.58' | S 15°45.54' | **01** |
| **02** | 252°45.95' | 303°58.87' | S 16°23.73' | 252°09.41' | 304°35.41' | S 20°36.09' | 209°24.98' | 347°19.85' | S 6°29.78' | 234°19.97' | 322°24.86' | S 15°45.46' | **02** |
| **03** | 267°46.07' | 304°01.22' | S 16°23.51' | 267°09.92' | 304°37.37' | S 20°35.70' | 224°26.88' | 347°20.41' | S 6°29.55' | 249°22.16' | 322°25.13' | S 15°45.37' | **03** |
| **04** | 282°46.19' | 304°03.56' | S 16°23.28' | 282°10.44' | 304°39.32' | S 20°35.31' | 239°28.78' | 347°20.97' | S 6°29.32' | 264°24.35' | 322°25.40' | S 15°45.29' | **04** |
| **05** | 297°46.31' | 304°05.91' | S 16°23.06' | 297°10.95' | 304°41.27' | S 20°34.91' | 254°30.69' | 347°21.53' | S 6°29.08' | 279°26.54' | 322°25.68' | S 15°45.21' | **05** |
| **06** | 312°46.43' | 304°08.25' | S 16°22.83' | 312°11.46' | 304°43.22' | S 20°34.52' | 269°32.59' | 347°22.09' | S 6°28.85' | 294°28.73' | 322°25.95' | S 15°45.13' | **06** |
| **07** | 327°46.55' | 304°10.60' | S 16°22.61' | 327°11.97' | 304°45.17' | S 20°34.13' | 284°34.49' | 347°22.66' | S 6°28.62' | 309°30.93' | 322°26.22' | S 15°45.04' | **07** |
| **08** | 342°46.66' | 304°12.95' | S 16°22.38' | 342°12.49' | 304°47.13' | S 20°33.73' | 299°36.39' | 347°23.22' | S 6°28.38' | 324°33.12' | 322°26.49' | S 15°44.96' | **08** |
| **09** | 357°46.78' | 304°15.30' | S 16°22.15' | 357°13.00' | 304°49.08' | S 20°33.34' | 314°38.30' | 347°23.78' | S 6°28.15' | 339°35.31' | 322°26.77' | S 15°44.88' | **09** |
| **10** | 12°46.89' | 304°17.65' | S 16°21.92' | 12°13.51' | 304°51.03' | S 20°32.94' | 329°40.20' | 347°24.34' | S 6°27.92' | 354°37.50' | 322°27.04' | S 15°44.80' | **10** |
| **11** | 27°47.00' | 304°20.00' | S 16°21.69' | 27°14.02' | 304°52.98' | S 20°32.55' | 344°42.10' | 347°24.90' | S 6°27.69' | 9°39.69' | 322°27.31' | S 15°44.71' | **11** |
| **12** | 42°47.12' | 304°22.35' | S 16°21.46' | 42°14.54' | 304°54.93' | S 20°32.15' | 359°44.00' | 347°25.46' | S 6°27.45' | 24°41.88' | 322°27.58' | S 15°44.63' | **12** |
| **13** | 57°47.23' | 304°24.70' | S 16°21.23' | 57°15.05' | 304°56.88' | S 20°31.76' | 14°45.91' | 347°26.02' | S 6°27.22' | 39°44.07' | 322°27.86' | S 15°44.55' | **13** |
| **14** | 72°47.34' | 304°27.06' | S 16°21.00' | 72°15.56' | 304°58.83' | S 20°31.36' | 29°47.81' | 347°26.59' | S 6°26.99' | 54°46.27' | 322°28.13' | S 15°44.47' | **14** |
| **15** | 87°47.45' | 304°29.41' | S 16°20.77' | 87°16.08' | 305°00.78' | S 20°30.97' | 44°49.71' | 347°27.15' | S 6°26.76' | 69°48.46' | 322°28.40' | S 15°44.38' | **15** |
| **16** | 102°47.55' | 304°31.77' | S 16°20.54' | 102°16.59' | 305°02.73' | S 20°30.57' | 59°51.62' | 347°27.71' | S 6°26.52' | 84°50.65' | 322°28.67' | S 15°44.30' | **16** |
| **17** | 117°47.66' | 304°34.13' | S 16°20.30' | 117°17.10' | 305°04.68' | S 20°30.17' | 74°53.52' | 347°28.27' | S 6°26.29' | 99°52.84' | 322°28.95' | S 15°44.22' | **17** |
| **18** | 132°47.77' | 304°36.48' | S 16°20.07' | 132°17.62' | 305°06.63' | S 20°29.77' | 89°55.42' | 347°28.83' | S 6°26.06' | 114°55.03' | 322°29.22' | S 15°44.14' | **18** |
| **19** | 147°47.87' | 304°38.84' | S 16°19.83' | 147°18.13' | 305°08.58' | S 20°29.38' | 104°57.32' | 347°29.39' | S 6°25.82' | 129°57.23' | 322°29.49' | S 15°44.05' | **19** |
| **20** | 162°47.98' | 304°41.20' | S 16°19.60' | 162°18.65' | 305°10.53' | S 20°28.98' | 119°59.23' | 347°29.95' | S 6°25.59' | 144°59.42' | 322°29.76' | S 15°43.97' | **20** |
| **21** | 177°48.08' | 304°43.56' | S 16°19.36' | 177°19.16' | 305°12.48' | S 20°28.58' | 135°01.13' | 347°30.51' | S 6°25.36' | 160°01.61' | 322°30.03' | S 15°43.89' | **21** |
| **22** | 192°48.18' | 304°45.92' | S 16°19.12' | 192°19.67' | 305°14.43' | S 20°28.18' | 150°03.03' | 347°31.08' | S 6°25.13' | 175°03.80' | 322°30.30' | S 15°43.81' | **22** |
| **23** | 207°48.29' | 304°48.29' | S 16°18.88' | 207°20.19' | 305°16.38' | S 20°27.78' | 165°04.94' | 347°31.64' | S 6°24.89' | 190°06.00' | 322°30.58' | S 15°43.72' | **23** |
| **24** | 222°48.39' | 304°50.65' | S 16°18.64' | 222°20.70' | 305°18.33' | S 20°27.38' | 180°06.84' | 347°32.20' | S 6°24.66' | 205°08.19' | 322°30.85' | S 15°43.64' | **24** |
| | δ 15.0020° | | *d* 0.2214' | δ 15.0085° | | *d* 0.3914' | δ 15.0317° | | *d* 0.2328' | δ 15.0365° | | *d* 0.0826' | |

## *Thursday, March 10th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°24.16' | 15.0026° | 350°14.88' | S 4°11.99' | 0.9797' | 94°38.43' | 14.5099° | 73°00.61' | N 24°15.00' | 5.9543' | 54.3209' | 167°39.04' | **00** |
| **01** | 192°24.32' | 15.0027° | 350°17.19' | S 4°11.01' | 0.9797' | 109°08.98' | 14.5092° | 73°32.52' | N 24°20.84' | 5.8420' | 54.3140' | 182°41.50' | **01** |
| **02** | 207°24.47' | 15.0027° | 350°19.49' | S 4°10.03' | 0.9798' | 123°39.49' | 14.5086° | 74°04.47' | N 24°26.57' | 5.7291' | 54.3074' | 197°43.96' | **02** |
| **03** | 222°24.63' | 15.0027° | 350°21.80' | S 4°09.05' | 0.9799' | 138°09.97' | 14.5079° | 74°36.46' | N 24°32.19' | 5.6157' | 54.3011' | 212°46.43' | **03** |
| **04** | 237°24.79' | 15.0027° | 350°24.10' | S 4°08.07' | 0.9800' | 152°40.40' | 14.5072° | 75°08.49' | N 24°37.69' | 5.5018' | 54.2951' | 227°48.89' | **04** |
| **05** | 252°24.95' | 15.0027° | 350°26.40' | S 4°07.09' | 0.9801' | 167°10.80' | 14.5066° | 75°40.56' | N 24°43.08' | 5.3874' | 54.2894' | 242°51.36' | **05** |
| **06** | 267°25.11' | 15.0027° | 350°28.71' | S 4°06.11' | 0.9802' | 181°41.15' | 14.5059° | 76°12.67' | N 24°48.35' | 5.2725' | 54.2841' | 257°53.82' | **06** |
| **07** | 282°25.27' | 15.0027° | 350°31.01' | S 4°05.13' | 0.9803' | 196°11.47' | 14.5053° | 76°44.82' | N 24°53.51' | 5.1571' | 54.2790' | 272°56.29' | **07** |
| **08** | 297°25.43' | 15.0027° | 350°33.32' | S 4°04.15' | 0.9803' | 210°41.75' | 14.5046° | 77°17.00' | N 24°58.55' | 5.0412' | 54.2742' | 287°58.75' | **08** |
| **09** | 312°25.59' | 15.0027° | 350°35.62' | S 4°03.17' | 0.9804' | 225°11.99' | 14.5040° | 77°49.22' | N 25°03.47' | 4.9249' | 54.2698' | 303°01.21' | **09** |
| **10** | 327°25.75' | 15.0027° | 350°37.92' | S 4°02.19' | 0.9805' | 239°42.19' | 14.5034° | 78°21.49' | N 25°08.28' | 4.8081' | 54.2656' | 318°03.68' | **10** |
| **11** | 342°25.91' | 15.0027° | 350°40.23' | S 4°01.21' | 0.9806' | 254°12.36' | 14.5028° | 78°53.78' | N 25°12.97' | 4.6908' | 54.2618' | 333°06.14' | **11** |
| **12** | 357°26.08' | 15.0027° | 350°42.53' | S 4°00.23' | 0.9807' | 268°42.49' | 14.5022° | 79°26.12' | N 25°17.54' | 4.5731' | 54.2582' | 348°08.61' | **12** |
| **13** | 12°26.24' | 15.0027° | 350°44.83' | S 3°59.25' | 0.9808' | 283°12.58' | 14.5016° | 79°58.49' | N 25°22.00' | 4.4549' | 54.2550' | 3°11.07' | **13** |
| **14** | 27°26.40' | 15.0027° | 350°47.14' | S 3°58.26' | 0.9808' | 297°42.64' | 14.5010° | 80°30.89' | N 25°26.34' | 4.3363' | 54.2521' | 18°13.53' | **14** |
| **15** | 42°26.56' | 15.0027° | 350°49.44' | S 3°57.28' | 0.9809' | 312°12.66' | 14.5004° | 81°03.34' | N 25°30.55' | 4.2172' | 54.2494' | 33°16.00' | **15** |
| **16** | 57°26.72' | 15.0027° | 350°51.74' | S 3°56.30' | 0.9810' | 326°42.65' | 14.4998° | 81°35.81' | N 25°34.65' | 4.0977' | 54.2471' | 48°18.46' | **16** |
| **17** | 72°26.88' | 15.0027° | 350°54.05' | S 3°55.32' | 0.9811' | 341°12.60' | 14.4992° | 82°08.32' | N 25°38.63' | 3.9778' | 54.2451' | 63°20.93' | **17** |
| **18** | 87°27.04' | 15.0027° | 350°56.35' | S 3°54.34' | 0.9812' | 355°42.52' | 14.4987° | 82°40.87' | N 25°42.49' | 3.8574' | 54.2434' | 78°23.39' | **18** |
| **19** | 102°27.21' | 15.0027° | 350°58.65' | S 3°53.36' | 0.9813' | 10°12.41' | 14.4981° | 83°13.44' | N 25°46.22' | 3.7367' | 54.2420' | 93°25.86' | **19** |
| **20** | 117°27.37' | 15.0027° | 351°00.95' | S 3°52.38' | 0.9813' | 24°42.27' | 14.4976° | 83°46.05' | N 25°49.84' | 3.6155' | 54.2409' | 108°28.32' | **20** |
| **21** | 132°27.53' | 15.0027° | 351°03.25' | S 3°51.40' | 0.9814' | 39°12.09' | 14.4970° | 84°18.70' | N 25°53.33' | 3.4940' | 54.2401' | 123°30.78' | **21** |
| **22** | 147°27.69' | 15.0027° | 351°05.56' | S 3°50.41' | 0.9815' | 53°41.88' | 14.4965° | 84°51.37' | N 25°56.70' | 3.3721' | 54.2397' | 138°33.25' | **22** |
| **23** | 162°27.85' | 15.0027° | 351°07.86' | S 3°49.43' | 0.9816' | 68°11.64' | 14.4960° | 85°24.07' | N 25°59.95' | 3.2497' | 54.2395' | 153°35.71' | **23** |
| **24** | 177°28.02' | 15.0027° | 351°10.16' | S 3°48.45' | 0.9816' | 82°41.37' | 14.4955° | 85°56.81' | N 26°03.08' | 3.1271' | 54.2396' | 168°38.18' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.1051' | hp (π) 0.1476' | ½Ø 14.7844' | 50.6252132055001<br>9% FQ | |
| EoT at 12:00 UTC : -10m 15s (δ 0.64 s/h) | | Phase at 12:00 UTC : 90.56° | | |
| Meridian Pass. Time : 12:10:15.698 | | Age : 7.0 day(s) | | |

| UT | Venus ♀ (π 0.25') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°48.39' | 304°50.65' | S 16°18.64' | 222°20.70' | 305°18.33' | S 20°27.38' | 180°06.84' | 347°32.20' | S 6°24.66' | 205°08.19' | 322°30.85' | S 15°43.64' | **00** |
| **01** | 237°48.49' | 304°53.01' | S 16°18.40' | 237°21.22' | 305°20.28' | S 20°26.98' | 195°08.74' | 347°32.76' | S 6°24.43' | 220°10.38' | 322°31.12' | S 15°43.56' | **01** |
| **02** | 252°48.59' | 304°55.38' | S 16°18.16' | 252°21.73' | 305°22.23' | S 20°26.58' | 210°10.64' | 347°33.32' | S 6°24.19' | 235°12.57' | 322°31.39' | S 15°43.48' | **02** |
| **03** | 267°48.68' | 304°57.75' | S 16°17.92' | 267°22.25' | 305°24.18' | S 20°26.18' | 225°12.55' | 347°33.88' | S 6°23.96' | 250°14.77' | 322°31.66' | S 15°43.40' | **03** |
| **04** | 282°48.78' | 305°00.11' | S 16°17.68' | 282°22.76' | 305°26.13' | S 20°25.78' | 240°14.45' | 347°34.44' | S 6°23.73' | 265°16.96' | 322°31.93' | S 15°43.31' | **04** |
| **05** | 297°48.88' | 305°02.48' | S 16°17.43' | 297°23.28' | 305°28.08' | S 20°25.38' | 255°16.35' | 347°35.00' | S 6°23.50' | 280°19.15' | 322°32.21' | S 15°43.23' | **05** |
| **06** | 312°48.97' | 305°04.85' | S 16°17.19' | 312°23.79' | 305°30.03' | S 20°24.98' | 270°18.26' | 347°35.56' | S 6°23.26' | 295°21.35' | 322°32.48' | S 15°43.15' | **06** |
| **07** | 327°49.07' | 305°07.22' | S 16°16.95' | 327°24.31' | 305°31.98' | S 20°24.58' | 285°20.16' | 347°36.13' | S 6°23.03' | 310°23.54' | 322°32.75' | S 15°43.07' | **07** |
| **08** | 342°49.16' | 305°09.59' | S 16°16.70' | 342°24.83' | 305°33.92' | S 20°24.17' | 300°22.06' | 347°36.69' | S 6°22.80' | 325°25.73' | 322°33.02' | S 15°42.99' | **08** |
| **09** | 357°49.25' | 305°11.96' | S 16°16.45' | 357°25.34' | 305°35.87' | S 20°23.77' | 315°23.97' | 347°37.25' | S 6°22.56' | 340°27.92' | 322°33.29' | S 15°42.90' | **09** |
| **10** | 12°49.35' | 305°14.33' | S 16°16.21' | 12°25.86' | 305°37.82' | S 20°23.37' | 330°25.87' | 347°37.81' | S 6°22.33' | 355°30.12' | 322°33.56' | S 15°42.82' | **10** |
| **11** | 27°49.44' | 305°16.71' | S 16°15.96' | 27°26.37' | 305°39.77' | S 20°22.96' | 345°27.77' | 347°38.37' | S 6°22.10' | 10°32.31' | 322°33.83' | S 15°42.74' | **11** |
| **12** | 42°49.53' | 305°19.08' | S 16°15.71' | 42°26.89' | 305°41.72' | S 20°22.56' | 0°29.68' | 347°38.93' | S 6°21.87' | 25°34.50' | 322°34.10' | S 15°42.66' | **12** |
| **13** | 57°49.62' | 305°21.45' | S 16°15.46' | 57°27.41' | 305°43.67' | S 20°22.16' | 15°31.58' | 347°39.49' | S 6°21.63' | 40°36.70' | 322°34.37' | S 15°42.58' | **13** |
| **14** | 72°49.70' | 305°23.83' | S 16°15.21' | 72°27.92' | 305°45.61' | S 20°21.75' | 30°33.48' | 347°40.05' | S 6°21.40' | 55°38.89' | 322°34.64' | S 15°42.49' | **14** |
| **15** | 87°49.79' | 305°26.21' | S 16°14.96' | 87°28.44' | 305°47.56' | S 20°21.35' | 45°35.39' | 347°40.61' | S 6°21.17' | 70°41.08' | 322°34.91' | S 15°42.41' | **15** |
| **16** | 102°49.88' | 305°28.58' | S 16°14.71' | 102°28.96' | 305°49.51' | S 20°20.94' | 60°37.29' | 347°41.17' | S 6°20.93' | 85°43.28' | 322°35.18' | S 15°42.33' | **16** |
| **17** | 117°49.96' | 305°30.96' | S 16°14.45' | 117°29.47' | 305°51.46' | S 20°20.54' | 75°39.19' | 347°41.74' | S 6°20.70' | 100°45.47' | 322°35.46' | S 15°42.25' | **17** |
| **18** | 132°50.05' | 305°33.34' | S 16°14.20' | 132°29.99' | 305°53.40' | S 20°20.13' | 90°41.09' | 347°42.30' | S 6°20.47' | 115°47.67' | 322°35.73' | S 15°42.17' | **18** |
| **19** | 147°50.13' | 305°35.72' | S 16°13.95' | 147°30.51' | 305°55.35' | S 20°19.72' | 105°43.00' | 347°42.86' | S 6°20.24' | 130°49.86' | 322°36.00' | S 15°42.08' | **19** |
| **20** | 162°50.22' | 305°38.10' | S 16°13.69' | 162°31.02' | 305°57.30' | S 20°19.32' | 120°44.90' | 347°43.42' | S 6°20.00' | 145°52.05' | 322°36.27' | S 15°42.00' | **20** |
| **21** | 177°50.30' | 305°40.49' | S 16°13.43' | 177°31.54' | 305°59.24' | S 20°18.91' | 135°46.80' | 347°43.98' | S 6°19.77' | 160°54.25' | 322°36.54' | S 15°41.92' | **21** |
| **22** | 192°50.38' | 305°42.87' | S 16°13.18' | 192°32.06' | 306°01.19' | S 20°18.50' | 150°48.71' | 347°44.54' | S 6°19.54' | 175°56.44' | 322°36.81' | S 15°41.84' | **22** |
| **23** | 207°50.46' | 305°45.25' | S 16°12.92' | 207°32.58' | 306°03.14' | S 20°18.09' | 165°50.61' | 347°45.10' | S 6°19.30' | 190°58.64' | 322°37.08' | S 15°41.76' | **23** |
| **24** | 222°50.54' | 305°47.64' | S 16°12.66' | 222°33.09' | 306°05.08' | S 20°17.69' | 180°52.51' | 347°45.66' | S 6°19.07' | 206°00.83' | 322°37.35' | S 15°41.67' | **24** |
| | δ 15.0017° | | *d* 0.2402' | δ 15.0086° | | *d* 0.3999' | δ 15.0317° | | *d* 0.2328' | δ 15.0365° | | *d* 0.0822' | |

## *Friday, March 11th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°28.02' | 15.0027° | 351°10.16' | S 3°48.45' | 0.9816' | 82°41.37' | 14.4955° | 85°56.81' | N 26°03.08' | 3.1271' | 54.2396' | 168°38.18' | **00** |
| **01** | 192°28.18' | 15.0027° | 351°12.46' | S 3°47.47' | 0.9817' | 97°11.07' | 14.4950° | 86°29.57' | N 26°06.08' | 3.0040' | 54.2400' | 183°40.64' | **01** |
| **02** | 207°28.34' | 15.0027° | 351°14.76' | S 3°46.49' | 0.9818' | 111°40.74' | 14.4945° | 87°02.36' | N 26°08.96' | 2.8806' | 54.2408' | 198°43.10' | **02** |
| **03** | 222°28.50' | 15.0027° | 351°17.06' | S 3°45.51' | 0.9819' | 126°10.39' | 14.4941° | 87°35.18' | N 26°11.72' | 2.7568' | 54.2418' | 213°45.57' | **03** |
| **04** | 237°28.67' | 15.0027° | 351°19.36' | S 3°44.52' | 0.9819' | 140°40.00' | 14.4936° | 88°08.03' | N 26°14.35' | 2.6327' | 54.2432' | 228°48.03' | **04** |
| **05** | 252°28.83' | 15.0027° | 351°21.67' | S 3°43.54' | 0.9820' | 155°09.59' | 14.4932° | 88°40.91' | N 26°16.86' | 2.5083' | 54.2448' | 243°50.50' | **05** |
| **06** | 267°28.99' | 15.0027° | 351°23.97' | S 3°42.56' | 0.9821' | 169°39.15' | 14.4927° | 89°13.81' | N 26°19.25' | 2.3836' | 54.2468' | 258°52.96' | **06** |
| **07** | 282°29.16' | 15.0027° | 351°26.27' | S 3°41.58' | 0.9822' | 184°08.69' | 14.4923° | 89°46.73' | N 26°21.50' | 2.2585' | 54.2490' | 273°55.43' | **07** |
| **08** | 297°29.32' | 15.0027° | 351°28.57' | S 3°40.60' | 0.9822' | 198°38.20' | 14.4919° | 90°19.68' | N 26°23.64' | 2.1331' | 54.2516' | 288°57.89' | **08** |
| **09** | 312°29.49' | 15.0027° | 351°30.87' | S 3°39.61' | 0.9823' | 213°07.69' | 14.4915° | 90°52.66' | N 26°25.65' | 2.0075' | 54.2545' | 304°00.35' | **09** |
| **10** | 327°29.65' | 15.0027° | 351°33.17' | S 3°38.63' | 0.9824' | 227°37.16' | 14.4911° | 91°25.66' | N 26°27.53' | 1.8815' | 54.2576' | 319°02.82' | **10** |
| **11** | 342°29.81' | 15.0027° | 351°35.47' | S 3°37.65' | 0.9825' | 242°06.60' | 14.4907° | 91°58.68' | N 26°29.28' | 1.7553' | 54.2611' | 334°05.28' | **11** |
| **12** | 357°29.98' | 15.0027° | 351°37.77' | S 3°36.67' | 0.9825' | 256°36.02' | 14.4904° | 92°31.72' | N 26°30.91' | 1.6288' | 54.2648' | 349°07.75' | **12** |
| **13** | 12°30.14' | 15.0027° | 351°40.07' | S 3°35.68' | 0.9826' | 271°05.42' | 14.4900° | 93°04.79' | N 26°32.41' | 1.5020' | 54.2689' | 4°10.21' | **13** |
| **14** | 27°30.31' | 15.0027° | 351°42.37' | S 3°34.70' | 0.9827' | 285°34.81' | 14.4897° | 93°37.87' | N 26°33.79' | 1.3750' | 54.2732' | 19°12.67' | **14** |
| **15** | 42°30.47' | 15.0027° | 351°44.67' | S 3°33.72' | 0.9827' | 300°04.17' | 14.4894° | 94°10.97' | N 26°35.04' | 1.2478' | 54.2779' | 34°15.14' | **15** |
| **16** | 57°30.64' | 15.0027° | 351°46.97' | S 3°32.74' | 0.9828' | 314°33.51' | 14.4890° | 94°44.09' | N 26°36.16' | 1.1203' | 54.2829' | 49°17.60' | **16** |
| **17** | 72°30.80' | 15.0027° | 351°49.27' | S 3°31.75' | 0.9829' | 329°02.83' | 14.4887° | 95°17.23' | N 26°37.15' | 0.9926' | 54.2881' | 64°20.07' | **17** |
| **18** | 87°30.97' | 15.0028° | 351°51.56' | S 3°30.77' | 0.9830' | 343°32.14' | 14.4885° | 95°50.39' | N 26°38.01' | 0.8647' | 54.2936' | 79°22.53' | **18** |
| **19** | 102°31.13' | 15.0028° | 351°53.86' | S 3°29.79' | 0.9830' | 358°01.43' | 14.4882° | 96°23.56' | N 26°38.75' | 0.7366' | 54.2995' | 94°25.00' | **19** |
| **20** | 117°31.30' | 15.0028° | 351°56.16' | S 3°28.80' | 0.9831' | 12°30.71' | 14.4879° | 96°56.75' | N 26°39.36' | 0.6083' | 54.3056' | 109°27.46' | **20** |
| **21** | 132°31.46' | 15.0028° | 351°58.46' | S 3°27.82' | 0.9832' | 26°59.97' | 14.4877° | 97°29.95' | N 26°39.84' | 0.4798' | 54.3120' | 124°29.92' | **21** |
| **22** | 147°31.63' | 15.0028° | 352°00.76' | S 3°26.84' | 0.9832' | 41°29.22' | 14.4875° | 98°03.17' | N 26°40.19' | 0.3512' | 54.3187' | 139°32.39' | **22** |
| **23** | 162°31.79' | 15.0028° | 352°03.06' | S 3°25.85' | 0.9833' | 55°58.45' | 14.4873° | 98°36.40' | N 26°40.41' | 0.2224' | 54.3257' | 154°34.85' | **23** |
| **24** | 177°31.96' | 15.0028° | 352°05.36' | S 3°24.87' | 0.9834' | 70°27.68' | 14.4871° | 99°09.64' | N 26°40.50' | 0.0934' | 54.3330' | 169°37.32' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1010' | hp (π) 0.1475' | ½Ø 14.7862' | 59.9793864735500<br>6% +gib |
| | EoT at 12:00 UTC : -10m 0s (δ 0.66 s/h) | | Phase at 12:00 UTC : 101.38° | |
| | Meridian Pass. Time : 12:10:00.088 | | Age : 7.9 day(s) | |

| UT | Venus ♀ (π 0.24') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°50.54' | 305°47.64' | S 16°12.66' | 222°33.09' | 306°05.08' | S 20°17.69' | 180°52.51' | 347°45.66' | S 6°19.07' | 206°00.83' | 322°37.35' | S 15°41.67' | **00** |
| **01** | 237°50.62' | 305°50.02' | S 16°12.40' | 237°33.61' | 306°07.03' | S 20°17.28' | 195°54.42' | 347°46.22' | S 6°18.84' | 221°03.02' | 322°37.62' | S 15°41.59' | **01** |
| **02** | 252°50.70' | 305°52.41' | S 16°12.14' | 252°34.13' | 306°08.98' | S 20°16.87' | 210°56.32' | 347°46.78' | S 6°18.61' | 236°05.22' | 322°37.89' | S 15°41.51' | **02** |
| **03** | 267°50.77' | 305°54.79' | S 16°11.88' | 267°34.65' | 306°10.92' | S 20°16.46' | 225°58.23' | 347°47.34' | S 6°18.37' | 251°07.41' | 322°38.16' | S 15°41.43' | **03** |
| **04** | 282°50.85' | 305°57.18' | S 16°11.62' | 282°35.17' | 306°12.87' | S 20°16.05' | 241°00.13' | 347°47.90' | S 6°18.14' | 266°09.61' | 322°38.43' | S 15°41.35' | **04** |
| **05** | 297°50.93' | 305°59.57' | S 16°11.36' | 297°35.68' | 306°14.81' | S 20°15.64' | 256°02.03' | 347°48.46' | S 6°17.91' | 281°11.80' | 322°38.70' | S 15°41.27' | **05** |
| **06** | 312°51.00' | 306°01.96' | S 16°11.10' | 312°36.20' | 306°16.76' | S 20°15.23' | 271°03.94' | 347°49.03' | S 6°17.67' | 296°14.00' | 322°38.97' | S 15°41.18' | **06** |
| **07** | 327°51.07' | 306°04.35' | S 16°10.83' | 327°36.72' | 306°18.70' | S 20°14.82' | 286°05.84' | 347°49.59' | S 6°17.44' | 311°16.19' | 322°39.24' | S 15°41.10' | **07** |
| **08** | 342°51.15' | 306°06.74' | S 16°10.57' | 342°37.24' | 306°20.65' | S 20°14.41' | 301°07.74' | 347°50.15' | S 6°17.21' | 326°18.38' | 322°39.50' | S 15°41.02' | **08** |
| **09** | 357°51.22' | 306°09.13' | S 16°10.30' | 357°37.76' | 306°22.60' | S 20°14.00' | 316°09.65' | 347°50.71' | S 6°16.98' | 341°20.58' | 322°39.77' | S 15°40.94' | **09** |
| **10** | 12°51.29' | 306°11.53' | S 16°10.04' | 12°38.28' | 306°24.54' | S 20°13.59' | 331°11.55' | 347°51.27' | S 6°16.74' | 356°22.77' | 322°40.04' | S 15°40.86' | **10** |
| **11** | 27°51.36' | 306°13.92' | S 16°09.77' | 27°38.80' | 306°26.49' | S 20°13.17' | 346°13.45' | 347°51.83' | S 6°16.51' | 11°24.97' | 322°40.31' | S 15°40.78' | **11** |
| **12** | 42°51.43' | 306°16.32' | S 16°09.50' | 42°39.32' | 306°28.43' | S 20°12.76' | 1°15.36' | 347°52.39' | S 6°16.28' | 26°27.16' | 322°40.58' | S 15°40.69' | **12** |
| **13** | 57°51.50' | 306°18.71' | S 16°09.23' | 57°39.83' | 306°30.38' | S 20°12.35' | 16°17.26' | 347°52.95' | S 6°16.04' | 41°29.36' | 322°40.85' | S 15°40.61' | **13** |
| **14** | 72°51.57' | 306°21.11' | S 16°08.96' | 72°40.35' | 306°32.32' | S 20°11.94' | 31°19.16' | 347°53.51' | S 6°15.81' | 56°31.55' | 322°41.12' | S 15°40.53' | **14** |
| **15** | 87°51.63' | 306°23.50' | S 16°08.69' | 87°40.87' | 306°34.26' | S 20°11.52' | 46°21.07' | 347°54.07' | S 6°15.58' | 71°33.75' | 322°41.39' | S 15°40.45' | **15** |
| **16** | 102°51.70' | 306°25.90' | S 16°08.42' | 102°41.39' | 306°36.21' | S 20°11.11' | 61°22.97' | 347°54.63' | S 6°15.35' | 86°35.94' | 322°41.66' | S 15°40.37' | **16** |
| **17** | 117°51.77' | 306°28.30' | S 16°08.15' | 117°41.91' | 306°38.15' | S 20°10.70' | 76°24.88' | 347°55.19' | S 6°15.11' | 101°38.14' | 322°41.93' | S 15°40.29' | **17** |
| **18** | 132°51.83' | 306°30.70' | S 16°07.88' | 132°42.43' | 306°40.10' | S 20°10.28' | 91°26.78' | 347°55.75' | S 6°14.88' | 116°40.34' | 322°42.20' | S 15°40.21' | **18** |
| **19** | 147°51.89' | 306°33.10' | S 16°07.60' | 147°42.95' | 306°42.04' | S 20°09.87' | 106°28.68' | 347°56.31' | S 6°14.65' | 131°42.53' | 322°42.46' | S 15°40.12' | **19** |
| **20** | 162°51.96' | 306°35.50' | S 16°07.33' | 162°43.47' | 306°43.99' | S 20°09.45' | 121°30.59' | 347°56.87' | S 6°14.41' | 146°44.73' | 322°42.73' | S 15°40.04' | **20** |
| **21** | 177°52.02' | 306°37.90' | S 16°07.06' | 177°43.99' | 306°45.93' | S 20°09.04' | 136°32.49' | 347°57.43' | S 6°14.18' | 161°46.92' | 322°43.00' | S 15°39.96' | **21** |
| **22** | 192°52.08' | 306°40.31' | S 16°06.78' | 192°44.51' | 306°47.87' | S 20°08.62' | 151°34.39' | 347°57.99' | S 6°13.95' | 176°49.12' | 322°43.27' | S 15°39.88' | **22** |
| **23** | 207°52.14' | 306°42.71' | S 16°06.50' | 207°45.04' | 306°49.82' | S 20°08.20' | 166°36.30' | 347°58.55' | S 6°13.72' | 191°51.31' | 322°43.54' | S 15°39.80' | **23** |
| **24** | 222°52.20' | 306°45.11' | S 16°06.23' | 222°45.56' | 306°51.76' | S 20°07.79' | 181°38.20' | 347°59.11' | S 6°13.48' | 206°53.51' | 322°43.81' | S 15°39.72' | **24** |
| | δ 15.0013° | | *d* 0.2591' | δ 15.0086° | | *d* 0.4084' | δ 15.0317° | | *d* 0.2328' | δ 15.0366° | | *d* 0.0818' | |

## *Saturday, March 12th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°31.96' | 15.0028° | 352°05.36' | S 3°24.87' | 0.9834' | 70°27.68' | 14.4871° | 99°09.64' | N 26°40.50' | 0.0934' | 54.3330' | 169°37.32' | **00** |
| **01** | 192°32.13' | 15.0028° | 352°07.65' | S 3°23.89' | 0.9834' | 84°56.89' | 14.4869° | 99°42.89' | N 26°40.47' | 0.0357' | 54.3406' | 184°39.78' | **01** |
| **02** | 207°32.29' | 15.0028° | 352°09.95' | S 3°22.90' | 0.9835' | 99°26.09' | 14.4867° | 100°16.15' | N 26°40.30' | 0.1649' | 54.3485' | 199°42.24' | **02** |
| **03** | 222°32.46' | 15.0028° | 352°12.25' | S 3°21.92' | 0.9836' | 113°55.29' | 14.4866° | 100°49.42' | N 26°40.01' | 0.2942' | 54.3566' | 214°44.71' | **03** |
| **04** | 237°32.63' | 15.0028° | 352°14.55' | S 3°20.94' | 0.9836' | 128°24.47' | 14.4864° | 101°22.70' | N 26°39.59' | 0.4236' | 54.3651' | 229°47.17' | **04** |
| **05** | 252°32.79' | 15.0028° | 352°16.84' | S 3°19.95' | 0.9837' | 142°53.65' | 14.4863° | 101°55.99' | N 26°39.03' | 0.5532' | 54.3738' | 244°49.64' | **05** |
| **06** | 267°32.96' | 15.0028° | 352°19.14' | S 3°18.97' | 0.9837' | 157°22.82' | 14.4862° | 102°29.28' | N 26°38.35' | 0.6828' | 54.3828' | 259°52.10' | **06** |
| **07** | 282°33.13' | 15.0028° | 352°21.44' | S 3°17.98' | 0.9838' | 171°51.98' | 14.4861° | 103°02.58' | N 26°37.54' | 0.8124' | 54.3921' | 274°54.56' | **07** |
| **08** | 297°33.29' | 15.0028° | 352°23.74' | S 3°17.00' | 0.9839' | 186°21.14' | 14.4860° | 103°35.89' | N 26°36.60' | 0.9422' | 54.4017' | 289°57.03' | **08** |
| **09** | 312°33.46' | 15.0028° | 352°26.03' | S 3°16.02' | 0.9839' | 200°50.30' | 14.4859° | 104°09.19' | N 26°35.52' | 1.0720' | 54.4115' | 304°59.49' | **09** |
| **10** | 327°33.63' | 15.0028° | 352°28.33' | S 3°15.03' | 0.9840' | 215°19.45' | 14.4859° | 104°42.51' | N 26°34.32' | 1.2018' | 54.4217' | 320°01.96' | **10** |
| **11** | 342°33.79' | 15.0028° | 352°30.63' | S 3°14.05' | 0.9841' | 229°48.60' | 14.4858° | 105°15.82' | N 26°32.99' | 1.3316' | 54.4321' | 335°04.42' | **11** |
| **12** | 357°33.96' | 15.0028° | 352°32.92' | S 3°13.06' | 0.9841' | 244°17.75' | 14.4858° | 105°49.14' | N 26°31.53' | 1.4615' | 54.4427' | 350°06.89' | **12** |
| **13** | 12°34.13' | 15.0028° | 352°35.22' | S 3°12.08' | 0.9842' | 258°46.90' | 14.4858° | 106°22.45' | N 26°29.94' | 1.5914' | 54.4537' | 5°09.35' | **13** |
| **14** | 27°34.30' | 15.0028° | 352°37.52' | S 3°11.10' | 0.9842' | 273°16.05' | 14.4858° | 106°55.77' | N 26°28.22' | 1.7212' | 54.4649' | 20°11.81' | **14** |
| **15** | 42°34.47' | 15.0028° | 352°39.81' | S 3°10.11' | 0.9843' | 287°45.20' | 14.4858° | 107°29.08' | N 26°26.37' | 1.8511' | 54.4764' | 35°14.28' | **15** |
| **16** | 57°34.63' | 15.0028° | 352°42.11' | S 3°09.13' | 0.9844' | 302°14.35' | 14.4859° | 108°02.39' | N 26°24.38' | 1.9809' | 54.4882' | 50°16.74' | **16** |
| **17** | 72°34.80' | 15.0028° | 352°44.40' | S 3°08.14' | 0.9844' | 316°43.50' | 14.4859° | 108°35.70' | N 26°22.27' | 2.1106' | 54.5002' | 65°19.21' | **17** |
| **18** | 87°34.97' | 15.0028° | 352°46.70' | S 3°07.16' | 0.9845' | 331°12.66' | 14.4860° | 109°09.01' | N 26°20.03' | 2.2403' | 54.5125' | 80°21.67' | **18** |
| **19** | 102°35.14' | 15.0028° | 352°49.00' | S 3°06.17' | 0.9845' | 345°41.82' | 14.4860° | 109°42.31' | N 26°17.66' | 2.3700' | 54.5251' | 95°24.13' | **19** |
| **20** | 117°35.31' | 15.0028° | 352°51.29' | S 3°05.19' | 0.9846' | 0°10.99' | 14.4861° | 110°15.61' | N 26°15.16' | 2.4996' | 54.5379' | 110°26.60' | **20** |
| **21** | 132°35.48' | 15.0028° | 352°53.59' | S 3°04.21' | 0.9846' | 14°40.17' | 14.4862° | 110°48.90' | N 26°12.54' | 2.6290' | 54.5510' | 125°29.06' | **21** |
| **22** | 147°35.64' | 15.0028° | 352°55.88' | S 3°03.22' | 0.9847' | 29°09.35' | 14.4864° | 111°22.18' | N 26°09.78' | 2.7584' | 54.5644' | 140°31.53' | **22** |
| **23** | 162°35.81' | 15.0028° | 352°58.18' | S 3°02.24' | 0.9848' | 43°38.54' | 14.4865° | 111°55.45' | N 26°06.89' | 2.8877' | 54.5780' | 155°33.99' | **23** |
| **24** | 177°35.98' | 15.0028° | 353°00.47' | S 3°01.25' | 0.9848' | 58°07.74' | 14.4866° | 112°28.72' | N 26°03.87' | 3.0168' | 54.5918' | 170°36.46' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0967' | hp (π) 0.1475' | ½Ø 14.8347' | 69.0155274838395 5% +gib |
| | EoT at 12:00 UTC : -9m 44s (δ 0.67 s/h) | | Phase at 12:00 UTC : 112.26° | |
| | Meridian Pass. Time : 12:09:44.153 | | Age : 8.7 day(s) | |

| UT | Venus ♀ (π 0.24') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°52.20' | 306°45.11' | S 16°06.23' | 222°45.56' | 306°51.76' | S 20°07.79' | 181°38.20' | 347°59.11' | S 6°13.48' | 206°53.51' | 322°43.81' | S 15°39.72' | **00** |
| **01** | 237°52.26' | 306°47.52' | S 16°05.95' | 237°46.08' | 306°53.70' | S 20°07.37' | 196°40.11' | 347°59.67' | S 6°13.25' | 221°55.71' | 322°44.07' | S 15°39.64' | **01** |
| **02** | 252°52.32' | 306°49.93' | S 16°05.67' | 252°46.60' | 306°55.65' | S 20°06.95' | 211°42.01' | 348°00.23' | S 6°13.02' | 236°57.90' | 322°44.34' | S 15°39.55' | **02** |
| **03** | 267°52.38' | 306°52.33' | S 16°05.39' | 267°47.12' | 306°57.59' | S 20°06.54' | 226°43.91' | 348°00.79' | S 6°12.79' | 252°00.10' | 322°44.61' | S 15°39.47' | **03** |
| **04** | 282°52.43' | 306°54.74' | S 16°05.11' | 282°47.64' | 306°59.53' | S 20°06.12' | 241°45.82' | 348°01.35' | S 6°12.55' | 267°02.29' | 322°44.88' | S 15°39.39' | **04** |
| **05** | 297°52.49' | 306°57.15' | S 16°04.83' | 297°48.16' | 307°01.47' | S 20°05.70' | 256°47.72' | 348°01.91' | S 6°12.32' | 282°04.49' | 322°45.15' | S 15°39.31' | **05** |
| **06** | 312°52.54' | 306°59.56' | S 16°04.55' | 312°48.68' | 307°03.42' | S 20°05.28' | 271°49.63' | 348°02.48' | S 6°12.09' | 297°06.69' | 322°45.42' | S 15°39.23' | **06** |
| **07** | 327°52.60' | 307°01.97' | S 16°04.26' | 327°49.21' | 307°05.36' | S 20°04.86' | 286°51.53' | 348°03.04' | S 6°11.85' | 312°08.88' | 322°45.68' | S 15°39.15' | **07** |
| **08** | 342°52.65' | 307°04.38' | S 16°03.98' | 342°49.73' | 307°07.30' | S 20°04.44' | 301°53.43' | 348°03.60' | S 6°11.62' | 327°11.08' | 322°45.95' | S 15°39.07' | **08** |
| **09** | 357°52.70' | 307°06.79' | S 16°03.69' | 357°50.25' | 307°09.24' | S 20°04.02' | 316°55.34' | 348°04.16' | S 6°11.39' | 342°13.27' | 322°46.22' | S 15°38.99' | **09** |
| **10** | 12°52.75' | 307°09.20' | S 16°03.41' | 12°50.77' | 307°11.19' | S 20°03.60' | 331°57.24' | 348°04.72' | S 6°11.16' | 357°15.47' | 322°46.49' | S 15°38.90' | **10** |
| **11** | 27°52.80' | 307°11.62' | S 16°03.12' | 27°51.29' | 307°13.13' | S 20°03.18' | 346°59.15' | 348°05.28' | S 6°10.92' | 12°17.67' | 322°46.75' | S 15°38.82' | **11** |
| **12** | 42°52.85' | 307°14.03' | S 16°02.84' | 42°51.82' | 307°15.07' | S 20°02.76' | 2°01.05' | 348°05.84' | S 6°10.69' | 27°19.86' | 322°47.02' | S 15°38.74' | **12** |
| **13** | 57°52.90' | 307°16.45' | S 16°02.55' | 57°52.34' | 307°17.01' | S 20°02.34' | 17°02.95' | 348°06.40' | S 6°10.46' | 42°22.06' | 322°47.29' | S 15°38.66' | **13** |
| **14** | 72°52.95' | 307°18.86' | S 16°02.26' | 72°52.86' | 307°18.95' | S 20°01.92' | 32°04.86' | 348°06.96' | S 6°10.22' | 57°24.26' | 322°47.56' | S 15°38.58' | **14** |
| **15** | 87°53.00' | 307°21.28' | S 16°01.97' | 87°53.38' | 307°20.89' | S 20°01.50' | 47°06.76' | 348°07.52' | S 6°09.99' | 72°26.45' | 322°47.82' | S 15°38.50' | **15** |
| **16** | 102°53.05' | 307°23.70' | S 16°01.68' | 102°53.91' | 307°22.83' | S 20°01.08' | 62°08.67' | 348°08.08' | S 6°09.76' | 87°28.65' | 322°48.09' | S 15°38.42' | **16** |
| **17** | 117°53.09' | 307°26.11' | S 16°01.39' | 117°54.43' | 307°24.78' | S 20°00.65' | 77°10.57' | 348°08.64' | S 6°09.53' | 102°30.85' | 322°48.36' | S 15°38.34' | **17** |
| **18** | 132°53.14' | 307°28.53' | S 16°01.10' | 132°54.95' | 307°26.72' | S 20°00.23' | 92°12.48' | 348°09.20' | S 6°09.29' | 117°33.05' | 322°48.62' | S 15°38.26' | **18** |
| **19** | 147°53.18' | 307°30.95' | S 16°00.81' | 147°55.48' | 307°28.66' | S 19°59.81' | 107°14.38' | 348°09.76' | S 6°09.06' | 132°35.24' | 322°48.89' | S 15°38.18' | **19** |
| **20** | 162°53.23' | 307°33.37' | S 16°00.51' | 162°56.00' | 307°30.60' | S 19°59.39' | 122°16.28' | 348°10.31' | S 6°08.83' | 147°37.44' | 322°49.16' | S 15°38.09' | **20** |
| **21** | 177°53.27' | 307°35.79' | S 16°00.22' | 177°56.52' | 307°32.54' | S 19°58.96' | 137°18.19' | 348°10.87' | S 6°08.59' | 162°39.64' | 322°49.43' | S 15°38.01' | **21** |
| **22** | 192°53.31' | 307°38.21' | S 15°59.92' | 192°57.05' | 307°34.48' | S 19°58.54' | 152°20.09' | 348°11.43' | S 6°08.36' | 177°41.83' | 322°49.69' | S 15°37.93' | **22** |
| **23** | 207°53.35' | 307°40.64' | S 15°59.63' | 207°57.57' | 307°36.42' | S 19°58.11' | 167°22.00' | 348°11.99' | S 6°08.13' | 192°44.03' | 322°49.96' | S 15°37.85' | **23** |
| **24** | 222°53.39' | 307°43.06' | S 15°59.33' | 222°58.10' | 307°38.36' | S 19°57.69' | 182°23.90' | 348°12.55' | S 6°07.90' | 207°46.23' | 322°50.23' | S 15°37.77' | **24** |
| | δ 15.0010° | | *d* 0.2781' | δ 15.0087° | | *d* 0.4168' | δ 15.0317° | | *d* 0.2328' | δ 15.0366° | | *d* 0.0813' | |

## *Sunday, March 13th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°35.98' | 15.0028° | 353°00.47' | S 3°01.25' | 0.9848' | 58°07.74' | 14.4866° | 112°28.72' | N 26°03.87' | 3.0168' | 54.5918' | 170°36.46' | **00** |
| **01** | 192°36.15' | 15.0028° | 353°02.77' | S 3°00.27' | 0.9849' | 72°36.95' | 14.4868° | 113°01.97' | N 26°00.73' | 3.1458' | 54.6060' | 185°38.92' | **01** |
| **02** | 207°36.32' | 15.0028° | 353°05.06' | S 2°59.28' | 0.9849' | 87°06.17' | 14.4870° | 113°35.22' | N 25°57.45' | 3.2747' | 54.6203' | 200°41.38' | **02** |
| **03** | 222°36.49' | 15.0028° | 353°07.36' | S 2°58.30' | 0.9850' | 101°35.40' | 14.4872° | 114°08.45' | N 25°54.05' | 3.4034' | 54.6350' | 215°43.85' | **03** |
| **04** | 237°36.66' | 15.0028° | 353°09.65' | S 2°57.31' | 0.9850' | 116°04.64' | 14.4874° | 114°41.67' | N 25°50.52' | 3.5319' | 54.6499' | 230°46.31' | **04** |
| **05** | 252°36.83' | 15.0028° | 353°11.95' | S 2°56.33' | 0.9851' | 130°33.89' | 14.4876° | 115°14.88' | N 25°46.86' | 3.6602' | 54.6650' | 245°48.78' | **05** |
| **06** | 267°37.00' | 15.0028° | 353°14.24' | S 2°55.34' | 0.9851' | 145°03.16' | 14.4878° | 115°48.08' | N 25°43.07' | 3.7884' | 54.6804' | 260°51.24' | **06** |
| **07** | 282°37.17' | 15.0028° | 353°16.53' | S 2°54.36' | 0.9852' | 159°32.45' | 14.4881° | 116°21.26' | N 25°39.15' | 3.9163' | 54.6960' | 275°53.70' | **07** |
| **08** | 297°37.34' | 15.0028° | 353°18.83' | S 2°53.37' | 0.9852' | 174°01.75' | 14.4883° | 116°54.42' | N 25°35.11' | 4.0440' | 54.7118' | 290°56.17' | **08** |
| **09** | 312°37.51' | 15.0028° | 353°21.12' | S 2°52.39' | 0.9853' | 188°31.06' | 14.4886° | 117°27.57' | N 25°30.94' | 4.1715' | 54.7279' | 305°58.63' | **09** |
| **10** | 327°37.68' | 15.0028° | 353°23.42' | S 2°51.40' | 0.9853' | 203°00.39' | 14.4889° | 118°00.70' | N 25°26.64' | 4.2988' | 54.7443' | 321°01.10' | **10** |
| **11** | 342°37.85' | 15.0028° | 353°25.71' | S 2°50.41' | 0.9854' | 217°29.74' | 14.4892° | 118°33.82' | N 25°22.21' | 4.4258' | 54.7608' | 336°03.56' | **11** |
| **12** | 357°38.02' | 15.0028° | 353°28.00' | S 2°49.43' | 0.9854' | 231°59.11' | 14.4895° | 119°06.92' | N 25°17.66' | 4.5525' | 54.7776' | 351°06.02' | **12** |
| **13** | 12°38.19' | 15.0028° | 353°30.30' | S 2°48.44' | 0.9855' | 246°28.49' | 14.4898° | 119°39.99' | N 25°12.98' | 4.6790' | 54.7947' | 6°08.49' | **13** |
| **14** | 27°38.36' | 15.0028° | 353°32.59' | S 2°47.46' | 0.9855' | 260°57.90' | 14.4901° | 120°13.05' | N 25°08.17' | 4.8052' | 54.8120' | 21°10.95' | **14** |
| **15** | 42°38.53' | 15.0028° | 353°34.88' | S 2°46.47' | 0.9856' | 275°27.33' | 14.4904° | 120°46.09' | N 25°03.24' | 4.9311' | 54.8295' | 36°13.42' | **15** |
| **16** | 57°38.70' | 15.0029° | 353°37.18' | S 2°45.49' | 0.9856' | 289°56.77' | 14.4908° | 121°19.11' | N 24°58.19' | 5.0566' | 54.8472' | 51°15.88' | **16** |
| **17** | 72°38.88' | 15.0029° | 353°39.47' | S 2°44.50' | 0.9857' | 304°26.24' | 14.4911° | 121°52.10' | N 24°53.01' | 5.1819' | 54.8651' | 66°18.35' | **17** |
| **18** | 87°39.05' | 15.0029° | 353°41.76' | S 2°43.52' | 0.9857' | 318°55.73' | 14.4915° | 122°25.08' | N 24°47.70' | 5.3068' | 54.8833' | 81°20.81' | **18** |
| **19** | 102°39.22' | 15.0029° | 353°44.06' | S 2°42.53' | 0.9858' | 333°25.25' | 14.4919° | 122°58.03' | N 24°42.27' | 5.4314' | 54.9017' | 96°23.27' | **19** |
| **20** | 117°39.39' | 15.0029° | 353°46.35' | S 2°41.54' | 0.9858' | 347°54.78' | 14.4923° | 123°30.95' | N 24°36.71' | 5.5556' | 54.9203' | 111°25.74' | **20** |
| **21** | 132°39.56' | 15.0029° | 353°48.64' | S 2°40.56' | 0.9859' | 2°24.34' | 14.4927° | 124°03.86' | N 24°31.03' | 5.6795' | 54.9391' | 126°28.20' | **21** |
| **22** | 147°39.73' | 15.0029° | 353°50.93' | S 2°39.57' | 0.9859' | 16°53.93' | 14.4931° | 124°36.74' | N 24°25.23' | 5.8030' | 54.9582' | 141°30.67' | **22** |
| **23** | 162°39.91' | 15.0029° | 353°53.22' | S 2°38.59' | 0.9860' | 31°23.54' | 14.4935° | 125°09.59' | N 24°19.30' | 5.9261' | 54.9774' | 156°33.13' | **23** |
| **24** | 177°40.08' | 15.0029° | 353°55.52' | S 2°37.60' | 0.9860' | 45°53.18' | 14.4940° | 125°42.42' | N 24°13.25' | 6.0488' | 54.9969' | 171°35.59' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0925' | hp (π) 0.1475' | ½Ø 14.9260' | 77.4612831245432<br>6% +gib |
| | EoT at 12:00 UTC : -9m 27s (δ 0.68 s/h) | | Phase at 12:00 UTC : 123.30° | |
| | Meridian Pass. Time : 12:09:27.915 | | Age : 9.6 day(s) | |

| UT | Venus ♀ (π 0.24') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°53.39' | 307°43.06' | S 15°59.33' | 222°58.10' | 307°38.36' | S 19°57.69' | 182°23.90' | 348°12.55' | S 6°07.90' | 207°46.23' | 322°50.23' | S 15°37.77' | **00** |
| **01** | 237°53.43' | 307°45.48' | S 15°59.03' | 237°58.62' | 307°40.30' | S 19°57.26' | 197°25.81' | 348°13.11' | S 6°07.66' | 222°48.43' | 322°50.49' | S 15°37.69' | **01** |
| **02** | 252°53.47' | 307°47.91' | S 15°58.74' | 252°59.14' | 307°42.24' | S 19°56.84' | 212°27.71' | 348°13.67' | S 6°07.43' | 237°50.63' | 322°50.76' | S 15°37.61' | **02** |
| **03** | 267°53.51' | 307°50.34' | S 15°58.44' | 267°59.67' | 307°44.18' | S 19°56.41' | 227°29.61' | 348°14.23' | S 6°07.20' | 252°52.82' | 322°51.02' | S 15°37.53' | **03** |
| **04** | 282°53.55' | 307°52.76' | S 15°58.14' | 283°00.19' | 307°46.12' | S 19°55.99' | 242°31.52' | 348°14.79' | S 6°06.97' | 267°55.02' | 322°51.29' | S 15°37.45' | **04** |
| **05** | 297°53.59' | 307°55.19' | S 15°57.84' | 298°00.72' | 307°48.06' | S 19°55.56' | 257°33.42' | 348°15.35' | S 6°06.73' | 282°57.22' | 322°51.56' | S 15°37.37' | **05** |
| **06** | 312°53.62' | 307°57.62' | S 15°57.54' | 313°01.24' | 307°50.00' | S 19°55.13' | 272°35.33' | 348°15.91' | S 6°06.50' | 297°59.42' | 322°51.82' | S 15°37.29' | **06** |
| **07** | 327°53.66' | 308°00.05' | S 15°57.23' | 328°01.77' | 307°51.94' | S 19°54.71' | 287°37.23' | 348°16.47' | S 6°06.27' | 313°01.61' | 322°52.09' | S 15°37.21' | **07** |
| **08** | 342°53.69' | 308°02.48' | S 15°56.93' | 343°02.29' | 307°53.88' | S 19°54.28' | 302°39.14' | 348°17.03' | S 6°06.03' | 328°03.81' | 322°52.36' | S 15°37.12' | **08** |
| **09** | 357°53.73' | 308°04.91' | S 15°56.63' | 358°02.82' | 307°55.82' | S 19°53.85' | 317°41.04' | 348°17.59' | S 6°05.80' | 343°06.01' | 322°52.62' | S 15°37.04' | **09** |
| **10** | 12°53.76' | 308°07.34' | S 15°56.32' | 13°03.34' | 307°57.75' | S 19°53.42' | 332°42.95' | 348°18.15' | S 6°05.57' | 358°08.21' | 322°52.89' | S 15°36.96' | **10** |
| **11** | 27°53.79' | 308°09.77' | S 15°56.02' | 28°03.87' | 307°59.69' | S 19°52.99' | 347°44.85' | 348°18.71' | S 6°05.34' | 13°10.41' | 322°53.15' | S 15°36.88' | **11** |
| **12** | 42°53.82' | 308°12.20' | S 15°55.71' | 43°04.39' | 308°01.63' | S 19°52.56' | 2°46.76' | 348°19.27' | S 6°05.10' | 28°12.61' | 322°53.42' | S 15°36.80' | **12** |
| **13** | 57°53.86' | 308°14.63' | S 15°55.40' | 58°04.92' | 308°03.57' | S 19°52.14' | 17°48.66' | 348°19.83' | S 6°04.87' | 43°14.80' | 322°53.69' | S 15°36.72' | **13** |
| **14** | 72°53.89' | 308°17.07' | S 15°55.10' | 73°05.44' | 308°05.51' | S 19°51.71' | 32°50.57' | 348°20.39' | S 6°04.64' | 58°17.00' | 322°53.95' | S 15°36.64' | **14** |
| **15** | 87°53.91' | 308°19.50' | S 15°54.79' | 88°05.97' | 308°07.45' | S 19°51.28' | 47°52.47' | 348°20.95' | S 6°04.41' | 73°19.20' | 322°54.22' | S 15°36.56' | **15** |
| **16** | 102°53.94' | 308°21.94' | S 15°54.48' | 103°06.50' | 308°09.38' | S 19°50.85' | 62°54.37' | 348°21.51' | S 6°04.17' | 88°21.40' | 322°54.48' | S 15°36.48' | **16** |
| **17** | 117°53.97' | 308°24.37' | S 15°54.17' | 118°07.02' | 308°11.32' | S 19°50.41' | 77°56.28' | 348°22.07' | S 6°03.94' | 103°23.60' | 322°54.75' | S 15°36.40' | **17** |
| **18** | 132°54.00' | 308°26.81' | S 15°53.86' | 133°07.55' | 308°13.26' | S 19°49.98' | 92°58.18' | 348°22.63' | S 6°03.71' | 118°25.80' | 322°55.01' | S 15°36.32' | **18** |
| **19** | 147°54.03' | 308°29.25' | S 15°53.55' | 148°08.08' | 308°15.20' | S 19°49.55' | 108°00.09' | 348°23.18' | S 6°03.47' | 133°28.00' | 322°55.28' | S 15°36.24' | **19** |
| **20** | 162°54.05' | 308°31.69' | S 15°53.23' | 163°08.60' | 308°17.14' | S 19°49.12' | 123°01.99' | 348°23.74' | S 6°03.24' | 148°30.20' | 322°55.54' | S 15°36.16' | **20** |
| **21** | 177°54.08' | 308°34.13' | S 15°52.92' | 178°09.13' | 308°19.07' | S 19°48.69' | 138°03.90' | 348°24.30' | S 6°03.01' | 163°32.39' | 322°55.81' | S 15°36.08' | **21** |
| **22** | 192°54.10' | 308°36.57' | S 15°52.61' | 193°09.66' | 308°21.01' | S 19°48.26' | 153°05.80' | 348°24.86' | S 6°02.78' | 178°34.59' | 322°56.07' | S 15°36.00' | **22** |
| **23** | 207°54.12' | 308°39.01' | S 15°52.29' | 208°10.18' | 308°22.95' | S 19°47.82' | 168°07.71' | 348°25.42' | S 6°02.54' | 193°36.79' | 322°56.34' | S 15°35.92' | **23** |
| **24** | 222°54.15' | 308°41.45' | S 15°51.98' | 223°10.71' | 308°24.88' | S 19°47.39' | 183°09.61' | 348°25.98' | S 6°02.31' | 208°38.99' | 322°56.60' | S 15°35.84' | **24** |
| | δ 15.0007° | | *d* 0.2973' | δ 15.0087° | | *d* 0.4251' | δ 15.0317° | | *d* 0.2328' | δ 15.0366° | | *d* 0.0809' | |

## *Monday, March 14th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°40.08' | 15.0029° | 353°55.52' | S 2°37.60' | 0.9860' | 45°53.18' | 14.4940° | 125°42.42' | N 24°13.25' | 6.0488' | 54.9969' | 171°35.59' | **00** |
| **01** | 192°40.25' | 15.0029° | 353°57.81' | S 2°36.61' | 0.9861' | 60°22.84' | 14.4944° | 126°15.22' | N 24°07.08' | 6.1711' | 55.0165' | 186°38.06' | **01** |
| **02** | 207°40.42' | 15.0029° | 354°00.10' | S 2°35.63' | 0.9861' | 74°52.53' | 14.4948° | 126°47.99' | N 24°00.79' | 6.2930' | 55.0364' | 201°40.52' | **02** |
| **03** | 222°40.59' | 15.0029° | 354°02.39' | S 2°34.64' | 0.9861' | 89°22.25' | 14.4953° | 127°20.74' | N 23°54.38' | 6.4145' | 55.0564' | 216°42.99' | **03** |
| **04** | 237°40.77' | 15.0029° | 354°04.68' | S 2°33.66' | 0.9862' | 103°52.00' | 14.4958° | 127°53.45' | N 23°47.84' | 6.5355' | 55.0767' | 231°45.45' | **04** |
| **05** | 252°40.94' | 15.0029° | 354°06.98' | S 2°32.67' | 0.9862' | 118°21.77' | 14.4962° | 128°26.14' | N 23°41.18' | 6.6560' | 55.0972' | 246°47.92' | **05** |
| **06** | 267°41.11' | 15.0029° | 354°09.27' | S 2°31.68' | 0.9863' | 132°51.57' | 14.4967° | 128°58.81' | N 23°34.41' | 6.7762' | 55.1178' | 261°50.38' | **06** |
| **07** | 282°41.29' | 15.0029° | 354°11.56' | S 2°30.70' | 0.9863' | 147°21.41' | 14.4972° | 129°31.44' | N 23°27.51' | 6.8958' | 55.1387' | 276°52.84' | **07** |
| **08** | 297°41.46' | 15.0029° | 354°13.85' | S 2°29.71' | 0.9864' | 161°51.27' | 14.4977° | 130°04.04' | N 23°20.50' | 7.0150' | 55.1597' | 291°55.31' | **08** |
| **09** | 312°41.63' | 15.0029° | 354°16.14' | S 2°28.72' | 0.9864' | 176°21.16' | 14.4982° | 130°36.61' | N 23°13.36' | 7.1336' | 55.1809' | 306°57.77' | **09** |
| **10** | 327°41.80' | 15.0029° | 354°18.43' | S 2°27.74' | 0.9864' | 190°51.08' | 14.4987° | 131°09.15' | N 23°06.11' | 7.2518' | 55.2023' | 322°00.24' | **10** |
| **11** | 342°41.98' | 15.0029° | 354°20.72' | S 2°26.75' | 0.9865' | 205°21.04' | 14.4992° | 131°41.66' | N 22°58.74' | 7.3695' | 55.2239' | 337°02.70' | **11** |
| **12** | 357°42.15' | 15.0029° | 354°23.01' | S 2°25.76' | 0.9865' | 219°51.02' | 14.4998° | 132°14.14' | N 22°51.26' | 7.4866' | 55.2456' | 352°05.16' | **12** |
| **13** | 12°42.32' | 15.0029° | 354°25.30' | S 2°24.78' | 0.9865' | 234°21.04' | 14.5003° | 132°46.59' | N 22°43.65' | 7.6032' | 55.2676' | 7°07.63' | **13** |
| **14** | 27°42.50' | 15.0029° | 354°27.59' | S 2°23.79' | 0.9866' | 248°51.09' | 14.5008° | 133°19.01' | N 22°35.93' | 7.7193' | 55.2897' | 22°10.09' | **14** |
| **15** | 42°42.67' | 15.0029° | 354°29.88' | S 2°22.80' | 0.9866' | 263°21.17' | 14.5013° | 133°51.39' | N 22°28.10' | 7.8348' | 55.3119' | 37°12.56' | **15** |
| **16** | 57°42.85' | 15.0029° | 354°32.17' | S 2°21.82' | 0.9867' | 277°51.28' | 14.5019° | 134°23.74' | N 22°20.15' | 7.9498' | 55.3344' | 52°15.02' | **16** |
| **17** | 72°43.02' | 15.0029° | 354°34.46' | S 2°20.83' | 0.9867' | 292°21.43' | 14.5024° | 134°56.06' | N 22°12.08' | 8.0642' | 55.3570' | 67°17.48' | **17** |
| **18** | 87°43.19' | 15.0029° | 354°36.75' | S 2°19.84' | 0.9867' | 306°51.61' | 14.5030° | 135°28.34' | N 22°03.91' | 8.1780' | 55.3797' | 82°19.95' | **18** |
| **19** | 102°43.37' | 15.0029° | 354°39.04' | S 2°18.86' | 0.9868' | 321°21.82' | 14.5035° | 136°00.59' | N 21°55.61' | 8.2912' | 55.4027' | 97°22.41' | **19** |
| **20** | 117°43.54' | 15.0029° | 354°41.33' | S 2°17.87' | 0.9868' | 335°52.07' | 14.5041° | 136°32.81' | N 21°47.21' | 8.4039' | 55.4257' | 112°24.88' | **20** |
| **21** | 132°43.72' | 15.0029° | 354°43.62' | S 2°16.88' | 0.9868' | 350°22.35' | 14.5047° | 137°04.99' | N 21°38.70' | 8.5159' | 55.4490' | 127°27.34' | **21** |
| **22** | 147°43.89' | 15.0029° | 354°45.91' | S 2°15.90' | 0.9869' | 4°52.66' | 14.5052° | 137°37.14' | N 21°30.07' | 8.6273' | 55.4723' | 142°29.80' | **22** |
| **23** | 162°44.07' | 15.0029° | 354°48.20' | S 2°14.91' | 0.9869' | 19°23.01' | 14.5058° | 138°09.26' | N 21°21.33' | 8.7381' | 55.4959' | 157°32.27' | **23** |
| **24** | 177°44.24' | 15.0029° | 354°50.49' | S 2°13.92' | 0.9869' | 33°53.39' | 14.5064° | 138°41.34' | N 21°12.48' | 8.8483' | 55.5195' | 172°34.73' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0882' | hp (π) 0.1474' | ½Ø 15.0535' | 85.0210711955292<br>3% +gib |
| | EoT at 12:00 UTC : -9m 11s (δ 0.69 s/h) | | Phase at 12:00 UTC : 134.56° | |
| | Meridian Pass. Time : 12:09:11.396 | | Age : 10.5 day(s) | |

| UT | Venus ♀ (π 0.23') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°54.15' | 308°41.45' | S 15°51.98' | 223°10.71' | 308°24.88' | S 19°47.39' | 183°09.61' | 348°25.98' | S 6°02.31' | 208°38.99' | 322°56.60' | S 15°35.84' | **00** |
| **01** | 237°54.17' | 308°43.89' | S 15°51.66' | 238°11.24' | 308°26.82' | S 19°46.96' | 198°11.52' | 348°26.54' | S 6°02.08' | 223°41.19' | 322°56.87' | S 15°35.76' | **01** |
| **02** | 252°54.19' | 308°46.33' | S 15°51.34' | 253°11.77' | 308°28.76' | S 19°46.52' | 213°13.42' | 348°27.10' | S 6°01.85' | 238°43.39' | 322°57.13' | S 15°35.68' | **02** |
| **03** | 267°54.21' | 308°48.78' | S 15°51.02' | 268°12.29' | 308°30.69' | S 19°46.09' | 228°15.33' | 348°27.66' | S 6°01.61' | 253°45.59' | 322°57.40' | S 15°35.60' | **03** |
| **04** | 282°54.23' | 308°51.22' | S 15°50.71' | 283°12.82' | 308°32.63' | S 19°45.66' | 243°17.23' | 348°28.22' | S 6°01.38' | 268°47.79' | 322°57.66' | S 15°35.51' | **04** |
| **05** | 297°54.25' | 308°53.66' | S 15°50.39' | 298°13.35' | 308°34.57' | S 19°45.22' | 258°19.14' | 348°28.78' | S 6°01.15' | 283°49.99' | 322°57.93' | S 15°35.43' | **05** |
| **06** | 312°54.27' | 308°56.11' | S 15°50.06' | 313°13.88' | 308°36.50' | S 19°44.79' | 273°21.04' | 348°29.34' | S 6°00.91' | 298°52.19' | 322°58.19' | S 15°35.35' | **06** |
| **07** | 327°54.29' | 308°58.56' | S 15°49.74' | 328°14.40' | 308°38.44' | S 19°44.35' | 288°22.95' | 348°29.89' | S 6°00.68' | 313°54.39' | 322°58.45' | S 15°35.27' | **07** |
| **08** | 342°54.30' | 309°01.00' | S 15°49.42' | 343°14.93' | 308°40.37' | S 19°43.91' | 303°24.85' | 348°30.45' | S 6°00.45' | 328°56.59' | 322°58.72' | S 15°35.19' | **08** |
| **09** | 357°54.32' | 309°03.45' | S 15°49.10' | 358°15.46' | 308°42.31' | S 19°43.48' | 318°26.76' | 348°31.01' | S 6°00.22' | 343°58.79' | 322°58.98' | S 15°35.11' | **09** |
| **10** | 12°54.34' | 309°05.90' | S 15°48.77' | 13°15.99' | 308°44.25' | S 19°43.04' | 333°28.66' | 348°31.57' | S 5°59.98' | 359°00.99' | 322°59.25' | S 15°35.03' | **10** |
| **11** | 27°54.35' | 309°08.35' | S 15°48.45' | 28°16.52' | 308°46.18' | S 19°42.61' | 348°30.57' | 348°32.13' | S 5°59.75' | 14°03.19' | 322°59.51' | S 15°34.95' | **11** |
| **12** | 42°54.37' | 309°10.80' | S 15°48.12' | 43°17.05' | 308°48.12' | S 19°42.17' | 3°32.47' | 348°32.69' | S 5°59.52' | 29°05.39' | 322°59.78' | S 15°34.87' | **12** |
| **13** | 57°54.38' | 309°13.25' | S 15°47.80' | 58°17.58' | 308°50.05' | S 19°41.73' | 18°34.38' | 348°33.25' | S 5°59.29' | 44°07.59' | 323°00.04' | S 15°34.79' | **13** |
| **14** | 72°54.39' | 309°15.70' | S 15°47.47' | 73°18.11' | 308°51.99' | S 19°41.29' | 33°36.29' | 348°33.81' | S 5°59.05' | 59°09.79' | 323°00.30' | S 15°34.71' | **14** |
| **15** | 87°54.40' | 309°18.15' | S 15°47.14' | 88°18.63' | 308°53.92' | S 19°40.86' | 48°38.19' | 348°34.37' | S 5°58.82' | 74°11.99' | 323°00.57' | S 15°34.63' | **15** |
| **16** | 102°54.42' | 309°20.60' | S 15°46.82' | 103°19.16' | 308°55.86' | S 19°40.42' | 63°40.10' | 348°34.92' | S 5°58.59' | 89°14.19' | 323°00.83' | S 15°34.55' | **16** |
| **17** | 117°54.43' | 309°23.06' | S 15°46.49' | 118°19.69' | 308°57.79' | S 19°39.98' | 78°42.00' | 348°35.48' | S 5°58.36' | 104°16.39' | 323°01.09' | S 15°34.47' | **17** |
| **18** | 132°54.44' | 309°25.51' | S 15°46.16' | 133°20.22' | 308°59.73' | S 19°39.54' | 93°43.91' | 348°36.04' | S 5°58.12' | 119°18.59' | 323°01.36' | S 15°34.39' | **18** |
| **19** | 147°54.45' | 309°27.97' | S 15°45.82' | 148°20.75' | 309°01.66' | S 19°39.10' | 108°45.81' | 348°36.60' | S 5°57.89' | 134°20.79' | 323°01.62' | S 15°34.31' | **19** |
| **20** | 162°54.45' | 309°30.42' | S 15°45.49' | 163°21.28' | 309°03.59' | S 19°38.66' | 123°47.72' | 348°37.16' | S 5°57.66' | 149°22.99' | 323°01.88' | S 15°34.23' | **20** |
| **21** | 177°54.46' | 309°32.88' | S 15°45.16' | 178°21.81' | 309°05.53' | S 19°38.22' | 138°49.62' | 348°37.72' | S 5°57.42' | 164°25.19' | 323°02.15' | S 15°34.15' | **21** |
| **22** | 192°54.47' | 309°35.33' | S 15°44.83' | 193°22.34' | 309°07.46' | S 19°37.78' | 153°51.53' | 348°38.28' | S 5°57.19' | 179°27.39' | 323°02.41' | S 15°34.07' | **22** |
| **23** | 207°54.48' | 309°37.79' | S 15°44.49' | 208°22.87' | 309°09.40' | S 19°37.34' | 168°53.43' | 348°38.83' | S 5°56.96' | 194°29.60' | 323°02.67' | S 15°33.99' | **23** |
| **24** | 222°54.48' | 309°40.25' | S 15°44.16' | 223°23.40' | 309°11.33' | S 19°36.90' | 183°55.34' | 348°39.39' | S 5°56.73' | 209°31.80' | 323°02.94' | S 15°33.91' | **24** |
| | δ 15.0004° | | *d* 0.3165' | δ 15.0088° | | *d* 0.4333' | δ 15.0317° | | *d* 0.2327' | δ 15.0367° | | *d* 0.0804' | |

## *Tuesday, March 15th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°44.24' | 15.0029° | 354°50.49' | S 2°13.92' | 0.9869' | 33°53.39' | 14.5064° | 138°41.34' | N 21°12.48' | 8.8483' | 55.5195' | 172°34.73' | **00** |
| **01** | 192°44.42' | 15.0029° | 354°52.78' | S 2°12.94' | 0.9870' | 48°23.81' | 14.5070° | 139°13.39' | N 21°03.52' | 8.9578' | 55.5433' | 187°37.20' | **01** |
| **02** | 207°44.59' | 15.0029° | 354°55.07' | S 2°11.95' | 0.9870' | 62°54.26' | 14.5075° | 139°45.40' | N 20°54.46' | 9.0667' | 55.5673' | 202°39.66' | **02** |
| **03** | 222°44.77' | 15.0029° | 354°57.36' | S 2°10.96' | 0.9870' | 77°24.75' | 14.5081° | 140°17.38' | N 20°45.28' | 9.1749' | 55.5914' | 217°42.13' | **03** |
| **04** | 237°44.94' | 15.0029° | 354°59.65' | S 2°09.98' | 0.9871' | 91°55.27' | 14.5087° | 140°49.32' | N 20°36.00' | 9.2825' | 55.6156' | 232°44.59' | **04** |
| **05** | 252°45.12' | 15.0029° | 355°01.94' | S 2°08.99' | 0.9871' | 106°25.82' | 14.5093° | 141°21.23' | N 20°26.61' | 9.3893' | 55.6399' | 247°47.05' | **05** |
| **06** | 267°45.29' | 15.0029° | 355°04.23' | S 2°08.00' | 0.9871' | 120°56.41' | 14.5098° | 141°53.10' | N 20°17.11' | 9.4955' | 55.6644' | 262°49.52' | **06** |
| **07** | 282°45.47' | 15.0029° | 355°06.51' | S 2°07.01' | 0.9872' | 135°27.04' | 14.5104° | 142°24.94' | N 20°07.51' | 9.6010' | 55.6890' | 277°51.98' | **07** |
| **08** | 297°45.64' | 15.0029° | 355°08.80' | S 2°06.03' | 0.9872' | 149°57.70' | 14.5110° | 142°56.75' | N 19°57.81' | 9.7058' | 55.7137' | 292°54.45' | **08** |
| **09** | 312°45.82' | 15.0029° | 355°11.09' | S 2°05.04' | 0.9872' | 164°28.40' | 14.5116° | 143°28.51' | N 19°48.00' | 9.8099' | 55.7386' | 307°56.91' | **09** |
| **10** | 327°45.99' | 15.0029° | 355°13.38' | S 2°04.05' | 0.9873' | 178°59.13' | 14.5122° | 144°00.25' | N 19°38.08' | 9.9133' | 55.7635' | 322°59.37' | **10** |
| **11** | 342°46.17' | 15.0029° | 355°15.67' | S 2°03.06' | 0.9873' | 193°29.89' | 14.5127° | 144°31.95' | N 19°28.07' | 10.0160' | 55.7886' | 338°01.84' | **11** |
| **12** | 357°46.35' | 15.0029° | 355°17.96' | S 2°02.08' | 0.9873' | 208°00.69' | 14.5133° | 145°03.61' | N 19°17.95' | 10.1179' | 55.8137' | 353°04.30' | **12** |
| **13** | 12°46.52' | 15.0029° | 355°20.24' | S 2°01.09' | 0.9874' | 222°31.52' | 14.5139° | 145°35.24' | N 19°07.73' | 10.2191' | 55.8390' | 8°06.77' | **13** |
| **14** | 27°46.70' | 15.0029° | 355°22.53' | S 2°00.10' | 0.9874' | 237°02.39' | 14.5145° | 146°06.84' | N 18°57.41' | 10.3195' | 55.8644' | 23°09.23' | **14** |
| **15** | 42°46.87' | 15.0029° | 355°24.82' | S 1°59.12' | 0.9874' | 251°33.29' | 14.5150° | 146°38.40' | N 18°46.99' | 10.4192' | 55.8898' | 38°11.69' | **15** |
| **16** | 57°47.05' | 15.0029° | 355°27.11' | S 1°58.13' | 0.9874' | 266°04.23' | 14.5156° | 147°09.93' | N 18°36.47' | 10.5181' | 55.9154' | 53°14.16' | **16** |
| **17** | 72°47.23' | 15.0029° | 355°29.40' | S 1°57.14' | 0.9875' | 280°35.20' | 14.5162° | 147°41.42' | N 18°25.86' | 10.6162' | 55.9410' | 68°16.62' | **17** |
| **18** | 87°47.40' | 15.0029° | 355°31.68' | S 1°56.15' | 0.9875' | 295°06.21' | 14.5168° | 148°12.88' | N 18°15.14' | 10.7136' | 55.9668' | 83°19.09' | **18** |
| **19** | 102°47.58' | 15.0029° | 355°33.97' | S 1°55.17' | 0.9875' | 309°37.25' | 14.5173° | 148°44.30' | N 18°04.33' | 10.8102' | 55.9926' | 98°21.55' | **19** |
| **20** | 117°47.76' | 15.0029° | 355°36.26' | S 1°54.18' | 0.9875' | 324°08.32' | 14.5179° | 149°15.70' | N 17°53.43' | 10.9060' | 56.0185' | 113°24.01' | **20** |
| **21** | 132°47.93' | 15.0029° | 355°38.54' | S 1°53.19' | 0.9876' | 338°39.42' | 14.5184° | 149°47.05' | N 17°42.43' | 11.0009' | 56.0445' | 128°26.48' | **21** |
| **22** | 147°48.11' | 15.0030° | 355°40.83' | S 1°52.20' | 0.9876' | 353°10.56' | 14.5190° | 150°18.38' | N 17°31.33' | 11.0951' | 56.0706' | 143°28.94' | **22** |
| **23** | 162°48.29' | 15.0030° | 355°43.12' | S 1°51.22' | 0.9876' | 7°41.74' | 14.5195° | 150°49.67' | N 17°20.14' | 11.1885' | 56.0967' | 158°31.41' | **23** |
| **24** | 177°48.47' | 15.0030° | 355°45.41' | S 1°50.23' | 0.9876' | 22°12.94' | 14.5201° | 151°20.93' | N 17°08.86' | 11.2810' | 56.1229' | 173°33.87' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.0839' | hp (π) 0.1474' | ½Ø 15.2082' | 91.3718648522656 % +gib | |
| EoT at 12:00 UTC : -8m 54s (δ 0.70 s/h) | | Phase at 12:00 UTC : 146.08° | | |
| Meridian Pass. Time : 12:08:54.616 | | Age : 11.4 day(s) | | |

| UT | Venus ♀ (π 0.23') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°54.48' | 309°40.25' | S 15°44.16' | 223°23.40' | 309°11.33' | S 19°36.90' | 183°55.34' | 348°39.39' | S 5°56.73' | 209°31.80' | 323°02.94' | S 15°33.91' | **00** |
| **01** | 237°54.49' | 309°42.71' | S 15°43.82' | 238°23.93' | 309°13.26' | S 19°36.46' | 198°57.25' | 348°39.95' | S 5°56.49' | 224°34.00' | 323°03.20' | S 15°33.83' | **01** |
| **02** | 252°54.49' | 309°45.17' | S 15°43.48' | 253°24.46' | 309°15.20' | S 19°36.01' | 213°59.15' | 348°40.51' | S 5°56.26' | 239°36.20' | 323°03.46' | S 15°33.75' | **02** |
| **03** | 267°54.50' | 309°47.63' | S 15°43.15' | 268°25.00' | 309°17.13' | S 19°35.57' | 229°01.06' | 348°41.07' | S 5°56.03' | 254°38.40' | 323°03.73' | S 15°33.67' | **03** |
| **04** | 282°54.50' | 309°50.09' | S 15°42.81' | 283°25.53' | 309°19.06' | S 19°35.13' | 244°02.96' | 348°41.63' | S 5°55.80' | 269°40.60' | 323°03.99' | S 15°33.59' | **04** |
| **05** | 297°54.50' | 309°52.55' | S 15°42.47' | 298°26.06' | 309°21.00' | S 19°34.69' | 259°04.87' | 348°42.19' | S 5°55.56' | 284°42.80' | 323°04.25' | S 15°33.51' | **05** |
| **06** | 312°54.50' | 309°55.01' | S 15°42.13' | 313°26.59' | 309°22.93' | S 19°34.24' | 274°06.77' | 348°42.74' | S 5°55.33' | 299°45.00' | 323°04.51' | S 15°33.43' | **06** |
| **07** | 327°54.51' | 309°57.48' | S 15°41.79' | 328°27.12' | 309°24.86' | S 19°33.80' | 289°08.68' | 348°43.30' | S 5°55.10' | 314°47.21' | 323°04.78' | S 15°33.35' | **07** |
| **08** | 342°54.51' | 309°59.94' | S 15°41.45' | 343°27.65' | 309°26.79' | S 19°33.36' | 304°10.59' | 348°43.86' | S 5°54.87' | 329°49.41' | 323°05.04' | S 15°33.27' | **08** |
| **09** | 357°54.51' | 310°02.40' | S 15°41.11' | 358°28.18' | 309°28.73' | S 19°32.91' | 319°12.49' | 348°44.42' | S 5°54.63' | 344°51.61' | 323°05.30' | S 15°33.20' | **09** |
| **10** | 12°54.51' | 310°04.87' | S 15°40.76' | 13°28.71' | 309°30.66' | S 19°32.47' | 334°14.40' | 348°44.98' | S 5°54.40' | 359°53.81' | 323°05.56' | S 15°33.12' | **10** |
| **11** | 27°54.50' | 310°07.33' | S 15°40.42' | 28°29.25' | 309°32.59' | S 19°32.02' | 349°16.30' | 348°45.54' | S 5°54.17' | 14°56.01' | 323°05.83' | S 15°33.04' | **11** |
| **12** | 42°54.50' | 310°09.80' | S 15°40.07' | 43°29.78' | 309°34.52' | S 19°31.58' | 4°18.21' | 348°46.09' | S 5°53.94' | 29°58.21' | 323°06.09' | S 15°32.96' | **12** |
| **13** | 57°54.50' | 310°12.27' | S 15°39.73' | 58°30.31' | 309°36.46' | S 19°31.13' | 19°20.11' | 348°46.65' | S 5°53.70' | 45°00.42' | 323°06.35' | S 15°32.88' | **13** |
| **14** | 72°54.50' | 310°14.73' | S 15°39.38' | 73°30.84' | 309°38.39' | S 19°30.69' | 34°22.02' | 348°47.21' | S 5°53.47' | 60°02.62' | 323°06.61' | S 15°32.80' | **14** |
| **15** | 87°54.49' | 310°17.20' | S 15°39.03' | 88°31.38' | 309°40.32' | S 19°30.24' | 49°23.93' | 348°47.77' | S 5°53.24' | 75°04.82' | 323°06.87' | S 15°32.72' | **15** |
| **16** | 102°54.49' | 310°19.67' | S 15°38.69' | 103°31.91' | 309°42.25' | S 19°29.79' | 64°25.83' | 348°48.33' | S 5°53.01' | 90°07.02' | 323°07.14' | S 15°32.64' | **16** |
| **17** | 117°54.48' | 310°22.14' | S 15°38.34' | 118°32.44' | 309°44.18' | S 19°29.35' | 79°27.74' | 348°48.88' | S 5°52.77' | 105°09.23' | 323°07.40' | S 15°32.56' | **17** |
| **18** | 132°54.48' | 310°24.61' | S 15°37.99' | 133°32.97' | 309°46.11' | S 19°28.90' | 94°29.64' | 348°49.44' | S 5°52.54' | 120°11.43' | 323°07.66' | S 15°32.48' | **18** |
| **19** | 147°54.47' | 310°27.08' | S 15°37.64' | 148°33.51' | 309°48.04' | S 19°28.45' | 109°31.55' | 348°50.00' | S 5°52.31' | 135°13.63' | 323°07.92' | S 15°32.40' | **19** |
| **20** | 162°54.46' | 310°29.55' | S 15°37.29' | 163°34.04' | 309°49.98' | S 19°28.00' | 124°33.46' | 348°50.56' | S 5°52.08' | 150°15.83' | 323°08.18' | S 15°32.32' | **20** |
| **21** | 177°54.45' | 310°32.03' | S 15°36.93' | 178°34.57' | 309°51.91' | S 19°27.56' | 139°35.36' | 348°51.12' | S 5°51.84' | 165°18.04' | 323°08.44' | S 15°32.24' | **21** |
| **22** | 192°54.45' | 310°34.50' | S 15°36.58' | 193°35.11' | 309°53.84' | S 19°27.11' | 154°37.27' | 348°51.67' | S 5°51.61' | 180°20.24' | 323°08.70' | S 15°32.16' | **22** |
| **23** | 207°54.44' | 310°36.97' | S 15°36.23' | 208°35.64' | 309°55.77' | S 19°26.66' | 169°39.18' | 348°52.23' | S 5°51.38' | 195°22.44' | 323°08.97' | S 15°32.08' | **23** |
| **24** | 222°54.43' | 310°39.45' | S 15°35.87' | 223°36.17' | 309°57.70' | S 19°26.21' | 184°41.08' | 348°52.79' | S 5°51.15' | 210°24.64' | 323°09.23' | S 15°32.00' | **24** |
| | δ 15.0001° | | *d* 0.3359' | δ 15.0088° | | *d* 0.4415' | δ 15.0318° | | *d* 0.2326' | δ 15.0367° | | *d* 0.0799' | |

## *Wednesday, March 16th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°48.47' | 15.0030° | 355°45.41' | S 1°50.23' | 0.9876' | 22°12.94' | 14.5201° | 151°20.93' | N 17°08.86' | 11.2810' | 56.1229' | 173°33.87' | **00** |
| **01** | 192°48.64' | 15.0030° | 355°47.69' | S 1°49.24' | 0.9877' | 36°44.18' | 14.5206° | 151°52.16' | N 16°57.49' | 11.3727' | 56.1492' | 188°36.34' | **01** |
| **02** | 207°48.82' | 15.0030° | 355°49.98' | S 1°48.25' | 0.9877' | 51°15.44' | 14.5211° | 152°23.35' | N 16°46.03' | 11.4636' | 56.1755' | 203°38.80' | **02** |
| **03** | 222°49.00' | 15.0030° | 355°52.27' | S 1°47.26' | 0.9877' | 65°46.74' | 14.5217° | 152°54.52' | N 16°34.47' | 11.5536' | 56.2019' | 218°41.26' | **03** |
| **04** | 237°49.18' | 15.0030° | 355°54.55' | S 1°46.28' | 0.9877' | 80°18.08' | 14.5222° | 153°25.65' | N 16°22.83' | 11.6428' | 56.2283' | 233°43.73' | **04** |
| **05** | 252°49.35' | 15.0030° | 355°56.84' | S 1°45.29' | 0.9877' | 94°49.44' | 14.5227° | 153°56.75' | N 16°11.10' | 11.7311' | 56.2548' | 248°46.19' | **05** |
| **06** | 267°49.53' | 15.0030° | 355°59.12' | S 1°44.30' | 0.9878' | 109°20.83' | 14.5232° | 154°27.82' | N 15°59.28' | 11.8185' | 56.2813' | 263°48.66' | **06** |
| **07** | 282°49.71' | 15.0030° | 356°01.41' | S 1°43.31' | 0.9878' | 123°52.26' | 14.5237° | 154°58.86' | N 15°47.38' | 11.9051' | 56.3079' | 278°51.12' | **07** |
| **08** | 297°49.89' | 15.0030° | 356°03.70' | S 1°42.33' | 0.9878' | 138°23.71' | 14.5242° | 155°29.87' | N 15°35.38' | 11.9908' | 56.3346' | 293°53.58' | **08** |
| **09** | 312°50.07' | 15.0030° | 356°05.98' | S 1°41.34' | 0.9878' | 152°55.19' | 14.5247° | 156°00.86' | N 15°23.31' | 12.0756' | 56.3612' | 308°56.05' | **09** |
| **10** | 327°50.24' | 15.0030° | 356°08.27' | S 1°40.35' | 0.9879' | 167°26.70' | 14.5252° | 156°31.81' | N 15°11.15' | 12.1595' | 56.3879' | 323°58.51' | **10** |
| **11** | 342°50.42' | 15.0030° | 356°10.55' | S 1°39.36' | 0.9879' | 181°58.24' | 14.5257° | 157°02.73' | N 14°58.91' | 12.2426' | 56.4147' | 339°00.98' | **11** |
| **12** | 357°50.60' | 15.0030° | 356°12.84' | S 1°38.37' | 0.9879' | 196°29.81' | 14.5261° | 157°33.63' | N 14°46.58' | 12.3247' | 56.4414' | 354°03.44' | **12** |
| **13** | 12°50.78' | 15.0030° | 356°15.13' | S 1°37.39' | 0.9879' | 211°01.41' | 14.5266° | 158°04.50' | N 14°34.18' | 12.4059' | 56.4682' | 9°05.90' | **13** |
| **14** | 27°50.96' | 15.0030° | 356°17.41' | S 1°36.40' | 0.9879' | 225°33.03' | 14.5271° | 158°35.34' | N 14°21.69' | 12.4861' | 56.4950' | 24°08.37' | **14** |
| **15** | 42°51.14' | 15.0030° | 356°19.70' | S 1°35.41' | 0.9879' | 240°04.68' | 14.5275° | 159°06.15' | N 14°09.13' | 12.5655' | 56.5218' | 39°10.83' | **15** |
| **16** | 57°51.31' | 15.0030° | 356°21.98' | S 1°34.42' | 0.9880' | 254°36.36' | 14.5279° | 159°36.94' | N 13°56.48' | 12.6439' | 56.5487' | 54°13.30' | **16** |
| **17** | 72°51.49' | 15.0030° | 356°24.27' | S 1°33.43' | 0.9880' | 269°08.06' | 14.5284° | 160°07.70' | N 13°43.76' | 12.7214' | 56.5755' | 69°15.76' | **17** |
| **18** | 87°51.67' | 15.0030° | 356°26.55' | S 1°32.45' | 0.9880' | 283°39.79' | 14.5288° | 160°38.44' | N 13°30.96' | 12.7979' | 56.6024' | 84°18.22' | **18** |
| **19** | 102°51.85' | 15.0030° | 356°28.84' | S 1°31.46' | 0.9880' | 298°11.54' | 14.5292° | 161°09.15' | N 13°18.09' | 12.8735' | 56.6293' | 99°20.69' | **19** |
| **20** | 117°52.03' | 15.0030° | 356°31.12' | S 1°30.47' | 0.9880' | 312°43.32' | 14.5296° | 161°39.84' | N 13°05.14' | 12.9481' | 56.6561' | 114°23.15' | **20** |
| **21** | 132°52.21' | 15.0030° | 356°33.41' | S 1°29.48' | 0.9880' | 327°15.11' | 14.5300° | 162°10.50' | N 12°52.12' | 13.0218' | 56.6830' | 129°25.62' | **21** |
| **22** | 147°52.39' | 15.0030° | 356°35.69' | S 1°28.49' | 0.9881' | 341°46.94' | 14.5304° | 162°41.14' | N 12°39.02' | 13.0944' | 56.7099' | 144°28.08' | **22** |
| **23** | 162°52.57' | 15.0030° | 356°37.98' | S 1°27.51' | 0.9881' | 356°18.78' | 14.5307° | 163°11.76' | N 12°25.86' | 13.1661' | 56.7367' | 159°30.54' | **23** |
| **24** | 177°52.75' | 15.0030° | 356°40.26' | S 1°26.52' | 0.9881' | 10°50.65' | 14.5311° | 163°42.36' | N 12°12.62' | 13.2369' | 56.7635' | 174°33.01' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0795' | hp (π) 0.1474' | ½Ø 15.3793' | 96.1721523376532<br>6% +gib |
| | EoT at 12:00 UTC : -8m 37s (δ 0.71 s/h) | | Phase at 12:00 UTC : 157.91° | |
| | Meridian Pass. Time : 12:08:37.600 | | Age : 12.3 day(s) | |

| UT | Venus ♀ (π 0.23') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°54.43' | 310°39.45' | S 15°35.87' | 223°36.17' | 309°57.70' | S 19°26.21' | 184°41.08' | 348°52.79' | S 5°51.15' | 210°24.64' | 323°09.23' | S 15°32.00' | **00** |
| **01** | 237°54.42' | 310°41.92' | S 15°35.52' | 238°36.71' | 309°59.63' | S 19°25.76' | 199°42.99' | 348°53.35' | S 5°50.91' | 225°26.85' | 323°09.49' | S 15°31.92' | **01** |
| **02** | 252°54.40' | 310°44.40' | S 15°35.16' | 253°37.24' | 310°01.56' | S 19°25.31' | 214°44.89' | 348°53.91' | S 5°50.68' | 240°29.05' | 323°09.75' | S 15°31.84' | **02** |
| **03** | 267°54.39' | 310°46.87' | S 15°34.80' | 268°37.78' | 310°03.49' | S 19°24.86' | 229°46.80' | 348°54.46' | S 5°50.45' | 255°31.25' | 323°10.01' | S 15°31.76' | **03** |
| **04** | 282°54.38' | 310°49.35' | S 15°34.45' | 283°38.31' | 310°05.42' | S 19°24.41' | 244°48.71' | 348°55.02' | S 5°50.22' | 270°33.46' | 323°10.27' | S 15°31.68' | **04** |
| **05** | 297°54.37' | 310°51.82' | S 15°34.09' | 298°38.84' | 310°07.35' | S 19°23.96' | 259°50.61' | 348°55.58' | S 5°49.98' | 285°35.66' | 323°10.53' | S 15°31.61' | **05** |
| **06** | 312°54.35' | 310°54.30' | S 15°33.73' | 313°39.38' | 310°09.28' | S 19°23.51' | 274°52.52' | 348°56.14' | S 5°49.75' | 300°37.86' | 323°10.79' | S 15°31.53' | **06** |
| **07** | 327°54.34' | 310°56.78' | S 15°33.37' | 328°39.91' | 310°11.21' | S 19°23.06' | 289°54.43' | 348°56.69' | S 5°49.52' | 315°40.07' | 323°11.05' | S 15°31.45' | **07** |
| **08** | 342°54.32' | 310°59.26' | S 15°33.01' | 343°40.45' | 310°13.14' | S 19°22.60' | 304°56.33' | 348°57.25' | S 5°49.29' | 330°42.27' | 323°11.31' | S 15°31.37' | **08** |
| **09** | 357°54.31' | 311°01.74' | S 15°32.65' | 358°40.98' | 310°15.06' | S 19°22.15' | 319°58.24' | 348°57.81' | S 5°49.05' | 345°44.47' | 323°11.57' | S 15°31.29' | **09** |
| **10** | 12°54.29' | 311°04.22' | S 15°32.28' | 13°41.52' | 310°16.99' | S 19°21.70' | 335°00.15' | 348°58.37' | S 5°48.82' | 0°46.68' | 323°11.83' | S 15°31.21' | **10** |
| **11** | 27°54.28' | 311°06.70' | S 15°31.92' | 28°42.05' | 310°18.92' | S 19°21.25' | 350°02.05' | 348°58.92' | S 5°48.59' | 15°48.88' | 323°12.10' | S 15°31.13' | **11** |
| **12** | 42°54.26' | 311°09.18' | S 15°31.56' | 43°42.59' | 310°20.85' | S 19°20.79' | 5°03.96' | 348°59.48' | S 5°48.36' | 30°51.08' | 323°12.36' | S 15°31.05' | **12** |
| **13** | 57°54.24' | 311°11.66' | S 15°31.19' | 58°43.12' | 310°22.78' | S 19°20.34' | 20°05.86' | 349°00.04' | S 5°48.12' | 45°53.29' | 323°12.62' | S 15°30.97' | **13** |
| **14** | 72°54.22' | 311°14.15' | S 15°30.83' | 73°43.66' | 310°24.71' | S 19°19.89' | 35°07.77' | 349°00.60' | S 5°47.89' | 60°55.49' | 323°12.88' | S 15°30.89' | **14** |
| **15** | 87°54.20' | 311°16.63' | S 15°30.46' | 88°44.20' | 310°26.64' | S 19°19.43' | 50°09.68' | 349°01.15' | S 5°47.66' | 75°57.70' | 323°13.14' | S 15°30.81' | **15** |
| **16** | 102°54.18' | 311°19.11' | S 15°30.09' | 103°44.73' | 310°28.57' | S 19°18.98' | 65°11.58' | 349°01.71' | S 5°47.43' | 90°59.90' | 323°13.40' | S 15°30.74' | **16** |
| **17** | 117°54.16' | 311°21.60' | S 15°29.72' | 118°45.27' | 310°30.49' | S 19°18.52' | 80°13.49' | 349°02.27' | S 5°47.19' | 106°02.10' | 323°13.66' | S 15°30.66' | **17** |
| **18** | 132°54.14' | 311°24.08' | S 15°29.35' | 133°45.80' | 310°32.42' | S 19°18.07' | 95°15.40' | 349°02.83' | S 5°46.96' | 121°04.31' | 323°13.92' | S 15°30.58' | **18** |
| **19** | 147°54.12' | 311°26.57' | S 15°28.98' | 148°46.34' | 310°34.35' | S 19°17.61' | 110°17.30' | 349°03.38' | S 5°46.73' | 136°06.51' | 323°14.18' | S 15°30.50' | **19** |
| **20** | 162°54.10' | 311°29.06' | S 15°28.61' | 163°46.88' | 310°36.28' | S 19°17.16' | 125°19.21' | 349°03.94' | S 5°46.50' | 151°08.72' | 323°14.43' | S 15°30.42' | **20** |
| **21** | 177°54.07' | 311°31.54' | S 15°28.24' | 178°47.41' | 310°38.20' | S 19°16.70' | 140°21.12' | 349°04.50' | S 5°46.26' | 166°10.92' | 323°14.69' | S 15°30.34' | **21** |
| **22** | 192°54.05' | 311°34.03' | S 15°27.87' | 193°47.95' | 310°40.13' | S 19°16.24' | 155°23.03' | 349°05.06' | S 5°46.03' | 181°13.13' | 323°14.95' | S 15°30.26' | **22** |
| **23** | 207°54.02' | 311°36.52' | S 15°27.50' | 208°48.49' | 310°42.06' | S 19°15.79' | 170°24.93' | 349°05.61' | S 5°45.80' | 196°15.33' | 323°15.21' | S 15°30.18' | **23** |
| **24** | 222°54.00' | 311°39.01' | S 15°27.12' | 223°49.02' | 310°43.99' | S 19°15.33' | 185°26.84' | 349°06.17' | S 5°45.57' | 211°17.54' | 323°15.47' | S 15°30.10' | **24** |
| | δ 14.9998° | | *d* 0.3553' | δ 15.0089° | | *d* 0.4495' | δ 15.0318° | | *d* 0.2325' | δ 15.0367° | | *d* 0.0793' | |

## *Thursday, March 17th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°52.75' | 15.0030° | 356°40.26' | S 1°26.52' | 0.9881' | 10°50.65' | 14.5311° | 163°42.36' | N 12°12.62' | 13.2369' | 56.7635' | 174°33.01' | **00** |
| **01** | 192°52.93' | 15.0030° | 356°42.55' | S 1°25.53' | 0.9881' | 25°22.53' | 14.5315° | 164°12.94' | N 11°59.31' | 13.3066' | 56.7904' | 189°35.47' | **01** |
| **02** | 207°53.11' | 15.0030° | 356°44.83' | S 1°24.54' | 0.9881' | 39°54.44' | 14.5318° | 164°43.49' | N 11°45.94' | 13.3753' | 56.8172' | 204°37.94' | **02** |
| **03** | 222°53.29' | 15.0030° | 356°47.11' | S 1°23.55' | 0.9881' | 54°26.37' | 14.5321° | 165°14.03' | N 11°32.50' | 13.4430' | 56.8439' | 219°40.40' | **03** |
| **04** | 237°53.47' | 15.0030° | 356°49.40' | S 1°22.57' | 0.9881' | 68°58.32' | 14.5324° | 165°44.55' | N 11°18.99' | 13.5098' | 56.8707' | 234°42.86' | **04** |
| **05** | 252°53.65' | 15.0030° | 356°51.68' | S 1°21.58' | 0.9881' | 83°30.28' | 14.5327° | 166°15.05' | N 11°05.41' | 13.5755' | 56.8974' | 249°45.33' | **05** |
| **06** | 267°53.83' | 15.0030° | 356°53.97' | S 1°20.59' | 0.9882' | 98°02.26' | 14.5330° | 166°45.53' | N 10°51.77' | 13.6401' | 56.9241' | 264°47.79' | **06** |
| **07** | 282°54.01' | 15.0030° | 356°56.25' | S 1°19.60' | 0.9882' | 112°34.26' | 14.5333° | 167°15.99' | N 10°38.07' | 13.7038' | 56.9508' | 279°50.26' | **07** |
| **08** | 297°54.19' | 15.0030° | 356°58.53' | S 1°18.61' | 0.9882' | 127°06.28' | 14.5336° | 167°46.44' | N 10°24.30' | 13.7664' | 56.9774' | 294°52.72' | **08** |
| **09** | 312°54.37' | 15.0030° | 357°00.82' | S 1°17.62' | 0.9882' | 141°38.31' | 14.5339° | 168°16.88' | N 10°10.47' | 13.8280' | 57.0040' | 309°55.18' | **09** |
| **10** | 327°54.55' | 15.0030° | 357°03.10' | S 1°16.64' | 0.9882' | 156°10.36' | 14.5341° | 168°47.29' | N 9°56.58' | 13.8885' | 57.0305' | 324°57.65' | **10** |
| **11** | 342°54.73' | 15.0030° | 357°05.39' | S 1°15.65' | 0.9882' | 170°42.42' | 14.5343° | 169°17.70' | N 9°42.64' | 13.9479' | 57.0570' | 340°00.11' | **11** |
| **12** | 357°54.91' | 15.0030° | 357°07.67' | S 1°14.66' | 0.9882' | 185°14.49' | 14.5346° | 169°48.09' | N 9°28.63' | 14.0063' | 57.0834' | 355°02.58' | **12** |
| **13** | 12°55.09' | 15.0030° | 357°09.95' | S 1°13.67' | 0.9882' | 199°46.58' | 14.5348° | 170°18.46' | N 9°14.57' | 14.0637' | 57.1098' | 10°05.04' | **13** |
| **14** | 27°55.27' | 15.0030° | 357°12.24' | S 1°12.68' | 0.9882' | 214°18.68' | 14.5350° | 170°48.83' | N 9°00.45' | 14.1199' | 57.1361' | 25°07.51' | **14** |
| **15** | 42°55.45' | 15.0030° | 357°14.52' | S 1°11.70' | 0.9882' | 228°50.79' | 14.5352° | 171°19.18' | N 8°46.27' | 14.1751' | 57.1624' | 40°09.97' | **15** |
| **16** | 57°55.63' | 15.0030° | 357°16.80' | S 1°10.71' | 0.9882' | 243°22.90' | 14.5353° | 171°49.53' | N 8°32.04' | 14.2292' | 57.1885' | 55°12.43' | **16** |
| **17** | 72°55.81' | 15.0030° | 357°19.09' | S 1°09.72' | 0.9883' | 257°55.03' | 14.5355° | 172°19.86' | N 8°17.76' | 14.2822' | 57.2147' | 70°14.90' | **17** |
| **18** | 87°55.99' | 15.0030° | 357°21.37' | S 1°08.73' | 0.9883' | 272°27.17' | 14.5356° | 172°50.19' | N 8°03.43' | 14.3341' | 57.2407' | 85°17.36' | **18** |
| **19** | 102°56.17' | 15.0030° | 357°23.65' | S 1°07.74' | 0.9883' | 286°59.32' | 14.5358° | 173°20.51' | N 7°49.04' | 14.3849' | 57.2667' | 100°19.83' | **19** |
| **20** | 117°56.35' | 15.0030° | 357°25.94' | S 1°06.75' | 0.9883' | 301°31.47' | 14.5359° | 173°50.82' | N 7°34.61' | 14.4346' | 57.2926' | 115°22.29' | **20** |
| **21** | 132°56.54' | 15.0030° | 357°28.22' | S 1°05.77' | 0.9883' | 316°03.63' | 14.5360° | 174°21.12' | N 7°20.12' | 14.4831' | 57.3184' | 130°24.75' | **21** |
| **22** | 147°56.72' | 15.0030° | 357°30.50' | S 1°04.78' | 0.9883' | 330°35.80' | 14.5361° | 174°51.42' | N 7°05.59' | 14.5306' | 57.3441' | 145°27.22' | **22** |
| **23** | 162°56.90' | 15.0030° | 357°32.78' | S 1°03.79' | 0.9883' | 345°07.96' | 14.5362° | 175°21.72' | N 6°51.02' | 14.5769' | 57.3698' | 160°29.68' | **23** |
| **24** | 177°57.08' | 15.0030° | 357°35.07' | S 1°02.80' | 0.9883' | 359°40.14' | 14.5362° | 175°52.01' | N 6°36.39' | 14.6221' | 57.3953' | 175°32.15' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0751' | hp (π) 0.1473' | ½Ø 15.5542' | 99.0868512721601<br>9% +gib |
| | EoT at 12:00 UTC : -8m 20s (δ 0.72 s/h) | | Phase at 12:00 UTC : 170.04° | |
| | Meridian Pass. Time : 12:08:20.371 | | Age : 13.2 day(s) | |

| UT | Venus ♀ (π 0.22') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°54.00' | 311°39.01' | S 15°27.12' | 223°49.02' | 310°43.99' | S 19°15.33' | 185°26.84' | 349°06.17' | S 5°45.57' | 211°17.54' | 323°15.47' | S 15°30.10' | **00** |
| **01** | 237°53.97' | 311°41.50' | S 15°26.75' | 238°49.56' | 310°45.91' | S 19°14.87' | 200°28.75' | 349°06.73' | S 5°45.34' | 226°19.74' | 323°15.73' | S 15°30.03' | **01** |
| **02** | 252°53.95' | 311°43.99' | S 15°26.37' | 253°50.10' | 310°47.84' | S 19°14.41' | 215°30.65' | 349°07.28' | S 5°45.10' | 241°21.95' | 323°15.99' | S 15°29.95' | **02** |
| **03** | 267°53.92' | 311°46.48' | S 15°26.00' | 268°50.63' | 310°49.77' | S 19°13.96' | 230°32.56' | 349°07.84' | S 5°44.87' | 256°24.15' | 323°16.25' | S 15°29.87' | **03** |
| **04** | 282°53.89' | 311°48.97' | S 15°25.62' | 283°51.17' | 310°51.69' | S 19°13.50' | 245°34.47' | 349°08.40' | S 5°44.64' | 271°26.36' | 323°16.51' | S 15°29.79' | **04** |
| **05** | 297°53.87' | 311°51.46' | S 15°25.24' | 298°51.71' | 310°53.62' | S 19°13.04' | 260°36.37' | 349°08.96' | S 5°44.41' | 286°28.56' | 323°16.77' | S 15°29.71' | **05** |
| **06** | 312°53.84' | 311°53.96' | S 15°24.86' | 313°52.25' | 310°55.55' | S 19°12.58' | 275°38.28' | 349°09.51' | S 5°44.17' | 301°30.77' | 323°17.03' | S 15°29.63' | **06** |
| **07** | 327°53.81' | 311°56.45' | S 15°24.48' | 328°52.79' | 310°57.47' | S 19°12.12' | 290°40.19' | 349°10.07' | S 5°43.94' | 316°32.97' | 323°17.29' | S 15°29.55' | **07** |
| **08** | 342°53.78' | 311°58.94' | S 15°24.10' | 343°53.32' | 310°59.40' | S 19°11.66' | 305°42.10' | 349°10.63' | S 5°43.71' | 331°35.18' | 323°17.54' | S 15°29.47' | **08** |
| **09** | 357°53.75' | 312°01.44' | S 15°23.72' | 358°53.86' | 311°01.32' | S 19°11.20' | 320°44.00' | 349°11.18' | S 5°43.48' | 346°37.38' | 323°17.80' | S 15°29.40' | **09** |
| **10** | 12°53.72' | 312°03.93' | S 15°23.34' | 13°54.40' | 311°03.25' | S 19°10.74' | 335°45.91' | 349°11.74' | S 5°43.24' | 1°39.59' | 323°18.06' | S 15°29.32' | **10** |
| **11** | 27°53.69' | 312°06.43' | S 15°22.96' | 28°54.94' | 311°05.17' | S 19°10.28' | 350°47.82' | 349°12.30' | S 5°43.01' | 16°41.79' | 323°18.32' | S 15°29.24' | **11** |
| **12** | 42°53.65' | 312°08.92' | S 15°22.57' | 43°55.48' | 311°07.10' | S 19°09.82' | 5°49.72' | 349°12.85' | S 5°42.78' | 31°44.00' | 323°18.58' | S 15°29.16' | **12** |
| **13** | 57°53.62' | 312°11.42' | S 15°22.19' | 58°56.02' | 311°09.03' | S 19°09.36' | 20°51.63' | 349°13.41' | S 5°42.55' | 46°46.20' | 323°18.84' | S 15°29.08' | **13** |
| **14** | 72°53.59' | 312°13.92' | S 15°21.80' | 73°56.55' | 311°10.95' | S 19°08.89' | 35°53.54' | 349°13.97' | S 5°42.32' | 61°48.41' | 323°19.09' | S 15°29.00' | **14** |
| **15** | 87°53.55' | 312°16.41' | S 15°21.42' | 88°57.09' | 311°12.88' | S 19°08.43' | 50°55.45' | 349°14.52' | S 5°42.08' | 76°50.62' | 323°19.35' | S 15°28.92' | **15** |
| **16** | 102°53.52' | 312°18.91' | S 15°21.03' | 103°57.63' | 311°14.80' | S 19°07.97' | 65°57.35' | 349°15.08' | S 5°41.85' | 91°52.82' | 323°19.61' | S 15°28.85' | **16** |
| **17** | 117°53.48' | 312°21.41' | S 15°20.64' | 118°58.17' | 311°16.72' | S 19°07.51' | 80°59.26' | 349°15.64' | S 5°41.62' | 106°55.03' | 323°19.87' | S 15°28.77' | **17** |
| **18** | 132°53.45' | 312°23.91' | S 15°20.25' | 133°58.71' | 311°18.65' | S 19°07.04' | 96°01.17' | 349°16.19' | S 5°41.39' | 121°57.23' | 323°20.13' | S 15°28.69' | **18** |
| **19** | 147°53.41' | 312°26.41' | S 15°19.86' | 148°59.25' | 311°20.57' | S 19°06.58' | 111°03.08' | 349°16.75' | S 5°41.15' | 136°59.44' | 323°20.38' | S 15°28.61' | **19** |
| **20** | 162°53.38' | 312°28.91' | S 15°19.47' | 163°59.79' | 311°22.50' | S 19°06.12' | 126°04.98' | 349°17.31' | S 5°40.92' | 152°01.65' | 323°20.64' | S 15°28.53' | **20** |
| **21** | 177°53.34' | 312°31.41' | S 15°19.08' | 179°00.33' | 311°24.42' | S 19°05.65' | 141°06.89' | 349°17.86' | S 5°40.69' | 167°03.85' | 323°20.90' | S 15°28.45' | **21** |
| **22** | 192°53.30' | 312°33.92' | S 15°18.69' | 194°00.87' | 311°26.35' | S 19°05.19' | 156°08.80' | 349°18.42' | S 5°40.46' | 182°06.06' | 323°21.16' | S 15°28.37' | **22** |
| **23** | 207°53.26' | 312°36.42' | S 15°18.30' | 209°01.41' | 311°28.27' | S 19°04.72' | 171°10.71' | 349°18.98' | S 5°40.23' | 197°08.27' | 323°21.41' | S 15°28.30' | **23** |
| **24** | 222°53.22' | 312°38.92' | S 15°17.90' | 224°01.95' | 311°30.19' | S 19°04.26' | 186°12.61' | 349°19.53' | S 5°39.99' | 212°10.47' | 323°21.67' | S 15°28.22' | **24** |
| | δ 14.9996° | | *d* 0.3747' | δ 15.0090° | | *d* 0.4575' | δ 15.0318° | | *d* 0.2323' | δ 15.0367° | | *d* 0.0788' | |

## *Friday, March 18th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 177°57.08' | 15.0030° | 357°35.07' | S 1°02.80' | 0.9883' | 359°40.14' | 14.5362° | 175°52.01' | N 6°36.39' | 14.6221' | 57.3953' | 175°32.15' | **00** |
| **01** | 192°57.26' | 15.0030° | 357°37.35' | S 1°01.81' | 0.9883' | 14°12.31' | 14.5363° | 176°22.30' | N 6°21.73' | 14.6661' | 57.4208' | 190°34.61' | **01** |
| **02** | 207°57.44' | 15.0030° | 357°39.63' | S 1°00.82' | 0.9883' | 28°44.49' | 14.5363° | 176°52.58' | N 6°07.02' | 14.7090' | 57.4462' | 205°37.07' | **02** |
| **03** | 222°57.62' | 15.0030° | 357°41.91' | S 0°59.84' | 0.9883' | 43°16.67' | 14.5363° | 177°22.87' | N 5°52.27' | 14.7507' | 57.4715' | 220°39.54' | **03** |
| **04** | 237°57.81' | 15.0030° | 357°44.20' | S 0°58.85' | 0.9883' | 57°48.85' | 14.5363° | 177°53.15' | N 5°37.48' | 14.7913' | 57.4966' | 235°42.00' | **04** |
| **05** | 252°57.99' | 15.0030° | 357°46.48' | S 0°57.86' | 0.9883' | 72°21.03' | 14.5363° | 178°23.44' | N 5°22.65' | 14.8307' | 57.5217' | 250°44.47' | **05** |
| **06** | 267°58.17' | 15.0030° | 357°48.76' | S 0°56.87' | 0.9883' | 86°53.20' | 14.5363° | 178°53.73' | N 5°07.78' | 14.8689' | 57.5467' | 265°46.93' | **06** |
| **07** | 282°58.35' | 15.0030° | 357°51.04' | S 0°55.88' | 0.9883' | 101°25.38' | 14.5362° | 179°24.02' | N 4°52.87' | 14.9059' | 57.5715' | 280°49.39' | **07** |
| **08** | 297°58.53' | 15.0030° | 357°53.32' | S 0°54.89' | 0.9883' | 115°57.55' | 14.5362° | 179°54.31' | N 4°37.93' | 14.9418' | 57.5962' | 295°51.86' | **08** |
| **09** | 312°58.72' | 15.0030° | 357°55.61' | S 0°53.91' | 0.9883' | 130°29.71' | 14.5361° | 180°24.61' | N 4°22.95' | 14.9764' | 57.6209' | 310°54.32' | **09** |
| **10** | 327°58.90' | 15.0030° | 357°57.89' | S 0°52.92' | 0.9883' | 145°01.87' | 14.5360° | 180°54.91' | N 4°07.94' | 15.0099' | 57.6454' | 325°56.79' | **10** |
| **11** | 342°59.08' | 15.0030° | 358°00.17' | S 0°51.93' | 0.9883' | 159°34.03' | 14.5359° | 181°25.22' | N 3°52.90' | 15.0422' | 57.6698' | 340°59.25' | **11** |
| **12** | 357°59.26' | 15.0030° | 358°02.45' | S 0°50.94' | 0.9883' | 174°06.17' | 14.5358° | 181°55.54' | N 3°37.83' | 15.0732' | 57.6940' | 356°01.71' | **12** |
| **13** | 12°59.44' | 15.0030° | 358°04.73' | S 0°49.95' | 0.9883' | 188°38.31' | 14.5356° | 182°25.86' | N 3°22.72' | 15.1030' | 57.7181' | 11°04.18' | **13** |
| **14** | 27°59.63' | 15.0030° | 358°07.01' | S 0°48.96' | 0.9883' | 203°10.44' | 14.5355° | 182°56.20' | N 3°07.59' | 15.1316' | 57.7422' | 26°06.64' | **14** |
| **15** | 42°59.81' | 15.0030° | 358°09.30' | S 0°47.98' | 0.9883' | 217°42.56' | 14.5353° | 183°26.54' | N 2°52.43' | 15.1590' | 57.7660' | 41°09.11' | **15** |
| **16** | 57°59.99' | 15.0030° | 358°11.58' | S 0°46.99' | 0.9883' | 232°14.67' | 14.5351° | 183°56.90' | N 2°37.25' | 15.1851' | 57.7898' | 56°11.57' | **16** |
| **17** | 73°00.17' | 15.0030° | 358°13.86' | S 0°46.00' | 0.9883' | 246°46.77' | 14.5349° | 184°27.27' | N 2°22.04' | 15.2100' | 57.8134' | 71°14.03' | **17** |
| **18** | 88°00.36' | 15.0030° | 358°16.14' | S 0°45.01' | 0.9883' | 261°18.85' | 14.5347° | 184°57.65' | N 2°06.81' | 15.2336' | 57.8368' | 86°16.50' | **18** |
| **19** | 103°00.54' | 15.0030° | 358°18.42' | S 0°44.02' | 0.9883' | 275°50.92' | 14.5345° | 185°28.04' | N 1°51.55' | 15.2559' | 57.8602' | 101°18.96' | **19** |
| **20** | 118°00.72' | 15.0030° | 358°20.70' | S 0°43.04' | 0.9883' | 290°22.97' | 14.5342° | 185°58.45' | N 1°36.27' | 15.2770' | 57.8834' | 116°21.43' | **20** |
| **21** | 133°00.91' | 15.0030° | 358°22.98' | S 0°42.05' | 0.9883' | 304°55.01' | 14.5340° | 186°28.88' | N 1°20.98' | 15.2969' | 57.9064' | 131°23.89' | **21** |
| **22** | 148°01.09' | 15.0031° | 358°25.26' | S 0°41.06' | 0.9883' | 319°27.03' | 14.5337° | 186°59.32' | N 1°05.66' | 15.3154' | 57.9293' | 146°26.35' | **22** |
| **23** | 163°01.27' | 15.0031° | 358°27.55' | S 0°40.07' | 0.9883' | 333°59.04' | 14.5334° | 187°29.78' | N 0°50.33' | 15.3327' | 57.9520' | 161°28.82' | **23** |
| **24** | 178°01.46' | 15.0031° | 358°29.83' | S 0°39.08' | 0.9883' | 348°31.02' | 14.5331° | 188°00.26' | N 0°34.98' | 15.3487' | 57.9746' | 176°31.28' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0706' | hp (π) 0.1473' | ½Ø 15.7205' | 99.8273344421146 5% -gib |
| | EoT at 12:00 UTC : -8m 3s (δ 0.73 s/h) | | Phase at 12:00 UTC : 182.46° | |
| | Meridian Pass. Time : 12:08:02.952 | | Age : 14.2 day(s) | |

| UT | Venus ♀ (π 0.22') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°53.22' | 312°38.92' | S 15°17.90' | 224°01.95' | 311°30.19' | S 19°04.26' | 186°12.61' | 349°19.53' | S 5°39.99' | 212°10.47' | 323°21.67' | S 15°28.22' | **00** |
| **01** | 237°53.18' | 312°41.42' | S 15°17.51' | 239°02.49' | 311°32.12' | S 19°03.79' | 201°14.52' | 349°20.09' | S 5°39.76' | 227°12.68' | 323°21.93' | S 15°28.14' | **01** |
| **02** | 252°53.14' | 312°43.93' | S 15°17.12' | 254°03.03' | 311°34.04' | S 19°03.33' | 216°16.43' | 349°20.64' | S 5°39.53' | 242°14.89' | 323°22.19' | S 15°28.06' | **02** |
| **03** | 267°53.10' | 312°46.43' | S 15°16.72' | 269°03.57' | 311°35.96' | S 19°02.86' | 231°18.34' | 349°21.20' | S 5°39.30' | 257°17.09' | 323°22.44' | S 15°27.98' | **03** |
| **04** | 282°53.06' | 312°48.94' | S 15°16.32' | 284°04.11' | 311°37.89' | S 19°02.40' | 246°20.24' | 349°21.76' | S 5°39.06' | 272°19.30' | 323°22.70' | S 15°27.91' | **04** |
| **05** | 297°53.02' | 312°51.44' | S 15°15.93' | 299°04.65' | 311°39.81' | S 19°01.93' | 261°22.15' | 349°22.31' | S 5°38.83' | 287°21.51' | 323°22.96' | S 15°27.83' | **05** |
| **06** | 312°52.98' | 312°53.95' | S 15°15.53' | 314°05.20' | 311°41.73' | S 19°01.46' | 276°24.06' | 349°22.87' | S 5°38.60' | 302°23.71' | 323°23.21' | S 15°27.75' | **06** |
| **07** | 327°52.94' | 312°56.46' | S 15°15.13' | 329°05.74' | 311°43.66' | S 19°00.99' | 291°25.97' | 349°23.43' | S 5°38.37' | 317°25.92' | 323°23.47' | S 15°27.67' | **07** |
| **08** | 342°52.89' | 312°58.97' | S 15°14.73' | 344°06.28' | 311°45.58' | S 19°00.53' | 306°27.88' | 349°23.98' | S 5°38.14' | 332°28.13' | 323°23.73' | S 15°27.59' | **08** |
| **09** | 357°52.85' | 313°01.47' | S 15°14.33' | 359°06.82' | 311°47.50' | S 19°00.06' | 321°29.78' | 349°24.54' | S 5°37.90' | 347°30.34' | 323°23.98' | S 15°27.51' | **09** |
| **10** | 12°52.80' | 313°03.98' | S 15°13.93' | 14°07.36' | 311°49.42' | S 18°59.59' | 336°31.69' | 349°25.09' | S 5°37.67' | 2°32.54' | 323°24.24' | S 15°27.44' | **10** |
| **11** | 27°52.76' | 313°06.49' | S 15°13.52' | 29°07.90' | 311°51.35' | S 18°59.12' | 351°33.60' | 349°25.65' | S 5°37.44' | 17°34.75' | 323°24.50' | S 15°27.36' | **11** |
| **12** | 42°52.71' | 313°09.00' | S 15°13.12' | 44°08.45' | 311°53.27' | S 18°58.65' | 6°35.51' | 349°26.21' | S 5°37.21' | 32°36.96' | 323°24.75' | S 15°27.28' | **12** |
| **13** | 57°52.67' | 313°11.51' | S 15°12.72' | 59°08.99' | 311°55.19' | S 18°58.18' | 21°37.42' | 349°26.76' | S 5°36.98' | 47°39.17' | 323°25.01' | S 15°27.20' | **13** |
| **14** | 72°52.62' | 313°14.02' | S 15°12.31' | 74°09.53' | 311°57.11' | S 18°57.71' | 36°39.32' | 349°27.32' | S 5°36.74' | 62°41.37' | 323°25.27' | S 15°27.12' | **14** |
| **15** | 87°52.57' | 313°16.53' | S 15°11.91' | 89°10.07' | 311°59.03' | S 18°57.24' | 51°41.23' | 349°27.87' | S 5°36.51' | 77°43.58' | 323°25.52' | S 15°27.05' | **15** |
| **16** | 102°52.52' | 313°19.05' | S 15°11.50' | 104°10.61' | 312°00.96' | S 18°56.77' | 66°43.14' | 349°28.43' | S 5°36.28' | 92°45.79' | 323°25.78' | S 15°26.97' | **16** |
| **17** | 117°52.48' | 313°21.56' | S 15°11.09' | 119°11.16' | 312°02.88' | S 18°56.30' | 81°45.05' | 349°28.99' | S 5°36.05' | 107°48.00' | 323°26.04' | S 15°26.89' | **17** |
| **18** | 132°52.43' | 313°24.07' | S 15°10.68' | 134°11.70' | 312°04.80' | S 18°55.83' | 96°46.96' | 349°29.54' | S 5°35.81' | 122°50.21' | 323°26.29' | S 15°26.81' | **18** |
| **19** | 147°52.38' | 313°26.58' | S 15°10.28' | 149°12.24' | 312°06.72' | S 18°55.36' | 111°48.86' | 349°30.10' | S 5°35.58' | 137°52.41' | 323°26.55' | S 15°26.73' | **19** |
| **20** | 162°52.33' | 313°29.10' | S 15°09.87' | 164°12.79' | 312°08.64' | S 18°54.89' | 126°50.77' | 349°30.65' | S 5°35.35' | 152°54.62' | 323°26.80' | S 15°26.66' | **20** |
| **21** | 177°52.28' | 313°31.61' | S 15°09.45' | 179°13.33' | 312°10.56' | S 18°54.42' | 141°52.68' | 349°31.21' | S 5°35.12' | 167°56.83' | 323°27.06' | S 15°26.58' | **21** |
| **22** | 192°52.23' | 313°34.13' | S 15°09.04' | 194°13.87' | 312°12.48' | S 18°53.95' | 156°54.59' | 349°31.77' | S 5°34.89' | 182°59.04' | 323°27.31' | S 15°26.50' | **22** |
| **23** | 207°52.17' | 313°36.64' | S 15°08.63' | 209°14.42' | 312°14.40' | S 18°53.47' | 171°56.50' | 349°32.32' | S 5°34.65' | 198°01.25' | 323°27.57' | S 15°26.42' | **23** |
| **24** | 222°52.12' | 313°39.16' | S 15°08.22' | 224°14.96' | 312°16.32' | S 18°53.00' | 186°58.41' | 349°32.88' | S 5°34.42' | 213°03.46' | 323°27.83' | S 15°26.35' | **24** |
| | δ 14.9993° | | *d* 0.3942' | δ 15.0090° | | *d* 0.4654' | δ 15.0318° | | *d* 0.2322' | δ 15.0368° | | *d* 0.0783' | |

## *Saturday, March 19th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°01.46' | 15.0031° | 358°29.83' | S 0°39.08' | 0.9883' | 348°31.02' | 14.5331° | 188°00.26' | N 0°34.98' | 15.3487' | 57.9746' | 176°31.28' | **00** |
| **01** | 193°01.64' | 15.0031° | 358°32.11' | S 0°38.09' | 0.9883' | 3°02.99' | 14.5327° | 188°30.76' | N 0°19.62' | 15.3633' | 57.9970' | 191°33.75' | **01** |
| **02** | 208°01.82' | 15.0031° | 358°34.39' | S 0°37.11' | 0.9883' | 17°34.93' | 14.5324° | 189°01.28' | N 0°04.24' | 15.3767' | 58.0193' | 206°36.21' | **02** |
| **03** | 223°02.01' | 15.0031° | 358°36.67' | S 0°36.12' | 0.9883' | 32°06.85' | 14.5320° | 189°31.82' | S 0°11.15' | 15.3888' | 58.0414' | 221°38.67' | **03** |
| **04** | 238°02.19' | 15.0031° | 358°38.95' | S 0°35.13' | 0.9882' | 46°38.75' | 14.5316° | 190°02.39' | S 0°26.55' | 15.3995' | 58.0634' | 236°41.14' | **04** |
| **05** | 253°02.37' | 15.0031° | 358°41.23' | S 0°34.14' | 0.9882' | 61°10.62' | 14.5312° | 190°32.98' | S 0°41.96' | 15.4090' | 58.0852' | 251°43.60' | **05** |
| **06** | 268°02.56' | 15.0031° | 358°43.51' | S 0°33.15' | 0.9882' | 75°42.47' | 14.5308° | 191°03.59' | S 0°57.38' | 15.4170' | 58.1068' | 266°46.07' | **06** |
| **07** | 283°02.74' | 15.0031° | 358°45.79' | S 0°32.16' | 0.9882' | 90°14.29' | 14.5304° | 191°34.24' | S 1°12.80' | 15.4238' | 58.1283' | 281°48.53' | **07** |
| **08** | 298°02.92' | 15.0031° | 358°48.07' | S 0°31.18' | 0.9882' | 104°46.09' | 14.5299° | 192°04.91' | S 1°28.23' | 15.4292' | 58.1496' | 296°50.99' | **08** |
| **09** | 313°03.11' | 15.0031° | 358°50.35' | S 0°30.19' | 0.9882' | 119°17.86' | 14.5295° | 192°35.60' | S 1°43.66' | 15.4333' | 58.1707' | 311°53.46' | **09** |
| **10** | 328°03.29' | 15.0031° | 358°52.63' | S 0°29.20' | 0.9882' | 133°49.59' | 14.5290° | 193°06.33' | S 1°59.10' | 15.4360' | 58.1916' | 326°55.92' | **10** |
| **11** | 343°03.47' | 15.0031° | 358°54.91' | S 0°28.21' | 0.9882' | 148°21.30' | 14.5285° | 193°37.09' | S 2°14.54' | 15.4374' | 58.2124' | 341°58.39' | **11** |
| **12** | 358°03.66' | 15.0031° | 358°57.19' | S 0°27.22' | 0.9882' | 162°52.98' | 14.5279° | 194°07.87' | S 2°29.97' | 15.4373' | 58.2330' | 357°00.85' | **12** |
| **13** | 13°03.84' | 15.0031° | 358°59.47' | S 0°26.24' | 0.9882' | 177°24.62' | 14.5274° | 194°38.69' | S 2°45.41' | 15.4359' | 58.2534' | 12°03.31' | **13** |
| **14** | 28°04.03' | 15.0031° | 359°01.75' | S 0°25.25' | 0.9882' | 191°56.23' | 14.5268° | 195°09.55' | S 3°00.84' | 15.4332' | 58.2737' | 27°05.78' | **14** |
| **15** | 43°04.21' | 15.0031° | 359°04.03' | S 0°24.26' | 0.9881' | 206°27.81' | 14.5263° | 195°40.44' | S 3°16.27' | 15.4290' | 58.2937' | 42°08.24' | **15** |
| **16** | 58°04.39' | 15.0031° | 359°06.31' | S 0°23.27' | 0.9881' | 220°59.35' | 14.5257° | 196°11.36' | S 3°31.69' | 15.4234' | 58.3136' | 57°10.71' | **16** |
| **17** | 73°04.58' | 15.0031° | 359°08.59' | S 0°22.28' | 0.9881' | 235°30.85' | 14.5251° | 196°42.32' | S 3°47.11' | 15.4165' | 58.3333' | 72°13.17' | **17** |
| **18** | 88°04.76' | 15.0031° | 359°10.87' | S 0°21.29' | 0.9881' | 250°02.31' | 14.5244° | 197°13.32' | S 4°02.52' | 15.4081' | 58.3528' | 87°15.63' | **18** |
| **19** | 103°04.95' | 15.0031° | 359°13.15' | S 0°20.31' | 0.9881' | 264°33.74' | 14.5238° | 197°44.36' | S 4°17.92' | 15.3983' | 58.3721' | 102°18.10' | **19** |
| **20** | 118°05.13' | 15.0031° | 359°15.43' | S 0°19.32' | 0.9881' | 279°05.13' | 14.5231° | 198°15.43' | S 4°33.30' | 15.3871' | 58.3913' | 117°20.56' | **20** |
| **21** | 133°05.32' | 15.0031° | 359°17.71' | S 0°18.33' | 0.9881' | 293°36.48' | 14.5224° | 198°46.55' | S 4°48.68' | 15.3745' | 58.4102' | 132°23.03' | **21** |
| **22** | 148°05.50' | 15.0031° | 359°19.99' | S 0°17.34' | 0.9881' | 308°07.78' | 14.5217° | 199°17.71' | S 5°04.04' | 15.3605' | 58.4290' | 147°25.49' | **22** |
| **23** | 163°05.69' | 15.0031° | 359°22.27' | S 0°16.35' | 0.9880' | 322°39.04' | 14.5210° | 199°48.91' | S 5°19.38' | 15.3450' | 58.4475' | 162°27.95' | **23** |
| **24** | 178°05.87' | 15.0031° | 359°24.55' | S 0°15.37' | 0.9880' | 337°10.26' | 14.5203° | 200°20.16' | S 5°34.71' | 15.3280' | 58.4659' | 177°30.42' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0661' | hp (π) 0.1472' | ½Ø 15.8674' | 98.2001080491687<br>2% -gib |
| | EoT at 12:00 UTC : -7m 45s (δ 0.74 s/h) | | Phase at 12:00 UTC : 195.12° | |
| | Meridian Pass. Time : 12:07:45.367 | | Age : 15.2 day(s) | |

| UT | Venus ♀ (π 0.22') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°52.12' | 313°39.16' | S 15°08.22' | 224°14.96' | 312°16.32' | S 18°53.00' | 186°58.41' | 349°32.88' | S 5°34.42' | 213°03.46' | 323°27.83' | S 15°26.35' | **00** |
| **01** | 237°52.07' | 313°41.68' | S 15°07.80' | 239°15.50' | 312°18.24' | S 18°52.53' | 202°00.31' | 349°33.43' | S 5°34.19' | 228°05.67' | 323°28.08' | S 15°26.27' | **01** |
| **02** | 252°52.02' | 313°44.19' | S 15°07.39' | 254°16.05' | 312°20.16' | S 18°52.05' | 217°02.22' | 349°33.99' | S 5°33.96' | 243°07.87' | 323°28.34' | S 15°26.19' | **02** |
| **03** | 267°51.96' | 313°46.71' | S 15°06.97' | 269°16.59' | 312°22.08' | S 18°51.58' | 232°04.13' | 349°34.54' | S 5°33.73' | 258°10.08' | 323°28.59' | S 15°26.11' | **03** |
| **04** | 282°51.91' | 313°49.23' | S 15°06.56' | 284°17.14' | 312°24.00' | S 18°51.11' | 247°06.04' | 349°35.10' | S 5°33.49' | 273°12.29' | 323°28.85' | S 15°26.03' | **04** |
| **05** | 297°51.85' | 313°51.75' | S 15°06.14' | 299°17.68' | 312°25.92' | S 18°50.63' | 262°07.95' | 349°35.65' | S 5°33.26' | 288°14.50' | 323°29.10' | S 15°25.96' | **05** |
| **06** | 312°51.80' | 313°54.27' | S 15°05.72' | 314°18.22' | 312°27.84' | S 18°50.16' | 277°09.86' | 349°36.21' | S 5°33.03' | 303°16.71' | 323°29.36' | S 15°25.88' | **06** |
| **07** | 327°51.74' | 313°56.79' | S 15°05.31' | 329°18.77' | 312°29.76' | S 18°49.68' | 292°11.77' | 349°36.77' | S 5°32.80' | 318°18.92' | 323°29.61' | S 15°25.80' | **07** |
| **08** | 342°51.69' | 313°59.31' | S 15°04.89' | 344°19.31' | 312°31.68' | S 18°49.21' | 307°13.67' | 349°37.32' | S 5°32.57' | 333°21.13' | 323°29.87' | S 15°25.72' | **08** |
| **09** | 357°51.63' | 314°01.83' | S 15°04.47' | 359°19.86' | 312°33.60' | S 18°48.73' | 322°15.58' | 349°37.88' | S 5°32.33' | 348°23.34' | 323°30.12' | S 15°25.65' | **09** |
| **10** | 12°51.57' | 314°04.35' | S 15°04.04' | 14°20.40' | 312°35.52' | S 18°48.25' | 337°17.49' | 349°38.43' | S 5°32.10' | 3°25.55' | 323°30.38' | S 15°25.57' | **10** |
| **11** | 27°51.51' | 314°06.87' | S 15°03.62' | 29°20.95' | 312°37.44' | S 18°47.78' | 352°19.40' | 349°38.99' | S 5°31.87' | 18°27.76' | 323°30.63' | S 15°25.49' | **11** |
| **12** | 42°51.45' | 314°09.40' | S 15°03.20' | 44°21.49' | 312°39.36' | S 18°47.30' | 7°21.31' | 349°39.54' | S 5°31.64' | 33°29.97' | 323°30.88' | S 15°25.41' | **12** |
| **13** | 57°51.40' | 314°11.92' | S 15°02.78' | 59°22.04' | 312°41.28' | S 18°46.82' | 22°23.22' | 349°40.10' | S 5°31.41' | 48°32.18' | 323°31.14' | S 15°25.34' | **13** |
| **14** | 72°51.34' | 314°14.44' | S 15°02.35' | 74°22.58' | 312°43.19' | S 18°46.35' | 37°25.13' | 349°40.65' | S 5°31.18' | 63°34.39' | 323°31.39' | S 15°25.26' | **14** |
| **15** | 87°51.28' | 314°16.97' | S 15°01.93' | 89°23.13' | 312°45.11' | S 18°45.87' | 52°27.04' | 349°41.21' | S 5°30.94' | 78°36.60' | 323°31.65' | S 15°25.18' | **15** |
| **16** | 102°51.22' | 314°19.49' | S 15°01.50' | 104°23.68' | 312°47.03' | S 18°45.39' | 67°28.94' | 349°41.76' | S 5°30.71' | 93°38.81' | 323°31.90' | S 15°25.10' | **16** |
| **17** | 117°51.15' | 314°22.02' | S 15°01.07' | 119°24.22' | 312°48.95' | S 18°44.91' | 82°30.85' | 349°42.32' | S 5°30.48' | 108°41.02' | 323°32.16' | S 15°25.03' | **17** |
| **18** | 132°51.09' | 314°24.54' | S 15°00.65' | 134°24.77' | 312°50.87' | S 18°44.43' | 97°32.76' | 349°42.87' | S 5°30.25' | 123°43.23' | 323°32.41' | S 15°24.95' | **18** |
| **19** | 147°51.03' | 314°27.07' | S 15°00.22' | 149°25.31' | 312°52.78' | S 18°43.96' | 112°34.67' | 349°43.43' | S 5°30.02' | 138°45.44' | 323°32.66' | S 15°24.87' | **19** |
| **20** | 162°50.97' | 314°29.59' | S 14°59.79' | 164°25.86' | 312°54.70' | S 18°43.48' | 127°36.58' | 349°43.98' | S 5°29.78' | 153°47.65' | 323°32.92' | S 15°24.79' | **20** |
| **21** | 177°50.91' | 314°32.12' | S 14°59.36' | 179°26.41' | 312°56.62' | S 18°43.00' | 142°38.49' | 349°44.54' | S 5°29.55' | 168°49.86' | 323°33.17' | S 15°24.72' | **21** |
| **22** | 192°50.84' | 314°34.65' | S 14°58.93' | 194°26.95' | 312°58.54' | S 18°42.52' | 157°40.40' | 349°45.09' | S 5°29.32' | 183°52.07' | 323°33.42' | S 15°24.64' | **22** |
| **23** | 207°50.78' | 314°37.18' | S 14°58.50' | 209°27.50' | 313°00.45' | S 18°42.04' | 172°42.31' | 349°45.65' | S 5°29.09' | 198°54.28' | 323°33.68' | S 15°24.56' | **23** |
| **24** | 222°50.71' | 314°39.70' | S 14°58.07' | 224°28.05' | 313°02.37' | S 18°41.56' | 187°44.22' | 349°46.20' | S 5°28.86' | 213°56.49' | 323°33.93' | S 15°24.49' | **24** |
| | δ 14.9991° | | *d* 0.4137' | δ 15.0091° | | *d* 0.4732' | δ 15.0318° | | *d* 0.2320' | δ 15.0368° | | *d* 0.0777' | |

## *Sunday, March 20th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°05.87' | 15.0031° | 359°24.55' | S 0°15.37' | 0.9880' | 337°10.26' | 14.5203° | 200°20.16' | S 5°34.71' | 15.3280' | 58.4659' | 177°30.42' | **00** |
| **01** | 193°06.05' | 15.0031° | 359°26.83' | S 0°14.38' | 0.9880' | 351°41.43' | 14.5195° | 200°51.45' | S 5°50.02' | 15.3096' | 58.4841' | 192°32.88' | **01** |
| **02** | 208°06.24' | 15.0031° | 359°29.11' | S 0°13.39' | 0.9880' | 6°12.56' | 14.5188° | 201°22.79' | S 6°05.31' | 15.2898' | 58.5021' | 207°35.35' | **02** |
| **03** | 223°06.42' | 15.0031° | 359°31.39' | S 0°12.40' | 0.9880' | 20°43.64' | 14.5180° | 201°54.17' | S 6°20.58' | 15.2685' | 58.5198' | 222°37.81' | **03** |
| **04** | 238°06.61' | 15.0031° | 359°33.67' | S 0°11.41' | 0.9880' | 35°14.67' | 14.5172° | 202°25.61' | S 6°35.83' | 15.2457' | 58.5374' | 237°40.27' | **04** |
| **05** | 253°06.79' | 15.0031° | 359°35.94' | S 0°10.43' | 0.9879' | 49°45.65' | 14.5164° | 202°57.09' | S 6°51.05' | 15.2214' | 58.5548' | 252°42.74' | **05** |
| **06** | 268°06.98' | 15.0031° | 359°38.22' | S 0°09.44' | 0.9879' | 64°16.58' | 14.5155° | 203°28.62' | S 7°06.24' | 15.1957' | 58.5720' | 267°45.20' | **06** |
| **07** | 283°07.16' | 15.0031° | 359°40.50' | S 0°08.45' | 0.9879' | 78°47.46' | 14.5147° | 204°00.20' | S 7°21.41' | 15.1684' | 58.5890' | 282°47.67' | **07** |
| **08** | 298°07.35' | 15.0031° | 359°42.78' | S 0°07.46' | 0.9879' | 93°18.29' | 14.5138° | 204°31.84' | S 7°36.55' | 15.1397' | 58.6058' | 297°50.13' | **08** |
| **09** | 313°07.53' | 15.0031° | 359°45.06' | S 0°06.47' | 0.9879' | 107°49.07' | 14.5129° | 205°03.53' | S 7°51.66' | 15.1095' | 58.6224' | 312°52.59' | **09** |
| **10** | 328°07.72' | 15.0031° | 359°47.34' | S 0°05.49' | 0.9879' | 122°19.79' | 14.5120° | 205°35.27' | S 8°06.74' | 15.0777' | 58.6388' | 327°55.06' | **10** |
| **11** | 343°07.90' | 15.0031° | 359°49.62' | S 0°04.50' | 0.9878' | 136°50.45' | 14.5111° | 206°07.07' | S 8°21.78' | 15.0445' | 58.6550' | 342°57.52' | **11** |
| **12** | 358°08.09' | 15.0031° | 359°51.90' | S 0°03.51' | 0.9878' | 151°21.06' | 14.5102° | 206°38.92' | S 8°36.79' | 15.0097' | 58.6709' | 357°59.99' | **12** |
| **13** | 13°08.27' | 15.0031° | 359°54.18' | S 0°02.52' | 0.9878' | 165°51.62' | 14.5092° | 207°10.84' | S 8°51.77' | 14.9734' | 58.6867' | 13°02.45' | **13** |
| **14** | 28°08.46' | 15.0031° | 359°56.45' | S 0°01.54' | 0.9878' | 180°22.11' | 14.5082° | 207°42.81' | S 9°06.70' | 14.9356' | 58.7023' | 28°04.92' | **14** |
| **15** | 43°08.65' | 15.0031° | 359°58.73' | S 0°00.55' | 0.9878' | 194°52.54' | 14.5072° | 208°14.84' | S 9°21.60' | 14.8963' | 58.7176' | 43°07.38' | **15** |
| **16** | 58°08.83' | 15.0031° | 0°01.01' | N 0°00.44' | 0.9877' | 209°22.92' | 14.5062° | 208°46.92' | S 9°36.45' | 14.8554' | 58.7328' | 58°09.84' | **16** |
| **17** | 73°09.02' | 15.0031° | 0°03.29' | N 0°01.43' | 0.9877' | 223°53.23' | 14.5052° | 209°19.08' | S 9°51.27' | 14.8129' | 58.7478' | 73°12.31' | **17** |
| **18** | 88°09.20' | 15.0031° | 0°05.57' | N 0°02.42' | 0.9877' | 238°23.48' | 14.5042° | 209°51.29' | S 10°06.03' | 14.7689' | 58.7625' | 88°14.77' | **18** |
| **19** | 103°09.39' | 15.0031° | 0°07.85' | N 0°03.40' | 0.9877' | 252°53.67' | 14.5031° | 210°23.56' | S 10°20.76' | 14.7234' | 58.7771' | 103°17.24' | **19** |
| **20** | 118°09.57' | 15.0031° | 0°10.13' | N 0°04.39' | 0.9876' | 267°23.80' | 14.5021° | 210°55.90' | S 10°35.43' | 14.6763' | 58.7914' | 118°19.70' | **20** |
| **21** | 133°09.76' | 15.0031° | 0°12.40' | N 0°05.38' | 0.9876' | 281°53.86' | 14.5010° | 211°28.31' | S 10°50.06' | 14.6276' | 58.8055' | 133°22.16' | **21** |
| **22** | 148°09.94' | 15.0031° | 0°14.68' | N 0°06.37' | 0.9876' | 296°23.85' | 14.4999° | 212°00.78' | S 11°04.64' | 14.5774' | 58.8194' | 148°24.63' | **22** |
| **23** | 163°10.13' | 15.0031° | 0°16.96' | N 0°07.35' | 0.9876' | 310°53.78' | 14.4988° | 212°33.32' | S 11°19.17' | 14.5256' | 58.8331' | 163°27.09' | **23** |
| **24** | 178°10.32' | 15.0031° | 0°19.24' | N 0°08.34' | 0.9876' | 325°23.63' | 14.4976° | 213°05.92' | S 11°33.64' | 14.4722' | 58.8467' | 178°29.56' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0616' | hp (π) 0.1472' | ½Ø 15.9867' | 94.1522532170570<br>2% -gib |
| | EoT at 12:00 UTC : -7m 27s (δ 0.74 s/h) | | Phase at 12:00 UTC : 207.97° | |
| | Meridian Pass. Time : 12:07:27.642 | | Age : 16.2 day(s) | |

| UT | Venus ♀ (π 0.22') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°50.71' | 314°39.70' | S 14°58.07' | 224°28.05' | 313°02.37' | S 18°41.56' | 187°44.22' | 349°46.20' | S 5°28.86' | 213°56.49' | 323°33.93' | S 15°24.49' | **00** |
| **01** | 237°50.65' | 314°42.23' | S 14°57.63' | 239°28.59' | 313°04.29' | S 18°41.07' | 202°46.13' | 349°46.76' | S 5°28.62' | 228°58.70' | 323°34.18' | S 15°24.41' | **01** |
| **02** | 252°50.58' | 314°44.76' | S 14°57.20' | 254°29.14' | 313°06.20' | S 18°40.59' | 217°48.03' | 349°47.31' | S 5°28.39' | 244°00.91' | 323°34.44' | S 15°24.33' | **02** |
| **03** | 267°50.52' | 314°47.29' | S 14°56.76' | 269°29.69' | 313°08.12' | S 18°40.11' | 232°49.94' | 349°47.87' | S 5°28.16' | 259°03.12' | 323°34.69' | S 15°24.25' | **03** |
| **04** | 282°50.45' | 314°49.82' | S 14°56.33' | 284°30.24' | 313°10.04' | S 18°39.63' | 247°51.85' | 349°48.42' | S 5°27.93' | 274°05.33' | 323°34.94' | S 15°24.18' | **04** |
| **05** | 297°50.38' | 314°52.36' | S 14°55.89' | 299°30.78' | 313°11.95' | S 18°39.15' | 262°53.76' | 349°48.98' | S 5°27.70' | 289°07.54' | 323°35.20' | S 15°24.10' | **05** |
| **06** | 312°50.32' | 314°54.89' | S 14°55.45' | 314°31.33' | 313°13.87' | S 18°38.67' | 277°55.67' | 349°49.53' | S 5°27.47' | 304°09.75' | 323°35.45' | S 15°24.02' | **06** |
| **07** | 327°50.25' | 314°57.42' | S 14°55.02' | 329°31.88' | 313°15.79' | S 18°38.18' | 292°57.58' | 349°50.09' | S 5°27.23' | 319°11.96' | 323°35.70' | S 15°23.95' | **07** |
| **08** | 342°50.18' | 314°59.95' | S 14°54.58' | 344°32.43' | 313°17.70' | S 18°37.70' | 307°59.49' | 349°50.64' | S 5°27.00' | 334°14.17' | 323°35.96' | S 15°23.87' | **08** |
| **09** | 357°50.11' | 315°02.48' | S 14°54.14' | 359°32.98' | 313°19.62' | S 18°37.22' | 323°01.40' | 349°51.19' | S 5°26.77' | 349°16.39' | 323°36.21' | S 15°23.79' | **09** |
| **10** | 12°50.04' | 315°05.02' | S 14°53.70' | 14°33.53' | 313°21.53' | S 18°36.73' | 338°03.31' | 349°51.75' | S 5°26.54' | 4°18.60' | 323°36.46' | S 15°23.72' | **10** |
| **11** | 27°49.97' | 315°07.55' | S 14°53.26' | 29°34.07' | 313°23.45' | S 18°36.25' | 353°05.22' | 349°52.30' | S 5°26.31' | 19°20.81' | 323°36.71' | S 15°23.64' | **11** |
| **12** | 42°49.90' | 315°10.09' | S 14°52.81' | 44°34.62' | 313°25.36' | S 18°35.76' | 8°07.13' | 349°52.86' | S 5°26.08' | 34°23.02' | 323°36.97' | S 15°23.56' | **12** |
| **13** | 57°49.83' | 315°12.62' | S 14°52.37' | 59°35.17' | 313°27.28' | S 18°35.28' | 23°09.04' | 349°53.41' | S 5°25.84' | 49°25.23' | 323°37.22' | S 15°23.48' | **13** |
| **14** | 72°49.76' | 315°15.16' | S 14°51.93' | 74°35.72' | 313°29.20' | S 18°34.79' | 38°10.95' | 349°53.97' | S 5°25.61' | 64°27.44' | 323°37.47' | S 15°23.41' | **14** |
| **15** | 87°49.69' | 315°17.69' | S 14°51.48' | 89°36.27' | 313°31.11' | S 18°34.31' | 53°12.86' | 349°54.52' | S 5°25.38' | 79°29.66' | 323°37.72' | S 15°23.33' | **15** |
| **16** | 102°49.61' | 315°20.23' | S 14°51.04' | 104°36.82' | 313°33.03' | S 18°33.82' | 68°14.77' | 349°55.08' | S 5°25.15' | 94°31.87' | 323°37.98' | S 15°23.25' | **16** |
| **17** | 117°49.54' | 315°22.77' | S 14°50.59' | 119°37.37' | 313°34.94' | S 18°33.34' | 83°16.68' | 349°55.63' | S 5°24.92' | 109°34.08' | 323°38.23' | S 15°23.18' | **17** |
| **18** | 132°49.47' | 315°25.30' | S 14°50.14' | 134°37.92' | 313°36.85' | S 18°32.85' | 98°18.59' | 349°56.18' | S 5°24.68' | 124°36.29' | 323°38.48' | S 15°23.10' | **18** |
| **19** | 147°49.39' | 315°27.84' | S 14°49.70' | 149°38.47' | 313°38.77' | S 18°32.36' | 113°20.50' | 349°56.74' | S 5°24.45' | 139°38.50' | 323°38.73' | S 15°23.02' | **19** |
| **20** | 162°49.32' | 315°30.38' | S 14°49.25' | 164°39.02' | 313°40.68' | S 18°31.88' | 128°22.41' | 349°57.29' | S 5°24.22' | 154°40.72' | 323°38.98' | S 15°22.95' | **20** |
| **21** | 177°49.25' | 315°32.92' | S 14°48.80' | 179°39.57' | 313°42.60' | S 18°31.39' | 143°24.32' | 349°57.85' | S 5°23.99' | 169°42.93' | 323°39.24' | S 15°22.87' | **21** |
| **22** | 192°49.17' | 315°35.46' | S 14°48.35' | 194°40.12' | 313°44.51' | S 18°30.90' | 158°26.23' | 349°58.40' | S 5°23.76' | 184°45.14' | 323°39.49' | S 15°22.79' | **22** |
| **23** | 207°49.09' | 315°38.00' | S 14°47.90' | 209°40.67' | 313°46.43' | S 18°30.42' | 173°28.14' | 349°58.95' | S 5°23.53' | 199°47.35' | 323°39.74' | S 15°22.72' | **23** |
| **24** | 222°49.02' | 315°40.54' | S 14°47.44' | 224°41.22' | 313°48.34' | S 18°29.93' | 188°30.05' | 349°59.51' | S 5°23.29' | 214°49.57' | 323°39.99' | S 15°22.64' | **24** |
| | δ 14.9989° | | *d* 0.4332' | δ 15.0091° | | *d* 0.4809' | δ 15.0318° | | *d* 0.2318' | δ 15.0368° | | *d* 0.0772' | |

## *Monday, March 21st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°10.32' | 15.0031° | 0°19.24' | N 0°08.34' | 0.9876' | 325°23.63' | 14.4976° | 213°05.92' | S 11°33.64' | 14.4722' | 58.8467' | 178°29.56' | **00** |
| **01** | 193°10.50' | 15.0031° | 0°21.52' | N 0°09.33' | 0.9875' | 339°53.42' | 14.4965° | 213°38.59' | S 11°48.05' | 14.4172' | 58.8600' | 193°32.02' | **01** |
| **02** | 208°10.69' | 15.0031° | 0°23.80' | N 0°10.32' | 0.9875' | 354°23.15' | 14.4954° | 214°11.34' | S 12°02.42' | 14.3606' | 58.8730' | 208°34.48' | **02** |
| **03** | 223°10.87' | 15.0031° | 0°26.07' | N 0°11.30' | 0.9875' | 8°52.80' | 14.4942° | 214°44.15' | S 12°16.72' | 14.3024' | 58.8859' | 223°36.95' | **03** |
| **04** | 238°11.06' | 15.0031° | 0°28.35' | N 0°12.29' | 0.9875' | 23°22.38' | 14.4930° | 215°17.04' | S 12°30.96' | 14.2427' | 58.8986' | 238°39.41' | **04** |
| **05** | 253°11.25' | 15.0031° | 0°30.63' | N 0°13.28' | 0.9874' | 37°51.88' | 14.4918° | 215°49.99' | S 12°45.14' | 14.1813' | 58.9111' | 253°41.88' | **05** |
| **06** | 268°11.43' | 15.0031° | 0°32.91' | N 0°14.27' | 0.9874' | 52°21.32' | 14.4906° | 216°23.02' | S 12°59.26' | 14.1183' | 58.9233' | 268°44.34' | **06** |
| **07** | 283°11.62' | 15.0031° | 0°35.19' | N 0°15.25' | 0.9874' | 66°50.68' | 14.4894° | 216°56.12' | S 13°13.31' | 14.0537' | 58.9354' | 283°46.80' | **07** |
| **08** | 298°11.80' | 15.0031° | 0°37.46' | N 0°16.24' | 0.9873' | 81°19.97' | 14.4881° | 217°29.30' | S 13°27.30' | 13.9876' | 58.9472' | 298°49.27' | **08** |
| **09** | 313°11.99' | 15.0031° | 0°39.74' | N 0°17.23' | 0.9873' | 95°49.18' | 14.4869° | 218°02.55' | S 13°41.22' | 13.9197' | 58.9588' | 313°51.73' | **09** |
| **10** | 328°12.18' | 15.0031° | 0°42.02' | N 0°18.22' | 0.9873' | 110°18.31' | 14.4856° | 218°35.88' | S 13°55.07' | 13.8503' | 58.9703' | 328°54.20' | **10** |
| **11** | 343°12.36' | 15.0031° | 0°44.30' | N 0°19.20' | 0.9873' | 124°47.37' | 14.4843° | 219°09.29' | S 14°08.85' | 13.7792' | 58.9815' | 343°56.66' | **11** |
| **12** | 358°12.55' | 15.0031° | 0°46.57' | N 0°20.19' | 0.9872' | 139°16.35' | 14.4830° | 219°42.77' | S 14°22.56' | 13.7066' | 58.9925' | 358°59.12' | **12** |
| **13** | 13°12.74' | 15.0031° | 0°48.85' | N 0°21.18' | 0.9872' | 153°45.26' | 14.4817° | 220°16.33' | S 14°36.19' | 13.6323' | 59.0033' | 14°01.59' | **13** |
| **14** | 28°12.92' | 15.0031° | 0°51.13' | N 0°22.16' | 0.9872' | 168°14.08' | 14.4804° | 220°49.97' | S 14°49.75' | 13.5563' | 59.0139' | 29°04.05' | **14** |
| **15** | 43°13.11' | 15.0031° | 0°53.41' | N 0°23.15' | 0.9871' | 182°42.83' | 14.4791° | 221°23.69' | S 15°03.22' | 13.4787' | 59.0243' | 44°06.52' | **15** |
| **16** | 58°13.30' | 15.0031° | 0°55.69' | N 0°24.14' | 0.9871' | 197°11.49' | 14.4777° | 221°57.49' | S 15°16.62' | 13.3995' | 59.0345' | 59°08.98' | **16** |
| **17** | 73°13.48' | 15.0031° | 0°57.96' | N 0°25.13' | 0.9871' | 211°40.08' | 14.4764° | 222°31.37' | S 15°29.94' | 13.3187' | 59.0445' | 74°11.45' | **17** |
| **18** | 88°13.67' | 15.0031° | 1°00.24' | N 0°26.11' | 0.9871' | 226°08.58' | 14.4750° | 223°05.33' | S 15°43.18' | 13.2362' | 59.0543' | 89°13.91' | **18** |
| **19** | 103°13.86' | 15.0031° | 1°02.52' | N 0°27.10' | 0.9870' | 240°37.00' | 14.4737° | 223°39.37' | S 15°56.33' | 13.1521' | 59.0639' | 104°16.37' | **19** |
| **20** | 118°14.04' | 15.0031° | 1°04.80' | N 0°28.09' | 0.9870' | 255°05.34' | 14.4723° | 224°13.50' | S 16°09.40' | 13.0663' | 59.0732' | 119°18.84' | **20** |
| **21** | 133°14.23' | 15.0031° | 1°07.07' | N 0°29.07' | 0.9870' | 269°33.59' | 14.4709° | 224°47.71' | S 16°22.38' | 12.9789' | 59.0824' | 134°21.30' | **21** |
| **22** | 148°14.42' | 15.0031° | 1°09.35' | N 0°30.06' | 0.9869' | 284°01.76' | 14.4695° | 225°22.00' | S 16°35.27' | 12.8899' | 59.0914' | 149°23.77' | **22** |
| **23** | 163°14.60' | 15.0031° | 1°11.63' | N 0°31.05' | 0.9869' | 298°29.85' | 14.4681° | 225°56.38' | S 16°48.07' | 12.7992' | 59.1002' | 164°26.23' | **23** |
| **24** | 178°14.79' | 15.0031° | 1°13.90' | N 0°32.03' | 0.9869' | 312°57.86' | 14.4667° | 226°30.84' | S 17°00.77' | 12.7068' | 59.1087' | 179°28.69' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.0570' | hp (π) 0.1471' | ½Ø 16.0743' | 87.8000288149091 % -gib | |
| EoT at 12:00 UTC : -7m 9s (δ 0.75 s/h) | | Phase at 12:00 UTC : 220.97° | | |
| Meridian Pass. Time : 12:07:09.800 | | Age : 17.2 day(s) | | |

| UT | Venus ♀ (π 0.21') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°49.02' | 315°40.54' | S 14°47.44' | 224°41.22' | 313°48.34' | S 18°29.93' | 188°30.05' | 349°59.51' | S 5°23.29' | 214°49.57' | 323°39.99' | S 15°22.64' | **00** |
| **01** | 237°48.94' | 315°43.08' | S 14°46.99' | 239°41.77' | 313°50.25' | S 18°29.44' | 203°31.96' | 350°00.06' | S 5°23.06' | 229°51.78' | 323°40.24' | S 15°22.56' | **01** |
| **02** | 252°48.86' | 315°45.62' | S 14°46.54' | 254°42.32' | 313°52.17' | S 18°28.95' | 218°33.87' | 350°00.62' | S 5°22.83' | 244°53.99' | 323°40.49' | S 15°22.49' | **02** |
| **03** | 267°48.79' | 315°48.16' | S 14°46.08' | 269°42.87' | 313°54.08' | S 18°28.46' | 233°35.78' | 350°01.17' | S 5°22.60' | 259°56.20' | 323°40.74' | S 15°22.41' | **03** |
| **04** | 282°48.71' | 315°50.70' | S 14°45.63' | 284°43.42' | 313°55.99' | S 18°27.97' | 248°37.69' | 350°01.72' | S 5°22.37' | 274°58.42' | 323°41.00' | S 15°22.33' | **04** |
| **05** | 297°48.63' | 315°53.24' | S 14°45.17' | 299°43.97' | 313°57.91' | S 18°27.48' | 263°39.60' | 350°02.28' | S 5°22.14' | 290°00.63' | 323°41.25' | S 15°22.26' | **05** |
| **06** | 312°48.55' | 315°55.79' | S 14°44.72' | 314°44.52' | 313°59.82' | S 18°26.99' | 278°41.51' | 350°02.83' | S 5°21.91' | 305°02.84' | 323°41.50' | S 15°22.18' | **06** |
| **07** | 327°48.47' | 315°58.33' | S 14°44.26' | 329°45.07' | 314°01.73' | S 18°26.50' | 293°43.42' | 350°03.39' | S 5°21.67' | 320°05.06' | 323°41.75' | S 15°22.10' | **07** |
| **08** | 342°48.39' | 316°00.88' | S 14°43.80' | 344°45.62' | 314°03.64' | S 18°26.01' | 308°45.33' | 350°03.94' | S 5°21.44' | 335°07.27' | 323°42.00' | S 15°22.03' | **08** |
| **09** | 357°48.31' | 316°03.42' | S 14°43.34' | 359°46.18' | 314°05.56' | S 18°25.52' | 323°47.24' | 350°04.49' | S 5°21.21' | 350°09.48' | 323°42.25' | S 15°21.95' | **09** |
| **10** | 12°48.23' | 316°05.96' | S 14°42.88' | 14°46.73' | 314°07.47' | S 18°25.03' | 338°49.15' | 350°05.05' | S 5°20.98' | 5°11.70' | 323°42.50' | S 15°21.87' | **10** |
| **11** | 27°48.15' | 316°08.51' | S 14°42.42' | 29°47.28' | 314°09.38' | S 18°24.54' | 353°51.06' | 350°05.60' | S 5°20.75' | 20°13.91' | 323°42.75' | S 15°21.80' | **11** |
| **12** | 42°48.07' | 316°11.06' | S 14°41.96' | 44°47.83' | 314°11.29' | S 18°24.04' | 8°52.97' | 350°06.15' | S 5°20.52' | 35°16.12' | 323°43.00' | S 15°21.72' | **12** |
| **13** | 57°47.99' | 316°13.60' | S 14°41.50' | 59°48.38' | 314°13.20' | S 18°23.55' | 23°54.88' | 350°06.71' | S 5°20.28' | 50°18.34' | 323°43.25' | S 15°21.65' | **13** |
| **14** | 72°47.91' | 316°16.15' | S 14°41.03' | 74°48.94' | 314°15.12' | S 18°23.06' | 38°56.79' | 350°07.26' | S 5°20.05' | 65°20.55' | 323°43.50' | S 15°21.57' | **14** |
| **15** | 87°47.82' | 316°18.69' | S 14°40.57' | 89°49.49' | 314°17.03' | S 18°22.57' | 53°58.70' | 350°07.82' | S 5°19.82' | 80°22.76' | 323°43.75' | S 15°21.49' | **15** |
| **16** | 102°47.74' | 316°21.24' | S 14°40.11' | 104°50.04' | 314°18.94' | S 18°22.07' | 69°00.61' | 350°08.37' | S 5°19.59' | 95°24.98' | 323°44.00' | S 15°21.42' | **16** |
| **17** | 117°47.65' | 316°23.79' | S 14°39.64' | 119°50.59' | 314°20.85' | S 18°21.58' | 84°02.52' | 350°08.92' | S 5°19.36' | 110°27.19' | 323°44.25' | S 15°21.34' | **17** |
| **18** | 132°47.57' | 316°26.34' | S 14°39.17' | 134°51.15' | 314°22.76' | S 18°21.09' | 99°04.43' | 350°09.48' | S 5°19.13' | 125°29.41' | 323°44.50' | S 15°21.26' | **18** |
| **19** | 147°47.49' | 316°28.89' | S 14°38.71' | 149°51.70' | 314°24.67' | S 18°20.59' | 114°06.34' | 350°10.03' | S 5°18.90' | 140°31.62' | 323°44.75' | S 15°21.19' | **19** |
| **20** | 162°47.40' | 316°31.44' | S 14°38.24' | 164°52.25' | 314°26.58' | S 18°20.10' | 129°08.25' | 350°10.58' | S 5°18.66' | 155°33.83' | 323°45.00' | S 15°21.11' | **20** |
| **21** | 177°47.32' | 316°33.99' | S 14°37.77' | 179°52.81' | 314°28.50' | S 18°19.60' | 144°10.17' | 350°11.14' | S 5°18.43' | 170°36.05' | 323°45.25' | S 15°21.04' | **21** |
| **22** | 192°47.23' | 316°36.54' | S 14°37.30' | 194°53.36' | 314°30.41' | S 18°19.11' | 159°12.08' | 350°11.69' | S 5°18.20' | 185°38.26' | 323°45.50' | S 15°20.96' | **22** |
| **23** | 207°47.14' | 316°39.09' | S 14°36.83' | 209°53.91' | 314°32.32' | S 18°18.61' | 174°13.99' | 350°12.24' | S 5°17.97' | 200°40.48' | 323°45.75' | S 15°20.88' | **23** |
| **24** | 222°47.06' | 316°41.64' | S 14°36.36' | 224°54.47' | 314°34.23' | S 18°18.12' | 189°15.90' | 350°12.80' | S 5°17.74' | 215°42.69' | 323°46.00' | S 15°20.81' | **24** |
| | δ 14.9987° | | *d* 0.4526' | δ 15.0092° | | *d* 0.4885' | δ 15.0318° | | *d* 0.2316' | δ 15.0369° | | *d* 0.0766' | |

## *Tuesday, March 22nd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°14.79' | 15.0031° | 1°13.90' | N 0°32.03' | 0.9869' | 312°57.86' | 14.4667° | 226°30.84' | S 17°00.77' | 12.7068' | 59.1087' | 179°28.69' | **00** |
| **01** | 193°14.98' | 15.0031° | 1°16.18' | N 0°33.02' | 0.9868' | 327°25.77' | 14.4653° | 227°05.38' | S 17°13.38' | 12.6129' | 59.1171' | 194°31.16' | **01** |
| **02** | 208°15.16' | 15.0031° | 1°18.46' | N 0°34.01' | 0.9868' | 341°53.61' | 14.4639° | 227°40.02' | S 17°25.90' | 12.5172' | 59.1253' | 209°33.62' | **02** |
| **03** | 223°15.35' | 15.0031° | 1°20.74' | N 0°34.99' | 0.9868' | 356°21.35' | 14.4624° | 228°14.73' | S 17°38.32' | 12.4200' | 59.1333' | 224°36.09' | **03** |
| **04** | 238°15.54' | 15.0031° | 1°23.01' | N 0°35.98' | 0.9867' | 10°49.01' | 14.4610° | 228°49.54' | S 17°50.64' | 12.3211' | 59.1411' | 239°38.55' | **04** |
| **05** | 253°15.72' | 15.0031° | 1°25.29' | N 0°36.97' | 0.9867' | 25°16.59' | 14.4596° | 229°24.43' | S 18°02.86' | 12.2206' | 59.1486' | 254°41.01' | **05** |
| **06** | 268°15.91' | 15.0031° | 1°27.57' | N 0°37.95' | 0.9867' | 39°44.08' | 14.4581° | 229°59.40' | S 18°14.98' | 12.1184' | 59.1560' | 269°43.48' | **06** |
| **07** | 283°16.10' | 15.0031° | 1°29.84' | N 0°38.94' | 0.9866' | 54°11.48' | 14.4567° | 230°34.47' | S 18°27.00' | 12.0146' | 59.1632' | 284°45.94' | **07** |
| **08** | 298°16.28' | 15.0031° | 1°32.12' | N 0°39.93' | 0.9866' | 68°38.79' | 14.4552° | 231°09.62' | S 18°38.91' | 11.9092' | 59.1702' | 299°48.41' | **08** |
| **09** | 313°16.47' | 15.0031° | 1°34.40' | N 0°40.91' | 0.9865' | 83°06.02' | 14.4538° | 231°44.85' | S 18°50.71' | 11.8021' | 59.1770' | 314°50.87' | **09** |
| **10** | 328°16.66' | 15.0031° | 1°36.68' | N 0°41.90' | 0.9865' | 97°33.15' | 14.4523° | 232°20.18' | S 19°02.40' | 11.6934' | 59.1836' | 329°53.33' | **10** |
| **11** | 343°16.85' | 15.0031° | 1°38.95' | N 0°42.89' | 0.9865' | 112°00.20' | 14.4508° | 232°55.59' | S 19°13.98' | 11.5831' | 59.1900' | 344°55.80' | **11** |
| **12** | 358°17.03' | 15.0031° | 1°41.23' | N 0°43.87' | 0.9864' | 126°27.17' | 14.4494° | 233°31.10' | S 19°25.46' | 11.4712' | 59.1963' | 359°58.26' | **12** |
| **13** | 13°17.22' | 15.0031° | 1°43.51' | N 0°44.86' | 0.9864' | 140°54.04' | 14.4479° | 234°06.69' | S 19°36.81' | 11.3577' | 59.2023' | 15°00.73' | **13** |
| **14** | 28°17.41' | 15.0031° | 1°45.78' | N 0°45.85' | 0.9864' | 155°20.83' | 14.4464° | 234°42.36' | S 19°48.06' | 11.2426' | 59.2082' | 30°03.19' | **14** |
| **15** | 43°17.60' | 15.0031° | 1°48.06' | N 0°46.83' | 0.9863' | 169°47.53' | 14.4450° | 235°18.13' | S 19°59.18' | 11.1259' | 59.2138' | 45°05.66' | **15** |
| **16** | 58°17.78' | 15.0031° | 1°50.34' | N 0°47.82' | 0.9863' | 184°14.14' | 14.4435° | 235°53.98' | S 20°10.19' | 11.0075' | 59.2193' | 60°08.12' | **16** |
| **17** | 73°17.97' | 15.0031° | 1°52.61' | N 0°48.81' | 0.9862' | 198°40.66' | 14.4420° | 236°29.92' | S 20°21.08' | 10.8876' | 59.2246' | 75°10.58' | **17** |
| **18** | 88°18.16' | 15.0031° | 1°54.89' | N 0°49.79' | 0.9862' | 213°07.09' | 14.4406° | 237°05.95' | S 20°31.84' | 10.7661' | 59.2297' | 90°13.05' | **18** |
| **19** | 103°18.34' | 15.0031° | 1°57.17' | N 0°50.78' | 0.9861' | 227°33.44' | 14.4391° | 237°42.07' | S 20°42.49' | 10.6431' | 59.2346' | 105°15.51' | **19** |
| **20** | 118°18.53' | 15.0031° | 1°59.44' | N 0°51.76' | 0.9861' | 241°59.70' | 14.4377° | 238°18.28' | S 20°53.00' | 10.5185' | 59.2394' | 120°17.98' | **20** |
| **21** | 133°18.72' | 15.0031° | 2°01.72' | N 0°52.75' | 0.9861' | 256°25.87' | 14.4362° | 238°54.57' | S 21°03.40' | 10.3923' | 59.2439' | 135°20.44' | **21** |
| **22** | 148°18.91' | 15.0031° | 2°04.00' | N 0°53.74' | 0.9860' | 270°51.96' | 14.4347° | 239°30.95' | S 21°13.66' | 10.2645' | 59.2483' | 150°22.90' | **22** |
| **23** | 163°19.09' | 15.0031° | 2°06.27' | N 0°54.72' | 0.9860' | 285°17.95' | 14.4333° | 240°07.41' | S 21°23.80' | 10.1353' | 59.2525' | 165°25.37' | **23** |
| **24** | 178°19.28' | 15.0031° | 2°08.55' | N 0°55.71' | 0.9859' | 299°43.87' | 14.4319° | 240°43.97' | S 21°33.80' | 10.0045' | 59.2565' | 180°27.83' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0524' | hp (π) 0.1471' | ½Ø 16.1298' | 79.4314607312569 % -gib |
| | EoT at 12:00 UTC : -6m 51s (δ 0.75 s/h) | | Phase at 12:00 UTC : 234.06° | |
| | Meridian Pass. Time : 12:06:51.866 | | Age : 18.2 day(s) | |

| UT | Venus ♀ (π 0.21') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°47.06' | 316°41.64' | S 14°36.36' | 224°54.47' | 314°34.23' | S 18°18.12' | 189°15.90' | 350°12.80' | S 5°17.74' | 215°42.69' | 323°46.00' | S 15°20.81' | **00** |
| **01** | 237°46.97' | 316°44.19' | S 14°35.89' | 239°55.02' | 314°36.14' | S 18°17.62' | 204°17.81' | 350°13.35' | S 5°17.51' | 230°44.91' | 323°46.25' | S 15°20.73' | **01** |
| **02** | 252°46.88' | 316°46.74' | S 14°35.41' | 254°55.57' | 314°38.05' | S 18°17.12' | 219°19.72' | 350°13.90' | S 5°17.28' | 245°47.12' | 323°46.50' | S 15°20.66' | **02** |
| **03** | 267°46.79' | 316°49.29' | S 14°34.94' | 269°56.13' | 314°39.96' | S 18°16.63' | 234°21.63' | 350°14.46' | S 5°17.04' | 260°49.34' | 323°46.75' | S 15°20.58' | **03** |
| **04** | 282°46.70' | 316°51.85' | S 14°34.47' | 284°56.68' | 314°41.87' | S 18°16.13' | 249°23.54' | 350°15.01' | S 5°16.81' | 275°51.55' | 323°47.00' | S 15°20.50' | **04** |
| **05** | 297°46.62' | 316°54.40' | S 14°33.99' | 299°57.24' | 314°43.78' | S 18°15.63' | 264°25.45' | 350°15.56' | S 5°16.58' | 290°53.77' | 323°47.25' | S 15°20.43' | **05** |
| **06** | 312°46.53' | 316°56.95' | S 14°33.51' | 314°57.79' | 314°45.69' | S 18°15.14' | 279°27.36' | 350°16.11' | S 5°16.35' | 305°55.98' | 323°47.50' | S 15°20.35' | **06** |
| **07** | 327°46.44' | 316°59.51' | S 14°33.04' | 329°58.35' | 314°47.60' | S 18°14.64' | 294°29.27' | 350°16.67' | S 5°16.12' | 320°58.20' | 323°47.75' | S 15°20.28' | **07** |
| **08** | 342°46.35' | 317°02.06' | S 14°32.56' | 344°58.90' | 314°49.50' | S 18°14.14' | 309°31.19' | 350°17.22' | S 5°15.89' | 336°00.41' | 323°47.99' | S 15°20.20' | **08** |
| **09** | 357°46.26' | 317°04.62' | S 14°32.08' | 359°59.46' | 314°51.41' | S 18°13.64' | 324°33.10' | 350°17.77' | S 5°15.66' | 351°02.63' | 323°48.24' | S 15°20.12' | **09** |
| **10** | 12°46.16' | 317°07.17' | S 14°31.60' | 15°00.01' | 314°53.32' | S 18°13.14' | 339°35.01' | 350°18.33' | S 5°15.42' | 6°04.84' | 323°48.49' | S 15°20.05' | **10** |
| **11** | 27°46.07' | 317°09.73' | S 14°31.12' | 30°00.57' | 314°55.23' | S 18°12.64' | 354°36.92' | 350°18.88' | S 5°15.19' | 21°07.06' | 323°48.74' | S 15°19.97' | **11** |
| **12** | 42°45.98' | 317°12.28' | S 14°30.64' | 45°01.12' | 314°57.14' | S 18°12.14' | 9°38.83' | 350°19.43' | S 5°14.96' | 36°09.27' | 323°48.99' | S 15°19.90' | **12** |
| **13** | 57°45.89' | 317°14.84' | S 14°30.16' | 60°01.68' | 314°59.05' | S 18°11.64' | 24°40.74' | 350°19.98' | S 5°14.73' | 51°11.49' | 323°49.24' | S 15°19.82' | **13** |
| **14** | 72°45.80' | 317°17.40' | S 14°29.68' | 75°02.23' | 315°00.96' | S 18°11.14' | 39°42.65' | 350°20.54' | S 5°14.50' | 66°13.71' | 323°49.49' | S 15°19.74' | **14** |
| **15** | 87°45.70' | 317°19.95' | S 14°29.19' | 90°02.79' | 315°02.87' | S 18°10.64' | 54°44.57' | 350°21.09' | S 5°14.27' | 81°15.92' | 323°49.73' | S 15°19.67' | **15** |
| **16** | 102°45.61' | 317°22.51' | S 14°28.71' | 105°03.35' | 315°04.77' | S 18°10.14' | 69°46.48' | 350°21.64' | S 5°14.04' | 96°18.14' | 323°49.98' | S 15°19.59' | **16** |
| **17** | 117°45.51' | 317°25.07' | S 14°28.23' | 120°03.90' | 315°06.68' | S 18°09.64' | 84°48.39' | 350°22.20' | S 5°13.81' | 111°20.35' | 323°50.23' | S 15°19.52' | **17** |
| **18** | 132°45.42' | 317°27.63' | S 14°27.74' | 135°04.46' | 315°08.59' | S 18°09.14' | 99°50.30' | 350°22.75' | S 5°13.57' | 126°22.57' | 323°50.48' | S 15°19.44' | **18** |
| **19** | 147°45.33' | 317°30.19' | S 14°27.25' | 150°05.01' | 315°10.50' | S 18°08.64' | 114°52.21' | 350°23.30' | S 5°13.34' | 141°24.79' | 323°50.73' | S 15°19.37' | **19** |
| **20** | 162°45.23' | 317°32.75' | S 14°26.77' | 165°05.57' | 315°12.40' | S 18°08.14' | 129°54.12' | 350°23.85' | S 5°13.11' | 156°27.00' | 323°50.97' | S 15°19.29' | **20** |
| **21** | 177°45.13' | 317°35.31' | S 14°26.28' | 180°06.13' | 315°14.31' | S 18°07.64' | 144°56.03' | 350°24.41' | S 5°12.88' | 171°29.22' | 323°51.22' | S 15°19.22' | **21** |
| **22** | 192°45.04' | 317°37.87' | S 14°25.79' | 195°06.69' | 315°16.22' | S 18°07.13' | 159°57.95' | 350°24.96' | S 5°12.65' | 186°31.44' | 323°51.47' | S 15°19.14' | **22** |
| **23** | 207°44.94' | 317°40.43' | S 14°25.30' | 210°07.24' | 315°18.13' | S 18°06.63' | 174°59.86' | 350°25.51' | S 5°12.42' | 201°33.65' | 323°51.72' | S 15°19.06' | **23** |
| **24** | 222°44.85' | 317°42.99' | S 14°24.81' | 225°07.80' | 315°20.03' | S 18°06.13' | 190°01.77' | 350°26.06' | S 5°12.19' | 216°35.87' | 323°51.96' | S 15°18.99' | **24** |
| | δ 14.9985° | | *d* 0.4720' | δ 15.0092° | | *d* 0.4960' | δ 15.0318° | | *d* 0.2314' | δ 15.0369° | | *d* 0.0761' | |

## *Wednesday, March 23rd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°19.28' | 15.0031° | 2°08.55' | N 0°55.71' | 0.9859' | 299°43.87' | 14.4319° | 240°43.97' | S 21°33.80' | 10.0045' | 59.2565' | 180°27.83' | **00** |
| **01** | 193°19.47' | 15.0031° | 2°10.83' | N 0°56.69' | 0.9859' | 314°09.69' | 14.4304° | 241°20.60' | S 21°43.67' | 9.8722' | 59.2603' | 195°30.30' | **01** |
| **02** | 208°19.66' | 15.0031° | 2°13.10' | N 0°57.68' | 0.9858' | 328°35.43' | 14.4290° | 241°57.33' | S 21°53.41' | 9.7384' | 59.2640' | 210°32.76' | **02** |
| **03** | 223°19.84' | 15.0031° | 2°15.38' | N 0°58.67' | 0.9858' | 343°01.09' | 14.4276° | 242°34.14' | S 22°03.01' | 9.6030' | 59.2675' | 225°35.23' | **03** |
| **04** | 238°20.03' | 15.0031° | 2°17.66' | N 0°59.65' | 0.9858' | 357°26.66' | 14.4262° | 243°11.03' | S 22°12.48' | 9.4662' | 59.2708' | 240°37.69' | **04** |
| **05** | 253°20.22' | 15.0031° | 2°19.93' | N 1°00.64' | 0.9857' | 11°52.14' | 14.4248° | 243°48.01' | S 22°21.81' | 9.3280' | 59.2739' | 255°40.15' | **05** |
| **06** | 268°20.41' | 15.0031° | 2°22.21' | N 1°01.62' | 0.9857' | 26°17.55' | 14.4234° | 244°25.07' | S 22°31.00' | 9.1882' | 59.2769' | 270°42.62' | **06** |
| **07** | 283°20.60' | 15.0031° | 2°24.49' | N 1°02.61' | 0.9856' | 40°42.87' | 14.4220° | 245°02.22' | S 22°40.04' | 9.0471' | 59.2797' | 285°45.08' | **07** |
| **08** | 298°20.78' | 15.0031° | 2°26.76' | N 1°03.59' | 0.9856' | 55°08.10' | 14.4206° | 245°39.44' | S 22°48.95' | 8.9045' | 59.2823' | 300°47.55' | **08** |
| **09** | 313°20.97' | 15.0031° | 2°29.04' | N 1°04.58' | 0.9855' | 69°33.26' | 14.4193° | 246°16.75' | S 22°57.71' | 8.7605' | 59.2848' | 315°50.01' | **09** |
| **10** | 328°21.16' | 15.0031° | 2°31.32' | N 1°05.56' | 0.9855' | 83°58.33' | 14.4179° | 246°54.14' | S 23°06.32' | 8.6151' | 59.2870' | 330°52.47' | **10** |
| **11** | 343°21.35' | 15.0031° | 2°33.59' | N 1°06.55' | 0.9854' | 98°23.33' | 14.4166° | 247°31.61' | S 23°14.79' | 8.4683' | 59.2891' | 345°54.94' | **11** |
| **12** | 358°21.53' | 15.0031° | 2°35.87' | N 1°07.54' | 0.9854' | 112°48.24' | 14.4153° | 248°09.16' | S 23°23.11' | 8.3201' | 59.2911' | 0°57.40' | **12** |
| **13** | 13°21.72' | 15.0031° | 2°38.14' | N 1°08.52' | 0.9853' | 127°13.08' | 14.4140° | 248°46.78' | S 23°31.28' | 8.1706' | 59.2929' | 15°59.87' | **13** |
| **14** | 28°21.91' | 15.0031° | 2°40.42' | N 1°09.51' | 0.9853' | 141°37.84' | 14.4127° | 249°24.49' | S 23°39.30' | 8.0197' | 59.2945' | 31°02.33' | **14** |
| **15** | 43°22.10' | 15.0031° | 2°42.70' | N 1°10.49' | 0.9852' | 156°02.53' | 14.4114° | 250°02.27' | S 23°47.17' | 7.8676' | 59.2960' | 46°04.80' | **15** |
| **16** | 58°22.29' | 15.0031° | 2°44.97' | N 1°11.48' | 0.9852' | 170°27.13' | 14.4101° | 250°40.12' | S 23°54.88' | 7.7141' | 59.2973' | 61°07.26' | **16** |
| **17** | 73°22.47' | 15.0031° | 2°47.25' | N 1°12.46' | 0.9851' | 184°51.67' | 14.4089° | 251°18.05' | S 24°02.44' | 7.5594' | 59.2984' | 76°09.72' | **17** |
| **18** | 88°22.66' | 15.0031° | 2°49.53' | N 1°13.45' | 0.9851' | 199°16.13' | 14.4077° | 251°56.06' | S 24°09.85' | 7.4034' | 59.2994' | 91°12.19' | **18** |
| **19** | 103°22.85' | 15.0031° | 2°51.80' | N 1°14.43' | 0.9850' | 213°40.52' | 14.4065° | 252°34.13' | S 24°17.09' | 7.2462' | 59.3002' | 106°14.65' | **19** |
| **20** | 118°23.04' | 15.0031° | 2°54.08' | N 1°15.42' | 0.9850' | 228°04.84' | 14.4053° | 253°12.28' | S 24°24.18' | 7.0878' | 59.3008' | 121°17.12' | **20** |
| **21** | 133°23.23' | 15.0031° | 2°56.35' | N 1°16.40' | 0.9849' | 242°29.09' | 14.4041° | 253°50.49' | S 24°31.11' | 6.9282' | 59.3013' | 136°19.58' | **21** |
| **22** | 148°23.41' | 15.0031° | 2°58.63' | N 1°17.39' | 0.9849' | 256°53.27' | 14.4030° | 254°28.78' | S 24°37.88' | 6.7674' | 59.3017' | 151°22.04' | **22** |
| **23** | 163°23.60' | 15.0031° | 3°00.91' | N 1°18.37' | 0.9848' | 271°17.38' | 14.4019° | 255°07.13' | S 24°44.48' | 6.6055' | 59.3019' | 166°24.51' | **23** |
| **24** | 178°23.79' | 15.0031° | 3°03.18' | N 1°19.36' | 0.9848' | 285°41.43' | 14.4008° | 255°45.55' | S 24°50.93' | 6.4424' | 59.3019' | 181°26.97' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0478' | hp (π) 0.1471' | ½Ø 16.1557' | 69.4829088752171 % -gib |
| | EoT at 12:00 UTC : -6m 33s (δ 0.75 s/h) | | Phase at 12:00 UTC : 247.19° | |
| | Meridian Pass. Time : 12:06:33.862 | | Age : 19.2 day(s) | |

| UT | Venus ♀ (π 0.21') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°44.85' | 317°42.99' | S 14°24.81' | 225°07.80' | 315°20.03' | S 18°06.13' | 190°01.77' | 350°26.06' | S 5°12.19' | 216°35.87' | 323°51.96' | S 15°18.99' | **00** |
| **01** | 237°44.75' | 317°45.55' | S 14°24.32' | 240°08.36' | 315°21.94' | S 18°05.62' | 205°03.68' | 350°26.62' | S 5°11.96' | 231°38.09' | 323°52.21' | S 15°18.91' | **01** |
| **02** | 252°44.65' | 317°48.11' | S 14°23.83' | 255°08.91' | 315°23.85' | S 18°05.12' | 220°05.59' | 350°27.17' | S 5°11.72' | 246°40.30' | 323°52.46' | S 15°18.84' | **02** |
| **03** | 267°44.55' | 317°50.67' | S 14°23.33' | 270°09.47' | 315°25.75' | S 18°04.62' | 235°07.51' | 350°27.72' | S 5°11.49' | 261°42.52' | 323°52.71' | S 15°18.76' | **03** |
| **04** | 282°44.45' | 317°53.24' | S 14°22.84' | 285°10.03' | 315°27.66' | S 18°04.11' | 250°09.42' | 350°28.27' | S 5°11.26' | 276°44.74' | 323°52.95' | S 15°18.69' | **04** |
| **05** | 297°44.36' | 317°55.80' | S 14°22.34' | 300°10.59' | 315°29.57' | S 18°03.61' | 265°11.33' | 350°28.82' | S 5°11.03' | 291°46.95' | 323°53.20' | S 15°18.61' | **05** |
| **06** | 312°44.26' | 317°58.36' | S 14°21.85' | 315°11.15' | 315°31.47' | S 18°03.10' | 280°13.24' | 350°29.38' | S 5°10.80' | 306°49.17' | 323°53.45' | S 15°18.54' | **06** |
| **07** | 327°44.16' | 318°00.93' | S 14°21.35' | 330°11.70' | 315°33.38' | S 18°02.60' | 295°15.15' | 350°29.93' | S 5°10.57' | 321°51.39' | 323°53.69' | S 15°18.46' | **07** |
| **08** | 342°44.06' | 318°03.49' | S 14°20.86' | 345°12.26' | 315°35.28' | S 18°02.09' | 310°17.07' | 350°30.48' | S 5°10.34' | 336°53.61' | 323°53.94' | S 15°18.39' | **08** |
| **09** | 357°43.96' | 318°06.05' | S 14°20.36' | 0°12.82' | 315°37.19' | S 18°01.59' | 325°18.98' | 350°31.03' | S 5°10.11' | 351°55.82' | 323°54.19' | S 15°18.31' | **09** |
| **10** | 12°43.86' | 318°08.62' | S 14°19.86' | 15°13.38' | 315°39.10' | S 18°01.08' | 340°20.89' | 350°31.58' | S 5°09.88' | 6°58.04' | 323°54.43' | S 15°18.24' | **10** |
| **11** | 27°43.75' | 318°11.18' | S 14°19.36' | 30°13.94' | 315°41.00' | S 18°00.57' | 355°22.80' | 350°32.14' | S 5°09.64' | 22°00.26' | 323°54.68' | S 15°18.16' | **11** |
| **12** | 42°43.65' | 318°13.75' | S 14°18.86' | 45°14.50' | 315°42.91' | S 18°00.07' | 10°24.71' | 350°32.69' | S 5°09.41' | 37°02.48' | 323°54.93' | S 15°18.09' | **12** |
| **13** | 57°43.55' | 318°16.32' | S 14°18.36' | 60°15.06' | 315°44.81' | S 17°59.56' | 25°26.63' | 350°33.24' | S 5°09.18' | 52°04.69' | 323°55.17' | S 15°18.01' | **13** |
| **14** | 72°43.45' | 318°18.88' | S 14°17.86' | 75°15.61' | 315°46.72' | S 17°59.05' | 40°28.54' | 350°33.79' | S 5°08.95' | 67°06.91' | 323°55.42' | S 15°17.93' | **14** |
| **15** | 87°43.35' | 318°21.45' | S 14°17.36' | 90°16.17' | 315°48.62' | S 17°58.54' | 55°30.45' | 350°34.34' | S 5°08.72' | 82°09.13' | 323°55.67' | S 15°17.86' | **15** |
| **16** | 102°43.24' | 318°24.02' | S 14°16.85' | 105°16.73' | 315°50.53' | S 17°58.04' | 70°32.36' | 350°34.90' | S 5°08.49' | 97°11.35' | 323°55.91' | S 15°17.78' | **16** |
| **17** | 117°43.14' | 318°26.58' | S 14°16.35' | 120°17.29' | 315°52.43' | S 17°57.53' | 85°34.28' | 350°35.45' | S 5°08.26' | 112°13.57' | 323°56.16' | S 15°17.71' | **17** |
| **18** | 132°43.04' | 318°29.15' | S 14°15.84' | 135°17.85' | 315°54.34' | S 17°57.02' | 100°36.19' | 350°36.00' | S 5°08.03' | 127°15.78' | 323°56.40' | S 15°17.63' | **18** |
| **19** | 147°42.93' | 318°31.72' | S 14°15.34' | 150°18.41' | 315°56.24' | S 17°56.51' | 115°38.10' | 350°36.55' | S 5°07.80' | 142°18.00' | 323°56.65' | S 15°17.56' | **19** |
| **20** | 162°42.83' | 318°34.29' | S 14°14.83' | 165°18.97' | 315°58.14' | S 17°56.00' | 130°40.01' | 350°37.10' | S 5°07.57' | 157°20.22' | 323°56.89' | S 15°17.48' | **20** |
| **21** | 177°42.72' | 318°36.86' | S 14°14.33' | 180°19.53' | 316°00.05' | S 17°55.49' | 145°41.93' | 350°37.65' | S 5°07.33' | 172°22.44' | 323°57.14' | S 15°17.41' | **21** |
| **22** | 192°42.62' | 318°39.43' | S 14°13.82' | 195°20.09' | 316°01.95' | S 17°54.98' | 160°43.84' | 350°38.21' | S 5°07.10' | 187°24.66' | 323°57.39' | S 15°17.33' | **22** |
| **23** | 207°42.51' | 318°42.00' | S 14°13.31' | 210°20.65' | 316°03.86' | S 17°54.47' | 175°45.75' | 350°38.76' | S 5°06.87' | 202°26.88' | 323°57.63' | S 15°17.26' | **23** |
| **24** | 222°42.40' | 318°44.57' | S 14°12.80' | 225°21.21' | 316°05.76' | S 17°53.96' | 190°47.66' | 350°39.31' | S 5°06.64' | 217°29.10' | 323°57.88' | S 15°17.19' | **24** |
| | δ 14.9984° | | *d* 0.4912' | δ 15.0093° | | *d* 0.5034' | δ 15.0319° | | *d* 0.2312' | δ 15.0369° | | *d* 0.0755' | |

## *Thursday, March 24th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°23.79' | 15.0031° | 3°03.18' | N 1°19.36' | 0.9848' | 285°41.43' | 14.4008° | 255°45.55' | S 24°50.93' | 6.4424' | 59.3019' | 181°26.97' | **00** |
| **01** | 193°23.98' | 15.0031° | 3°05.46' | N 1°20.34' | 0.9847' | 300°05.41' | 14.3997° | 256°24.03' | S 24°57.20' | 6.2783' | 59.3018' | 196°29.44' | **01** |
| **02** | 208°24.17' | 15.0031° | 3°07.74' | N 1°21.33' | 0.9847' | 314°29.33' | 14.3987° | 257°02.57' | S 25°03.32' | 6.1131' | 59.3015' | 211°31.90' | **02** |
| **03** | 223°24.35' | 15.0031° | 3°10.01' | N 1°22.31' | 0.9846' | 328°53.19' | 14.3977° | 257°41.18' | S 25°09.26' | 5.9468' | 59.3011' | 226°34.37' | **03** |
| **04** | 238°24.54' | 15.0031° | 3°12.29' | N 1°23.29' | 0.9846' | 343°16.99' | 14.3967° | 258°19.84' | S 25°15.04' | 5.7795' | 59.3005' | 241°36.83' | **04** |
| **05** | 253°24.73' | 15.0031° | 3°14.56' | N 1°24.28' | 0.9845' | 357°40.73' | 14.3957° | 258°58.56' | S 25°20.65' | 5.6113' | 59.2998' | 256°39.29' | **05** |
| **06** | 268°24.92' | 15.0031° | 3°16.84' | N 1°25.26' | 0.9844' | 12°04.41' | 14.3947° | 259°37.34' | S 25°26.10' | 5.4420' | 59.2989' | 271°41.76' | **06** |
| **07** | 283°25.11' | 15.0031° | 3°19.12' | N 1°26.25' | 0.9844' | 26°28.04' | 14.3938° | 260°16.18' | S 25°31.37' | 5.2719' | 59.2979' | 286°44.22' | **07** |
| **08** | 298°25.29' | 15.0031° | 3°21.39' | N 1°27.23' | 0.9843' | 40°51.62' | 14.3929° | 260°55.07' | S 25°36.47' | 5.1008' | 59.2967' | 301°46.69' | **08** |
| **09** | 313°25.48' | 15.0031° | 3°23.67' | N 1°28.22' | 0.9843' | 55°15.14' | 14.3921° | 261°34.01' | S 25°41.40' | 4.9288' | 59.2954' | 316°49.15' | **09** |
| **10** | 328°25.67' | 15.0031° | 3°25.94' | N 1°29.20' | 0.9842' | 69°38.62' | 14.3912° | 262°13.00' | S 25°46.15' | 4.7560' | 59.2940' | 331°51.61' | **10** |
| **11** | 343°25.86' | 15.0031° | 3°28.22' | N 1°30.18' | 0.9842' | 84°02.05' | 14.3904° | 262°52.03' | S 25°50.74' | 4.5824' | 59.2924' | 346°54.08' | **11** |
| **12** | 358°26.05' | 15.0031° | 3°30.50' | N 1°31.17' | 0.9841' | 98°25.43' | 14.3897° | 263°31.12' | S 25°55.14' | 4.4080' | 59.2906' | 1°56.54' | **12** |
| **13** | 13°26.24' | 15.0031° | 3°32.77' | N 1°32.15' | 0.9840' | 112°48.76' | 14.3889° | 264°10.25' | S 25°59.38' | 4.2328' | 59.2887' | 16°59.01' | **13** |
| **14** | 28°26.42' | 15.0031° | 3°35.05' | N 1°33.14' | 0.9840' | 127°12.06' | 14.3882° | 264°49.42' | S 26°03.43' | 4.0568' | 59.2867' | 32°01.47' | **14** |
| **15** | 43°26.61' | 15.0031° | 3°37.32' | N 1°34.12' | 0.9839' | 141°35.31' | 14.3875° | 265°28.63' | S 26°07.31' | 3.8802' | 59.2845' | 47°03.94' | **15** |
| **16** | 58°26.80' | 15.0031° | 3°39.60' | N 1°35.10' | 0.9839' | 155°58.52' | 14.3869° | 266°07.88' | S 26°11.02' | 3.7030' | 59.2822' | 62°06.40' | **16** |
| **17** | 73°26.99' | 15.0031° | 3°41.88' | N 1°36.09' | 0.9838' | 170°21.70' | 14.3863° | 266°47.16' | S 26°14.54' | 3.5250' | 59.2798' | 77°08.86' | **17** |
| **18** | 88°27.18' | 15.0031° | 3°44.15' | N 1°37.07' | 0.9837' | 184°44.84' | 14.3857° | 267°26.49' | S 26°17.89' | 3.3465' | 59.2772' | 92°11.33' | **18** |
| **19** | 103°27.36' | 15.0031° | 3°46.43' | N 1°38.06' | 0.9837' | 199°07.95' | 14.3852° | 268°05.84' | S 26°21.06' | 3.1675' | 59.2745' | 107°13.79' | **19** |
| **20** | 118°27.55' | 15.0031° | 3°48.70' | N 1°39.04' | 0.9836' | 213°31.03' | 14.3847° | 268°45.22' | S 26°24.04' | 2.9878' | 59.2716' | 122°16.26' | **20** |
| **21** | 133°27.74' | 15.0031° | 3°50.98' | N 1°40.02' | 0.9836' | 227°54.08' | 14.3842° | 269°24.64' | S 26°26.85' | 2.8077' | 59.2686' | 137°18.72' | **21** |
| **22** | 148°27.93' | 15.0031° | 3°53.26' | N 1°41.01' | 0.9835' | 242°17.11' | 14.3837° | 270°04.08' | S 26°29.48' | 2.6271' | 59.2655' | 152°21.18' | **22** |
| **23** | 163°28.12' | 15.0031° | 3°55.53' | N 1°41.99' | 0.9834' | 256°40.11' | 14.3833° | 270°43.54' | S 26°31.92' | 2.4461' | 59.2622' | 167°23.65' | **23** |
| **24** | 178°28.31' | 15.0031° | 3°57.81' | N 1°42.97' | 0.9834' | 271°03.09' | 14.3830° | 271°23.03' | S 26°34.19' | 2.2647' | 59.2588' | 182°26.11' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 16.0431' | hp (π) 0.1470' | ½Ø 16.1555' | 58.4982756271673<br>4% -gib | |
| | EoT at 12:00 UTC : -6m 15s (δ 0.75 s/h) | | Phase at 12:00 UTC : 260.34° | | |
| | Meridian Pass. Time : 12:06:15.812 | | Age : 20.2 day(s) | | |

| UT | Venus ♀ (π 0.21') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°42.40' | 318°44.57' | S 14°12.80' | 225°21.21' | 316°05.76' | S 17°53.96' | 190°47.66' | 350°39.31' | S 5°06.64' | 217°29.10' | 323°57.88' | S 15°17.19' | **00** |
| **01** | 237°42.30' | 318°47.14' | S 14°12.29' | 240°21.77' | 316°07.66' | S 17°53.45' | 205°49.58' | 350°39.86' | S 5°06.41' | 232°31.31' | 323°58.12' | S 15°17.11' | **01** |
| **02** | 252°42.19' | 318°49.71' | S 14°11.78' | 255°22.34' | 316°09.57' | S 17°52.94' | 220°51.49' | 350°40.41' | S 5°06.18' | 247°33.53' | 323°58.37' | S 15°17.04' | **02** |
| **03** | 267°42.08' | 318°52.28' | S 14°11.27' | 270°22.90' | 316°11.47' | S 17°52.43' | 235°53.40' | 350°40.96' | S 5°05.95' | 262°35.75' | 323°58.61' | S 15°16.96' | **03** |
| **04** | 282°41.98' | 318°54.85' | S 14°10.75' | 285°23.46' | 316°13.37' | S 17°51.92' | 250°55.32' | 350°41.51' | S 5°05.72' | 277°37.97' | 323°58.86' | S 15°16.89' | **04** |
| **05** | 297°41.87' | 318°57.42' | S 14°10.24' | 300°24.02' | 316°15.27' | S 17°51.40' | 265°57.23' | 350°42.06' | S 5°05.49' | 292°40.19' | 323°59.10' | S 15°16.81' | **05** |
| **06** | 312°41.76' | 318°60.00' | S 14°09.72' | 315°24.58' | 316°17.18' | S 17°50.89' | 280°59.14' | 350°42.62' | S 5°05.26' | 307°42.41' | 323°59.35' | S 15°16.74' | **06** |
| **07** | 327°41.65' | 319°02.57' | S 14°09.21' | 330°25.14' | 316°19.08' | S 17°50.38' | 296°01.05' | 350°43.17' | S 5°05.03' | 322°44.63' | 323°59.59' | S 15°16.66' | **07** |
| **08** | 342°41.54' | 319°05.14' | S 14°08.69' | 345°25.70' | 316°20.98' | S 17°49.87' | 311°02.97' | 350°43.72' | S 5°04.80' | 337°46.85' | 323°59.84' | S 15°16.59' | **08** |
| **09** | 357°41.43' | 319°07.72' | S 14°08.18' | 0°26.27' | 316°22.88' | S 17°49.35' | 326°04.88' | 350°44.27' | S 5°04.56' | 352°49.07' | 324°00.08' | S 15°16.51' | **09** |
| **10** | 12°41.32' | 319°10.29' | S 14°07.66' | 15°26.83' | 316°24.79' | S 17°48.84' | 341°06.79' | 350°44.82' | S 5°04.33' | 7°51.29' | 324°00.33' | S 15°16.44' | **10** |
| **11** | 27°41.21' | 319°12.86' | S 14°07.14' | 30°27.39' | 316°26.69' | S 17°48.33' | 356°08.71' | 350°45.37' | S 5°04.10' | 22°53.51' | 324°00.57' | S 15°16.36' | **11** |
| **12** | 42°41.10' | 319°15.44' | S 14°06.62' | 45°27.95' | 316°28.59' | S 17°47.81' | 11°10.62' | 350°45.92' | S 5°03.87' | 37°55.73' | 324°00.81' | S 15°16.29' | **12** |
| **13** | 57°40.99' | 319°18.01' | S 14°06.10' | 60°28.52' | 316°30.49' | S 17°47.30' | 26°12.53' | 350°46.47' | S 5°03.64' | 52°57.95' | 324°01.06' | S 15°16.21' | **13** |
| **14** | 72°40.88' | 319°20.59' | S 14°05.58' | 75°29.08' | 316°32.39' | S 17°46.78' | 41°14.45' | 350°47.02' | S 5°03.41' | 68°00.17' | 324°01.30' | S 15°16.14' | **14** |
| **15** | 87°40.77' | 319°23.16' | S 14°05.06' | 90°29.64' | 316°34.29' | S 17°46.27' | 56°16.36' | 350°47.57' | S 5°03.18' | 83°02.39' | 324°01.55' | S 15°16.07' | **15** |
| **16** | 102°40.66' | 319°25.74' | S 14°04.54' | 105°30.20' | 316°36.20' | S 17°45.75' | 71°18.27' | 350°48.13' | S 5°02.95' | 98°04.61' | 324°01.79' | S 15°15.99' | **16** |
| **17** | 117°40.55' | 319°28.32' | S 14°04.01' | 120°30.77' | 316°38.10' | S 17°45.24' | 86°20.19' | 350°48.68' | S 5°02.72' | 113°06.83' | 324°02.03' | S 15°15.92' | **17** |
| **18** | 132°40.43' | 319°30.89' | S 14°03.49' | 135°31.33' | 316°40.00' | S 17°44.72' | 101°22.10' | 350°49.23' | S 5°02.49' | 128°09.05' | 324°02.28' | S 15°15.84' | **18** |
| **19** | 147°40.32' | 319°33.47' | S 14°02.97' | 150°31.89' | 316°41.90' | S 17°44.21' | 116°24.01' | 350°49.78' | S 5°02.26' | 143°11.27' | 324°02.52' | S 15°15.77' | **19** |
| **20** | 162°40.21' | 319°36.05' | S 14°02.44' | 165°32.46' | 316°43.80' | S 17°43.69' | 131°25.93' | 350°50.33' | S 5°02.03' | 158°13.49' | 324°02.77' | S 15°15.69' | **20** |
| **21** | 177°40.10' | 319°38.63' | S 14°01.91' | 180°33.02' | 316°45.70' | S 17°43.17' | 146°27.84' | 350°50.88' | S 5°01.80' | 173°15.71' | 324°03.01' | S 15°15.62' | **21** |
| **22** | 192°39.98' | 319°41.20' | S 14°01.39' | 195°33.58' | 316°47.60' | S 17°42.66' | 161°29.75' | 350°51.43' | S 5°01.56' | 188°17.93' | 324°03.25' | S 15°15.55' | **22** |
| **23** | 207°39.87' | 319°43.78' | S 14°00.86' | 210°34.15' | 316°49.50' | S 17°42.14' | 176°31.67' | 350°51.98' | S 5°01.33' | 203°20.15' | 324°03.50' | S 15°15.47' | **23** |
| **24** | 222°39.75' | 319°46.36' | S 14°00.33' | 225°34.71' | 316°51.40' | S 17°41.62' | 191°33.58' | 350°52.53' | S 5°01.10' | 218°22.37' | 324°03.74' | S 15°15.40' | **24** |
| | δ 14.9982° | | *d* 0.5104' | δ 15.0093° | | *d* 0.5107' | δ 15.0319° | | *d* 0.2309' | δ 15.0370° | | *d* 0.0748' | |

## *Friday, March 25th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°28.31' | 15.0031° | 3°57.81' | N 1°42.97' | 0.9834' | 271°03.09' | 14.3830° | 271°23.03' | S 26°34.19' | 2.2647' | 59.2588' | 182°26.11' | **00** |
| **01** | 193°28.49' | 15.0031° | 4°00.08' | N 1°43.96' | 0.9833' | 285°26.05' | 14.3826° | 272°02.53' | S 26°36.27' | 2.0830' | 59.2553' | 197°28.58' | **01** |
| **02** | 208°28.68' | 15.0031° | 4°02.36' | N 1°44.94' | 0.9832' | 299°48.99' | 14.3823° | 272°42.06' | S 26°38.17' | 1.9009' | 59.2516' | 212°31.04' | **02** |
| **03** | 223°28.87' | 15.0031° | 4°04.63' | N 1°45.92' | 0.9832' | 314°11.91' | 14.3821° | 273°21.60' | S 26°39.89' | 1.7185' | 59.2478' | 227°33.51' | **03** |
| **04** | 238°29.06' | 15.0031° | 4°06.91' | N 1°46.91' | 0.9831' | 328°34.82' | 14.3819° | 274°01.15' | S 26°41.43' | 1.5359' | 59.2439' | 242°35.97' | **04** |
| **05** | 253°29.25' | 15.0031° | 4°09.19' | N 1°47.89' | 0.9830' | 342°57.72' | 14.3817° | 274°40.71' | S 26°42.78' | 1.3530' | 59.2398' | 257°38.43' | **05** |
| **06** | 268°29.44' | 15.0031° | 4°11.46' | N 1°48.87' | 0.9830' | 357°20.61' | 14.3815° | 275°20.29' | S 26°43.95' | 1.1700' | 59.2356' | 272°40.90' | **06** |
| **07** | 283°29.62' | 15.0031° | 4°13.74' | N 1°49.86' | 0.9829' | 11°43.50' | 14.3814° | 275°59.87' | S 26°44.94' | 0.9868' | 59.2313' | 287°43.36' | **07** |
| **08** | 298°29.81' | 15.0031° | 4°16.01' | N 1°50.84' | 0.9828' | 26°06.38' | 14.3813° | 276°39.45' | S 26°45.74' | 0.8035' | 59.2269' | 302°45.83' | **08** |
| **09** | 313°30.00' | 15.0031° | 4°18.29' | N 1°51.82' | 0.9828' | 40°29.25' | 14.3813° | 277°19.04' | S 26°46.36' | 0.6201' | 59.2223' | 317°48.29' | **09** |
| **10** | 328°30.19' | 15.0031° | 4°20.57' | N 1°52.80' | 0.9827' | 54°52.13' | 14.3813° | 277°58.63' | S 26°46.80' | 0.4367' | 59.2176' | 332°50.75' | **10** |
| **11** | 343°30.38' | 15.0031° | 4°22.84' | N 1°53.79' | 0.9826' | 69°15.01' | 14.3813° | 278°38.21' | S 26°47.05' | 0.2533' | 59.2127' | 347°53.22' | **11** |
| **12** | 358°30.57' | 15.0031° | 4°25.12' | N 1°54.77' | 0.9826' | 83°37.89' | 14.3814° | 279°17.79' | S 26°47.12' | 0.0699' | 59.2078' | 2°55.68' | **12** |
| **13** | 13°30.75' | 15.0031° | 4°27.39' | N 1°55.75' | 0.9825' | 98°00.78' | 14.3815° | 279°57.37' | S 26°47.01' | 0.1134' | 59.2027' | 17°58.15' | **13** |
| **14** | 28°30.94' | 15.0031° | 4°29.67' | N 1°56.73' | 0.9824' | 112°23.68' | 14.3816° | 280°36.93' | S 26°46.71' | 0.2965' | 59.1974' | 33°00.61' | **14** |
| **15** | 43°31.13' | 15.0031° | 4°31.94' | N 1°57.72' | 0.9824' | 126°46.59' | 14.3818° | 281°16.48' | S 26°46.23' | 0.4796' | 59.1921' | 48°03.08' | **15** |
| **16** | 58°31.32' | 15.0031° | 4°34.22' | N 1°58.70' | 0.9823' | 141°09.51' | 14.3821° | 281°56.03' | S 26°45.57' | 0.6625' | 59.1866' | 63°05.54' | **16** |
| **17** | 73°31.51' | 15.0031° | 4°36.50' | N 1°59.68' | 0.9822' | 155°32.45' | 14.3823° | 282°35.55' | S 26°44.72' | 0.8451' | 59.1810' | 78°08.00' | **17** |
| **18** | 88°31.70' | 15.0031° | 4°38.77' | N 2°00.66' | 0.9821' | 169°55.41' | 14.3826° | 283°15.06' | S 26°43.70' | 1.0275' | 59.1753' | 93°10.47' | **18** |
| **19** | 103°31.88' | 15.0031° | 4°41.05' | N 2°01.64' | 0.9821' | 184°18.39' | 14.3829° | 283°54.55' | S 26°42.49' | 1.2096' | 59.1695' | 108°12.93' | **19** |
| **20** | 118°32.07' | 15.0031° | 4°43.32' | N 2°02.63' | 0.9820' | 198°41.39' | 14.3833° | 284°34.01' | S 26°41.10' | 1.3914' | 59.1635' | 123°15.40' | **20** |
| **21** | 133°32.26' | 15.0031° | 4°45.60' | N 2°03.61' | 0.9819' | 213°04.41' | 14.3837° | 285°13.45' | S 26°39.52' | 1.5729' | 59.1574' | 138°17.86' | **21** |
| **22** | 148°32.45' | 15.0031° | 4°47.88' | N 2°04.59' | 0.9819' | 227°27.46' | 14.3842° | 285°52.87' | S 26°37.77' | 1.7539' | 59.1512' | 153°20.33' | **22** |
| **23** | 163°32.64' | 15.0031° | 4°50.15' | N 2°05.57' | 0.9818' | 241°50.54' | 14.3846° | 286°32.25' | S 26°35.83' | 1.9345' | 59.1448' | 168°22.79' | **23** |
| **24** | 178°32.83' | 15.0031° | 4°52.43' | N 2°06.55' | 0.9817' | 256°13.65' | 14.3852° | 287°11.61' | S 26°33.72' | 2.1147' | 59.1383' | 183°25.25' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 16.0384' | hp (π) 0.1470' | ½Ø 16.1330' | 47.0824807343937<br>6% -cre | |
| | EoT at 12:00 UTC : -5m 57s (δ 0.75 s/h) | | Phase at 12:00 UTC : 273.49° | | |
| | Meridian Pass. Time : 12:05:57.735 | | Age : 21.3 day(s) | | |

| UT | Venus ♀ (π 0.21') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°39.75' | 319°46.36' | S 14°00.33' | 225°34.71' | 316°51.40' | S 17°41.62' | 191°33.58' | 350°52.53' | S 5°01.10' | 218°22.37' | 324°03.74' | S 15°15.40' | **00** |
| **01** | 237°39.64' | 319°48.94' | S 13°59.80' | 240°35.28' | 316°53.30' | S 17°41.10' | 206°35.50' | 350°53.08' | S 5°00.87' | 233°24.60' | 324°03.98' | S 15°15.32' | **01** |
| **02** | 252°39.52' | 319°51.52' | S 13°59.27' | 255°35.84' | 316°55.20' | S 17°40.58' | 221°37.41' | 350°53.63' | S 5°00.64' | 248°26.82' | 324°04.22' | S 15°15.25' | **02** |
| **03** | 267°39.41' | 319°54.10' | S 13°58.74' | 270°36.41' | 316°57.10' | S 17°40.07' | 236°39.32' | 350°54.18' | S 5°00.41' | 263°29.04' | 324°04.47' | S 15°15.17' | **03** |
| **04** | 282°39.29' | 319°56.68' | S 13°58.21' | 285°36.97' | 316°59.00' | S 17°39.55' | 251°41.24' | 350°54.73' | S 5°00.18' | 278°31.26' | 324°04.71' | S 15°15.10' | **04** |
| **05** | 297°39.18' | 319°59.26' | S 13°57.68' | 300°37.54' | 317°00.90' | S 17°39.03' | 266°43.15' | 350°55.28' | S 4°59.95' | 293°33.48' | 324°04.95' | S 15°15.03' | **05** |
| **06** | 312°39.06' | 320°01.84' | S 13°57.14' | 315°38.10' | 317°02.80' | S 17°38.51' | 281°45.07' | 350°55.83' | S 4°59.72' | 308°35.70' | 324°05.20' | S 15°14.95' | **06** |
| **07** | 327°38.94' | 320°04.42' | S 13°56.61' | 330°38.67' | 317°04.70' | S 17°37.99' | 296°46.98' | 350°56.38' | S 4°59.49' | 323°37.92' | 324°05.44' | S 15°14.88' | **07** |
| **08** | 342°38.82' | 320°07.00' | S 13°56.07' | 345°39.23' | 317°06.60' | S 17°37.47' | 311°48.89' | 350°56.93' | S 4°59.26' | 338°40.15' | 324°05.68' | S 15°14.80' | **08** |
| **09** | 357°38.71' | 320°09.58' | S 13°55.54' | 0°39.80' | 317°08.49' | S 17°36.95' | 326°50.81' | 350°57.48' | S 4°59.03' | 353°42.37' | 324°05.92' | S 15°14.73' | **09** |
| **10** | 12°38.59' | 320°12.17' | S 13°55.00' | 15°40.36' | 317°10.39' | S 17°36.43' | 341°52.72' | 350°58.03' | S 4°58.80' | 8°44.59' | 324°06.17' | S 15°14.66' | **10** |
| **11** | 27°38.47' | 320°14.75' | S 13°54.47' | 30°40.93' | 317°12.29' | S 17°35.91' | 356°54.64' | 350°58.58' | S 4°58.57' | 23°46.81' | 324°06.41' | S 15°14.58' | **11** |
| **12** | 42°38.35' | 320°17.33' | S 13°53.93' | 45°41.49' | 317°14.19' | S 17°35.39' | 11°56.55' | 350°59.13' | S 4°58.34' | 38°49.03' | 324°06.65' | S 15°14.51' | **12** |
| **13** | 57°38.23' | 320°19.91' | S 13°53.39' | 60°42.06' | 317°16.09' | S 17°34.86' | 26°58.46' | 350°59.68' | S 4°58.11' | 53°51.26' | 324°06.89' | S 15°14.43' | **13** |
| **14** | 72°38.11' | 320°22.50' | S 13°52.85' | 75°42.63' | 317°17.99' | S 17°34.34' | 42°00.38' | 351°00.23' | S 4°57.88' | 68°53.48' | 324°07.13' | S 15°14.36' | **14** |
| **15** | 87°38.00' | 320°25.08' | S 13°52.31' | 90°43.19' | 317°19.88' | S 17°33.82' | 57°02.29' | 351°00.78' | S 4°57.65' | 83°55.70' | 324°07.38' | S 15°14.29' | **15** |
| **16** | 102°37.88' | 320°27.66' | S 13°51.77' | 105°43.76' | 317°21.78' | S 17°33.30' | 72°04.21' | 351°01.33' | S 4°57.42' | 98°57.92' | 324°07.62' | S 15°14.21' | **16** |
| **17** | 117°37.76' | 320°30.25' | S 13°51.23' | 120°44.32' | 317°23.68' | S 17°32.78' | 87°06.12' | 351°01.88' | S 4°57.19' | 114°00.15' | 324°07.86' | S 15°14.14' | **17** |
| **18** | 132°37.64' | 320°32.83' | S 13°50.68' | 135°44.89' | 317°25.58' | S 17°32.25' | 102°08.04' | 351°02.43' | S 4°56.95' | 129°02.37' | 324°08.10' | S 15°14.07' | **18** |
| **19** | 147°37.51' | 320°35.42' | S 13°50.14' | 150°45.46' | 317°27.47' | S 17°31.73' | 117°09.95' | 351°02.98' | S 4°56.72' | 144°04.59' | 324°08.34' | S 15°13.99' | **19** |
| **20** | 162°37.39' | 320°38.00' | S 13°49.60' | 165°46.03' | 317°29.37' | S 17°31.21' | 132°11.87' | 351°03.53' | S 4°56.49' | 159°06.81' | 324°08.58' | S 15°13.92' | **20** |
| **21** | 177°37.27' | 320°40.59' | S 13°49.05' | 180°46.59' | 317°31.27' | S 17°30.68' | 147°13.78' | 351°04.08' | S 4°56.26' | 174°09.04' | 324°08.82' | S 15°13.85' | **21** |
| **22** | 192°37.15' | 320°43.17' | S 13°48.50' | 195°47.16' | 317°33.16' | S 17°30.16' | 162°15.70' | 351°04.63' | S 4°56.03' | 189°11.26' | 324°09.07' | S 15°13.77' | **22** |
| **23** | 207°37.03' | 320°45.76' | S 13°47.96' | 210°47.73' | 317°35.06' | S 17°29.63' | 177°17.61' | 351°05.18' | S 4°55.80' | 204°13.48' | 324°09.31' | S 15°13.70' | **23** |
| **24** | 222°36.91' | 320°48.35' | S 13°47.41' | 225°48.30' | 317°36.96' | S 17°29.11' | 192°19.52' | 351°05.73' | S 4°55.57' | 219°15.71' | 324°09.55' | S 15°13.62' | **24** |
| | δ 14.9981° | | *d* 0.5293' | δ 15.0094° | | *d* 0.5179' | δ 15.0319° | | *d* 0.2306' | δ 15.0370° | | *d* 0.0742' | |

## *Saturday, March 26th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°32.83' | 15.0031° | 4°52.43' | N 2°06.55' | 0.9817' | 256°13.65' | 14.3852° | 287°11.61' | S 26°33.72' | 2.1147' | 59.1383' | 183°25.25' | **00** |
| **01** | 193°33.01' | 15.0031° | 4°54.70' | N 2°07.54' | 0.9816' | 270°36.79' | 14.3857° | 287°50.93' | S 26°31.43' | 2.2943' | 59.1317' | 198°27.72' | **01** |
| **02** | 208°33.20' | 15.0031° | 4°56.98' | N 2°08.52' | 0.9816' | 284°59.97' | 14.3863° | 288°30.22' | S 26°28.95' | 2.4735' | 59.1250' | 213°30.18' | **02** |
| **03** | 223°33.39' | 15.0031° | 4°59.25' | N 2°09.50' | 0.9815' | 299°23.18' | 14.3869° | 289°09.47' | S 26°26.30' | 2.6520' | 59.1182' | 228°32.65' | **03** |
| **04** | 238°33.58' | 15.0031° | 5°01.53' | N 2°10.48' | 0.9814' | 313°46.43' | 14.3876° | 289°48.68' | S 26°23.47' | 2.8300' | 59.1112' | 243°35.11' | **04** |
| **05** | 253°33.77' | 15.0031° | 5°03.81' | N 2°11.46' | 0.9813' | 328°09.73' | 14.3882° | 290°27.85' | S 26°20.46' | 3.0074' | 59.1041' | 258°37.57' | **05** |
| **06** | 268°33.96' | 15.0031° | 5°06.08' | N 2°12.44' | 0.9812' | 342°33.07' | 14.3890° | 291°06.97' | S 26°17.28' | 3.1840' | 59.0969' | 273°40.04' | **06** |
| **07** | 283°34.15' | 15.0031° | 5°08.36' | N 2°13.42' | 0.9812' | 356°56.45' | 14.3897° | 291°46.05' | S 26°13.92' | 3.3600' | 59.0896' | 288°42.50' | **07** |
| **08** | 298°34.33' | 15.0031° | 5°10.63' | N 2°14.40' | 0.9811' | 11°19.88' | 14.3905° | 292°25.09' | S 26°10.38' | 3.5353' | 59.0821' | 303°44.97' | **08** |
| **09** | 313°34.52' | 15.0031° | 5°12.91' | N 2°15.39' | 0.9810' | 25°43.36' | 14.3913° | 293°04.07' | S 26°06.67' | 3.7098' | 59.0745' | 318°47.43' | **09** |
| **10** | 328°34.71' | 15.0031° | 5°15.19' | N 2°16.37' | 0.9809' | 40°06.89' | 14.3922° | 293°43.01' | S 26°02.79' | 3.8835' | 59.0668' | 333°49.90' | **10** |
| **11** | 343°34.90' | 15.0031° | 5°17.46' | N 2°17.35' | 0.9809' | 54°30.47' | 14.3930° | 294°21.89' | S 25°58.73' | 4.0565' | 59.0590' | 348°52.36' | **11** |
| **12** | 358°35.09' | 15.0031° | 5°19.74' | N 2°18.33' | 0.9808' | 68°54.11' | 14.3939° | 295°00.72' | S 25°54.50' | 4.2285' | 59.0511' | 3°54.82' | **12** |
| **13** | 13°35.27' | 15.0031° | 5°22.01' | N 2°19.31' | 0.9807' | 83°17.80' | 14.3949° | 295°39.49' | S 25°50.10' | 4.3997' | 59.0430' | 18°57.29' | **13** |
| **14** | 28°35.46' | 15.0031° | 5°24.29' | N 2°20.29' | 0.9806' | 97°41.55' | 14.3958° | 296°18.20' | S 25°45.53' | 4.5700' | 59.0348' | 33°59.75' | **14** |
| **15** | 43°35.65' | 15.0031° | 5°26.56' | N 2°21.27' | 0.9805' | 112°05.36' | 14.3968° | 296°56.86' | S 25°40.80' | 4.7394' | 59.0265' | 49°02.22' | **15** |
| **16** | 58°35.84' | 15.0031° | 5°28.84' | N 2°22.25' | 0.9805' | 126°29.23' | 14.3979° | 297°35.45' | S 25°35.89' | 4.9078' | 59.0180' | 64°04.68' | **16** |
| **17** | 73°36.03' | 15.0031° | 5°31.12' | N 2°23.23' | 0.9804' | 140°53.17' | 14.3989° | 298°13.98' | S 25°30.81' | 5.0752' | 59.0095' | 79°07.14' | **17** |
| **18** | 88°36.22' | 15.0031° | 5°33.39' | N 2°24.21' | 0.9803' | 155°17.17' | 14.4000° | 298°52.44' | S 25°25.57' | 5.2416' | 59.0008' | 94°09.61' | **18** |
| **19** | 103°36.40' | 15.0031° | 5°35.67' | N 2°25.19' | 0.9802' | 169°41.23' | 14.4011° | 299°30.84' | S 25°20.16' | 5.4070' | 58.9920' | 109°12.07' | **19** |
| **20** | 118°36.59' | 15.0031° | 5°37.94' | N 2°26.17' | 0.9801' | 184°05.37' | 14.4022° | 300°09.17' | S 25°14.59' | 5.5713' | 58.9831' | 124°14.54' | **20** |
| **21** | 133°36.78' | 15.0031° | 5°40.22' | N 2°27.15' | 0.9800' | 198°29.57' | 14.4034° | 300°47.43' | S 25°08.86' | 5.7346' | 58.9740' | 139°17.00' | **21** |
| **22** | 148°36.97' | 15.0031° | 5°42.50' | N 2°28.13' | 0.9800' | 212°53.84' | 14.4046° | 301°25.62' | S 25°02.96' | 5.8967' | 58.9648' | 154°19.47' | **22** |
| **23** | 163°37.16' | 15.0031° | 5°44.77' | N 2°29.11' | 0.9799' | 227°18.19' | 14.4058° | 302°03.74' | S 24°56.90' | 6.0577' | 58.9555' | 169°21.93' | **23** |
| **24** | 178°37.35' | 15.0031° | 5°47.05' | N 2°30.09' | 0.9798' | 241°42.61' | 14.4070° | 302°41.79' | S 24°50.69' | 6.2175' | 58.9461' | 184°24.39' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0338' | hp (π) 0.1469' | ½Ø 16.0903' | 35.8573169924982<br>4% -cre |
| | EoT at 12:00 UTC : -5m 39s (δ 0.75 s/h) | | Phase at 12:00 UTC : 286.62° | |
| | Meridian Pass. Time : 12:05:39.653 | | Age : 22.3 day(s) | |

| UT | Venus ♀ (π 0.20') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°36.91' | 320°48.35' | S 13°47.41' | 225°48.30' | 317°36.96' | S 17°29.11' | 192°19.52' | 351°05.73' | S 4°55.57' | 219°15.71' | 324°09.55' | S 15°13.62' | **00** |
| **01** | 237°36.78' | 320°50.93' | S 13°46.86' | 240°48.86' | 317°38.85' | S 17°28.58' | 207°21.44' | 351°06.28' | S 4°55.34' | 234°17.93' | 324°09.79' | S 15°13.55' | **01** |
| **02** | 252°36.66' | 320°53.52' | S 13°46.31' | 255°49.43' | 317°40.75' | S 17°28.06' | 222°23.35' | 351°06.83' | S 4°55.11' | 249°20.15' | 324°10.03' | S 15°13.48' | **02** |
| **03** | 267°36.54' | 320°56.11' | S 13°45.76' | 270°50.00' | 317°42.65' | S 17°27.53' | 237°25.27' | 351°07.38' | S 4°54.88' | 264°22.38' | 324°10.27' | S 15°13.40' | **03** |
| **04** | 282°36.41' | 320°58.70' | S 13°45.21' | 285°50.57' | 317°44.54' | S 17°27.01' | 252°27.18' | 351°07.93' | S 4°54.65' | 279°24.60' | 324°10.51' | S 15°13.33' | **04** |
| **05** | 297°36.29' | 321°01.28' | S 13°44.66' | 300°51.14' | 317°46.44' | S 17°26.48' | 267°29.10' | 351°08.48' | S 4°54.42' | 294°26.82' | 324°10.75' | S 15°13.26' | **05** |
| **06** | 312°36.17' | 321°03.87' | S 13°44.11' | 315°51.70' | 317°48.33' | S 17°25.96' | 282°31.01' | 351°09.02' | S 4°54.19' | 309°29.05' | 324°10.99' | S 15°13.18' | **06** |
| **07** | 327°36.04' | 321°06.46' | S 13°43.56' | 330°52.27' | 317°50.23' | S 17°25.43' | 297°32.93' | 351°09.57' | S 4°53.96' | 324°31.27' | 324°11.23' | S 15°13.11' | **07** |
| **08** | 342°35.92' | 321°09.05' | S 13°43.00' | 345°52.84' | 317°52.12' | S 17°24.90' | 312°34.84' | 351°10.12' | S 4°53.73' | 339°33.49' | 324°11.47' | S 15°13.04' | **08** |
| **09** | 357°35.79' | 321°11.64' | S 13°42.45' | 0°53.41' | 317°54.02' | S 17°24.37' | 327°36.76' | 351°10.67' | S 4°53.50' | 354°35.72' | 324°11.71' | S 15°12.96' | **09** |
| **10** | 12°35.67' | 321°14.23' | S 13°41.89' | 15°53.98' | 317°55.91' | S 17°23.85' | 342°38.67' | 351°11.22' | S 4°53.27' | 9°37.94' | 324°11.95' | S 15°12.89' | **10** |
| **11** | 27°35.54' | 321°16.82' | S 13°41.34' | 30°54.55' | 317°57.81' | S 17°23.32' | 357°40.59' | 351°11.77' | S 4°53.04' | 24°40.17' | 324°12.19' | S 15°12.82' | **11** |
| **12** | 42°35.42' | 321°19.41' | S 13°40.78' | 45°55.12' | 317°59.70' | S 17°22.79' | 12°42.51' | 351°12.32' | S 4°52.81' | 39°42.39' | 324°12.43' | S 15°12.74' | **12** |
| **13** | 57°35.29' | 321°22.00' | S 13°40.22' | 60°55.69' | 318°01.60' | S 17°22.26' | 27°44.42' | 351°12.87' | S 4°52.58' | 54°44.62' | 324°12.67' | S 15°12.67' | **13** |
| **14** | 72°35.16' | 321°24.59' | S 13°39.67' | 75°56.26' | 318°03.49' | S 17°21.73' | 42°46.34' | 351°13.42' | S 4°52.35' | 69°46.84' | 324°12.91' | S 15°12.60' | **14** |
| **15** | 87°35.04' | 321°27.18' | S 13°39.11' | 90°56.83' | 318°05.39' | S 17°21.20' | 57°48.25' | 351°13.96' | S 4°52.12' | 84°49.06' | 324°13.15' | S 15°12.53' | **15** |
| **16** | 102°34.91' | 321°29.77' | S 13°38.55' | 105°57.40' | 318°07.28' | S 17°20.68' | 72°50.17' | 351°14.51' | S 4°51.89' | 99°51.29' | 324°13.39' | S 15°12.45' | **16** |
| **17** | 117°34.78' | 321°32.36' | S 13°37.99' | 120°57.97' | 318°09.18' | S 17°20.15' | 87°52.08' | 351°15.06' | S 4°51.66' | 114°53.51' | 324°13.63' | S 15°12.38' | **17** |
| **18** | 132°34.65' | 321°34.95' | S 13°37.42' | 135°58.54' | 318°11.07' | S 17°19.62' | 102°54.00' | 351°15.61' | S 4°51.43' | 129°55.74' | 324°13.87' | S 15°12.31' | **18** |
| **19** | 147°34.53' | 321°37.55' | S 13°36.86' | 150°59.11' | 318°12.96' | S 17°19.09' | 117°55.91' | 351°16.16' | S 4°51.20' | 144°57.96' | 324°14.11' | S 15°12.23' | **19** |
| **20** | 162°34.40' | 321°40.14' | S 13°36.30' | 165°59.68' | 318°14.86' | S 17°18.55' | 132°57.83' | 351°16.71' | S 4°50.97' | 160°00.19' | 324°14.35' | S 15°12.16' | **20** |
| **21** | 177°34.27' | 321°42.73' | S 13°35.74' | 181°00.25' | 318°16.75' | S 17°18.02' | 147°59.75' | 351°17.26' | S 4°50.74' | 175°02.41' | 324°14.59' | S 15°12.09' | **21** |
| **22** | 192°34.14' | 321°45.32' | S 13°35.17' | 196°00.82' | 318°18.64' | S 17°17.49' | 163°01.66' | 351°17.80' | S 4°50.51' | 190°04.64' | 324°14.83' | S 15°12.01' | **22** |
| **23** | 207°34.01' | 321°47.92' | S 13°34.61' | 211°01.39' | 318°20.54' | S 17°16.96' | 178°03.58' | 351°18.35' | S 4°50.28' | 205°06.87' | 324°15.06' | S 15°11.94' | **23** |
| **24** | 222°33.88' | 321°50.51' | S 13°34.04' | 226°01.96' | 318°22.43' | S 17°16.43' | 193°05.49' | 351°18.90' | S 4°50.05' | 220°09.09' | 324°15.30' | S 15°11.87' | **24** |
| | δ 14.9980° | | *d* 0.5481' | δ 15.0095° | | *d* 0.5250' | δ 15.0319° | | *d* 0.2303' | δ 15.0371° | | *d* 0.0735' | |

## *Sunday, March 27th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°37.35' | 15.0031° | 5°47.05' | N 2°30.09' | 0.9798' | 241°42.61' | 14.4070° | 302°41.79' | S 24°50.69' | 6.2175' | 58.9461' | 184°24.39' | **00** |
| **01** | 193°37.53' | 15.0031° | 5°49.32' | N 2°31.07' | 0.9797' | 256°07.10' | 14.4082° | 303°19.76' | S 24°44.31' | 6.3762' | 58.9366' | 199°26.86' | **01** |
| **02** | 208°37.72' | 15.0031° | 5°51.60' | N 2°32.05' | 0.9796' | 270°31.67' | 14.4095° | 303°57.65' | S 24°37.78' | 6.5337' | 58.9269' | 214°29.32' | **02** |
| **03** | 223°37.91' | 15.0031° | 5°53.88' | N 2°33.03' | 0.9795' | 284°56.32' | 14.4108° | 304°35.47' | S 24°31.09' | 6.6899' | 58.9171' | 229°31.79' | **03** |
| **04** | 238°38.10' | 15.0031° | 5°56.15' | N 2°34.01' | 0.9794' | 299°21.04' | 14.4121° | 305°13.21' | S 24°24.24' | 6.8449' | 58.9072' | 244°34.25' | **04** |
| **05** | 253°38.29' | 15.0031° | 5°58.43' | N 2°34.99' | 0.9794' | 313°45.84' | 14.4134° | 305°50.87' | S 24°17.24' | 6.9987' | 58.8971' | 259°36.71' | **05** |
| **06** | 268°38.48' | 15.0031° | 6°00.70' | N 2°35.97' | 0.9793' | 328°10.73' | 14.4147° | 306°28.45' | S 24°10.09' | 7.1512' | 58.8870' | 274°39.18' | **06** |
| **07** | 283°38.66' | 15.0031° | 6°02.98' | N 2°36.95' | 0.9792' | 342°35.70' | 14.4161° | 307°05.95' | S 24°02.79' | 7.3024' | 58.8767' | 289°41.64' | **07** |
| **08** | 298°38.85' | 15.0031° | 6°05.26' | N 2°37.93' | 0.9791' | 357°00.75' | 14.4175° | 307°43.36' | S 23°55.34' | 7.4522' | 58.8663' | 304°44.11' | **08** |
| **09** | 313°39.04' | 15.0031° | 6°07.53' | N 2°38.91' | 0.9790' | 11°25.88' | 14.4189° | 308°20.69' | S 23°47.74' | 7.6008' | 58.8557' | 319°46.57' | **09** |
| **10** | 328°39.23' | 15.0031° | 6°09.81' | N 2°39.88' | 0.9789' | 25°51.10' | 14.4203° | 308°57.94' | S 23°39.99' | 7.7480' | 58.8451' | 334°49.03' | **10** |
| **11** | 343°39.42' | 15.0031° | 6°12.08' | N 2°40.86' | 0.9788' | 40°16.40' | 14.4217° | 309°35.10' | S 23°32.09' | 7.8938' | 58.8343' | 349°51.50' | **11** |
| **12** | 358°39.60' | 15.0031° | 6°14.36' | N 2°41.84' | 0.9787' | 54°41.79' | 14.4232° | 310°12.18' | S 23°24.06' | 8.0383' | 58.8234' | 4°53.96' | **12** |
| **13** | 13°39.79' | 15.0031° | 6°16.64' | N 2°42.82' | 0.9786' | 69°07.26' | 14.4246° | 310°49.16' | S 23°15.87' | 8.1813' | 58.8123' | 19°56.43' | **13** |
| **14** | 28°39.98' | 15.0031° | 6°18.91' | N 2°43.80' | 0.9785' | 83°32.83' | 14.4261° | 311°26.06' | S 23°07.55' | 8.3230' | 58.8012' | 34°58.89' | **14** |
| **15** | 43°40.17' | 15.0031° | 6°21.19' | N 2°44.78' | 0.9785' | 97°58.48' | 14.4275° | 312°02.87' | S 22°59.09' | 8.4633' | 58.7899' | 50°01.36' | **15** |
| **16** | 58°40.36' | 15.0031° | 6°23.46' | N 2°45.76' | 0.9784' | 112°24.22' | 14.4290° | 312°39.60' | S 22°50.49' | 8.6021' | 58.7785' | 65°03.82' | **16** |
| **17** | 73°40.54' | 15.0031° | 6°25.74' | N 2°46.73' | 0.9783' | 126°50.05' | 14.4305° | 313°16.23' | S 22°41.75' | 8.7394' | 58.7669' | 80°06.28' | **17** |
| **18** | 88°40.73' | 15.0031° | 6°28.02' | N 2°47.71' | 0.9782' | 141°15.98' | 14.4320° | 313°52.77' | S 22°32.87' | 8.8754' | 58.7553' | 95°08.75' | **18** |
| **19** | 103°40.92' | 15.0031° | 6°30.29' | N 2°48.69' | 0.9781' | 155°41.99' | 14.4336° | 314°29.22' | S 22°23.86' | 9.0098' | 58.7435' | 110°11.21' | **19** |
| **20** | 118°41.11' | 15.0031° | 6°32.57' | N 2°49.67' | 0.9780' | 170°08.09' | 14.4351° | 315°05.58' | S 22°14.72' | 9.1428' | 58.7315' | 125°13.68' | **20** |
| **21** | 133°41.30' | 15.0031° | 6°34.84' | N 2°50.65' | 0.9779' | 184°34.29' | 14.4366° | 315°41.85' | S 22°05.44' | 9.2743' | 58.7195' | 140°16.14' | **21** |
| **22** | 148°41.48' | 15.0031° | 6°37.12' | N 2°51.62' | 0.9778' | 199°00.58' | 14.4381° | 316°18.02' | S 21°56.04' | 9.4043' | 58.7073' | 155°18.60' | **22** |
| **23** | 163°41.67' | 15.0031° | 6°39.40' | N 2°52.60' | 0.9777' | 213°26.96' | 14.4397° | 316°54.11' | S 21°46.51' | 9.5328' | 58.6950' | 170°21.07' | **23** |
| **24** | 178°41.86' | 15.0031° | 6°41.67' | N 2°53.58' | 0.9776' | 227°53.44' | 14.4412° | 317°30.10' | S 21°36.85' | 9.6597' | 58.6826' | 185°23.53' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0291' | hp (π) 0.1469' | ½Ø 16.0282' | 25.4218349347966<br>7% -cre |
| | EoT at 12:00 UTC : -5m 21s (δ 0.75 s/h) | | Phase at 12:00 UTC : 299.69° | |
| | Meridian Pass. Time : 12:05:21.585 | | Age : 23.3 day(s) | |

| UT | Venus ♀ (π 0.20') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°33.88' | 321°50.51' | S 13°34.04' | 226°01.96' | 318°22.43' | S 17°16.43' | 193°05.49' | 351°18.90' | S 4°50.05' | 220°09.09' | 324°15.30' | S 15°11.87' | **00** |
| **01** | 237°33.75' | 321°53.10' | S 13°33.47' | 241°02.54' | 318°24.32' | S 17°15.90' | 208°07.41' | 351°19.45' | S 4°49.82' | 235°11.32' | 324°15.54' | S 15°11.80' | **01** |
| **02** | 252°33.62' | 321°55.70' | S 13°32.91' | 256°03.11' | 318°26.21' | S 17°15.37' | 223°09.32' | 351°20.00' | S 4°49.59' | 250°13.54' | 324°15.78' | S 15°11.72' | **02** |
| **03** | 267°33.49' | 321°58.29' | S 13°32.34' | 271°03.68' | 318°28.11' | S 17°14.83' | 238°11.24' | 351°20.55' | S 4°49.36' | 265°15.77' | 324°16.02' | S 15°11.65' | **03** |
| **04** | 282°33.36' | 322°00.89' | S 13°31.77' | 286°04.25' | 318°30.00' | S 17°14.30' | 253°13.16' | 351°21.09' | S 4°49.13' | 280°17.99' | 324°16.26' | S 15°11.58' | **04** |
| **05** | 297°33.23' | 322°03.48' | S 13°31.20' | 301°04.82' | 318°31.89' | S 17°13.77' | 268°15.07' | 351°21.64' | S 4°48.90' | 295°20.22' | 324°16.50' | S 15°11.51' | **05** |
| **06** | 312°33.10' | 322°06.08' | S 13°30.63' | 316°05.39' | 318°33.78' | S 17°13.23' | 283°16.99' | 351°22.19' | S 4°48.67' | 310°22.45' | 324°16.73' | S 15°11.43' | **06** |
| **07** | 327°32.97' | 322°08.67' | S 13°30.06' | 331°05.97' | 318°35.68' | S 17°12.70' | 298°18.90' | 351°22.74' | S 4°48.44' | 325°24.67' | 324°16.97' | S 15°11.36' | **07** |
| **08** | 342°32.84' | 322°11.27' | S 13°29.48' | 346°06.54' | 318°37.57' | S 17°12.17' | 313°20.82' | 351°23.29' | S 4°48.21' | 340°26.90' | 324°17.21' | S 15°11.29' | **08** |
| **09** | 357°32.71' | 322°13.86' | S 13°28.91' | 1°07.11' | 318°39.46' | S 17°11.63' | 328°22.74' | 351°23.83' | S 4°47.98' | 355°29.12' | 324°17.45' | S 15°11.21' | **09** |
| **10** | 12°32.57' | 322°16.46' | S 13°28.34' | 16°07.69' | 318°41.35' | S 17°11.10' | 343°24.65' | 351°24.38' | S 4°47.75' | 10°31.35' | 324°17.68' | S 15°11.14' | **10** |
| **11** | 27°32.44' | 322°19.06' | S 13°27.76' | 31°08.26' | 318°43.24' | S 17°10.56' | 358°26.57' | 351°24.93' | S 4°47.52' | 25°33.58' | 324°17.92' | S 15°11.07' | **11** |
| **12** | 42°32.31' | 322°21.65' | S 13°27.19' | 46°08.83' | 318°45.13' | S 17°10.03' | 13°28.49' | 351°25.48' | S 4°47.29' | 40°35.80' | 324°18.16' | S 15°11.00' | **12** |
| **13** | 57°32.18' | 322°24.25' | S 13°26.61' | 61°09.40' | 318°47.02' | S 17°09.49' | 28°30.40' | 351°26.02' | S 4°47.06' | 55°38.03' | 324°18.40' | S 15°10.92' | **13** |
| **14** | 72°32.04' | 322°26.85' | S 13°26.04' | 76°09.98' | 318°48.91' | S 17°08.96' | 43°32.32' | 351°26.57' | S 4°46.83' | 70°40.26' | 324°18.63' | S 15°10.85' | **14** |
| **15** | 87°31.91' | 322°29.45' | S 13°25.46' | 91°10.55' | 318°50.80' | S 17°08.42' | 58°34.24' | 351°27.12' | S 4°46.60' | 85°42.48' | 324°18.87' | S 15°10.78' | **15** |
| **16** | 102°31.78' | 322°32.04' | S 13°24.88' | 106°11.12' | 318°52.69' | S 17°07.89' | 73°36.15' | 351°27.67' | S 4°46.37' | 100°44.71' | 324°19.11' | S 15°10.71' | **16** |
| **17** | 117°31.64' | 322°34.64' | S 13°24.30' | 121°11.70' | 318°54.59' | S 17°07.35' | 88°38.07' | 351°28.21' | S 4°46.14' | 115°46.94' | 324°19.35' | S 15°10.64' | **17** |
| **18** | 132°31.51' | 322°37.24' | S 13°23.72' | 136°12.27' | 318°56.48' | S 17°06.81' | 103°39.99' | 351°28.76' | S 4°45.92' | 130°49.17' | 324°19.58' | S 15°10.56' | **18** |
| **19** | 147°31.37' | 322°39.84' | S 13°23.14' | 151°12.85' | 318°58.37' | S 17°06.27' | 118°41.90' | 351°29.31' | S 4°45.69' | 145°51.39' | 324°19.82' | S 15°10.49' | **19** |
| **20** | 162°31.24' | 322°42.44' | S 13°22.56' | 166°13.42' | 319°00.26' | S 17°05.74' | 133°43.82' | 351°29.86' | S 4°45.46' | 160°53.62' | 324°20.06' | S 15°10.42' | **20** |
| **21** | 177°31.10' | 322°45.04' | S 13°21.98' | 181°14.00' | 319°02.14' | S 17°05.20' | 148°45.74' | 351°30.40' | S 4°45.23' | 175°55.85' | 324°20.29' | S 15°10.35' | **21** |
| **22** | 192°30.97' | 322°47.63' | S 13°21.39' | 196°14.57' | 319°04.03' | S 17°04.66' | 163°47.65' | 351°30.95' | S 4°45.00' | 190°58.07' | 324°20.53' | S 15°10.27' | **22** |
| **23** | 207°30.83' | 322°50.23' | S 13°20.81' | 211°15.14' | 319°05.92' | S 17°04.12' | 178°49.57' | 351°31.50' | S 4°44.77' | 206°00.30' | 324°20.77' | S 15°10.20' | **23** |
| **24** | 222°30.70' | 322°52.83' | S 13°20.23' | 226°15.72' | 319°07.81' | S 17°03.59' | 193°51.49' | 351°32.05' | S 4°44.54' | 221°02.53' | 324°21.00' | S 15°10.13' | **24** |
| | δ 14.9978° | | *d* 0.5668' | δ 15.0095° | | *d* 0.5319' | δ 15.0319° | | *d* 0.2299' | δ 15.0371° | | *d* 0.0728' | |

## *Monday, March 28th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°41.86' | 15.0031° | 6°41.67' | N 2°53.58' | 0.9776' | 227°53.44' | 14.4412° | 317°30.10' | S 21°36.85' | 9.6597' | 58.6826' | 185°23.53' | **00** |
| **01** | 193°42.05' | 15.0031° | 6°43.95' | N 2°54.56' | 0.9775' | 242°20.00' | 14.4428° | 318°05.99' | S 21°27.06' | 9.7852' | 58.6700' | 200°26.00' | **01** |
| **02** | 208°42.24' | 15.0031° | 6°46.23' | N 2°55.53' | 0.9774' | 256°46.67' | 14.4444° | 318°41.80' | S 21°17.15' | 9.9091' | 58.6573' | 215°28.46' | **02** |
| **03** | 223°42.42' | 15.0031° | 6°48.50' | N 2°56.51' | 0.9773' | 271°13.42' | 14.4459° | 319°17.50' | S 21°07.12' | 10.0315' | 58.6445' | 230°30.93' | **03** |
| **04** | 238°42.61' | 15.0031° | 6°50.78' | N 2°57.49' | 0.9772' | 285°40.27' | 14.4475° | 319°53.12' | S 20°56.97' | 10.1524' | 58.6316' | 245°33.39' | **04** |
| **05** | 253°42.80' | 15.0031° | 6°53.05' | N 2°58.47' | 0.9771' | 300°07.21' | 14.4491° | 320°28.64' | S 20°46.70' | 10.2717' | 58.6185' | 260°35.85' | **05** |
| **06** | 268°42.99' | 15.0031° | 6°55.33' | N 2°59.44' | 0.9770' | 314°34.25' | 14.4506° | 321°04.07' | S 20°36.31' | 10.3895' | 58.6053' | 275°38.32' | **06** |
| **07** | 283°43.17' | 15.0031° | 6°57.61' | N 3°00.42' | 0.9769' | 329°01.38' | 14.4522° | 321°39.40' | S 20°25.80' | 10.5057' | 58.5920' | 290°40.78' | **07** |
| **08** | 298°43.36' | 15.0031° | 6°59.88' | N 3°01.40' | 0.9768' | 343°28.61' | 14.4538° | 322°14.64' | S 20°15.18' | 10.6204' | 58.5785' | 305°43.25' | **08** |
| **09** | 313°43.55' | 15.0031° | 7°02.16' | N 3°02.37' | 0.9767' | 357°55.93' | 14.4553° | 322°49.78' | S 20°04.45' | 10.7335' | 58.5649' | 320°45.71' | **09** |
| **10** | 328°43.74' | 15.0031° | 7°04.44' | N 3°03.35' | 0.9766' | 12°23.34' | 14.4569° | 323°24.83' | S 19°53.60' | 10.8450' | 58.5512' | 335°48.17' | **10** |
| **11** | 343°43.93' | 15.0031° | 7°06.71' | N 3°04.33' | 0.9765' | 26°50.85' | 14.4585° | 323°59.78' | S 19°42.65' | 10.9549' | 58.5374' | 350°50.64' | **11** |
| **12** | 358°44.11' | 15.0031° | 7°08.99' | N 3°05.30' | 0.9764' | 41°18.46' | 14.4601° | 324°34.65' | S 19°31.59' | 11.0633' | 58.5234' | 5°53.10' | **12** |
| **13** | 13°44.30' | 15.0031° | 7°11.27' | N 3°06.28' | 0.9763' | 55°46.15' | 14.4616° | 325°09.41' | S 19°20.41' | 11.1701' | 58.5093' | 20°55.57' | **13** |
| **14** | 28°44.49' | 15.0031° | 7°13.54' | N 3°07.26' | 0.9762' | 70°13.94' | 14.4632° | 325°44.09' | S 19°09.14' | 11.2754' | 58.4950' | 35°58.03' | **14** |
| **15** | 43°44.68' | 15.0031° | 7°15.82' | N 3°08.23' | 0.9761' | 84°41.83' | 14.4647° | 326°18.66' | S 18°57.76' | 11.3790' | 58.4807' | 51°00.49' | **15** |
| **16** | 58°44.86' | 15.0031° | 7°18.09' | N 3°09.21' | 0.9760' | 99°09.81' | 14.4663° | 326°53.15' | S 18°46.28' | 11.4811' | 58.4662' | 66°02.96' | **16** |
| **17** | 73°45.05' | 15.0031° | 7°20.37' | N 3°10.18' | 0.9759' | 113°37.88' | 14.4679° | 327°27.54' | S 18°34.70' | 11.5816' | 58.4516' | 81°05.42' | **17** |
| **18** | 88°45.24' | 15.0031° | 7°22.65' | N 3°11.16' | 0.9758' | 128°06.04' | 14.4694° | 328°01.84' | S 18°23.02' | 11.6805' | 58.4368' | 96°07.89' | **18** |
| **19** | 103°45.43' | 15.0031° | 7°24.92' | N 3°12.14' | 0.9757' | 142°34.30' | 14.4709° | 328°36.05' | S 18°11.24' | 11.7779' | 58.4219' | 111°10.35' | **19** |
| **20** | 118°45.61' | 15.0031° | 7°27.20' | N 3°13.11' | 0.9756' | 157°02.65' | 14.4725° | 329°10.17' | S 17°59.37' | 11.8736' | 58.4069' | 126°12.81' | **20** |
| **21** | 133°45.80' | 15.0031° | 7°29.48' | N 3°14.09' | 0.9755' | 171°31.09' | 14.4740° | 329°44.19' | S 17°47.40' | 11.9678' | 58.3918' | 141°15.28' | **21** |
| **22** | 148°45.99' | 15.0031° | 7°31.75' | N 3°15.06' | 0.9754' | 185°59.62' | 14.4755° | 330°18.12' | S 17°35.34' | 12.0604' | 58.3765' | 156°17.74' | **22** |
| **23** | 163°46.18' | 15.0031° | 7°34.03' | N 3°16.04' | 0.9753' | 200°28.24' | 14.4770° | 330°51.96' | S 17°23.19' | 12.1515' | 58.3611' | 171°20.21' | **23** |
| **24** | 178°46.36' | 15.0031° | 7°36.31' | N 3°17.01' | 0.9752' | 214°56.96' | 14.4786° | 331°25.72' | S 17°10.95' | 12.2409' | 58.3456' | 186°22.67' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0244' | hp (π) 0.1468' | ½Ø 15.9465' | 16.3157757059182<br>38% -cre |
| | EoT at 12:00 UTC : -5m 3s (δ 0.75 s/h) | | Phase at 12:00 UTC : 312.67° | |
| | Meridian Pass. Time : 12:05:03.547 | | Age : 24.3 day(s) | |

| UT | Venus ♀ (π 0.20') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°30.70' | 322°52.83' | S 13°20.23' | 226°15.72' | 319°07.81' | S 17°03.59' | 193°51.49' | 351°32.05' | S 4°44.54' | 221°02.53' | 324°21.00' | S 15°10.13' | **00** |
| **01** | 237°30.56' | 322°55.43' | S 13°19.64' | 241°16.29' | 319°09.70' | S 17°03.05' | 208°53.40' | 351°32.59' | S 4°44.31' | 236°04.76' | 324°21.24' | S 15°10.06' | **01** |
| **02** | 252°30.43' | 322°58.03' | S 13°19.06' | 256°16.87' | 319°11.59' | S 17°02.51' | 223°55.32' | 351°33.14' | S 4°44.08' | 251°06.99' | 324°21.48' | S 15°09.99' | **02** |
| **03** | 267°30.29' | 323°00.64' | S 13°18.47' | 271°17.45' | 319°13.48' | S 17°01.97' | 238°57.24' | 351°33.69' | S 4°43.85' | 266°09.21' | 324°21.71' | S 15°09.91' | **03** |
| **04** | 282°30.15' | 323°03.24' | S 13°17.88' | 286°18.02' | 319°15.37' | S 17°01.43' | 253°59.16' | 351°34.23' | S 4°43.62' | 281°11.44' | 324°21.95' | S 15°09.84' | **04** |
| **05** | 297°30.02' | 323°05.84' | S 13°17.29' | 301°18.60' | 319°17.26' | S 17°00.89' | 269°01.07' | 351°34.78' | S 4°43.39' | 296°13.67' | 324°22.18' | S 15°09.77' | **05** |
| **06** | 312°29.88' | 323°08.44' | S 13°16.70' | 316°19.17' | 319°19.14' | S 17°00.35' | 284°02.99' | 351°35.33' | S 4°43.16' | 311°15.90' | 324°22.42' | S 15°09.70' | **06** |
| **07** | 327°29.74' | 323°11.04' | S 13°16.11' | 331°19.75' | 319°21.03' | S 16°59.81' | 299°04.91' | 351°35.87' | S 4°42.93' | 326°18.13' | 324°22.65' | S 15°09.63' | **07** |
| **08** | 342°29.60' | 323°13.64' | S 13°15.52' | 346°20.32' | 319°22.92' | S 16°59.27' | 314°06.82' | 351°36.42' | S 4°42.70' | 341°20.36' | 324°22.89' | S 15°09.55' | **08** |
| **09** | 357°29.47' | 323°16.24' | S 13°14.93' | 1°20.90' | 319°24.81' | S 16°58.73' | 329°08.74' | 351°36.97' | S 4°42.47' | 356°22.58' | 324°23.13' | S 15°09.48' | **09** |
| **10** | 12°29.33' | 323°18.85' | S 13°14.34' | 16°21.48' | 319°26.70' | S 16°58.18' | 344°10.66' | 351°37.51' | S 4°42.24' | 11°24.81' | 324°23.36' | S 15°09.41' | **10** |
| **11** | 27°29.19' | 323°21.45' | S 13°13.75' | 31°22.05' | 319°28.58' | S 16°57.64' | 359°12.58' | 351°38.06' | S 4°42.01' | 26°27.04' | 324°23.60' | S 15°09.34' | **11** |
| **12** | 42°29.05' | 323°24.05' | S 13°13.15' | 46°22.63' | 319°30.47' | S 16°57.10' | 14°14.50' | 351°38.61' | S 4°41.79' | 41°29.27' | 324°23.83' | S 15°09.27' | **12** |
| **13** | 57°28.91' | 323°26.65' | S 13°12.56' | 61°23.21' | 319°32.36' | S 16°56.56' | 29°16.41' | 351°39.15' | S 4°41.56' | 56°31.50' | 324°24.07' | S 15°09.20' | **13** |
| **14** | 72°28.77' | 323°29.26' | S 13°11.97' | 76°23.78' | 319°34.25' | S 16°56.02' | 44°18.33' | 351°39.70' | S 4°41.33' | 71°33.73' | 324°24.30' | S 15°09.12' | **14** |
| **15** | 87°28.63' | 323°31.86' | S 13°11.37' | 91°24.36' | 319°36.13' | S 16°55.47' | 59°20.25' | 351°40.25' | S 4°41.10' | 86°35.96' | 324°24.54' | S 15°09.05' | **15** |
| **16** | 102°28.49' | 323°34.46' | S 13°10.77' | 106°24.94' | 319°38.02' | S 16°54.93' | 74°22.17' | 351°40.79' | S 4°40.87' | 101°38.19' | 324°24.77' | S 15°08.98' | **16** |
| **17** | 117°28.35' | 323°37.07' | S 13°10.18' | 121°25.52' | 319°39.91' | S 16°54.39' | 89°24.08' | 351°41.34' | S 4°40.64' | 116°40.42' | 324°25.01' | S 15°08.91' | **17** |
| **18** | 132°28.21' | 323°39.67' | S 13°09.58' | 136°26.09' | 319°41.79' | S 16°53.84' | 104°26.00' | 351°41.88' | S 4°40.41' | 131°42.65' | 324°25.24' | S 15°08.84' | **18** |
| **19** | 147°28.07' | 323°42.28' | S 13°08.98' | 151°26.67' | 319°43.68' | S 16°53.30' | 119°27.92' | 351°42.43' | S 4°40.18' | 146°44.88' | 324°25.47' | S 15°08.77' | **19** |
| **20** | 162°27.93' | 323°44.88' | S 13°08.38' | 166°27.25' | 319°45.56' | S 16°52.76' | 134°29.84' | 351°42.98' | S 4°39.95' | 161°47.11' | 324°25.71' | S 15°08.69' | **20** |
| **21** | 177°27.79' | 323°47.49' | S 13°07.78' | 181°27.83' | 319°47.45' | S 16°52.21' | 149°31.76' | 351°43.52' | S 4°39.72' | 176°49.34' | 324°25.94' | S 15°08.62' | **21** |
| **22** | 192°27.65' | 323°50.09' | S 13°07.18' | 196°28.41' | 319°49.34' | S 16°51.67' | 164°33.67' | 351°44.07' | S 4°39.49' | 191°51.57' | 324°26.18' | S 15°08.55' | **22** |
| **23** | 207°27.51' | 323°52.70' | S 13°06.58' | 211°28.98' | 319°51.22' | S 16°51.12' | 179°35.59' | 351°44.62' | S 4°39.26' | 206°53.80' | 324°26.41' | S 15°08.48' | **23** |
| **24** | 222°27.37' | 323°55.30' | S 13°05.97' | 226°29.56' | 319°53.11' | S 16°50.58' | 194°37.51' | 351°45.16' | S 4°39.03' | 221°56.03' | 324°26.65' | S 15°08.41' | **24** |
| | δ 14.9977° | | *d* 0.5851' | δ 15.0096° | | *d* 0.5388' | δ 15.0320° | | *d* 0.2295' | δ 15.0371° | | *d* 0.0721' | |

## *Tuesday, March 29th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°46.36' | 15.0031° | 7°36.31' | N 3°17.01' | 0.9752' | 214°56.96' | 14.4786° | 331°25.72' | S 17°10.95' | 12.2409' | 58.3456' | 186°22.67' | **00** |
| **01** | 193°46.55' | 15.0031° | 7°38.58' | N 3°17.99' | 0.9751' | 229°25.76' | 14.4801° | 331°59.38' | S 16°58.62' | 12.3288' | 58.3299' | 201°25.14' | **01** |
| **02** | 208°46.74' | 15.0031° | 7°40.86' | N 3°18.96' | 0.9750' | 243°54.65' | 14.4815° | 332°32.95' | S 16°46.20' | 12.4152' | 58.3141' | 216°27.60' | **02** |
| **03** | 223°46.93' | 15.0031° | 7°43.14' | N 3°19.94' | 0.9749' | 258°23.63' | 14.4830° | 333°06.43' | S 16°33.70' | 12.4999' | 58.2982' | 231°30.06' | **03** |
| **04** | 238°47.11' | 15.0031° | 7°45.41' | N 3°20.91' | 0.9747' | 272°52.70' | 14.4845° | 333°39.82' | S 16°21.12' | 12.5831' | 58.2822' | 246°32.53' | **04** |
| **05** | 253°47.30' | 15.0031° | 7°47.69' | N 3°21.89' | 0.9746' | 287°21.86' | 14.4860° | 334°13.13' | S 16°08.45' | 12.6647' | 58.2660' | 261°34.99' | **05** |
| **06** | 268°47.49' | 15.0031° | 7°49.97' | N 3°22.86' | 0.9745' | 301°51.11' | 14.4874° | 334°46.35' | S 15°55.71' | 12.7448' | 58.2497' | 276°37.46' | **06** |
| **07** | 283°47.67' | 15.0031° | 7°52.24' | N 3°23.84' | 0.9744' | 316°20.44' | 14.4889° | 335°19.48' | S 15°42.89' | 12.8233' | 58.2333' | 291°39.92' | **07** |
| **08** | 298°47.86' | 15.0031° | 7°54.52' | N 3°24.81' | 0.9743' | 330°49.86' | 14.4903° | 335°52.53' | S 15°29.99' | 12.9003' | 58.2167' | 306°42.38' | **08** |
| **09** | 313°48.05' | 15.0031° | 7°56.80' | N 3°25.78' | 0.9742' | 345°19.36' | 14.4917° | 336°25.49' | S 15°17.01' | 12.9757' | 58.2000' | 321°44.85' | **09** |
| **10** | 328°48.24' | 15.0031° | 7°59.08' | N 3°26.76' | 0.9741' | 359°48.95' | 14.4931° | 336°58.36' | S 15°03.96' | 13.0496' | 58.1832' | 336°47.31' | **10** |
| **11** | 343°48.42' | 15.0031° | 8°01.35' | N 3°27.73' | 0.9740' | 14°18.62' | 14.4945° | 337°31.15' | S 14°50.84' | 13.1220' | 58.1663' | 351°49.78' | **11** |
| **12** | 358°48.61' | 15.0031° | 8°03.63' | N 3°28.71' | 0.9739' | 28°48.38' | 14.4959° | 338°03.86' | S 14°37.64' | 13.1928' | 58.1492' | 6°52.24' | **12** |
| **13** | 13°48.80' | 15.0031° | 8°05.91' | N 3°29.68' | 0.9738' | 43°18.22' | 14.4973° | 338°36.49' | S 14°24.38' | 13.2621' | 58.1320' | 21°54.70' | **13** |
| **14** | 28°48.98' | 15.0031° | 8°08.18' | N 3°30.65' | 0.9736' | 57°48.14' | 14.4987° | 339°09.03' | S 14°11.05' | 13.3298' | 58.1147' | 36°57.17' | **14** |
| **15** | 43°49.17' | 15.0031° | 8°10.46' | N 3°31.63' | 0.9735' | 72°18.14' | 14.5000° | 339°41.50' | S 13°57.66' | 13.3961' | 58.0972' | 51°59.63' | **15** |
| **16** | 58°49.36' | 15.0031° | 8°12.74' | N 3°32.60' | 0.9734' | 86°48.22' | 14.5014° | 340°13.88' | S 13°44.20' | 13.4608' | 58.0796' | 67°02.10' | **16** |
| **17** | 73°49.55' | 15.0031° | 8°15.01' | N 3°33.57' | 0.9733' | 101°18.38' | 14.5027° | 340°46.18' | S 13°30.67' | 13.5240' | 58.0619' | 82°04.56' | **17** |
| **18** | 88°49.73' | 15.0031° | 8°17.29' | N 3°34.55' | 0.9732' | 115°48.62' | 14.5040° | 341°18.41' | S 13°17.09' | 13.5857' | 58.0441' | 97°07.02' | **18** |
| **19** | 103°49.92' | 15.0031° | 8°19.57' | N 3°35.52' | 0.9731' | 130°18.94' | 14.5053° | 341°50.55' | S 13°03.44' | 13.6460' | 58.0262' | 112°09.49' | **19** |
| **20** | 118°50.11' | 15.0031° | 8°21.85' | N 3°36.49' | 0.9730' | 144°49.33' | 14.5066° | 342°22.62' | S 12°49.74' | 13.7047' | 58.0081' | 127°11.95' | **20** |
| **21** | 133°50.29' | 15.0031° | 8°24.12' | N 3°37.47' | 0.9728' | 159°19.80' | 14.5078° | 342°54.62' | S 12°35.97' | 13.7619' | 57.9899' | 142°14.42' | **21** |
| **22** | 148°50.48' | 15.0031° | 8°26.40' | N 3°38.44' | 0.9727' | 173°50.35' | 14.5091° | 343°26.53' | S 12°22.16' | 13.8177' | 57.9716' | 157°16.88' | **22** |
| **23** | 163°50.67' | 15.0031° | 8°28.68' | N 3°39.41' | 0.9726' | 188°20.97' | 14.5103° | 343°58.38' | S 12°08.28' | 13.8720' | 57.9531' | 172°19.34' | **23** |
| **24** | 178°50.85' | 15.0031° | 8°30.96' | N 3°40.38' | 0.9725' | 202°51.66' | 14.5116° | 344°30.15' | S 11°54.36' | 13.9248' | 57.9346' | 187°21.81' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0197' | hp (π) 0.1468' | ½Ø 15.8446' | 8.98508677388617 % -cre |
| | EoT at 12:00 UTC : -4m 45s (δ 0.75 s/h) | | Phase at 12:00 UTC : 325.52° | |
| | Meridian Pass. Time : 12:04:45.558 | | Age : 25.3 day(s) | |

| UT | Venus ♀ (π 0.20') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°27.37' | 323°55.30' | S 13°05.97' | 226°29.56' | 319°53.11' | S 16°50.58' | 194°37.51' | 351°45.16' | S 4°39.03' | 221°56.03' | 324°26.65' | S 15°08.41' | **00** |
| **01** | 237°27.23' | 323°57.91' | S 13°05.37' | 241°30.14' | 319°54.99' | S 16°50.03' | 209°39.43' | 351°45.71' | S 4°38.81' | 236°58.26' | 324°26.88' | S 15°08.34' | **01** |
| **02** | 252°27.09' | 324°00.51' | S 13°04.77' | 256°30.72' | 319°56.88' | S 16°49.49' | 224°41.35' | 351°46.25' | S 4°38.58' | 252°00.49' | 324°27.11' | S 15°08.27' | **02** |
| **03** | 267°26.94' | 324°03.12' | S 13°04.16' | 271°31.30' | 319°58.76' | S 16°48.94' | 239°43.26' | 351°46.80' | S 4°38.35' | 267°02.72' | 324°27.35' | S 15°08.19' | **03** |
| **04** | 282°26.80' | 324°05.73' | S 13°03.56' | 286°31.88' | 320°00.65' | S 16°48.39' | 254°45.18' | 351°47.34' | S 4°38.12' | 282°04.95' | 324°27.58' | S 15°08.12' | **04** |
| **05** | 297°26.66' | 324°08.33' | S 13°02.95' | 301°32.46' | 320°02.53' | S 16°47.85' | 269°47.10' | 351°47.89' | S 4°37.89' | 297°07.18' | 324°27.81' | S 15°08.05' | **05** |
| **06** | 312°26.52' | 324°10.94' | S 13°02.34' | 316°33.04' | 320°04.42' | S 16°47.30' | 284°49.02' | 351°48.44' | S 4°37.66' | 312°09.41' | 324°28.05' | S 15°07.98' | **06** |
| **07** | 327°26.37' | 324°13.55' | S 13°01.73' | 331°33.62' | 320°06.30' | S 16°46.75' | 299°50.94' | 351°48.98' | S 4°37.43' | 327°11.64' | 324°28.28' | S 15°07.91' | **07** |
| **08** | 342°26.23' | 324°16.15' | S 13°01.13' | 346°34.20' | 320°08.19' | S 16°46.21' | 314°52.86' | 351°49.53' | S 4°37.20' | 342°13.87' | 324°28.51' | S 15°07.84' | **08** |
| **09** | 357°26.09' | 324°18.76' | S 13°00.52' | 1°34.78' | 320°10.07' | S 16°45.66' | 329°54.78' | 351°50.07' | S 4°36.97' | 357°16.10' | 324°28.75' | S 15°07.77' | **09** |
| **10** | 12°25.94' | 324°21.37' | S 12°59.91' | 16°35.36' | 320°11.95' | S 16°45.11' | 344°56.69' | 351°50.62' | S 4°36.75' | 12°18.33' | 324°28.98' | S 15°07.70' | **10** |
| **11** | 27°25.80' | 324°23.98' | S 12°59.30' | 31°35.94' | 320°13.84' | S 16°44.56' | 359°58.61' | 351°51.16' | S 4°36.52' | 27°20.56' | 324°29.21' | S 15°07.63' | **11** |
| **12** | 42°25.65' | 324°26.59' | S 12°58.68' | 46°36.52' | 320°15.72' | S 16°44.01' | 15°00.53' | 351°51.71' | S 4°36.29' | 42°22.79' | 324°29.45' | S 15°07.55' | **12** |
| **13** | 57°25.51' | 324°29.19' | S 12°58.07' | 61°37.10' | 320°17.61' | S 16°43.46' | 30°02.45' | 351°52.25' | S 4°36.06' | 57°25.03' | 324°29.68' | S 15°07.48' | **13** |
| **14** | 72°25.37' | 324°31.80' | S 12°57.46' | 76°37.68' | 320°19.49' | S 16°42.92' | 45°04.37' | 351°52.80' | S 4°35.83' | 72°27.26' | 324°29.91' | S 15°07.41' | **14** |
| **15** | 87°25.22' | 324°34.41' | S 12°56.85' | 91°38.26' | 320°21.37' | S 16°42.37' | 60°06.29' | 351°53.34' | S 4°35.60' | 87°29.49' | 324°30.14' | S 15°07.34' | **15** |
| **16** | 102°25.08' | 324°37.02' | S 12°56.23' | 106°38.84' | 320°23.25' | S 16°41.82' | 75°08.21' | 351°53.89' | S 4°35.37' | 102°31.72' | 324°30.38' | S 15°07.27' | **16** |
| **17** | 117°24.93' | 324°39.63' | S 12°55.62' | 121°39.42' | 320°25.14' | S 16°41.27' | 90°10.13' | 351°54.43' | S 4°35.14' | 117°33.95' | 324°30.61' | S 15°07.20' | **17** |
| **18** | 132°24.79' | 324°42.24' | S 12°55.00' | 136°40.00' | 320°27.02' | S 16°40.72' | 105°12.05' | 351°54.98' | S 4°34.91' | 132°36.18' | 324°30.84' | S 15°07.13' | **18** |
| **19** | 147°24.64' | 324°44.85' | S 12°54.38' | 151°40.59' | 320°28.90' | S 16°40.17' | 120°13.97' | 351°55.52' | S 4°34.69' | 147°38.42' | 324°31.07' | S 15°07.06' | **19** |
| **20** | 162°24.49' | 324°47.46' | S 12°53.76' | 166°41.17' | 320°30.78' | S 16°39.62' | 135°15.88' | 351°56.07' | S 4°34.46' | 162°40.65' | 324°31.30' | S 15°06.99' | **20** |
| **21** | 177°24.35' | 324°50.07' | S 12°53.15' | 181°41.75' | 320°32.67' | S 16°39.06' | 150°17.80' | 351°56.61' | S 4°34.23' | 177°42.88' | 324°31.54' | S 15°06.92' | **21** |
| **22** | 192°24.20' | 324°52.68' | S 12°52.53' | 196°42.33' | 320°34.55' | S 16°38.51' | 165°19.72' | 351°57.16' | S 4°34.00' | 192°45.11' | 324°31.77' | S 15°06.85' | **22** |
| **23** | 207°24.06' | 324°55.29' | S 12°51.91' | 211°42.91' | 320°36.43' | S 16°37.96' | 180°21.64' | 351°57.70' | S 4°33.77' | 207°47.35' | 324°32.00' | S 15°06.78' | **23** |
| **24** | 222°23.91' | 324°57.90' | S 12°51.29' | 226°43.50' | 320°38.31' | S 16°37.41' | 195°23.56' | 351°58.25' | S 4°33.54' | 222°49.58' | 324°32.23' | S 15°06.70' | **24** |
| | δ 14.9976° | | *d* 0.6033' | δ 15.0096° | | *d* 0.5455' | δ 15.0320° | | *d* 0.2291' | δ 15.0372° | | *d* 0.0713' | |

## *Wednesday, March 30th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°50.85' | 15.0031° | 8°30.96' | N 3°40.38' | 0.9725' | 202°51.66' | 14.5116° | 344°30.15' | S 11°54.36' | 13.9248' | 57.9346' | 187°21.81' | **00** |
| **01** | 193°51.04' | 15.0031° | 8°33.23' | N 3°41.36' | 0.9724' | 217°22.43' | 14.5128° | 345°01.84' | S 11°40.38' | 13.9762' | 57.9159' | 202°24.27' | **01** |
| **02** | 208°51.23' | 15.0031° | 8°35.51' | N 3°42.33' | 0.9722' | 231°53.27' | 14.5140° | 345°33.47' | S 11°26.36' | 14.0260' | 57.8971' | 217°26.74' | **02** |
| **03** | 223°51.41' | 15.0031° | 8°37.79' | N 3°43.30' | 0.9721' | 246°24.18' | 14.5152° | 346°05.02' | S 11°12.28' | 14.0745' | 57.8782' | 232°29.20' | **03** |
| **04** | 238°51.60' | 15.0031° | 8°40.06' | N 3°44.27' | 0.9720' | 260°55.16' | 14.5163° | 346°36.51' | S 10°58.16' | 14.1215' | 57.8591' | 247°31.66' | **04** |
| **05** | 253°51.79' | 15.0031° | 8°42.34' | N 3°45.24' | 0.9719' | 275°26.20' | 14.5175° | 347°07.92' | S 10°43.99' | 14.1671' | 57.8400' | 262°34.13' | **05** |
| **06** | 268°51.97' | 15.0031° | 8°44.62' | N 3°46.22' | 0.9718' | 289°57.32' | 14.5186° | 347°39.27' | S 10°29.78' | 14.2112' | 57.8207' | 277°36.59' | **06** |
| **07** | 283°52.16' | 15.0031° | 8°46.90' | N 3°47.19' | 0.9717' | 304°28.51' | 14.5197° | 348°10.55' | S 10°15.53' | 14.2539' | 57.8013' | 292°39.06' | **07** |
| **08** | 298°52.35' | 15.0031° | 8°49.17' | N 3°48.16' | 0.9715' | 318°59.76' | 14.5208° | 348°41.77' | S 10°01.23' | 14.2952' | 57.7818' | 307°41.52' | **08** |
| **09** | 313°52.53' | 15.0031° | 8°51.45' | N 3°49.13' | 0.9714' | 333°31.07' | 14.5219° | 349°12.91' | S 9°46.90' | 14.3351' | 57.7622' | 322°43.98' | **09** |
| **10** | 328°52.72' | 15.0031° | 8°53.73' | N 3°50.10' | 0.9713' | 348°02.45' | 14.5230° | 349°44.00' | S 9°32.52' | 14.3736' | 57.7425' | 337°46.45' | **10** |
| **11** | 343°52.91' | 15.0031° | 8°56.01' | N 3°51.07' | 0.9712' | 2°33.89' | 14.5240° | 350°15.02' | S 9°18.11' | 14.4107' | 57.7226' | 352°48.91' | **11** |
| **12** | 358°53.09' | 15.0031° | 8°58.29' | N 3°52.04' | 0.9710' | 17°05.40' | 14.5251° | 350°45.98' | S 9°03.67' | 14.4464' | 57.7027' | 7°51.38' | **12** |
| **13** | 13°53.28' | 15.0031° | 9°00.56' | N 3°53.01' | 0.9709' | 31°36.96' | 14.5261° | 351°16.88' | S 8°49.19' | 14.4807' | 57.6826' | 22°53.84' | **13** |
| **14** | 28°53.46' | 15.0031° | 9°02.84' | N 3°53.99' | 0.9708' | 46°08.59' | 14.5271° | 351°47.71' | S 8°34.67' | 14.5137' | 57.6625' | 37°56.30' | **14** |
| **15** | 43°53.65' | 15.0031° | 9°05.12' | N 3°54.96' | 0.9707' | 60°40.28' | 14.5281° | 352°18.49' | S 8°20.13' | 14.5452' | 57.6422' | 52°58.77' | **15** |
| **16** | 58°53.84' | 15.0031° | 9°07.40' | N 3°55.93' | 0.9705' | 75°12.02' | 14.5291° | 352°49.21' | S 8°05.55' | 14.5755' | 57.6218' | 68°01.23' | **16** |
| **17** | 73°54.02' | 15.0031° | 9°09.67' | N 3°56.90' | 0.9704' | 89°43.82' | 14.5300° | 353°19.87' | S 7°50.95' | 14.6043' | 57.6013' | 83°03.70' | **17** |
| **18** | 88°54.21' | 15.0031° | 9°11.95' | N 3°57.87' | 0.9703' | 104°15.68' | 14.5310° | 353°50.48' | S 7°36.32' | 14.6318' | 57.5807' | 98°06.16' | **18** |
| **19** | 103°54.39' | 15.0031° | 9°14.23' | N 3°58.84' | 0.9702' | 118°47.60' | 14.5319° | 354°21.03' | S 7°21.66' | 14.6580' | 57.5600' | 113°08.63' | **19** |
| **20** | 118°54.58' | 15.0031° | 9°16.51' | N 3°59.81' | 0.9700' | 133°19.57' | 14.5328° | 354°51.52' | S 7°06.98' | 14.6828' | 57.5392' | 128°11.09' | **20** |
| **21** | 133°54.77' | 15.0031° | 9°18.79' | N 4°00.78' | 0.9699' | 147°51.59' | 14.5337° | 355°21.97' | S 6°52.27' | 14.7064' | 57.5183' | 143°13.55' | **21** |
| **22** | 148°54.95' | 15.0031° | 9°21.06' | N 4°01.75' | 0.9698' | 162°23.66' | 14.5346° | 355°52.36' | S 6°37.54' | 14.7285' | 57.4973' | 158°16.02' | **22** |
| **23** | 163°55.14' | 15.0031° | 9°23.34' | N 4°02.72' | 0.9697' | 176°55.78' | 14.5354° | 356°22.70' | S 6°22.79' | 14.7494' | 57.4762' | 173°18.48' | **23** |
| **24** | 178°55.32' | 15.0031° | 9°25.62' | N 4°03.69' | 0.9695' | 191°27.96' | 14.5363° | 356°52.99' | S 6°08.02' | 14.7690' | 57.4550' | 188°20.95' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0151' | hp (π) 0.1468' | ½Ø 15.7229' | 3.75178373580138<br>4% -cre |
| | EoT at 12:00 UTC : -4m 27s (δ 0.75 s/h) | | Phase at 12:00 UTC : 338.19° | |
| | Meridian Pass. Time : 12:04:27.634 | | Age : 26.3 day(s) | |

| UT | Venus ♀ (π 0.19') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°23.91' | 324°57.90' | S 12°51.29' | 226°43.50' | 320°38.31' | S 16°37.41' | 195°23.56' | 351°58.25' | S 4°33.54' | 222°49.58' | 324°32.23' | S 15°06.70' | **00** |
| **01** | 237°23.76' | 325°00.51' | S 12°50.67' | 241°44.08' | 320°40.19' | S 16°36.86' | 210°25.48' | 351°58.79' | S 4°33.31' | 237°51.81' | 324°32.46' | S 15°06.63' | **01** |
| **02** | 252°23.61' | 325°03.12' | S 12°50.04' | 256°44.66' | 320°42.08' | S 16°36.31' | 225°27.40' | 351°59.34' | S 4°33.09' | 252°54.04' | 324°32.69' | S 15°06.56' | **02** |
| **03** | 267°23.47' | 325°05.73' | S 12°49.42' | 271°45.24' | 320°43.96' | S 16°35.75' | 240°29.32' | 351°59.88' | S 4°32.86' | 267°56.28' | 324°32.92' | S 15°06.49' | **03** |
| **04** | 282°23.32' | 325°08.34' | S 12°48.80' | 286°45.83' | 320°45.84' | S 16°35.20' | 255°31.24' | 352°00.42' | S 4°32.63' | 282°58.51' | 324°33.16' | S 15°06.42' | **04** |
| **05** | 297°23.17' | 325°10.96' | S 12°48.17' | 301°46.41' | 320°47.72' | S 16°34.65' | 270°33.16' | 352°00.97' | S 4°32.40' | 298°00.74' | 324°33.39' | S 15°06.35' | **05** |
| **06** | 312°23.02' | 325°13.57' | S 12°47.55' | 316°46.99' | 320°49.60' | S 16°34.09' | 285°35.08' | 352°01.51' | S 4°32.17' | 313°02.98' | 324°33.62' | S 15°06.28' | **06** |
| **07** | 327°22.88' | 325°16.18' | S 12°46.92' | 331°47.58' | 320°51.48' | S 16°33.54' | 300°37.00' | 352°02.06' | S 4°31.94' | 328°05.21' | 324°33.85' | S 15°06.21' | **07** |
| **08** | 342°22.73' | 325°18.79' | S 12°46.30' | 346°48.16' | 320°53.36' | S 16°32.99' | 315°38.92' | 352°02.60' | S 4°31.71' | 343°07.44' | 324°34.08' | S 15°06.14' | **08** |
| **09** | 357°22.58' | 325°21.40' | S 12°45.67' | 1°48.74' | 320°55.24' | S 16°32.43' | 330°40.84' | 352°03.15' | S 4°31.49' | 358°09.68' | 324°34.31' | S 15°06.07' | **09** |
| **10** | 12°22.43' | 325°24.02' | S 12°45.04' | 16°49.33' | 320°57.12' | S 16°31.88' | 345°42.76' | 352°03.69' | S 4°31.26' | 13°11.91' | 324°34.54' | S 15°06.00' | **10** |
| **11** | 27°22.28' | 325°26.63' | S 12°44.41' | 31°49.91' | 320°59.00' | S 16°31.32' | 0°44.68' | 352°04.23' | S 4°31.03' | 28°14.14' | 324°34.77' | S 15°05.93' | **11** |
| **12** | 42°22.13' | 325°29.24' | S 12°43.78' | 46°50.50' | 321°00.88' | S 16°30.77' | 15°46.60' | 352°04.78' | S 4°30.80' | 43°16.38' | 324°35.00' | S 15°05.86' | **12** |
| **13** | 57°21.98' | 325°31.86' | S 12°43.15' | 61°51.08' | 321°02.76' | S 16°30.21' | 30°48.52' | 352°05.32' | S 4°30.57' | 58°18.61' | 324°35.23' | S 15°05.79' | **13** |
| **14** | 72°21.84' | 325°34.47' | S 12°42.52' | 76°51.66' | 321°04.64' | S 16°29.66' | 45°50.44' | 352°05.87' | S 4°30.34' | 73°20.84' | 324°35.46' | S 15°05.72' | **14** |
| **15** | 87°21.69' | 325°37.08' | S 12°41.89' | 91°52.25' | 321°06.52' | S 16°29.10' | 60°52.36' | 352°06.41' | S 4°30.12' | 88°23.08' | 324°35.69' | S 15°05.65' | **15** |
| **16** | 102°21.54' | 325°39.70' | S 12°41.26' | 106°52.83' | 321°08.40' | S 16°28.54' | 75°54.28' | 352°06.95' | S 4°29.89' | 103°25.31' | 324°35.92' | S 15°05.58' | **16** |
| **17** | 117°21.39' | 325°42.31' | S 12°40.63' | 121°53.42' | 321°10.28' | S 16°27.99' | 90°56.20' | 352°07.50' | S 4°29.66' | 118°27.55' | 324°36.15' | S 15°05.51' | **17** |
| **18** | 132°21.24' | 325°44.93' | S 12°39.99' | 136°54.00' | 321°12.16' | S 16°27.43' | 105°58.12' | 352°08.04' | S 4°29.43' | 133°29.78' | 324°36.38' | S 15°05.44' | **18** |
| **19** | 147°21.09' | 325°47.54' | S 12°39.36' | 151°54.59' | 321°14.04' | S 16°26.87' | 121°00.04' | 352°08.58' | S 4°29.20' | 148°32.02' | 324°36.61' | S 15°05.37' | **19** |
| **20** | 162°20.93' | 325°50.15' | S 12°38.72' | 166°55.17' | 321°15.91' | S 16°26.32' | 136°01.96' | 352°09.13' | S 4°28.97' | 163°34.25' | 324°36.84' | S 15°05.30' | **20** |
| **21** | 177°20.78' | 325°52.77' | S 12°38.09' | 181°55.76' | 321°17.79' | S 16°25.76' | 151°03.88' | 352°09.67' | S 4°28.75' | 178°36.48' | 324°37.07' | S 15°05.23' | **21** |
| **22** | 192°20.63' | 325°55.38' | S 12°37.45' | 196°56.35' | 321°19.67' | S 16°25.20' | 166°05.80' | 352°10.21' | S 4°28.52' | 193°38.72' | 324°37.30' | S 15°05.16' | **22** |
| **23** | 207°20.48' | 325°58.00' | S 12°36.81' | 211°56.93' | 321°21.55' | S 16°24.64' | 181°07.72' | 352°10.76' | S 4°28.29' | 208°40.95' | 324°37.53' | S 15°05.09' | **23** |
| **24** | 222°20.33' | 326°00.61' | S 12°36.17' | 226°57.52' | 321°23.43' | S 16°24.08' | 196°09.64' | 352°11.30' | S 4°28.06' | 223°43.19' | 324°37.76' | S 15°05.02' | **24** |
| | δ 14.9976° | | *d* 0.6212' | δ 15.0097° | | *d* 0.5521' | δ 15.0320° | | *d* 0.2286' | δ 15.0372° | | *d* 0.0706' | |

## *Thursday, March 31st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°55.32' | 15.0031° | 9°25.62' | N 4°03.69' | 0.9695' | 191°27.96' | 14.5363° | 356°52.99' | S 6°08.02' | 14.7690' | 57.4550' | 188°20.95' | **00** |
| **01** | 193°55.51' | 15.0031° | 9°27.90' | N 4°04.66' | 0.9694' | 206°00.18' | 14.5371° | 357°23.23' | S 5°53.24' | 14.7873' | 57.4337' | 203°23.41' | **01** |
| **02** | 208°55.70' | 15.0031° | 9°30.18' | N 4°05.63' | 0.9693' | 220°32.46' | 14.5379° | 357°53.42' | S 5°38.43' | 14.8043' | 57.4123' | 218°25.87' | **02** |
| **03** | 223°55.88' | 15.0031° | 9°32.46' | N 4°06.59' | 0.9691' | 235°04.78' | 14.5387° | 358°23.56' | S 5°23.61' | 14.8200' | 57.3908' | 233°28.34' | **03** |
| **04** | 238°56.07' | 15.0031° | 9°34.73' | N 4°07.56' | 0.9690' | 249°37.14' | 14.5394° | 358°53.66' | S 5°08.78' | 14.8344' | 57.3693' | 248°30.80' | **04** |
| **05** | 253°56.25' | 15.0031° | 9°37.01' | N 4°08.53' | 0.9689' | 264°09.55' | 14.5402° | 359°23.71' | S 4°53.93' | 14.8475' | 57.3476' | 263°33.27' | **05** |
| **06** | 268°56.44' | 15.0031° | 9°39.29' | N 4°09.50' | 0.9688' | 278°42.01' | 14.5409° | 359°53.72' | S 4°39.07' | 14.8594' | 57.3258' | 278°35.73' | **06** |
| **07** | 283°56.62' | 15.0031° | 9°41.57' | N 4°10.47' | 0.9686' | 293°14.50' | 14.5416° | 0°23.69' | S 4°24.20' | 14.8701' | 57.3040' | 293°38.19' | **07** |
| **08** | 298°56.81' | 15.0031° | 9°43.85' | N 4°11.44' | 0.9685' | 307°47.04' | 14.5423° | 0°53.61' | S 4°09.32' | 14.8794' | 57.2821' | 308°40.66' | **08** |
| **09** | 313°57.00' | 15.0031° | 9°46.13' | N 4°12.41' | 0.9684' | 322°19.62' | 14.5430° | 1°23.50' | S 3°54.43' | 14.8876' | 57.2601' | 323°43.12' | **09** |
| **10** | 328°57.18' | 15.0031° | 9°48.40' | N 4°13.37' | 0.9682' | 336°52.24' | 14.5437° | 1°53.34' | S 3°39.54' | 14.8945' | 57.2380' | 338°45.59' | **10** |
| **11** | 343°57.37' | 15.0031° | 9°50.68' | N 4°14.34' | 0.9681' | 351°24.90' | 14.5443° | 2°23.15' | S 3°24.64' | 14.9002' | 57.2158' | 353°48.05' | **11** |
| **12** | 358°57.55' | 15.0031° | 9°52.96' | N 4°15.31' | 0.9680' | 5°57.60' | 14.5449° | 2°52.91' | S 3°09.73' | 14.9046' | 57.1936' | 8°50.51' | **12** |
| **13** | 13°57.74' | 15.0031° | 9°55.24' | N 4°16.28' | 0.9678' | 20°30.33' | 14.5456° | 3°22.64' | S 2°54.83' | 14.9079' | 57.1713' | 23°52.98' | **13** |
| **14** | 28°57.92' | 15.0031° | 9°57.52' | N 4°17.25' | 0.9677' | 35°03.10' | 14.5462° | 3°52.34' | S 2°39.92' | 14.9099' | 57.1489' | 38°55.44' | **14** |
| **15** | 43°58.11' | 15.0031° | 9°59.80' | N 4°18.21' | 0.9676' | 49°35.91' | 14.5467° | 4°22.00' | S 2°25.00' | 14.9107' | 57.1264' | 53°57.91' | **15** |
| **16** | 58°58.29' | 15.0031° | 10°02.08' | N 4°19.18' | 0.9674' | 64°08.75' | 14.5473° | 4°51.62' | S 2°10.09' | 14.9104' | 57.1039' | 69°00.37' | **16** |
| **17** | 73°58.48' | 15.0031° | 10°04.36' | N 4°20.15' | 0.9673' | 78°41.62' | 14.5478° | 5°21.22' | S 1°55.19' | 14.9088' | 57.0813' | 84°02.83' | **17** |
| **18** | 88°58.66' | 15.0031° | 10°06.63' | N 4°21.12' | 0.9672' | 93°14.52' | 14.5484° | 5°50.78' | S 1°40.28' | 14.9061' | 57.0586' | 99°05.30' | **18** |
| **19** | 103°58.85' | 15.0031° | 10°08.91' | N 4°22.08' | 0.9670' | 107°47.45' | 14.5489° | 6°20.31' | S 1°25.38' | 14.9022' | 57.0358' | 114°07.76' | **19** |
| **20** | 118°59.03' | 15.0031° | 10°11.19' | N 4°23.05' | 0.9669' | 122°20.41' | 14.5494° | 6°49.81' | S 1°10.48' | 14.8971' | 57.0130' | 129°10.23' | **20** |
| **21** | 133°59.22' | 15.0031° | 10°13.47' | N 4°24.02' | 0.9667' | 136°53.40' | 14.5498° | 7°19.29' | S 0°55.59' | 14.8909' | 56.9902' | 144°12.69' | **21** |
| **22** | 148°59.40' | 15.0031° | 10°15.75' | N 4°24.98' | 0.9666' | 151°26.42' | 14.5503° | 7°48.73' | S 0°40.71' | 14.8835' | 56.9672' | 159°15.15' | **22** |
| **23** | 163°59.59' | 15.0031° | 10°18.03' | N 4°25.95' | 0.9665' | 165°59.47' | 14.5507° | 8°18.15' | S 0°25.83' | 14.8749' | 56.9442' | 174°17.62' | **23** |
| **24** | 178°59.77' | 15.0031° | 10°20.31' | N 4°26.92' | 0.9663' | 180°32.54' | 14.5512° | 8°47.54' | S 0°10.97' | 14.8652' | 56.9212' | 189°20.08' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.0104' | hp (π) 0.1467' | ½Ø 15.5842' | 0.79361954423830<br>54% -cre | |
| EoT at 12:00 UTC : -4m 9s (δ 0.74 s/h) | | Phase at 12:00 UTC : 350.63° | | |
| Meridian Pass. Time : 12:04:09.791 | | Age : 27.3 day(s) | | |

| UT | Venus ♀ (π 0.19') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°20.33' | 326°00.61' | S 12°36.17' | 226°57.52' | 321°23.43' | S 16°24.08' | 196°09.64' | 352°11.30' | S 4°28.06' | 223°43.19' | 324°37.76' | S 15°05.02' | **00** |
| **01** | 237°20.18' | 326°03.23' | S 12°35.53' | 241°58.10' | 321°25.31' | S 16°23.53' | 211°11.57' | 352°11.84' | S 4°27.83' | 238°45.42' | 324°37.99' | S 15°04.95' | **01** |
| **02** | 252°20.03' | 326°05.85' | S 12°34.90' | 256°58.69' | 321°27.18' | S 16°22.97' | 226°13.49' | 352°12.39' | S 4°27.60' | 253°47.66' | 324°38.21' | S 15°04.88' | **02** |
| **03** | 267°19.88' | 326°08.46' | S 12°34.25' | 271°59.28' | 321°29.06' | S 16°22.41' | 241°15.41' | 352°12.93' | S 4°27.38' | 268°49.89' | 324°38.44' | S 15°04.81' | **03** |
| **04** | 282°19.72' | 326°11.08' | S 12°33.61' | 286°59.86' | 321°30.94' | S 16°21.85' | 256°17.33' | 352°13.47' | S 4°27.15' | 283°52.13' | 324°38.67' | S 15°04.74' | **04** |
| **05** | 297°19.57' | 326°13.69' | S 12°32.97' | 302°00.45' | 321°32.82' | S 16°21.29' | 271°19.25' | 352°14.02' | S 4°26.92' | 298°54.37' | 324°38.90' | S 15°04.67' | **05** |
| **06** | 312°19.42' | 326°16.31' | S 12°32.33' | 317°01.04' | 321°34.69' | S 16°20.73' | 286°21.17' | 352°14.56' | S 4°26.69' | 313°56.60' | 324°39.13' | S 15°04.60' | **06** |
| **07** | 327°19.27' | 326°18.93' | S 12°31.69' | 332°01.62' | 321°36.57' | S 16°20.17' | 301°23.09' | 352°15.10' | S 4°26.46' | 328°58.84' | 324°39.36' | S 15°04.53' | **07** |
| **08** | 342°19.11' | 326°21.54' | S 12°31.04' | 347°02.21' | 321°38.45' | S 16°19.61' | 316°25.01' | 352°15.65' | S 4°26.24' | 344°01.07' | 324°39.59' | S 15°04.46' | **08** |
| **09** | 357°18.96' | 326°24.16' | S 12°30.40' | 2°02.80' | 321°40.32' | S 16°19.05' | 331°26.93' | 352°16.19' | S 4°26.01' | 359°03.31' | 324°39.81' | S 15°04.39' | **09** |
| **10** | 12°18.81' | 326°26.78' | S 12°29.75' | 17°03.39' | 321°42.20' | S 16°18.49' | 346°28.85' | 352°16.73' | S 4°25.78' | 14°05.54' | 324°40.04' | S 15°04.32' | **10** |
| **11** | 27°18.66' | 326°29.39' | S 12°29.11' | 32°03.97' | 321°44.08' | S 16°17.93' | 1°30.78' | 352°17.27' | S 4°25.55' | 29°07.78' | 324°40.27' | S 15°04.25' | **11** |
| **12** | 42°18.50' | 326°32.01' | S 12°28.46' | 47°04.56' | 321°45.95' | S 16°17.36' | 16°32.70' | 352°17.82' | S 4°25.32' | 44°10.02' | 324°40.50' | S 15°04.18' | **12** |
| **13** | 57°18.35' | 326°34.63' | S 12°27.81' | 62°05.15' | 321°47.83' | S 16°16.80' | 31°34.62' | 352°18.36' | S 4°25.10' | 59°12.25' | 324°40.72' | S 15°04.11' | **13** |
| **14** | 72°18.20' | 326°37.25' | S 12°27.16' | 77°05.74' | 321°49.70' | S 16°16.24' | 46°36.54' | 352°18.90' | S 4°24.87' | 74°14.49' | 324°40.95' | S 15°04.04' | **14** |
| **15** | 87°18.04' | 326°39.86' | S 12°26.51' | 92°06.33' | 321°51.58' | S 16°15.68' | 61°38.46' | 352°19.44' | S 4°24.64' | 89°16.73' | 324°41.18' | S 15°03.97' | **15** |
| **16** | 102°17.89' | 326°42.48' | S 12°25.86' | 107°06.92' | 321°53.45' | S 16°15.11' | 76°40.38' | 352°19.99' | S 4°24.41' | 104°18.96' | 324°41.41' | S 15°03.90' | **16** |
| **17** | 117°17.73' | 326°45.10' | S 12°25.21' | 122°07.50' | 321°55.33' | S 16°14.55' | 91°42.31' | 352°20.53' | S 4°24.19' | 119°21.20' | 324°41.63' | S 15°03.84' | **17** |
| **18** | 132°17.58' | 326°47.72' | S 12°24.56' | 137°08.09' | 321°57.20' | S 16°13.99' | 106°44.23' | 352°21.07' | S 4°23.96' | 134°23.44' | 324°41.86' | S 15°03.77' | **18** |
| **19** | 147°17.42' | 326°50.34' | S 12°23.91' | 152°08.68' | 321°59.08' | S 16°13.43' | 121°46.15' | 352°21.61' | S 4°23.73' | 149°25.67' | 324°42.09' | S 15°03.70' | **19** |
| **20** | 162°17.27' | 326°52.96' | S 12°23.26' | 167°09.27' | 322°00.95' | S 16°12.86' | 136°48.07' | 352°22.15' | S 4°23.50' | 164°27.91' | 324°42.32' | S 15°03.63' | **20** |
| **21** | 177°17.11' | 326°55.57' | S 12°22.60' | 182°09.86' | 322°02.83' | S 16°12.30' | 151°49.99' | 352°22.70' | S 4°23.27' | 179°30.15' | 324°42.54' | S 15°03.56' | **21** |
| **22** | 192°16.96' | 326°58.19' | S 12°21.95' | 197°10.45' | 322°04.70' | S 16°11.73' | 166°51.91' | 352°23.24' | S 4°23.05' | 194°32.38' | 324°42.77' | S 15°03.49' | **22** |
| **23** | 207°16.80' | 327°00.81' | S 12°21.29' | 212°11.04' | 322°06.58' | S 16°11.17' | 181°53.84' | 352°23.78' | S 4°22.82' | 209°34.62' | 324°43.00' | S 15°03.42' | **23** |
| **24** | 222°16.65' | 327°03.43' | S 12°20.64' | 227°11.63' | 322°08.45' | S 16°10.60' | 196°55.76' | 352°24.32' | S 4°22.59' | 224°36.86' | 324°43.22' | S 15°03.35' | **24** |
| | δ 14.9975° | | *d* 0.6389' | δ 15.0098° | | *d* 0.5586' | δ 15.0320° | | *d* 0.2281' | δ 15.0373° | | *d* 0.0699' | |

## *Friday, April 1st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°59.77' | 15.0031° | 10°20.31' | N 4°26.92' | 0.9663' | 180°32.54' | 14.5512° | 8°47.54' | S 0°10.97' | 14.8652' | 56.9212' | 189°20.08' | **00** |
| **01** | 193°59.96' | 15.0031° | 10°22.59' | N 4°27.88' | 0.9662' | 195°05.63' | 14.5516° | 9°16.91' | N 0°03.89' | 14.8544' | 56.8981' | 204°22.55' | **01** |
| **02** | 209°00.14' | 15.0031° | 10°24.87' | N 4°28.85' | 0.9660' | 209°38.75' | 14.5520° | 9°46.26' | N 0°18.73' | 14.8425' | 56.8750' | 219°25.01' | **02** |
| **03** | 224°00.33' | 15.0031° | 10°27.15' | N 4°29.81' | 0.9659' | 224°11.89' | 14.5523° | 10°15.58' | N 0°33.56' | 14.8294' | 56.8518' | 234°27.47' | **03** |
| **04** | 239°00.51' | 15.0031° | 10°29.43' | N 4°30.78' | 0.9658' | 238°45.05' | 14.5527° | 10°44.89' | N 0°48.38' | 14.8152' | 56.8285' | 249°29.94' | **04** |
| **05** | 254°00.70' | 15.0031° | 10°31.70' | N 4°31.75' | 0.9656' | 253°18.23' | 14.5530° | 11°14.17' | N 1°03.18' | 14.7999' | 56.8052' | 264°32.40' | **05** |
| **06** | 269°00.88' | 15.0031° | 10°33.98' | N 4°32.71' | 0.9655' | 267°51.44' | 14.5534° | 11°43.43' | N 1°17.96' | 14.7835' | 56.7819' | 279°34.87' | **06** |
| **07** | 284°01.07' | 15.0031° | 10°36.26' | N 4°33.68' | 0.9653' | 282°24.66' | 14.5537° | 12°12.67' | N 1°32.73' | 14.7660' | 56.7585' | 294°37.33' | **07** |
| **08** | 299°01.25' | 15.0031° | 10°38.54' | N 4°34.64' | 0.9652' | 296°57.90' | 14.5540° | 12°41.90' | N 1°47.47' | 14.7475' | 56.7351' | 309°39.79' | **08** |
| **09** | 314°01.44' | 15.0031° | 10°40.82' | N 4°35.61' | 0.9651' | 311°31.15' | 14.5542° | 13°11.11' | N 2°02.20' | 14.7278' | 56.7117' | 324°42.26' | **09** |
| **10** | 329°01.62' | 15.0031° | 10°43.10' | N 4°36.57' | 0.9649' | 326°04.42' | 14.5545° | 13°40.30' | N 2°16.91' | 14.7070' | 56.6882' | 339°44.72' | **10** |
| **11** | 344°01.80' | 15.0031° | 10°45.38' | N 4°37.54' | 0.9648' | 340°37.70' | 14.5547° | 14°09.48' | N 2°31.59' | 14.6852' | 56.6647' | 354°47.19' | **11** |
| **12** | 359°01.99' | 15.0031° | 10°47.66' | N 4°38.50' | 0.9646' | 355°11.00' | 14.5550° | 14°38.65' | N 2°46.26' | 14.6623' | 56.6411' | 9°49.65' | **12** |
| **13** | 14°02.17' | 15.0031° | 10°49.94' | N 4°39.47' | 0.9645' | 9°44.31' | 14.5552° | 15°07.80' | N 3°00.89' | 14.6383' | 56.6176' | 24°52.11' | **13** |
| **14** | 29°02.36' | 15.0031° | 10°52.22' | N 4°40.43' | 0.9643' | 24°17.63' | 14.5554° | 15°36.94' | N 3°15.51' | 14.6133' | 56.5940' | 39°54.58' | **14** |
| **15** | 44°02.54' | 15.0031° | 10°54.50' | N 4°41.39' | 0.9642' | 38°50.97' | 14.5555° | 16°06.07' | N 3°30.09' | 14.5873' | 56.5704' | 54°57.04' | **15** |
| **16** | 59°02.73' | 15.0031° | 10°56.78' | N 4°42.36' | 0.9640' | 53°24.31' | 14.5557° | 16°35.20' | N 3°44.65' | 14.5602' | 56.5467' | 69°59.51' | **16** |
| **17** | 74°02.91' | 15.0031° | 10°59.06' | N 4°43.32' | 0.9639' | 67°57.66' | 14.5559° | 17°04.31' | N 3°59.19' | 14.5320' | 56.5231' | 85°01.97' | **17** |
| **18** | 89°03.09' | 15.0031° | 11°01.34' | N 4°44.29' | 0.9638' | 82°31.02' | 14.5560° | 17°33.41' | N 4°13.69' | 14.5028' | 56.4994' | 100°04.43' | **18** |
| **19** | 104°03.28' | 15.0031° | 11°03.62' | N 4°45.25' | 0.9636' | 97°04.39' | 14.5561° | 18°02.51' | N 4°28.16' | 14.4726' | 56.4757' | 115°06.90' | **19** |
| **20** | 119°03.46' | 15.0031° | 11°05.90' | N 4°46.21' | 0.9635' | 111°37.76' | 14.5562° | 18°31.60' | N 4°42.60' | 14.4414' | 56.4520' | 130°09.36' | **20** |
| **21** | 134°03.65' | 15.0031° | 11°08.18' | N 4°47.18' | 0.9633' | 126°11.14' | 14.5563° | 19°00.69' | N 4°57.01' | 14.4091' | 56.4283' | 145°11.83' | **21** |
| **22** | 149°03.83' | 15.0031° | 11°10.46' | N 4°48.14' | 0.9632' | 140°44.52' | 14.5564° | 19°29.77' | N 5°11.39' | 14.3759' | 56.4046' | 160°14.29' | **22** |
| **23** | 164°04.01' | 15.0031° | 11°12.74' | N 4°49.10' | 0.9630' | 155°17.90' | 14.5564° | 19°58.85' | N 5°25.73' | 14.3416' | 56.3809' | 175°16.75' | **23** |
| **24** | 179°04.20' | 15.0031° | 11°15.02' | N 4°50.07' | 0.9629' | 169°51.29' | 14.5564° | 20°27.93' | N 5°40.04' | 14.3063' | 56.3572' | 190°19.22' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0058' | hp (π) 0.1467' | ½Ø 15.4337' | 0.13969452221288 536% +cre |
| | EoT at 12:00 UTC : -3m 52s (δ 0.74 s/h) | | Phase at 12:00 UTC : 2.82° | |
| | Meridian Pass. Time : 12:03:52.045 | | Age : 0.2 day(s) | |

| UT | Venus ♀ (π 0.19') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°16.65' | 327°03.43' | S 12°20.64' | 227°11.63' | 322°08.45' | S 16°10.60' | 196°55.76' | 352°24.32' | S 4°22.59' | 224°36.86' | 324°43.22' | S 15°03.35' | **00** |
| **01** | 237°16.49' | 327°06.05' | S 12°19.98' | 242°12.22' | 322°10.33' | S 16°10.04' | 211°57.68' | 352°24.86' | S 4°22.36' | 239°39.10' | 324°43.45' | S 15°03.28' | **01** |
| **02** | 252°16.34' | 327°08.67' | S 12°19.33' | 257°12.81' | 322°12.20' | S 16°09.47' | 226°59.60' | 352°25.41' | S 4°22.14' | 254°41.33' | 324°43.68' | S 15°03.21' | **02** |
| **03** | 267°16.18' | 327°11.29' | S 12°18.67' | 272°13.40' | 322°14.07' | S 16°08.91' | 242°01.53' | 352°25.95' | S 4°21.91' | 269°43.57' | 324°43.90' | S 15°03.14' | **03** |
| **04** | 282°16.03' | 327°13.91' | S 12°18.01' | 287°13.99' | 322°15.95' | S 16°08.34' | 257°03.45' | 352°26.49' | S 4°21.68' | 284°45.81' | 324°44.13' | S 15°03.07' | **04** |
| **05** | 297°15.87' | 327°16.53' | S 12°17.35' | 302°14.58' | 322°17.82' | S 16°07.78' | 272°05.37' | 352°27.03' | S 4°21.45' | 299°48.05' | 324°44.35' | S 15°03.01' | **05** |
| **06** | 312°15.71' | 327°19.15' | S 12°16.69' | 317°15.17' | 322°19.69' | S 16°07.21' | 287°07.29' | 352°27.57' | S 4°21.23' | 314°50.29' | 324°44.58' | S 15°02.94' | **06** |
| **07** | 327°15.56' | 327°21.77' | S 12°16.03' | 332°15.76' | 322°21.57' | S 16°06.64' | 302°09.22' | 352°28.11' | S 4°21.00' | 329°52.52' | 324°44.81' | S 15°02.87' | **07** |
| **08** | 342°15.40' | 327°24.39' | S 12°15.37' | 347°16.35' | 322°23.44' | S 16°06.08' | 317°11.14' | 352°28.66' | S 4°20.77' | 344°54.76' | 324°45.03' | S 15°02.80' | **08** |
| **09** | 357°15.24' | 327°27.01' | S 12°14.71' | 2°16.95' | 322°25.31' | S 16°05.51' | 332°13.06' | 352°29.20' | S 4°20.54' | 359°57.00' | 324°45.26' | S 15°02.73' | **09** |
| **10** | 12°15.09' | 327°29.63' | S 12°14.04' | 17°17.54' | 322°27.19' | S 16°04.94' | 347°14.98' | 352°29.74' | S 4°20.32' | 14°59.24' | 324°45.48' | S 15°02.66' | **10** |
| **11** | 27°14.93' | 327°32.26' | S 12°13.38' | 32°18.13' | 322°29.06' | S 16°04.38' | 2°16.91' | 352°30.28' | S 4°20.09' | 30°01.48' | 324°45.71' | S 15°02.59' | **11** |
| **12** | 42°14.77' | 327°34.88' | S 12°12.72' | 47°18.72' | 322°30.93' | S 16°03.81' | 17°18.83' | 352°30.82' | S 4°19.86' | 45°03.72' | 324°45.93' | S 15°02.52' | **12** |
| **13** | 57°14.62' | 327°37.50' | S 12°12.05' | 62°19.31' | 322°32.80' | S 16°03.24' | 32°20.75' | 352°31.36' | S 4°19.63' | 60°05.96' | 324°46.16' | S 15°02.45' | **13** |
| **14** | 72°14.46' | 327°40.12' | S 12°11.38' | 77°19.90' | 322°34.67' | S 16°02.67' | 47°22.67' | 352°31.90' | S 4°19.41' | 75°08.19' | 324°46.38' | S 15°02.39' | **14** |
| **15** | 87°14.30' | 327°42.74' | S 12°10.72' | 92°20.50' | 322°36.55' | S 16°02.10' | 62°24.60' | 352°32.45' | S 4°19.18' | 90°10.43' | 324°46.61' | S 15°02.32' | **15** |
| **16** | 102°14.14' | 327°45.36' | S 12°10.05' | 107°21.09' | 322°38.42' | S 16°01.53' | 77°26.52' | 352°32.99' | S 4°18.95' | 105°12.67' | 324°46.83' | S 15°02.25' | **16** |
| **17** | 117°13.98' | 327°47.99' | S 12°09.38' | 122°21.68' | 322°40.29' | S 16°00.96' | 92°28.44' | 352°33.53' | S 4°18.72' | 120°14.91' | 324°47.06' | S 15°02.18' | **17** |
| **18** | 132°13.83' | 327°50.61' | S 12°08.72' | 137°22.27' | 322°42.16' | S 16°00.39' | 107°30.37' | 352°34.07' | S 4°18.50' | 135°17.15' | 324°47.28' | S 15°02.11' | **18** |
| **19** | 147°13.67' | 327°53.23' | S 12°08.05' | 152°22.87' | 322°44.03' | S 15°59.83' | 122°32.29' | 352°34.61' | S 4°18.27' | 150°19.39' | 324°47.51' | S 15°02.04' | **19** |
| **20** | 162°13.51' | 327°55.85' | S 12°07.38' | 167°23.46' | 322°45.90' | S 15°59.26' | 137°34.21' | 352°35.15' | S 4°18.04' | 165°21.63' | 324°47.73' | S 15°01.97' | **20** |
| **21** | 177°13.35' | 327°58.48' | S 12°06.71' | 182°24.05' | 322°47.77' | S 15°58.69' | 152°36.14' | 352°35.69' | S 4°17.82' | 180°23.87' | 324°47.96' | S 15°01.91' | **21** |
| **22** | 192°13.19' | 328°01.10' | S 12°06.03' | 197°24.65' | 322°49.64' | S 15°58.11' | 167°38.06' | 352°36.23' | S 4°17.59' | 195°26.11' | 324°48.18' | S 15°01.84' | **22** |
| **23** | 207°13.03' | 328°03.72' | S 12°05.36' | 212°25.24' | 322°51.52' | S 15°57.54' | 182°39.98' | 352°36.77' | S 4°17.36' | 210°28.35' | 324°48.41' | S 15°01.77' | **23** |
| **24** | 222°12.87' | 328°06.34' | S 12°04.69' | 227°25.83' | 322°53.39' | S 15°56.97' | 197°41.91' | 352°37.31' | S 4°17.13' | 225°30.59' | 324°48.63' | S 15°01.70' | **24** |
| | δ 14.9974° | | *d* 0.6563' | δ 15.0098° | | *d* 0.5650' | δ 15.0320° | | *d* 0.2276' | δ 15.0373° | | *d* 0.0691' | |

## *Saturday, April 2nd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°04.20' | 15.0031° | 11°15.02' | N 4°50.07' | 0.9629' | 169°51.29' | 14.5564° | 20°27.93' | N 5°40.04' | 14.3063' | 56.3572' | 190°19.22' | **00** |
| **01** | 194°04.38' | 15.0031° | 11°17.30' | N 4°51.03' | 0.9627' | 184°24.68' | 14.5565° | 20°57.01' | N 5°54.31' | 14.2701' | 56.3335' | 205°21.68' | **01** |
| **02** | 209°04.56' | 15.0031° | 11°19.58' | N 4°51.99' | 0.9626' | 198°58.06' | 14.5565° | 21°26.08' | N 6°08.54' | 14.2328' | 56.3098' | 220°24.15' | **02** |
| **03** | 224°04.75' | 15.0031° | 11°21.86' | N 4°52.95' | 0.9624' | 213°31.45' | 14.5565° | 21°55.16' | N 6°22.73' | 14.1946' | 56.2861' | 235°26.61' | **03** |
| **04** | 239°04.93' | 15.0031° | 11°24.14' | N 4°53.91' | 0.9623' | 228°04.84' | 14.5564° | 22°24.24' | N 6°36.89' | 14.1554' | 56.2624' | 250°29.07' | **04** |
| **05** | 254°05.11' | 15.0031° | 11°26.42' | N 4°54.88' | 0.9621' | 242°38.22' | 14.5564° | 22°53.32' | N 6°51.00' | 14.1152' | 56.2387' | 265°31.54' | **05** |
| **06** | 269°05.30' | 15.0031° | 11°28.70' | N 4°55.84' | 0.9620' | 257°11.60' | 14.5564° | 23°22.40' | N 7°05.08' | 14.0740' | 56.2151' | 280°34.00' | **06** |
| **07** | 284°05.48' | 15.0031° | 11°30.99' | N 4°56.80' | 0.9618' | 271°44.98' | 14.5563° | 23°51.48' | N 7°19.11' | 14.0319' | 56.1914' | 295°36.47' | **07** |
| **08** | 299°05.66' | 15.0031° | 11°33.27' | N 4°57.76' | 0.9616' | 286°18.35' | 14.5562° | 24°20.58' | N 7°33.10' | 13.9888' | 56.1678' | 310°38.93' | **08** |
| **09** | 314°05.85' | 15.0031° | 11°35.55' | N 4°58.72' | 0.9615' | 300°51.72' | 14.5561° | 24°49.67' | N 7°47.04' | 13.9447' | 56.1442' | 325°41.39' | **09** |
| **10** | 329°06.03' | 15.0031° | 11°37.83' | N 4°59.69' | 0.9613' | 315°25.08' | 14.5560° | 25°18.78' | N 8°00.94' | 13.8998' | 56.1206' | 340°43.86' | **10** |
| **11** | 344°06.21' | 15.0031° | 11°40.11' | N 5°00.65' | 0.9612' | 329°58.43' | 14.5559° | 25°47.89' | N 8°14.80' | 13.8538' | 56.0971' | 355°46.32' | **11** |
| **12** | 359°06.40' | 15.0031° | 11°42.39' | N 5°01.61' | 0.9610' | 344°31.78' | 14.5557° | 26°17.01' | N 8°28.60' | 13.8069' | 56.0736' | 10°48.79' | **12** |
| **13** | 14°06.58' | 15.0031° | 11°44.67' | N 5°02.57' | 0.9609' | 359°05.12' | 14.5556° | 26°46.14' | N 8°42.36' | 13.7591' | 56.0501' | 25°51.25' | **13** |
| **14** | 29°06.76' | 15.0030° | 11°46.95' | N 5°03.53' | 0.9607' | 13°38.44' | 14.5554° | 27°15.27' | N 8°56.07' | 13.7104' | 56.0266' | 40°53.72' | **14** |
| **15** | 44°06.95' | 15.0030° | 11°49.23' | N 5°04.49' | 0.9606' | 28°11.76' | 14.5553° | 27°44.42' | N 9°09.73' | 13.6607' | 56.0032' | 55°56.18' | **15** |
| **16** | 59°07.13' | 15.0030° | 11°51.51' | N 5°05.45' | 0.9604' | 42°45.06' | 14.5551° | 28°13.58' | N 9°23.34' | 13.6101' | 55.9799' | 70°58.64' | **16** |
| **17** | 74°07.31' | 15.0030° | 11°53.80' | N 5°06.41' | 0.9602' | 57°18.35' | 14.5549° | 28°42.76' | N 9°36.90' | 13.5586' | 55.9565' | 86°01.11' | **17** |
| **18** | 89°07.49' | 15.0030° | 11°56.08' | N 5°07.37' | 0.9601' | 71°51.63' | 14.5546° | 29°11.94' | N 9°50.41' | 13.5062' | 55.9333' | 101°03.57' | **18** |
| **19** | 104°07.68' | 15.0030° | 11°58.36' | N 5°08.33' | 0.9599' | 86°24.89' | 14.5544° | 29°41.14' | N 10°03.86' | 13.4529' | 55.9100' | 116°06.04' | **19** |
| **20** | 119°07.86' | 15.0030° | 12°00.64' | N 5°09.29' | 0.9598' | 100°58.14' | 14.5542° | 30°10.36' | N 10°17.26' | 13.3986' | 55.8869' | 131°08.50' | **20** |
| **21** | 134°08.04' | 15.0030° | 12°02.92' | N 5°10.25' | 0.9596' | 115°31.38' | 14.5539° | 30°39.59' | N 10°30.60' | 13.3435' | 55.8637' | 146°10.96' | **21** |
| **22** | 149°08.23' | 15.0030° | 12°05.20' | N 5°11.21' | 0.9595' | 130°04.60' | 14.5536° | 31°08.83' | N 10°43.89' | 13.2875' | 55.8407' | 161°13.43' | **22** |
| **23** | 164°08.41' | 15.0030° | 12°07.48' | N 5°12.17' | 0.9593' | 144°37.80' | 14.5534° | 31°38.09' | N 10°57.12' | 13.2305' | 55.8177' | 176°15.89' | **23** |
| **24** | 179°08.59' | 15.0030° | 12°09.77' | N 5°13.13' | 0.9591' | 159°10.98' | 14.5531° | 32°07.37' | N 11°10.29' | 13.1727' | 55.7947' | 191°18.36' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.0012' | hp (π) 0.1466' | ½Ø 15.2790' | 1.68503954697465<br>37% +cre | |
| EoT at 12:00 UTC : -3m 34s (δ 0.73 s/h) | | Phase at 12:00 UTC : 14.71° | | |
| Meridian Pass. Time : 12:03:34.410 | | Age : 1.1 day(s) | | |

| UT | Venus ♀ (π 0.19') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°12.87' | 328°06.34' | S 12°04.69' | 227°25.83' | 322°53.39' | S 15°56.97' | 197°41.91' | 352°37.31' | S 4°17.13' | 225°30.59' | 324°48.63' | S 15°01.70' | **00** |
| **01** | 237°12.72' | 328°08.97' | S 12°04.02' | 242°26.43' | 322°55.26' | S 15°56.40' | 212°43.83' | 352°37.85' | S 4°16.91' | 240°32.83' | 324°48.85' | S 15°01.63' | **01** |
| **02** | 252°12.56' | 328°11.59' | S 12°03.34' | 257°27.02' | 322°57.13' | S 15°55.83' | 227°45.75' | 352°38.39' | S 4°16.68' | 255°35.07' | 324°49.08' | S 15°01.56' | **02** |
| **03** | 267°12.40' | 328°14.21' | S 12°02.67' | 272°27.61' | 322°59.00' | S 15°55.26' | 242°47.68' | 352°38.93' | S 4°16.45' | 270°37.31' | 324°49.30' | S 15°01.50' | **03** |
| **04** | 282°12.24' | 328°16.84' | S 12°01.99' | 287°28.21' | 323°00.87' | S 15°54.69' | 257°49.60' | 352°39.47' | S 4°16.23' | 285°39.55' | 324°49.52' | S 15°01.43' | **04** |
| **05** | 297°12.08' | 328°19.46' | S 12°01.31' | 302°28.80' | 323°02.74' | S 15°54.11' | 272°51.52' | 352°40.01' | S 4°16.00' | 300°41.79' | 324°49.75' | S 15°01.36' | **05** |
| **06** | 312°11.92' | 328°22.08' | S 12°00.64' | 317°29.40' | 323°04.61' | S 15°53.54' | 287°53.45' | 352°40.55' | S 4°15.77' | 315°44.03' | 324°49.97' | S 15°01.29' | **06** |
| **07** | 327°11.76' | 328°24.71' | S 11°59.96' | 332°29.99' | 323°06.47' | S 15°52.97' | 302°55.37' | 352°41.09' | S 4°15.54' | 330°46.27' | 324°50.20' | S 15°01.22' | **07** |
| **08** | 342°11.60' | 328°27.33' | S 11°59.28' | 347°30.59' | 323°08.34' | S 15°52.40' | 317°57.30' | 352°41.63' | S 4°15.32' | 345°48.51' | 324°50.42' | S 15°01.16' | **08** |
| **09** | 357°11.44' | 328°29.96' | S 11°58.60' | 2°31.18' | 323°10.21' | S 15°51.82' | 332°59.22' | 352°42.17' | S 4°15.09' | 0°50.75' | 324°50.64' | S 15°01.09' | **09** |
| **10** | 12°11.28' | 328°32.58' | S 11°57.92' | 17°31.78' | 323°12.08' | S 15°51.25' | 348°01.14' | 352°42.71' | S 4°14.86' | 15°52.99' | 324°50.86' | S 15°01.02' | **10** |
| **11** | 27°11.12' | 328°35.21' | S 11°57.24' | 32°32.37' | 323°13.95' | S 15°50.68' | 3°03.07' | 352°43.25' | S 4°14.64' | 30°55.24' | 324°51.09' | S 15°00.95' | **11** |
| **12** | 42°10.96' | 328°37.83' | S 11°56.56' | 47°32.97' | 323°15.82' | S 15°50.10' | 18°04.99' | 352°43.79' | S 4°14.41' | 45°57.48' | 324°51.31' | S 15°00.88' | **12** |
| **13** | 57°10.80' | 328°40.46' | S 11°55.88' | 62°33.56' | 323°17.69' | S 15°49.53' | 33°06.92' | 352°44.33' | S 4°14.18' | 60°59.72' | 324°51.53' | S 15°00.82' | **13** |
| **14** | 72°10.63' | 328°43.08' | S 11°55.20' | 77°34.16' | 323°19.56' | S 15°48.95' | 48°08.84' | 352°44.87' | S 4°13.96' | 76°01.96' | 324°51.76' | S 15°00.75' | **14** |
| **15** | 87°10.47' | 328°45.71' | S 11°54.51' | 92°34.76' | 323°21.42' | S 15°48.38' | 63°10.77' | 352°45.41' | S 4°13.73' | 91°04.20' | 324°51.98' | S 15°00.68' | **15** |
| **16** | 102°10.31' | 328°48.33' | S 11°53.83' | 107°35.35' | 323°23.29' | S 15°47.80' | 78°12.69' | 352°45.95' | S 4°13.50' | 106°06.44' | 324°52.20' | S 15°00.61' | **16** |
| **17** | 117°10.15' | 328°50.96' | S 11°53.14' | 122°35.95' | 323°25.16' | S 15°47.23' | 93°14.61' | 352°46.49' | S 4°13.28' | 121°08.68' | 324°52.42' | S 15°00.54' | **17** |
| **18** | 132°09.99' | 328°53.58' | S 11°52.46' | 137°36.54' | 323°27.03' | S 15°46.65' | 108°16.54' | 352°47.03' | S 4°13.05' | 136°10.93' | 324°52.64' | S 15°00.48' | **18** |
| **19** | 147°09.83' | 328°56.21' | S 11°51.77' | 152°37.14' | 323°28.89' | S 15°46.08' | 123°18.46' | 352°47.57' | S 4°12.82' | 151°13.17' | 324°52.87' | S 15°00.41' | **19** |
| **20** | 162°09.67' | 328°58.83' | S 11°51.09' | 167°37.74' | 323°30.76' | S 15°45.50' | 138°20.39' | 352°48.11' | S 4°12.60' | 166°15.41' | 324°53.09' | S 15°00.34' | **20** |
| **21** | 177°09.50' | 329°01.46' | S 11°50.40' | 182°38.33' | 323°32.63' | S 15°44.92' | 153°22.31' | 352°48.65' | S 4°12.37' | 181°17.65' | 324°53.31' | S 15°00.27' | **21** |
| **22** | 192°09.34' | 329°04.09' | S 11°49.71' | 197°38.93' | 323°34.50' | S 15°44.35' | 168°24.24' | 352°49.19' | S 4°12.14' | 196°19.90' | 324°53.53' | S 15°00.21' | **22** |
| **23** | 207°09.18' | 329°06.71' | S 11°49.02' | 212°39.53' | 323°36.36' | S 15°43.77' | 183°26.16' | 352°49.73' | S 4°11.92' | 211°22.14' | 324°53.75' | S 15°00.14' | **23** |
| **24** | 222°09.02' | 329°09.34' | S 11°48.33' | 227°40.13' | 323°38.23' | S 15°43.19' | 198°28.09' | 352°50.27' | S 4°11.69' | 226°24.38' | 324°53.98' | S 15°00.07' | **24** |
| | δ 14.9973° | | *d* 0.6735' | δ 15.0099° | | *d* 0.5712' | δ 15.0321° | | *d* 0.2271' | δ 15.0373° | | *d* 0.0683' | |

## *Sunday, April 3rd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°08.59' | 15.0030° | 12°09.77' | N 5°13.13' | 0.9591' | 159°10.98' | 14.5531° | 32°07.37' | N 11°10.29' | 13.1727' | 55.7947' | 191°18.36' | **00** |
| **01** | 194°08.77' | 15.0030° | 12°12.05' | N 5°14.09' | 0.9590' | 173°44.15' | 14.5528° | 32°36.67' | N 11°23.41' | 13.1140' | 55.7718' | 206°20.82' | **01** |
| **02** | 209°08.95' | 15.0030° | 12°14.33' | N 5°15.05' | 0.9588' | 188°17.29' | 14.5524° | 33°05.99' | N 11°36.46' | 13.0545' | 55.7490' | 221°23.28' | **02** |
| **03** | 224°09.14' | 15.0030° | 12°16.61' | N 5°16.00' | 0.9587' | 202°50.42' | 14.5521° | 33°35.33' | N 11°49.46' | 12.9940' | 55.7263' | 236°25.75' | **03** |
| **04** | 239°09.32' | 15.0030° | 12°18.89' | N 5°16.96' | 0.9585' | 217°23.52' | 14.5518° | 34°04.69' | N 12°02.39' | 12.9327' | 55.7036' | 251°28.21' | **04** |
| **05** | 254°09.50' | 15.0030° | 12°21.17' | N 5°17.92' | 0.9583' | 231°56.61' | 14.5514° | 34°34.07' | N 12°15.26' | 12.8706' | 55.6810' | 266°30.68' | **05** |
| **06** | 269°09.68' | 15.0030° | 12°23.46' | N 5°18.88' | 0.9582' | 246°29.67' | 14.5510° | 35°03.47' | N 12°28.07' | 12.8075' | 55.6585' | 281°33.14' | **06** |
| **07** | 284°09.87' | 15.0030° | 12°25.74' | N 5°19.84' | 0.9580' | 261°02.71' | 14.5507° | 35°32.89' | N 12°40.81' | 12.7436' | 55.6361' | 296°35.60' | **07** |
| **08** | 299°10.05' | 15.0030° | 12°28.02' | N 5°20.79' | 0.9578' | 275°35.73' | 14.5503° | 36°02.34' | N 12°53.49' | 12.6789' | 55.6138' | 311°38.07' | **08** |
| **09** | 314°10.23' | 15.0030° | 12°30.30' | N 5°21.75' | 0.9577' | 290°08.72' | 14.5499° | 36°31.81' | N 13°06.10' | 12.6133' | 55.5915' | 326°40.53' | **09** |
| **10** | 329°10.41' | 15.0030° | 12°32.59' | N 5°22.71' | 0.9575' | 304°41.69' | 14.5495° | 37°01.31' | N 13°18.65' | 12.5468' | 55.5693' | 341°43.00' | **10** |
| **11** | 344°10.59' | 15.0030° | 12°34.87' | N 5°23.67' | 0.9573' | 319°14.63' | 14.5490° | 37°30.83' | N 13°31.13' | 12.4796' | 55.5473' | 356°45.46' | **11** |
| **12** | 359°10.77' | 15.0030° | 12°37.15' | N 5°24.62' | 0.9572' | 333°47.55' | 14.5486° | 38°00.38' | N 13°43.54' | 12.4115' | 55.5253' | 11°47.92' | **12** |
| **13** | 14°10.96' | 15.0030° | 12°39.43' | N 5°25.58' | 0.9570' | 348°20.44' | 14.5482° | 38°29.95' | N 13°55.88' | 12.3425' | 55.5034' | 26°50.39' | **13** |
| **14** | 29°11.14' | 15.0030° | 12°41.72' | N 5°26.54' | 0.9568' | 2°53.30' | 14.5477° | 38°59.55' | N 14°08.16' | 12.2727' | 55.4816' | 41°52.85' | **14** |
| **15** | 44°11.32' | 15.0030° | 12°44.00' | N 5°27.50' | 0.9567' | 17°26.14' | 14.5473° | 39°29.18' | N 14°20.36' | 12.2021' | 55.4599' | 56°55.32' | **15** |
| **16** | 59°11.50' | 15.0030° | 12°46.28' | N 5°28.45' | 0.9565' | 31°58.94' | 14.5468° | 39°58.84' | N 14°32.49' | 12.1307' | 55.4384' | 71°57.78' | **16** |
| **17** | 74°11.68' | 15.0030° | 12°48.56' | N 5°29.41' | 0.9563' | 46°31.72' | 14.5463° | 40°28.52' | N 14°44.55' | 12.0585' | 55.4169' | 87°00.24' | **17** |
| **18** | 89°11.86' | 15.0030° | 12°50.85' | N 5°30.36' | 0.9562' | 61°04.47' | 14.5458° | 40°58.24' | N 14°56.53' | 11.9854' | 55.3955' | 102°02.71' | **18** |
| **19** | 104°12.04' | 15.0030° | 12°53.13' | N 5°31.32' | 0.9560' | 75°37.19' | 14.5453° | 41°27.98' | N 15°08.45' | 11.9115' | 55.3743' | 117°05.17' | **19** |
| **20** | 119°12.23' | 15.0030° | 12°55.41' | N 5°32.28' | 0.9558' | 90°09.88' | 14.5448° | 41°57.76' | N 15°20.28' | 11.8369' | 55.3532' | 132°07.64' | **20** |
| **21** | 134°12.41' | 15.0030° | 12°57.69' | N 5°33.23' | 0.9557' | 104°42.54' | 14.5443° | 42°27.56' | N 15°32.04' | 11.7614' | 55.3321' | 147°10.10' | **21** |
| **22** | 149°12.59' | 15.0030° | 12°59.98' | N 5°34.19' | 0.9555' | 119°15.16' | 14.5438° | 42°57.40' | N 15°43.73' | 11.6851' | 55.3113' | 162°12.57' | **22** |
| **23** | 164°12.77' | 15.0030° | 13°02.26' | N 5°35.14' | 0.9553' | 133°47.76' | 14.5432° | 43°27.27' | N 15°55.34' | 11.6081' | 55.2905' | 177°15.03' | **23** |
| **24** | 179°12.95' | 15.0030° | 13°04.54' | N 5°36.10' | 0.9552' | 148°20.32' | 14.5427° | 43°57.18' | N 16°06.87' | 11.5302' | 55.2699' | 192°17.49' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.9967' | hp (π) 0.1466' | ½Ø 15.1297' | 5.22136401865195<br>2% +cre | |
| EoT at 12:00 UTC : -3m 16s (δ 0.73 s/h) | | Phase at 12:00 UTC : 26.33° | | |
| Meridian Pass. Time : 12:03:16.904 | | Age : 2.0 day(s) | | |

| UT | Venus ♀ (π 0.19') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°09.02' | 329°09.34' | S 11°48.33' | 227°40.13' | 323°38.23' | S 15°43.19' | 198°28.09' | 352°50.27' | S 4°11.69' | 226°24.38' | 324°53.98' | S 15°00.07' | **00** |
| **01** | 237°08.86' | 329°11.96' | S 11°47.64' | 242°40.72' | 323°40.10' | S 15°42.62' | 213°30.01' | 352°50.81' | S 4°11.46' | 241°26.62' | 324°54.20' | S 15°00.00' | **01** |
| **02** | 252°08.69' | 329°14.59' | S 11°46.95' | 257°41.32' | 323°41.96' | S 15°42.04' | 228°31.94' | 352°51.35' | S 4°11.24' | 256°28.87' | 324°54.42' | S 14°59.94' | **02** |
| **03** | 267°08.53' | 329°17.22' | S 11°46.26' | 272°41.92' | 323°43.83' | S 15°41.46' | 243°33.86' | 352°51.88' | S 4°11.01' | 271°31.11' | 324°54.64' | S 14°59.87' | **03** |
| **04** | 282°08.37' | 329°19.84' | S 11°45.57' | 287°42.52' | 323°45.69' | S 15°40.88' | 258°35.79' | 352°52.42' | S 4°10.78' | 286°33.35' | 324°54.86' | S 14°59.80' | **04** |
| **05** | 297°08.21' | 329°22.47' | S 11°44.87' | 302°43.12' | 323°47.56' | S 15°40.30' | 273°37.71' | 352°52.96' | S 4°10.56' | 301°35.59' | 324°55.08' | S 14°59.73' | **05** |
| **06** | 312°08.04' | 329°25.10' | S 11°44.18' | 317°43.71' | 323°49.43' | S 15°39.72' | 288°39.64' | 352°53.50' | S 4°10.33' | 316°37.84' | 324°55.30' | S 14°59.67' | **06** |
| **07** | 327°07.88' | 329°27.73' | S 11°43.49' | 332°44.31' | 323°51.29' | S 15°39.15' | 303°41.56' | 352°54.04' | S 4°10.10' | 331°40.08' | 324°55.52' | S 14°59.60' | **07** |
| **08** | 342°07.72' | 329°30.35' | S 11°42.79' | 347°44.91' | 323°53.16' | S 15°38.57' | 318°43.49' | 352°54.58' | S 4°09.88' | 346°42.32' | 324°55.74' | S 14°59.53' | **08** |
| **09** | 357°07.55' | 329°32.98' | S 11°42.09' | 2°45.51' | 323°55.02' | S 15°37.99' | 333°45.42' | 352°55.12' | S 4°09.65' | 1°44.57' | 324°55.96' | S 14°59.46' | **09** |
| **10** | 12°07.39' | 329°35.61' | S 11°41.40' | 17°46.11' | 323°56.89' | S 15°37.41' | 348°47.34' | 352°55.66' | S 4°09.42' | 16°46.81' | 324°56.19' | S 14°59.40' | **10** |
| **11** | 27°07.23' | 329°38.23' | S 11°40.70' | 32°46.71' | 323°58.75' | S 15°36.83' | 3°49.27' | 352°56.19' | S 4°09.20' | 31°49.05' | 324°56.41' | S 14°59.33' | **11** |
| **12** | 42°07.06' | 329°40.86' | S 11°40.00' | 47°47.31' | 324°00.62' | S 15°36.25' | 18°51.19' | 352°56.73' | S 4°08.97' | 46°51.30' | 324°56.63' | S 14°59.26' | **12** |
| **13** | 57°06.90' | 329°43.49' | S 11°39.30' | 62°47.91' | 324°02.48' | S 15°35.67' | 33°53.12' | 352°57.27' | S 4°08.74' | 61°53.54' | 324°56.85' | S 14°59.20' | **13** |
| **14** | 72°06.73' | 329°46.12' | S 11°38.60' | 77°48.51' | 324°04.35' | S 15°35.09' | 48°55.04' | 352°57.81' | S 4°08.52' | 76°55.79' | 324°57.07' | S 14°59.13' | **14** |
| **15** | 87°06.57' | 329°48.75' | S 11°37.90' | 92°49.11' | 324°06.21' | S 15°34.51' | 63°56.97' | 352°58.35' | S 4°08.29' | 91°58.03' | 324°57.29' | S 14°59.06' | **15** |
| **16** | 102°06.41' | 329°51.37' | S 11°37.20' | 107°49.71' | 324°08.07' | S 15°33.92' | 78°58.90' | 352°58.89' | S 4°08.07' | 107°00.28' | 324°57.51' | S 14°58.99' | **16** |
| **17** | 117°06.24' | 329°54.00' | S 11°36.50' | 122°50.31' | 324°09.94' | S 15°33.34' | 94°00.82' | 352°59.42' | S 4°07.84' | 122°02.52' | 324°57.73' | S 14°58.93' | **17** |
| **18** | 132°06.08' | 329°56.63' | S 11°35.80' | 137°50.91' | 324°11.80' | S 15°32.76' | 109°02.75' | 352°59.96' | S 4°07.61' | 137°04.76' | 324°57.94' | S 14°58.86' | **18** |
| **19** | 147°05.91' | 329°59.26' | S 11°35.10' | 152°51.51' | 324°13.67' | S 15°32.18' | 124°04.67' | 353°00.50' | S 4°07.39' | 152°07.01' | 324°58.16' | S 14°58.79' | **19** |
| **20** | 162°05.75' | 330°01.89' | S 11°34.39' | 167°52.11' | 324°15.53' | S 15°31.60' | 139°06.60' | 353°01.04' | S 4°07.16' | 167°09.25' | 324°58.38' | S 14°58.73' | **20** |
| **21** | 177°05.58' | 330°04.52' | S 11°33.69' | 182°52.71' | 324°17.39' | S 15°31.01' | 154°08.53' | 353°01.57' | S 4°06.94' | 182°11.50' | 324°58.60' | S 14°58.66' | **21** |
| **22** | 192°05.42' | 330°07.15' | S 11°32.99' | 197°53.31' | 324°19.26' | S 15°30.43' | 169°10.45' | 353°02.11' | S 4°06.71' | 197°13.74' | 324°58.82' | S 14°58.59' | **22** |
| **23** | 207°05.25' | 330°09.78' | S 11°32.28' | 212°53.91' | 324°21.12' | S 15°29.85' | 184°12.38' | 353°02.65' | S 4°06.48' | 212°15.99' | 324°59.04' | S 14°58.53' | **23** |
| **24** | 222°05.09' | 330°12.40' | S 11°31.57' | 227°54.51' | 324°22.98' | S 15°29.27' | 199°14.31' | 353°03.19' | S 4°06.26' | 227°18.23' | 324°59.26' | S 14°58.46' | **24** |
| | δ 14.9973° | | *d* 0.6903' | δ 15.0100° | | *d* 0.5774' | δ 15.0321° | | *d* 0.2266' | δ 15.0374° | | *d* 0.0675' | |

## *Monday, April 4th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°12.95' | 15.0030° | 13°04.54' | N 5°36.10' | 0.9552' | 148°20.32' | 14.5427° | 43°57.18' | N 16°06.87' | 11.5302' | 55.2699' | 192°17.49' | **00** |
| **01** | 194°13.13' | 15.0030° | 13°06.83' | N 5°37.05' | 0.9550' | 162°52.84' | 14.5421° | 44°27.11' | N 16°18.32' | 11.4516' | 55.2494' | 207°19.96' | **01** |
| **02** | 209°13.31' | 15.0030° | 13°09.11' | N 5°38.01' | 0.9548' | 177°25.34' | 14.5416° | 44°57.08' | N 16°29.69' | 11.3721' | 55.2290' | 222°22.42' | **02** |
| **03** | 224°13.49' | 15.0030° | 13°11.39' | N 5°38.96' | 0.9546' | 191°57.80' | 14.5410° | 45°27.09' | N 16°40.98' | 11.2919' | 55.2087' | 237°24.89' | **03** |
| **04** | 239°13.67' | 15.0030° | 13°13.68' | N 5°39.92' | 0.9545' | 206°30.22' | 14.5404° | 45°57.13' | N 16°52.19' | 11.2110' | 55.1886' | 252°27.35' | **04** |
| **05** | 254°13.85' | 15.0030° | 13°15.96' | N 5°40.87' | 0.9543' | 221°02.62' | 14.5398° | 46°27.20' | N 17°03.32' | 11.1292' | 55.1687' | 267°29.81' | **05** |
| **06** | 269°14.03' | 15.0030° | 13°18.24' | N 5°41.83' | 0.9541' | 235°34.97' | 14.5393° | 46°57.31' | N 17°14.37' | 11.0467' | 55.1488' | 282°32.28' | **06** |
| **07** | 284°14.21' | 15.0030° | 13°20.53' | N 5°42.78' | 0.9540' | 250°07.29' | 14.5387° | 47°27.45' | N 17°25.33' | 10.9634' | 55.1292' | 297°34.74' | **07** |
| **08** | 299°14.39' | 15.0030° | 13°22.81' | N 5°43.73' | 0.9538' | 264°39.57' | 14.5381° | 47°57.63' | N 17°36.21' | 10.8794' | 55.1096' | 312°37.21' | **08** |
| **09** | 314°14.57' | 15.0030° | 13°25.10' | N 5°44.69' | 0.9536' | 279°11.82' | 14.5375° | 48°27.85' | N 17°47.01' | 10.7946' | 55.0903' | 327°39.67' | **09** |
| **10** | 329°14.75' | 15.0030° | 13°27.38' | N 5°45.64' | 0.9534' | 293°44.03' | 14.5368° | 48°58.10' | N 17°57.72' | 10.7091' | 55.0710' | 342°42.13' | **10** |
| **11** | 344°14.93' | 15.0030° | 13°29.66' | N 5°46.59' | 0.9533' | 308°16.20' | 14.5362° | 49°28.39' | N 18°08.34' | 10.6228' | 55.0520' | 357°44.60' | **11** |
| **12** | 359°15.11' | 15.0030° | 13°31.95' | N 5°47.55' | 0.9531' | 322°48.34' | 14.5356° | 49°58.72' | N 18°18.87' | 10.5358' | 55.0330' | 12°47.06' | **12** |
| **13** | 14°15.29' | 15.0030° | 13°34.23' | N 5°48.50' | 0.9529' | 337°20.44' | 14.5350° | 50°29.09' | N 18°29.32' | 10.4480' | 55.0143' | 27°49.53' | **13** |
| **14** | 29°15.47' | 15.0030° | 13°36.52' | N 5°49.45' | 0.9527' | 351°52.50' | 14.5343° | 50°59.49' | N 18°39.68' | 10.3595' | 54.9957' | 42°51.99' | **14** |
| **15** | 44°15.65' | 15.0030° | 13°38.80' | N 5°50.40' | 0.9525' | 6°24.52' | 14.5337° | 51°29.94' | N 18°49.95' | 10.2703' | 54.9773' | 57°54.45' | **15** |
| **16** | 59°15.83' | 15.0030° | 13°41.08' | N 5°51.36' | 0.9524' | 20°56.50' | 14.5330° | 52°00.42' | N 19°00.13' | 10.1803' | 54.9590' | 72°56.92' | **16** |
| **17** | 74°16.01' | 15.0030° | 13°43.37' | N 5°52.31' | 0.9522' | 35°28.44' | 14.5324° | 52°30.94' | N 19°10.22' | 10.0897' | 54.9409' | 87°59.38' | **17** |
| **18** | 89°16.19' | 15.0030° | 13°45.65' | N 5°53.26' | 0.9520' | 50°00.34' | 14.5317° | 53°01.50' | N 19°20.22' | 9.9983' | 54.9230' | 103°01.85' | **18** |
| **19** | 104°16.37' | 15.0030° | 13°47.94' | N 5°54.21' | 0.9518' | 64°32.21' | 14.5311° | 53°32.10' | N 19°30.13' | 9.9062' | 54.9052' | 118°04.31' | **19** |
| **20** | 119°16.55' | 15.0030° | 13°50.22' | N 5°55.16' | 0.9516' | 79°04.03' | 14.5304° | 54°02.74' | N 19°39.94' | 9.8134' | 54.8876' | 133°06.78' | **20** |
| **21** | 134°16.73' | 15.0030° | 13°52.51' | N 5°56.12' | 0.9515' | 93°35.82' | 14.5297° | 54°33.42' | N 19°49.66' | 9.7198' | 54.8703' | 148°09.24' | **21** |
| **22** | 149°16.91' | 15.0030° | 13°54.79' | N 5°57.07' | 0.9513' | 108°07.56' | 14.5291° | 55°04.14' | N 19°59.29' | 9.6256' | 54.8530' | 163°11.70' | **22** |
| **23** | 164°17.09' | 15.0030° | 13°57.08' | N 5°58.02' | 0.9511' | 122°39.26' | 14.5284° | 55°34.90' | N 20°08.82' | 9.5307' | 54.8360' | 178°14.17' | **23** |
| **24** | 179°17.27' | 15.0030° | 13°59.36' | N 5°58.97' | 0.9509' | 137°10.93' | 14.5277° | 56°05.71' | N 20°18.25' | 9.4351' | 54.8192' | 193°16.63' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 15.9921' | hp (π) 0.1466' | ½Ø 14.9955' | 10.4757935622641 07% +cre | |
| | EoT at 12:00 UTC : -2m 59s (δ 0.72 s/h) | | Phase at 12:00 UTC : 37.68° | | |
| | Meridian Pass. Time : 12:02:59.541 | | Age : 2.9 day(s) | | |

| UT | Venus ♀ (π 0.18') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°05.09' | 330°12.40' | S 11°31.57' | 227°54.51' | 324°22.98' | S 15°29.27' | 199°14.31' | 353°03.19' | S 4°06.26' | 227°18.23' | 324°59.26' | S 14°58.46' | **00** |
| **01** | 237°04.92' | 330°15.03' | S 11°30.87' | 242°55.11' | 324°24.84' | S 15°28.68' | 214°16.23' | 353°03.73' | S 4°06.03' | 242°20.48' | 324°59.48' | S 14°58.39' | **01** |
| **02** | 252°04.76' | 330°17.66' | S 11°30.16' | 257°55.71' | 324°26.71' | S 15°28.10' | 229°18.16' | 353°04.26' | S 4°05.80' | 257°22.72' | 324°59.70' | S 14°58.33' | **02** |
| **03** | 267°04.59' | 330°20.29' | S 11°29.45' | 272°56.32' | 324°28.57' | S 15°27.52' | 244°20.09' | 353°04.80' | S 4°05.58' | 272°24.97' | 324°59.92' | S 14°58.26' | **03** |
| **04** | 282°04.43' | 330°22.92' | S 11°28.74' | 287°56.92' | 324°30.43' | S 15°26.93' | 259°22.01' | 353°05.34' | S 4°05.35' | 287°27.21' | 325°00.14' | S 14°58.19' | **04** |
| **05** | 297°04.26' | 330°25.55' | S 11°28.03' | 302°57.52' | 324°32.29' | S 15°26.35' | 274°23.94' | 353°05.88' | S 4°05.13' | 302°29.46' | 325°00.35' | S 14°58.13' | **05** |
| **06** | 312°04.10' | 330°28.18' | S 11°27.32' | 317°58.12' | 324°34.16' | S 15°25.76' | 289°25.87' | 353°06.41' | S 4°04.90' | 317°31.71' | 325°00.57' | S 14°58.06' | **06** |
| **07** | 327°03.93' | 330°30.81' | S 11°26.61' | 332°58.72' | 324°36.02' | S 15°25.18' | 304°27.79' | 353°06.95' | S 4°04.68' | 332°33.95' | 325°00.79' | S 14°57.99' | **07** |
| **08** | 342°03.76' | 330°33.44' | S 11°25.90' | 347°59.33' | 324°37.88' | S 15°24.59' | 319°29.72' | 353°07.49' | S 4°04.45' | 347°36.20' | 325°01.01' | S 14°57.93' | **08** |
| **09** | 357°03.60' | 330°36.07' | S 11°25.19' | 2°59.93' | 324°39.74' | S 15°24.01' | 334°31.65' | 353°08.02' | S 4°04.22' | 2°38.44' | 325°01.23' | S 14°57.86' | **09** |
| **10** | 12°03.43' | 330°38.70' | S 11°24.47' | 18°00.53' | 324°41.60' | S 15°23.42' | 349°33.57' | 353°08.56' | S 4°04.00' | 17°40.69' | 325°01.44' | S 14°57.79' | **10** |
| **11** | 27°03.27' | 330°41.33' | S 11°23.76' | 33°01.14' | 324°43.46' | S 15°22.84' | 4°35.50' | 353°09.10' | S 4°03.77' | 32°42.94' | 325°01.66' | S 14°57.73' | **11** |
| **12** | 42°03.10' | 330°43.96' | S 11°23.05' | 48°01.74' | 324°45.32' | S 15°22.25' | 19°37.43' | 353°09.63' | S 4°03.55' | 47°45.18' | 325°01.88' | S 14°57.66' | **12** |
| **13** | 57°02.93' | 330°46.59' | S 11°22.33' | 63°02.34' | 324°47.19' | S 15°21.66' | 34°39.36' | 353°10.17' | S 4°03.32' | 62°47.43' | 325°02.10' | S 14°57.59' | **13** |
| **14** | 72°02.77' | 330°49.22' | S 11°21.62' | 78°02.94' | 324°49.05' | S 15°21.08' | 49°41.28' | 353°10.71' | S 4°03.09' | 77°49.68' | 325°02.31' | S 14°57.53' | **14** |
| **15** | 87°02.60' | 330°51.85' | S 11°20.90' | 93°03.55' | 324°50.91' | S 15°20.49' | 64°43.21' | 353°11.25' | S 4°02.87' | 92°51.92' | 325°02.53' | S 14°57.46' | **15** |
| **16** | 102°02.43' | 330°54.49' | S 11°20.18' | 108°04.15' | 324°52.77' | S 15°19.90' | 79°45.14' | 353°11.78' | S 4°02.64' | 107°54.17' | 325°02.75' | S 14°57.40' | **16** |
| **17** | 117°02.27' | 330°57.12' | S 11°19.46' | 123°04.76' | 324°54.63' | S 15°19.31' | 94°47.06' | 353°12.32' | S 4°02.42' | 122°56.42' | 325°02.97' | S 14°57.33' | **17** |
| **18** | 132°02.10' | 330°59.75' | S 11°18.75' | 138°05.36' | 324°56.49' | S 15°18.73' | 109°48.99' | 353°12.85' | S 4°02.19' | 137°58.66' | 325°03.18' | S 14°57.26' | **18** |
| **19** | 147°01.93' | 331°02.38' | S 11°18.03' | 153°05.96' | 324°58.35' | S 15°18.14' | 124°50.92' | 353°13.39' | S 4°01.97' | 153°00.91' | 325°03.40' | S 14°57.20' | **19** |
| **20** | 162°01.77' | 331°05.01' | S 11°17.31' | 168°06.57' | 325°00.21' | S 15°17.55' | 139°52.85' | 353°13.93' | S 4°01.74' | 168°03.16' | 325°03.62' | S 14°57.13' | **20** |
| **21** | 177°01.60' | 331°07.64' | S 11°16.59' | 183°07.17' | 325°02.07' | S 15°16.96' | 154°54.78' | 353°14.46' | S 4°01.52' | 183°05.41' | 325°03.83' | S 14°57.07' | **21** |
| **22** | 192°01.43' | 331°10.27' | S 11°15.87' | 198°07.78' | 325°03.93' | S 15°16.37' | 169°56.70' | 353°15.00' | S 4°01.29' | 198°07.65' | 325°04.05' | S 14°57.00' | **22** |
| **23** | 207°01.26' | 331°12.90' | S 11°15.14' | 213°08.38' | 325°05.79' | S 15°15.79' | 184°58.63' | 353°15.54' | S 4°01.06' | 213°09.90' | 325°04.27' | S 14°56.93' | **23** |
| **24** | 222°01.10' | 331°15.54' | S 11°14.42' | 228°08.99' | 325°07.64' | S 15°15.20' | 200°00.56' | 353°16.07' | S 4°00.84' | 228°12.15' | 325°04.48' | S 14°56.87' | **24** |
| | δ 14.9972° | | *d* 0.7069' | δ 15.0100° | | *d* 0.5834' | δ 15.0321° | | *d* 0.2260' | δ 15.0374° | | *d* 0.0667' | |

## *Tuesday, April 5th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°17.27' | 15.0030° | 13°59.36' | N 5°58.97' | 0.9509' | 137°10.93' | 14.5277° | 56°05.71' | N 20°18.25' | 9.4351' | 54.8192' | 193°16.63' | **00** |
| **01** | 194°17.45' | 15.0030° | 14°01.65' | N 5°59.92' | 0.9507' | 151°42.55' | 14.5270° | 56°36.55' | N 20°27.59' | 9.3388' | 54.8025' | 208°19.10' | **01** |
| **02** | 209°17.63' | 15.0030° | 14°03.93' | N 6°00.87' | 0.9506' | 166°14.13' | 14.5264° | 57°07.43' | N 20°36.83' | 9.2419' | 54.7860' | 223°21.56' | **02** |
| **03** | 224°17.81' | 15.0030° | 14°06.22' | N 6°01.82' | 0.9504' | 180°45.67' | 14.5257° | 57°38.36' | N 20°45.98' | 9.1442' | 54.7698' | 238°24.02' | **03** |
| **04** | 239°17.99' | 15.0030° | 14°08.50' | N 6°02.77' | 0.9502' | 195°17.17' | 14.5250° | 58°09.32' | N 20°55.02' | 9.0459' | 54.7537' | 253°26.49' | **04** |
| **05** | 254°18.17' | 15.0030° | 14°10.79' | N 6°03.72' | 0.9500' | 209°48.63' | 14.5243° | 58°40.33' | N 21°03.97' | 8.9469' | 54.7378' | 268°28.95' | **05** |
| **06** | 269°18.34' | 15.0030° | 14°13.07' | N 6°04.67' | 0.9498' | 224°20.04' | 14.5236° | 59°11.37' | N 21°12.82' | 8.8473' | 54.7221' | 283°31.42' | **06** |
| **07** | 284°18.52' | 15.0030° | 14°15.36' | N 6°05.62' | 0.9496' | 238°51.42' | 14.5229° | 59°42.46' | N 21°21.56' | 8.7469' | 54.7066' | 298°33.88' | **07** |
| **08** | 299°18.70' | 15.0030° | 14°17.64' | N 6°06.57' | 0.9495' | 253°22.75' | 14.5222° | 60°13.59' | N 21°30.21' | 8.6460' | 54.6914' | 313°36.34' | **08** |
| **09** | 314°18.88' | 15.0030° | 14°19.93' | N 6°07.52' | 0.9493' | 267°54.05' | 14.5215° | 60°44.76' | N 21°38.75' | 8.5444' | 54.6763' | 328°38.81' | **09** |
| **10** | 329°19.06' | 15.0030° | 14°22.21' | N 6°08.47' | 0.9491' | 282°25.30' | 14.5209° | 61°15.98' | N 21°47.20' | 8.4421' | 54.6614' | 343°41.27' | **10** |
| **11** | 344°19.24' | 15.0030° | 14°24.50' | N 6°09.42' | 0.9489' | 296°56.51' | 14.5202° | 61°47.23' | N 21°55.54' | 8.3393' | 54.6468' | 358°43.74' | **11** |
| **12** | 359°19.42' | 15.0030° | 14°26.79' | N 6°10.37' | 0.9487' | 311°27.68' | 14.5195° | 62°18.53' | N 22°03.77' | 8.2357' | 54.6323' | 13°46.20' | **12** |
| **13** | 14°19.59' | 15.0030° | 14°29.07' | N 6°11.31' | 0.9485' | 325°58.80' | 14.5188° | 62°49.86' | N 22°11.90' | 8.1316' | 54.6181' | 28°48.67' | **13** |
| **14** | 29°19.77' | 15.0030° | 14°31.36' | N 6°12.26' | 0.9483' | 340°29.89' | 14.5181° | 63°21.24' | N 22°19.93' | 8.0268' | 54.6041' | 43°51.13' | **14** |
| **15** | 44°19.95' | 15.0030° | 14°33.64' | N 6°13.21' | 0.9482' | 355°00.93' | 14.5174° | 63°52.66' | N 22°27.85' | 7.9215' | 54.5903' | 58°53.59' | **15** |
| **16** | 59°20.13' | 15.0030° | 14°35.93' | N 6°14.16' | 0.9480' | 9°31.94' | 14.5167° | 64°24.12' | N 22°35.67' | 7.8155' | 54.5767' | 73°56.06' | **16** |
| **17** | 74°20.31' | 15.0030° | 14°38.22' | N 6°15.11' | 0.9478' | 24°02.90' | 14.5161° | 64°55.62' | N 22°43.38' | 7.7089' | 54.5634' | 88°58.52' | **17** |
| **18** | 89°20.48' | 15.0030° | 14°40.50' | N 6°16.05' | 0.9476' | 38°33.82' | 14.5154° | 65°27.16' | N 22°50.98' | 7.6017' | 54.5503' | 104°00.99' | **18** |
| **19** | 104°20.66' | 15.0030° | 14°42.79' | N 6°17.00' | 0.9474' | 53°04.71' | 14.5147° | 65°58.74' | N 22°58.47' | 7.4939' | 54.5374' | 119°03.45' | **19** |
| **20** | 119°20.84' | 15.0030° | 14°45.07' | N 6°17.95' | 0.9472' | 67°35.55' | 14.5140° | 66°30.37' | N 23°05.86' | 7.3856' | 54.5247' | 134°05.91' | **20** |
| **21** | 134°21.02' | 15.0030° | 14°47.36' | N 6°18.90' | 0.9470' | 82°06.35' | 14.5134° | 67°02.03' | N 23°13.13' | 7.2766' | 54.5122' | 149°08.38' | **21** |
| **22** | 149°21.19' | 15.0030° | 14°49.65' | N 6°19.84' | 0.9468' | 96°37.11' | 14.5127° | 67°33.73' | N 23°20.30' | 7.1671' | 54.5000' | 164°10.84' | **22** |
| **23** | 164°21.37' | 15.0030° | 14°51.93' | N 6°20.79' | 0.9466' | 111°07.83' | 14.5120° | 68°05.48' | N 23°27.36' | 7.0570' | 54.4880' | 179°13.31' | **23** |
| **24** | 179°21.55' | 15.0030° | 14°54.22' | N 6°21.74' | 0.9464' | 125°38.51' | 14.5114° | 68°37.26' | N 23°34.30' | 6.9464' | 54.4763' | 194°15.77' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9876' | hp (π) 0.1465' | ½Ø 14.8864' | 17.1476686559561<br>3% +cre |
| | EoT at 12:00 UTC : -2m 42s (δ 0.71 s/h) | | Phase at 12:00 UTC : 48.80° | |
| | Meridian Pass. Time : 12:02:42.337 | | Age : 3.8 day(s) | |

| UT | Venus ♀ (π 0.18') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 222°01.10' | 331°15.54' | S 11°14.42' | 228°08.99' | 325°07.64' | S 15°15.20' | 200°00.56' | 353°16.07' | S 4°00.84' | 228°12.15' | 325°04.48' | S 14°56.87' | **00** |
| **01** | 237°00.93' | 331°18.17' | S 11°13.70' | 243°09.59' | 325°09.50' | S 15°14.61' | 215°02.49' | 353°16.61' | S 4°00.61' | 243°14.40' | 325°04.70' | S 14°56.80' | **01** |
| **02** | 252°00.76' | 331°20.80' | S 11°12.97' | 258°10.20' | 325°11.36' | S 15°14.02' | 230°04.42' | 353°17.14' | S 4°00.39' | 258°16.64' | 325°04.92' | S 14°56.74' | **02** |
| **03** | 267°00.59' | 331°23.43' | S 11°12.25' | 273°10.80' | 325°13.22' | S 15°13.43' | 245°06.34' | 353°17.68' | S 4°00.16' | 273°18.89' | 325°05.13' | S 14°56.67' | **03** |
| **04** | 282°00.42' | 331°26.06' | S 11°11.53' | 288°11.41' | 325°15.08' | S 15°12.84' | 260°08.27' | 353°18.22' | S 3°59.94' | 288°21.14' | 325°05.35' | S 14°56.60' | **04** |
| **05** | 297°00.26' | 331°28.70' | S 11°10.80' | 303°12.01' | 325°16.94' | S 15°12.25' | 275°10.20' | 353°18.75' | S 3°59.71' | 303°23.39' | 325°05.56' | S 14°56.54' | **05** |
| **06** | 312°00.09' | 331°31.33' | S 11°10.07' | 318°12.62' | 325°18.80' | S 15°11.66' | 290°12.13' | 353°19.29' | S 3°59.49' | 318°25.64' | 325°05.78' | S 14°56.47' | **06** |
| **07** | 326°59.92' | 331°33.96' | S 11°09.35' | 333°13.23' | 325°20.65' | S 15°11.07' | 305°14.06' | 353°19.82' | S 3°59.26' | 333°27.89' | 325°05.99' | S 14°56.41' | **07** |
| **08** | 341°59.75' | 331°36.59' | S 11°08.62' | 348°13.83' | 325°22.51' | S 15°10.48' | 320°15.99' | 353°20.36' | S 3°59.04' | 348°30.14' | 325°06.21' | S 14°56.34' | **08** |
| **09** | 356°59.58' | 331°39.23' | S 11°07.89' | 3°14.44' | 325°24.37' | S 15°09.88' | 335°17.91' | 353°20.89' | S 3°58.81' | 3°32.38' | 325°06.43' | S 14°56.28' | **09** |
| **10** | 11°59.42' | 331°41.86' | S 11°07.16' | 18°15.05' | 325°26.23' | S 15°09.29' | 350°19.84' | 353°21.43' | S 3°58.59' | 18°34.63' | 325°06.64' | S 14°56.21' | **10** |
| **11** | 26°59.25' | 331°44.49' | S 11°06.43' | 33°15.65' | 325°28.08' | S 15°08.70' | 5°21.77' | 353°21.97' | S 3°58.36' | 33°36.88' | 325°06.86' | S 14°56.14' | **11** |
| **12** | 41°59.08' | 331°47.12' | S 11°05.70' | 48°16.26' | 325°29.94' | S 15°08.11' | 20°23.70' | 353°22.50' | S 3°58.14' | 48°39.13' | 325°07.07' | S 14°56.08' | **12** |
| **13** | 56°58.91' | 331°49.76' | S 11°04.97' | 63°16.87' | 325°31.80' | S 15°07.52' | 35°25.63' | 353°23.04' | S 3°57.91' | 63°41.38' | 325°07.29' | S 14°56.01' | **13** |
| **14** | 71°58.74' | 331°52.39' | S 11°04.24' | 78°17.47' | 325°33.66' | S 15°06.92' | 50°27.56' | 353°23.57' | S 3°57.69' | 78°43.63' | 325°07.50' | S 14°55.95' | **14** |
| **15** | 86°58.57' | 331°55.02' | S 11°03.50' | 93°18.08' | 325°35.51' | S 15°06.33' | 65°29.49' | 353°24.11' | S 3°57.46' | 93°45.88' | 325°07.71' | S 14°55.88' | **15** |
| **16** | 101°58.40' | 331°57.66' | S 11°02.77' | 108°18.69' | 325°37.37' | S 15°05.74' | 80°31.42' | 353°24.64' | S 3°57.24' | 108°48.13' | 325°07.93' | S 14°55.82' | **16** |
| **17** | 116°58.23' | 332°00.29' | S 11°02.04' | 123°19.30' | 325°39.23' | S 15°05.15' | 95°33.35' | 353°25.18' | S 3°57.01' | 123°50.38' | 325°08.14' | S 14°55.75' | **17** |
| **18** | 131°58.06' | 332°02.92' | S 11°01.30' | 138°19.90' | 325°41.08' | S 15°04.55' | 110°35.27' | 353°25.71' | S 3°56.79' | 138°52.63' | 325°08.36' | S 14°55.69' | **18** |
| **19** | 146°57.90' | 332°05.56' | S 11°00.57' | 153°20.51' | 325°42.94' | S 15°03.96' | 125°37.20' | 353°26.25' | S 3°56.56' | 153°54.88' | 325°08.57' | S 14°55.62' | **19** |
| **20** | 161°57.73' | 332°08.19' | S 10°59.83' | 168°21.12' | 325°44.79' | S 15°03.37' | 140°39.13' | 353°26.78' | S 3°56.34' | 168°57.13' | 325°08.79' | S 14°55.56' | **20** |
| **21** | 176°57.56' | 332°10.82' | S 10°59.10' | 183°21.73' | 325°46.65' | S 15°02.77' | 155°41.06' | 353°27.32' | S 3°56.11' | 183°59.38' | 325°09.00' | S 14°55.49' | **21** |
| **22** | 191°57.39' | 332°13.46' | S 10°58.36' | 198°22.34' | 325°48.51' | S 15°02.18' | 170°42.99' | 353°27.85' | S 3°55.89' | 199°01.63' | 325°09.21' | S 14°55.43' | **22** |
| **23** | 206°57.22' | 332°16.09' | S 10°57.62' | 213°22.95' | 325°50.36' | S 15°01.58' | 185°44.92' | 353°28.39' | S 3°55.66' | 214°03.88' | 325°09.43' | S 14°55.36' | **23** |
| **24** | 221°57.05' | 332°18.72' | S 10°56.88' | 228°23.55' | 325°52.22' | S 15°00.99' | 200°46.85' | 353°28.92' | S 3°55.44' | 229°06.13' | 325°09.64' | S 14°55.30' | **24** |
| | δ 14.9972° | | *d* 0.7231' | δ 15.0101° | | *d* 0.5893' | δ 15.0321° | | *d* 0.2254' | δ 15.0375° | | *d* 0.0659' | |

## *Wednesday, April 6th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°21.55' | 15.0030° | 14°54.22' | N 6°21.74' | 0.9464' | 125°38.51' | 14.5114° | 68°37.26' | N 23°34.30' | 6.9464' | 54.4763' | 194°15.77' | **00** |
| **01** | 194°21.73' | 15.0030° | 14°56.51' | N 6°22.68' | 0.9462' | 140°09.16' | 14.5107° | 69°09.08' | N 23°41.14' | 6.8352' | 54.4648' | 209°18.24' | **01** |
| **02** | 209°21.90' | 15.0030° | 14°58.79' | N 6°23.63' | 0.9461' | 154°39.76' | 14.5101° | 69°40.94' | N 23°47.86' | 6.7235' | 54.4535' | 224°20.70' | **02** |
| **03** | 224°22.08' | 15.0030° | 15°01.08' | N 6°24.57' | 0.9459' | 169°10.32' | 14.5094° | 70°12.84' | N 23°54.47' | 6.6112' | 54.4425' | 239°23.16' | **03** |
| **04** | 239°22.26' | 15.0030° | 15°03.37' | N 6°25.52' | 0.9457' | 183°40.85' | 14.5088° | 70°44.78' | N 24°00.97' | 6.4983' | 54.4317' | 254°25.63' | **04** |
| **05** | 254°22.44' | 15.0030° | 15°05.66' | N 6°26.47' | 0.9455' | 198°11.34' | 14.5081° | 71°16.76' | N 24°07.36' | 6.3850' | 54.4212' | 269°28.09' | **05** |
| **06** | 269°22.61' | 15.0029° | 15°07.94' | N 6°27.41' | 0.9453' | 212°41.79' | 14.5075° | 71°48.77' | N 24°13.63' | 6.2711' | 54.4109' | 284°30.56' | **06** |
| **07** | 284°22.79' | 15.0029° | 15°10.23' | N 6°28.36' | 0.9451' | 227°12.20' | 14.5069° | 72°20.82' | N 24°19.78' | 6.1568' | 54.4009' | 299°33.02' | **07** |
| **08** | 299°22.97' | 15.0029° | 15°12.52' | N 6°29.30' | 0.9449' | 241°42.57' | 14.5062° | 72°52.91' | N 24°25.83' | 6.0419' | 54.3911' | 314°35.48' | **08** |
| **09** | 314°23.14' | 15.0029° | 15°14.81' | N 6°30.25' | 0.9447' | 256°12.91' | 14.5056° | 73°25.04' | N 24°31.75' | 5.9265' | 54.3815' | 329°37.95' | **09** |
| **10** | 329°23.32' | 15.0029° | 15°17.09' | N 6°31.19' | 0.9445' | 270°43.21' | 14.5050° | 73°57.20' | N 24°37.56' | 5.8106' | 54.3722' | 344°40.41' | **10** |
| **11** | 344°23.50' | 15.0029° | 15°19.38' | N 6°32.13' | 0.9443' | 285°13.48' | 14.5044° | 74°29.40' | N 24°43.26' | 5.6942' | 54.3632' | 359°42.88' | **11** |
| **12** | 359°23.67' | 15.0029° | 15°21.67' | N 6°33.08' | 0.9441' | 299°43.71' | 14.5038° | 75°01.63' | N 24°48.84' | 5.5774' | 54.3544' | 14°45.34' | **12** |
| **13** | 14°23.85' | 15.0029° | 15°23.96' | N 6°34.02' | 0.9439' | 314°13.90' | 14.5032° | 75°33.90' | N 24°54.30' | 5.4601' | 54.3459' | 29°47.80' | **13** |
| **14** | 29°24.03' | 15.0029° | 15°26.24' | N 6°34.97' | 0.9437' | 328°44.06' | 14.5027° | 76°06.21' | N 24°59.64' | 5.3423' | 54.3376' | 44°50.27' | **14** |
| **15** | 44°24.20' | 15.0029° | 15°28.53' | N 6°35.91' | 0.9435' | 343°14.19' | 14.5021° | 76°38.55' | N 25°04.86' | 5.2241' | 54.3296' | 59°52.73' | **15** |
| **16** | 59°24.38' | 15.0029° | 15°30.82' | N 6°36.85' | 0.9433' | 357°44.28' | 14.5015° | 77°10.92' | N 25°09.97' | 5.1054' | 54.3219' | 74°55.20' | **16** |
| **17** | 74°24.55' | 15.0029° | 15°33.11' | N 6°37.80' | 0.9431' | 12°14.34' | 14.5010° | 77°43.32' | N 25°14.95' | 4.9863' | 54.3144' | 89°57.66' | **17** |
| **18** | 89°24.73' | 15.0029° | 15°35.40' | N 6°38.74' | 0.9429' | 26°44.37' | 14.5004° | 78°15.76' | N 25°19.82' | 4.8668' | 54.3072' | 105°00.13' | **18** |
| **19** | 104°24.91' | 15.0029° | 15°37.68' | N 6°39.68' | 0.9427' | 41°14.36' | 14.4999° | 78°48.23' | N 25°24.57' | 4.7468' | 54.3003' | 120°02.59' | **19** |
| **20** | 119°25.08' | 15.0029° | 15°39.97' | N 6°40.62' | 0.9425' | 55°44.32' | 14.4994° | 79°20.73' | N 25°29.19' | 4.6264' | 54.2936' | 135°05.05' | **20** |
| **21** | 134°25.26' | 15.0029° | 15°42.26' | N 6°41.57' | 0.9423' | 70°14.25' | 14.4989° | 79°53.26' | N 25°33.70' | 4.5057' | 54.2872' | 150°07.52' | **21** |
| **22** | 149°25.43' | 15.0029° | 15°44.55' | N 6°42.51' | 0.9421' | 84°44.15' | 14.4984° | 80°25.83' | N 25°38.08' | 4.3845' | 54.2810' | 165°09.98' | **22** |
| **23** | 164°25.61' | 15.0029° | 15°46.84' | N 6°43.45' | 0.9419' | 99°14.03' | 14.4979° | 80°58.42' | N 25°42.35' | 4.2629' | 54.2752' | 180°12.45' | **23** |
| **24** | 179°25.78' | 15.0029° | 15°49.13' | N 6°44.39' | 0.9417' | 113°43.87' | 14.4974° | 81°31.04' | N 25°46.49' | 4.1410' | 54.2696' | 195°14.91' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9831' | hp (π) 0.1465' | ½Ø 14.8106' | 24.9358542811314<br>87% +cre |
| | EoT at 12:00 UTC : -2m 25s (δ 0.71 s/h) | | Phase at 12:00 UTC : 59.76° | |
| | Meridian Pass. Time : 12:02:25.310 | | Age : 4.6 day(s) | |

| UT | Venus ♀ (π 0.18') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 221°57.05' | 332°18.72' | S 10°56.88' | 228°23.55' | 325°52.22' | S 15°00.99' | 200°46.85' | 353°28.92' | S 3°55.44' | 229°06.13' | 325°09.64' | S 14°55.30' | **00** |
| **01** | 236°56.88' | 332°21.36' | S 10°56.14' | 243°24.16' | 325°54.07' | S 15°00.39' | 215°48.78' | 353°29.45' | S 3°55.21' | 244°08.38' | 325°09.86' | S 14°55.23' | **01** |
| **02** | 251°56.71' | 332°23.99' | S 10°55.40' | 258°24.77' | 325°55.93' | S 14°59.80' | 230°50.71' | 353°29.99' | S 3°54.99' | 259°10.63' | 325°10.07' | S 14°55.17' | **02** |
| **03** | 266°56.54' | 332°26.63' | S 10°54.66' | 273°25.38' | 325°57.78' | S 14°59.20' | 245°52.64' | 353°30.52' | S 3°54.76' | 274°12.88' | 325°10.28' | S 14°55.10' | **03** |
| **04** | 281°56.37' | 332°29.26' | S 10°53.92' | 288°25.99' | 325°59.64' | S 14°58.61' | 260°54.57' | 353°31.06' | S 3°54.54' | 289°15.13' | 325°10.50' | S 14°55.04' | **04** |
| **05** | 296°56.20' | 332°31.89' | S 10°53.18' | 303°26.60' | 326°01.49' | S 14°58.01' | 275°56.50' | 353°31.59' | S 3°54.31' | 304°17.38' | 325°10.71' | S 14°54.97' | **05** |
| **06** | 311°56.03' | 332°34.53' | S 10°52.44' | 318°27.21' | 326°03.35' | S 14°57.41' | 290°58.43' | 353°32.13' | S 3°54.09' | 319°19.63' | 325°10.92' | S 14°54.91' | **06** |
| **07** | 326°55.86' | 332°37.16' | S 10°51.70' | 333°27.82' | 326°05.20' | S 14°56.82' | 306°00.36' | 353°32.66' | S 3°53.86' | 334°21.88' | 325°11.14' | S 14°54.84' | **07** |
| **08** | 341°55.69' | 332°39.80' | S 10°50.95' | 348°28.43' | 326°07.05' | S 14°56.22' | 321°02.29' | 353°33.19' | S 3°53.64' | 349°24.14' | 325°11.35' | S 14°54.78' | **08** |
| **09** | 356°55.52' | 332°42.43' | S 10°50.21' | 3°29.04' | 326°08.91' | S 14°55.62' | 336°04.22' | 353°33.73' | S 3°53.41' | 4°26.39' | 325°11.56' | S 14°54.71' | **09** |
| **10** | 11°55.35' | 332°45.07' | S 10°49.46' | 18°29.65' | 326°10.76' | S 14°55.03' | 351°06.15' | 353°34.26' | S 3°53.19' | 19°28.64' | 325°11.77' | S 14°54.65' | **10** |
| **11** | 26°55.18' | 332°47.70' | S 10°48.72' | 33°30.26' | 326°12.62' | S 14°54.43' | 6°08.08' | 353°34.80' | S 3°52.97' | 34°30.89' | 325°11.99' | S 14°54.58' | **11** |
| **12** | 41°55.00' | 332°50.34' | S 10°47.97' | 48°30.87' | 326°14.47' | S 14°53.83' | 21°10.01' | 353°35.33' | S 3°52.74' | 49°33.14' | 325°12.20' | S 14°54.52' | **12** |
| **13** | 56°54.83' | 332°52.97' | S 10°47.22' | 63°31.48' | 326°16.32' | S 14°53.23' | 36°11.94' | 353°35.86' | S 3°52.52' | 64°35.39' | 325°12.41' | S 14°54.45' | **13** |
| **14** | 71°54.66' | 332°55.61' | S 10°46.48' | 78°32.09' | 326°18.18' | S 14°52.63' | 51°13.87' | 353°36.40' | S 3°52.29' | 79°37.65' | 325°12.62' | S 14°54.39' | **14** |
| **15** | 86°54.49' | 332°58.24' | S 10°45.73' | 93°32.70' | 326°20.03' | S 14°52.04' | 66°15.80' | 353°36.93' | S 3°52.07' | 94°39.90' | 325°12.83' | S 14°54.32' | **15** |
| **16** | 101°54.32' | 333°00.88' | S 10°44.98' | 108°33.32' | 326°21.88' | S 14°51.44' | 81°17.73' | 353°37.46' | S 3°51.84' | 109°42.15' | 325°13.05' | S 14°54.26' | **16** |
| **17** | 116°54.15' | 333°03.51' | S 10°44.23' | 123°33.93' | 326°23.73' | S 14°50.84' | 96°19.66' | 353°38.00' | S 3°51.62' | 124°44.40' | 325°13.26' | S 14°54.20' | **17** |
| **18** | 131°53.98' | 333°06.15' | S 10°43.48' | 138°34.54' | 326°25.59' | S 14°50.24' | 111°21.60' | 353°38.53' | S 3°51.39' | 139°46.66' | 325°13.47' | S 14°54.13' | **18** |
| **19** | 146°53.81' | 333°08.78' | S 10°42.73' | 153°35.15' | 326°27.44' | S 14°49.64' | 126°23.53' | 353°39.06' | S 3°51.17' | 154°48.91' | 325°13.68' | S 14°54.07' | **19** |
| **20** | 161°53.64' | 333°11.42' | S 10°41.98' | 168°35.76' | 326°29.29' | S 14°49.04' | 141°25.46' | 353°39.60' | S 3°50.95' | 169°51.16' | 325°13.89' | S 14°54.00' | **20** |
| **21** | 176°53.46' | 333°14.05' | S 10°41.23' | 183°36.37' | 326°31.14' | S 14°48.44' | 156°27.39' | 353°40.13' | S 3°50.72' | 184°53.41' | 325°14.10' | S 14°53.94' | **21** |
| **22** | 191°53.29' | 333°16.69' | S 10°40.47' | 198°36.99' | 326°33.00' | S 14°47.84' | 171°29.32' | 353°40.66' | S 3°50.50' | 199°55.67' | 325°14.32' | S 14°53.87' | **22** |
| **23** | 206°53.12' | 333°19.32' | S 10°39.72' | 213°37.60' | 326°34.85' | S 14°47.24' | 186°31.25' | 353°41.20' | S 3°50.27' | 214°57.92' | 325°14.53' | S 14°53.81' | **23** |
| **24** | 221°52.95' | 333°21.96' | S 10°38.97' | 228°38.21' | 326°36.70' | S 14°46.64' | 201°33.18' | 353°41.73' | S 3°50.05' | 230°00.17' | 325°14.74' | S 14°53.74' | **24** |
| | δ 14.9972° | | *d* 0.7390' | δ 15.0101° | | *d* 0.5951' | δ 15.0322° | | *d* 0.2248' | δ 15.0375° | | *d* 0.0650' | |

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°25.78' | 15.0029° | 15°49.13' | N 6°44.39' | 0.9417' | 113°43.87' | 14.4974° | 81°31.04' | N 25°46.49' | 4.1410' | 54.2696' | 195°14.91' | **00** |
| **01** | 194°25.96' | 15.0029° | 15°51.42' | N 6°45.33' | 0.9415' | 128°13.68' | 14.4969° | 82°03.69' | N 25°50.51' | 4.0187' | 54.2643' | 210°17.37' | **01** |
| **02** | 209°26.13' | 15.0029° | 15°53.70' | N 6°46.27' | 0.9413' | 142°43.47' | 14.4964° | 82°36.37' | N 25°54.40' | 3.8960' | 54.2592' | 225°19.84' | **02** |
| **03** | 224°26.31' | 15.0029° | 15°55.99' | N 6°47.22' | 0.9411' | 157°13.22' | 14.4960° | 83°09.08' | N 25°58.18' | 3.7730' | 54.2545' | 240°22.30' | **03** |
| **04** | 239°26.48' | 15.0029° | 15°58.28' | N 6°48.16' | 0.9409' | 171°42.96' | 14.4955° | 83°41.81' | N 26°01.82' | 3.6496' | 54.2500' | 255°24.77' | **04** |
| **05** | 254°26.66' | 15.0029° | 16°00.57' | N 6°49.10' | 0.9407' | 186°12.66' | 14.4951° | 84°14.57' | N 26°05.35' | 3.5259' | 54.2458' | 270°27.23' | **05** |
| **06** | 269°26.83' | 15.0029° | 16°02.86' | N 6°50.04' | 0.9405' | 200°42.34' | 14.4947° | 84°47.35' | N 26°08.75' | 3.4019' | 54.2418' | 285°29.70' | **06** |
| **07** | 284°27.01' | 15.0029° | 16°05.15' | N 6°50.98' | 0.9403' | 215°12.00' | 14.4943° | 85°20.16' | N 26°12.03' | 3.2776' | 54.2382' | 300°32.16' | **07** |
| **08** | 299°27.18' | 15.0029° | 16°07.44' | N 6°51.92' | 0.9401' | 229°41.63' | 14.4939° | 85°53.00' | N 26°15.18' | 3.1529' | 54.2348' | 315°34.62' | **08** |
| **09** | 314°27.36' | 15.0029° | 16°09.73' | N 6°52.86' | 0.9399' | 244°11.23' | 14.4935° | 86°25.85' | N 26°18.21' | 3.0280' | 54.2317' | 330°37.09' | **09** |
| **10** | 329°27.53' | 15.0029° | 16°12.02' | N 6°53.80' | 0.9397' | 258°40.82' | 14.4931° | 86°58.73' | N 26°21.11' | 2.9028' | 54.2289' | 345°39.55' | **10** |
| **11** | 344°27.71' | 15.0029° | 16°14.31' | N 6°54.74' | 0.9394' | 273°10.38' | 14.4927° | 87°31.63' | N 26°23.89' | 2.7773' | 54.2264' | 0°42.02' | **11** |
| **12** | 359°27.88' | 15.0029° | 16°16.60' | N 6°55.68' | 0.9392' | 287°39.93' | 14.4924° | 88°04.55' | N 26°26.54' | 2.6515' | 54.2242' | 15°44.48' | **12** |
| **13** | 14°28.06' | 15.0029° | 16°18.89' | N 6°56.62' | 0.9390' | 302°09.45' | 14.4920° | 88°37.50' | N 26°29.07' | 2.5255' | 54.2223' | 30°46.94' | **13** |
| **14** | 29°28.23' | 15.0029° | 16°21.18' | N 6°57.55' | 0.9388' | 316°38.95' | 14.4917° | 89°10.46' | N 26°31.47' | 2.3992' | 54.2206' | 45°49.41' | **14** |
| **15** | 44°28.40' | 15.0029° | 16°23.47' | N 6°58.49' | 0.9386' | 331°08.44' | 14.4914° | 89°43.44' | N 26°33.74' | 2.2727' | 54.2192' | 60°51.87' | **15** |
| **16** | 59°28.58' | 15.0029° | 16°25.76' | N 6°59.43' | 0.9384' | 345°37.90' | 14.4911° | 90°16.44' | N 26°35.89' | 2.1459' | 54.2182' | 75°54.34' | **16** |
| **17** | 74°28.75' | 15.0029° | 16°28.05' | N 7°00.37' | 0.9382' | 0°07.35' | 14.4908° | 90°49.45' | N 26°37.90' | 2.0190' | 54.2174' | 90°56.80' | **17** |
| **18** | 89°28.93' | 15.0029° | 16°30.34' | N 7°01.31' | 0.9380' | 14°36.78' | 14.4905° | 91°22.48' | N 26°39.80' | 1.8918' | 54.2169' | 105°59.27' | **18** |
| **19** | 104°29.10' | 15.0029° | 16°32.63' | N 7°02.24' | 0.9378' | 29°06.20' | 14.4903° | 91°55.53' | N 26°41.56' | 1.7644' | 54.2167' | 121°01.73' | **19** |
| **20** | 119°29.27' | 15.0029° | 16°34.92' | N 7°03.18' | 0.9376' | 43°35.60' | 14.4900° | 92°28.59' | N 26°43.20' | 1.6368' | 54.2168' | 136°04.19' | **20** |
| **21** | 134°29.45' | 15.0029° | 16°37.21' | N 7°04.12' | 0.9373' | 58°04.99' | 14.4898° | 93°01.67' | N 26°44.71' | 1.5091' | 54.2172' | 151°06.66' | **21** |
| **22** | 149°29.62' | 15.0029° | 16°39.50' | N 7°05.06' | 0.9371' | 72°34.36' | 14.4896° | 93°34.76' | N 26°46.09' | 1.3812' | 54.2179' | 166°09.12' | **22** |
| **23** | 164°29.79' | 15.0029° | 16°41.79' | N 7°05.99' | 0.9369' | 87°03.73' | 14.4894° | 94°07.86' | N 26°47.34' | 1.2531' | 54.2189' | 181°11.59' | **23** |
| **24** | 179°29.97' | 15.0029° | 16°44.08' | N 7°06.93' | 0.9367' | 101°33.08' | 14.4892° | 94°40.97' | N 26°48.47' | 1.1249' | 54.2201' | 196°14.05' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.9786' | hp (π) 0.1464' | ½Ø 14.7752' | 33.5533322556569 % +cre | |
| EoT at 12:00 UTC : -2m 8s (δ 0.70 s/h) | | Phase at 12:00 UTC : 70.62° | | |
| Meridian Pass. Time : 12:02:08.475 | | Age : 5.5 day(s) | | |

| UT | Venus ♀ (π 0.18') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 221°52.95' | 333°21.96' | S 10°38.97' | 228°38.21' | 326°36.70' | S 14°46.64' | 201°33.18' | 353°41.73' | S 3°50.05' | 230°00.17' | 325°14.74' | S 14°53.74' | **00** |
| **01** | 236°52.78' | 333°24.60' | S 10°38.21' | 243°38.82' | 326°38.55' | S 14°46.04' | 216°35.11' | 353°42.26' | S 3°49.82' | 245°02.43' | 325°14.95' | S 14°53.68' | **01** |
| **02** | 251°52.61' | 333°27.23' | S 10°37.46' | 258°39.44' | 326°40.40' | S 14°45.44' | 231°37.04' | 353°42.79' | S 3°49.60' | 260°04.68' | 325°15.16' | S 14°53.62' | **02** |
| **03** | 266°52.43' | 333°29.87' | S 10°36.70' | 273°40.05' | 326°42.25' | S 14°44.84' | 246°38.98' | 353°43.33' | S 3°49.38' | 275°06.93' | 325°15.37' | S 14°53.55' | **03** |
| **04** | 281°52.26' | 333°32.50' | S 10°35.94' | 288°40.66' | 326°44.10' | S 14°44.24' | 261°40.91' | 353°43.86' | S 3°49.15' | 290°09.19' | 325°15.58' | S 14°53.49' | **04** |
| **05** | 296°52.09' | 333°35.14' | S 10°35.19' | 303°41.28' | 326°45.95' | S 14°43.63' | 276°42.84' | 353°44.39' | S 3°48.93' | 305°11.44' | 325°15.79' | S 14°53.42' | **05** |
| **06** | 311°51.92' | 333°37.78' | S 10°34.43' | 318°41.89' | 326°47.80' | S 14°43.03' | 291°44.77' | 353°44.92' | S 3°48.70' | 320°13.69' | 325°16.00' | S 14°53.36' | **06** |
| **07** | 326°51.75' | 333°40.41' | S 10°33.67' | 333°42.50' | 326°49.66' | S 14°42.43' | 306°46.70' | 353°45.46' | S 3°48.48' | 335°15.95' | 325°16.21' | S 14°53.30' | **07** |
| **08** | 341°51.57' | 333°43.05' | S 10°32.91' | 348°43.12' | 326°51.51' | S 14°41.83' | 321°48.63' | 353°45.99' | S 3°48.26' | 350°18.20' | 325°16.42' | S 14°53.23' | **08** |
| **09** | 356°51.40' | 333°45.69' | S 10°32.15' | 3°43.73' | 326°53.36' | S 14°41.23' | 336°50.57' | 353°46.52' | S 3°48.03' | 5°20.46' | 325°16.63' | S 14°53.17' | **09** |
| **10** | 11°51.23' | 333°48.32' | S 10°31.39' | 18°44.35' | 326°55.21' | S 14°40.62' | 351°52.50' | 353°47.05' | S 3°47.81' | 20°22.71' | 325°16.84' | S 14°53.10' | **10** |
| **11** | 26°51.06' | 333°50.96' | S 10°30.63' | 33°44.96' | 326°57.06' | S 14°40.02' | 6°54.43' | 353°47.59' | S 3°47.58' | 35°24.96' | 325°17.05' | S 14°53.04' | **11** |
| **12** | 41°50.89' | 333°53.59' | S 10°29.87' | 48°45.57' | 326°58.91' | S 14°39.42' | 21°56.36' | 353°48.12' | S 3°47.36' | 50°27.22' | 325°17.26' | S 14°52.98' | **12** |
| **13** | 56°50.71' | 333°56.23' | S 10°29.11' | 63°46.19' | 327°00.76' | S 14°38.81' | 36°58.29' | 353°48.65' | S 3°47.14' | 65°29.47' | 325°17.47' | S 14°52.91' | **13** |
| **14** | 71°50.54' | 333°58.87' | S 10°28.34' | 78°46.80' | 327°02.60' | S 14°38.21' | 52°00.23' | 353°49.18' | S 3°46.91' | 80°31.73' | 325°17.68' | S 14°52.85' | **14** |
| **15** | 86°50.37' | 334°01.51' | S 10°27.58' | 93°47.42' | 327°04.45' | S 14°37.61' | 67°02.16' | 353°49.71' | S 3°46.69' | 95°33.98' | 325°17.89' | S 14°52.79' | **15** |
| **16** | 101°50.19' | 334°04.14' | S 10°26.82' | 108°48.03' | 327°06.30' | S 14°37.00' | 82°04.09' | 353°50.25' | S 3°46.47' | 110°36.24' | 325°18.10' | S 14°52.72' | **16** |
| **17** | 116°50.02' | 334°06.78' | S 10°26.05' | 123°48.65' | 327°08.15' | S 14°36.40' | 97°06.02' | 353°50.78' | S 3°46.24' | 125°38.49' | 325°18.31' | S 14°52.66' | **17** |
| **18** | 131°49.85' | 334°09.42' | S 10°25.29' | 138°49.26' | 327°10.00' | S 14°35.79' | 112°07.96' | 353°51.31' | S 3°46.02' | 140°40.75' | 325°18.52' | S 14°52.60' | **18** |
| **19** | 146°49.68' | 334°12.05' | S 10°24.52' | 153°49.88' | 327°11.85' | S 14°35.19' | 127°09.89' | 353°51.84' | S 3°45.80' | 155°43.00' | 325°18.73' | S 14°52.53' | **19** |
| **20** | 161°49.50' | 334°14.69' | S 10°23.75' | 168°50.50' | 327°13.70' | S 14°34.58' | 142°11.82' | 353°52.37' | S 3°45.57' | 170°45.26' | 325°18.93' | S 14°52.47' | **20** |
| **21** | 176°49.33' | 334°17.33' | S 10°22.98' | 183°51.11' | 327°15.55' | S 14°33.98' | 157°13.75' | 353°52.90' | S 3°45.35' | 185°47.52' | 325°19.14' | S 14°52.41' | **21** |
| **22** | 191°49.16' | 334°19.96' | S 10°22.22' | 198°51.73' | 327°17.39' | S 14°33.37' | 172°15.69' | 353°53.44' | S 3°45.12' | 200°49.77' | 325°19.35' | S 14°52.34' | **22** |
| **23** | 206°48.98' | 334°22.60' | S 10°21.45' | 213°52.34' | 327°19.24' | S 14°32.77' | 187°17.62' | 353°53.97' | S 3°44.90' | 215°52.03' | 325°19.56' | S 14°52.28' | **23** |
| **24** | 221°48.81' | 334°25.24' | S 10°20.68' | 228°52.96' | 327°21.09' | S 14°32.16' | 202°19.55' | 353°54.50' | S 3°44.68' | 230°54.28' | 325°19.77' | S 14°52.22' | **24** |
| | δ 14.9971° | | *d* 0.7546' | δ 15.0102° | | *d* 0.6007' | δ 15.0322° | | *d* 0.2241' | δ 15.0376° | | *d* 0.0642' | |

## *Friday, April 8th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°29.97' | 15.0029° | 16°44.08' | N 7°06.93' | 0.9367' | 101°33.08' | 14.4892° | 94°40.97' | N 26°48.47' | 1.1249' | 54.2201' | 196°14.05' | **00** |
| **01** | 194°30.14' | 15.0029° | 16°46.37' | N 7°07.87' | 0.9365' | 116°02.42' | 14.4890° | 95°14.10' | N 26°49.46' | 0.9966' | 54.2217' | 211°16.51' | **01** |
| **02** | 209°30.31' | 15.0029° | 16°48.67' | N 7°08.80' | 0.9363' | 130°31.75' | 14.4888° | 95°47.23' | N 26°50.33' | 0.8681' | 54.2236' | 226°18.98' | **02** |
| **03** | 224°30.49' | 15.0029° | 16°50.96' | N 7°09.74' | 0.9361' | 145°01.07' | 14.4887° | 96°20.37' | N 26°51.07' | 0.7395' | 54.2257' | 241°21.44' | **03** |
| **04** | 239°30.66' | 15.0029° | 16°53.25' | N 7°10.68' | 0.9359' | 159°30.38' | 14.4886° | 96°53.52' | N 26°51.68' | 0.6108' | 54.2282' | 256°23.91' | **04** |
| **05** | 254°30.83' | 15.0029° | 16°55.54' | N 7°11.61' | 0.9356' | 173°59.69' | 14.4884° | 97°26.68' | N 26°52.16' | 0.4820' | 54.2310' | 271°26.37' | **05** |
| **06** | 269°31.00' | 15.0029° | 16°57.83' | N 7°12.55' | 0.9354' | 188°28.99' | 14.4883° | 97°59.85' | N 26°52.52' | 0.3532' | 54.2340' | 286°28.83' | **06** |
| **07** | 284°31.18' | 15.0029° | 17°00.12' | N 7°13.48' | 0.9352' | 202°58.28' | 14.4882° | 98°33.02' | N 26°52.74' | 0.2242' | 54.2374' | 301°31.30' | **07** |
| **08** | 299°31.35' | 15.0029° | 17°02.41' | N 7°14.42' | 0.9350' | 217°27.57' | 14.4882° | 99°06.19' | N 26°52.84' | 0.0952' | 54.2411' | 316°33.76' | **08** |
| **09** | 314°31.52' | 15.0029° | 17°04.71' | N 7°15.35' | 0.9348' | 231°56.86' | 14.4881° | 99°39.37' | N 26°52.80' | 0.0339' | 54.2450' | 331°36.23' | **09** |
| **10** | 329°31.69' | 15.0029° | 17°07.00' | N 7°16.29' | 0.9346' | 246°26.14' | 14.4880° | 100°12.55' | N 26°52.64' | 0.1630' | 54.2493' | 346°38.69' | **10** |
| **11** | 344°31.87' | 15.0029° | 17°09.29' | N 7°17.22' | 0.9343' | 260°55.42' | 14.4880° | 100°45.74' | N 26°52.35' | 0.2921' | 54.2538' | 1°41.16' | **11** |
| **12** | 359°32.04' | 15.0029° | 17°11.58' | N 7°18.15' | 0.9341' | 275°24.70' | 14.4880° | 101°18.92' | N 26°51.93' | 0.4213' | 54.2587' | 16°43.62' | **12** |
| **13** | 14°32.21' | 15.0029° | 17°13.87' | N 7°19.09' | 0.9339' | 289°53.97' | 14.4880° | 101°52.11' | N 26°51.38' | 0.5504' | 54.2639' | 31°46.08' | **13** |
| **14** | 29°32.38' | 15.0029° | 17°16.17' | N 7°20.02' | 0.9337' | 304°23.25' | 14.4880° | 102°25.29' | N 26°50.70' | 0.6796' | 54.2693' | 46°48.55' | **14** |
| **15** | 44°32.55' | 15.0029° | 17°18.46' | N 7°20.96' | 0.9335' | 318°52.53' | 14.4880° | 102°58.48' | N 26°49.89' | 0.8088' | 54.2751' | 61°51.01' | **15** |
| **16** | 59°32.73' | 15.0029° | 17°20.75' | N 7°21.89' | 0.9333' | 333°21.81' | 14.4880° | 103°31.66' | N 26°48.95' | 0.9379' | 54.2812' | 76°53.48' | **16** |
| **17** | 74°32.90' | 15.0029° | 17°23.04' | N 7°22.82' | 0.9330' | 347°51.10' | 14.4881° | 104°04.84' | N 26°47.88' | 1.0670' | 54.2875' | 91°55.94' | **17** |
| **18** | 89°33.07' | 15.0029° | 17°25.34' | N 7°23.75' | 0.9328' | 2°20.39' | 14.4881° | 104°38.02' | N 26°46.69' | 1.1961' | 54.2942' | 106°58.40' | **18** |
| **19** | 104°33.24' | 15.0029° | 17°27.63' | N 7°24.69' | 0.9326' | 16°49.68' | 14.4882° | 105°11.19' | N 26°45.36' | 1.3251' | 54.3012' | 122°00.87' | **19** |
| **20** | 119°33.41' | 15.0029° | 17°29.92' | N 7°25.62' | 0.9324' | 31°18.98' | 14.4883° | 105°44.36' | N 26°43.91' | 1.4541' | 54.3085' | 137°03.33' | **20** |
| **21** | 134°33.58' | 15.0029° | 17°32.22' | N 7°26.55' | 0.9321' | 45°48.28' | 14.4884° | 106°17.52' | N 26°42.32' | 1.5830' | 54.3161' | 152°05.80' | **21** |
| **22** | 149°33.75' | 15.0029° | 17°34.51' | N 7°27.48' | 0.9319' | 60°17.59' | 14.4885° | 106°50.67' | N 26°40.61' | 1.7118' | 54.3239' | 167°08.26' | **22** |
| **23** | 164°33.92' | 15.0028° | 17°36.80' | N 7°28.42' | 0.9317' | 74°46.91' | 14.4887° | 107°23.81' | N 26°38.77' | 1.8405' | 54.3321' | 182°10.73' | **23** |
| **24** | 179°34.10' | 15.0028° | 17°39.09' | N 7°29.35' | 0.9315' | 89°16.24' | 14.4888° | 107°56.95' | N 26°36.80' | 1.9691' | 54.3406' | 197°13.19' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9741' | hp (π) 0.1464' | ½Ø 14.7846' | 42.7294633168508<br>3% +cre |
| | EoT at 12:00 UTC : -1m 51s (δ 0.69 s/h) | | Phase at 12:00 UTC : 81.47° | |
| | Meridian Pass. Time : 12:01:51.849 | | Age : 6.3 day(s) | |

| UT | Venus ♀ (π 0.18') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 221°48.81' | 334°25.24' | S 10°20.68' | 228°52.96' | 327°21.09' | S 14°32.16' | 202°19.55' | 353°54.50' | S 3°44.68' | 230°54.28' | 325°19.77' | S 14°52.22' | **00** |
| **01** | 236°48.64' | 334°27.88' | S 10°19.91' | 243°53.58' | 327°22.94' | S 14°31.55' | 217°21.49' | 353°55.03' | S 3°44.45' | 245°56.54' | 325°19.98' | S 14°52.15' | **01** |
| **02** | 251°48.46' | 334°30.51' | S 10°19.14' | 258°54.19' | 327°24.79' | S 14°30.95' | 232°23.42' | 353°55.56' | S 3°44.23' | 260°58.79' | 325°20.18' | S 14°52.09' | **02** |
| **03** | 266°48.29' | 334°33.15' | S 10°18.37' | 273°54.81' | 327°26.63' | S 14°30.34' | 247°25.35' | 353°56.09' | S 3°44.01' | 276°01.05' | 325°20.39' | S 14°52.03' | **03** |
| **04** | 281°48.12' | 334°35.79' | S 10°17.60' | 288°55.43' | 327°28.48' | S 14°29.73' | 262°27.28' | 353°56.62' | S 3°43.78' | 291°03.31' | 325°20.60' | S 14°51.96' | **04** |
| **05** | 296°47.94' | 334°38.43' | S 10°16.82' | 303°56.04' | 327°30.33' | S 14°29.13' | 277°29.22' | 353°57.15' | S 3°43.56' | 306°05.56' | 325°20.81' | S 14°51.90' | **05** |
| **06** | 311°47.77' | 334°41.07' | S 10°16.05' | 318°56.66' | 327°32.17' | S 14°28.52' | 292°31.15' | 353°57.68' | S 3°43.34' | 321°07.82' | 325°21.01' | S 14°51.84' | **06** |
| **07** | 326°47.60' | 334°43.70' | S 10°15.28' | 333°57.28' | 327°34.02' | S 14°27.91' | 307°33.08' | 353°58.21' | S 3°43.11' | 336°10.08' | 325°21.22' | S 14°51.77' | **07** |
| **08** | 341°47.42' | 334°46.34' | S 10°14.50' | 348°57.89' | 327°35.87' | S 14°27.30' | 322°35.02' | 353°58.74' | S 3°42.89' | 351°12.33' | 325°21.43' | S 14°51.71' | **08** |
| **09** | 356°47.25' | 334°48.98' | S 10°13.73' | 3°58.51' | 327°37.71' | S 14°26.70' | 337°36.95' | 353°59.28' | S 3°42.67' | 6°14.59' | 325°21.64' | S 14°51.65' | **09** |
| **10** | 11°47.07' | 334°51.62' | S 10°12.95' | 18°59.13' | 327°39.56' | S 14°26.09' | 352°38.89' | 353°59.81' | S 3°42.44' | 21°16.85' | 325°21.84' | S 14°51.58' | **10** |
| **11** | 26°46.90' | 334°54.25' | S 10°12.18' | 33°59.75' | 327°41.41' | S 14°25.48' | 7°40.82' | 354°00.34' | S 3°42.22' | 36°19.10' | 325°22.05' | S 14°51.52' | **11** |
| **12** | 41°46.73' | 334°56.89' | S 10°11.40' | 49°00.37' | 327°43.25' | S 14°24.87' | 22°42.75' | 354°00.87' | S 3°42.00' | 51°21.36' | 325°22.26' | S 14°51.46' | **12** |
| **13** | 56°46.55' | 334°59.53' | S 10°10.62' | 64°00.98' | 327°45.10' | S 14°24.26' | 37°44.69' | 354°01.40' | S 3°41.77' | 66°23.62' | 325°22.46' | S 14°51.40' | **13** |
| **14** | 71°46.38' | 335°02.17' | S 10°09.84' | 79°01.60' | 327°46.95' | S 14°23.65' | 52°46.62' | 354°01.93' | S 3°41.55' | 81°25.88' | 325°22.67' | S 14°51.33' | **14** |
| **15** | 86°46.20' | 335°04.81' | S 10°09.06' | 94°02.22' | 327°48.79' | S 14°23.04' | 67°48.55' | 354°02.46' | S 3°41.33' | 96°28.13' | 325°22.88' | S 14°51.27' | **15** |
| **16** | 101°46.03' | 335°07.45' | S 10°08.29' | 109°02.84' | 327°50.64' | S 14°22.43' | 82°50.49' | 354°02.99' | S 3°41.11' | 111°30.39' | 325°23.08' | S 14°51.21' | **16** |
| **17** | 116°45.86' | 335°10.08' | S 10°07.51' | 124°03.46' | 327°52.48' | S 14°21.82' | 97°52.42' | 354°03.52' | S 3°40.88' | 126°32.65' | 325°23.29' | S 14°51.14' | **17** |
| **18** | 131°45.68' | 335°12.72' | S 10°06.72' | 139°04.08' | 327°54.33' | S 14°21.21' | 112°54.36' | 354°04.05' | S 3°40.66' | 141°34.91' | 325°23.50' | S 14°51.08' | **18** |
| **19** | 146°45.51' | 335°15.36' | S 10°05.94' | 154°04.70' | 327°56.17' | S 14°20.60' | 127°56.29' | 354°04.58' | S 3°40.44' | 156°37.17' | 325°23.70' | S 14°51.02' | **19** |
| **20** | 161°45.33' | 335°18.00' | S 10°05.16' | 169°05.32' | 327°58.02' | S 14°19.99' | 142°58.23' | 354°05.11' | S 3°40.21' | 171°39.42' | 325°23.91' | S 14°50.96' | **20** |
| **21** | 176°45.16' | 335°20.64' | S 10°04.38' | 184°05.94' | 327°59.86' | S 14°19.38' | 158°00.16' | 354°05.64' | S 3°39.99' | 186°41.68' | 325°24.11' | S 14°50.89' | **21** |
| **22** | 191°44.98' | 335°23.28' | S 10°03.60' | 199°06.56' | 328°01.71' | S 14°18.77' | 173°02.09' | 354°06.17' | S 3°39.77' | 201°43.94' | 325°24.32' | S 14°50.83' | **22** |
| **23** | 206°44.81' | 335°25.92' | S 10°02.81' | 214°07.18' | 328°03.55' | S 14°18.16' | 188°04.03' | 354°06.70' | S 3°39.55' | 216°46.20' | 325°24.53' | S 14°50.77' | **23** |
| **24** | 221°44.63' | 335°28.56' | S 10°02.03' | 229°07.80' | 328°05.39' | S 14°17.55' | 203°05.96' | 354°07.23' | S 3°39.32' | 231°48.46' | 325°24.73' | S 14°50.71' | **24** |
| | δ 14.9971° | | *d* 0.7699' | δ 15.0103° | | *d* 0.6062' | δ 15.0322° | | *d* 0.2234' | δ 15.0376° | | *d* 0.0633' | |

## *Saturday, April 9th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°34.10' | 15.0028° | 17°39.09' | N 7°29.35' | 0.9315' | 89°16.24' | 14.4888° | 107°56.95' | N 26°36.80' | 1.9691' | 54.3406' | 197°13.19' | **00** |
| **01** | 194°34.27' | 15.0028° | 17°41.39' | N 7°30.28' | 0.9313' | 103°45.58' | 14.4890° | 108°30.08' | N 26°34.71' | 2.0976' | 54.3494' | 212°15.65' | **01** |
| **02** | 209°34.44' | 15.0028° | 17°43.68' | N 7°31.21' | 0.9310' | 118°14.92' | 14.4891° | 109°03.19' | N 26°32.48' | 2.2259' | 54.3585' | 227°18.12' | **02** |
| **03** | 224°34.61' | 15.0028° | 17°45.98' | N 7°32.14' | 0.9308' | 132°44.28' | 14.4893° | 109°36.30' | N 26°30.13' | 2.3542' | 54.3679' | 242°20.58' | **03** |
| **04** | 239°34.78' | 15.0028° | 17°48.27' | N 7°33.07' | 0.9306' | 147°13.65' | 14.4895° | 110°09.39' | N 26°27.64' | 2.4823' | 54.3776' | 257°23.05' | **04** |
| **05** | 254°34.95' | 15.0028° | 17°50.56' | N 7°34.00' | 0.9304' | 161°43.04' | 14.4897° | 110°42.47' | N 26°25.03' | 2.6102' | 54.3876' | 272°25.51' | **05** |
| **06** | 269°35.12' | 15.0028° | 17°52.86' | N 7°34.93' | 0.9301' | 176°12.43' | 14.4899° | 111°15.54' | N 26°22.29' | 2.7380' | 54.3979' | 287°27.97' | **06** |
| **07** | 284°35.29' | 15.0028° | 17°55.15' | N 7°35.86' | 0.9299' | 190°41.84' | 14.4902° | 111°48.60' | N 26°19.43' | 2.8656' | 54.4085' | 302°30.44' | **07** |
| **08** | 299°35.46' | 15.0028° | 17°57.44' | N 7°36.79' | 0.9297' | 205°11.27' | 14.4904° | 112°21.64' | N 26°16.44' | 2.9930' | 54.4194' | 317°32.90' | **08** |
| **09** | 314°35.63' | 15.0028° | 17°59.74' | N 7°37.72' | 0.9295' | 219°40.71' | 14.4907° | 112°54.66' | N 26°13.32' | 3.1202' | 54.4306' | 332°35.37' | **09** |
| **10** | 329°35.80' | 15.0028° | 18°02.03' | N 7°38.65' | 0.9292' | 234°10.16' | 14.4909° | 113°27.67' | N 26°10.07' | 3.2472' | 54.4421' | 347°37.83' | **10** |
| **11** | 344°35.97' | 15.0028° | 18°04.33' | N 7°39.58' | 0.9290' | 248°39.64' | 14.4912° | 114°00.66' | N 26°06.69' | 3.3740' | 54.4539' | 2°40.30' | **11** |
| **12** | 359°36.14' | 15.0028° | 18°06.62' | N 7°40.51' | 0.9288' | 263°09.13' | 14.4915° | 114°33.63' | N 26°03.19' | 3.5006' | 54.4660' | 17°42.76' | **12** |
| **13** | 14°36.31' | 15.0028° | 18°08.92' | N 7°41.44' | 0.9285' | 277°38.64' | 14.4918° | 115°06.59' | N 25°59.57' | 3.6270' | 54.4784' | 32°45.22' | **13** |
| **14** | 29°36.48' | 15.0028° | 18°11.21' | N 7°42.36' | 0.9283' | 292°08.17' | 14.4921° | 115°39.52' | N 25°55.81' | 3.7531' | 54.4910' | 47°47.69' | **14** |
| **15** | 44°36.65' | 15.0028° | 18°13.51' | N 7°43.29' | 0.9281' | 306°37.72' | 14.4925° | 116°12.44' | N 25°51.94' | 3.8789' | 54.5040' | 62°50.15' | **15** |
| **16** | 59°36.82' | 15.0028° | 18°15.80' | N 7°44.22' | 0.9279' | 321°07.28' | 14.4928° | 116°45.33' | N 25°47.93' | 4.0045' | 54.5173' | 77°52.62' | **16** |
| **17** | 74°36.98' | 15.0028° | 18°18.10' | N 7°45.15' | 0.9276' | 335°36.87' | 14.4932° | 117°18.21' | N 25°43.80' | 4.1299' | 54.5309' | 92°55.08' | **17** |
| **18** | 89°37.15' | 15.0028° | 18°20.39' | N 7°46.07' | 0.9274' | 350°06.49' | 14.4935° | 117°51.06' | N 25°39.55' | 4.2549' | 54.5448' | 107°57.54' | **18** |
| **19** | 104°37.32' | 15.0028° | 18°22.69' | N 7°47.00' | 0.9272' | 4°36.12' | 14.4939° | 118°23.89' | N 25°35.17' | 4.3797' | 54.5589' | 123°00.01' | **19** |
| **20** | 119°37.49' | 15.0028° | 18°24.98' | N 7°47.93' | 0.9269' | 19°05.78' | 14.4943° | 118°56.70' | N 25°30.66' | 4.5041' | 54.5734' | 138°02.47' | **20** |
| **21** | 134°37.66' | 15.0028° | 18°27.28' | N 7°48.86' | 0.9267' | 33°35.46' | 14.4947° | 119°29.48' | N 25°26.03' | 4.6283' | 54.5881' | 153°04.94' | **21** |
| **22** | 149°37.83' | 15.0028° | 18°29.57' | N 7°49.78' | 0.9265' | 48°05.16' | 14.4951° | 120°02.24' | N 25°21.28' | 4.7521' | 54.6032' | 168°07.40' | **22** |
| **23** | 164°38.00' | 15.0028° | 18°31.87' | N 7°50.71' | 0.9262' | 62°34.89' | 14.4955° | 120°34.98' | N 25°16.41' | 4.8757' | 54.6185' | 183°09.87' | **23** |
| **24** | 179°38.17' | 15.0028° | 18°34.16' | N 7°51.63' | 0.9260' | 77°04.64' | 14.4959° | 121°07.69' | N 25°11.41' | 4.9989' | 54.6341' | 198°12.33' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9697' | hp (π) 0.1463' | ½Ø 14.8410' | 52.2021459922131 5% +gib |
| | EoT at 12:00 UTC : -1m 35s (δ 0.68 s/h) | | Phase at 12:00 UTC : 92.38° | |
| | Meridian Pass. Time : 12:01:35.449 | | Age : 7.2 day(s) | |

| UT | Venus ♀ (π 0.18') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 221°44.63' | 335°28.56' | S 10°02.03' | 229°07.80' | 328°05.39' | S 14°17.55' | 203°05.96' | 354°07.23' | S 3°39.32' | 231°48.46' | 325°24.73' | S 14°50.71' | **00** |
| **01** | 236°44.46' | 335°31.19' | S 10°01.24' | 244°08.42' | 328°07.24' | S 14°16.94' | 218°07.90' | 354°07.75' | S 3°39.10' | 246°50.72' | 325°24.94' | S 14°50.64' | **01** |
| **02** | 251°44.28' | 335°33.83' | S 10°00.46' | 259°09.04' | 328°09.08' | S 14°16.32' | 233°09.83' | 354°08.28' | S 3°38.88' | 261°52.98' | 325°25.14' | S 14°50.58' | **02** |
| **03** | 266°44.11' | 335°36.47' | S 9°59.67' | 274°09.66' | 328°10.93' | S 14°15.71' | 248°11.77' | 354°08.81' | S 3°38.65' | 276°55.23' | 325°25.35' | S 14°50.52' | **03** |
| **04** | 281°43.94' | 335°39.11' | S 9°58.89' | 289°10.28' | 328°12.77' | S 14°15.10' | 263°13.70' | 354°09.34' | S 3°38.43' | 291°57.49' | 325°25.55' | S 14°50.46' | **04** |
| **05** | 296°43.76' | 335°41.75' | S 9°58.10' | 304°10.90' | 328°14.61' | S 14°14.49' | 278°15.64' | 354°09.87' | S 3°38.21' | 306°59.75' | 325°25.76' | S 14°50.40' | **05** |
| **06** | 311°43.59' | 335°44.39' | S 9°57.31' | 319°11.52' | 328°16.46' | S 14°13.87' | 293°17.57' | 354°10.40' | S 3°37.99' | 322°02.01' | 325°25.96' | S 14°50.33' | **06** |
| **07** | 326°43.41' | 335°47.03' | S 9°56.52' | 334°12.14' | 328°18.30' | S 14°13.26' | 308°19.51' | 354°10.93' | S 3°37.76' | 337°04.27' | 325°26.17' | S 14°50.27' | **07** |
| **08** | 341°43.24' | 335°49.67' | S 9°55.73' | 349°12.76' | 328°20.14' | S 14°12.65' | 323°21.44' | 354°11.46' | S 3°37.54' | 352°06.53' | 325°26.37' | S 14°50.21' | **08** |
| **09** | 356°43.06' | 335°52.31' | S 9°54.94' | 4°13.38' | 328°21.98' | S 14°12.04' | 338°23.38' | 354°11.99' | S 3°37.32' | 7°08.79' | 325°26.58' | S 14°50.15' | **09** |
| **10** | 11°42.88' | 335°54.95' | S 9°54.15' | 19°14.00' | 328°23.83' | S 14°11.42' | 353°25.31' | 354°12.52' | S 3°37.10' | 22°11.05' | 325°26.78' | S 14°50.08' | **10** |
| **11** | 26°42.71' | 335°57.59' | S 9°53.36' | 34°14.63' | 328°25.67' | S 14°10.81' | 8°27.25' | 354°13.05' | S 3°36.87' | 37°13.31' | 325°26.98' | S 14°50.02' | **11** |
| **12** | 41°42.53' | 336°00.23' | S 9°52.57' | 49°15.25' | 328°27.51' | S 14°10.19' | 23°29.19' | 354°13.57' | S 3°36.65' | 52°15.57' | 325°27.19' | S 14°49.96' | **12** |
| **13** | 56°42.36' | 336°02.86' | S 9°51.78' | 64°15.87' | 328°29.35' | S 14°09.58' | 38°31.12' | 354°14.10' | S 3°36.43' | 67°17.83' | 325°27.39' | S 14°49.90' | **13** |
| **14** | 71°42.18' | 336°05.50' | S 9°50.98' | 79°16.49' | 328°31.20' | S 14°08.96' | 53°33.06' | 354°14.63' | S 3°36.21' | 82°20.09' | 325°27.60' | S 14°49.84' | **14** |
| **15** | 86°42.01' | 336°08.14' | S 9°50.19' | 94°17.11' | 328°33.04' | S 14°08.35' | 68°34.99' | 354°15.16' | S 3°35.99' | 97°22.35' | 325°27.80' | S 14°49.78' | **15** |
| **16** | 101°41.83' | 336°10.78' | S 9°49.40' | 109°17.74' | 328°34.88' | S 14°07.74' | 83°36.93' | 354°15.69' | S 3°35.76' | 112°24.61' | 325°28.00' | S 14°49.71' | **16** |
| **17** | 116°41.66' | 336°13.42' | S 9°48.60' | 124°18.36' | 328°36.72' | S 14°07.12' | 98°38.86' | 354°16.22' | S 3°35.54' | 127°26.87' | 325°28.21' | S 14°49.65' | **17** |
| **18** | 131°41.48' | 336°16.06' | S 9°47.81' | 139°18.98' | 328°38.56' | S 14°06.50' | 113°40.80' | 354°16.74' | S 3°35.32' | 142°29.13' | 325°28.41' | S 14°49.59' | **18** |
| **19** | 146°41.31' | 336°18.70' | S 9°47.01' | 154°19.60' | 328°40.40' | S 14°05.89' | 128°42.74' | 354°17.27' | S 3°35.10' | 157°31.39' | 325°28.61' | S 14°49.53' | **19** |
| **20** | 161°41.13' | 336°21.34' | S 9°46.21' | 169°20.23' | 328°42.24' | S 14°05.27' | 143°44.67' | 354°17.80' | S 3°34.87' | 172°33.66' | 325°28.82' | S 14°49.47' | **20** |
| **21** | 176°40.95' | 336°23.98' | S 9°45.42' | 184°20.85' | 328°44.09' | S 14°04.66' | 158°46.61' | 354°18.33' | S 3°34.65' | 187°35.92' | 325°29.02' | S 14°49.41' | **21** |
| **22** | 191°40.78' | 336°26.62' | S 9°44.62' | 199°21.47' | 328°45.93' | S 14°04.04' | 173°48.55' | 354°18.86' | S 3°34.43' | 202°38.18' | 325°29.22' | S 14°49.34' | **22** |
| **23** | 206°40.60' | 336°29.26' | S 9°43.82' | 214°22.10' | 328°47.77' | S 14°03.42' | 188°50.48' | 354°19.38' | S 3°34.21' | 217°40.44' | 325°29.43' | S 14°49.28' | **23** |
| **24** | 221°40.43' | 336°31.90' | S 9°43.02' | 229°22.72' | 328°49.61' | S 14°02.81' | 203°52.42' | 354°19.91' | S 3°33.99' | 232°42.70' | 325°29.63' | S 14°49.22' | **24** |
| | δ 14.9971° | | *d* 0.7849' | δ 15.0103° | | *d* 0.6116' | δ 15.0322° | | *d* 0.2227' | δ 15.0376° | | *d* 0.0624' | |

## *Sunday, April 10th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°38.17' | 15.0028° | 18°34.16' | N 7°51.63' | 0.9260' | 77°04.64' | 14.4959° | 121°07.69' | N 25°11.41' | 4.9989' | 54.6341' | 198°12.33' | **00** |
| **01** | 194°38.33' | 15.0028° | 18°36.46' | N 7°52.56' | 0.9258' | 91°34.42' | 14.4963° | 121°40.37' | N 25°06.29' | 5.1217' | 54.6500' | 213°14.79' | **01** |
| **02** | 209°38.50' | 15.0028° | 18°38.76' | N 7°53.49' | 0.9255' | 106°04.23' | 14.4968° | 122°13.03' | N 25°01.04' | 5.2442' | 54.6662' | 228°17.26' | **02** |
| **03** | 224°38.67' | 15.0028° | 18°41.05' | N 7°54.41' | 0.9253' | 120°34.06' | 14.4972° | 122°45.66' | N 24°55.67' | 5.3664' | 54.6827' | 243°19.72' | **03** |
| **04** | 239°38.84' | 15.0028° | 18°43.35' | N 7°55.34' | 0.9251' | 135°03.92' | 14.4977° | 123°18.27' | N 24°50.19' | 5.4882' | 54.6995' | 258°22.19' | **04** |
| **05** | 254°39.01' | 15.0028° | 18°45.64' | N 7°56.26' | 0.9248' | 149°33.80' | 14.4981° | 123°50.85' | N 24°44.58' | 5.6096' | 54.7166' | 273°24.65' | **05** |
| **06** | 269°39.17' | 15.0028° | 18°47.94' | N 7°57.19' | 0.9246' | 164°03.72' | 14.4986° | 124°23.40' | N 24°38.85' | 5.7306' | 54.7339' | 288°27.11' | **06** |
| **07** | 284°39.34' | 15.0028° | 18°50.24' | N 7°58.11' | 0.9244' | 178°33.66' | 14.4991° | 124°55.92' | N 24°33.00' | 5.8512' | 54.7515' | 303°29.58' | **07** |
| **08** | 299°39.51' | 15.0028° | 18°52.53' | N 7°59.03' | 0.9241' | 193°03.63' | 14.4995° | 125°28.41' | N 24°27.02' | 5.9715' | 54.7694' | 318°32.04' | **08** |
| **09** | 314°39.68' | 15.0028° | 18°54.83' | N 7°59.96' | 0.9239' | 207°33.64' | 14.5000° | 126°00.87' | N 24°20.93' | 6.0913' | 54.7876' | 333°34.51' | **09** |
| **10** | 329°39.84' | 15.0028° | 18°57.13' | N 8°00.88' | 0.9236' | 222°03.67' | 14.5005° | 126°33.30' | N 24°14.72' | 6.2108' | 54.8061' | 348°36.97' | **10** |
| **11** | 344°40.01' | 15.0028° | 18°59.42' | N 8°01.80' | 0.9234' | 236°33.73' | 14.5010° | 127°05.71' | N 24°08.39' | 6.3298' | 54.8248' | 3°39.43' | **11** |
| **12** | 359°40.18' | 15.0028° | 19°01.72' | N 8°02.73' | 0.9232' | 251°03.82' | 14.5015° | 127°38.08' | N 24°01.94' | 6.4483' | 54.8438' | 18°41.90' | **12** |
| **13** | 14°40.34' | 15.0028° | 19°04.02' | N 8°03.65' | 0.9229' | 265°33.94' | 14.5020° | 128°10.42' | N 23°55.38' | 6.5665' | 54.8631' | 33°44.36' | **13** |
| **14** | 29°40.51' | 15.0028° | 19°06.32' | N 8°04.57' | 0.9227' | 280°04.10' | 14.5026° | 128°42.73' | N 23°48.69' | 6.6842' | 54.8827' | 48°46.83' | **14** |
| **15** | 44°40.68' | 15.0028° | 19°08.61' | N 8°05.50' | 0.9225' | 294°34.28' | 14.5031° | 129°15.01' | N 23°41.89' | 6.8014' | 54.9025' | 63°49.29' | **15** |
| **16** | 59°40.84' | 15.0028° | 19°10.91' | N 8°06.42' | 0.9222' | 309°04.50' | 14.5036° | 129°47.26' | N 23°34.97' | 6.9182' | 54.9226' | 78°51.76' | **16** |
| **17** | 74°41.01' | 15.0028° | 19°13.21' | N 8°07.34' | 0.9220' | 323°34.75' | 14.5041° | 130°19.47' | N 23°27.94' | 7.0345' | 54.9430' | 93°54.22' | **17** |
| **18** | 89°41.18' | 15.0028° | 19°15.51' | N 8°08.26' | 0.9217' | 338°05.03' | 14.5047° | 130°51.66' | N 23°20.79' | 7.1503' | 54.9637' | 108°56.68' | **18** |
| **19** | 104°41.34' | 15.0028° | 19°17.80' | N 8°09.18' | 0.9215' | 352°35.34' | 14.5052° | 131°23.81' | N 23°13.52' | 7.2657' | 54.9846' | 123°59.15' | **19** |
| **20** | 119°41.51' | 15.0028° | 19°20.10' | N 8°10.10' | 0.9213' | 7°05.69' | 14.5058° | 131°55.93' | N 23°06.14' | 7.3806' | 55.0057' | 139°01.61' | **20** |
| **21** | 134°41.68' | 15.0028° | 19°22.40' | N 8°11.03' | 0.9210' | 21°36.06' | 14.5063° | 132°28.01' | N 22°58.65' | 7.4950' | 55.0272' | 154°04.08' | **21** |
| **22** | 149°41.84' | 15.0028° | 19°24.70' | N 8°11.95' | 0.9208' | 36°06.48' | 14.5069° | 133°00.06' | N 22°51.04' | 7.6089' | 55.0489' | 169°06.54' | **22** |
| **23** | 164°42.01' | 15.0028° | 19°27.00' | N 8°12.87' | 0.9205' | 50°36.92' | 14.5074° | 133°32.08' | N 22°43.32' | 7.7222' | 55.0708' | 184°09.00' | **23** |
| **24** | 179°42.17' | 15.0028° | 19°29.30' | N 8°13.79' | 0.9203' | 65°07.40' | 14.5080° | 134°04.07' | N 22°35.48' | 7.8351' | 55.0930' | 199°11.47' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.9652' | hp (π) 0.1463' | ½Ø 14.9440' | 61.7027992891351<br>6% +gib | |
| EoT at 12:00 UTC : -1m 19s (δ 0.67 s/h) | | Phase at 12:00 UTC : 103.44° | | |
| Meridian Pass. Time : 12:01:19.292 | | Age : 8.0 day(s) | | |

| UT | Venus ♀ (π 0.17') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 221°40.43' | 336°31.90' | S 9°43.02' | 229°22.72' | 328°49.61' | S 14°02.81' | 203°52.42' | 354°19.91' | S 3°33.99' | 232°42.70' | 325°29.63' | S 14°49.22' | **00** |
| **01** | 236°40.25' | 336°34.54' | S 9°42.22' | 244°23.35' | 328°51.45' | S 14°02.19' | 218°54.35' | 354°20.44' | S 3°33.76' | 247°44.96' | 325°29.83' | S 14°49.16' | **01** |
| **02** | 251°40.07' | 336°37.18' | S 9°41.42' | 259°23.97' | 328°53.29' | S 14°01.57' | 233°56.29' | 354°20.97' | S 3°33.54' | 262°47.22' | 325°30.03' | S 14°49.10' | **02** |
| **03** | 266°39.90' | 336°39.82' | S 9°40.62' | 274°24.59' | 328°55.13' | S 14°00.96' | 248°58.23' | 354°21.49' | S 3°33.32' | 277°49.49' | 325°30.24' | S 14°49.04' | **03** |
| **04** | 281°39.72' | 336°42.46' | S 9°39.82' | 289°25.22' | 328°56.97' | S 14°00.34' | 264°00.16' | 354°22.02' | S 3°33.10' | 292°51.75' | 325°30.44' | S 14°48.97' | **04** |
| **05** | 296°39.55' | 336°45.10' | S 9°39.02' | 304°25.84' | 328°58.81' | S 13°59.72' | 279°02.10' | 354°22.55' | S 3°32.88' | 307°54.01' | 325°30.64' | S 14°48.91' | **05** |
| **06** | 311°39.37' | 336°47.74' | S 9°38.22' | 319°26.47' | 329°00.65' | S 13°59.10' | 294°04.04' | 354°23.08' | S 3°32.65' | 322°56.27' | 325°30.84' | S 14°48.85' | **06** |
| **07** | 326°39.19' | 336°50.38' | S 9°37.41' | 334°27.09' | 329°02.49' | S 13°58.48' | 309°05.98' | 354°23.60' | S 3°32.43' | 337°58.53' | 325°31.04' | S 14°48.79' | **07** |
| **08** | 341°39.02' | 336°53.02' | S 9°36.61' | 349°27.72' | 329°04.33' | S 13°57.87' | 324°07.91' | 354°24.13' | S 3°32.21' | 353°00.80' | 325°31.25' | S 14°48.73' | **08** |
| **09** | 356°38.84' | 336°55.67' | S 9°35.81' | 4°28.34' | 329°06.17' | S 13°57.25' | 339°09.85' | 354°24.66' | S 3°31.99' | 8°03.06' | 325°31.45' | S 14°48.67' | **09** |
| **10** | 11°38.66' | 336°58.31' | S 9°35.00' | 19°28.97' | 329°08.00' | S 13°56.63' | 354°11.79' | 354°25.18' | S 3°31.77' | 23°05.32' | 325°31.65' | S 14°48.61' | **10** |
| **11** | 26°38.49' | 337°00.95' | S 9°34.20' | 34°29.59' | 329°09.84' | S 13°56.01' | 9°13.72' | 354°25.71' | S 3°31.55' | 38°07.59' | 325°31.85' | S 14°48.55' | **11** |
| **12** | 41°38.31' | 337°03.59' | S 9°33.39' | 49°30.22' | 329°11.68' | S 13°55.39' | 24°15.66' | 354°26.24' | S 3°31.32' | 53°09.85' | 325°32.05' | S 14°48.49' | **12** |
| **13** | 56°38.14' | 337°06.23' | S 9°32.58' | 64°30.84' | 329°13.52' | S 13°54.77' | 39°17.60' | 354°26.76' | S 3°31.10' | 68°12.11' | 325°32.25' | S 14°48.42' | **13** |
| **14** | 71°37.96' | 337°08.87' | S 9°31.78' | 79°31.47' | 329°15.36' | S 13°54.15' | 54°19.54' | 354°27.29' | S 3°30.88' | 83°14.37' | 325°32.45' | S 14°48.36' | **14** |
| **15** | 86°37.78' | 337°11.51' | S 9°30.97' | 94°32.09' | 329°17.20' | S 13°53.53' | 69°21.47' | 354°27.82' | S 3°30.66' | 98°16.64' | 325°32.65' | S 14°48.30' | **15** |
| **16** | 101°37.61' | 337°14.15' | S 9°30.16' | 109°32.72' | 329°19.03' | S 13°52.91' | 84°23.41' | 354°28.34' | S 3°30.44' | 113°18.90' | 325°32.85' | S 14°48.24' | **16** |
| **17** | 116°37.43' | 337°16.79' | S 9°29.35' | 124°33.35' | 329°20.87' | S 13°52.29' | 99°25.35' | 354°28.87' | S 3°30.22' | 128°21.16' | 325°33.06' | S 14°48.18' | **17** |
| **18** | 131°37.25' | 337°19.43' | S 9°28.54' | 139°33.97' | 329°22.71' | S 13°51.67' | 114°27.29' | 354°29.40' | S 3°29.99' | 143°23.43' | 325°33.26' | S 14°48.12' | **18** |
| **19** | 146°37.08' | 337°22.07' | S 9°27.73' | 154°34.60' | 329°24.55' | S 13°51.05' | 129°29.22' | 354°29.92' | S 3°29.77' | 158°25.69' | 325°33.46' | S 14°48.06' | **19** |
| **20** | 161°36.90' | 337°24.71' | S 9°26.92' | 169°35.23' | 329°26.39' | S 13°50.43' | 144°31.16' | 354°30.45' | S 3°29.55' | 173°27.96' | 325°33.66' | S 14°48.00' | **20** |
| **21** | 176°36.72' | 337°27.35' | S 9°26.11' | 184°35.85' | 329°28.22' | S 13°49.81' | 159°33.10' | 354°30.98' | S 3°29.33' | 188°30.22' | 325°33.86' | S 14°47.94' | **21** |
| **22** | 191°36.55' | 337°29.99' | S 9°25.30' | 199°36.48' | 329°30.06' | S 13°49.19' | 174°35.04' | 354°31.50' | S 3°29.11' | 203°32.48' | 325°34.06' | S 14°47.88' | **22** |
| **23** | 206°36.37' | 337°32.64' | S 9°24.48' | 214°37.11' | 329°31.90' | S 13°48.56' | 189°36.98' | 354°32.03' | S 3°28.89' | 218°34.75' | 325°34.26' | S 14°47.82' | **23** |
| **24** | 221°36.19' | 337°35.28' | S 9°23.67' | 229°37.73' | 329°33.73' | S 13°47.94' | 204°38.92' | 354°32.55' | S 3°28.67' | 233°37.01' | 325°34.46' | S 14°47.76' | **24** |
| | δ 14.9971° | | *d* 0.7995' | δ 15.0104° | | *d* 0.6169' | δ 15.0323° | | *d* 0.2220' | δ 15.0377° | | *d* 0.0614' | |

## *Monday, April 11th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°42.17' | 15.0028° | 19°29.30' | N 8°13.79' | 0.9203' | 65°07.40' | 14.5080° | 134°04.07' | N 22°35.48' | 7.8351' | 55.0930' | 199°11.47' | **00** |
| **01** | 194°42.34' | 15.0028° | 19°31.59' | N 8°14.71' | 0.9200' | 79°37.91' | 14.5085° | 134°36.02' | N 22°27.53' | 7.9474' | 55.1155' | 214°13.93' | **01** |
| **02** | 209°42.50' | 15.0028° | 19°33.89' | N 8°15.63' | 0.9198' | 94°08.46' | 14.5091° | 135°07.94' | N 22°19.47' | 8.0593' | 55.1382' | 229°16.40' | **02** |
| **03** | 224°42.67' | 15.0028° | 19°36.19' | N 8°16.55' | 0.9196' | 108°39.03' | 14.5096° | 135°39.83' | N 22°11.30' | 8.1705' | 55.1612' | 244°18.86' | **03** |
| **04** | 239°42.83' | 15.0028° | 19°38.49' | N 8°17.47' | 0.9193' | 123°09.65' | 14.5102° | 136°11.68' | N 22°03.02' | 8.2813' | 55.1844' | 259°21.32' | **04** |
| **05** | 254°43.00' | 15.0028° | 19°40.79' | N 8°18.39' | 0.9191' | 137°40.29' | 14.5108° | 136°43.50' | N 21°54.63' | 8.3915' | 55.2079' | 274°23.79' | **05** |
| **06** | 269°43.16' | 15.0027° | 19°43.09' | N 8°19.30' | 0.9188' | 152°10.97' | 14.5113° | 137°15.28' | N 21°46.13' | 8.5011' | 55.2316' | 289°26.25' | **06** |
| **07** | 284°43.33' | 15.0027° | 19°45.39' | N 8°20.22' | 0.9186' | 166°41.69' | 14.5119° | 137°47.03' | N 21°37.52' | 8.6102' | 55.2555' | 304°28.72' | **07** |
| **08** | 299°43.49' | 15.0027° | 19°47.69' | N 8°21.14' | 0.9183' | 181°12.44' | 14.5125° | 138°18.75' | N 21°28.80' | 8.7187' | 55.2797' | 319°31.18' | **08** |
| **09** | 314°43.66' | 15.0027° | 19°49.99' | N 8°22.06' | 0.9181' | 195°43.22' | 14.5130° | 138°50.43' | N 21°19.97' | 8.8266' | 55.3042' | 334°33.65' | **09** |
| **10** | 329°43.82' | 15.0027° | 19°52.29' | N 8°22.98' | 0.9178' | 210°14.03' | 14.5136° | 139°22.08' | N 21°11.04' | 8.9340' | 55.3288' | 349°36.11' | **10** |
| **11** | 344°43.99' | 15.0027° | 19°54.59' | N 8°23.89' | 0.9176' | 224°44.88' | 14.5142° | 139°53.69' | N 21°02.00' | 9.0408' | 55.3537' | 4°38.57' | **11** |
| **12** | 359°44.15' | 15.0027° | 19°56.89' | N 8°24.81' | 0.9173' | 239°15.77' | 14.5147° | 140°25.27' | N 20°52.85' | 9.1470' | 55.3789' | 19°41.04' | **12** |
| **13** | 14°44.32' | 15.0027° | 19°59.19' | N 8°25.73' | 0.9171' | 253°46.68' | 14.5153° | 140°56.82' | N 20°43.60' | 9.2525' | 55.4042' | 34°43.50' | **13** |
| **14** | 29°44.48' | 15.0027° | 20°01.49' | N 8°26.65' | 0.9168' | 268°17.63' | 14.5158° | 141°28.33' | N 20°34.24' | 9.3575' | 55.4298' | 49°45.97' | **14** |
| **15** | 44°44.64' | 15.0027° | 20°03.79' | N 8°27.56' | 0.9166' | 282°48.62' | 14.5164° | 141°59.81' | N 20°24.78' | 9.4619' | 55.4556' | 64°48.43' | **15** |
| **16** | 59°44.81' | 15.0027° | 20°06.09' | N 8°28.48' | 0.9163' | 297°19.63' | 14.5170° | 142°31.26' | N 20°15.22' | 9.5657' | 55.4817' | 79°50.89' | **16** |
| **17** | 74°44.97' | 15.0027° | 20°08.39' | N 8°29.39' | 0.9161' | 311°50.68' | 14.5175° | 143°02.67' | N 20°05.55' | 9.6688' | 55.5079' | 94°53.36' | **17** |
| **18** | 89°45.13' | 15.0027° | 20°10.69' | N 8°30.31' | 0.9158' | 326°21.77' | 14.5181° | 143°34.05' | N 19°55.77' | 9.7713' | 55.5344' | 109°55.82' | **18** |
| **19** | 104°45.30' | 15.0027° | 20°12.99' | N 8°31.23' | 0.9156' | 340°52.88' | 14.5186° | 144°05.40' | N 19°45.90' | 9.8732' | 55.5611' | 124°58.29' | **19** |
| **20** | 119°45.46' | 15.0027° | 20°15.29' | N 8°32.14' | 0.9153' | 355°24.03' | 14.5191° | 144°36.72' | N 19°35.93' | 9.9745' | 55.5880' | 140°00.75' | **20** |
| **21** | 134°45.62' | 15.0027° | 20°17.59' | N 8°33.06' | 0.9151' | 9°55.21' | 14.5197° | 145°08.00' | N 19°25.85' | 10.0751' | 55.6151' | 155°03.21' | **21** |
| **22** | 149°45.79' | 15.0027° | 20°19.89' | N 8°33.97' | 0.9148' | 24°26.43' | 14.5202° | 145°39.25' | N 19°15.68' | 10.1750' | 55.6425' | 170°05.68' | **22** |
| **23** | 164°45.95' | 15.0027° | 20°22.19' | N 8°34.89' | 0.9146' | 38°57.67' | 14.5208° | 146°10.47' | N 19°05.40' | 10.2743' | 55.6700' | 185°08.14' | **23** |
| **24** | 179°46.11' | 15.0027° | 20°24.49' | N 8°35.80' | 0.9143' | 53°28.95' | 14.5213° | 146°41.66' | N 18°55.03' | 10.3729' | 55.6977' | 200°10.61' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9608' | hp (π) 0.1463' | ½Ø 15.0898' | 70.9377811282313 1% +gib |
| | EoT at 12:00 UTC : -1m 3s (δ 0.66 s/h) | | Phase at 12:00 UTC : 114.73° | |
| | Meridian Pass. Time : 12:01:03.396 | | Age : 8.9 day(s) | |

| UT | Venus ♀ (π 0.17') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 221°36.19' | 337°35.28' | S 9°23.67' | 229°37.73' | 329°33.73' | S 13°47.94' | 204°38.92' | 354°32.55' | S 3°28.67' | 233°37.01' | 325°34.46' | S 14°47.76' | **00** |
| **01** | 236°36.01' | 337°37.92' | S 9°22.86' | 244°38.36' | 329°35.57' | S 13°47.32' | 219°40.85' | 354°33.08' | S 3°28.45' | 248°39.28' | 325°34.66' | S 14°47.70' | **01** |
| **02** | 251°35.84' | 337°40.56' | S 9°22.04' | 259°38.99' | 329°37.41' | S 13°46.70' | 234°42.79' | 354°33.60' | S 3°28.22' | 263°41.54' | 325°34.86' | S 14°47.64' | **02** |
| **03** | 266°35.66' | 337°43.20' | S 9°21.23' | 274°39.62' | 329°39.24' | S 13°46.08' | 249°44.73' | 354°34.13' | S 3°28.00' | 278°43.81' | 325°35.06' | S 14°47.58' | **03** |
| **04** | 281°35.48' | 337°45.84' | S 9°20.41' | 289°40.25' | 329°41.08' | S 13°45.45' | 264°46.67' | 354°34.66' | S 3°27.78' | 293°46.07' | 325°35.25' | S 14°47.51' | **04** |
| **05** | 296°35.31' | 337°48.48' | S 9°19.60' | 304°40.87' | 329°42.92' | S 13°44.83' | 279°48.61' | 354°35.18' | S 3°27.56' | 308°48.34' | 325°35.45' | S 14°47.45' | **05** |
| **06** | 311°35.13' | 337°51.12' | S 9°18.78' | 319°41.50' | 329°44.75' | S 13°44.21' | 294°50.55' | 354°35.71' | S 3°27.34' | 323°50.60' | 325°35.65' | S 14°47.39' | **06** |
| **07** | 326°34.95' | 337°53.77' | S 9°17.96' | 334°42.13' | 329°46.59' | S 13°43.58' | 309°52.48' | 354°36.23' | S 3°27.12' | 338°52.87' | 325°35.85' | S 14°47.33' | **07** |
| **08** | 341°34.77' | 337°56.41' | S 9°17.14' | 349°42.76' | 329°48.42' | S 13°42.96' | 324°54.42' | 354°36.76' | S 3°26.90' | 353°55.13' | 325°36.05' | S 14°47.27' | **08** |
| **09** | 356°34.60' | 337°59.05' | S 9°16.33' | 4°43.39' | 329°50.26' | S 13°42.34' | 339°56.36' | 354°37.28' | S 3°26.68' | 8°57.40' | 325°36.25' | S 14°47.21' | **09** |
| **10** | 11°34.42' | 338°01.69' | S 9°15.51' | 19°44.02' | 329°52.09' | S 13°41.71' | 354°58.30' | 354°37.81' | S 3°26.46' | 23°59.66' | 325°36.45' | S 14°47.15' | **10** |
| **11** | 26°34.24' | 338°04.33' | S 9°14.69' | 34°44.65' | 329°53.93' | S 13°41.09' | 10°00.24' | 354°38.33' | S 3°26.24' | 39°01.93' | 325°36.65' | S 14°47.09' | **11** |
| **12** | 41°34.06' | 338°06.97' | S 9°13.87' | 49°45.27' | 329°55.76' | S 13°40.46' | 25°02.18' | 354°38.86' | S 3°26.01' | 54°04.19' | 325°36.84' | S 14°47.03' | **12** |
| **13** | 56°33.89' | 338°09.61' | S 9°13.05' | 64°45.90' | 329°57.60' | S 13°39.84' | 40°04.12' | 354°39.38' | S 3°25.79' | 69°06.46' | 325°37.04' | S 14°46.97' | **13** |
| **14** | 71°33.71' | 338°12.26' | S 9°12.23' | 79°46.53' | 329°59.43' | S 13°39.21' | 55°06.06' | 354°39.91' | S 3°25.57' | 84°08.72' | 325°37.24' | S 14°46.91' | **14** |
| **15** | 86°33.53' | 338°14.90' | S 9°11.40' | 94°47.16' | 330°01.27' | S 13°38.59' | 70°08.00' | 354°40.43' | S 3°25.35' | 99°10.99' | 325°37.44' | S 14°46.85' | **15** |
| **16** | 101°33.35' | 338°17.54' | S 9°10.58' | 109°47.79' | 330°03.10' | S 13°37.96' | 85°09.94' | 354°40.96' | S 3°25.13' | 114°13.26' | 325°37.64' | S 14°46.79' | **16** |
| **17** | 116°33.18' | 338°20.18' | S 9°09.76' | 124°48.42' | 330°04.94' | S 13°37.34' | 100°11.88' | 354°41.48' | S 3°24.91' | 129°15.52' | 325°37.83' | S 14°46.73' | **17** |
| **18** | 131°33.00' | 338°22.82' | S 9°08.93' | 139°49.05' | 330°06.77' | S 13°36.71' | 115°13.82' | 354°42.01' | S 3°24.69' | 144°17.79' | 325°38.03' | S 14°46.67' | **18** |
| **19** | 146°32.82' | 338°25.47' | S 9°08.11' | 154°49.68' | 330°08.60' | S 13°36.09' | 130°15.76' | 354°42.53' | S 3°24.47' | 159°20.06' | 325°38.23' | S 14°46.61' | **19** |
| **20** | 161°32.64' | 338°28.11' | S 9°07.29' | 169°50.31' | 330°10.44' | S 13°35.46' | 145°17.70' | 354°43.05' | S 3°24.25' | 174°22.32' | 325°38.43' | S 14°46.55' | **20** |
| **21** | 176°32.47' | 338°30.75' | S 9°06.46' | 184°50.94' | 330°12.27' | S 13°34.83' | 160°19.64' | 354°43.58' | S 3°24.03' | 189°24.59' | 325°38.62' | S 14°46.49' | **21** |
| **22** | 191°32.29' | 338°33.39' | S 9°05.63' | 199°51.57' | 330°14.10' | S 13°34.21' | 175°21.58' | 354°44.10' | S 3°23.81' | 204°26.86' | 325°38.82' | S 14°46.43' | **22** |
| **23** | 206°32.11' | 338°36.03' | S 9°04.81' | 214°52.20' | 330°15.94' | S 13°33.58' | 190°23.52' | 354°44.63' | S 3°23.59' | 219°29.12' | 325°39.02' | S 14°46.37' | **23** |
| **24** | 221°31.93' | 338°38.67' | S 9°03.98' | 229°52.84' | 330°17.77' | S 13°32.95' | 205°25.46' | 354°45.15' | S 3°23.37' | 234°31.39' | 325°39.22' | S 14°46.32' | **24** |
| | δ 14.9970° | | *d* 0.8137' | δ 15.0105° | | *d* 0.6221' | δ 15.0323° | | *d* 0.2212' | δ 15.0377° | | *d* 0.0605' | |

## *Tuesday, April 12th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°46.11' | 15.0027° | 20°24.49' | N 8°35.80' | 0.9143' | 53°28.95' | 14.5213° | 146°41.66' | N 18°55.03' | 10.3729' | 55.6977' | 200°10.61' | **00** |
| **01** | 194°46.27' | 15.0027° | 20°26.80' | N 8°36.71' | 0.9141' | 68°00.26' | 14.5218° | 147°12.81' | N 18°44.56' | 10.4709' | 55.7256' | 215°13.07' | **01** |
| **02** | 209°46.44' | 15.0027° | 20°29.10' | N 8°37.63' | 0.9138' | 82°31.60' | 14.5223° | 147°43.94' | N 18°33.99' | 10.5682' | 55.7537' | 230°15.53' | **02** |
| **03** | 224°46.60' | 15.0027° | 20°31.40' | N 8°38.54' | 0.9136' | 97°02.97' | 14.5228° | 148°15.03' | N 18°23.33' | 10.6648' | 55.7820' | 245°18.00' | **03** |
| **04** | 239°46.76' | 15.0027° | 20°33.70' | N 8°39.45' | 0.9133' | 111°34.37' | 14.5233° | 148°46.09' | N 18°12.57' | 10.7607' | 55.8105' | 260°20.46' | **04** |
| **05** | 254°46.92' | 15.0027° | 20°36.00' | N 8°40.37' | 0.9131' | 126°05.80' | 14.5238° | 149°17.13' | N 18°01.71' | 10.8560' | 55.8392' | 275°22.93' | **05** |
| **06** | 269°47.09' | 15.0027° | 20°38.30' | N 8°41.28' | 0.9128' | 140°37.26' | 14.5243° | 149°48.13' | N 17°50.76' | 10.9505' | 55.8681' | 290°25.39' | **06** |
| **07** | 284°47.25' | 15.0027° | 20°40.61' | N 8°42.19' | 0.9126' | 155°08.75' | 14.5248° | 150°19.10' | N 17°39.71' | 11.0444' | 55.8971' | 305°27.86' | **07** |
| **08** | 299°47.41' | 15.0027° | 20°42.91' | N 8°43.11' | 0.9123' | 169°40.27' | 14.5253° | 150°50.05' | N 17°28.58' | 11.1375' | 55.9264' | 320°30.32' | **08** |
| **09** | 314°47.57' | 15.0027° | 20°45.21' | N 8°44.02' | 0.9120' | 184°11.82' | 14.5258° | 151°20.97' | N 17°17.35' | 11.2299' | 55.9558' | 335°32.78' | **09** |
| **10** | 329°47.73' | 15.0027° | 20°47.51' | N 8°44.93' | 0.9118' | 198°43.39' | 14.5263° | 151°51.85' | N 17°06.03' | 11.3216' | 55.9853' | 350°35.25' | **10** |
| **11** | 344°47.89' | 15.0027° | 20°49.82' | N 8°45.84' | 0.9115' | 213°15.00' | 14.5267° | 152°22.71' | N 16°54.61' | 11.4126' | 56.0151' | 5°37.71' | **11** |
| **12** | 359°48.06' | 15.0027° | 20°52.12' | N 8°46.75' | 0.9113' | 227°46.63' | 14.5272° | 152°53.55' | N 16°43.11' | 11.5029' | 56.0450' | 20°40.18' | **12** |
| **13** | 14°48.22' | 15.0027° | 20°54.42' | N 8°47.66' | 0.9110' | 242°18.29' | 14.5276° | 153°24.35' | N 16°31.52' | 11.5924' | 56.0750' | 35°42.64' | **13** |
| **14** | 29°48.38' | 15.0027° | 20°56.73' | N 8°48.57' | 0.9108' | 256°49.97' | 14.5281° | 153°55.13' | N 16°19.84' | 11.6811' | 56.1053' | 50°45.10' | **14** |
| **15** | 44°48.54' | 15.0027° | 20°59.03' | N 8°49.48' | 0.9105' | 271°21.68' | 14.5285° | 154°25.89' | N 16°08.07' | 11.7691' | 56.1356' | 65°47.57' | **15** |
| **16** | 59°48.70' | 15.0027° | 21°01.33' | N 8°50.39' | 0.9102' | 285°53.41' | 14.5289° | 154°56.62' | N 15°56.21' | 11.8564' | 56.1662' | 80°50.03' | **16** |
| **17** | 74°48.86' | 15.0027° | 21°03.64' | N 8°51.30' | 0.9100' | 300°25.17' | 14.5293° | 155°27.32' | N 15°44.27' | 11.9429' | 56.1968' | 95°52.50' | **17** |
| **18** | 89°49.02' | 15.0027° | 21°05.94' | N 8°52.21' | 0.9097' | 314°56.96' | 14.5297° | 155°58.00' | N 15°32.24' | 12.0286' | 56.2276' | 110°54.96' | **18** |
| **19** | 104°49.18' | 15.0027° | 21°08.24' | N 8°53.12' | 0.9095' | 329°28.77' | 14.5301° | 156°28.66' | N 15°20.13' | 12.1136' | 56.2586' | 125°57.42' | **19** |
| **20** | 119°49.34' | 15.0027° | 21°10.55' | N 8°54.03' | 0.9092' | 344°00.60' | 14.5305° | 156°59.29' | N 15°07.93' | 12.1978' | 56.2897' | 140°59.89' | **20** |
| **21** | 134°49.50' | 15.0027° | 21°12.85' | N 8°54.94' | 0.9089' | 358°32.45' | 14.5309° | 157°29.90' | N 14°55.65' | 12.2812' | 56.3209' | 156°02.35' | **21** |
| **22** | 149°49.66' | 15.0027° | 21°15.16' | N 8°55.85' | 0.9087' | 13°04.33' | 14.5313° | 158°00.49' | N 14°43.28' | 12.3638' | 56.3523' | 171°04.82' | **22** |
| **23** | 164°49.82' | 15.0027° | 21°17.46' | N 8°56.76' | 0.9084' | 27°36.23' | 14.5316° | 158°31.05' | N 14°30.84' | 12.4456' | 56.3837' | 186°07.28' | **23** |
| **24** | 179°49.98' | 15.0027° | 21°19.76' | N 8°57.67' | 0.9081' | 42°08.15' | 14.5320° | 159°01.60' | N 14°18.31' | 12.5266' | 56.4153' | 201°09.74' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9563' | hp (π) 0.1462' | ½Ø 15.2713' | 79.5710897749571<br>3% +gib |
| | EoT at 12:00 UTC : -47s (δ 0.64 s/h) | | Phase at 12:00 UTC : 126.31° | |
| | Meridian Pass. Time : 12:00:47.778 | | Age : 9.8 day(s) | |

| UT | Venus ♀ (π 0.17') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 221°31.93' | 338°38.67' | S 9°03.98' | 229°52.84' | 330°17.77' | S 13°32.95' | 205°25.46' | 354°45.15' | S 3°23.37' | 234°31.39' | 325°39.22' | S 14°46.32' | **00** |
| **01** | 236°31.75' | 338°41.32' | S 9°03.15' | 244°53.47' | 330°19.60' | S 13°32.33' | 220°27.40' | 354°45.67' | S 3°23.15' | 249°33.66' | 325°39.41' | S 14°46.26' | **01** |
| **02** | 251°31.58' | 338°43.96' | S 9°02.32' | 259°54.10' | 330°21.44' | S 13°31.70' | 235°29.34' | 354°46.20' | S 3°22.93' | 264°35.93' | 325°39.61' | S 14°46.20' | **02** |
| **03** | 266°31.40' | 338°46.60' | S 9°01.50' | 274°54.73' | 330°23.27' | S 13°31.07' | 250°31.28' | 354°46.72' | S 3°22.71' | 279°38.19' | 325°39.81' | S 14°46.14' | **03** |
| **04** | 281°31.22' | 338°49.24' | S 9°00.67' | 289°55.36' | 330°25.10' | S 13°30.44' | 265°33.22' | 354°47.25' | S 3°22.49' | 294°40.46' | 325°40.00' | S 14°46.08' | **04** |
| **05** | 296°31.04' | 338°51.89' | S 8°59.84' | 304°55.99' | 330°26.93' | S 13°29.82' | 280°35.16' | 354°47.77' | S 3°22.26' | 309°42.73' | 325°40.20' | S 14°46.02' | **05** |
| **06** | 311°30.86' | 338°54.53' | S 8°59.01' | 319°56.62' | 330°28.77' | S 13°29.19' | 295°37.10' | 354°48.29' | S 3°22.04' | 324°45.00' | 325°40.39' | S 14°45.96' | **06** |
| **07** | 326°30.69' | 338°57.17' | S 8°58.17' | 334°57.26' | 330°30.60' | S 13°28.56' | 310°39.04' | 354°48.82' | S 3°21.82' | 339°47.26' | 325°40.59' | S 14°45.90' | **07** |
| **08** | 341°30.51' | 338°59.81' | S 8°57.34' | 349°57.89' | 330°32.43' | S 13°27.93' | 325°40.98' | 354°49.34' | S 3°21.60' | 354°49.53' | 325°40.79' | S 14°45.84' | **08** |
| **09** | 356°30.33' | 339°02.45' | S 8°56.51' | 4°58.52' | 330°34.26' | S 13°27.30' | 340°42.92' | 354°49.86' | S 3°21.38' | 9°51.80' | 325°40.98' | S 14°45.78' | **09** |
| **10** | 11°30.15' | 339°05.10' | S 8°55.68' | 19°59.15' | 330°36.09' | S 13°26.67' | 355°44.86' | 354°50.39' | S 3°21.16' | 24°54.07' | 325°41.18' | S 14°45.72' | **10** |
| **11** | 26°29.97' | 339°07.74' | S 8°54.84' | 34°59.79' | 330°37.93' | S 13°26.04' | 10°46.80' | 354°50.91' | S 3°20.94' | 39°56.34' | 325°41.37' | S 14°45.66' | **11** |
| **12** | 41°29.79' | 339°10.38' | S 8°54.01' | 50°00.42' | 330°39.76' | S 13°25.41' | 25°48.74' | 354°51.43' | S 3°20.72' | 54°58.61' | 325°41.57' | S 14°45.60' | **12** |
| **13** | 56°29.62' | 339°13.02' | S 8°53.18' | 65°01.05' | 330°41.59' | S 13°24.78' | 40°50.68' | 354°51.95' | S 3°20.50' | 70°00.88' | 325°41.76' | S 14°45.54' | **13** |
| **14** | 71°29.44' | 339°15.67' | S 8°52.34' | 80°01.68' | 330°43.42' | S 13°24.15' | 55°52.63' | 354°52.48' | S 3°20.28' | 85°03.14' | 325°41.96' | S 14°45.49' | **14** |
| **15** | 86°29.26' | 339°18.31' | S 8°51.51' | 95°02.32' | 330°45.25' | S 13°23.52' | 70°54.57' | 354°53.00' | S 3°20.06' | 100°05.41' | 325°42.15' | S 14°45.43' | **15** |
| **16** | 101°29.08' | 339°20.95' | S 8°50.67' | 110°02.95' | 330°47.08' | S 13°22.89' | 85°56.51' | 354°53.52' | S 3°19.84' | 115°07.68' | 325°42.35' | S 14°45.37' | **16** |
| **17** | 116°28.90' | 339°23.59' | S 8°49.83' | 125°03.58' | 330°48.91' | S 13°22.26' | 100°58.45' | 354°54.05' | S 3°19.62' | 130°09.95' | 325°42.54' | S 14°45.31' | **17** |
| **18** | 131°28.72' | 339°26.24' | S 8°49.00' | 140°04.22' | 330°50.74' | S 13°21.63' | 116°00.39' | 354°54.57' | S 3°19.40' | 145°12.22' | 325°42.74' | S 14°45.25' | **18** |
| **19** | 146°28.55' | 339°28.88' | S 8°48.16' | 155°04.85' | 330°52.57' | S 13°21.00' | 131°02.33' | 354°55.09' | S 3°19.18' | 160°14.49' | 325°42.93' | S 14°45.19' | **19** |
| **20** | 161°28.37' | 339°31.52' | S 8°47.32' | 170°05.49' | 330°54.40' | S 13°20.37' | 146°04.27' | 354°55.61' | S 3°18.96' | 175°16.76' | 325°43.13' | S 14°45.13' | **20** |
| **21** | 176°28.19' | 339°34.16' | S 8°46.48' | 185°06.12' | 330°56.23' | S 13°19.74' | 161°06.22' | 354°56.14' | S 3°18.74' | 190°19.03' | 325°43.32' | S 14°45.07' | **21** |
| **22** | 191°28.01' | 339°36.81' | S 8°45.64' | 200°06.75' | 330°58.06' | S 13°19.11' | 176°08.16' | 354°56.66' | S 3°18.53' | 205°21.30' | 325°43.52' | S 14°45.01' | **22** |
| **23** | 206°27.83' | 339°39.45' | S 8°44.80' | 215°07.39' | 330°59.89' | S 13°18.48' | 191°10.10' | 354°57.18' | S 3°18.31' | 220°23.57' | 325°43.71' | S 14°44.96' | **23** |
| **24** | 221°27.65' | 339°42.09' | S 8°43.96' | 230°08.02' | 331°01.72' | S 13°17.85' | 206°12.04' | 354°57.70' | S 3°18.09' | 235°25.84' | 325°43.90' | S 14°44.90' | **24** |
| | δ 14.9970° | | *d* 0.8277' | δ 15.0105° | | *d* 0.6271' | δ 15.0323° | | *d* 0.2204' | δ 15.0378° | | *d* 0.0596' | |

## *Wednesday, April 13th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°49.98' | 15.0027° | 21°19.76' | N 8°57.67' | 0.9081' | 42°08.15' | 14.5320° | 159°01.60' | N 14°18.31' | 12.5266' | 56.4153' | 201°09.74' | **00** |
| **01** | 194°50.14' | 15.0027° | 21°22.07' | N 8°58.58' | 0.9079' | 56°40.09' | 14.5323° | 159°32.12' | N 14°05.70' | 12.6068' | 56.4471' | 216°12.21' | **01** |
| **02** | 209°50.30' | 15.0027° | 21°24.37' | N 8°59.48' | 0.9076' | 71°12.04' | 14.5326° | 160°02.63' | N 13°53.02' | 12.6861' | 56.4789' | 231°14.67' | **02** |
| **03** | 224°50.46' | 15.0027° | 21°26.68' | N 9°00.39' | 0.9074' | 85°44.02' | 14.5330° | 160°33.11' | N 13°40.25' | 12.7647' | 56.5108' | 246°17.14' | **03** |
| **04** | 239°50.62' | 15.0027° | 21°28.98' | N 9°01.30' | 0.9071' | 100°16.02' | 14.5333° | 161°03.58' | N 13°27.41' | 12.8424' | 56.5429' | 261°19.60' | **04** |
| **05** | 254°50.78' | 15.0027° | 21°31.29' | N 9°02.20' | 0.9068' | 114°48.03' | 14.5336° | 161°34.03' | N 13°14.49' | 12.9193' | 56.5750' | 276°22.06' | **05** |
| **06** | 269°50.94' | 15.0026° | 21°33.59' | N 9°03.11' | 0.9066' | 129°20.06' | 14.5338° | 162°04.47' | N 13°01.50' | 12.9953' | 56.6073' | 291°24.53' | **06** |
| **07** | 284°51.09' | 15.0026° | 21°35.90' | N 9°04.02' | 0.9063' | 143°52.11' | 14.5341° | 162°34.88' | N 12°48.43' | 13.0705' | 56.6396' | 306°26.99' | **07** |
| **08** | 299°51.25' | 15.0026° | 21°38.20' | N 9°04.92' | 0.9060' | 158°24.17' | 14.5344° | 163°05.29' | N 12°35.28' | 13.1448' | 56.6720' | 321°29.46' | **08** |
| **09** | 314°51.41' | 15.0026° | 21°40.51' | N 9°05.83' | 0.9058' | 172°56.25' | 14.5346° | 163°35.67' | N 12°22.06' | 13.2183' | 56.7045' | 336°31.92' | **09** |
| **10** | 329°51.57' | 15.0026° | 21°42.81' | N 9°06.73' | 0.9055' | 187°28.34' | 14.5349° | 164°06.04' | N 12°08.77' | 13.2909' | 56.7371' | 351°34.39' | **10** |
| **11** | 344°51.73' | 15.0026° | 21°45.12' | N 9°07.64' | 0.9052' | 202°00.45' | 14.5351° | 164°36.40' | N 11°55.41' | 13.3626' | 56.7698' | 6°36.85' | **11** |
| **12** | 359°51.89' | 15.0026° | 21°47.43' | N 9°08.54' | 0.9050' | 216°32.56' | 14.5353° | 165°06.75' | N 11°41.98' | 13.4334' | 56.8025' | 21°39.31' | **12** |
| **13** | 14°52.04' | 15.0026° | 21°49.73' | N 9°09.45' | 0.9047' | 231°04.69' | 14.5355° | 165°37.08' | N 11°28.47' | 13.5033' | 56.8353' | 36°41.78' | **13** |
| **14** | 29°52.20' | 15.0026° | 21°52.04' | N 9°10.35' | 0.9044' | 245°36.83' | 14.5357° | 166°07.41' | N 11°14.90' | 13.5723' | 56.8682' | 51°44.24' | **14** |
| **15** | 44°52.36' | 15.0026° | 21°54.35' | N 9°11.26' | 0.9042' | 260°08.98' | 14.5358° | 166°37.72' | N 11°01.26' | 13.6405' | 56.9011' | 66°46.71' | **15** |
| **16** | 59°52.52' | 15.0026° | 21°56.65' | N 9°12.16' | 0.9039' | 274°41.14' | 14.5360° | 167°08.03' | N 10°47.55' | 13.7077' | 56.9341' | 81°49.17' | **16** |
| **17** | 74°52.67' | 15.0026° | 21°58.96' | N 9°13.07' | 0.9036' | 289°13.31' | 14.5362° | 167°38.32' | N 10°33.78' | 13.7739' | 56.9672' | 96°51.63' | **17** |
| **18** | 89°52.83' | 15.0026° | 22°01.27' | N 9°13.97' | 0.9034' | 303°45.49' | 14.5363° | 168°08.61' | N 10°19.94' | 13.8393' | 57.0003' | 111°54.10' | **18** |
| **19** | 104°52.99' | 15.0026° | 22°03.57' | N 9°14.87' | 0.9031' | 318°17.68' | 14.5364° | 168°38.89' | N 10°06.04' | 13.9037' | 57.0334' | 126°56.56' | **19** |
| **20** | 119°53.15' | 15.0026° | 22°05.88' | N 9°15.77' | 0.9028' | 332°49.87' | 14.5365° | 169°09.16' | N 9°52.07' | 13.9672' | 57.0666' | 141°59.03' | **20** |
| **21** | 134°53.30' | 15.0026° | 22°08.19' | N 9°16.68' | 0.9025' | 347°22.06' | 14.5366° | 169°39.43' | N 9°38.04' | 14.0297' | 57.0998' | 157°01.49' | **21** |
| **22** | 149°53.46' | 15.0026° | 22°10.49' | N 9°17.58' | 0.9023' | 1°54.26' | 14.5367° | 170°09.69' | N 9°23.95' | 14.0912' | 57.1330' | 172°03.95' | **22** |
| **23** | 164°53.62' | 15.0026° | 22°12.80' | N 9°18.48' | 0.9020' | 16°26.47' | 14.5367° | 170°39.95' | N 9°09.80' | 14.1518' | 57.1662' | 187°06.42' | **23** |
| **24** | 179°53.77' | 15.0026° | 22°15.11' | N 9°19.38' | 0.9017' | 30°58.67' | 14.5368° | 171°10.21' | N 8°55.58' | 14.2114' | 57.1995' | 202°08.88' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9519' | hp (π) 0.1462' | ½Ø 15.4777' | 87.2148119896049<br>8% +gib |
| | EoT at 12:00 UTC : -32s (δ 0.63 s/h) | | Phase at 12:00 UTC : 138.24° | |
| | Meridian Pass. Time : 12:00:32.455 | | Age : 10.8 day(s) | |

| UT | Venus ♀ (π 0.17') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 221°27.65' | 339°42.09' | S 8°43.96' | 230°08.02' | 331°01.72' | S 13°17.85' | 206°12.04' | 354°57.70' | S 3°18.09' | 235°25.84' | 325°43.90' | S 14°44.90' | **00** |
| **01** | 236°27.47' | 339°44.74' | S 8°43.12' | 245°08.66' | 331°03.55' | S 13°17.21' | 221°13.98' | 354°58.22' | S 3°17.87' | 250°28.11' | 325°44.10' | S 14°44.84' | **01** |
| **02** | 251°27.29' | 339°47.38' | S 8°42.28' | 260°09.29' | 331°05.38' | S 13°16.58' | 236°15.93' | 354°58.75' | S 3°17.65' | 265°30.38' | 325°44.29' | S 14°44.78' | **02** |
| **03** | 266°27.12' | 339°50.02' | S 8°41.43' | 275°09.93' | 331°07.21' | S 13°15.95' | 251°17.87' | 354°59.27' | S 3°17.43' | 280°32.65' | 325°44.49' | S 14°44.72' | **03** |
| **04** | 281°26.94' | 339°52.66' | S 8°40.59' | 290°10.56' | 331°09.04' | S 13°15.32' | 266°19.81' | 354°59.79' | S 3°17.21' | 295°34.92' | 325°44.68' | S 14°44.66' | **04** |
| **05** | 296°26.76' | 339°55.31' | S 8°39.75' | 305°11.20' | 331°10.87' | S 13°14.68' | 281°21.75' | 355°00.31' | S 3°16.99' | 310°37.19' | 325°44.87' | S 14°44.60' | **05** |
| **06** | 311°26.58' | 339°57.95' | S 8°38.90' | 320°11.83' | 331°12.70' | S 13°14.05' | 296°23.70' | 355°00.83' | S 3°16.77' | 325°39.46' | 325°45.07' | S 14°44.55' | **06** |
| **07** | 326°26.40' | 340°00.59' | S 8°38.06' | 335°12.47' | 331°14.53' | S 13°13.42' | 311°25.64' | 355°01.35' | S 3°16.55' | 340°41.73' | 325°45.26' | S 14°44.49' | **07** |
| **08** | 341°26.22' | 340°03.24' | S 8°37.21' | 350°13.10' | 331°16.35' | S 13°12.78' | 326°27.58' | 355°01.88' | S 3°16.33' | 355°44.01' | 325°45.45' | S 14°44.43' | **08** |
| **09** | 356°26.04' | 340°05.88' | S 8°36.37' | 5°13.74' | 331°18.18' | S 13°12.15' | 341°29.52' | 355°02.40' | S 3°16.11' | 10°46.28' | 325°45.64' | S 14°44.37' | **09** |
| **10** | 11°25.86' | 340°08.52' | S 8°35.52' | 20°14.38' | 331°20.01' | S 13°11.52' | 356°31.47' | 355°02.92' | S 3°15.89' | 25°48.55' | 325°45.84' | S 14°44.31' | **10** |
| **11** | 26°25.68' | 340°11.16' | S 8°34.68' | 35°15.01' | 331°21.84' | S 13°10.88' | 11°33.41' | 355°03.44' | S 3°15.67' | 40°50.82' | 325°46.03' | S 14°44.25' | **11** |
| **12** | 41°25.51' | 340°13.81' | S 8°33.83' | 50°15.65' | 331°23.67' | S 13°10.25' | 26°35.35' | 355°03.96' | S 3°15.45' | 55°53.09' | 325°46.22' | S 14°44.20' | **12** |
| **13** | 56°25.33' | 340°16.45' | S 8°32.98' | 65°16.28' | 331°25.49' | S 13°09.61' | 41°37.30' | 355°04.48' | S 3°15.23' | 70°55.36' | 325°46.41' | S 14°44.14' | **13** |
| **14** | 71°25.15' | 340°19.09' | S 8°32.13' | 80°16.92' | 331°27.32' | S 13°08.98' | 56°39.24' | 355°05.00' | S 3°15.01' | 85°57.63' | 325°46.61' | S 14°44.08' | **14** |
| **15** | 86°24.97' | 340°21.74' | S 8°31.28' | 95°17.56' | 331°29.15' | S 13°08.34' | 71°41.18' | 355°05.52' | S 3°14.80' | 100°59.91' | 325°46.80' | S 14°44.02' | **15** |
| **16** | 101°24.79' | 340°24.38' | S 8°30.43' | 110°18.19' | 331°30.98' | S 13°07.71' | 86°43.13' | 355°06.04' | S 3°14.58' | 116°02.18' | 325°46.99' | S 14°43.96' | **16** |
| **17** | 116°24.61' | 340°27.02' | S 8°29.58' | 125°18.83' | 331°32.80' | S 13°07.07' | 101°45.07' | 355°06.56' | S 3°14.36' | 131°04.45' | 325°47.18' | S 14°43.91' | **17** |
| **18** | 131°24.43' | 340°29.67' | S 8°28.73' | 140°19.47' | 331°34.63' | S 13°06.44' | 116°47.01' | 355°07.08' | S 3°14.14' | 146°06.72' | 325°47.37' | S 14°43.85' | **18** |
| **19** | 146°24.25' | 340°32.31' | S 8°27.88' | 155°20.11' | 331°36.46' | S 13°05.80' | 131°48.96' | 355°07.61' | S 3°13.92' | 161°09.00' | 325°47.57' | S 14°43.79' | **19** |
| **20** | 161°24.07' | 340°34.95' | S 8°27.03' | 170°20.74' | 331°38.28' | S 13°05.17' | 146°50.90' | 355°08.13' | S 3°13.70' | 176°11.27' | 325°47.76' | S 14°43.73' | **20** |
| **21** | 176°23.89' | 340°37.60' | S 8°26.18' | 185°21.38' | 331°40.11' | S 13°04.53' | 161°52.84' | 355°08.65' | S 3°13.48' | 191°13.54' | 325°47.95' | S 14°43.68' | **21** |
| **22** | 191°23.71' | 340°40.24' | S 8°25.32' | 200°22.02' | 331°41.94' | S 13°03.89' | 176°54.79' | 355°09.17' | S 3°13.26' | 206°15.81' | 325°48.14' | S 14°43.62' | **22** |
| **23** | 206°23.53' | 340°42.88' | S 8°24.47' | 215°22.66' | 331°43.76' | S 13°03.26' | 191°56.73' | 355°09.69' | S 3°13.04' | 221°18.09' | 325°48.33' | S 14°43.56' | **23** |
| **24** | 221°23.35' | 340°45.53' | S 8°23.62' | 230°23.29' | 331°45.59' | S 13°02.62' | 206°58.67' | 355°10.21' | S 3°12.83' | 236°20.36' | 325°48.52' | S 14°43.50' | **24** |
| | δ 14.9970° | | *d* 0.8412' | δ 15.0106° | | *d* 0.6321' | δ 15.0324° | | *d* 0.2196' | δ 15.0378° | | *d* 0.0586' | |

## *Thursday, April 14th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°53.77' | 15.0026° | 22°15.11' | N 9°19.38' | 0.9017' | 30°58.67' | 14.5368° | 171°10.21' | N 8°55.58' | 14.2114' | 57.1995' | 202°08.88' | **00** |
| **01** | 194°53.93' | 15.0026° | 22°17.42' | N 9°20.28' | 0.9015' | 45°30.88' | 14.5368° | 171°40.46' | N 8°41.31' | 14.2700' | 57.2328' | 217°11.35' | **01** |
| **02** | 209°54.09' | 15.0026° | 22°19.72' | N 9°21.19' | 0.9012' | 60°03.09' | 14.5368° | 172°10.72' | N 8°26.99' | 14.3276' | 57.2661' | 232°13.81' | **02** |
| **03** | 224°54.24' | 15.0026° | 22°22.03' | N 9°22.09' | 0.9009' | 74°35.31' | 14.5368° | 172°40.97' | N 8°12.60' | 14.3842' | 57.2994' | 247°16.27' | **03** |
| **04** | 239°54.40' | 15.0026° | 22°24.34' | N 9°22.99' | 0.9006' | 89°07.52' | 14.5368° | 173°11.22' | N 7°58.16' | 14.4398' | 57.3327' | 262°18.74' | **04** |
| **05** | 254°54.55' | 15.0026° | 22°26.65' | N 9°23.89' | 0.9004' | 103°39.72' | 14.5368° | 173°41.48' | N 7°43.67' | 14.4944' | 57.3660' | 277°21.20' | **05** |
| **06** | 269°54.71' | 15.0026° | 22°28.96' | N 9°24.79' | 0.9001' | 118°11.93' | 14.5368° | 174°11.74' | N 7°29.12' | 14.5479' | 57.3993' | 292°23.67' | **06** |
| **07** | 284°54.86' | 15.0026° | 22°31.27' | N 9°25.69' | 0.8998' | 132°44.13' | 14.5367° | 174°42.00' | N 7°14.52' | 14.6004' | 57.4326' | 307°26.13' | **07** |
| **08** | 299°55.02' | 15.0026° | 22°33.58' | N 9°26.59' | 0.8995' | 147°16.33' | 14.5366° | 175°12.26' | N 6°59.87' | 14.6519' | 57.4659' | 322°28.59' | **08** |
| **09** | 314°55.17' | 15.0026° | 22°35.88' | N 9°27.49' | 0.8993' | 161°48.52' | 14.5365° | 175°42.53' | N 6°45.17' | 14.7023' | 57.4991' | 337°31.06' | **09** |
| **10** | 329°55.33' | 15.0026° | 22°38.19' | N 9°28.39' | 0.8990' | 176°20.71' | 14.5364° | 176°12.81' | N 6°30.41' | 14.7516' | 57.5323' | 352°33.52' | **10** |
| **11** | 344°55.48' | 15.0026° | 22°40.50' | N 9°29.28' | 0.8987' | 190°52.89' | 14.5363° | 176°43.10' | N 6°15.61' | 14.7999' | 57.5655' | 7°35.99' | **11** |
| **12** | 359°55.64' | 15.0026° | 22°42.81' | N 9°30.18' | 0.8984' | 205°25.06' | 14.5362° | 177°13.39' | N 6°00.77' | 14.8471' | 57.5986' | 22°38.45' | **12** |
| **13** | 14°55.79' | 15.0026° | 22°45.12' | N 9°31.08' | 0.8982' | 219°57.22' | 14.5360° | 177°43.69' | N 5°45.87' | 14.8932' | 57.6317' | 37°40.91' | **13** |
| **14** | 29°55.95' | 15.0026° | 22°47.43' | N 9°31.98' | 0.8979' | 234°29.37' | 14.5359° | 178°14.00' | N 5°30.94' | 14.9381' | 57.6648' | 52°43.38' | **14** |
| **15** | 44°56.10' | 15.0026° | 22°49.74' | N 9°32.88' | 0.8976' | 249°01.52' | 14.5357° | 178°44.33' | N 5°15.95' | 14.9820' | 57.6978' | 67°45.84' | **15** |
| **16** | 59°56.26' | 15.0026° | 22°52.05' | N 9°33.77' | 0.8973' | 263°33.64' | 14.5355° | 179°14.66' | N 5°00.93' | 15.0247' | 57.7307' | 82°48.31' | **16** |
| **17** | 74°56.41' | 15.0026° | 22°54.36' | N 9°34.67' | 0.8971' | 278°05.76' | 14.5353° | 179°45.01' | N 4°45.86' | 15.0663' | 57.7636' | 97°50.77' | **17** |
| **18** | 89°56.56' | 15.0026° | 22°56.67' | N 9°35.57' | 0.8968' | 292°37.86' | 14.5350° | 180°15.37' | N 4°30.76' | 15.1068' | 57.7965' | 112°53.23' | **18** |
| **19** | 104°56.72' | 15.0026° | 22°58.98' | N 9°36.46' | 0.8965' | 307°09.95' | 14.5348° | 180°45.75' | N 4°15.61' | 15.1461' | 57.8292' | 127°55.70' | **19** |
| **20** | 119°56.87' | 15.0026° | 23°01.29' | N 9°37.36' | 0.8962' | 321°42.02' | 14.5345° | 181°16.14' | N 4°00.43' | 15.1843' | 57.8619' | 142°58.16' | **20** |
| **21** | 134°57.02' | 15.0026° | 23°03.60' | N 9°38.26' | 0.8959' | 336°14.07' | 14.5342° | 181°46.55' | N 3°45.20' | 15.2212' | 57.8945' | 158°00.63' | **21** |
| **22** | 149°57.18' | 15.0026° | 23°05.91' | N 9°39.15' | 0.8957' | 350°46.11' | 14.5339° | 182°16.98' | N 3°29.95' | 15.2570' | 57.9270' | 173°03.09' | **22** |
| **23** | 164°57.33' | 15.0026° | 23°08.22' | N 9°40.05' | 0.8954' | 5°18.12' | 14.5336° | 182°47.43' | N 3°14.66' | 15.2916' | 57.9594' | 188°05.55' | **23** |
| **24** | 179°57.48' | 15.0025° | 23°10.53' | N 9°40.94' | 0.8951' | 19°50.12' | 14.5333° | 183°17.90' | N 2°59.33' | 15.3250' | 57.9917' | 203°08.02' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9475' | hp (π) 0.1461' | ½Ø 15.6946' | 93.4350789867977 9% +gib |
| | EoT at 12:00 UTC : -17s (δ 0.62 s/h) | | Phase at 12:00 UTC : 150.54° | |
| | Meridian Pass. Time : 12:00:17.445 | | Age : 11.7 day(s) | |

| UT | Venus ♀ (π 0.17') | | | Mars ♂ (π 0.08') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 221°23.35' | 340°45.53' | S 8°23.62' | 230°23.29' | 331°45.59' | S 13°02.62' | 206°58.67' | 355°10.21' | S 3°12.83' | 236°20.36' | 325°48.52' | S 14°43.50' | **00** |
| **01** | 236°23.17' | 340°48.17' | S 8°22.76' | 245°23.93' | 331°47.41' | S 13°01.98' | 222°00.62' | 355°10.73' | S 3°12.61' | 251°22.63' | 325°48.71' | S 14°43.44' | **01** |
| **02** | 251°22.99' | 340°50.81' | S 8°21.91' | 260°24.57' | 331°49.24' | S 13°01.35' | 237°02.56' | 355°11.25' | S 3°12.39' | 266°24.91' | 325°48.90' | S 14°43.39' | **02** |
| **03** | 266°22.82' | 340°53.46' | S 8°21.05' | 275°25.21' | 331°51.07' | S 13°00.71' | 252°04.51' | 355°11.77' | S 3°12.17' | 281°27.18' | 325°49.09' | S 14°43.33' | **03** |
| **04** | 281°22.64' | 340°56.10' | S 8°20.20' | 290°25.85' | 331°52.89' | S 13°00.07' | 267°06.45' | 355°12.29' | S 3°11.95' | 296°29.45' | 325°49.29' | S 14°43.27' | **04** |
| **05** | 296°22.46' | 340°58.75' | S 8°19.34' | 305°26.49' | 331°54.72' | S 12°59.43' | 282°08.40' | 355°12.81' | S 3°11.73' | 311°31.73' | 325°49.48' | S 14°43.21' | **05** |
| **06** | 311°22.28' | 341°01.39' | S 8°18.48' | 320°27.12' | 331°56.54' | S 12°58.79' | 297°10.34' | 355°13.33' | S 3°11.51' | 326°34.00' | 325°49.67' | S 14°43.16' | **06** |
| **07** | 326°22.10' | 341°04.03' | S 8°17.62' | 335°27.76' | 331°58.37' | S 12°58.16' | 312°12.28' | 355°13.85' | S 3°11.29' | 341°36.27' | 325°49.86' | S 14°43.10' | **07** |
| **08** | 341°21.92' | 341°06.68' | S 8°16.77' | 350°28.40' | 332°00.19' | S 12°57.52' | 327°14.23' | 355°14.36' | S 3°11.08' | 356°38.55' | 325°50.05' | S 14°43.04' | **08** |
| **09** | 356°21.74' | 341°09.32' | S 8°15.91' | 5°29.04' | 332°02.02' | S 12°56.88' | 342°16.17' | 355°14.88' | S 3°10.86' | 11°40.82' | 325°50.24' | S 14°42.98' | **09** |
| **10** | 11°21.56' | 341°11.96' | S 8°15.05' | 20°29.68' | 332°03.84' | S 12°56.24' | 357°18.12' | 355°15.40' | S 3°10.64' | 26°43.10' | 325°50.43' | S 14°42.93' | **10** |
| **11** | 26°21.38' | 341°14.61' | S 8°14.19' | 35°30.32' | 332°05.66' | S 12°55.60' | 12°20.06' | 355°15.92' | S 3°10.42' | 41°45.37' | 325°50.62' | S 14°42.87' | **11** |
| **12** | 41°21.20' | 341°17.25' | S 8°13.33' | 50°30.96' | 332°07.49' | S 12°54.96' | 27°22.01' | 355°16.44' | S 3°10.20' | 56°47.65' | 325°50.81' | S 14°42.81' | **12** |
| **13** | 56°21.02' | 341°19.90' | S 8°12.47' | 65°31.60' | 332°09.31' | S 12°54.32' | 42°23.95' | 355°16.96' | S 3°09.98' | 71°49.92' | 325°50.99' | S 14°42.76' | **13** |
| **14** | 71°20.84' | 341°22.54' | S 8°11.60' | 80°32.24' | 332°11.14' | S 12°53.68' | 57°25.90' | 355°17.48' | S 3°09.77' | 86°52.19' | 325°51.18' | S 14°42.70' | **14** |
| **15** | 86°20.66' | 341°25.18' | S 8°10.74' | 95°32.88' | 332°12.96' | S 12°53.04' | 72°27.84' | 355°18.00' | S 3°09.55' | 101°54.47' | 325°51.37' | S 14°42.64' | **15** |
| **16** | 101°20.48' | 341°27.83' | S 8°09.88' | 110°33.52' | 332°14.78' | S 12°52.40' | 87°29.79' | 355°18.52' | S 3°09.33' | 116°56.74' | 325°51.56' | S 14°42.58' | **16** |
| **17** | 116°20.30' | 341°30.47' | S 8°09.02' | 125°34.16' | 332°16.61' | S 12°51.76' | 102°31.73' | 355°19.04' | S 3°09.11' | 131°59.02' | 325°51.75' | S 14°42.53' | **17** |
| **18** | 131°20.12' | 341°33.12' | S 8°08.15' | 140°34.80' | 332°18.43' | S 12°51.12' | 117°33.68' | 355°19.55' | S 3°08.89' | 147°01.29' | 325°51.94' | S 14°42.47' | **18** |
| **19** | 146°19.94' | 341°35.76' | S 8°07.29' | 155°35.44' | 332°20.25' | S 12°50.48' | 132°35.63' | 355°20.07' | S 3°08.67' | 162°03.57' | 325°52.13' | S 14°42.41' | **19** |
| **20** | 161°19.76' | 341°38.40' | S 8°06.42' | 170°36.08' | 332°22.08' | S 12°49.84' | 147°37.57' | 355°20.59' | S 3°08.46' | 177°05.85' | 325°52.32' | S 14°42.36' | **20** |
| **21** | 176°19.58' | 341°41.05' | S 8°05.56' | 185°36.73' | 332°23.90' | S 12°49.20' | 162°39.52' | 355°21.11' | S 3°08.24' | 192°08.12' | 325°52.51' | S 14°42.30' | **21** |
| **22** | 191°19.40' | 341°43.69' | S 8°04.69' | 200°37.37' | 332°25.72' | S 12°48.56' | 177°41.46' | 355°21.63' | S 3°08.02' | 207°10.40' | 325°52.69' | S 14°42.24' | **22** |
| **23** | 206°19.22' | 341°46.34' | S 8°03.83' | 215°38.01' | 332°27.55' | S 12°47.92' | 192°43.41' | 355°22.15' | S 3°07.80' | 222°12.67' | 325°52.88' | S 14°42.19' | **23** |
| **24** | 221°19.04' | 341°48.98' | S 8°02.96' | 230°38.65' | 332°29.37' | S 12°47.28' | 207°45.35' | 355°22.66' | S 3°07.58' | 237°14.95' | 325°53.07' | S 14°42.13' | **24** |
| | δ 14.9970° | | *d* 0.8545' | δ 15.0106° | | *d* 0.6369' | δ 15.0324° | | *d* 0.2188' | δ 15.0379° | | *d* 0.0576' | |

## *Friday, April 15th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°57.48' | 15.0025° | 23°10.53' | N 9°40.94' | 0.8951' | 19°50.12' | 14.5333° | 183°17.90' | N 2°59.33' | 15.3250' | 57.9917' | 203°08.02' | **00** |
| **01** | 194°57.64' | 15.0025° | 23°12.85' | N 9°41.84' | 0.8948' | 34°22.09' | 14.5329° | 183°48.39' | N 2°43.97' | 15.3572' | 58.0239' | 218°10.48' | **01** |
| **02** | 209°57.79' | 15.0025° | 23°15.16' | N 9°42.73' | 0.8945' | 48°54.04' | 14.5325° | 184°18.90' | N 2°28.58' | 15.3882' | 58.0560' | 233°12.95' | **02** |
| **03** | 224°57.94' | 15.0025° | 23°17.47' | N 9°43.63' | 0.8943' | 63°25.97' | 14.5321° | 184°49.44' | N 2°13.17' | 15.4179' | 58.0880' | 248°15.41' | **03** |
| **04** | 239°58.09' | 15.0025° | 23°19.78' | N 9°44.52' | 0.8940' | 77°57.88' | 14.5317° | 185°20.00' | N 1°57.72' | 15.4464' | 58.1199' | 263°17.87' | **04** |
| **05** | 254°58.25' | 15.0025° | 23°22.09' | N 9°45.41' | 0.8937' | 92°29.75' | 14.5313° | 185°50.58' | N 1°42.25' | 15.4736' | 58.1517' | 278°20.34' | **05** |
| **06** | 269°58.40' | 15.0025° | 23°24.40' | N 9°46.31' | 0.8934' | 107°01.61' | 14.5309° | 186°21.20' | N 1°26.75' | 15.4995' | 58.1833' | 293°22.80' | **06** |
| **07** | 284°58.55' | 15.0025° | 23°26.72' | N 9°47.20' | 0.8931' | 121°33.43' | 14.5304° | 186°51.84' | N 1°11.22' | 15.5242' | 58.2149' | 308°25.27' | **07** |
| **08** | 299°58.70' | 15.0025° | 23°29.03' | N 9°48.09' | 0.8928' | 136°05.23' | 14.5299° | 187°22.50' | N 0°55.68' | 15.5476' | 58.2462' | 323°27.73' | **08** |
| **09** | 314°58.85' | 15.0025° | 23°31.34' | N 9°48.99' | 0.8926' | 150°36.99' | 14.5294° | 187°53.20' | N 0°40.11' | 15.5697' | 58.2775' | 338°30.19' | **09** |
| **10** | 329°59.01' | 15.0025° | 23°33.65' | N 9°49.88' | 0.8923' | 165°08.73' | 14.5289° | 188°23.93' | N 0°24.52' | 15.5904' | 58.3086' | 353°32.66' | **10** |
| **11** | 344°59.16' | 15.0025° | 23°35.97' | N 9°50.77' | 0.8920' | 179°40.43' | 14.5284° | 188°54.69' | N 0°08.91' | 15.6099' | 58.3395' | 8°35.12' | **11** |
| **12** | 359°59.31' | 15.0025° | 23°38.28' | N 9°51.66' | 0.8917' | 194°12.10' | 14.5278° | 189°25.49' | S 0°06.72' | 15.6280' | 58.3703' | 23°37.59' | **12** |
| **13** | 14°59.46' | 15.0025° | 23°40.59' | N 9°52.55' | 0.8914' | 208°43.73' | 14.5273° | 189°56.32' | S 0°22.37' | 15.6448' | 58.4010' | 38°40.05' | **13** |
| **14** | 29°59.61' | 15.0025° | 23°42.91' | N 9°53.44' | 0.8911' | 223°15.33' | 14.5267° | 190°27.18' | S 0°38.03' | 15.6602' | 58.4314' | 53°42.51' | **14** |
| **15** | 44°59.76' | 15.0025° | 23°45.22' | N 9°54.33' | 0.8909' | 237°46.90' | 14.5261° | 190°58.08' | S 0°53.70' | 15.6742' | 58.4617' | 68°44.98' | **15** |
| **16** | 59°59.91' | 15.0025° | 23°47.53' | N 9°55.23' | 0.8906' | 252°18.42' | 14.5254° | 191°29.02' | S 1°09.39' | 15.6869' | 58.4919' | 83°47.44' | **16** |
| **17** | 75°00.06' | 15.0025° | 23°49.85' | N 9°56.12' | 0.8903' | 266°49.91' | 14.5248° | 191°59.99' | S 1°25.09' | 15.6982' | 58.5218' | 98°49.91' | **17** |
| **18** | 90°00.21' | 15.0025° | 23°52.16' | N 9°57.01' | 0.8900' | 281°21.36' | 14.5241° | 192°31.01' | S 1°40.79' | 15.7081' | 58.5516' | 113°52.37' | **18** |
| **19** | 105°00.36' | 15.0025° | 23°54.47' | N 9°57.90' | 0.8897' | 295°52.77' | 14.5235° | 193°02.07' | S 1°56.51' | 15.7165' | 58.5812' | 128°54.84' | **19** |
| **20** | 120°00.51' | 15.0025° | 23°56.79' | N 9°58.78' | 0.8894' | 310°24.13' | 14.5228° | 193°33.17' | S 2°12.23' | 15.7236' | 58.6106' | 143°57.30' | **20** |
| **21** | 135°00.66' | 15.0025° | 23°59.10' | N 9°59.67' | 0.8891' | 324°55.46' | 14.5220° | 194°04.31' | S 2°27.96' | 15.7292' | 58.6398' | 158°59.76' | **21** |
| **22** | 150°00.81' | 15.0025° | 24°01.42' | N 10°00.56' | 0.8888' | 339°26.73' | 14.5213° | 194°35.49' | S 2°43.70' | 15.7333' | 58.6688' | 174°02.23' | **22** |
| **23** | 165°00.96' | 15.0025° | 24°03.73' | N 10°01.45' | 0.8886' | 353°57.97' | 14.5206° | 195°06.72' | S 2°59.43' | 15.7360' | 58.6976' | 189°04.69' | **23** |
| **24** | 180°01.11' | 15.0025° | 24°06.05' | N 10°02.34' | 0.8883' | 8°29.15' | 14.5198° | 195°38.00' | S 3°15.17' | 15.7372' | 58.7261' | 204°07.16' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9430' | hp (π) 0.1461' | ½Ø 15.9048' | 97.7808885825884 % +gib |
| | EoT at 12:00 UTC : -2s (δ 0.60 s/h) | | Phase at 12:00 UTC : 163.20° | |
| | Meridian Pass. Time : 12:00:02.768 | | Age : 12.7 day(s) | |

| UT | Venus ♀ (π 0.17') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 221°19.04' | 341°48.98' | S 8°02.96' | 230°38.65' | 332°29.37' | S 12°47.28' | 207°45.35' | 355°22.66' | S 3°07.58' | 237°14.95' | 325°53.07' | S 14°42.13' | **00** |
| **01** | 236°18.86' | 341°51.62' | S 8°02.09' | 245°39.29' | 332°31.19' | S 12°46.64' | 222°47.30' | 355°23.18' | S 3°07.37' | 252°17.23' | 325°53.26' | S 14°42.07' | **01** |
| **02** | 251°18.68' | 341°54.27' | S 8°01.23' | 260°39.93' | 332°33.01' | S 12°46.00' | 237°49.25' | 355°23.70' | S 3°07.15' | 267°19.50' | 325°53.45' | S 14°42.02' | **02** |
| **03** | 266°18.50' | 341°56.91' | S 8°00.36' | 275°40.57' | 332°34.84' | S 12°45.35' | 252°51.19' | 355°24.22' | S 3°06.93' | 282°21.78' | 325°53.63' | S 14°41.96' | **03** |
| **04** | 281°18.32' | 341°59.56' | S 7°59.49' | 290°41.22' | 332°36.66' | S 12°44.71' | 267°53.14' | 355°24.74' | S 3°06.71' | 297°24.05' | 325°53.82' | S 14°41.90' | **04** |
| **05** | 296°18.14' | 342°02.20' | S 7°58.62' | 305°41.86' | 332°38.48' | S 12°44.07' | 282°55.09' | 355°25.25' | S 3°06.50' | 312°26.33' | 325°54.01' | S 14°41.85' | **05** |
| **06** | 311°17.96' | 342°04.84' | S 7°57.75' | 320°42.50' | 332°40.30' | S 12°43.43' | 297°57.03' | 355°25.77' | S 3°06.28' | 327°28.61' | 325°54.20' | S 14°41.79' | **06** |
| **07** | 326°17.78' | 342°07.49' | S 7°56.88' | 335°43.14' | 332°42.12' | S 12°42.78' | 312°58.98' | 355°26.29' | S 3°06.06' | 342°30.88' | 325°54.38' | S 14°41.73' | **07** |
| **08** | 341°17.60' | 342°10.13' | S 7°56.01' | 350°43.79' | 332°43.94' | S 12°42.14' | 328°00.92' | 355°26.81' | S 3°05.84' | 357°33.16' | 325°54.57' | S 14°41.68' | **08** |
| **09** | 356°17.42' | 342°12.78' | S 7°55.13' | 5°44.43' | 332°45.77' | S 12°41.50' | 343°02.87' | 355°27.32' | S 3°05.62' | 12°35.44' | 325°54.76' | S 14°41.62' | **09** |
| **10** | 11°17.24' | 342°15.42' | S 7°54.26' | 20°45.07' | 332°47.59' | S 12°40.85' | 358°04.82' | 355°27.84' | S 3°05.41' | 27°37.72' | 325°54.94' | S 14°41.57' | **10** |
| **11** | 26°17.06' | 342°18.07' | S 7°53.39' | 35°45.71' | 332°49.41' | S 12°40.21' | 13°06.77' | 355°28.36' | S 3°05.19' | 42°39.99' | 325°55.13' | S 14°41.51' | **11** |
| **12** | 41°16.88' | 342°20.71' | S 7°52.52' | 50°46.36' | 332°51.23' | S 12°39.57' | 28°08.71' | 355°28.87' | S 3°04.97' | 57°42.27' | 325°55.32' | S 14°41.45' | **12** |
| **13** | 56°16.70' | 342°23.36' | S 7°51.64' | 65°47.00' | 332°53.05' | S 12°38.92' | 43°10.66' | 355°29.39' | S 3°04.75' | 72°44.55' | 325°55.50' | S 14°41.40' | **13** |
| **14** | 71°16.51' | 342°26.00' | S 7°50.77' | 80°47.64' | 332°54.87' | S 12°38.28' | 58°12.61' | 355°29.91' | S 3°04.54' | 87°46.83' | 325°55.69' | S 14°41.34' | **14** |
| **15** | 86°16.33' | 342°28.64' | S 7°49.89' | 95°48.29' | 332°56.69' | S 12°37.63' | 73°14.55' | 355°30.43' | S 3°04.32' | 102°49.10' | 325°55.88' | S 14°41.28' | **15** |
| **16** | 101°16.15' | 342°31.29' | S 7°49.02' | 110°48.93' | 332°58.51' | S 12°36.99' | 88°16.50' | 355°30.94' | S 3°04.10' | 117°51.38' | 325°56.06' | S 14°41.23' | **16** |
| **17** | 116°15.97' | 342°33.93' | S 7°48.14' | 125°49.58' | 333°00.33' | S 12°36.34' | 103°18.45' | 355°31.46' | S 3°03.88' | 132°53.66' | 325°56.25' | S 14°41.17' | **17** |
| **18** | 131°15.79' | 342°36.58' | S 7°47.27' | 140°50.22' | 333°02.15' | S 12°35.70' | 118°20.40' | 355°31.98' | S 3°03.67' | 147°55.94' | 325°56.43' | S 14°41.12' | **18** |
| **19** | 146°15.61' | 342°39.22' | S 7°46.39' | 155°50.86' | 333°03.97' | S 12°35.05' | 133°22.34' | 355°32.49' | S 3°03.45' | 162°58.22' | 325°56.62' | S 14°41.06' | **19** |
| **20** | 161°15.43' | 342°41.87' | S 7°45.51' | 170°51.51' | 333°05.79' | S 12°34.41' | 148°24.29' | 355°33.01' | S 3°03.23' | 178°00.50' | 325°56.80' | S 14°41.01' | **20** |
| **21** | 176°15.25' | 342°44.51' | S 7°44.64' | 185°52.15' | 333°07.61' | S 12°33.76' | 163°26.24' | 355°33.53' | S 3°03.02' | 193°02.77' | 325°56.99' | S 14°40.95' | **21** |
| **22** | 191°15.07' | 342°47.16' | S 7°43.76' | 200°52.80' | 333°09.43' | S 12°33.12' | 178°28.19' | 355°34.04' | S 3°02.80' | 208°05.05' | 325°57.17' | S 14°40.89' | **22** |
| **23** | 206°14.89' | 342°49.80' | S 7°42.88' | 215°53.44' | 333°11.25' | S 12°32.47' | 193°30.13' | 355°34.56' | S 3°02.58' | 223°07.33' | 325°57.36' | S 14°40.84' | **23** |
| **24** | 221°14.71' | 342°52.45' | S 7°42.00' | 230°54.09' | 333°13.07' | S 12°31.83' | 208°32.08' | 355°35.07' | S 3°02.36' | 238°09.61' | 325°57.54' | S 14°40.78' | **24** |
| | δ 14.9970° | | *d* 0.8674' | δ 15.0107° | | *d* 0.6416' | δ 15.0324° | | *d* 0.2179' | δ 15.0379° | | *d* 0.0566' | |

## *Saturday, April 16th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°01.11' | 15.0025° | 24°06.05' | N 10°02.34' | 0.8883' | 8°29.15' | 14.5198° | 195°38.00' | S 3°15.17' | 15.7372' | 58.7261' | 204°07.16' | **00** |
| **01** | 195°01.26' | 15.0025° | 24°08.36' | N 10°03.23' | 0.8880' | 23°00.29' | 14.5190° | 196°09.33' | S 3°30.91' | 15.7370' | 58.7545' | 219°09.62' | **01** |
| **02** | 210°01.41' | 15.0025° | 24°10.68' | N 10°04.12' | 0.8877' | 37°31.38' | 14.5182° | 196°40.70' | S 3°46.64' | 15.7352' | 58.7827' | 234°12.08' | **02** |
| **03** | 225°01.56' | 15.0025° | 24°12.99' | N 10°05.00' | 0.8874' | 52°02.43' | 14.5174° | 197°12.12' | S 4°02.37' | 15.7319' | 58.8106' | 249°14.55' | **03** |
| **04** | 240°01.71' | 15.0025° | 24°15.31' | N 10°05.89' | 0.8871' | 66°33.42' | 14.5165° | 197°43.59' | S 4°18.10' | 15.7272' | 58.8383' | 264°17.01' | **04** |
| **05** | 255°01.85' | 15.0025° | 24°17.62' | N 10°06.78' | 0.8868' | 81°04.36' | 14.5156° | 198°15.12' | S 4°33.82' | 15.7209' | 58.8658' | 279°19.48' | **05** |
| **06** | 270°02.00' | 15.0025° | 24°19.94' | N 10°07.66' | 0.8865' | 95°35.24' | 14.5148° | 198°46.70' | S 4°49.54' | 15.7130' | 58.8930' | 294°21.94' | **06** |
| **07** | 285°02.15' | 15.0025° | 24°22.25' | N 10°08.55' | 0.8862' | 110°06.07' | 14.5139° | 199°18.33' | S 5°05.24' | 15.7036' | 58.9200' | 309°24.40' | **07** |
| **08** | 300°02.30' | 15.0025° | 24°24.57' | N 10°09.44' | 0.8859' | 124°36.85' | 14.5129° | 199°50.02' | S 5°20.93' | 15.6927' | 58.9468' | 324°26.87' | **08** |
| **09** | 315°02.45' | 15.0025° | 24°26.88' | N 10°10.32' | 0.8856' | 139°07.57' | 14.5120° | 200°21.76' | S 5°36.61' | 15.6801' | 58.9733' | 339°29.33' | **09** |
| **10** | 330°02.59' | 15.0025° | 24°29.20' | N 10°11.21' | 0.8854' | 153°38.23' | 14.5111° | 200°53.56' | S 5°52.28' | 15.6660' | 58.9995' | 354°31.80' | **10** |
| **11** | 345°02.74' | 15.0025° | 24°31.52' | N 10°12.09' | 0.8851' | 168°08.84' | 14.5101° | 201°25.42' | S 6°07.93' | 15.6503' | 59.0255' | 9°34.26' | **11** |
| **12** | 0°02.89' | 15.0025° | 24°33.83' | N 10°12.98' | 0.8848' | 182°39.39' | 14.5091° | 201°57.34' | S 6°23.56' | 15.6330' | 59.0512' | 24°36.72' | **12** |
| **13** | 15°03.04' | 15.0025° | 24°36.15' | N 10°13.86' | 0.8845' | 197°09.87' | 14.5081° | 202°29.32' | S 6°39.18' | 15.6141' | 59.0767' | 39°39.19' | **13** |
| **14** | 30°03.18' | 15.0025° | 24°38.47' | N 10°14.74' | 0.8842' | 211°40.29' | 14.5071° | 203°01.36' | S 6°54.77' | 15.5935' | 59.1019' | 54°41.65' | **14** |
| **15** | 45°03.33' | 15.0024° | 24°40.79' | N 10°15.63' | 0.8839' | 226°10.66' | 14.5060° | 203°33.46' | S 7°10.34' | 15.5713' | 59.1269' | 69°44.12' | **15** |
| **16** | 60°03.48' | 15.0024° | 24°43.10' | N 10°16.51' | 0.8836' | 240°40.95' | 14.5050° | 204°05.63' | S 7°25.89' | 15.5474' | 59.1515' | 84°46.58' | **16** |
| **17** | 75°03.62' | 15.0024° | 24°45.42' | N 10°17.40' | 0.8833' | 255°11.18' | 14.5039° | 204°37.86' | S 7°41.41' | 15.5219' | 59.1759' | 99°49.04' | **17** |
| **18** | 90°03.77' | 15.0024° | 24°47.74' | N 10°18.28' | 0.8830' | 269°41.35' | 14.5028° | 205°10.16' | S 7°56.90' | 15.4947' | 59.2000' | 114°51.51' | **18** |
| **19** | 105°03.92' | 15.0024° | 24°50.06' | N 10°19.16' | 0.8827' | 284°11.45' | 14.5017° | 205°42.52' | S 8°12.37' | 15.4658' | 59.2238' | 129°53.97' | **19** |
| **20** | 120°04.06' | 15.0024° | 24°52.37' | N 10°20.04' | 0.8824' | 298°41.48' | 14.5005° | 206°14.95' | S 8°27.81' | 15.4352' | 59.2474' | 144°56.44' | **20** |
| **21** | 135°04.21' | 15.0024° | 24°54.69' | N 10°20.93' | 0.8821' | 313°11.45' | 14.4994° | 206°47.45' | S 8°43.21' | 15.4029' | 59.2706' | 159°58.90' | **21** |
| **22** | 150°04.35' | 15.0024° | 24°57.01' | N 10°21.81' | 0.8818' | 327°41.34' | 14.4982° | 207°20.02' | S 8°58.58' | 15.3690' | 59.2935' | 175°01.36' | **22** |
| **23** | 165°04.50' | 15.0024° | 24°59.33' | N 10°22.69' | 0.8815' | 342°11.16' | 14.4970° | 207°52.67' | S 9°13.91' | 15.3332' | 59.3162' | 190°03.83' | **23** |
| **24** | 180°04.65' | 15.0024° | 25°01.65' | N 10°23.57' | 0.8812' | 356°40.91' | 14.4958° | 208°25.38' | S 9°29.21' | 15.2958' | 59.3385' | 205°06.29' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.9386' | hp (π) 0.1461' | ½Ø 16.0903' | 99.8388412963249<br>2% +gib | |
| EoT at 12:00 UTC : +11s (δ 0.59 s/h) | | Phase at 12:00 UTC : 176.20° | | |
| Meridian Pass. Time : 11:59:48.442 | | Age : 13.7 day(s) | | |

| UT | Venus ♀ (π 0.17') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 221°14.71' | 342°52.45' | S 7°42.00' | 230°54.09' | 333°13.07' | S 12°31.83' | 208°32.08' | 355°35.07' | S 3°02.36' | 238°09.61' | 325°57.54' | S 14°40.78' | **00** |
| **01** | 236°14.53' | 342°55.09' | S 7°41.12' | 245°54.73' | 333°14.89' | S 12°31.18' | 223°34.03' | 355°35.59' | S 3°02.15' | 253°11.89' | 325°57.73' | S 14°40.73' | **01** |
| **02** | 251°14.35' | 342°57.74' | S 7°40.24' | 260°55.38' | 333°16.71' | S 12°30.53' | 238°35.98' | 355°36.11' | S 3°01.93' | 268°14.17' | 325°57.91' | S 14°40.67' | **02** |
| **03** | 266°14.17' | 343°00.38' | S 7°39.36' | 275°56.02' | 333°18.52' | S 12°29.89' | 253°37.93' | 355°36.62' | S 3°01.71' | 283°16.45' | 325°58.10' | S 14°40.62' | **03** |
| **04** | 281°13.99' | 343°03.03' | S 7°38.48' | 290°56.67' | 333°20.34' | S 12°29.24' | 268°39.87' | 355°37.14' | S 3°01.50' | 298°18.73' | 325°58.28' | S 14°40.56' | **04** |
| **05** | 296°13.80' | 343°05.67' | S 7°37.59' | 305°57.31' | 333°22.16' | S 12°28.59' | 283°41.82' | 355°37.65' | S 3°01.28' | 313°21.01' | 325°58.47' | S 14°40.50' | **05** |
| **06** | 311°13.62' | 343°08.32' | S 7°36.71' | 320°57.96' | 333°23.98' | S 12°27.95' | 298°43.77' | 355°38.17' | S 3°01.06' | 328°23.29' | 325°58.65' | S 14°40.45' | **06** |
| **07** | 326°13.44' | 343°10.96' | S 7°35.83' | 335°58.61' | 333°25.80' | S 12°27.30' | 313°45.72' | 355°38.68' | S 3°00.85' | 343°25.57' | 325°58.84' | S 14°40.39' | **07** |
| **08** | 341°13.26' | 343°13.61' | S 7°34.95' | 350°59.25' | 333°27.62' | S 12°26.65' | 328°47.67' | 355°39.20' | S 3°00.63' | 358°27.85' | 325°59.02' | S 14°40.34' | **08** |
| **09** | 356°13.08' | 343°16.25' | S 7°34.06' | 5°59.90' | 333°29.43' | S 12°26.00' | 343°49.62' | 355°39.71' | S 3°00.41' | 13°30.13' | 325°59.20' | S 14°40.28' | **09** |
| **10** | 11°12.90' | 343°18.90' | S 7°33.18' | 21°00.54' | 333°31.25' | S 12°25.35' | 358°51.57' | 355°40.23' | S 3°00.20' | 28°32.41' | 325°59.39' | S 14°40.23' | **10** |
| **11** | 26°12.72' | 343°21.54' | S 7°32.29' | 36°01.19' | 333°33.07' | S 12°24.71' | 13°53.51' | 355°40.75' | S 2°59.98' | 43°34.69' | 325°59.57' | S 14°40.17' | **11** |
| **12** | 41°12.54' | 343°24.19' | S 7°31.41' | 51°01.84' | 333°34.89' | S 12°24.06' | 28°55.46' | 355°41.26' | S 2°59.76' | 58°36.97' | 325°59.76' | S 14°40.12' | **12** |
| **13** | 56°12.36' | 343°26.83' | S 7°30.52' | 66°02.48' | 333°36.70' | S 12°23.41' | 43°57.41' | 355°41.78' | S 2°59.55' | 73°39.25' | 325°59.94' | S 14°40.06' | **13** |
| **14** | 71°12.18' | 343°29.48' | S 7°29.63' | 81°03.13' | 333°38.52' | S 12°22.76' | 58°59.36' | 355°42.29' | S 2°59.33' | 88°41.53' | 326°00.12' | S 14°40.01' | **14** |
| **15** | 86°11.99' | 343°32.12' | S 7°28.75' | 96°03.78' | 333°40.34' | S 12°22.11' | 74°01.31' | 355°42.80' | S 2°59.11' | 103°43.81' | 326°00.31' | S 14°39.95' | **15** |
| **16** | 101°11.81' | 343°34.77' | S 7°27.86' | 111°04.42' | 333°42.16' | S 12°21.46' | 89°03.26' | 355°43.32' | S 2°58.90' | 118°46.09' | 326°00.49' | S 14°39.90' | **16** |
| **17** | 116°11.63' | 343°37.41' | S 7°26.97' | 126°05.07' | 333°43.97' | S 12°20.81' | 104°05.21' | 355°43.83' | S 2°58.68' | 133°48.37' | 326°00.67' | S 14°39.84' | **17** |
| **18** | 131°11.45' | 343°40.06' | S 7°26.08' | 141°05.72' | 333°45.79' | S 12°20.16' | 119°07.16' | 355°44.35' | S 2°58.46' | 148°50.65' | 326°00.85' | S 14°39.79' | **18** |
| **19** | 146°11.27' | 343°42.70' | S 7°25.19' | 156°06.37' | 333°47.61' | S 12°19.51' | 134°09.11' | 355°44.86' | S 2°58.25' | 163°52.94' | 326°01.04' | S 14°39.73' | **19** |
| **20** | 161°11.09' | 343°45.35' | S 7°24.30' | 171°07.01' | 333°49.42' | S 12°18.86' | 149°11.06' | 355°45.38' | S 2°58.03' | 178°55.22' | 326°01.22' | S 14°39.68' | **20** |
| **21** | 176°10.91' | 343°47.99' | S 7°23.41' | 186°07.66' | 333°51.24' | S 12°18.21' | 164°13.01' | 355°45.89' | S 2°57.81' | 193°57.50' | 326°01.40' | S 14°39.62' | **21** |
| **22** | 191°10.73' | 343°50.64' | S 7°22.52' | 201°08.31' | 333°53.05' | S 12°17.56' | 179°14.96' | 355°46.41' | S 2°57.60' | 208°59.78' | 326°01.58' | S 14°39.57' | **22** |
| **23** | 206°10.55' | 343°53.28' | S 7°21.63' | 216°08.96' | 333°54.87' | S 12°16.91' | 194°16.91' | 355°46.92' | S 2°57.38' | 224°02.06' | 326°01.77' | S 14°39.51' | **23** |
| **24** | 221°10.36' | 343°55.93' | S 7°20.74' | 231°09.61' | 333°56.69' | S 12°16.26' | 209°18.86' | 355°47.43' | S 2°57.17' | 239°04.34' | 326°01.95' | S 14°39.46' | **24** |
| | δ 14.9970° | | *d* 0.8799' | δ 15.0108° | | *d* 0.6463' | δ 15.0325° | | *d* 0.2170' | δ 15.0380° | | *d* 0.0557' | |

## *Sunday, April 17th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°04.65' | 15.0024° | 25°01.65' | N 10°23.57' | 0.8812' | 356°40.91' | 14.4958° | 208°25.38' | S 9°29.21' | 15.2958' | 59.3385' | 205°06.29' | **00** |
| **01** | 195°04.79' | 15.0024° | 25°03.97' | N 10°24.45' | 0.8809' | 11°10.59' | 14.4946° | 208°58.17' | S 9°44.46' | 15.2566' | 59.3605' | 220°08.76' | **01** |
| **02** | 210°04.94' | 15.0024° | 25°06.28' | N 10°25.33' | 0.8806' | 25°40.19' | 14.4934° | 209°31.03' | S 9°59.68' | 15.2156' | 59.3823' | 235°11.22' | **02** |
| **03** | 225°05.08' | 15.0024° | 25°08.60' | N 10°26.21' | 0.8803' | 40°09.72' | 14.4921° | 210°03.96' | S 10°14.85' | 15.1729' | 59.4037' | 250°13.68' | **03** |
| **04** | 240°05.23' | 15.0024° | 25°10.92' | N 10°27.09' | 0.8800' | 54°39.18' | 14.4909° | 210°36.97' | S 10°29.98' | 15.1284' | 59.4248' | 265°16.15' | **04** |
| **05** | 255°05.37' | 15.0024° | 25°13.24' | N 10°27.97' | 0.8797' | 69°08.55' | 14.4896° | 211°10.06' | S 10°45.06' | 15.0821' | 59.4455' | 280°18.61' | **05** |
| **06** | 270°05.52' | 15.0024° | 25°15.56' | N 10°28.85' | 0.8794' | 83°37.85' | 14.4883° | 211°43.23' | S 11°00.10' | 15.0341' | 59.4660' | 295°21.08' | **06** |
| **07** | 285°05.66' | 15.0024° | 25°17.88' | N 10°29.73' | 0.8791' | 98°07.07' | 14.4870° | 212°16.47' | S 11°15.08' | 14.9842' | 59.4861' | 310°23.54' | **07** |
| **08** | 300°05.80' | 15.0024° | 25°20.20' | N 10°30.61' | 0.8788' | 112°36.21' | 14.4857° | 212°49.79' | S 11°30.01' | 14.9326' | 59.5060' | 325°26.01' | **08** |
| **09** | 315°05.95' | 15.0024° | 25°22.52' | N 10°31.49' | 0.8785' | 127°05.27' | 14.4843° | 213°23.20' | S 11°44.89' | 14.8791' | 59.5254' | 340°28.47' | **09** |
| **10** | 330°06.09' | 15.0024° | 25°24.84' | N 10°32.37' | 0.8782' | 141°34.25' | 14.4830° | 213°56.68' | S 11°59.72' | 14.8238' | 59.5446' | 355°30.93' | **10** |
| **11** | 345°06.23' | 15.0024° | 25°27.16' | N 10°33.24' | 0.8779' | 156°03.15' | 14.4816° | 214°30.25' | S 12°14.48' | 14.7666' | 59.5634' | 10°33.40' | **11** |
| **12** | 0°06.38' | 15.0024° | 25°29.48' | N 10°34.12' | 0.8776' | 170°31.97' | 14.4802° | 215°03.89' | S 12°29.19' | 14.7076' | 59.5819' | 25°35.86' | **12** |
| **13** | 15°06.52' | 15.0024° | 25°31.80' | N 10°35.00' | 0.8773' | 185°00.70' | 14.4789° | 215°37.63' | S 12°43.84' | 14.6468' | 59.6001' | 40°38.33' | **13** |
| **14** | 30°06.66' | 15.0024° | 25°34.12' | N 10°35.88' | 0.8770' | 199°29.34' | 14.4774° | 216°11.44' | S 12°58.42' | 14.5841' | 59.6179' | 55°40.79' | **14** |
| **15** | 45°06.81' | 15.0024° | 25°36.45' | N 10°36.75' | 0.8767' | 213°57.91' | 14.4760° | 216°45.35' | S 13°12.94' | 14.5196' | 59.6353' | 70°43.25' | **15** |
| **16** | 60°06.95' | 15.0024° | 25°38.77' | N 10°37.63' | 0.8764' | 228°26.38' | 14.4746° | 217°19.34' | S 13°27.39' | 14.4532' | 59.6525' | 85°45.72' | **16** |
| **17** | 75°07.09' | 15.0024° | 25°41.09' | N 10°38.51' | 0.8761' | 242°54.77' | 14.4732° | 217°53.41' | S 13°41.78' | 14.3849' | 59.6692' | 100°48.18' | **17** |
| **18** | 90°07.24' | 15.0024° | 25°43.41' | N 10°39.38' | 0.8758' | 257°23.07' | 14.4717° | 218°27.57' | S 13°56.09' | 14.3148' | 59.6857' | 115°50.65' | **18** |
| **19** | 105°07.38' | 15.0024° | 25°45.73' | N 10°40.26' | 0.8755' | 271°51.29' | 14.4702° | 219°01.82' | S 14°10.34' | 14.2428' | 59.7017' | 130°53.11' | **19** |
| **20** | 120°07.52' | 15.0024° | 25°48.05' | N 10°41.13' | 0.8752' | 286°19.41' | 14.4688° | 219°36.16' | S 14°24.50' | 14.1689' | 59.7175' | 145°55.57' | **20** |
| **21** | 135°07.66' | 15.0024° | 25°50.38' | N 10°42.01' | 0.8749' | 300°47.45' | 14.4673° | 220°10.59' | S 14°38.60' | 14.0930' | 59.7328' | 160°58.04' | **21** |
| **22** | 150°07.80' | 15.0024° | 25°52.70' | N 10°42.88' | 0.8746' | 315°15.39' | 14.4658° | 220°45.11' | S 14°52.61' | 14.0153' | 59.7479' | 176°00.50' | **22** |
| **23** | 165°07.95' | 15.0024° | 25°55.02' | N 10°43.76' | 0.8743' | 329°43.25' | 14.4643° | 221°19.72' | S 15°06.55' | 13.9357' | 59.7625' | 191°02.97' | **23** |
| **24** | 180°08.09' | 15.0024° | 25°57.34' | N 10°44.63' | 0.8740' | 344°11.01' | 14.4627° | 221°54.42' | S 15°20.40' | 13.8542' | 59.7769' | 206°05.43' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9341' | hp (π) 0.1460' | ½Ø 16.2349' | 99.3070240545301<br>2% -gib |
| | EoT at 12:00 UTC : +25s (δ 0.57 s/h) | | Phase at 12:00 UTC : 189.47° | |
| | Meridian Pass. Time : 11:59:34.487 | | Age : 14.7 day(s) | |

| UT | Venus ♀ (π 0.16') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 221°10.36' | 343°55.93' | S 7°20.74' | 231°09.61' | 333°56.69' | S 12°16.26' | 209°18.86' | 355°47.43' | S 2°57.17' | 239°04.34' | 326°01.95' | S 14°39.46' | **00** |
| **01** | 236°10.18' | 343°58.57' | S 7°19.85' | 246°10.26' | 333°58.50' | S 12°15.61' | 224°20.81' | 355°47.95' | S 2°56.95' | 254°06.63' | 326°02.13' | S 14°39.40' | **01** |
| **02** | 251°10.00' | 344°01.22' | S 7°18.96' | 261°10.90' | 334°00.32' | S 12°14.96' | 239°22.76' | 355°48.46' | S 2°56.73' | 269°08.91' | 326°02.31' | S 14°39.35' | **02** |
| **03** | 266°09.82' | 344°03.87' | S 7°18.06' | 276°11.55' | 334°02.13' | S 12°14.31' | 254°24.71' | 355°48.98' | S 2°56.52' | 284°11.19' | 326°02.49' | S 14°39.29' | **03** |
| **04** | 281°09.64' | 344°06.51' | S 7°17.17' | 291°12.20' | 334°03.95' | S 12°13.66' | 269°26.66' | 355°49.49' | S 2°56.30' | 299°13.47' | 326°02.68' | S 14°39.24' | **04** |
| **05** | 296°09.46' | 344°09.16' | S 7°16.28' | 306°12.85' | 334°05.76' | S 12°13.01' | 284°28.61' | 355°50.00' | S 2°56.08' | 314°15.76' | 326°02.86' | S 14°39.18' | **05** |
| **06** | 311°09.28' | 344°11.80' | S 7°15.38' | 321°13.50' | 334°07.58' | S 12°12.36' | 299°30.56' | 355°50.52' | S 2°55.87' | 329°18.04' | 326°03.04' | S 14°39.13' | **06** |
| **07** | 326°09.09' | 344°14.45' | S 7°14.49' | 336°14.15' | 334°09.39' | S 12°11.70' | 314°32.51' | 355°51.03' | S 2°55.65' | 344°20.32' | 326°03.22' | S 14°39.08' | **07** |
| **08** | 341°08.91' | 344°17.09' | S 7°13.59' | 351°14.80' | 334°11.21' | S 12°11.05' | 329°34.46' | 355°51.54' | S 2°55.44' | 359°22.61' | 326°03.40' | S 14°39.02' | **08** |
| **09** | 356°08.73' | 344°19.74' | S 7°12.69' | 6°15.45' | 334°13.02' | S 12°10.40' | 344°36.41' | 355°52.06' | S 2°55.22' | 14°24.89' | 326°03.58' | S 14°38.97' | **09** |
| **10** | 11°08.55' | 344°22.38' | S 7°11.80' | 21°16.10' | 334°14.84' | S 12°09.75' | 359°38.36' | 355°52.57' | S 2°55.01' | 29°27.17' | 326°03.76' | S 14°38.91' | **10** |
| **11** | 26°08.37' | 344°25.03' | S 7°10.90' | 36°16.75' | 334°16.65' | S 12°09.09' | 14°40.31' | 355°53.08' | S 2°54.79' | 44°29.46' | 326°03.94' | S 14°38.86' | **11** |
| **12** | 41°08.19' | 344°27.68' | S 7°10.00' | 51°17.40' | 334°18.46' | S 12°08.44' | 29°42.26' | 355°53.60' | S 2°54.57' | 59°31.74' | 326°04.12' | S 14°38.80' | **12** |
| **13** | 56°08.00' | 344°30.32' | S 7°09.10' | 66°18.05' | 334°20.28' | S 12°07.79' | 44°44.22' | 355°54.11' | S 2°54.36' | 74°34.02' | 326°04.30' | S 14°38.75' | **13** |
| **14** | 71°07.82' | 344°32.97' | S 7°08.21' | 81°18.70' | 334°22.09' | S 12°07.14' | 59°46.17' | 355°54.62' | S 2°54.14' | 89°36.31' | 326°04.48' | S 14°38.70' | **14** |
| **15** | 86°07.64' | 344°35.61' | S 7°07.31' | 96°19.35' | 334°23.91' | S 12°06.48' | 74°48.12' | 355°55.14' | S 2°53.93' | 104°38.59' | 326°04.66' | S 14°38.64' | **15** |
| **16** | 101°07.46' | 344°38.26' | S 7°06.41' | 111°20.00' | 334°25.72' | S 12°05.83' | 89°50.07' | 355°55.65' | S 2°53.71' | 119°40.87' | 326°04.84' | S 14°38.59' | **16** |
| **17** | 116°07.28' | 344°40.90' | S 7°05.51' | 126°20.65' | 334°27.53' | S 12°05.18' | 104°52.02' | 355°56.16' | S 2°53.50' | 134°43.16' | 326°05.02' | S 14°38.53' | **17** |
| **18** | 131°07.10' | 344°43.55' | S 7°04.61' | 141°21.30' | 334°29.35' | S 12°04.52' | 119°53.97' | 355°56.67' | S 2°53.28' | 149°45.44' | 326°05.20' | S 14°38.48' | **18** |
| **19** | 146°06.91' | 344°46.20' | S 7°03.71' | 156°21.95' | 334°31.16' | S 12°03.87' | 134°55.92' | 355°57.19' | S 2°53.06' | 164°47.73' | 326°05.38' | S 14°38.43' | **19** |
| **20** | 161°06.73' | 344°48.84' | S 7°02.81' | 171°22.60' | 334°32.97' | S 12°03.21' | 149°57.88' | 355°57.70' | S 2°52.85' | 179°50.01' | 326°05.56' | S 14°38.37' | **20** |
| **21** | 176°06.55' | 344°51.49' | S 7°01.90' | 186°23.25' | 334°34.79' | S 12°02.56' | 164°59.83' | 355°58.21' | S 2°52.63' | 194°52.30' | 326°05.74' | S 14°38.32' | **21** |
| **22** | 191°06.37' | 344°54.13' | S 7°01.00' | 201°23.90' | 334°36.60' | S 12°01.90' | 180°01.78' | 355°58.72' | S 2°52.42' | 209°54.58' | 326°05.92' | S 14°38.26' | **22** |
| **23** | 206°06.19' | 344°56.78' | S 7°00.10' | 216°24.55' | 334°38.41' | S 12°01.25' | 195°03.73' | 355°59.23' | S 2°52.20' | 224°56.87' | 326°06.10' | S 14°38.21' | **23** |
| **24** | 221°06.00' | 344°59.43' | S 6°59.19' | 231°25.21' | 334°40.22' | S 12°00.59' | 210°05.68' | 355°59.75' | S 2°51.99' | 239°59.15' | 326°06.28' | S 14°38.16' | **24** |
| | δ 14.9970° | | *d* 0.8921' | δ 15.0108° | | *d* 0.6508' | δ 15.0325° | | *d* 0.2162' | δ 15.0380° | | *d* 0.0547' | |

## *Monday, April 18th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°08.09' | 15.0024° | 25°57.34' | N 10°44.63' | 0.8740' | 344°11.01' | 14.4627° | 221°54.42' | S 15°20.40' | 13.8542' | 59.7769' | 206°05.43' | **00** |
| **01** | 195°08.23' | 15.0024° | 25°59.67' | N 10°45.50' | 0.8737' | 358°38.69' | 14.4612° | 222°29.21' | S 15°34.17' | 13.7708' | 59.7908' | 221°07.89' | **01** |
| **02** | 210°08.37' | 15.0024° | 26°01.99' | N 10°46.38' | 0.8734' | 13°06.27' | 14.4597° | 223°04.09' | S 15°47.86' | 13.6855' | 59.8044' | 236°10.36' | **02** |
| **03** | 225°08.51' | 15.0023° | 26°04.31' | N 10°47.25' | 0.8731' | 27°33.75' | 14.4581° | 223°39.07' | S 16°01.46' | 13.5983' | 59.8176' | 251°12.82' | **03** |
| **04** | 240°08.65' | 15.0023° | 26°06.64' | N 10°48.12' | 0.8727' | 42°01.15' | 14.4566° | 224°14.14' | S 16°14.97' | 13.5091' | 59.8305' | 266°15.29' | **04** |
| **05** | 255°08.79' | 15.0023° | 26°08.96' | N 10°48.99' | 0.8724' | 56°28.45' | 14.4550° | 224°49.30' | S 16°28.39' | 13.4181' | 59.8430' | 281°17.75' | **05** |
| **06** | 270°08.93' | 15.0023° | 26°11.28' | N 10°49.87' | 0.8721' | 70°55.66' | 14.4535° | 225°24.56' | S 16°41.71' | 13.3251' | 59.8552' | 296°20.22' | **06** |
| **07** | 285°09.07' | 15.0023° | 26°13.61' | N 10°50.74' | 0.8718' | 85°22.77' | 14.4519° | 225°59.91' | S 16°54.94' | 13.2302' | 59.8670' | 311°22.68' | **07** |
| **08** | 300°09.21' | 15.0023° | 26°15.93' | N 10°51.61' | 0.8715' | 99°49.79' | 14.4503° | 226°35.36' | S 17°08.07' | 13.1334' | 59.8784' | 326°25.14' | **08** |
| **09** | 315°09.35' | 15.0023° | 26°18.26' | N 10°52.48' | 0.8712' | 114°16.71' | 14.4487° | 227°10.90' | S 17°21.11' | 13.0347' | 59.8894' | 341°27.61' | **09** |
| **10** | 330°09.49' | 15.0023° | 26°20.58' | N 10°53.35' | 0.8709' | 128°43.54' | 14.4471° | 227°46.53' | S 17°34.04' | 12.9341' | 59.9001' | 356°30.07' | **10** |
| **11** | 345°09.63' | 15.0023° | 26°22.91' | N 10°54.22' | 0.8706' | 143°10.27' | 14.4455° | 228°22.26' | S 17°46.87' | 12.8316' | 59.9104' | 11°32.54' | **11** |
| **12** | 0°09.77' | 15.0023° | 26°25.23' | N 10°55.09' | 0.8703' | 157°36.91' | 14.4440° | 228°58.09' | S 17°59.60' | 12.7271' | 59.9204' | 26°35.00' | **12** |
| **13** | 15°09.91' | 15.0023° | 26°27.55' | N 10°55.96' | 0.8700' | 172°03.45' | 14.4424° | 229°34.01' | S 18°12.22' | 12.6208' | 59.9300' | 41°37.46' | **13** |
| **14** | 30°10.05' | 15.0023° | 26°29.88' | N 10°56.83' | 0.8697' | 186°29.90' | 14.4408° | 230°10.03' | S 18°24.73' | 12.5126' | 59.9392' | 56°39.93' | **14** |
| **15** | 45°10.19' | 15.0023° | 26°32.21' | N 10°57.70' | 0.8693' | 200°56.25' | 14.4392° | 230°46.15' | S 18°37.14' | 12.4024' | 59.9481' | 71°42.39' | **15** |
| **16** | 60°10.33' | 15.0023° | 26°34.53' | N 10°58.57' | 0.8690' | 215°22.50' | 14.4376° | 231°22.36' | S 18°49.43' | 12.2904' | 59.9566' | 86°44.86' | **16** |
| **17** | 75°10.46' | 15.0023° | 26°36.86' | N 10°59.44' | 0.8687' | 229°48.66' | 14.4360° | 231°58.66' | S 19°01.60' | 12.1765' | 59.9647' | 101°47.32' | **17** |
| **18** | 90°10.60' | 15.0023° | 26°39.18' | N 11°00.31' | 0.8684' | 244°14.72' | 14.4344° | 232°35.07' | S 19°13.66' | 12.0607' | 59.9724' | 116°49.78' | **18** |
| **19** | 105°10.74' | 15.0023° | 26°41.51' | N 11°01.18' | 0.8681' | 258°40.68' | 14.4328° | 233°11.56' | S 19°25.61' | 11.9430' | 59.9798' | 131°52.25' | **19** |
| **20** | 120°10.88' | 15.0023° | 26°43.83' | N 11°02.04' | 0.8678' | 273°06.55' | 14.4312° | 233°48.16' | S 19°37.43' | 11.8235' | 59.9869' | 146°54.71' | **20** |
| **21** | 135°11.02' | 15.0023° | 26°46.16' | N 11°02.91' | 0.8675' | 287°32.33' | 14.4296° | 234°24.85' | S 19°49.13' | 11.7021' | 59.9935' | 161°57.18' | **21** |
| **22** | 150°11.15' | 15.0023° | 26°48.49' | N 11°03.78' | 0.8672' | 301°58.01' | 14.4280° | 235°01.63' | S 20°00.71' | 11.5789' | 59.9998' | 176°59.64' | **22** |
| **23** | 165°11.29' | 15.0023° | 26°50.81' | N 11°04.65' | 0.8668' | 316°23.59' | 14.4264° | 235°38.51' | S 20°12.17' | 11.4538' | 60.0057' | 192°02.11' | **23** |
| **24** | 180°11.43' | 15.0023° | 26°53.14' | N 11°05.51' | 0.8665' | 330°49.08' | 14.4248° | 236°15.49' | S 20°23.49' | 11.3269' | 60.0113' | 207°04.57' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9297' | hp (π) 0.1460' | ½Ø 16.3271' | 96.0684580485158<br>2% -gib |
| | EoT at 12:00 UTC : +39s (δ 0.56 s/h) | | Phase at 12:00 UTC : 202.93° | |
| | Meridian Pass. Time : 11:59:20.920 | | Age : 15.8 day(s) | |

| UT | Venus ♀ (π 0.16') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 221°06.00' | 344°59.43' | S 6°59.19' | 231°25.21' | 334°40.22' | S 12°00.59' | 210°05.68' | 355°59.75' | S 2°51.99' | 239°59.15' | 326°06.28' | S 14°38.16' | **00** |
| **01** | 236°05.82' | 345°02.07' | S 6°58.29' | 246°25.86' | 334°42.04' | S 11°59.94' | 225°07.64' | 356°00.26' | S 2°51.77' | 255°01.44' | 326°06.46' | S 14°38.10' | **01** |
| **02** | 251°05.64' | 345°04.72' | S 6°57.39' | 261°26.51' | 334°43.85' | S 11°59.28' | 240°09.59' | 356°00.77' | S 2°51.56' | 270°03.72' | 326°06.64' | S 14°38.05' | **02** |
| **03** | 266°05.46' | 345°07.36' | S 6°56.48' | 276°27.16' | 334°45.66' | S 11°58.63' | 255°11.54' | 356°01.28' | S 2°51.34' | 285°06.01' | 326°06.82' | S 14°38.00' | **03** |
| **04** | 281°05.28' | 345°10.01' | S 6°55.58' | 291°27.81' | 334°47.47' | S 11°57.97' | 270°13.49' | 356°01.79' | S 2°51.13' | 300°08.29' | 326°06.99' | S 14°37.94' | **04** |
| **05** | 296°05.09' | 345°12.66' | S 6°54.67' | 306°28.47' | 334°49.28' | S 11°57.32' | 285°15.45' | 356°02.31' | S 2°50.91' | 315°10.58' | 326°07.17' | S 14°37.89' | **05** |
| **06** | 311°04.91' | 345°15.30' | S 6°53.76' | 321°29.12' | 334°51.10' | S 11°56.66' | 300°17.40' | 356°02.82' | S 2°50.70' | 330°12.86' | 326°07.35' | S 14°37.84' | **06** |
| **07** | 326°04.73' | 345°17.95' | S 6°52.86' | 336°29.77' | 334°52.91' | S 11°56.00' | 315°19.35' | 356°03.33' | S 2°50.48' | 345°15.15' | 326°07.53' | S 14°37.78' | **07** |
| **08** | 341°04.55' | 345°20.59' | S 6°51.95' | 351°30.42' | 334°54.72' | S 11°55.35' | 330°21.30' | 356°03.84' | S 2°50.27' | 0°17.44' | 326°07.71' | S 14°37.73' | **08** |
| **09** | 356°04.37' | 345°23.24' | S 6°51.04' | 6°31.08' | 334°56.53' | S 11°54.69' | 345°23.26' | 356°04.35' | S 2°50.05' | 15°19.72' | 326°07.88' | S 14°37.68' | **09** |
| **10** | 11°04.18' | 345°25.89' | S 6°50.13' | 21°31.73' | 334°58.34' | S 11°54.03' | 0°25.21' | 356°04.86' | S 2°49.84' | 30°22.01' | 326°08.06' | S 14°37.62' | **10** |
| **11** | 26°04.00' | 345°28.53' | S 6°49.23' | 36°32.38' | 335°00.15' | S 11°53.38' | 15°27.16' | 356°05.37' | S 2°49.62' | 45°24.30' | 326°08.24' | S 14°37.57' | **11** |
| **12** | 41°03.82' | 345°31.18' | S 6°48.32' | 51°33.04' | 335°01.96' | S 11°52.72' | 30°29.12' | 356°05.88' | S 2°49.41' | 60°26.58' | 326°08.42' | S 14°37.52' | **12** |
| **13** | 56°03.64' | 345°33.83' | S 6°47.41' | 66°33.69' | 335°03.77' | S 11°52.06' | 45°31.07' | 356°06.40' | S 2°49.19' | 75°28.87' | 326°08.60' | S 14°37.46' | **13** |
| **14** | 71°03.46' | 345°36.47' | S 6°46.50' | 81°34.34' | 335°05.59' | S 11°51.41' | 60°33.02' | 356°06.91' | S 2°48.98' | 90°31.16' | 326°08.77' | S 14°37.41' | **14** |
| **15** | 86°03.27' | 345°39.12' | S 6°45.59' | 96°35.00' | 335°07.40' | S 11°50.75' | 75°34.98' | 356°07.42' | S 2°48.76' | 105°33.44' | 326°08.95' | S 14°37.36' | **15** |
| **16** | 101°03.09' | 345°41.77' | S 6°44.67' | 111°35.65' | 335°09.21' | S 11°50.09' | 90°36.93' | 356°07.93' | S 2°48.55' | 120°35.73' | 326°09.13' | S 14°37.30' | **16** |
| **17** | 116°02.91' | 345°44.41' | S 6°43.76' | 126°36.30' | 335°11.02' | S 11°49.43' | 105°38.88' | 356°08.44' | S 2°48.33' | 135°38.02' | 326°09.30' | S 14°37.25' | **17** |
| **18** | 131°02.73' | 345°47.06' | S 6°42.85' | 141°36.96' | 335°12.83' | S 11°48.77' | 120°40.84' | 356°08.95' | S 2°48.12' | 150°40.30' | 326°09.48' | S 14°37.20' | **18** |
| **19** | 146°02.54' | 345°49.70' | S 6°41.94' | 156°37.61' | 335°14.64' | S 11°48.11' | 135°42.79' | 356°09.46' | S 2°47.90' | 165°42.59' | 326°09.66' | S 14°37.14' | **19** |
| **20** | 161°02.36' | 345°52.35' | S 6°41.03' | 171°38.27' | 335°16.45' | S 11°47.46' | 150°44.74' | 356°09.97' | S 2°47.69' | 180°44.88' | 326°09.83' | S 14°37.09' | **20** |
| **21** | 176°02.18' | 345°55.00' | S 6°40.11' | 186°38.92' | 335°18.26' | S 11°46.80' | 165°46.70' | 356°10.48' | S 2°47.47' | 195°47.17' | 326°10.01' | S 14°37.04' | **21** |
| **22** | 191°02.00' | 345°57.64' | S 6°39.20' | 201°39.58' | 335°20.07' | S 11°46.14' | 180°48.65' | 356°10.99' | S 2°47.26' | 210°49.46' | 326°10.19' | S 14°36.99' | **22** |
| **23** | 206°01.81' | 346°00.29' | S 6°38.28' | 216°40.23' | 335°21.88' | S 11°45.48' | 195°50.61' | 356°11.50' | S 2°47.05' | 225°51.74' | 326°10.36' | S 14°36.93' | **23** |
| **24** | 221°01.63' | 346°02.94' | S 6°37.37' | 231°40.89' | 335°23.68' | S 11°44.82' | 210°52.56' | 356°12.01' | S 2°46.83' | 240°54.03' | 326°10.54' | S 14°36.88' | **24** |
| | δ 14.9970° | | *d* 0.9039' | δ 15.0109° | | *d* 0.6552' | δ 15.0325° | | *d* 0.2153' | δ 15.0381° | | *d* 0.0537' | |

## *Tuesday, April 19th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°11.43' | 15.0023° | 26°53.14' | N 11°05.51' | 0.8665' | 330°49.08' | 14.4248° | 236°15.49' | S 20°23.49' | 11.3269' | 60.0113' | 207°04.57' | **00** |
| **01** | 195°11.56' | 15.0023° | 26°55.47' | N 11°06.38' | 0.8662' | 345°14.48' | 14.4232° | 236°52.56' | S 20°34.69' | 11.1981' | 60.0165' | 222°07.03' | **01** |
| **02** | 210°11.70' | 15.0023° | 26°57.80' | N 11°07.24' | 0.8659' | 359°39.78' | 14.4217° | 237°29.72' | S 20°45.76' | 11.0676' | 60.0214' | 237°09.50' | **02** |
| **03** | 225°11.84' | 15.0023° | 27°00.12' | N 11°08.11' | 0.8656' | 14°04.98' | 14.4201° | 238°06.98' | S 20°56.69' | 10.9353' | 60.0258' | 252°11.96' | **03** |
| **04** | 240°11.97' | 15.0023° | 27°02.45' | N 11°08.98' | 0.8653' | 28°30.10' | 14.4186° | 238°44.33' | S 21°07.50' | 10.8011' | 60.0300' | 267°14.43' | **04** |
| **05** | 255°12.11' | 15.0023° | 27°04.78' | N 11°09.84' | 0.8650' | 42°55.12' | 14.4170° | 239°21.77' | S 21°18.16' | 10.6653' | 60.0337' | 282°16.89' | **05** |
| **06** | 270°12.25' | 15.0023° | 27°07.11' | N 11°10.70' | 0.8646' | 57°20.05' | 14.4155° | 239°59.31' | S 21°28.69' | 10.5276' | 60.0371' | 297°19.35' | **06** |
| **07** | 285°12.38' | 15.0023° | 27°09.44' | N 11°11.57' | 0.8643' | 71°44.89' | 14.4140° | 240°36.93' | S 21°39.08' | 10.3882' | 60.0402' | 312°21.82' | **07** |
| **08** | 300°12.52' | 15.0023° | 27°11.76' | N 11°12.43' | 0.8640' | 86°09.63' | 14.4124° | 241°14.65' | S 21°49.32' | 10.2471' | 60.0428' | 327°24.28' | **08** |
| **09** | 315°12.65' | 15.0023° | 27°14.09' | N 11°13.30' | 0.8637' | 100°34.29' | 14.4109° | 241°52.46' | S 21°59.43' | 10.1043' | 60.0452' | 342°26.75' | **09** |
| **10** | 330°12.79' | 15.0023° | 27°16.42' | N 11°14.16' | 0.8634' | 114°58.86' | 14.4095° | 242°30.36' | S 22°09.39' | 9.9598' | 60.0472' | 357°29.21' | **10** |
| **11** | 345°12.92' | 15.0023° | 27°18.75' | N 11°15.02' | 0.8630' | 129°23.33' | 14.4080° | 243°08.34' | S 22°19.20' | 9.8136' | 60.0488' | 12°31.68' | **11** |
| **12** | 0°13.06' | 15.0022° | 27°21.08' | N 11°15.89' | 0.8627' | 143°47.73' | 14.4065° | 243°46.41' | S 22°28.87' | 9.6657' | 60.0501' | 27°34.14' | **12** |
| **13** | 15°13.19' | 15.0022° | 27°23.41' | N 11°16.75' | 0.8624' | 158°12.03' | 14.4051° | 244°24.57' | S 22°38.38' | 9.5162' | 60.0510' | 42°36.60' | **13** |
| **14** | 30°13.33' | 15.0022° | 27°25.74' | N 11°17.61' | 0.8621' | 172°36.25' | 14.4036° | 245°02.82' | S 22°47.75' | 9.3651' | 60.0516' | 57°39.07' | **14** |
| **15** | 45°13.46' | 15.0022° | 27°28.07' | N 11°18.47' | 0.8618' | 187°00.38' | 14.4022° | 245°41.15' | S 22°56.96' | 9.2125' | 60.0518' | 72°41.53' | **15** |
| **16** | 60°13.60' | 15.0022° | 27°30.40' | N 11°19.33' | 0.8614' | 201°24.43' | 14.4008° | 246°19.56' | S 23°06.02' | 9.0582' | 60.0517' | 87°44.00' | **16** |
| **17** | 75°13.73' | 15.0022° | 27°32.73' | N 11°20.19' | 0.8611' | 215°48.40' | 14.3995° | 246°58.06' | S 23°14.92' | 8.9024' | 60.0513' | 102°46.46' | **17** |
| **18** | 90°13.87' | 15.0022° | 27°35.06' | N 11°21.06' | 0.8608' | 230°12.28' | 14.3981° | 247°36.64' | S 23°23.67' | 8.7450' | 60.0505' | 117°48.92' | **18** |
| **19** | 105°14.00' | 15.0022° | 27°37.39' | N 11°21.92' | 0.8605' | 244°36.09' | 14.3968° | 248°15.30' | S 23°32.25' | 8.5862' | 60.0494' | 132°51.39' | **19** |
| **20** | 120°14.13' | 15.0022° | 27°39.72' | N 11°22.78' | 0.8602' | 258°59.82' | 14.3954° | 248°54.04' | S 23°40.68' | 8.4259' | 60.0479' | 147°53.85' | **20** |
| **21** | 135°14.27' | 15.0022° | 27°42.05' | N 11°23.64' | 0.8598' | 273°23.47' | 14.3942° | 249°32.85' | S 23°48.94' | 8.2641' | 60.0461' | 162°56.32' | **21** |
| **22** | 150°14.40' | 15.0022° | 27°44.38' | N 11°24.50' | 0.8595' | 287°47.04' | 14.3929° | 250°11.74' | S 23°57.04' | 8.1009' | 60.0440' | 177°58.78' | **22** |
| **23** | 165°14.53' | 15.0022° | 27°46.71' | N 11°25.35' | 0.8592' | 302°10.54' | 14.3916° | 250°50.71' | S 24°04.98' | 7.9363' | 60.0415' | 193°01.25' | **23** |
| **24** | 180°14.66' | 15.0022° | 27°49.04' | N 11°26.21' | 0.8589' | 316°33.96' | 14.3904° | 251°29.75' | S 24°12.75' | 7.7704' | 60.0388' | 208°03.71' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.9252' | hp (π) 0.1459' | ½Ø 16.3625' | 90.2371030753508 6% -gib | |
| EoT at 12:00 UTC : +52s (δ 0.54 s/h) | | Phase at 12:00 UTC : 216.48° | | |
| Meridian Pass. Time : 11:59:07.762 | | Age : 16.8 day(s) | | |

| UT | Venus ♀ (π 0.16') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 221°01.63' | 346°02.94' | S 6°37.37' | 231°40.89' | 335°23.68' | S 11°44.82' | 210°52.56' | 356°12.01' | S 2°46.83' | 240°54.03' | 326°10.54' | S 14°36.88' | **00** |
| **01** | 236°01.45' | 346°05.58' | S 6°36.45' | 246°41.54' | 335°25.49' | S 11°44.16' | 225°54.51' | 356°12.52' | S 2°46.62' | 255°56.32' | 326°10.71' | S 14°36.83' | **01** |
| **02** | 251°01.27' | 346°08.23' | S 6°35.54' | 261°42.20' | 335°27.30' | S 11°43.50' | 240°56.47' | 356°13.03' | S 2°46.40' | 270°58.61' | 326°10.89' | S 14°36.77' | **02** |
| **03** | 266°01.08' | 346°10.88' | S 6°34.62' | 276°42.85' | 335°29.11' | S 11°42.84' | 255°58.42' | 356°13.54' | S 2°46.19' | 286°00.90' | 326°11.07' | S 14°36.72' | **03** |
| **04** | 281°00.90' | 346°13.52' | S 6°33.71' | 291°43.51' | 335°30.92' | S 11°42.18' | 271°00.38' | 356°14.05' | S 2°45.97' | 301°03.19' | 326°11.24' | S 14°36.67' | **04** |
| **05** | 296°00.72' | 346°16.17' | S 6°32.79' | 306°44.16' | 335°32.73' | S 11°41.52' | 286°02.33' | 356°14.56' | S 2°45.76' | 316°05.47' | 326°11.42' | S 14°36.62' | **05** |
| **06** | 311°00.54' | 346°18.82' | S 6°31.87' | 321°44.82' | 335°34.54' | S 11°40.86' | 301°04.29' | 356°15.07' | S 2°45.55' | 331°07.76' | 326°11.59' | S 14°36.56' | **06** |
| **07** | 326°00.35' | 346°21.46' | S 6°30.95' | 336°45.47' | 335°36.35' | S 11°40.20' | 316°06.24' | 356°15.58' | S 2°45.33' | 346°10.05' | 326°11.77' | S 14°36.51' | **07** |
| **08** | 341°00.17' | 346°24.11' | S 6°30.03' | 351°46.13' | 335°38.15' | S 11°39.54' | 331°08.20' | 356°16.09' | S 2°45.12' | 1°12.34' | 326°11.94' | S 14°36.46' | **08** |
| **09** | 355°59.99' | 346°26.76' | S 6°29.11' | 6°46.78' | 335°39.96' | S 11°38.88' | 346°10.15' | 356°16.59' | S 2°44.90' | 16°14.63' | 326°12.12' | S 14°36.41' | **09** |
| **10** | 10°59.81' | 346°29.41' | S 6°28.20' | 21°47.44' | 335°41.77' | S 11°38.22' | 1°12.11' | 356°17.10' | S 2°44.69' | 31°16.92' | 326°12.29' | S 14°36.36' | **10** |
| **11** | 25°59.62' | 346°32.05' | S 6°27.28' | 36°48.10' | 335°43.58' | S 11°37.56' | 16°14.06' | 356°17.61' | S 2°44.48' | 46°19.21' | 326°12.47' | S 14°36.30' | **11** |
| **12** | 40°59.44' | 346°34.70' | S 6°26.35' | 51°48.75' | 335°45.39' | S 11°36.89' | 31°16.02' | 356°18.12' | S 2°44.26' | 61°21.50' | 326°12.64' | S 14°36.25' | **12** |
| **13** | 55°59.26' | 346°37.35' | S 6°25.43' | 66°49.41' | 335°47.19' | S 11°36.23' | 46°17.97' | 356°18.63' | S 2°44.05' | 76°23.79' | 326°12.81' | S 14°36.20' | **13** |
| **14** | 70°59.07' | 346°39.99' | S 6°24.51' | 81°50.07' | 335°49.00' | S 11°35.57' | 61°19.93' | 356°19.14' | S 2°43.83' | 91°26.08' | 326°12.99' | S 14°36.15' | **14** |
| **15** | 85°58.89' | 346°42.64' | S 6°23.59' | 96°50.72' | 335°50.81' | S 11°34.91' | 76°21.88' | 356°19.65' | S 2°43.62' | 106°28.37' | 326°13.16' | S 14°36.09' | **15** |
| **16** | 100°58.71' | 346°45.29' | S 6°22.67' | 111°51.38' | 335°52.62' | S 11°34.25' | 91°23.84' | 356°20.16' | S 2°43.41' | 121°30.66' | 326°13.34' | S 14°36.04' | **16** |
| **17** | 115°58.53' | 346°47.93' | S 6°21.75' | 126°52.04' | 335°54.42' | S 11°33.59' | 106°25.80' | 356°20.66' | S 2°43.19' | 136°32.95' | 326°13.51' | S 14°35.99' | **17** |
| **18** | 130°58.34' | 346°50.58' | S 6°20.82' | 141°52.70' | 335°56.23' | S 11°32.92' | 121°27.75' | 356°21.17' | S 2°42.98' | 151°35.24' | 326°13.68' | S 14°35.94' | **18** |
| **19** | 145°58.16' | 346°53.23' | S 6°19.90' | 156°53.35' | 335°58.04' | S 11°32.26' | 136°29.71' | 356°21.68' | S 2°42.77' | 166°37.53' | 326°13.86' | S 14°35.89' | **19** |
| **20** | 160°57.98' | 346°55.88' | S 6°18.98' | 171°54.01' | 335°59.84' | S 11°31.60' | 151°31.66' | 356°22.19' | S 2°42.55' | 181°39.82' | 326°14.03' | S 14°35.84' | **20** |
| **21** | 175°57.79' | 346°58.52' | S 6°18.05' | 186°54.67' | 336°01.65' | S 11°30.93' | 166°33.62' | 356°22.70' | S 2°42.34' | 196°42.11' | 326°14.20' | S 14°35.78' | **21** |
| **22** | 190°57.61' | 347°01.17' | S 6°17.13' | 201°55.33' | 336°03.46' | S 11°30.27' | 181°35.58' | 356°23.21' | S 2°42.12' | 211°44.40' | 326°14.38' | S 14°35.73' | **22** |
| **23** | 205°57.43' | 347°03.82' | S 6°16.20' | 216°55.98' | 336°05.26' | S 11°29.61' | 196°37.53' | 356°23.71' | S 2°41.91' | 226°46.70' | 326°14.55' | S 14°35.68' | **23** |
| **24** | 220°57.25' | 347°06.46' | S 6°15.27' | 231°56.64' | 336°07.07' | S 11°28.94' | 211°39.49' | 356°24.22' | S 2°41.70' | 241°48.99' | 326°14.72' | S 14°35.63' | **24** |
| | δ 14.9970° | | *d* 0.9153' | δ 15.0109° | | *d* 0.6595' | δ 15.0326° | | *d* 0.2144' | δ 15.0381° | | *d* 0.0527' | |

## *Wednesday, April 20th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°14.66' | 15.0022° | 27°49.04' | N 11°26.21' | 0.8589' | 316°33.96' | 14.3904° | 251°29.75' | S 24°12.75' | 7.7704' | 60.0388' | 208°03.71' | **00** |
| **01** | 195°14.80' | 15.0022° | 27°51.38' | N 11°27.07' | 0.8586' | 330°57.31' | 14.3892° | 252°08.86' | S 24°20.35' | 7.6031' | 60.0356' | 223°06.17' | **01** |
| **02** | 210°14.93' | 15.0022° | 27°53.71' | N 11°27.93' | 0.8582' | 345°20.60' | 14.3880° | 252°48.04' | S 24°27.79' | 7.4344' | 60.0322' | 238°08.64' | **02** |
| **03** | 225°15.06' | 15.0022° | 27°56.04' | N 11°28.79' | 0.8579' | 359°43.81' | 14.3869° | 253°27.29' | S 24°35.05' | 7.2645' | 60.0285' | 253°11.10' | **03** |
| **04** | 240°15.19' | 15.0022° | 27°58.37' | N 11°29.65' | 0.8576' | 14°06.96' | 14.3858° | 254°06.61' | S 24°42.15' | 7.0934' | 60.0244' | 268°13.57' | **04** |
| **05** | 255°15.33' | 15.0022° | 28°00.70' | N 11°30.50' | 0.8573' | 28°30.04' | 14.3847° | 254°45.99' | S 24°49.07' | 6.9210' | 60.0200' | 283°16.03' | **05** |
| **06** | 270°15.46' | 15.0022° | 28°03.04' | N 11°31.36' | 0.8569' | 42°53.05' | 14.3836° | 255°25.44' | S 24°55.81' | 6.7475' | 60.0153' | 298°18.49' | **06** |
| **07** | 285°15.59' | 15.0022° | 28°05.37' | N 11°32.22' | 0.8566' | 57°16.01' | 14.3826° | 256°04.95' | S 25°02.39' | 6.5727' | 60.0103' | 313°20.96' | **07** |
| **08** | 300°15.72' | 15.0022° | 28°07.70' | N 11°33.07' | 0.8563' | 71°38.91' | 14.3816° | 256°44.52' | S 25°08.78' | 6.3969' | 60.0050' | 328°23.42' | **08** |
| **09** | 315°15.85' | 15.0022° | 28°10.04' | N 11°33.93' | 0.8559' | 86°01.74' | 14.3806° | 257°24.15' | S 25°15.00' | 6.2200' | 59.9994' | 343°25.89' | **09** |
| **10** | 330°15.98' | 15.0022° | 28°12.37' | N 11°34.78' | 0.8556' | 100°24.52' | 14.3797° | 258°03.83' | S 25°21.05' | 6.0420' | 59.9935' | 358°28.35' | **10** |
| **11** | 345°16.11' | 15.0022° | 28°14.70' | N 11°35.64' | 0.8553' | 114°47.25' | 14.3788° | 258°43.57' | S 25°26.91' | 5.8630' | 59.9873' | 13°30.82' | **11** |
| **12** | 0°16.24' | 15.0022° | 28°17.04' | N 11°36.49' | 0.8550' | 129°09.93' | 14.3779° | 259°23.35' | S 25°32.59' | 5.6831' | 59.9808' | 28°33.28' | **12** |
| **13** | 15°16.37' | 15.0022° | 28°19.37' | N 11°37.35' | 0.8546' | 143°32.55' | 14.3771° | 260°03.19' | S 25°38.09' | 5.5022' | 59.9740' | 43°35.74' | **13** |
| **14** | 30°16.50' | 15.0022° | 28°21.71' | N 11°38.20' | 0.8543' | 157°55.13' | 14.3763° | 260°43.08' | S 25°43.41' | 5.3203' | 59.9669' | 58°38.21' | **14** |
| **15** | 45°16.63' | 15.0022° | 28°24.04' | N 11°39.06' | 0.8540' | 172°17.66' | 14.3755° | 261°23.02' | S 25°48.55' | 5.1377' | 59.9595' | 73°40.67' | **15** |
| **16** | 60°16.76' | 15.0022° | 28°26.37' | N 11°39.91' | 0.8537' | 186°40.14' | 14.3748° | 262°02.99' | S 25°53.51' | 4.9541' | 59.9518' | 88°43.14' | **16** |
| **17** | 75°16.89' | 15.0022° | 28°28.71' | N 11°40.76' | 0.8533' | 201°02.59' | 14.3741° | 262°43.01' | S 25°58.28' | 4.7698' | 59.9439' | 103°45.60' | **17** |
| **18** | 90°17.02' | 15.0022° | 28°31.04' | N 11°41.62' | 0.8530' | 215°24.99' | 14.3734° | 263°23.07' | S 26°02.86' | 4.5848' | 59.9356' | 118°48.07' | **18** |
| **19** | 105°17.15' | 15.0022° | 28°33.38' | N 11°42.47' | 0.8527' | 229°47.36' | 14.3728° | 264°03.17' | S 26°07.26' | 4.3990' | 59.9271' | 133°50.53' | **19** |
| **20** | 120°17.28' | 15.0021° | 28°35.71' | N 11°43.32' | 0.8523' | 244°09.69' | 14.3722° | 264°43.30' | S 26°11.47' | 4.2125' | 59.9183' | 148°52.99' | **20** |
| **21** | 135°17.41' | 15.0021° | 28°38.05' | N 11°44.17' | 0.8520' | 258°31.99' | 14.3717° | 265°23.46' | S 26°15.50' | 4.0255' | 59.9093' | 163°55.46' | **21** |
| **22** | 150°17.54' | 15.0021° | 28°40.39' | N 11°45.03' | 0.8517' | 272°54.27' | 14.3712° | 266°03.66' | S 26°19.34' | 3.8378' | 59.9000' | 178°57.92' | **22** |
| **23** | 165°17.67' | 15.0021° | 28°42.72' | N 11°45.88' | 0.8513' | 287°16.51' | 14.3707° | 266°43.88' | S 26°22.98' | 3.6496' | 59.8904' | 194°00.39' | **23** |
| **24** | 180°17.79' | 15.0021° | 28°45.06' | N 11°46.73' | 0.8510' | 301°38.72' | 14.3703° | 267°24.13' | S 26°26.45' | 3.4608' | 59.8805' | 209°02.85' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 15.9208' | hp (π) 0.1459' | ½Ø 16.3436' | 82.1562652298935 5% -gib | |
| | EoT at 12:00 UTC : +1m 5s (δ 0.52 s/h) | | Phase at 12:00 UTC : 230.04° | | |
| | Meridian Pass. Time : 11:58:55.028 | | Age : 17.9 day(s) | | |

| UT | Venus ♀ (π 0.16') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 220°57.25' | 347°06.46' | S 6°15.27' | 231°56.64' | 336°07.07' | S 11°28.94' | 211°39.49' | 356°24.22' | S 2°41.70' | 241°48.99' | 326°14.72' | S 14°35.63' | **00** |
| **01** | 235°57.06' | 347°09.11' | S 6°14.35' | 246°57.30' | 336°08.87' | S 11°28.28' | 226°41.45' | 356°24.73' | S 2°41.48' | 256°51.28' | 326°14.90' | S 14°35.58' | **01** |
| **02** | 250°56.88' | 347°11.76' | S 6°13.42' | 261°57.96' | 336°10.68' | S 11°27.62' | 241°43.40' | 356°25.24' | S 2°41.27' | 271°53.57' | 326°15.07' | S 14°35.53' | **02** |
| **03** | 265°56.70' | 347°14.41' | S 6°12.49' | 276°58.62' | 336°12.49' | S 11°26.95' | 256°45.36' | 356°25.74' | S 2°41.06' | 286°55.86' | 326°15.24' | S 14°35.47' | **03** |
| **04** | 280°56.51' | 347°17.05' | S 6°11.57' | 291°59.28' | 336°14.29' | S 11°26.29' | 271°47.32' | 356°26.25' | S 2°40.84' | 301°58.15' | 326°15.41' | S 14°35.42' | **04** |
| **05** | 295°56.33' | 347°19.70' | S 6°10.64' | 306°59.93' | 336°16.10' | S 11°25.63' | 286°49.27' | 356°26.76' | S 2°40.63' | 317°00.45' | 326°15.59' | S 14°35.37' | **05** |
| **06** | 310°56.15' | 347°22.35' | S 6°09.71' | 322°00.59' | 336°17.90' | S 11°24.96' | 301°51.23' | 356°27.27' | S 2°40.42' | 332°02.74' | 326°15.76' | S 14°35.32' | **06** |
| **07** | 325°55.96' | 347°25.00' | S 6°08.78' | 337°01.25' | 336°19.71' | S 11°24.30' | 316°53.19' | 356°27.77' | S 2°40.20' | 347°05.03' | 326°15.93' | S 14°35.27' | **07** |
| **08** | 340°55.78' | 347°27.64' | S 6°07.85' | 352°01.91' | 336°21.51' | S 11°23.63' | 331°55.14' | 356°28.28' | S 2°39.99' | 2°07.32' | 326°16.10' | S 14°35.22' | **08** |
| **09** | 355°55.60' | 347°30.29' | S 6°06.92' | 7°02.57' | 336°23.32' | S 11°22.97' | 346°57.10' | 356°28.79' | S 2°39.78' | 17°09.61' | 326°16.27' | S 14°35.17' | **09** |
| **10** | 10°55.41' | 347°32.94' | S 6°05.99' | 22°03.23' | 336°25.12' | S 11°22.30' | 1°59.06' | 356°29.29' | S 2°39.57' | 32°11.91' | 326°16.44' | S 14°35.11' | **10** |
| **11** | 25°55.23' | 347°35.59' | S 6°05.06' | 37°03.89' | 336°26.93' | S 11°21.64' | 17°01.02' | 356°29.80' | S 2°39.35' | 47°14.20' | 326°16.62' | S 14°35.06' | **11** |
| **12** | 40°55.05' | 347°38.23' | S 6°04.13' | 52°04.55' | 336°28.73' | S 11°20.97' | 32°02.97' | 356°30.31' | S 2°39.14' | 62°16.49' | 326°16.79' | S 14°35.01' | **12** |
| **13** | 55°54.86' | 347°40.88' | S 6°03.20' | 67°05.21' | 336°30.54' | S 11°20.30' | 47°04.93' | 356°30.81' | S 2°38.93' | 77°18.79' | 326°16.96' | S 14°34.96' | **13** |
| **14** | 70°54.68' | 347°43.53' | S 6°02.27' | 82°05.87' | 336°32.34' | S 11°19.64' | 62°06.89' | 356°31.32' | S 2°38.71' | 92°21.08' | 326°17.13' | S 14°34.91' | **14** |
| **15** | 85°54.50' | 347°46.18' | S 6°01.33' | 97°06.53' | 336°34.14' | S 11°18.97' | 77°08.85' | 356°31.83' | S 2°38.50' | 107°23.37' | 326°17.30' | S 14°34.86' | **15** |
| **16** | 100°54.31' | 347°48.82' | S 6°00.40' | 112°07.19' | 336°35.95' | S 11°18.31' | 92°10.80' | 356°32.33' | S 2°38.29' | 122°25.67' | 326°17.47' | S 14°34.81' | **16** |
| **17** | 115°54.13' | 347°51.47' | S 5°59.47' | 127°07.85' | 336°37.75' | S 11°17.64' | 107°12.76' | 356°32.84' | S 2°38.08' | 137°27.96' | 326°17.64' | S 14°34.76' | **17** |
| **18** | 130°53.95' | 347°54.12' | S 5°58.53' | 142°08.51' | 336°39.56' | S 11°16.97' | 122°14.72' | 356°33.35' | S 2°37.86' | 152°30.25' | 326°17.81' | S 14°34.71' | **18** |
| **19** | 145°53.76' | 347°56.77' | S 5°57.60' | 157°09.17' | 336°41.36' | S 11°16.31' | 137°16.68' | 356°33.85' | S 2°37.65' | 167°32.55' | 326°17.98' | S 14°34.65' | **19** |
| **20** | 160°53.58' | 347°59.41' | S 5°56.66' | 172°09.83' | 336°43.16' | S 11°15.64' | 152°18.64' | 356°34.36' | S 2°37.44' | 182°34.84' | 326°18.15' | S 14°34.60' | **20** |
| **21** | 175°53.40' | 348°02.06' | S 5°55.73' | 187°10.49' | 336°44.97' | S 11°14.97' | 167°20.59' | 356°34.86' | S 2°37.22' | 197°37.13' | 326°18.32' | S 14°34.55' | **21** |
| **22** | 190°53.21' | 348°04.71' | S 5°54.79' | 202°11.15' | 336°46.77' | S 11°14.31' | 182°22.55' | 356°35.37' | S 2°37.01' | 212°39.43' | 326°18.49' | S 14°34.50' | **22** |
| **23** | 205°53.03' | 348°07.36' | S 5°53.86' | 217°11.81' | 336°48.57' | S 11°13.64' | 197°24.51' | 356°35.88' | S 2°36.80' | 227°41.72' | 326°18.66' | S 14°34.45' | **23** |
| **24** | 220°52.84' | 348°10.01' | S 5°52.92' | 232°12.48' | 336°50.38' | S 11°12.97' | 212°26.47' | 356°36.38' | S 2°36.59' | 242°44.02' | 326°18.83' | S 14°34.40' | **24** |
| | δ 14.9969° | | *d* 0.9263' | δ 15.0110° | | *d* 0.6636' | δ 15.0326° | | *d* 0.2134' | δ 15.0382° | | *d* 0.0516' | |

## *Thursday, April 21st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°17.79' | 15.0021° | 28°45.06' | N 11°46.73' | 0.8510' | 301°38.72' | 14.3703° | 267°24.13' | S 26°26.45' | 3.4608' | 59.8805' | 209°02.85' | **00** |
| **01** | 195°17.92' | 15.0021° | 28°47.39' | N 11°47.58' | 0.8507' | 316°00.92' | 14.3699° | 268°04.40' | S 26°29.72' | 3.2716' | 59.8704' | 224°05.31' | **01** |
| **02** | 210°18.05' | 15.0021° | 28°49.73' | N 11°48.43' | 0.8503' | 330°23.09' | 14.3696° | 268°44.69' | S 26°32.80' | 3.0820' | 59.8601' | 239°07.78' | **02** |
| **03** | 225°18.18' | 15.0021° | 28°52.07' | N 11°49.28' | 0.8500' | 344°45.25' | 14.3692° | 269°25.00' | S 26°35.69' | 2.8920' | 59.8495' | 254°10.24' | **03** |
| **04** | 240°18.30' | 15.0021° | 28°54.40' | N 11°50.13' | 0.8497' | 359°07.39' | 14.3690° | 270°05.32' | S 26°38.39' | 2.7016' | 59.8386' | 269°12.71' | **04** |
| **05** | 255°18.43' | 15.0021° | 28°56.74' | N 11°50.98' | 0.8493' | 13°29.51' | 14.3688° | 270°45.66' | S 26°40.90' | 2.5110' | 59.8275' | 284°15.17' | **05** |
| **06** | 270°18.56' | 15.0021° | 28°59.08' | N 11°51.83' | 0.8490' | 27°51.63' | 14.3686° | 271°26.01' | S 26°43.22' | 2.3200' | 59.8162' | 299°17.64' | **06** |
| **07** | 285°18.68' | 15.0021° | 29°01.42' | N 11°52.68' | 0.8487' | 42°13.73' | 14.3684° | 272°06.37' | S 26°45.35' | 2.1289' | 59.8046' | 314°20.10' | **07** |
| **08** | 300°18.81' | 15.0021° | 29°03.75' | N 11°53.52' | 0.8483' | 56°35.83' | 14.3683° | 272°46.73' | S 26°47.29' | 1.9376' | 59.7928' | 329°22.56' | **08** |
| **09** | 315°18.94' | 15.0021° | 29°06.09' | N 11°54.37' | 0.8480' | 70°57.93' | 14.3683° | 273°27.10' | S 26°49.04' | 1.7462' | 59.7808' | 344°25.03' | **09** |
| **10** | 330°19.06' | 15.0021° | 29°08.43' | N 11°55.22' | 0.8477' | 85°20.03' | 14.3683° | 274°07.46' | S 26°50.59' | 1.5547' | 59.7685' | 359°27.49' | **10** |
| **11** | 345°19.19' | 15.0021° | 29°10.77' | N 11°56.07' | 0.8473' | 99°42.13' | 14.3683° | 274°47.83' | S 26°51.95' | 1.3631' | 59.7560' | 14°29.96' | **11** |
| **12** | 0°19.32' | 15.0021° | 29°13.11' | N 11°56.91' | 0.8470' | 114°04.23' | 14.3684° | 275°28.19' | S 26°53.13' | 1.1715' | 59.7433' | 29°32.42' | **12** |
| **13** | 15°19.44' | 15.0021° | 29°15.44' | N 11°57.76' | 0.8466' | 128°26.34' | 14.3685° | 276°08.55' | S 26°54.11' | 0.9800' | 59.7303' | 44°34.89' | **13** |
| **14** | 30°19.57' | 15.0021° | 29°17.78' | N 11°58.61' | 0.8463' | 142°48.46' | 14.3687° | 276°48.89' | S 26°54.89' | 0.7886' | 59.7172' | 59°37.35' | **14** |
| **15** | 45°19.69' | 15.0021° | 29°20.12' | N 11°59.45' | 0.8460' | 157°10.59' | 14.3689° | 277°29.22' | S 26°55.49' | 0.5973' | 59.7038' | 74°39.81' | **15** |
| **16** | 60°19.82' | 15.0021° | 29°22.46' | N 12°00.30' | 0.8456' | 171°32.74' | 14.3691° | 278°09.54' | S 26°55.90' | 0.4061' | 59.6902' | 89°42.28' | **16** |
| **17** | 75°19.94' | 15.0021° | 29°24.80' | N 12°01.14' | 0.8453' | 185°54.90' | 14.3694° | 278°49.84' | S 26°56.11' | 0.2152' | 59.6764' | 104°44.74' | **17** |
| **18** | 90°20.07' | 15.0021° | 29°27.14' | N 12°01.99' | 0.8450' | 200°17.08' | 14.3697° | 279°30.13' | S 26°56.14' | 0.0245' | 59.6624' | 119°47.21' | **18** |
| **19** | 105°20.19' | 15.0021° | 29°29.48' | N 12°02.83' | 0.8446' | 214°39.28' | 14.3701° | 280°10.39' | S 26°55.97' | 0.1659' | 59.6483' | 134°49.67' | **19** |
| **20** | 120°20.31' | 15.0021° | 29°31.82' | N 12°03.68' | 0.8443' | 229°01.51' | 14.3705° | 280°50.62' | S 26°55.62' | 0.3559' | 59.6339' | 149°52.13' | **20** |
| **21** | 135°20.44' | 15.0021° | 29°34.16' | N 12°04.52' | 0.8439' | 243°23.77' | 14.3709° | 281°30.83' | S 26°55.07' | 0.5456' | 59.6193' | 164°54.60' | **21** |
| **22** | 150°20.56' | 15.0021° | 29°36.50' | N 12°05.37' | 0.8436' | 257°46.05' | 14.3714° | 282°11.01' | S 26°54.34' | 0.7349' | 59.6045' | 179°57.06' | **22** |
| **23** | 165°20.69' | 15.0021° | 29°38.84' | N 12°06.21' | 0.8432' | 272°08.37' | 14.3719° | 282°51.16' | S 26°53.41' | 0.9237' | 59.5896' | 194°59.53' | **23** |
| **24** | 180°20.81' | 15.0021° | 29°41.18' | N 12°07.05' | 0.8429' | 286°30.72' | 14.3725° | 283°31.27' | S 26°52.30' | 1.1121' | 59.5744' | 210°01.99' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9163' | hp (π) 0.1459' | ½Ø 16.2789' | 72.3494558427822 9% -gib |
| | EoT at 12:00 UTC : +1m 17s (δ 0.50 s/h) | | Phase at 12:00 UTC : 243.52° | |
| | Meridian Pass. Time : 11:58:42.737 | | Age : 18.9 day(s) | |

| UT | Venus ♀ (π 0.16') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 220°52.84' | 348°10.01' | S 5°52.92' | 232°12.48' | 336°50.38' | S 11°12.97' | 212°26.47' | 356°36.38' | S 2°36.59' | 242°44.02' | 326°18.83' | S 14°34.40' | **00** |
| **01** | 235°52.66' | 348°12.65' | S 5°51.98' | 247°13.14' | 336°52.18' | S 11°12.30' | 227°28.43' | 356°36.89' | S 2°36.37' | 257°46.31' | 326°19.00' | S 14°34.35' | **01** |
| **02** | 250°52.48' | 348°15.30' | S 5°51.05' | 262°13.80' | 336°53.98' | S 11°11.64' | 242°30.39' | 356°37.39' | S 2°36.16' | 272°48.61' | 326°19.17' | S 14°34.30' | **02** |
| **03** | 265°52.29' | 348°17.95' | S 5°50.11' | 277°14.46' | 336°55.78' | S 11°10.97' | 257°32.35' | 356°37.90' | S 2°35.95' | 287°50.90' | 326°19.34' | S 14°34.25' | **03** |
| **04** | 280°52.11' | 348°20.60' | S 5°49.17' | 292°15.12' | 336°57.59' | S 11°10.30' | 272°34.31' | 356°38.40' | S 2°35.74' | 302°53.20' | 326°19.51' | S 14°34.20' | **04** |
| **05** | 295°51.93' | 348°23.25' | S 5°48.23' | 307°15.78' | 336°59.39' | S 11°09.63' | 287°36.26' | 356°38.91' | S 2°35.53' | 317°55.49' | 326°19.68' | S 14°34.15' | **05** |
| **06** | 310°51.74' | 348°25.89' | S 5°47.29' | 322°16.45' | 337°01.19' | S 11°08.96' | 302°38.22' | 356°39.41' | S 2°35.31' | 332°57.79' | 326°19.85' | S 14°34.10' | **06** |
| **07** | 325°51.56' | 348°28.54' | S 5°46.35' | 337°17.11' | 337°02.99' | S 11°08.29' | 317°40.18' | 356°39.92' | S 2°35.10' | 348°00.08' | 326°20.02' | S 14°34.05' | **07** |
| **08** | 340°51.37' | 348°31.19' | S 5°45.41' | 352°17.77' | 337°04.79' | S 11°07.63' | 332°42.14' | 356°40.42' | S 2°34.89' | 3°02.38' | 326°20.19' | S 14°34.00' | **08** |
| **09** | 355°51.19' | 348°33.84' | S 5°44.47' | 7°18.43' | 337°06.60' | S 11°06.96' | 347°44.10' | 356°40.93' | S 2°34.68' | 18°04.67' | 326°20.36' | S 14°33.95' | **09** |
| **10** | 10°51.01' | 348°36.49' | S 5°43.53' | 22°19.10' | 337°08.40' | S 11°06.29' | 2°46.06' | 356°41.43' | S 2°34.46' | 33°06.97' | 326°20.52' | S 14°33.90' | **10** |
| **11** | 25°50.82' | 348°39.13' | S 5°42.59' | 37°19.76' | 337°10.20' | S 11°05.62' | 17°48.02' | 356°41.94' | S 2°34.25' | 48°09.26' | 326°20.69' | S 14°33.85' | **11** |
| **12** | 40°50.64' | 348°41.78' | S 5°41.65' | 52°20.42' | 337°12.00' | S 11°04.95' | 32°49.98' | 356°42.44' | S 2°34.04' | 63°11.56' | 326°20.86' | S 14°33.80' | **12** |
| **13** | 55°50.45' | 348°44.43' | S 5°40.71' | 67°21.08' | 337°13.80' | S 11°04.28' | 47°51.94' | 356°42.94' | S 2°33.83' | 78°13.86' | 326°21.03' | S 14°33.75' | **13** |
| **14** | 70°50.27' | 348°47.08' | S 5°39.76' | 82°21.75' | 337°15.60' | S 11°03.61' | 62°53.90' | 356°43.45' | S 2°33.62' | 93°16.15' | 326°21.20' | S 14°33.70' | **14** |
| **15** | 85°50.09' | 348°49.73' | S 5°38.82' | 97°22.41' | 337°17.40' | S 11°02.94' | 77°55.86' | 356°43.95' | S 2°33.41' | 108°18.45' | 326°21.36' | S 14°33.65' | **15** |
| **16** | 100°49.90' | 348°52.38' | S 5°37.88' | 112°23.07' | 337°19.20' | S 11°02.27' | 92°57.82' | 356°44.46' | S 2°33.19' | 123°20.75' | 326°21.53' | S 14°33.60' | **16** |
| **17** | 115°49.72' | 348°55.02' | S 5°36.93' | 127°23.74' | 337°21.00' | S 11°01.60' | 107°59.78' | 356°44.96' | S 2°32.98' | 138°23.04' | 326°21.70' | S 14°33.55' | **17** |
| **18** | 130°49.53' | 348°57.67' | S 5°35.99' | 142°24.40' | 337°22.81' | S 11°00.93' | 123°01.74' | 356°45.47' | S 2°32.77' | 153°25.34' | 326°21.87' | S 14°33.50' | **18** |
| **19** | 145°49.35' | 349°00.32' | S 5°35.04' | 157°25.06' | 337°24.61' | S 11°00.26' | 138°03.70' | 356°45.97' | S 2°32.56' | 168°27.64' | 326°22.03' | S 14°33.45' | **19** |
| **20** | 160°49.17' | 349°02.97' | S 5°34.10' | 172°25.73' | 337°26.41' | S 10°59.59' | 153°05.66' | 356°46.47' | S 2°32.35' | 183°29.93' | 326°22.20' | S 14°33.40' | **20** |
| **21** | 175°48.98' | 349°05.62' | S 5°33.15' | 187°26.39' | 337°28.21' | S 10°58.92' | 168°07.62' | 356°46.98' | S 2°32.13' | 198°32.23' | 326°22.37' | S 14°33.35' | **21** |
| **22** | 190°48.80' | 349°08.26' | S 5°32.21' | 202°27.06' | 337°30.01' | S 10°58.25' | 183°09.58' | 356°47.48' | S 2°31.92' | 213°34.53' | 326°22.54' | S 14°33.30' | **22** |
| **23** | 205°48.61' | 349°10.91' | S 5°31.26' | 217°27.72' | 337°31.81' | S 10°57.57' | 198°11.54' | 356°47.98' | S 2°31.71' | 228°36.83' | 326°22.70' | S 14°33.25' | **23** |
| **24** | 220°48.43' | 349°13.56' | S 5°30.31' | 232°28.39' | 337°33.61' | S 10°56.90' | 213°13.50' | 356°48.49' | S 2°31.50' | 243°39.12' | 326°22.87' | S 14°33.20' | **24** |
| | δ 14.9969° | | *d* 0.9369' | δ 15.0110° | | *d* 0.6676' | δ 15.0326° | | *d* 0.2124' | δ 15.0382° | | *d* 0.0506' | |

## *Friday, April 22nd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°20.81' | 15.0021° | 29°41.18' | N 12°07.05' | 0.8429' | 286°30.72' | 14.3725° | 283°31.27' | S 26°52.30' | 1.1121' | 59.5744' | 210°01.99' | **00** |
| **01** | 195°20.93' | 15.0021° | 29°43.52' | N 12°07.89' | 0.8426' | 300°53.11' | 14.3731° | 284°11.35' | S 26°51.00' | 1.2999' | 59.5591' | 225°04.46' | **01** |
| **02** | 210°21.06' | 15.0020° | 29°45.86' | N 12°08.74' | 0.8422' | 315°15.54' | 14.3738° | 284°51.38' | S 26°49.51' | 1.4871' | 59.5436' | 240°06.92' | **02** |
| **03** | 225°21.18' | 15.0020° | 29°48.21' | N 12°09.58' | 0.8419' | 329°38.00' | 14.3745° | 285°31.38' | S 26°47.84' | 1.6737' | 59.5280' | 255°09.38' | **03** |
| **04** | 240°21.30' | 15.0020° | 29°50.55' | N 12°10.42' | 0.8415' | 344°00.51' | 14.3752° | 286°11.33' | S 26°45.98' | 1.8597' | 59.5121' | 270°11.85' | **04** |
| **05** | 255°21.42' | 15.0020° | 29°52.89' | N 12°11.26' | 0.8412' | 358°23.07' | 14.3760° | 286°51.24' | S 26°43.93' | 2.0450' | 59.4961' | 285°14.31' | **05** |
| **06** | 270°21.55' | 15.0020° | 29°55.23' | N 12°12.10' | 0.8408' | 12°45.68' | 14.3768° | 287°31.10' | S 26°41.70' | 2.2296' | 59.4799' | 300°16.78' | **06** |
| **07** | 285°21.67' | 15.0020° | 29°57.57' | N 12°12.94' | 0.8405' | 27°08.33' | 14.3776° | 288°10.91' | S 26°39.29' | 2.4134' | 59.4636' | 315°19.24' | **07** |
| **08** | 300°21.79' | 15.0020° | 29°59.92' | N 12°13.78' | 0.8402' | 41°31.04' | 14.3785° | 288°50.66' | S 26°36.69' | 2.5964' | 59.4471' | 330°21.71' | **08** |
| **09** | 315°21.91' | 15.0020° | 30°02.26' | N 12°14.62' | 0.8398' | 55°53.80' | 14.3794° | 289°30.36' | S 26°33.92' | 2.7786' | 59.4305' | 345°24.17' | **09** |
| **10** | 330°22.03' | 15.0020° | 30°04.60' | N 12°15.46' | 0.8395' | 70°16.62' | 14.3803° | 290°10.01' | S 26°30.96' | 2.9600' | 59.4137' | 0°26.63' | **10** |
| **11** | 345°22.15' | 15.0020° | 30°06.94' | N 12°16.30' | 0.8391' | 84°39.50' | 14.3813° | 290°49.59' | S 26°27.82' | 3.1405' | 59.3967' | 15°29.10' | **11** |
| **12** | 0°22.27' | 15.0020° | 30°09.29' | N 12°17.14' | 0.8388' | 99°02.44' | 14.3823° | 291°29.12' | S 26°24.50' | 3.3200' | 59.3796' | 30°31.56' | **12** |
| **13** | 15°22.40' | 15.0020° | 30°11.63' | N 12°17.98' | 0.8384' | 113°25.45' | 14.3834° | 292°08.58' | S 26°21.00' | 3.4986' | 59.3624' | 45°34.03' | **13** |
| **14** | 30°22.52' | 15.0020° | 30°13.97' | N 12°18.82' | 0.8381' | 127°48.51' | 14.3845° | 292°47.98' | S 26°17.32' | 3.6762' | 59.3450' | 60°36.49' | **14** |
| **15** | 45°22.64' | 15.0020° | 30°16.32' | N 12°19.65' | 0.8377' | 142°11.65' | 14.3856° | 293°27.31' | S 26°13.47' | 3.8528' | 59.3275' | 75°38.95' | **15** |
| **16** | 60°22.76' | 15.0020° | 30°18.66' | N 12°20.49' | 0.8374' | 156°34.85' | 14.3867° | 294°06.57' | S 26°09.44' | 4.0284' | 59.3098' | 90°41.42' | **16** |
| **17** | 75°22.88' | 15.0020° | 30°21.01' | N 12°21.33' | 0.8370' | 170°58.13' | 14.3879° | 294°45.76' | S 26°05.24' | 4.2029' | 59.2921' | 105°43.88' | **17** |
| **18** | 90°23.00' | 15.0020° | 30°23.35' | N 12°22.17' | 0.8367' | 185°21.47' | 14.3891° | 295°24.87' | S 26°00.86' | 4.3763' | 59.2741' | 120°46.35' | **18** |
| **19** | 105°23.12' | 15.0020° | 30°25.70' | N 12°23.00' | 0.8363' | 199°44.89' | 14.3903° | 296°03.92' | S 25°56.31' | 4.5485' | 59.2561' | 135°48.81' | **19** |
| **20** | 120°23.23' | 15.0020° | 30°28.04' | N 12°23.84' | 0.8360' | 214°08.39' | 14.3916° | 296°42.89' | S 25°51.59' | 4.7196' | 59.2380' | 150°51.28' | **20** |
| **21** | 135°23.35' | 15.0020° | 30°30.39' | N 12°24.67' | 0.8356' | 228°31.96' | 14.3929° | 297°21.78' | S 25°46.70' | 4.8896' | 59.2197' | 165°53.74' | **21** |
| **22** | 150°23.47' | 15.0020° | 30°32.73' | N 12°25.51' | 0.8353' | 242°55.62' | 14.3942° | 298°00.59' | S 25°41.64' | 5.0583' | 59.2013' | 180°56.20' | **22** |
| **23** | 165°23.59' | 15.0020° | 30°35.08' | N 12°26.34' | 0.8349' | 257°19.35' | 14.3956° | 298°39.32' | S 25°36.42' | 5.2258' | 59.1828' | 195°58.67' | **23** |
| **24** | 180°23.71' | 15.0020° | 30°37.42' | N 12°27.18' | 0.8346' | 271°43.17' | 14.3969° | 299°17.96' | S 25°31.03' | 5.3920' | 59.1642' | 211°01.13' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9119' | hp (π) 0.1458' | ½Ø 16.1798' | 61.4440224793326<br>2% -gib |
| | EoT at 12:00 UTC : +1m 29s (δ 0.48 s/h) | | Phase at 12:00 UTC : 256.87° | |
| | Meridian Pass. Time : 11:58:30.902 | | Age : 20.0 day(s) | |

| UT | Venus ♀ (π 0.16') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 220°48.43' | 349°13.56' | S 5°30.31' | 232°28.39' | 337°33.61' | S 10°56.90' | 213°13.50' | 356°48.49' | S 2°31.50' | 243°39.12' | 326°22.87' | S 14°33.20' | **00** |
| **01** | 235°48.25' | 349°16.21' | S 5°29.37' | 247°29.05' | 337°35.41' | S 10°56.23' | 228°15.47' | 356°48.99' | S 2°31.29' | 258°41.42' | 326°23.03' | S 14°33.15' | **01** |
| **02** | 250°48.06' | 349°18.86' | S 5°28.42' | 262°29.72' | 337°37.20' | S 10°55.56' | 243°17.43' | 356°49.49' | S 2°31.08' | 273°43.72' | 326°23.20' | S 14°33.10' | **02** |
| **03** | 265°47.88' | 349°21.51' | S 5°27.47' | 277°30.38' | 337°39.00' | S 10°54.89' | 258°19.39' | 356°50.00' | S 2°30.87' | 288°46.02' | 326°23.37' | S 14°33.05' | **03** |
| **04** | 280°47.69' | 349°24.16' | S 5°26.52' | 292°31.04' | 337°40.80' | S 10°54.22' | 273°21.35' | 356°50.50' | S 2°30.65' | 303°48.31' | 326°23.53' | S 14°33.00' | **04** |
| **05** | 295°47.51' | 349°26.80' | S 5°25.57' | 307°31.71' | 337°42.60' | S 10°53.54' | 288°23.31' | 356°51.00' | S 2°30.44' | 318°50.61' | 326°23.70' | S 14°32.95' | **05** |
| **06** | 310°47.32' | 349°29.45' | S 5°24.63' | 322°32.38' | 337°44.40' | S 10°52.87' | 303°25.27' | 356°51.50' | S 2°30.23' | 333°52.91' | 326°23.87' | S 14°32.90' | **06** |
| **07** | 325°47.14' | 349°32.10' | S 5°23.68' | 337°33.04' | 337°46.20' | S 10°52.20' | 318°27.23' | 356°52.01' | S 2°30.02' | 348°55.21' | 326°24.03' | S 14°32.86' | **07** |
| **08** | 340°46.95' | 349°34.75' | S 5°22.73' | 352°33.71' | 337°48.00' | S 10°51.53' | 333°29.20' | 356°52.51' | S 2°29.81' | 3°57.51' | 326°24.20' | S 14°32.81' | **08** |
| **09** | 355°46.77' | 349°37.40' | S 5°21.78' | 7°34.37' | 337°49.80' | S 10°50.85' | 348°31.16' | 356°53.01' | S 2°29.60' | 18°59.81' | 326°24.36' | S 14°32.76' | **09** |
| **10** | 10°46.59' | 349°40.05' | S 5°20.82' | 22°35.04' | 337°51.60' | S 10°50.18' | 3°33.12' | 356°53.51' | S 2°29.39' | 34°02.11' | 326°24.53' | S 14°32.71' | **10** |
| **11** | 25°46.40' | 349°42.70' | S 5°19.87' | 37°35.70' | 337°53.39' | S 10°49.51' | 18°35.08' | 356°54.02' | S 2°29.18' | 49°04.41' | 326°24.69' | S 14°32.66' | **11** |
| **12** | 40°46.22' | 349°45.34' | S 5°18.92' | 52°36.37' | 337°55.19' | S 10°48.83' | 33°37.04' | 356°54.52' | S 2°28.97' | 64°06.70' | 326°24.86' | S 14°32.61' | **12** |
| **13** | 55°46.03' | 349°47.99' | S 5°17.97' | 67°37.04' | 337°56.99' | S 10°48.16' | 48°39.00' | 356°55.02' | S 2°28.76' | 79°09.00' | 326°25.02' | S 14°32.56' | **13** |
| **14** | 70°45.85' | 349°50.64' | S 5°17.02' | 82°37.70' | 337°58.79' | S 10°47.49' | 63°40.97' | 356°55.52' | S 2°28.54' | 94°11.30' | 326°25.19' | S 14°32.51' | **14** |
| **15** | 85°45.66' | 349°53.29' | S 5°16.06' | 97°38.37' | 338°00.59' | S 10°46.81' | 78°42.93' | 356°56.02' | S 2°28.33' | 109°13.60' | 326°25.35' | S 14°32.46' | **15** |
| **16** | 100°45.48' | 349°55.94' | S 5°15.11' | 112°39.04' | 338°02.38' | S 10°46.14' | 93°44.89' | 356°56.53' | S 2°28.12' | 124°15.90' | 326°25.52' | S 14°32.41' | **16** |
| **17** | 115°45.29' | 349°58.59' | S 5°14.16' | 127°39.70' | 338°04.18' | S 10°45.47' | 108°46.85' | 356°57.03' | S 2°27.91' | 139°18.20' | 326°25.68' | S 14°32.37' | **17** |
| **18** | 130°45.11' | 350°01.24' | S 5°13.20' | 142°40.37' | 338°05.98' | S 10°44.79' | 123°48.82' | 356°57.53' | S 2°27.70' | 154°20.50' | 326°25.84' | S 14°32.32' | **18** |
| **19** | 145°44.92' | 350°03.89' | S 5°12.25' | 157°41.04' | 338°07.78' | S 10°44.12' | 138°50.78' | 356°58.03' | S 2°27.49' | 169°22.80' | 326°26.01' | S 14°32.27' | **19** |
| **20** | 160°44.74' | 350°06.54' | S 5°11.29' | 172°41.70' | 338°09.57' | S 10°43.44' | 153°52.74' | 356°58.53' | S 2°27.28' | 184°25.10' | 326°26.17' | S 14°32.22' | **20** |
| **21** | 175°44.55' | 350°09.18' | S 5°10.34' | 187°42.37' | 338°11.37' | S 10°42.77' | 168°54.71' | 356°59.03' | S 2°27.07' | 199°27.40' | 326°26.34' | S 14°32.17' | **21** |
| **22** | 190°44.37' | 350°11.83' | S 5°09.38' | 202°43.04' | 338°13.17' | S 10°42.09' | 183°56.67' | 356°59.54' | S 2°26.86' | 214°29.70' | 326°26.50' | S 14°32.12' | **22** |
| **23** | 205°44.19' | 350°14.48' | S 5°08.43' | 217°43.70' | 338°14.96' | S 10°41.42' | 198°58.63' | 357°00.04' | S 2°26.65' | 229°32.01' | 326°26.66' | S 14°32.07' | **23** |
| **24** | 220°44.00' | 350°17.13' | S 5°07.47' | 232°44.37' | 338°16.76' | S 10°40.74' | 214°00.59' | 357°00.54' | S 2°26.44' | 244°34.31' | 326°26.83' | S 14°32.03' | **24** |
| | δ 14.9969° | | *d* 0.9471' | δ 15.0111° | | *d* 0.6715' | δ 15.0327° | | *d* 0.2114' | δ 15.0383° | | *d* 0.0495' | |

## *Saturday, April 23rd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°23.71' | 15.0020° | 30°37.42' | N 12°27.18' | 0.8346' | 271°43.17' | 14.3969° | 299°17.96' | S 25°31.03' | 5.3920' | 59.1642' | 211°01.13' | **00** |
| **01** | 195°23.83' | 15.0020° | 30°39.77' | N 12°28.01' | 0.8342' | 286°07.07' | 14.3983° | 299°56.53' | S 25°25.47' | 5.5570' | 59.1454' | 226°03.60' | **01** |
| **02** | 210°23.95' | 15.0020° | 30°42.11' | N 12°28.85' | 0.8339' | 300°31.05' | 14.3997° | 300°35.01' | S 25°19.75' | 5.7207' | 59.1266' | 241°06.06' | **02** |
| **03** | 225°24.06' | 15.0020° | 30°44.46' | N 12°29.68' | 0.8335' | 314°55.12' | 14.4012° | 301°13.40' | S 25°13.87' | 5.8831' | 59.1076' | 256°08.52' | **03** |
| **04** | 240°24.18' | 15.0020° | 30°46.81' | N 12°30.51' | 0.8332' | 329°19.28' | 14.4027° | 301°51.71' | S 25°07.82' | 6.0441' | 59.0886' | 271°10.99' | **04** |
| **05** | 255°24.30' | 15.0020° | 30°49.15' | N 12°31.35' | 0.8328' | 343°43.53' | 14.4041° | 302°29.92' | S 25°01.62' | 6.2038' | 59.0695' | 286°13.45' | **05** |
| **06** | 270°24.42' | 15.0020° | 30°51.50' | N 12°32.18' | 0.8325' | 358°07.87' | 14.4056° | 303°08.05' | S 24°55.26' | 6.3621' | 59.0502' | 301°15.92' | **06** |
| **07** | 285°24.53' | 15.0020° | 30°53.85' | N 12°33.01' | 0.8321' | 12°32.30' | 14.4072° | 303°46.08' | S 24°48.74' | 6.5190' | 59.0309' | 316°18.38' | **07** |
| **08** | 300°24.65' | 15.0019° | 30°56.20' | N 12°33.84' | 0.8317' | 26°56.82' | 14.4087° | 304°24.02' | S 24°42.06' | 6.6745' | 59.0115' | 331°20.85' | **08** |
| **09** | 315°24.77' | 15.0019° | 30°58.54' | N 12°34.67' | 0.8314' | 41°21.44' | 14.4103° | 305°01.87' | S 24°35.23' | 6.8286' | 58.9920' | 346°23.31' | **09** |
| **10** | 330°24.88' | 15.0019° | 31°00.89' | N 12°35.50' | 0.8310' | 55°46.15' | 14.4119° | 305°39.62' | S 24°28.25' | 6.9812' | 58.9724' | 1°25.77' | **10** |
| **11** | 345°25.00' | 15.0019° | 31°03.24' | N 12°36.34' | 0.8307' | 70°10.96' | 14.4134° | 306°17.28' | S 24°21.12' | 7.1324' | 58.9527' | 16°28.24' | **11** |
| **12** | 0°25.12' | 15.0019° | 31°05.59' | N 12°37.17' | 0.8303' | 84°35.86' | 14.4151° | 306°54.84' | S 24°13.84' | 7.2822' | 58.9329' | 31°30.70' | **12** |
| **13** | 15°25.23' | 15.0019° | 31°07.94' | N 12°38.00' | 0.8300' | 99°00.86' | 14.4167° | 307°32.31' | S 24°06.41' | 7.4304' | 58.9131' | 46°33.17' | **13** |
| **14** | 30°25.35' | 15.0019° | 31°10.28' | N 12°38.83' | 0.8296' | 113°25.96' | 14.4183° | 308°09.67' | S 23°58.83' | 7.5772' | 58.8932' | 61°35.63' | **14** |
| **15** | 45°25.46' | 15.0019° | 31°12.63' | N 12°39.65' | 0.8293' | 127°51.16' | 14.4200° | 308°46.94' | S 23°51.11' | 7.7225' | 58.8732' | 76°38.09' | **15** |
| **16** | 60°25.58' | 15.0019° | 31°14.98' | N 12°40.48' | 0.8289' | 142°16.46' | 14.4216° | 309°24.10' | S 23°43.24' | 7.8662' | 58.8531' | 91°40.56' | **16** |
| **17** | 75°25.69' | 15.0019° | 31°17.33' | N 12°41.31' | 0.8285' | 156°41.85' | 14.4233° | 310°01.17' | S 23°35.23' | 8.0084' | 58.8330' | 106°43.02' | **17** |
| **18** | 90°25.81' | 15.0019° | 31°19.68' | N 12°42.14' | 0.8282' | 171°07.35' | 14.4250° | 310°38.13' | S 23°27.08' | 8.1491' | 58.8128' | 121°45.49' | **18** |
| **19** | 105°25.92' | 15.0019° | 31°22.03' | N 12°42.97' | 0.8278' | 185°32.95' | 14.4267° | 311°15.00' | S 23°18.80' | 8.2883' | 58.7925' | 136°47.95' | **19** |
| **20** | 120°26.04' | 15.0019° | 31°24.38' | N 12°43.80' | 0.8275' | 199°58.66' | 14.4284° | 311°51.76' | S 23°10.37' | 8.4259' | 58.7722' | 151°50.42' | **20** |
| **21** | 135°26.15' | 15.0019° | 31°26.73' | N 12°44.62' | 0.8271' | 214°24.46' | 14.4301° | 312°28.42' | S 23°01.81' | 8.5619' | 58.7518' | 166°52.88' | **21** |
| **22** | 150°26.26' | 15.0019° | 31°29.08' | N 12°45.45' | 0.8267' | 228°50.37' | 14.4318° | 313°04.97' | S 22°53.11' | 8.6964' | 58.7313' | 181°55.34' | **22** |
| **23** | 165°26.38' | 15.0019° | 31°31.43' | N 12°46.28' | 0.8264' | 243°16.39' | 14.4335° | 313°41.42' | S 22°44.28' | 8.8293' | 58.7108' | 196°57.81' | **23** |
| **24** | 180°26.49' | 15.0019° | 31°33.78' | N 12°47.10' | 0.8260' | 257°42.50' | 14.4353° | 314°17.77' | S 22°35.32' | 8.9606' | 58.6903' | 212°00.27' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9075' | hp (π) 0.1458' | ½Ø 16.0581' | 50.0943754163733 6% LQ |
| | EoT at 12:00 UTC : +1m 40s (δ 0.46 s/h) | | Phase at 12:00 UTC : 270.03° | |
| | Meridian Pass. Time : 11:58:19.539 | | Age : 21.0 day(s) | |

| UT | Venus ♀ (π 0.16') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 220°44.00' | 350°17.13' | S 5°07.47' | 232°44.37' | 338°16.76' | S 10°40.74' | 214°00.59' | 357°00.54' | S 2°26.44' | 244°34.31' | 326°26.83' | S 14°32.03' | **00** |
| **01** | 235°43.82' | 350°19.78' | S 5°06.51' | 247°45.04' | 338°18.56' | S 10°40.07' | 229°02.56' | 357°01.04' | S 2°26.23' | 259°36.61' | 326°26.99' | S 14°31.98' | **01** |
| **02** | 250°43.63' | 350°22.43' | S 5°05.56' | 262°45.71' | 338°20.35' | S 10°39.39' | 244°04.52' | 357°01.54' | S 2°26.02' | 274°38.91' | 326°27.15' | S 14°31.93' | **02** |
| **03** | 265°43.45' | 350°25.08' | S 5°04.60' | 277°46.38' | 338°22.15' | S 10°38.72' | 259°06.49' | 357°02.04' | S 2°25.81' | 289°41.21' | 326°27.32' | S 14°31.88' | **03** |
| **04** | 280°43.26' | 350°27.73' | S 5°03.64' | 292°47.04' | 338°23.94' | S 10°38.04' | 274°08.45' | 357°02.54' | S 2°25.60' | 304°43.51' | 326°27.48' | S 14°31.83' | **04** |
| **05** | 295°43.08' | 350°30.38' | S 5°02.68' | 307°47.71' | 338°25.74' | S 10°37.36' | 289°10.41' | 357°03.04' | S 2°25.39' | 319°45.81' | 326°27.64' | S 14°31.78' | **05** |
| **06** | 310°42.89' | 350°33.03' | S 5°01.72' | 322°48.38' | 338°27.54' | S 10°36.69' | 304°12.38' | 357°03.54' | S 2°25.18' | 334°48.11' | 326°27.80' | S 14°31.74' | **06** |
| **07** | 325°42.71' | 350°35.68' | S 5°00.76' | 337°49.05' | 338°29.33' | S 10°36.01' | 319°14.34' | 357°04.04' | S 2°24.97' | 349°50.42' | 326°27.97' | S 14°31.69' | **07** |
| **08** | 340°42.52' | 350°38.32' | S 4°59.80' | 352°49.72' | 338°31.13' | S 10°35.34' | 334°16.30' | 357°04.54' | S 2°24.76' | 4°52.72' | 326°28.13' | S 14°31.64' | **08** |
| **09** | 355°42.34' | 350°40.97' | S 4°58.84' | 7°50.39' | 338°32.92' | S 10°34.66' | 349°18.27' | 357°05.04' | S 2°24.55' | 19°55.02' | 326°28.29' | S 14°31.59' | **09** |
| **10** | 10°42.15' | 350°43.62' | S 4°57.88' | 22°51.06' | 338°34.72' | S 10°33.98' | 4°20.23' | 357°05.54' | S 2°24.34' | 34°57.32' | 326°28.45' | S 14°31.54' | **10** |
| **11** | 25°41.97' | 350°46.27' | S 4°56.92' | 37°51.72' | 338°36.51' | S 10°33.31' | 19°22.20' | 357°06.04' | S 2°24.13' | 49°59.62' | 326°28.61' | S 14°31.50' | **11** |
| **12** | 40°41.78' | 350°48.92' | S 4°55.96' | 52°52.39' | 338°38.31' | S 10°32.63' | 34°24.16' | 357°06.54' | S 2°23.92' | 65°01.93' | 326°28.78' | S 14°31.45' | **12** |
| **13** | 55°41.60' | 350°51.57' | S 4°55.00' | 67°53.06' | 338°40.10' | S 10°31.95' | 49°26.13' | 357°07.04' | S 2°23.71' | 80°04.23' | 326°28.94' | S 14°31.40' | **13** |
| **14** | 70°41.41' | 350°54.22' | S 4°54.04' | 82°53.73' | 338°41.90' | S 10°31.27' | 64°28.09' | 357°07.54' | S 2°23.50' | 95°06.53' | 326°29.10' | S 14°31.35' | **14** |
| **15** | 85°41.22' | 350°56.87' | S 4°53.07' | 97°54.40' | 338°43.69' | S 10°30.60' | 79°30.05' | 357°08.04' | S 2°23.29' | 110°08.84' | 326°29.26' | S 14°31.31' | **15** |
| **16** | 100°41.04' | 350°59.52' | S 4°52.11' | 112°55.07' | 338°45.49' | S 10°29.92' | 94°32.02' | 357°08.54' | S 2°23.08' | 125°11.14' | 326°29.42' | S 14°31.26' | **16** |
| **17** | 115°40.85' | 351°02.17' | S 4°51.15' | 127°55.74' | 338°47.28' | S 10°29.24' | 109°33.98' | 357°09.04' | S 2°22.87' | 140°13.44' | 326°29.58' | S 14°31.21' | **17** |
| **18** | 130°40.67' | 351°04.82' | S 4°50.19' | 142°56.41' | 338°49.08' | S 10°28.56' | 124°35.95' | 357°09.54' | S 2°22.66' | 155°15.74' | 326°29.74' | S 14°31.16' | **18** |
| **19** | 145°40.48' | 351°07.47' | S 4°49.22' | 157°57.08' | 338°50.87' | S 10°27.89' | 139°37.91' | 357°10.04' | S 2°22.45' | 170°18.05' | 326°29.90' | S 14°31.12' | **19** |
| **20** | 160°40.30' | 351°10.12' | S 4°48.26' | 172°57.75' | 338°52.66' | S 10°27.21' | 154°39.88' | 357°10.54' | S 2°22.24' | 185°20.35' | 326°30.06' | S 14°31.07' | **20** |
| **21** | 175°40.11' | 351°12.77' | S 4°47.29' | 187°58.42' | 338°54.46' | S 10°26.53' | 169°41.84' | 357°11.03' | S 2°22.03' | 200°22.66' | 326°30.22' | S 14°31.02' | **21** |
| **22** | 190°39.93' | 351°15.42' | S 4°46.33' | 202°59.09' | 338°56.25' | S 10°25.85' | 184°43.81' | 357°11.53' | S 2°21.82' | 215°24.96' | 326°30.38' | S 14°30.97' | **22** |
| **23** | 205°39.74' | 351°18.07' | S 4°45.36' | 217°59.76' | 338°58.04' | S 10°25.17' | 199°45.78' | 357°12.03' | S 2°21.61' | 230°27.26' | 326°30.54' | S 14°30.93' | **23** |
| **24** | 220°39.56' | 351°20.72' | S 4°44.40' | 233°00.43' | 338°59.84' | S 10°24.49' | 214°47.74' | 357°12.53' | S 2°21.40' | 245°29.57' | 326°30.70' | S 14°30.88' | **24** |
| | δ 14.9969° | | *d* 0.9569' | δ 15.0111° | | *d* 0.6753' | δ 15.0327° | | *d* 0.2104' | δ 15.0383° | | *d* 0.0484' | |

## *Sunday, April 24th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°26.49' | 15.0019° | 31°33.78' | N 12°47.10' | 0.8260' | 257°42.50' | 14.4353° | 314°17.77' | S 22°35.32' | 8.9606' | 58.6903' | 212°00.27' | **00** |
| **01** | 195°26.60' | 15.0019° | 31°36.13' | N 12°47.93' | 0.8257' | 272°08.72' | 14.4370° | 314°54.01' | S 22°26.23' | 9.0904' | 58.6696' | 227°02.74' | **01** |
| **02** | 210°26.72' | 15.0019° | 31°38.48' | N 12°48.75' | 0.8253' | 286°35.05' | 14.4387° | 315°30.15' | S 22°17.01' | 9.2185' | 58.6490' | 242°05.20' | **02** |
| **03** | 225°26.83' | 15.0019° | 31°40.83' | N 12°49.58' | 0.8249' | 301°01.48' | 14.4405° | 316°06.19' | S 22°07.67' | 9.3451' | 58.6282' | 257°07.66' | **03** |
| **04** | 240°26.94' | 15.0019° | 31°43.19' | N 12°50.40' | 0.8246' | 315°28.01' | 14.4422° | 316°42.12' | S 21°58.20' | 9.4701' | 58.6075' | 272°10.13' | **04** |
| **05** | 255°27.05' | 15.0019° | 31°45.54' | N 12°51.23' | 0.8242' | 329°54.65' | 14.4440° | 317°17.94' | S 21°48.60' | 9.5935' | 58.5867' | 287°12.59' | **05** |
| **06** | 270°27.17' | 15.0019° | 31°47.89' | N 12°52.05' | 0.8238' | 344°21.40' | 14.4457° | 317°53.66' | S 21°38.89' | 9.7153' | 58.5658' | 302°15.06' | **06** |
| **07** | 285°27.28' | 15.0019° | 31°50.24' | N 12°52.87' | 0.8235' | 358°48.25' | 14.4475° | 318°29.28' | S 21°29.05' | 9.8355' | 58.5449' | 317°17.52' | **07** |
| **08** | 300°27.39' | 15.0019° | 31°52.59' | N 12°53.70' | 0.8231' | 13°15.20' | 14.4492° | 319°04.79' | S 21°19.10' | 9.9541' | 58.5240' | 332°19.98' | **08** |
| **09** | 315°27.50' | 15.0019° | 31°54.95' | N 12°54.52' | 0.8227' | 27°42.26' | 14.4510° | 319°40.19' | S 21°09.03' | 10.0711' | 58.5030' | 347°22.45' | **09** |
| **10** | 330°27.61' | 15.0019° | 31°57.30' | N 12°55.34' | 0.8224' | 42°09.42' | 14.4527° | 320°15.49' | S 20°58.84' | 10.1865' | 58.4819' | 2°24.91' | **10** |
| **11** | 345°27.72' | 15.0019° | 31°59.65' | N 12°56.16' | 0.8220' | 56°36.69' | 14.4545° | 320°50.68' | S 20°48.54' | 10.3003' | 58.4609' | 17°27.38' | **11** |
| **12** | 0°27.84' | 15.0018° | 32°02.01' | N 12°56.99' | 0.8216' | 71°04.07' | 14.4562° | 321°25.77' | S 20°38.13' | 10.4125' | 58.4398' | 32°29.84' | **12** |
| **13** | 15°27.95' | 15.0018° | 32°04.36' | N 12°57.81' | 0.8213' | 85°31.55' | 14.4580° | 322°00.76' | S 20°27.61' | 10.5231' | 58.4187' | 47°32.31' | **13** |
| **14** | 30°28.06' | 15.0018° | 32°06.71' | N 12°58.63' | 0.8209' | 99°59.13' | 14.4597° | 322°35.64' | S 20°16.97' | 10.6321' | 58.3975' | 62°34.77' | **14** |
| **15** | 45°28.17' | 15.0018° | 32°09.07' | N 12°59.45' | 0.8205' | 114°26.82' | 14.4615° | 323°10.42' | S 20°06.23' | 10.7395' | 58.3763' | 77°37.23' | **15** |
| **16** | 60°28.28' | 15.0018° | 32°11.42' | N 13°00.27' | 0.8202' | 128°54.61' | 14.4632° | 323°45.09' | S 19°55.39' | 10.8454' | 58.3551' | 92°39.70' | **16** |
| **17** | 75°28.39' | 15.0018° | 32°13.78' | N 13°01.09' | 0.8198' | 143°22.50' | 14.4649° | 324°19.66' | S 19°44.44' | 10.9496' | 58.3339' | 107°42.16' | **17** |
| **18** | 90°28.50' | 15.0018° | 32°16.13' | N 13°01.91' | 0.8194' | 157°50.50' | 14.4666° | 324°54.13' | S 19°33.39' | 11.0523' | 58.3126' | 122°44.63' | **18** |
| **19** | 105°28.61' | 15.0018° | 32°18.48' | N 13°02.73' | 0.8191' | 172°18.60' | 14.4683° | 325°28.49' | S 19°22.23' | 11.1534' | 58.2913' | 137°47.09' | **19** |
| **20** | 120°28.72' | 15.0018° | 32°20.84' | N 13°03.55' | 0.8187' | 186°46.80' | 14.4700° | 326°02.75' | S 19°10.98' | 11.2529' | 58.2700' | 152°49.55' | **20** |
| **21** | 135°28.82' | 15.0018° | 32°23.19' | N 13°04.36' | 0.8183' | 201°15.11' | 14.4717° | 326°36.91' | S 18°59.63' | 11.3508' | 58.2487' | 167°52.02' | **21** |
| **22** | 150°28.93' | 15.0018° | 32°25.55' | N 13°05.18' | 0.8180' | 215°43.51' | 14.4734° | 327°10.97' | S 18°48.18' | 11.4471' | 58.2273' | 182°54.48' | **22** |
| **23** | 165°29.04' | 15.0018° | 32°27.91' | N 13°06.00' | 0.8176' | 230°12.02' | 14.4751° | 327°44.93' | S 18°36.64' | 11.5419' | 58.2059' | 197°56.95' | **23** |
| **24** | 180°29.15' | 15.0018° | 32°30.26' | N 13°06.82' | 0.8172' | 244°40.63' | 14.4768° | 328°18.78' | S 18°25.01' | 11.6352' | 58.1845' | 212°59.41' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.9032' | hp (π) 0.1457' | ½Ø 15.9237' | 38.9230474684710<br>7% -cre | |
| EoT at 12:00 UTC : +1m 51s (δ 0.44 s/h) | | Phase at 12:00 UTC : 282.99° | | |
| Meridian Pass. Time : 11:58:08.657 | | Age : 22.0 day(s) | | |

| UT | Venus ♀ (π 0.15') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 220°39.56' | 351°20.72' | S 4°44.40' | 233°00.43' | 338°59.84' | S 10°24.49' | 214°47.74' | 357°12.53' | S 2°21.40' | 245°29.57' | 326°30.70' | S 14°30.88' | **00** |
| **01** | 235°39.37' | 351°23.37' | S 4°43.43' | 248°01.11' | 339°01.63' | S 10°23.81' | 229°49.71' | 357°13.03' | S 2°21.19' | 260°31.87' | 326°30.86' | S 14°30.83' | **01** |
| **02** | 250°39.19' | 351°26.01' | S 4°42.46' | 263°01.78' | 339°03.42' | S 10°23.14' | 244°51.67' | 357°13.53' | S 2°20.98' | 275°34.18' | 326°31.02' | S 14°30.78' | **02** |
| **03** | 265°39.00' | 351°28.66' | S 4°41.50' | 278°02.45' | 339°05.22' | S 10°22.46' | 259°53.64' | 357°14.03' | S 2°20.77' | 290°36.48' | 326°31.18' | S 14°30.74' | **03** |
| **04** | 280°38.81' | 351°31.31' | S 4°40.53' | 293°03.12' | 339°07.01' | S 10°21.78' | 274°55.60' | 357°14.52' | S 2°20.56' | 305°38.78' | 326°31.34' | S 14°30.69' | **04** |
| **05** | 295°38.63' | 351°33.96' | S 4°39.56' | 308°03.79' | 339°08.80' | S 10°21.10' | 289°57.57' | 357°15.02' | S 2°20.36' | 320°41.09' | 326°31.50' | S 14°30.64' | **05** |
| **06** | 310°38.44' | 351°36.61' | S 4°38.59' | 323°04.46' | 339°10.59' | S 10°20.42' | 304°59.54' | 357°15.52' | S 2°20.15' | 335°43.39' | 326°31.66' | S 14°30.60' | **06** |
| **07** | 325°38.26' | 351°39.26' | S 4°37.62' | 338°05.13' | 339°12.39' | S 10°19.74' | 320°01.50' | 357°16.02' | S 2°19.94' | 350°45.70' | 326°31.82' | S 14°30.55' | **07** |
| **08** | 340°38.07' | 351°41.91' | S 4°36.66' | 353°05.81' | 339°14.18' | S 10°19.06' | 335°03.47' | 357°16.52' | S 2°19.73' | 5°48.00' | 326°31.98' | S 14°30.50' | **08** |
| **09** | 355°37.89' | 351°44.56' | S 4°35.69' | 8°06.48' | 339°15.97' | S 10°18.38' | 350°05.44' | 357°17.01' | S 2°19.52' | 20°50.31' | 326°32.14' | S 14°30.45' | **09** |
| **10** | 10°37.70' | 351°47.21' | S 4°34.72' | 23°07.15' | 339°17.76' | S 10°17.70' | 5°07.40' | 357°17.51' | S 2°19.31' | 35°52.62' | 326°32.30' | S 14°30.41' | **10** |
| **11** | 25°37.51' | 351°49.86' | S 4°33.75' | 38°07.82' | 339°19.56' | S 10°17.02' | 20°09.37' | 357°18.01' | S 2°19.10' | 50°54.92' | 326°32.46' | S 14°30.36' | **11** |
| **12** | 40°37.33' | 351°52.51' | S 4°32.78' | 53°08.49' | 339°21.35' | S 10°16.34' | 35°11.34' | 357°18.51' | S 2°18.89' | 65°57.23' | 326°32.61' | S 14°30.31' | **12** |
| **13** | 55°37.14' | 351°55.16' | S 4°31.81' | 68°09.17' | 339°23.14' | S 10°15.66' | 50°13.30' | 357°19.00' | S 2°18.68' | 80°59.53' | 326°32.77' | S 14°30.27' | **13** |
| **14** | 70°36.96' | 351°57.81' | S 4°30.83' | 83°09.84' | 339°24.93' | S 10°14.98' | 65°15.27' | 357°19.50' | S 2°18.48' | 96°01.84' | 326°32.93' | S 14°30.22' | **14** |
| **15** | 85°36.77' | 352°00.46' | S 4°29.86' | 98°10.51' | 339°26.72' | S 10°14.29' | 80°17.24' | 357°20.00' | S 2°18.27' | 111°04.15' | 326°33.09' | S 14°30.17' | **15** |
| **16** | 100°36.59' | 352°03.11' | S 4°28.89' | 113°11.18' | 339°28.51' | S 10°13.61' | 95°19.20' | 357°20.49' | S 2°18.06' | 126°06.45' | 326°33.25' | S 14°30.13' | **16** |
| **17** | 115°36.40' | 352°05.76' | S 4°27.92' | 128°11.86' | 339°30.30' | S 10°12.93' | 110°21.17' | 357°20.99' | S 2°17.85' | 141°08.76' | 326°33.40' | S 14°30.08' | **17** |
| **18** | 130°36.21' | 352°08.41' | S 4°26.95' | 143°12.53' | 339°32.10' | S 10°12.25' | 125°23.14' | 357°21.49' | S 2°17.64' | 156°11.06' | 326°33.56' | S 14°30.04' | **18** |
| **19** | 145°36.03' | 352°11.06' | S 4°25.97' | 158°13.20' | 339°33.89' | S 10°11.57' | 140°25.11' | 357°21.98' | S 2°17.43' | 171°13.37' | 326°33.72' | S 14°29.99' | **19** |
| **20** | 160°35.84' | 352°13.71' | S 4°25.00' | 173°13.88' | 339°35.68' | S 10°10.89' | 155°27.07' | 357°22.48' | S 2°17.22' | 186°15.68' | 326°33.88' | S 14°29.94' | **20** |
| **21** | 175°35.66' | 352°16.36' | S 4°24.03' | 188°14.55' | 339°37.47' | S 10°10.21' | 170°29.04' | 357°22.98' | S 2°17.02' | 201°17.99' | 326°34.03' | S 14°29.90' | **21** |
| **22** | 190°35.47' | 352°19.01' | S 4°23.05' | 203°15.22' | 339°39.26' | S 10°09.52' | 185°31.01' | 357°23.47' | S 2°16.81' | 216°20.29' | 326°34.19' | S 14°29.85' | **22** |
| **23** | 205°35.28' | 352°21.66' | S 4°22.08' | 218°15.90' | 339°41.05' | S 10°08.84' | 200°32.98' | 357°23.97' | S 2°16.60' | 231°22.60' | 326°34.35' | S 14°29.80' | **23** |
| **24** | 220°35.10' | 352°24.31' | S 4°21.10' | 233°16.57' | 339°42.84' | S 10°08.16' | 215°34.95' | 357°24.47' | S 2°16.39' | 246°24.91' | 326°34.50' | S 14°29.76' | **24** |
| | δ 14.9969° | | *d* 0.9662' | δ 15.0112° | | *d* 0.6789' | δ 15.0328° | | *d* 0.2093' | δ 15.0384° | | *d* 0.0472' | |

## *Monday, April 25th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°29.15' | 15.0018° | 32°30.26' | N 13°06.82' | 0.8172' | 244°40.63' | 14.4768° | 328°18.78' | S 18°25.01' | 11.6352' | 58.1845' | 212°59.41' | **00** |
| **01** | 195°29.26' | 15.0018° | 32°32.62' | N 13°07.63' | 0.8168' | 259°09.33' | 14.4784° | 328°52.54' | S 18°13.28' | 11.7269' | 58.1631' | 228°01.87' | **01** |
| **02** | 210°29.37' | 15.0018° | 32°34.97' | N 13°08.45' | 0.8165' | 273°38.14' | 14.4801° | 329°26.20' | S 18°01.46' | 11.8170' | 58.1417' | 243°04.34' | **02** |
| **03** | 225°29.47' | 15.0018° | 32°37.33' | N 13°09.27' | 0.8161' | 288°07.04' | 14.4817° | 329°59.76' | S 17°49.56' | 11.9056' | 58.1202' | 258°06.80' | **03** |
| **04** | 240°29.58' | 15.0018° | 32°39.69' | N 13°10.08' | 0.8157' | 302°36.05' | 14.4834° | 330°33.22' | S 17°37.56' | 11.9926' | 58.0988' | 273°09.27' | **04** |
| **05** | 255°29.69' | 15.0018° | 32°42.04' | N 13°10.90' | 0.8153' | 317°05.15' | 14.4850° | 331°06.58' | S 17°25.49' | 12.0782' | 58.0773' | 288°11.73' | **05** |
| **06** | 270°29.80' | 15.0018° | 32°44.40' | N 13°11.71' | 0.8150' | 331°34.34' | 14.4866° | 331°39.85' | S 17°13.32' | 12.1621' | 58.0558' | 303°14.20' | **06** |
| **07** | 285°29.90' | 15.0018° | 32°46.76' | N 13°12.53' | 0.8146' | 346°03.64' | 14.4882° | 332°13.02' | S 17°01.08' | 12.2446' | 58.0344' | 318°16.66' | **07** |
| **08** | 300°30.01' | 15.0018° | 32°49.12' | N 13°13.34' | 0.8142' | 0°33.02' | 14.4898° | 332°46.10' | S 16°48.75' | 12.3256' | 58.0128' | 333°19.12' | **08** |
| **09** | 315°30.11' | 15.0018° | 32°51.47' | N 13°14.15' | 0.8139' | 15°02.51' | 14.4914° | 333°19.08' | S 16°36.35' | 12.4051' | 57.9913' | 348°21.59' | **09** |
| **10** | 330°30.22' | 15.0018° | 32°53.83' | N 13°14.97' | 0.8135' | 29°32.08' | 14.4929° | 333°51.97' | S 16°23.87' | 12.4830' | 57.9698' | 3°24.05' | **10** |
| **11** | 345°30.33' | 15.0018° | 32°56.19' | N 13°15.78' | 0.8131' | 44°01.75' | 14.4945° | 334°24.76' | S 16°11.31' | 12.5595' | 57.9483' | 18°26.52' | **11** |
| **12** | 0°30.43' | 15.0018° | 32°58.55' | N 13°16.59' | 0.8127' | 58°31.51' | 14.4960° | 334°57.47' | S 15°58.67' | 12.6345' | 57.9268' | 33°28.98' | **12** |
| **13** | 15°30.54' | 15.0018° | 33°00.91' | N 13°17.41' | 0.8123' | 73°01.37' | 14.4975° | 335°30.08' | S 15°45.96' | 12.7080' | 57.9052' | 48°31.44' | **13** |
| **14** | 30°30.64' | 15.0018° | 33°03.26' | N 13°18.22' | 0.8120' | 87°31.31' | 14.4990° | 336°02.60' | S 15°33.18' | 12.7800' | 57.8837' | 63°33.91' | **14** |
| **15** | 45°30.75' | 15.0018° | 33°05.62' | N 13°19.03' | 0.8116' | 102°01.34' | 14.5005° | 336°35.03' | S 15°20.33' | 12.8506' | 57.8622' | 78°36.37' | **15** |
| **16** | 60°30.85' | 15.0017° | 33°07.98' | N 13°19.84' | 0.8112' | 116°31.46' | 14.5020° | 337°07.37' | S 15°07.41' | 12.9197' | 57.8406' | 93°38.84' | **16** |
| **17** | 75°30.96' | 15.0017° | 33°10.34' | N 13°20.65' | 0.8108' | 131°01.67' | 14.5035° | 337°39.63' | S 14°54.43' | 12.9874' | 57.8191' | 108°41.30' | **17** |
| **18** | 90°31.06' | 15.0017° | 33°12.70' | N 13°21.46' | 0.8105' | 145°31.97' | 14.5049° | 338°11.80' | S 14°41.37' | 13.0537' | 57.7975' | 123°43.76' | **18** |
| **19** | 105°31.17' | 15.0017° | 33°15.06' | N 13°22.27' | 0.8101' | 160°02.35' | 14.5064° | 338°43.88' | S 14°28.25' | 13.1185' | 57.7760' | 138°46.23' | **19** |
| **20** | 120°31.27' | 15.0017° | 33°17.42' | N 13°23.08' | 0.8097' | 174°32.82' | 14.5078° | 339°15.88' | S 14°15.07' | 13.1819' | 57.7544' | 153°48.69' | **20** |
| **21** | 135°31.37' | 15.0017° | 33°19.78' | N 13°23.89' | 0.8093' | 189°03.37' | 14.5092° | 339°47.79' | S 14°01.83' | 13.2438' | 57.7329' | 168°51.16' | **21** |
| **22** | 150°31.48' | 15.0017° | 33°22.14' | N 13°24.70' | 0.8089' | 203°34.00' | 14.5106° | 340°19.62' | S 13°48.52' | 13.3044' | 57.7113' | 183°53.62' | **22** |
| **23** | 165°31.58' | 15.0017° | 33°24.50' | N 13°25.51' | 0.8086' | 218°04.72' | 14.5119° | 340°51.36' | S 13°35.16' | 13.3636' | 57.6898' | 198°56.08' | **23** |
| **24** | 180°31.68' | 15.0017° | 33°26.86' | N 13°26.32' | 0.8082' | 232°35.52' | 14.5133° | 341°23.03' | S 13°21.74' | 13.4214' | 57.6683' | 213°58.55' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 15.8988' | hp (π) 0.1457' | ½Ø 15.7840' | 28.4840838048102 47% -cre | |
| | EoT at 12:00 UTC : +2m 1s (δ 0.42 s/h) | | Phase at 12:00 UTC : 295.73° | | |
| | Meridian Pass. Time : 11:57:58.269 | | Age : 23.0 day(s) | | |

| UT | Venus ♀ (π 0.15') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 220°35.10' | 352°24.31' | S 4°21.10' | 233°16.57' | 339°42.84' | S 10°08.16' | 215°34.95' | 357°24.47' | S 2°16.39' | 246°24.91' | 326°34.50' | S 14°29.76' | **00** |
| **01** | 235°34.91' | 352°26.96' | S 4°20.13' | 248°17.25' | 339°44.63' | S 10°07.48' | 230°36.91' | 357°24.96' | S 2°16.18' | 261°27.21' | 326°34.66' | S 14°29.71' | **01** |
| **02** | 250°34.72' | 352°29.61' | S 4°19.15' | 263°17.92' | 339°46.42' | S 10°06.80' | 245°38.88' | 357°25.46' | S 2°15.97' | 276°29.52' | 326°34.82' | S 14°29.67' | **02** |
| **03** | 265°34.54' | 352°32.26' | S 4°18.18' | 278°18.59' | 339°48.21' | S 10°06.11' | 260°40.85' | 357°25.95' | S 2°15.77' | 291°31.83' | 326°34.97' | S 14°29.62' | **03** |
| **04** | 280°34.35' | 352°34.91' | S 4°17.20' | 293°19.27' | 339°50.00' | S 10°05.43' | 275°42.82' | 357°26.45' | S 2°15.56' | 306°34.14' | 326°35.13' | S 14°29.57' | **04** |
| **05** | 295°34.17' | 352°37.57' | S 4°16.22' | 308°19.94' | 339°51.79' | S 10°04.75' | 290°44.79' | 357°26.94' | S 2°15.35' | 321°36.45' | 326°35.29' | S 14°29.53' | **05** |
| **06** | 310°33.98' | 352°40.22' | S 4°15.25' | 323°20.62' | 339°53.58' | S 10°04.06' | 305°46.76' | 357°27.44' | S 2°15.14' | 336°38.75' | 326°35.44' | S 14°29.48' | **06** |
| **07** | 325°33.79' | 352°42.87' | S 4°14.27' | 338°21.29' | 339°55.37' | S 10°03.38' | 320°48.72' | 357°27.94' | S 2°14.93' | 351°41.06' | 326°35.60' | S 14°29.44' | **07** |
| **08** | 340°33.61' | 352°45.52' | S 4°13.29' | 353°21.97' | 339°57.16' | S 10°02.70' | 335°50.69' | 357°28.43' | S 2°14.73' | 6°43.37' | 326°35.75' | S 14°29.39' | **08** |
| **09** | 355°33.42' | 352°48.17' | S 4°12.31' | 8°22.64' | 339°58.94' | S 10°02.01' | 350°52.66' | 357°28.93' | S 2°14.52' | 21°45.68' | 326°35.91' | S 14°29.34' | **09** |
| **10** | 10°33.23' | 352°50.82' | S 4°11.33' | 23°23.32' | 340°00.73' | S 10°01.33' | 5°54.63' | 357°29.42' | S 2°14.31' | 36°47.99' | 326°36.06' | S 14°29.30' | **10** |
| **11** | 25°33.05' | 352°53.47' | S 4°10.36' | 38°23.99' | 340°02.52' | S 10°00.65' | 20°56.60' | 357°29.92' | S 2°14.10' | 51°50.30' | 326°36.22' | S 14°29.25' | **11** |
| **12** | 40°32.86' | 352°56.12' | S 4°09.38' | 53°24.67' | 340°04.31' | S 9°59.96' | 35°58.57' | 357°30.41' | S 2°13.90' | 66°52.61' | 326°36.37' | S 14°29.21' | **12** |
| **13** | 55°32.67' | 352°58.77' | S 4°08.40' | 68°25.34' | 340°06.10' | S 9°59.28' | 51°00.54' | 357°30.91' | S 2°13.69' | 81°54.92' | 326°36.53' | S 14°29.16' | **13** |
| **14** | 70°32.49' | 353°01.42' | S 4°07.42' | 83°26.02' | 340°07.89' | S 9°58.59' | 66°02.51' | 357°31.40' | S 2°13.48' | 96°57.23' | 326°36.68' | S 14°29.12' | **14** |
| **15** | 85°32.30' | 353°04.07' | S 4°06.44' | 98°26.70' | 340°09.68' | S 9°57.91' | 81°04.48' | 357°31.89' | S 2°13.27' | 111°59.53' | 326°36.84' | S 14°29.07' | **15** |
| **16** | 100°32.11' | 353°06.72' | S 4°05.46' | 113°27.37' | 340°11.46' | S 9°57.22' | 96°06.45' | 357°32.39' | S 2°13.06' | 127°01.84' | 326°36.99' | S 14°29.03' | **16** |
| **17** | 115°31.93' | 353°09.37' | S 4°04.48' | 128°28.05' | 340°13.25' | S 9°56.54' | 111°08.42' | 357°32.88' | S 2°12.86' | 142°04.15' | 326°37.15' | S 14°28.98' | **17** |
| **18** | 130°31.74' | 353°12.02' | S 4°03.50' | 143°28.72' | 340°15.04' | S 9°55.86' | 126°10.39' | 357°33.38' | S 2°12.65' | 157°06.46' | 326°37.30' | S 14°28.93' | **18** |
| **19** | 145°31.56' | 353°14.67' | S 4°02.51' | 158°29.40' | 340°16.83' | S 9°55.17' | 141°12.36' | 357°33.87' | S 2°12.44' | 172°08.77' | 326°37.45' | S 14°28.89' | **19** |
| **20** | 160°31.37' | 353°17.32' | S 4°01.53' | 173°30.08' | 340°18.61' | S 9°54.49' | 156°14.33' | 357°34.37' | S 2°12.24' | 187°11.08' | 326°37.61' | S 14°28.84' | **20** |
| **21** | 175°31.18' | 353°19.98' | S 4°00.55' | 188°30.75' | 340°20.40' | S 9°53.80' | 171°16.30' | 357°34.86' | S 2°12.03' | 202°13.39' | 326°37.76' | S 14°28.80' | **21** |
| **22** | 190°30.99' | 353°22.63' | S 3°59.57' | 203°31.43' | 340°22.19' | S 9°53.12' | 186°18.27' | 357°35.35' | S 2°11.82' | 217°15.70' | 326°37.92' | S 14°28.75' | **22** |
| **23** | 205°30.81' | 353°25.28' | S 3°58.58' | 218°32.11' | 340°23.98' | S 9°52.43' | 201°20.24' | 357°35.85' | S 2°11.61' | 232°18.02' | 326°38.07' | S 14°28.71' | **23** |
| **24** | 220°30.62' | 353°27.93' | S 3°57.60' | 233°32.79' | 340°25.76' | S 9°51.74' | 216°22.21' | 357°36.34' | S 2°11.41' | 247°20.33' | 326°38.22' | S 14°28.66' | **24** |
| | δ 14.9969° | | *d* 0.9751' | δ 15.0112° | | *d* 0.6824' | δ 15.0328° | | *d* 0.2082' | δ 15.0385° | | *d* 0.0461' | |

## *Tuesday, April 26th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°31.68' | 15.0017° | 33°26.86' | N 13°26.32' | 0.8082' | 232°35.52' | 14.5133° | 341°23.03' | S 13°21.74' | 13.4214' | 57.6683' | 213°58.55' | **00** |
| **01** | 195°31.79' | 15.0017° | 33°29.23' | N 13°27.12' | 0.8078' | 247°06.40' | 14.5146° | 341°54.62' | S 13°08.26' | 13.4777' | 57.6467' | 229°01.01' | **01** |
| **02** | 210°31.89' | 15.0017° | 33°31.59' | N 13°27.93' | 0.8074' | 261°37.35' | 14.5160° | 342°26.12' | S 12°54.73' | 13.5328' | 57.6252' | 244°03.48' | **02** |
| **03** | 225°31.99' | 15.0017° | 33°33.95' | N 13°28.74' | 0.8070' | 276°08.39' | 14.5173° | 342°57.55' | S 12°41.14' | 13.5864' | 57.6037' | 259°05.94' | **03** |
| **04** | 240°32.09' | 15.0017° | 33°36.31' | N 13°29.55' | 0.8066' | 290°39.50' | 14.5186° | 343°28.90' | S 12°27.50' | 13.6387' | 57.5821' | 274°08.41' | **04** |
| **05** | 255°32.20' | 15.0017° | 33°38.67' | N 13°30.35' | 0.8063' | 305°10.69' | 14.5198° | 344°00.18' | S 12°13.81' | 13.6896' | 57.5606' | 289°10.87' | **05** |
| **06** | 270°32.30' | 15.0017° | 33°41.04' | N 13°31.16' | 0.8059' | 319°41.96' | 14.5211° | 344°31.38' | S 12°00.07' | 13.7392' | 57.5391' | 304°13.33' | **06** |
| **07** | 285°32.40' | 15.0017° | 33°43.40' | N 13°31.96' | 0.8055' | 334°13.29' | 14.5223° | 345°02.50' | S 11°46.29' | 13.7875' | 57.5176' | 319°15.80' | **07** |
| **08** | 300°32.50' | 15.0017° | 33°45.76' | N 13°32.77' | 0.8051' | 348°44.71' | 14.5235° | 345°33.55' | S 11°32.45' | 13.8344' | 57.4961' | 334°18.26' | **08** |
| **09** | 315°32.60' | 15.0017° | 33°48.12' | N 13°33.57' | 0.8047' | 3°16.19' | 14.5247° | 346°04.54' | S 11°18.57' | 13.8800' | 57.4747' | 349°20.73' | **09** |
| **10** | 330°32.70' | 15.0017° | 33°50.49' | N 13°34.38' | 0.8043' | 17°47.74' | 14.5259° | 346°35.45' | S 11°04.65' | 13.9243' | 57.4532' | 4°23.19' | **10** |
| **11** | 345°32.80' | 15.0017° | 33°52.85' | N 13°35.18' | 0.8040' | 32°19.37' | 14.5271° | 347°06.29' | S 10°50.68' | 13.9673' | 57.4317' | 19°25.65' | **11** |
| **12** | 0°32.90' | 15.0017° | 33°55.21' | N 13°35.98' | 0.8036' | 46°51.06' | 14.5282° | 347°37.06' | S 10°36.67' | 14.0090' | 57.4103' | 34°28.12' | **12** |
| **13** | 15°33.00' | 15.0017° | 33°57.58' | N 13°36.79' | 0.8032' | 61°22.82' | 14.5293° | 348°07.76' | S 10°22.62' | 14.0494' | 57.3888' | 49°30.58' | **13** |
| **14** | 30°33.10' | 15.0017° | 33°59.94' | N 13°37.59' | 0.8028' | 75°54.65' | 14.5305° | 348°38.40' | S 10°08.53' | 14.0885' | 57.3674' | 64°33.05' | **14** |
| **15** | 45°33.20' | 15.0017° | 34°02.31' | N 13°38.39' | 0.8024' | 90°26.54' | 14.5315° | 349°08.97' | S 9°54.41' | 14.1264' | 57.3459' | 79°35.51' | **15** |
| **16** | 60°33.30' | 15.0017° | 34°04.67' | N 13°39.20' | 0.8020' | 104°58.50' | 14.5326° | 349°39.47' | S 9°40.24' | 14.1630' | 57.3245' | 94°37.97' | **16** |
| **17** | 75°33.40' | 15.0017° | 34°07.03' | N 13°40.00' | 0.8016' | 119°30.52' | 14.5337° | 350°09.92' | S 9°26.05' | 14.1983' | 57.3031' | 109°40.44' | **17** |
| **18** | 90°33.50' | 15.0017° | 34°09.40' | N 13°40.80' | 0.8012' | 134°02.60' | 14.5347° | 350°40.30' | S 9°11.81' | 14.2324' | 57.2817' | 124°42.90' | **18** |
| **19** | 105°33.60' | 15.0016° | 34°11.77' | N 13°41.60' | 0.8009' | 148°34.75' | 14.5357° | 351°10.62' | S 8°57.55' | 14.2652' | 57.2603' | 139°45.37' | **19** |
| **20** | 120°33.70' | 15.0016° | 34°14.13' | N 13°42.40' | 0.8005' | 163°06.95' | 14.5367° | 351°40.88' | S 8°43.25' | 14.2968' | 57.2390' | 154°47.83' | **20** |
| **21** | 135°33.80' | 15.0016° | 34°16.50' | N 13°43.20' | 0.8001' | 177°39.21' | 14.5377° | 352°11.08' | S 8°28.92' | 14.3272' | 57.2176' | 169°50.29' | **21** |
| **22** | 150°33.90' | 15.0016° | 34°18.86' | N 13°44.00' | 0.7997' | 192°11.53' | 14.5387° | 352°41.23' | S 8°14.57' | 14.3563' | 57.1963' | 184°52.76' | **22** |
| **23** | 165°33.99' | 15.0016° | 34°21.23' | N 13°44.80' | 0.7993' | 206°43.91' | 14.5396° | 353°11.31' | S 8°00.18' | 14.3842' | 57.1750' | 199°55.22' | **23** |
| **24** | 180°34.09' | 15.0016° | 34°23.59' | N 13°45.60' | 0.7989' | 221°16.34' | 14.5405° | 353°41.35' | S 7°45.77' | 14.4110' | 57.1536' | 214°57.69' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8945' | hp (π) 0.1457' | ½Ø 15.6432' | 19.2439214759817<br>57% -cre |
| | EoT at 12:00 UTC : +2m 11s (δ 0.40 s/h) | | Phase at 12:00 UTC : 308.24° | |
| | Meridian Pass. Time : 11:57:48.384 | | Age : 24.0 day(s) | |

| UT | Venus ♀ (π 0.15') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 220°30.62' | 353°27.93' | S 3°57.60' | 233°32.79' | 340°25.76' | S 9°51.74' | 216°22.21' | 357°36.34' | S 2°11.41' | 247°20.33' | 326°38.22' | S 14°28.66' | **00** |
| **01** | 235°30.43' | 353°30.58' | S 3°56.62' | 248°33.46' | 340°27.55' | S 9°51.06' | 231°24.18' | 357°36.83' | S 2°11.20' | 262°22.64' | 326°38.38' | S 14°28.62' | **01** |
| **02** | 250°30.25' | 353°33.23' | S 3°55.63' | 263°34.14' | 340°29.34' | S 9°50.37' | 246°26.15' | 357°37.33' | S 2°10.99' | 277°24.95' | 326°38.53' | S 14°28.57' | **02** |
| **03** | 265°30.06' | 353°35.88' | S 3°54.65' | 278°34.82' | 340°31.12' | S 9°49.69' | 261°28.12' | 357°37.82' | S 2°10.79' | 292°27.26' | 326°38.68' | S 14°28.53' | **03** |
| **04** | 280°29.87' | 353°38.53' | S 3°53.66' | 293°35.49' | 340°32.91' | S 9°49.00' | 276°30.09' | 357°38.31' | S 2°10.58' | 307°29.57' | 326°38.83' | S 14°28.48' | **04** |
| **05** | 295°29.69' | 353°41.18' | S 3°52.68' | 308°36.17' | 340°34.70' | S 9°48.31' | 291°32.06' | 357°38.81' | S 2°10.37' | 322°31.88' | 326°38.99' | S 14°28.44' | **05** |
| **06** | 310°29.50' | 353°43.83' | S 3°51.69' | 323°36.85' | 340°36.48' | S 9°47.63' | 306°34.03' | 357°39.30' | S 2°10.17' | 337°34.19' | 326°39.14' | S 14°28.39' | **06** |
| **07** | 325°29.31' | 353°46.48' | S 3°50.71' | 338°37.53' | 340°38.27' | S 9°46.94' | 321°36.00' | 357°39.79' | S 2°09.96' | 352°36.51' | 326°39.29' | S 14°28.35' | **07** |
| **08** | 340°29.13' | 353°49.14' | S 3°49.72' | 353°38.21' | 340°40.06' | S 9°46.25' | 336°37.98' | 357°40.29' | S 2°09.75' | 7°38.82' | 326°39.44' | S 14°28.31' | **08** |
| **09** | 355°28.94' | 353°51.79' | S 3°48.74' | 8°38.88' | 340°41.84' | S 9°45.57' | 351°39.95' | 357°40.78' | S 2°09.54' | 22°41.13' | 326°39.60' | S 14°28.26' | **09** |
| **10** | 10°28.75' | 353°54.44' | S 3°47.75' | 23°39.56' | 340°43.63' | S 9°44.88' | 6°41.92' | 357°41.27' | S 2°09.34' | 37°43.44' | 326°39.75' | S 14°28.22' | **10** |
| **11** | 25°28.56' | 353°57.09' | S 3°46.76' | 38°40.24' | 340°45.41' | S 9°44.19' | 21°43.89' | 357°41.76' | S 2°09.13' | 52°45.75' | 326°39.90' | S 14°28.17' | **11** |
| **12** | 40°28.38' | 353°59.74' | S 3°45.78' | 53°40.92' | 340°47.20' | S 9°43.51' | 36°45.86' | 357°42.26' | S 2°08.93' | 67°48.07' | 326°40.05' | S 14°28.13' | **12** |
| **13** | 55°28.19' | 354°02.39' | S 3°44.79' | 68°41.60' | 340°48.98' | S 9°42.82' | 51°47.83' | 357°42.75' | S 2°08.72' | 82°50.38' | 326°40.20' | S 14°28.08' | **13** |
| **14** | 70°28.00' | 354°05.04' | S 3°43.80' | 83°42.28' | 340°50.77' | S 9°42.13' | 66°49.81' | 357°43.24' | S 2°08.51' | 97°52.69' | 326°40.35' | S 14°28.04' | **14** |
| **15** | 85°27.81' | 354°07.70' | S 3°42.81' | 98°42.96' | 340°52.55' | S 9°41.44' | 81°51.78' | 357°43.73' | S 2°08.31' | 112°55.00' | 326°40.51' | S 14°27.99' | **15** |
| **16** | 100°27.63' | 354°10.35' | S 3°41.82' | 113°43.64' | 340°54.34' | S 9°40.76' | 96°53.75' | 357°44.22' | S 2°08.10' | 127°57.32' | 326°40.66' | S 14°27.95' | **16** |
| **17** | 115°27.44' | 354°13.00' | S 3°40.83' | 128°44.31' | 340°56.12' | S 9°40.07' | 111°55.72' | 357°44.72' | S 2°07.89' | 142°59.63' | 326°40.81' | S 14°27.91' | **17** |
| **18** | 130°27.25' | 354°15.65' | S 3°39.84' | 143°44.99' | 340°57.91' | S 9°39.38' | 126°57.69' | 357°45.21' | S 2°07.69' | 158°01.94' | 326°40.96' | S 14°27.86' | **18** |
| **19** | 145°27.07' | 354°18.30' | S 3°38.85' | 158°45.67' | 340°59.69' | S 9°38.69' | 141°59.67' | 357°45.70' | S 2°07.48' | 173°04.26' | 326°41.11' | S 14°27.82' | **19** |
| **20** | 160°26.88' | 354°20.95' | S 3°37.86' | 173°46.35' | 341°01.48' | S 9°38.00' | 157°01.64' | 357°46.19' | S 2°07.27' | 188°06.57' | 326°41.26' | S 14°27.77' | **20** |
| **21** | 175°26.69' | 354°23.60' | S 3°36.87' | 188°47.03' | 341°03.26' | S 9°37.32' | 172°03.61' | 357°46.68' | S 2°07.07' | 203°08.88' | 326°41.41' | S 14°27.73' | **21** |
| **22** | 190°26.50' | 354°26.26' | S 3°35.88' | 203°47.71' | 341°05.05' | S 9°36.63' | 187°05.59' | 357°47.17' | S 2°06.86' | 218°11.20' | 326°41.56' | S 14°27.69' | **22** |
| **23** | 205°26.31' | 354°28.91' | S 3°34.89' | 218°48.39' | 341°06.83' | S 9°35.94' | 202°07.56' | 357°47.66' | S 2°06.66' | 233°13.51' | 326°41.71' | S 14°27.64' | **23** |
| **24** | 220°26.13' | 354°31.56' | S 3°33.90' | 233°49.07' | 341°08.61' | S 9°35.25' | 217°09.53' | 357°48.15' | S 2°06.45' | 248°15.83' | 326°41.86' | S 14°27.60' | **24** |
| | δ 14.9969° | | *d* 0.9836' | δ 15.0113° | | *d* 0.6857' | δ 15.0328° | | *d* 0.2071' | δ 15.0385° | | *d* 0.0450' | |

## *Wednesday, April 27th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°34.09' | 15.0016° | 34°23.59' | N 13°45.60' | 0.7989' | 221°16.34' | 14.5405° | 353°41.35' | S 7°45.77' | 14.4110' | 57.1536' | 214°57.69' | **00** |
| **01** | 195°34.19' | 15.0016° | 34°25.96' | N 13°46.40' | 0.7985' | 235°48.83' | 14.5414° | 354°11.32' | S 7°31.34' | 14.4365' | 57.1324' | 230°00.15' | **01** |
| **02** | 210°34.29' | 15.0016° | 34°28.33' | N 13°47.19' | 0.7981' | 250°21.37' | 14.5423° | 354°41.25' | S 7°16.87' | 14.4608' | 57.1111' | 245°02.61' | **02** |
| **03** | 225°34.38' | 15.0016° | 34°30.69' | N 13°47.99' | 0.7977' | 264°53.96' | 14.5432° | 355°11.12' | S 7°02.39' | 14.4839' | 57.0898' | 260°05.08' | **03** |
| **04** | 240°34.48' | 15.0016° | 34°33.06' | N 13°48.79' | 0.7973' | 279°26.60' | 14.5440° | 355°40.94' | S 6°47.89' | 14.5059' | 57.0685' | 275°07.54' | **04** |
| **05** | 255°34.58' | 15.0016° | 34°35.43' | N 13°49.59' | 0.7969' | 293°59.29' | 14.5449° | 356°10.71' | S 6°33.36' | 14.5267' | 57.0473' | 290°10.01' | **05** |
| **06** | 270°34.67' | 15.0016° | 34°37.80' | N 13°50.38' | 0.7965' | 308°32.03' | 14.5457° | 356°40.44' | S 6°18.81' | 14.5463' | 57.0261' | 305°12.47' | **06** |
| **07** | 285°34.77' | 15.0016° | 34°40.16' | N 13°51.18' | 0.7961' | 323°04.82' | 14.5465° | 357°10.11' | S 6°04.25' | 14.5647' | 57.0049' | 320°14.93' | **07** |
| **08** | 300°34.87' | 15.0016° | 34°42.53' | N 13°51.97' | 0.7958' | 337°37.66' | 14.5473° | 357°39.74' | S 5°49.67' | 14.5820' | 56.9837' | 335°17.40' | **08** |
| **09** | 315°34.96' | 15.0016° | 34°44.90' | N 13°52.77' | 0.7954' | 352°10.54' | 14.5480° | 358°09.32' | S 5°35.07' | 14.5982' | 56.9625' | 350°19.86' | **09** |
| **10** | 330°35.06' | 15.0016° | 34°47.27' | N 13°53.56' | 0.7950' | 6°43.46' | 14.5487° | 358°38.86' | S 5°20.45' | 14.6132' | 56.9414' | 5°22.33' | **10** |
| **11** | 345°35.15' | 15.0016° | 34°49.64' | N 13°54.36' | 0.7946' | 21°16.43' | 14.5495° | 359°08.36' | S 5°05.83' | 14.6270' | 56.9202' | 20°24.79' | **11** |
| **12** | 0°35.25' | 15.0016° | 34°52.01' | N 13°55.15' | 0.7942' | 35°49.44' | 14.5502° | 359°37.81' | S 4°51.19' | 14.6398' | 56.8991' | 35°27.25' | **12** |
| **13** | 15°35.34' | 15.0016° | 34°54.38' | N 13°55.95' | 0.7938' | 50°22.49' | 14.5508° | 0°07.23' | S 4°36.54' | 14.6514' | 56.8780' | 50°29.72' | **13** |
| **14** | 30°35.44' | 15.0016° | 34°56.75' | N 13°56.74' | 0.7934' | 64°55.58' | 14.5515° | 0°36.60' | S 4°21.87' | 14.6619' | 56.8569' | 65°32.18' | **14** |
| **15** | 45°35.53' | 15.0016° | 34°59.12' | N 13°57.53' | 0.7930' | 79°28.71' | 14.5521° | 1°05.94' | S 4°07.20' | 14.6712' | 56.8359' | 80°34.65' | **15** |
| **16** | 60°35.63' | 15.0016° | 35°01.49' | N 13°58.33' | 0.7926' | 94°01.88' | 14.5528° | 1°35.23' | S 3°52.52' | 14.6795' | 56.8148' | 95°37.11' | **16** |
| **17** | 75°35.72' | 15.0016° | 35°03.86' | N 13°59.12' | 0.7922' | 108°35.08' | 14.5534° | 2°04.49' | S 3°37.84' | 14.6866' | 56.7938' | 110°39.57' | **17** |
| **18** | 90°35.81' | 15.0016° | 35°06.23' | N 13°59.91' | 0.7918' | 123°08.32' | 14.5540° | 2°33.72' | S 3°23.14' | 14.6927' | 56.7728' | 125°42.04' | **18** |
| **19** | 105°35.91' | 15.0016° | 35°08.60' | N 14°00.70' | 0.7914' | 137°41.59' | 14.5545° | 3°02.91' | S 3°08.45' | 14.6977' | 56.7518' | 140°44.50' | **19** |
| **20** | 120°36.00' | 15.0016° | 35°10.97' | N 14°01.49' | 0.7910' | 152°14.90' | 14.5551° | 3°32.07' | S 2°53.74' | 14.7016' | 56.7309' | 155°46.97' | **20** |
| **21** | 135°36.09' | 15.0016° | 35°13.34' | N 14°02.28' | 0.7906' | 166°48.23' | 14.5556° | 4°01.20' | S 2°39.04' | 14.7044' | 56.7099' | 170°49.43' | **21** |
| **22** | 150°36.19' | 15.0015° | 35°15.71' | N 14°03.07' | 0.7902' | 181°21.60' | 14.5561° | 4°30.29' | S 2°24.33' | 14.7061' | 56.6890' | 185°51.90' | **22** |
| **23** | 165°36.28' | 15.0015° | 35°18.08' | N 14°03.86' | 0.7898' | 195°55.00' | 14.5566° | 4°59.36' | S 2°09.63' | 14.7067' | 56.6681' | 200°54.36' | **23** |
| **24** | 180°36.37' | 15.0015° | 35°20.45' | N 14°04.65' | 0.7894' | 210°28.42' | 14.5571° | 5°28.40' | S 1°54.92' | 14.7063' | 56.6472' | 215°56.82' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8903' | hp (π) 0.1456' | ½Ø 15.5040' | 11.5723595214867<br>97% -cre |
| | EoT at 12:00 UTC : +2m 21s (δ 0.38 s/h) | | Phase at 12:00 UTC : 320.51° | |
| | Meridian Pass. Time : 11:57:39.009 | | Age : 24.9 day(s) | |

| UT | Venus ♀ (π 0.15') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 220°26.13' | 354°31.56' | S 3°33.90' | 233°49.07' | 341°08.61' | S 9°35.25' | 217°09.53' | 357°48.15' | S 2°06.45' | 248°15.83' | 326°41.86' | S 14°27.60' | **00** |
| **01** | 235°25.94' | 354°34.21' | S 3°32.91' | 248°49.75' | 341°10.40' | S 9°34.56' | 232°11.50' | 357°48.65' | S 2°06.24' | 263°18.14' | 326°42.01' | S 14°27.55' | **01** |
| **02** | 250°25.75' | 354°36.86' | S 3°31.92' | 263°50.43' | 341°12.18' | S 9°33.87' | 247°13.48' | 357°49.14' | S 2°06.04' | 278°20.45' | 326°42.16' | S 14°27.51' | **02** |
| **03** | 265°25.56' | 354°39.51' | S 3°30.93' | 278°51.11' | 341°13.96' | S 9°33.18' | 262°15.45' | 357°49.63' | S 2°05.83' | 293°22.77' | 326°42.31' | S 14°27.47' | **03** |
| **04** | 280°25.38' | 354°42.17' | S 3°29.93' | 293°51.79' | 341°15.75' | S 9°32.49' | 277°17.42' | 357°50.12' | S 2°05.63' | 308°25.08' | 326°42.46' | S 14°27.42' | **04** |
| **05** | 295°25.19' | 354°44.82' | S 3°28.94' | 308°52.48' | 341°17.53' | S 9°31.80' | 292°19.40' | 357°50.61' | S 2°05.42' | 323°27.40' | 326°42.61' | S 14°27.38' | **05** |
| **06** | 310°25.00' | 354°47.47' | S 3°27.95' | 323°53.16' | 341°19.31' | S 9°31.11' | 307°21.37' | 357°51.10' | S 2°05.22' | 338°29.71' | 326°42.76' | S 14°27.34' | **06** |
| **07** | 325°24.81' | 354°50.12' | S 3°26.95' | 338°53.84' | 341°21.10' | S 9°30.42' | 322°23.35' | 357°51.59' | S 2°05.01' | 353°32.03' | 326°42.91' | S 14°27.29' | **07** |
| **08** | 340°24.63' | 354°52.77' | S 3°25.96' | 353°54.52' | 341°22.88' | S 9°29.73' | 337°25.32' | 357°52.08' | S 2°04.80' | 8°34.34' | 326°43.05' | S 14°27.25' | **08** |
| **09** | 355°24.44' | 354°55.43' | S 3°24.96' | 8°55.20' | 341°24.66' | S 9°29.04' | 352°27.29' | 357°52.57' | S 2°04.60' | 23°36.66' | 326°43.20' | S 14°27.21' | **09** |
| **10** | 10°24.25' | 354°58.08' | S 3°23.97' | 23°55.88' | 341°26.45' | S 9°28.35' | 7°29.27' | 357°53.06' | S 2°04.39' | 38°38.98' | 326°43.35' | S 14°27.16' | **10** |
| **11** | 25°24.06' | 355°00.73' | S 3°22.98' | 38°56.56' | 341°28.23' | S 9°27.66' | 22°31.24' | 357°53.55' | S 2°04.19' | 53°41.29' | 326°43.50' | S 14°27.12' | **11** |
| **12** | 40°23.87' | 355°03.38' | S 3°21.98' | 53°57.24' | 341°30.01' | S 9°26.97' | 37°33.22' | 357°54.04' | S 2°03.98' | 68°43.61' | 326°43.65' | S 14°27.08' | **12** |
| **13** | 55°23.69' | 355°06.03' | S 3°20.98' | 68°57.93' | 341°31.79' | S 9°26.28' | 52°35.19' | 357°54.53' | S 2°03.78' | 83°45.92' | 326°43.80' | S 14°27.03' | **13** |
| **14** | 70°23.50' | 355°08.69' | S 3°19.99' | 83°58.61' | 341°33.57' | S 9°25.59' | 67°37.17' | 357°55.02' | S 2°03.57' | 98°48.24' | 326°43.94' | S 14°26.99' | **14** |
| **15** | 85°23.31' | 355°11.34' | S 3°18.99' | 98°59.29' | 341°35.36' | S 9°24.90' | 82°39.14' | 357°55.51' | S 2°03.37' | 113°50.56' | 326°44.09' | S 14°26.95' | **15** |
| **16** | 100°23.12' | 355°13.99' | S 3°18.00' | 113°59.97' | 341°37.14' | S 9°24.21' | 97°41.11' | 357°56.00' | S 2°03.16' | 128°52.87' | 326°44.24' | S 14°26.90' | **16** |
| **17** | 115°22.93' | 355°16.64' | S 3°17.00' | 129°00.66' | 341°38.92' | S 9°23.52' | 112°43.09' | 357°56.49' | S 2°02.96' | 143°55.19' | 326°44.39' | S 14°26.86' | **17** |
| **18** | 130°22.74' | 355°19.29' | S 3°16.00' | 144°01.34' | 341°40.70' | S 9°22.83' | 127°45.06' | 357°56.97' | S 2°02.75' | 158°57.50' | 326°44.53' | S 14°26.82' | **18** |
| **19** | 145°22.56' | 355°21.95' | S 3°15.01' | 159°02.02' | 341°42.48' | S 9°22.14' | 142°47.04' | 357°57.46' | S 2°02.55' | 173°59.82' | 326°44.68' | S 14°26.77' | **19** |
| **20** | 160°22.37' | 355°24.60' | S 3°14.01' | 174°02.70' | 341°44.26' | S 9°21.45' | 157°49.01' | 357°57.95' | S 2°02.34' | 189°02.14' | 326°44.83' | S 14°26.73' | **20** |
| **21** | 175°22.18' | 355°27.25' | S 3°13.01' | 189°03.39' | 341°46.05' | S 9°20.75' | 172°50.99' | 357°58.44' | S 2°02.14' | 204°04.46' | 326°44.98' | S 14°26.69' | **21** |
| **22** | 190°21.99' | 355°29.90' | S 3°12.01' | 204°04.07' | 341°47.83' | S 9°20.06' | 187°52.97' | 357°58.93' | S 2°01.93' | 219°06.77' | 326°45.12' | S 14°26.65' | **22** |
| **23** | 205°21.80' | 355°32.56' | S 3°11.01' | 219°04.75' | 341°49.61' | S 9°19.37' | 202°54.94' | 357°59.42' | S 2°01.73' | 234°09.09' | 326°45.27' | S 14°26.60' | **23** |
| **24** | 220°21.61' | 355°35.21' | S 3°10.01' | 234°05.44' | 341°51.39' | S 9°18.68' | 217°56.92' | 357°59.91' | S 2°01.52' | 249°11.41' | 326°45.42' | S 14°26.56' | **24** |
| | δ 14.9969° | | *d* 0.9916' | δ 15.0113° | | *d* 0.6889' | δ 15.0329° | | *d* 0.2059' | δ 15.0386° | | *d* 0.0438' | |

## *Thursday, April 28th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°36.37' | 15.0015° | 35°20.45' | N 14°04.65' | 0.7894' | 210°28.42' | 14.5571° | 5°28.40' | S 1°54.92' | 14.7063' | 56.6472' | 215°56.82' | **00** |
| **01** | 195°36.46' | 15.0015° | 35°22.82' | N 14°05.44' | 0.7890' | 225°01.88' | 14.5576° | 5°57.41' | S 1°40.22' | 14.7048' | 56.6264' | 230°59.29' | **01** |
| **02** | 210°36.56' | 15.0015° | 35°25.20' | N 14°06.23' | 0.7886' | 239°35.36' | 14.5580° | 6°26.39' | S 1°25.51' | 14.7023' | 56.6055' | 246°01.75' | **02** |
| **03** | 225°36.65' | 15.0015° | 35°27.57' | N 14°07.02' | 0.7882' | 254°08.86' | 14.5584° | 6°55.35' | S 1°10.82' | 14.6987' | 56.5847' | 261°04.22' | **03** |
| **04** | 240°36.74' | 15.0015° | 35°29.94' | N 14°07.81' | 0.7878' | 268°42.39' | 14.5588° | 7°24.29' | S 0°56.12' | 14.6941' | 56.5639' | 276°06.68' | **04** |
| **05** | 255°36.83' | 15.0015° | 35°32.31' | N 14°08.59' | 0.7874' | 283°15.95' | 14.5592° | 7°53.20' | S 0°41.43' | 14.6884' | 56.5432' | 291°09.14' | **05** |
| **06** | 270°36.92' | 15.0015° | 35°34.69' | N 14°09.38' | 0.7870' | 297°49.52' | 14.5596° | 8°22.08' | S 0°26.75' | 14.6817' | 56.5224' | 306°11.61' | **06** |
| **07** | 285°37.01' | 15.0015° | 35°37.06' | N 14°10.17' | 0.7866' | 312°23.12' | 14.5599° | 8°50.95' | S 0°12.08' | 14.6739' | 56.5017' | 321°14.07' | **07** |
| **08** | 300°37.10' | 15.0015° | 35°39.43' | N 14°10.95' | 0.7862' | 326°56.73' | 14.5603° | 9°19.80' | N 0°02.59' | 14.6651' | 56.4810' | 336°16.54' | **08** |
| **09** | 315°37.19' | 15.0015° | 35°41.81' | N 14°11.74' | 0.7858' | 341°30.37' | 14.5606° | 9°48.63' | N 0°17.24' | 14.6553' | 56.4604' | 351°19.00' | **09** |
| **10** | 330°37.28' | 15.0015° | 35°44.18' | N 14°12.52' | 0.7854' | 356°04.02' | 14.5609° | 10°17.44' | N 0°31.89' | 14.6445' | 56.4397' | 6°21.46' | **10** |
| **11** | 345°37.37' | 15.0015° | 35°46.56' | N 14°13.31' | 0.7849' | 10°37.69' | 14.5612° | 10°46.23' | N 0°46.52' | 14.6326' | 56.4191' | 21°23.93' | **11** |
| **12** | 0°37.46' | 15.0015° | 35°48.93' | N 14°14.09' | 0.7845' | 25°11.38' | 14.5614° | 11°15.01' | N 1°01.14' | 14.6197' | 56.3985' | 36°26.39' | **12** |
| **13** | 15°37.55' | 15.0015° | 35°51.30' | N 14°14.88' | 0.7841' | 39°45.08' | 14.5617° | 11°43.78' | N 1°15.75' | 14.6058' | 56.3780' | 51°28.86' | **13** |
| **14** | 30°37.64' | 15.0015° | 35°53.68' | N 14°15.66' | 0.7837' | 54°18.79' | 14.5619° | 12°12.53' | N 1°30.34' | 14.5909' | 56.3575' | 66°31.32' | **14** |
| **15** | 45°37.73' | 15.0015° | 35°56.05' | N 14°16.45' | 0.7833' | 68°52.52' | 14.5621° | 12°41.26' | N 1°44.91' | 14.5750' | 56.3370' | 81°33.78' | **15** |
| **16** | 60°37.82' | 15.0015° | 35°58.43' | N 14°17.23' | 0.7829' | 83°26.26' | 14.5623° | 13°09.99' | N 1°59.47' | 14.5581' | 56.3165' | 96°36.25' | **16** |
| **17** | 75°37.91' | 15.0015° | 36°00.80' | N 14°18.01' | 0.7825' | 98°00.01' | 14.5625° | 13°38.70' | N 2°14.01' | 14.5402' | 56.2960' | 111°38.71' | **17** |
| **18** | 90°38.00' | 15.0015° | 36°03.18' | N 14°18.79' | 0.7821' | 112°33.77' | 14.5626° | 14°07.41' | N 2°28.53' | 14.5213' | 56.2756' | 126°41.18' | **18** |
| **19** | 105°38.08' | 15.0015° | 36°05.56' | N 14°19.57' | 0.7817' | 127°07.53' | 14.5628° | 14°36.11' | N 2°43.03' | 14.5015' | 56.2552' | 141°43.64' | **19** |
| **20** | 120°38.17' | 15.0015° | 36°07.93' | N 14°20.36' | 0.7813' | 141°41.31' | 14.5629° | 15°04.80' | N 2°57.51' | 14.4806' | 56.2349' | 156°46.10' | **20** |
| **21** | 135°38.26' | 15.0015° | 36°10.31' | N 14°21.14' | 0.7809' | 156°15.09' | 14.5630° | 15°33.48' | N 3°11.97' | 14.4587' | 56.2146' | 171°48.57' | **21** |
| **22** | 150°38.35' | 15.0015° | 36°12.69' | N 14°21.92' | 0.7805' | 170°48.88' | 14.5631° | 16°02.16' | N 3°26.41' | 14.4359' | 56.1943' | 186°51.03' | **22** |
| **23** | 165°38.43' | 15.0015° | 36°15.06' | N 14°22.70' | 0.7800' | 185°22.67' | 14.5632° | 16°30.83' | N 3°40.82' | 14.4121' | 56.1740' | 201°53.50' | **23** |
| **24** | 180°38.52' | 15.0014° | 36°17.44' | N 14°23.48' | 0.7796' | 199°56.46' | 14.5633° | 16°59.50' | N 3°55.21' | 14.3873' | 56.1538' | 216°55.96' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8861' | hp (π) 0.1456' | ½Ø 15.3676' | 5.73805805070140 5% -cre |
| | EoT at 12:00 UTC : +2m 29s (δ 0.36 s/h) | | Phase at 12:00 UTC : 332.56° | |
| | Meridian Pass. Time : 11:57:30.152 | | Age : 25.9 day(s) | |

| UT | Venus ♀ (π 0.15') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 220°21.61' | 355°35.21' | S 3°10.01' | 234°05.44' | 341°51.39' | S 9°18.68' | 217°56.92' | 357°59.91' | S 2°01.52' | 249°11.41' | 326°45.42' | S 14°26.56' | **00** |
| **01** | 235°21.43' | 355°37.86' | S 3°09.01' | 249°06.12' | 341°53.17' | S 9°17.99' | 232°58.89' | 358°00.40' | S 2°01.32' | 264°13.73' | 326°45.56' | S 14°26.52' | **01** |
| **02** | 250°21.24' | 355°40.51' | S 3°08.02' | 264°06.80' | 341°54.95' | S 9°17.29' | 248°00.87' | 358°00.88' | S 2°01.11' | 279°16.04' | 326°45.71' | S 14°26.47' | **02** |
| **03** | 265°21.05' | 355°43.17' | S 3°07.02' | 279°07.49' | 341°56.73' | S 9°16.60' | 263°02.84' | 358°01.37' | S 2°00.91' | 294°18.36' | 326°45.85' | S 14°26.43' | **03** |
| **04** | 280°20.86' | 355°45.82' | S 3°06.02' | 294°08.17' | 341°58.51' | S 9°15.91' | 278°04.82' | 358°01.86' | S 2°00.70' | 309°20.68' | 326°46.00' | S 14°26.39' | **04** |
| **05** | 295°20.67' | 355°48.47' | S 3°05.01' | 309°08.85' | 342°00.29' | S 9°15.22' | 293°06.80' | 358°02.35' | S 2°00.50' | 324°23.00' | 326°46.15' | S 14°26.35' | **05** |
| **06** | 310°20.48' | 355°51.13' | S 3°04.01' | 324°09.54' | 342°02.07' | S 9°14.52' | 308°08.77' | 358°02.83' | S 2°00.29' | 339°25.32' | 326°46.29' | S 14°26.30' | **06** |
| **07** | 325°20.29' | 355°53.78' | S 3°03.01' | 339°10.22' | 342°03.85' | S 9°13.83' | 323°10.75' | 358°03.32' | S 2°00.09' | 354°27.63' | 326°46.44' | S 14°26.26' | **07** |
| **08** | 340°20.10' | 355°56.43' | S 3°02.01' | 354°10.91' | 342°05.63' | S 9°13.14' | 338°12.73' | 358°03.81' | S 1°59.89' | 9°29.95' | 326°46.58' | S 14°26.22' | **08** |
| **09** | 355°19.92' | 355°59.08' | S 3°01.01' | 9°11.59' | 342°07.41' | S 9°12.45' | 353°14.70' | 358°04.30' | S 1°59.68' | 24°32.27' | 326°46.73' | S 14°26.18' | **09** |
| **10** | 10°19.73' | 356°01.74' | S 3°00.01' | 24°12.27' | 342°09.19' | S 9°11.75' | 8°16.68' | 358°04.78' | S 1°59.48' | 39°34.59' | 326°46.87' | S 14°26.14' | **10** |
| **11** | 25°19.54' | 356°04.39' | S 2°59.01' | 39°12.96' | 342°10.97' | S 9°11.06' | 23°18.66' | 358°05.27' | S 1°59.27' | 54°36.91' | 326°47.02' | S 14°26.09' | **11** |
| **12** | 40°19.35' | 356°07.04' | S 2°58.00' | 54°13.64' | 342°12.75' | S 9°10.37' | 38°20.63' | 358°05.76' | S 1°59.07' | 69°39.23' | 326°47.16' | S 14°26.05' | **12** |
| **13** | 55°19.16' | 356°09.70' | S 2°57.00' | 69°14.33' | 342°14.53' | S 9°09.67' | 53°22.61' | 358°06.25' | S 1°58.86' | 84°41.55' | 326°47.31' | S 14°26.01' | **13** |
| **14** | 70°18.97' | 356°12.35' | S 2°56.00' | 84°15.01' | 342°16.31' | S 9°08.98' | 68°24.59' | 358°06.73' | S 1°58.66' | 99°43.87' | 326°47.45' | S 14°25.97' | **14** |
| **15** | 85°18.78' | 356°15.00' | S 2°54.99' | 99°15.70' | 342°18.08' | S 9°08.29' | 83°26.56' | 358°07.22' | S 1°58.46' | 114°46.19' | 326°47.60' | S 14°25.92' | **15** |
| **16** | 100°18.59' | 356°17.65' | S 2°53.99' | 114°16.38' | 342°19.86' | S 9°07.59' | 98°28.54' | 358°07.71' | S 1°58.25' | 129°48.51' | 326°47.74' | S 14°25.88' | **16** |
| **17** | 115°18.40' | 356°20.31' | S 2°52.99' | 129°17.07' | 342°21.64' | S 9°06.90' | 113°30.52' | 358°08.19' | S 1°58.05' | 144°50.83' | 326°47.88' | S 14°25.84' | **17** |
| **18** | 130°18.21' | 356°22.96' | S 2°51.98' | 144°17.76' | 342°23.42' | S 9°06.20' | 128°32.50' | 358°08.68' | S 1°57.84' | 159°53.15' | 326°48.03' | S 14°25.80' | **18** |
| **19** | 145°18.03' | 356°25.61' | S 2°50.98' | 159°18.44' | 342°25.20' | S 9°05.51' | 143°34.47' | 358°09.17' | S 1°57.64' | 174°55.47' | 326°48.17' | S 14°25.76' | **19** |
| **20** | 160°17.84' | 356°28.27' | S 2°49.97' | 174°19.13' | 342°26.98' | S 9°04.81' | 158°36.45' | 358°09.65' | S 1°57.44' | 189°57.79' | 326°48.32' | S 14°25.72' | **20** |
| **21** | 175°17.65' | 356°30.92' | S 2°48.97' | 189°19.81' | 342°28.76' | S 9°04.12' | 173°38.43' | 358°10.14' | S 1°57.23' | 205°00.11' | 326°48.46' | S 14°25.67' | **21** |
| **22** | 190°17.46' | 356°33.57' | S 2°47.96' | 204°20.50' | 342°30.53' | S 9°03.43' | 188°40.41' | 358°10.62' | S 1°57.03' | 220°02.43' | 326°48.60' | S 14°25.63' | **22** |
| **23** | 205°17.27' | 356°36.23' | S 2°46.96' | 219°21.19' | 342°32.31' | S 9°02.73' | 203°42.39' | 358°11.11' | S 1°56.83' | 235°04.75' | 326°48.75' | S 14°25.59' | **23** |
| **24** | 220°17.08' | 356°38.88' | S 2°45.95' | 234°21.87' | 342°34.09' | S 9°02.04' | 218°44.36' | 358°11.60' | S 1°56.62' | 250°07.07' | 326°48.89' | S 14°25.55' | **24** |
| | δ 14.9969° | | *d* 0.9992' | δ 15.0114° | | *d* 0.6920' | δ 15.0329° | | *d* 0.2047' | δ 15.0386° | | *d* 0.0427' | |

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°38.52' | 15.0014° | 36°17.44' | N 14°23.48' | 0.7796' | 199°56.46' | 14.5633° | 16°59.50' | N 3°55.21' | 14.3873' | 56.1538' | 216°55.96' | **00** |
| **01** | 195°38.61' | 15.0014° | 36°19.82' | N 14°24.26' | 0.7792' | 214°30.26' | 14.5633° | 17°28.16' | N 4°09.57' | 14.3615' | 56.1336' | 231°58.42' | **01** |
| **02** | 210°38.69' | 15.0014° | 36°22.19' | N 14°25.03' | 0.7788' | 229°04.06' | 14.5633° | 17°56.83' | N 4°23.90' | 14.3348' | 56.1134' | 247°00.89' | **02** |
| **03** | 225°38.78' | 15.0014° | 36°24.57' | N 14°25.81' | 0.7784' | 243°37.86' | 14.5633° | 18°25.49' | N 4°38.21' | 14.3071' | 56.0933' | 262°03.35' | **03** |
| **04** | 240°38.87' | 15.0014° | 36°26.95' | N 14°26.59' | 0.7780' | 258°11.66' | 14.5633° | 18°54.16' | N 4°52.49' | 14.2784' | 56.0732' | 277°05.82' | **04** |
| **05** | 255°38.95' | 15.0014° | 36°29.33' | N 14°27.37' | 0.7776' | 272°45.46' | 14.5633° | 19°22.82' | N 5°06.74' | 14.2488' | 56.0532' | 292°08.28' | **05** |
| **06** | 270°39.04' | 15.0014° | 36°31.71' | N 14°28.15' | 0.7772' | 287°19.25' | 14.5633° | 19°51.49' | N 5°20.96' | 14.2182' | 56.0331' | 307°10.74' | **06** |
| **07** | 285°39.12' | 15.0014° | 36°34.09' | N 14°28.92' | 0.7768' | 301°53.05' | 14.5632° | 20°20.16' | N 5°35.14' | 14.1867' | 56.0132' | 322°13.21' | **07** |
| **08** | 300°39.21' | 15.0014° | 36°36.47' | N 14°29.70' | 0.7763' | 316°26.84' | 14.5632° | 20°48.84' | N 5°49.30' | 14.1542' | 55.9932' | 337°15.67' | **08** |
| **09** | 315°39.29' | 15.0014° | 36°38.84' | N 14°30.47' | 0.7759' | 331°00.62' | 14.5631° | 21°17.52' | N 6°03.42' | 14.1207' | 55.9733' | 352°18.14' | **09** |
| **10** | 330°39.38' | 15.0014° | 36°41.22' | N 14°31.25' | 0.7755' | 345°34.40' | 14.5630° | 21°46.20' | N 6°17.50' | 14.0863' | 55.9534' | 7°20.60' | **10** |
| **11** | 345°39.46' | 15.0014° | 36°43.60' | N 14°32.03' | 0.7751' | 0°08.17' | 14.5629° | 22°14.89' | N 6°31.56' | 14.0510' | 55.9336' | 22°23.06' | **11** |
| **12** | 0°39.55' | 15.0014° | 36°45.98' | N 14°32.80' | 0.7747' | 14°41.93' | 14.5627° | 22°43.59' | N 6°45.57' | 14.0147' | 55.9138' | 37°25.53' | **12** |
| **13** | 15°39.63' | 15.0014° | 36°48.36' | N 14°33.57' | 0.7743' | 29°15.69' | 14.5626° | 23°12.30' | N 6°59.55' | 13.9775' | 55.8941' | 52°27.99' | **13** |
| **14** | 30°39.71' | 15.0014° | 36°50.74' | N 14°34.35' | 0.7738' | 43°49.44' | 14.5624° | 23°41.02' | N 7°13.49' | 13.9393' | 55.8744' | 67°30.46' | **14** |
| **15** | 45°39.80' | 15.0014° | 36°53.12' | N 14°35.12' | 0.7734' | 58°23.17' | 14.5623° | 24°09.75' | N 7°27.39' | 13.9002' | 55.8547' | 82°32.92' | **15** |
| **16** | 60°39.88' | 15.0014° | 36°55.51' | N 14°35.89' | 0.7730' | 72°56.90' | 14.5621° | 24°38.49' | N 7°41.25' | 13.8602' | 55.8351' | 97°35.39' | **16** |
| **17** | 75°39.96' | 15.0014° | 36°57.89' | N 14°36.67' | 0.7726' | 87°30.61' | 14.5619° | 25°07.24' | N 7°55.07' | 13.8192' | 55.8155' | 112°37.85' | **17** |
| **18** | 90°40.05' | 15.0014° | 37°00.27' | N 14°37.44' | 0.7722' | 102°04.31' | 14.5617° | 25°36.01' | N 8°08.84' | 13.7774' | 55.7960' | 127°40.31' | **18** |
| **19** | 105°40.13' | 15.0014° | 37°02.65' | N 14°38.21' | 0.7718' | 116°37.99' | 14.5614° | 26°04.79' | N 8°22.58' | 13.7345' | 55.7765' | 142°42.78' | **19** |
| **20** | 120°40.21' | 15.0014° | 37°05.03' | N 14°38.98' | 0.7713' | 131°11.66' | 14.5612° | 26°33.58' | N 8°36.27' | 13.6908' | 55.7571' | 157°45.24' | **20** |
| **21** | 135°40.29' | 15.0014° | 37°07.41' | N 14°39.75' | 0.7709' | 145°45.32' | 14.5609° | 27°02.39' | N 8°49.92' | 13.6461' | 55.7377' | 172°47.71' | **21** |
| **22** | 150°40.37' | 15.0014° | 37°09.79' | N 14°40.52' | 0.7705' | 160°18.96' | 14.5606° | 27°31.21' | N 9°03.52' | 13.6005' | 55.7184' | 187°50.17' | **22** |
| **23** | 165°40.46' | 15.0014° | 37°12.18' | N 14°41.29' | 0.7701' | 174°52.58' | 14.5604° | 28°00.06' | N 9°17.07' | 13.5540' | 55.6991' | 202°52.63' | **23** |
| **24** | 180°40.54' | 15.0014° | 37°14.56' | N 14°42.06' | 0.7697' | 189°26.18' | 14.5601° | 28°28.92' | N 9°30.58' | 13.5066' | 55.6799' | 217°55.10' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8819' | hp (π) 0.1455' | ½Ø 15.2355' | 1.90651432268493<br>24% -cre |
| | EoT at 12:00 UTC : +2m 38s (δ 0.34 s/h) | | Phase at 12:00 UTC : 344.37° | |
| | Meridian Pass. Time : 11:57:21.817 | | Age : 26.8 day(s) | |

| UT | Venus ♀ (π 0.15') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 220°17.08' | 356°38.88' | S 2°45.95' | 234°21.87' | 342°34.09' | S 9°02.04' | 218°44.36' | 358°11.60' | S 1°56.62' | 250°07.07' | 326°48.89' | S 14°25.55' | **00** |
| **01** | 235°16.89' | 356°41.53' | S 2°44.94' | 249°22.56' | 342°35.87' | S 9°01.34' | 233°46.34' | 358°12.08' | S 1°56.42' | 265°09.39' | 326°49.03' | S 14°25.51' | **01** |
| **02** | 250°16.70' | 356°44.19' | S 2°43.94' | 264°23.24' | 342°37.64' | S 9°00.65' | 248°48.32' | 358°12.57' | S 1°56.22' | 280°11.71' | 326°49.17' | S 14°25.47' | **02** |
| **03** | 265°16.51' | 356°46.84' | S 2°42.93' | 279°23.93' | 342°39.42' | S 8°59.95' | 263°50.30' | 358°13.05' | S 1°56.01' | 295°14.03' | 326°49.32' | S 14°25.42' | **03** |
| **04** | 280°16.32' | 356°49.50' | S 2°41.92' | 294°24.62' | 342°41.20' | S 8°59.26' | 278°52.28' | 358°13.54' | S 1°55.81' | 310°16.36' | 326°49.46' | S 14°25.38' | **04** |
| **05** | 295°16.13' | 356°52.15' | S 2°40.92' | 309°25.31' | 342°42.98' | S 8°58.56' | 293°54.26' | 358°14.02' | S 1°55.61' | 325°18.68' | 326°49.60' | S 14°25.34' | **05** |
| **06** | 310°15.94' | 356°54.80' | S 2°39.91' | 324°25.99' | 342°44.75' | S 8°57.86' | 308°56.24' | 358°14.51' | S 1°55.40' | 340°21.00' | 326°49.74' | S 14°25.30' | **06** |
| **07** | 325°15.75' | 356°57.46' | S 2°38.90' | 339°26.68' | 342°46.53' | S 8°57.17' | 323°58.22' | 358°14.99' | S 1°55.20' | 355°23.32' | 326°49.89' | S 14°25.26' | **07** |
| **08** | 340°15.56' | 357°00.11' | S 2°37.89' | 354°27.37' | 342°48.31' | S 8°56.47' | 339°00.20' | 358°15.48' | S 1°55.00' | 10°25.64' | 326°50.03' | S 14°25.22' | **08** |
| **09** | 355°15.37' | 357°02.76' | S 2°36.88' | 9°28.05' | 342°50.08' | S 8°55.78' | 354°02.17' | 358°15.96' | S 1°54.79' | 25°27.97' | 326°50.17' | S 14°25.18' | **09** |
| **10** | 10°15.18' | 357°05.42' | S 2°35.87' | 24°28.74' | 342°51.86' | S 8°55.08' | 9°04.15' | 358°16.45' | S 1°54.59' | 40°30.29' | 326°50.31' | S 14°25.14' | **10** |
| **11** | 25°14.99' | 357°08.07' | S 2°34.86' | 39°29.43' | 342°53.64' | S 8°54.38' | 24°06.13' | 358°16.93' | S 1°54.39' | 55°32.61' | 326°50.45' | S 14°25.10' | **11** |
| **12** | 40°14.80' | 357°10.73' | S 2°33.85' | 54°30.12' | 342°55.41' | S 8°53.69' | 39°08.11' | 358°17.42' | S 1°54.18' | 70°34.93' | 326°50.59' | S 14°25.05' | **12** |
| **13** | 55°14.61' | 357°13.38' | S 2°32.85' | 69°30.81' | 342°57.19' | S 8°52.99' | 54°10.09' | 358°17.90' | S 1°53.98' | 85°37.26' | 326°50.74' | S 14°25.01' | **13** |
| **14** | 70°14.42' | 357°16.03' | S 2°31.84' | 84°31.49' | 342°58.96' | S 8°52.30' | 69°12.07' | 358°18.38' | S 1°53.78' | 100°39.58' | 326°50.88' | S 14°24.97' | **14** |
| **15** | 85°14.23' | 357°18.69' | S 2°30.82' | 99°32.18' | 343°00.74' | S 8°51.60' | 84°14.05' | 358°18.87' | S 1°53.57' | 115°41.90' | 326°51.02' | S 14°24.93' | **15** |
| **16** | 100°14.04' | 357°21.34' | S 2°29.81' | 114°32.87' | 343°02.52' | S 8°50.90' | 99°16.03' | 358°19.35' | S 1°53.37' | 130°44.23' | 326°51.16' | S 14°24.89' | **16** |
| **17** | 115°13.85' | 357°24.00' | S 2°28.80' | 129°33.56' | 343°04.29' | S 8°50.20' | 114°18.01' | 358°19.84' | S 1°53.17' | 145°46.55' | 326°51.30' | S 14°24.85' | **17** |
| **18** | 130°13.66' | 357°26.65' | S 2°27.79' | 144°34.25' | 343°06.07' | S 8°49.51' | 129°19.99' | 358°20.32' | S 1°52.97' | 160°48.87' | 326°51.44' | S 14°24.81' | **18** |
| **19** | 145°13.47' | 357°29.31' | S 2°26.78' | 159°34.94' | 343°07.84' | S 8°48.81' | 144°21.97' | 358°20.80' | S 1°52.76' | 175°51.20' | 326°51.58' | S 14°24.77' | **19** |
| **20** | 160°13.28' | 357°31.96' | S 2°25.77' | 174°35.62' | 343°09.62' | S 8°48.11' | 159°23.95' | 358°21.29' | S 1°52.56' | 190°53.52' | 326°51.72' | S 14°24.73' | **20** |
| **21** | 175°13.09' | 357°34.61' | S 2°24.76' | 189°36.31' | 343°11.39' | S 8°47.42' | 174°25.93' | 358°21.77' | S 1°52.36' | 205°55.84' | 326°51.86' | S 14°24.69' | **21** |
| **22** | 190°12.90' | 357°37.27' | S 2°23.74' | 204°37.00' | 343°13.17' | S 8°46.72' | 189°27.92' | 358°22.25' | S 1°52.16' | 220°58.17' | 326°52.00' | S 14°24.65' | **22** |
| **23** | 205°12.71' | 357°39.92' | S 2°22.73' | 219°37.69' | 343°14.94' | S 8°46.02' | 204°29.90' | 358°22.74' | S 1°51.95' | 236°00.49' | 326°52.14' | S 14°24.61' | **23** |
| **24** | 220°12.52' | 357°42.58' | S 2°21.72' | 234°38.38' | 343°16.72' | S 8°45.32' | 219°31.88' | 358°23.22' | S 1°51.75' | 251°02.82' | 326°52.28' | S 14°24.57' | **24** |
| | δ 14.9968° | | *d* 1.0063' | δ 15.0114° | | *d* 0.6950' | δ 15.0330° | | *d* 0.2035' | δ 15.0387° | | *d* 0.0415' | |

## *Saturday, April 30th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°40.54' | 15.0014° | 37°14.56' | N 14°42.06' | 0.7697' | 189°26.18' | 14.5601° | 28°28.92' | N 9°30.58' | 13.5066' | 55.6799' | 217°55.10' | **00** |
| **01** | 195°40.62' | 15.0014° | 37°16.94' | N 14°42.83' | 0.7692' | 203°59.77' | 14.5598° | 28°57.79' | N 9°44.03' | 13.4583' | 55.6607' | 232°57.56' | **01** |
| **02** | 210°40.70' | 15.0013° | 37°19.33' | N 14°43.60' | 0.7688' | 218°33.33' | 14.5594° | 29°26.69' | N 9°57.44' | 13.4090' | 55.6416' | 248°00.03' | **02** |
| **03** | 225°40.78' | 15.0013° | 37°21.71' | N 14°44.37' | 0.7684' | 233°06.88' | 14.5591° | 29°55.61' | N 10°10.80' | 13.3589' | 55.6225' | 263°02.49' | **03** |
| **04** | 240°40.86' | 15.0013° | 37°24.09' | N 14°45.14' | 0.7680' | 247°40.40' | 14.5587° | 30°24.55' | N 10°24.11' | 13.3078' | 55.6035' | 278°04.95' | **04** |
| **05** | 255°40.94' | 15.0013° | 37°26.48' | N 14°45.91' | 0.7675' | 262°13.90' | 14.5584° | 30°53.51' | N 10°37.37' | 13.2558' | 55.5845' | 293°07.42' | **05** |
| **06** | 270°41.02' | 15.0013° | 37°28.86' | N 14°46.67' | 0.7671' | 276°47.38' | 14.5580° | 31°22.50' | N 10°50.57' | 13.2029' | 55.5656' | 308°09.88' | **06** |
| **07** | 285°41.10' | 15.0013° | 37°31.24' | N 14°47.44' | 0.7667' | 291°20.84' | 14.5576° | 31°51.51' | N 11°03.72' | 13.1492' | 55.5467' | 323°12.35' | **07** |
| **08** | 300°41.18' | 15.0013° | 37°33.63' | N 14°48.21' | 0.7663' | 305°54.27' | 14.5572° | 32°20.54' | N 11°16.81' | 13.0945' | 55.5279' | 338°14.81' | **08** |
| **09** | 315°41.26' | 15.0013° | 37°36.01' | N 14°48.97' | 0.7659' | 320°27.68' | 14.5568° | 32°49.59' | N 11°29.85' | 13.0389' | 55.5092' | 353°17.27' | **09** |
| **10** | 330°41.34' | 15.0013° | 37°38.40' | N 14°49.74' | 0.7654' | 335°01.06' | 14.5564° | 33°18.68' | N 11°42.83' | 12.9824' | 55.4905' | 8°19.74' | **10** |
| **11** | 345°41.42' | 15.0013° | 37°40.78' | N 14°50.50' | 0.7650' | 349°34.42' | 14.5559° | 33°47.79' | N 11°55.76' | 12.9250' | 55.4719' | 23°22.20' | **11** |
| **12** | 0°41.50' | 15.0013° | 37°43.17' | N 14°51.27' | 0.7646' | 4°07.75' | 14.5555° | 34°16.92' | N 12°08.63' | 12.8668' | 55.4534' | 38°24.67' | **12** |
| **13** | 15°41.58' | 15.0013° | 37°45.56' | N 14°52.03' | 0.7642' | 18°41.05' | 14.5550° | 34°46.08' | N 12°21.43' | 12.8076' | 55.4349' | 53°27.13' | **13** |
| **14** | 30°41.65' | 15.0013° | 37°47.94' | N 14°52.79' | 0.7637' | 33°14.32' | 14.5545° | 35°15.28' | N 12°34.18' | 12.7476' | 55.4165' | 68°29.59' | **14** |
| **15** | 45°41.73' | 15.0013° | 37°50.33' | N 14°53.56' | 0.7633' | 47°47.56' | 14.5541° | 35°44.50' | N 12°46.87' | 12.6866' | 55.3981' | 83°32.06' | **15** |
| **16** | 60°41.81' | 15.0013° | 37°52.71' | N 14°54.32' | 0.7629' | 62°20.78' | 14.5536° | 36°13.75' | N 12°59.49' | 12.6248' | 55.3798' | 98°34.52' | **16** |
| **17** | 75°41.89' | 15.0013° | 37°55.10' | N 14°55.08' | 0.7624' | 76°53.96' | 14.5531° | 36°43.03' | N 13°12.05' | 12.5621' | 55.3616' | 113°36.99' | **17** |
| **18** | 90°41.96' | 15.0013° | 37°57.49' | N 14°55.84' | 0.7620' | 91°27.11' | 14.5526° | 37°12.34' | N 13°24.55' | 12.4985' | 55.3434' | 128°39.45' | **18** |
| **19** | 105°42.04' | 15.0013° | 37°59.87' | N 14°56.61' | 0.7616' | 106°00.24' | 14.5520° | 37°41.68' | N 13°36.99' | 12.4341' | 55.3254' | 143°41.92' | **19** |
| **20** | 120°42.12' | 15.0013° | 38°02.26' | N 14°57.37' | 0.7612' | 120°33.33' | 14.5515° | 38°11.05' | N 13°49.36' | 12.3688' | 55.3074' | 158°44.38' | **20** |
| **21** | 135°42.19' | 15.0013° | 38°04.65' | N 14°58.13' | 0.7607' | 135°06.38' | 14.5509° | 38°40.46' | N 14°01.66' | 12.3025' | 55.2894' | 173°46.84' | **21** |
| **22** | 150°42.27' | 15.0013° | 38°07.04' | N 14°58.89' | 0.7603' | 149°39.41' | 14.5504° | 39°09.90' | N 14°13.89' | 12.2355' | 55.2716' | 188°49.31' | **22** |
| **23** | 165°42.35' | 15.0013° | 38°09.42' | N 14°59.65' | 0.7599' | 164°12.40' | 14.5498° | 39°39.38' | N 14°26.06' | 12.1675' | 55.2538' | 203°51.77' | **23** |
| **24** | 180°42.42' | 15.0013° | 38°11.81' | N 15°00.41' | 0.7594' | 178°45.35' | 14.5493° | 40°08.89' | N 14°38.16' | 12.0987' | 55.2361' | 218°54.24' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | ½Ø 15.8778' | hp (π) 0.1455' | ½Ø 15.1101' | 0.14169469909404 708% -cre | [redacted] | |
| | EoT at 12:00 UTC : +2m 46s (δ 0.31 s/h) | | Phase at 12:00 UTC : 355.96° | | | |
| | Meridian Pass. Time : 11:57:14.012 | | Age : 27.7 day(s) | | | |

| UT | Venus ♀ (π 0.15') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 220°12.52' | 357°42.58' | S 2°21.72' | 234°38.38' | 343°16.72' | S 8°45.32' | 219°31.88' | 358°23.22' | S 1°51.75' | 251°02.82' | 326°52.28' | S 14°24.57' | **00** |
| **01** | 235°12.33' | 357°45.23' | S 2°20.71' | 249°39.07' | 343°18.49' | S 8°44.63' | 234°33.86' | 358°23.70' | S 1°51.55' | 266°05.14' | 326°52.42' | S 14°24.53' | **01** |
| **02** | 250°12.14' | 357°47.89' | S 2°19.69' | 264°39.76' | 343°20.27' | S 8°43.93' | 249°35.84' | 358°24.19' | S 1°51.35' | 281°07.47' | 326°52.56' | S 14°24.49' | **02** |
| **03** | 265°11.95' | 357°50.54' | S 2°18.68' | 279°40.45' | 343°22.04' | S 8°43.23' | 264°37.82' | 358°24.67' | S 1°51.15' | 296°09.79' | 326°52.70' | S 14°24.45' | **03** |
| **04** | 280°11.76' | 357°53.20' | S 2°17.67' | 294°41.14' | 343°23.81' | S 8°42.53' | 279°39.80' | 358°25.15' | S 1°50.94' | 311°12.12' | 326°52.84' | S 14°24.41' | **04** |
| **05** | 295°11.57' | 357°55.85' | S 2°16.65' | 309°41.83' | 343°25.59' | S 8°41.83' | 294°41.78' | 358°25.63' | S 1°50.74' | 326°14.44' | 326°52.98' | S 14°24.37' | **05** |
| **06** | 310°11.38' | 357°58.51' | S 2°15.64' | 324°42.52' | 343°27.36' | S 8°41.13' | 309°43.77' | 358°26.12' | S 1°50.54' | 341°16.77' | 326°53.11' | S 14°24.33' | **06** |
| **07** | 325°11.18' | 358°01.16' | S 2°14.62' | 339°43.21' | 343°29.14' | S 8°40.44' | 324°45.75' | 358°26.60' | S 1°50.34' | 356°19.09' | 326°53.25' | S 14°24.29' | **07** |
| **08** | 340°10.99' | 358°03.82' | S 2°13.61' | 354°43.90' | 343°30.91' | S 8°39.74' | 339°47.73' | 358°27.08' | S 1°50.13' | 11°21.42' | 326°53.39' | S 14°24.25' | **08** |
| **09** | 355°10.80' | 358°06.47' | S 2°12.59' | 9°44.59' | 343°32.68' | S 8°39.04' | 354°49.71' | 358°27.56' | S 1°49.93' | 26°23.74' | 326°53.53' | S 14°24.21' | **09** |
| **10** | 10°10.61' | 358°09.13' | S 2°11.58' | 24°45.28' | 343°34.46' | S 8°38.34' | 9°51.69' | 358°28.04' | S 1°49.73' | 41°26.07' | 326°53.67' | S 14°24.17' | **10** |
| **11** | 25°10.42' | 358°11.78' | S 2°10.56' | 39°45.97' | 343°36.23' | S 8°37.64' | 24°53.68' | 358°28.53' | S 1°49.53' | 56°28.40' | 326°53.81' | S 14°24.13' | **11** |
| **12** | 40°10.23' | 358°14.44' | S 2°09.55' | 54°46.66' | 343°38.00' | S 8°36.94' | 39°55.66' | 358°29.01' | S 1°49.33' | 71°30.72' | 326°53.94' | S 14°24.09' | **12** |
| **13** | 55°10.04' | 358°17.09' | S 2°08.53' | 69°47.35' | 343°39.78' | S 8°36.24' | 54°57.64' | 358°29.49' | S 1°49.13' | 86°33.05' | 326°54.08' | S 14°24.05' | **13** |
| **14** | 70°09.85' | 358°19.75' | S 2°07.51' | 84°48.05' | 343°41.55' | S 8°35.54' | 69°59.62' | 358°29.97' | S 1°48.92' | 101°35.37' | 326°54.22' | S 14°24.01' | **14** |
| **15** | 85°09.66' | 358°22.40' | S 2°06.50' | 99°48.74' | 343°43.32' | S 8°34.84' | 85°01.61' | 358°30.45' | S 1°48.72' | 116°37.70' | 326°54.36' | S 14°23.97' | **15** |
| **16** | 100°09.47' | 358°25.06' | S 2°05.48' | 114°49.43' | 343°45.09' | S 8°34.14' | 100°03.59' | 358°30.93' | S 1°48.52' | 131°40.03' | 326°54.49' | S 14°23.93' | **16** |
| **17** | 115°09.27' | 358°27.71' | S 2°04.46' | 129°50.12' | 343°46.87' | S 8°33.45' | 115°05.57' | 358°31.42' | S 1°48.32' | 146°42.36' | 326°54.63' | S 14°23.89' | **17** |
| **18** | 130°09.08' | 358°30.37' | S 2°03.44' | 144°50.81' | 343°48.64' | S 8°32.75' | 130°07.56' | 358°31.90' | S 1°48.12' | 161°44.68' | 326°54.77' | S 14°23.85' | **18** |
| **19** | 145°08.89' | 358°33.02' | S 2°02.43' | 159°51.50' | 343°50.41' | S 8°32.05' | 145°09.54' | 358°32.38' | S 1°47.92' | 176°47.01' | 326°54.91' | S 14°23.81' | **19** |
| **20** | 160°08.70' | 358°35.68' | S 2°01.41' | 174°52.19' | 343°52.18' | S 8°31.35' | 160°11.52' | 358°32.86' | S 1°47.72' | 191°49.34' | 326°55.04' | S 14°23.77' | **20** |
| **21** | 175°08.51' | 358°38.34' | S 2°00.39' | 189°52.89' | 343°53.96' | S 8°30.65' | 175°13.51' | 358°33.34' | S 1°47.51' | 206°51.66' | 326°55.18' | S 14°23.73' | **21** |
| **22** | 190°08.32' | 358°40.99' | S 1°59.37' | 204°53.58' | 343°55.73' | S 8°29.95' | 190°15.49' | 358°33.82' | S 1°47.31' | 221°53.99' | 326°55.32' | S 14°23.69' | **22** |
| **23** | 205°08.12' | 358°43.65' | S 1°58.35' | 219°54.27' | 343°57.50' | S 8°29.25' | 205°17.47' | 358°34.30' | S 1°47.11' | 236°56.32' | 326°55.45' | S 14°23.65' | **23** |
| **24** | 220°07.93' | 358°46.30' | S 1°57.33' | 234°54.96' | 343°59.27' | S 8°28.54' | 220°19.46' | 358°34.78' | S 1°46.91' | 251°58.65' | 326°55.59' | S 14°23.61' | **24** |
| | δ 14.9968° | | *d* 1.0130' | δ 15.0115° | | *d* 0.6978' | δ 15.0330° | | *d* 0.2023' | δ 15.0387° | | *d* 0.0403' | |

## *Sunday, May 1st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°42.42' | 15.0013° | 38°11.81' | N 15°00.41' | 0.7594' | 178°45.35' | 14.5493° | 40°08.89' | N 14°38.16' | 12.0987' | 55.2361' | 218°54.24' | **00** |
| **01** | 195°42.50' | 15.0013° | 38°14.20' | N 15°01.17' | 0.7590' | 193°18.27' | 14.5487° | 40°38.43' | N 14°50.19' | 12.0290' | 55.2185' | 233°56.70' | **01** |
| **02** | 210°42.57' | 15.0013° | 38°16.59' | N 15°01.93' | 0.7586' | 207°51.15' | 14.5481° | 41°08.01' | N 15°02.15' | 11.9585' | 55.2009' | 248°59.16' | **02** |
| **03** | 225°42.65' | 15.0013° | 38°18.98' | N 15°02.68' | 0.7581' | 222°24.00' | 14.5475° | 41°37.62' | N 15°14.03' | 11.8871' | 55.1834' | 264°01.63' | **03** |
| **04** | 240°42.72' | 15.0012° | 38°21.37' | N 15°03.44' | 0.7577' | 236°56.82' | 14.5469° | 42°07.28' | N 15°25.85' | 11.8148' | 55.1661' | 279°04.09' | **04** |
| **05** | 255°42.80' | 15.0012° | 38°23.76' | N 15°04.20' | 0.7573' | 251°29.59' | 14.5462° | 42°36.97' | N 15°37.59' | 11.7417' | 55.1488' | 294°06.56' | **05** |
| **06** | 270°42.87' | 15.0012° | 38°26.15' | N 15°04.96' | 0.7569' | 266°02.33' | 14.5456° | 43°06.69' | N 15°49.26' | 11.6677' | 55.1315' | 309°09.02' | **06** |
| **07** | 285°42.95' | 15.0012° | 38°28.54' | N 15°05.71' | 0.7564' | 280°35.03' | 14.5450° | 43°36.46' | N 16°00.85' | 11.5929' | 55.1144' | 324°11.48' | **07** |
| **08** | 300°43.02' | 15.0012° | 38°30.93' | N 15°06.47' | 0.7560' | 295°07.69' | 14.5443° | 44°06.26' | N 16°12.37' | 11.5173' | 55.0974' | 339°13.95' | **08** |
| **09** | 315°43.10' | 15.0012° | 38°33.32' | N 15°07.22' | 0.7556' | 309°40.31' | 14.5437° | 44°36.10' | N 16°23.81' | 11.4407' | 55.0804' | 354°16.41' | **09** |
| **10** | 330°43.17' | 15.0012° | 38°35.71' | N 15°07.98' | 0.7551' | 324°12.89' | 14.5430° | 45°05.98' | N 16°35.17' | 11.3634' | 55.0636' | 9°18.88' | **10** |
| **11** | 345°43.24' | 15.0012° | 38°38.10' | N 15°08.73' | 0.7547' | 338°45.44' | 14.5424° | 45°35.91' | N 16°46.46' | 11.2852' | 55.0468' | 24°21.34' | **11** |
| **12** | 0°43.32' | 15.0012° | 38°40.49' | N 15°09.49' | 0.7542' | 353°17.94' | 14.5417° | 46°05.87' | N 16°57.66' | 11.2062' | 55.0301' | 39°23.81' | **12** |
| **13** | 15°43.39' | 15.0012° | 38°42.88' | N 15°10.24' | 0.7538' | 7°50.40' | 14.5410° | 46°35.87' | N 17°08.79' | 11.1263' | 55.0135' | 54°26.27' | **13** |
| **14** | 30°43.46' | 15.0012° | 38°45.27' | N 15°10.99' | 0.7534' | 22°22.82' | 14.5404° | 47°05.91' | N 17°19.84' | 11.0456' | 54.9970' | 69°28.73' | **14** |
| **15** | 45°43.53' | 15.0012° | 38°47.66' | N 15°11.75' | 0.7529' | 36°55.20' | 14.5397° | 47°36.00' | N 17°30.80' | 10.9641' | 54.9807' | 84°31.20' | **15** |
| **16** | 60°43.61' | 15.0012° | 38°50.06' | N 15°12.50' | 0.7525' | 51°27.54' | 14.5390° | 48°06.12' | N 17°41.68' | 10.8818' | 54.9644' | 99°33.66' | **16** |
| **17** | 75°43.68' | 15.0012° | 38°52.45' | N 15°13.25' | 0.7521' | 65°59.84' | 14.5383° | 48°36.29' | N 17°52.48' | 10.7986' | 54.9482' | 114°36.13' | **17** |
| **18** | 90°43.75' | 15.0012° | 38°54.84' | N 15°14.00' | 0.7516' | 80°32.09' | 14.5376° | 49°06.50' | N 18°03.20' | 10.7147' | 54.9321' | 129°38.59' | **18** |
| **19** | 105°43.82' | 15.0012° | 38°57.23' | N 15°14.76' | 0.7512' | 95°04.30' | 14.5369° | 49°36.75' | N 18°13.83' | 10.6299' | 54.9161' | 144°41.05' | **19** |
| **20** | 120°43.89' | 15.0012° | 38°59.63' | N 15°15.51' | 0.7508' | 109°36.47' | 14.5361° | 50°07.05' | N 18°24.37' | 10.5443' | 54.9002' | 159°43.52' | **20** |
| **21** | 135°43.96' | 15.0012° | 39°02.02' | N 15°16.26' | 0.7503' | 124°08.60' | 14.5354° | 50°37.39' | N 18°34.83' | 10.4579' | 54.8844' | 174°45.98' | **21** |
| **22** | 150°44.03' | 15.0012° | 39°04.41' | N 15°17.01' | 0.7499' | 138°40.68' | 14.5347° | 51°07.77' | N 18°45.20' | 10.3707' | 54.8688' | 189°48.45' | **22** |
| **23** | 165°44.10' | 15.0012° | 39°06.81' | N 15°17.76' | 0.7494' | 153°12.72' | 14.5340° | 51°38.19' | N 18°55.48' | 10.2826' | 54.8532' | 204°50.91' | **23** |
| **24** | 180°44.17' | 15.0012° | 39°09.20' | N 15°18.50' | 0.7490' | 167°44.71' | 14.5332° | 52°08.66' | N 19°05.67' | 10.1938' | 54.8378' | 219°53.37' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8738' | hp (π) 0.1455' | ½Ø 14.9947' | 0.41378389843145<br>79% +cre |
| | EoT at 12:00 UTC : +2m 53s (δ 0.29 s/h) | | Phase at 12:00 UTC : 7.35° | |
| | Meridian Pass. Time : 11:57:06.739 | | Age : 0.6 day(s) | |

| UT | Venus ♀ (π 0.15') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 220°07.93' | 358°46.30' | S 1°57.33' | 234°54.96' | 343°59.27' | S 8°28.54' | 220°19.46' | 358°34.78' | S 1°46.91' | 251°58.65' | 326°55.59' | S 14°23.61' | **00** |
| **01** | 235°07.74' | 358°48.96' | S 1°56.31' | 249°55.66' | 344°01.04' | S 8°27.84' | 235°21.44' | 358°35.26' | S 1°46.71' | 267°00.98' | 326°55.72' | S 14°23.57' | **01** |
| **02** | 250°07.55' | 358°51.61' | S 1°55.30' | 264°56.35' | 344°02.82' | S 8°27.14' | 250°23.42' | 358°35.74' | S 1°46.51' | 282°03.30' | 326°55.86' | S 14°23.53' | **02** |
| **03** | 265°07.36' | 358°54.27' | S 1°54.28' | 279°57.04' | 344°04.59' | S 8°26.44' | 265°25.41' | 358°36.22' | S 1°46.31' | 297°05.63' | 326°56.00' | S 14°23.50' | **03** |
| **04** | 280°07.17' | 358°56.93' | S 1°53.26' | 294°57.73' | 344°06.36' | S 8°25.74' | 280°27.39' | 358°36.70' | S 1°46.11' | 312°07.96' | 326°56.13' | S 14°23.46' | **04** |
| **05** | 295°06.97' | 358°59.58' | S 1°52.24' | 309°58.43' | 344°08.13' | S 8°25.04' | 295°29.38' | 358°37.18' | S 1°45.91' | 327°10.29' | 326°56.27' | S 14°23.42' | **05** |
| **06** | 310°06.78' | 359°02.24' | S 1°51.21' | 324°59.12' | 344°09.90' | S 8°24.34' | 310°31.36' | 358°37.66' | S 1°45.71' | 342°12.62' | 326°56.40' | S 14°23.38' | **06** |
| **07** | 325°06.59' | 359°04.89' | S 1°50.19' | 339°59.81' | 344°11.67' | S 8°23.64' | 325°33.35' | 358°38.14' | S 1°45.50' | 357°14.95' | 326°56.54' | S 14°23.34' | **07** |
| **08** | 340°06.40' | 359°07.55' | S 1°49.17' | 355°00.51' | 344°13.44' | S 8°22.94' | 340°35.33' | 358°38.62' | S 1°45.30' | 12°17.28' | 326°56.67' | S 14°23.30' | **08** |
| **09** | 355°06.21' | 359°10.21' | S 1°48.15' | 10°01.20' | 344°15.21' | S 8°22.24' | 355°37.32' | 358°39.10' | S 1°45.10' | 27°19.61' | 326°56.81' | S 14°23.26' | **09** |
| **10** | 10°06.01' | 359°12.86' | S 1°47.13' | 25°01.89' | 344°16.98' | S 8°21.54' | 10°39.30' | 358°39.58' | S 1°44.90' | 42°21.93' | 326°56.94' | S 14°23.22' | **10** |
| **11** | 25°05.82' | 359°15.52' | S 1°46.11' | 40°02.59' | 344°18.75' | S 8°20.83' | 25°41.29' | 358°40.06' | S 1°44.70' | 57°24.26' | 326°57.08' | S 14°23.18' | **11** |
| **12** | 40°05.63' | 359°18.18' | S 1°45.09' | 55°03.28' | 344°20.52' | S 8°20.13' | 40°43.27' | 358°40.53' | S 1°44.50' | 72°26.59' | 326°57.21' | S 14°23.15' | **12** |
| **13** | 55°05.44' | 359°20.83' | S 1°44.06' | 70°03.98' | 344°22.29' | S 8°19.43' | 55°45.26' | 358°41.01' | S 1°44.30' | 87°28.92' | 326°57.35' | S 14°23.11' | **13** |
| **14** | 70°05.24' | 359°23.49' | S 1°43.04' | 85°04.67' | 344°24.06' | S 8°18.73' | 70°47.24' | 358°41.49' | S 1°44.10' | 102°31.25' | 326°57.48' | S 14°23.07' | **14** |
| **15** | 85°05.05' | 359°26.15' | S 1°42.02' | 100°05.36' | 344°25.83' | S 8°18.03' | 85°49.23' | 358°41.97' | S 1°43.90' | 117°33.58' | 326°57.61' | S 14°23.03' | **15** |
| **16** | 100°04.86' | 359°28.80' | S 1°41.00' | 115°06.06' | 344°27.60' | S 8°17.32' | 100°51.21' | 358°42.45' | S 1°43.70' | 132°35.91' | 326°57.75' | S 14°22.99' | **16** |
| **17** | 115°04.67' | 359°31.46' | S 1°39.97' | 130°06.75' | 344°29.37' | S 8°16.62' | 115°53.20' | 358°42.93' | S 1°43.50' | 147°38.24' | 326°57.88' | S 14°22.95' | **17** |
| **18** | 130°04.47' | 359°34.12' | S 1°38.95' | 145°07.45' | 344°31.14' | S 8°15.92' | 130°55.18' | 358°43.41' | S 1°43.30' | 162°40.58' | 326°58.01' | S 14°22.92' | **18** |
| **19** | 145°04.28' | 359°36.77' | S 1°37.93' | 160°08.14' | 344°32.91' | S 8°15.22' | 145°57.17' | 358°43.88' | S 1°43.10' | 177°42.91' | 326°58.15' | S 14°22.88' | **19** |
| **20** | 160°04.09' | 359°39.43' | S 1°36.90' | 175°08.84' | 344°34.68' | S 8°14.51' | 160°59.16' | 358°44.36' | S 1°42.90' | 192°45.24' | 326°58.28' | S 14°22.84' | **20** |
| **21** | 175°03.89' | 359°42.09' | S 1°35.88' | 190°09.53' | 344°36.45' | S 8°13.81' | 176°01.14' | 358°44.84' | S 1°42.70' | 207°47.57' | 326°58.41' | S 14°22.80' | **21** |
| **22** | 190°03.70' | 359°44.74' | S 1°34.85' | 205°10.23' | 344°38.22' | S 8°13.11' | 191°03.13' | 358°45.32' | S 1°42.50' | 222°49.90' | 326°58.55' | S 14°22.76' | **22** |
| **23** | 205°03.51' | 359°47.40' | S 1°33.83' | 220°10.92' | 344°39.99' | S 8°12.41' | 206°05.12' | 358°45.80' | S 1°42.30' | 237°52.23' | 326°58.68' | S 14°22.72' | **23** |
| **24** | 220°03.32' | 359°50.06' | S 1°32.80' | 235°11.62' | 344°41.76' | S 8°11.70' | 221°07.10' | 358°46.27' | S 1°42.10' | 252°54.56' | 326°58.81' | S 14°22.69' | **24** |
| | δ 14.9968° | | *d* 1.0193' | δ 15.0115° | | *d* 0.7005' | δ 15.0331° | | *d* 0.2010' | δ 15.0388° | | *d* 0.0391' | |

## *Monday, May 2nd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°44.17' | 15.0012° | 39°09.20' | N 15°18.50' | 0.7490' | 167°44.71' | 14.5332° | 52°08.66' | N 19°05.67' | 10.1938' | 54.8378' | 219°53.37' | **00** |
| **01** | 195°44.24' | 15.0012° | 39°11.59' | N 15°19.25' | 0.7486' | 182°16.66' | 14.5325° | 52°39.18' | N 19°15.78' | 10.1043' | 54.8225' | 234°55.84' | **01** |
| **02** | 210°44.31' | 15.0012° | 39°13.99' | N 15°20.00' | 0.7481' | 196°48.57' | 14.5318° | 53°09.73' | N 19°25.79' | 10.0139' | 54.8072' | 249°58.30' | **02** |
| **03** | 225°44.38' | 15.0012° | 39°16.38' | N 15°20.75' | 0.7477' | 211°20.43' | 14.5310° | 53°40.33' | N 19°35.72' | 9.9227' | 54.7921' | 265°00.77' | **03** |
| **04** | 240°44.45' | 15.0012° | 39°18.78' | N 15°21.50' | 0.7472' | 225°52.25' | 14.5303° | 54°10.98' | N 19°45.55' | 9.8308' | 54.7771' | 280°03.23' | **04** |
| **05** | 255°44.52' | 15.0012° | 39°21.17' | N 15°22.24' | 0.7468' | 240°24.02' | 14.5296° | 54°41.67' | N 19°55.28' | 9.7381' | 54.7623' | 295°05.70' | **05** |
| **06** | 270°44.59' | 15.0011° | 39°23.57' | N 15°22.99' | 0.7463' | 254°55.75' | 14.5288° | 55°12.41' | N 20°04.93' | 9.6446' | 54.7475' | 310°08.16' | **06** |
| **07** | 285°44.66' | 15.0011° | 39°25.96' | N 15°23.74' | 0.7459' | 269°27.43' | 14.5281° | 55°43.19' | N 20°14.48' | 9.5503' | 54.7329' | 325°10.62' | **07** |
| **08** | 300°44.73' | 15.0011° | 39°28.36' | N 15°24.48' | 0.7455' | 283°59.07' | 14.5273° | 56°14.01' | N 20°23.93' | 9.4553' | 54.7184' | 340°13.09' | **08** |
| **09** | 315°44.80' | 15.0011° | 39°30.76' | N 15°25.23' | 0.7450' | 298°30.67' | 14.5266° | 56°44.88' | N 20°33.29' | 9.3596' | 54.7040' | 355°15.55' | **09** |
| **10** | 330°44.86' | 15.0011° | 39°33.15' | N 15°25.97' | 0.7446' | 313°02.22' | 14.5258° | 57°15.80' | N 20°42.56' | 9.2630' | 54.6898' | 10°18.02' | **10** |
| **11** | 345°44.93' | 15.0011° | 39°35.55' | N 15°26.71' | 0.7441' | 327°33.72' | 14.5251° | 57°46.76' | N 20°51.72' | 9.1658' | 54.6757' | 25°20.48' | **11** |
| **12** | 0°45.00' | 15.0011° | 39°37.94' | N 15°27.46' | 0.7437' | 342°05.18' | 14.5243° | 58°17.77' | N 21°00.79' | 9.0678' | 54.6617' | 40°22.94' | **12** |
| **13** | 15°45.07' | 15.0011° | 39°40.34' | N 15°28.20' | 0.7432' | 356°36.59' | 14.5236° | 58°48.82' | N 21°09.76' | 8.9691' | 54.6478' | 55°25.41' | **13** |
| **14** | 30°45.13' | 15.0011° | 39°42.74' | N 15°28.94' | 0.7428' | 11°07.96' | 14.5228° | 59°19.91' | N 21°18.63' | 8.8696' | 54.6341' | 70°27.87' | **14** |
| **15** | 45°45.20' | 15.0011° | 39°45.14' | N 15°29.69' | 0.7423' | 25°39.28' | 14.5221° | 59°51.05' | N 21°27.40' | 8.7694' | 54.6205' | 85°30.34' | **15** |
| **16** | 60°45.27' | 15.0011° | 39°47.53' | N 15°30.43' | 0.7419' | 40°10.56' | 14.5213° | 60°22.24' | N 21°36.07' | 8.6685' | 54.6070' | 100°32.80' | **16** |
| **17** | 75°45.33' | 15.0011° | 39°49.93' | N 15°31.17' | 0.7415' | 54°41.79' | 14.5206° | 60°53.47' | N 21°44.63' | 8.5669' | 54.5937' | 115°35.26' | **17** |
| **18** | 90°45.40' | 15.0011° | 39°52.33' | N 15°31.91' | 0.7410' | 69°12.98' | 14.5198° | 61°24.75' | N 21°53.10' | 8.4646' | 54.5805' | 130°37.73' | **18** |
| **19** | 105°45.47' | 15.0011° | 39°54.73' | N 15°32.65' | 0.7406' | 83°44.13' | 14.5191° | 61°56.07' | N 22°01.46' | 8.3616' | 54.5675' | 145°40.19' | **19** |
| **20** | 120°45.53' | 15.0011° | 39°57.13' | N 15°33.39' | 0.7401' | 98°15.22' | 14.5183° | 62°27.43' | N 22°09.72' | 8.2578' | 54.5546' | 160°42.66' | **20** |
| **21** | 135°45.60' | 15.0011° | 39°59.53' | N 15°34.13' | 0.7397' | 112°46.28' | 14.5176° | 62°58.84' | N 22°17.87' | 8.1534' | 54.5419' | 175°45.12' | **21** |
| **22** | 150°45.66' | 15.0011° | 40°01.92' | N 15°34.87' | 0.7392' | 127°17.29' | 14.5168° | 63°30.30' | N 22°25.92' | 8.0484' | 54.5293' | 190°47.59' | **22** |
| **23** | 165°45.73' | 15.0011° | 40°04.32' | N 15°35.61' | 0.7388' | 141°48.26' | 14.5161° | 64°01.79' | N 22°33.86' | 7.9426' | 54.5168' | 205°50.05' | **23** |
| **24** | 180°45.79' | 15.0011° | 40°06.72' | N 15°36.35' | 0.7383' | 156°19.18' | 14.5154° | 64°33.33' | N 22°41.70' | 7.8362' | 54.5045' | 220°52.51' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.8698' | hp (π) 0.1454' | ½Ø 14.8944' | 2.61409027804349 6% +cre | |
| EoT at 12:00 UTC : +2m 60s (δ 0.27 s/h) | | Phase at 12:00 UTC : 18.55° | | |
| Meridian Pass. Time : 11:57:00.002 | | Age : 1.4 day(s) | | |

| UT | Venus ♀ (π 0.15') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 220°03.32' | 359°50.06' | S 1°32.80' | 235°11.62' | 344°41.76' | S 8°11.70' | 221°07.10' | 358°46.27' | S 1°42.10' | 252°54.56' | 326°58.81' | S 14°22.69' | **00** |
| **01** | 235°03.12' | 359°52.72' | S 1°31.78' | 250°12.31' | 344°43.53' | S 8°11.00' | 236°09.09' | 358°46.75' | S 1°41.90' | 267°56.89' | 326°58.95' | S 14°22.65' | **01** |
| **02** | 250°02.93' | 359°55.37' | S 1°30.75' | 265°13.01' | 344°45.29' | S 8°10.30' | 251°11.08' | 358°47.23' | S 1°41.70' | 282°59.23' | 326°59.08' | S 14°22.61' | **02** |
| **03** | 265°02.74' | 359°58.03' | S 1°29.73' | 280°13.70' | 344°47.06' | S 8°09.59' | 266°13.06' | 358°47.70' | S 1°41.50' | 298°01.56' | 326°59.21' | S 14°22.57' | **03** |
| **04** | 280°02.54' | 0°00.69' | S 1°28.70' | 295°14.40' | 344°48.83' | S 8°08.89' | 281°15.05' | 358°48.18' | S 1°41.30' | 313°03.89' | 326°59.34' | S 14°22.54' | **04** |
| **05** | 295°02.35' | 0°03.35' | S 1°27.68' | 310°15.10' | 344°50.60' | S 8°08.19' | 296°17.04' | 358°48.66' | S 1°41.10' | 328°06.22' | 326°59.47' | S 14°22.50' | **05** |
| **06** | 310°02.16' | 0°06.00' | S 1°26.65' | 325°15.79' | 344°52.37' | S 8°07.48' | 311°19.02' | 358°49.14' | S 1°40.90' | 343°08.55' | 326°59.61' | S 14°22.46' | **06** |
| **07** | 325°01.96' | 0°08.66' | S 1°25.62' | 340°16.49' | 344°54.13' | S 8°06.78' | 326°21.01' | 358°49.61' | S 1°40.70' | 358°10.89' | 326°59.74' | S 14°22.42' | **07** |
| **08** | 340°01.77' | 0°11.32' | S 1°24.60' | 355°17.19' | 344°55.90' | S 8°06.08' | 341°23.00' | 358°50.09' | S 1°40.50' | 13°13.22' | 326°59.87' | S 14°22.38' | **08** |
| **09** | 355°01.58' | 0°13.98' | S 1°23.57' | 10°17.88' | 344°57.67' | S 8°05.37' | 356°24.99' | 358°50.57' | S 1°40.30' | 28°15.55' | 327°00.00' | S 14°22.35' | **09** |
| **10** | 10°01.38' | 0°16.63' | S 1°22.54' | 25°18.58' | 344°59.44' | S 8°04.67' | 11°26.97' | 358°51.04' | S 1°40.11' | 43°17.88' | 327°00.13' | S 14°22.31' | **10** |
| **11** | 25°01.19' | 0°19.29' | S 1°21.52' | 40°19.27' | 345°01.21' | S 8°03.96' | 26°28.96' | 358°51.52' | S 1°39.91' | 58°20.22' | 327°00.26' | S 14°22.27' | **11** |
| **12** | 40°00.99' | 0°21.95' | S 1°20.49' | 55°19.97' | 345°02.97' | S 8°03.26' | 41°30.95' | 358°51.99' | S 1°39.71' | 73°22.55' | 327°00.39' | S 14°22.23' | **12** |
| **13** | 55°00.80' | 0°24.61' | S 1°19.46' | 70°20.67' | 345°04.74' | S 8°02.56' | 56°32.94' | 358°52.47' | S 1°39.51' | 88°24.88' | 327°00.52' | S 14°22.20' | **13** |
| **14** | 70°00.61' | 0°27.27' | S 1°18.43' | 85°21.37' | 345°06.51' | S 8°01.85' | 71°34.93' | 358°52.95' | S 1°39.31' | 103°27.22' | 327°00.65' | S 14°22.16' | **14** |
| **15** | 85°00.41' | 0°29.92' | S 1°17.40' | 100°22.06' | 345°08.27' | S 8°01.15' | 86°36.92' | 358°53.42' | S 1°39.11' | 118°29.55' | 327°00.79' | S 14°22.12' | **15** |
| **16** | 100°00.22' | 0°32.58' | S 1°16.37' | 115°22.76' | 345°10.04' | S 8°00.44' | 101°38.90' | 358°53.90' | S 1°38.91' | 133°31.88' | 327°00.92' | S 14°22.09' | **16** |
| **17** | 115°00.02' | 0°35.24' | S 1°15.35' | 130°23.46' | 345°11.81' | S 7°59.74' | 116°40.89' | 358°54.37' | S 1°38.71' | 148°34.22' | 327°01.05' | S 14°22.05' | **17** |
| **18** | 129°59.83' | 0°37.90' | S 1°14.32' | 145°24.16' | 345°13.57' | S 7°59.03' | 131°42.88' | 358°54.85' | S 1°38.51' | 163°36.55' | 327°01.18' | S 14°22.01' | **18** |
| **19** | 144°59.64' | 0°40.56' | S 1°13.29' | 160°24.85' | 345°15.34' | S 7°58.33' | 146°44.87' | 358°55.32' | S 1°38.31' | 178°38.89' | 327°01.31' | S 14°21.97' | **19** |
| **20** | 159°59.44' | 0°43.22' | S 1°12.26' | 175°25.55' | 345°17.11' | S 7°57.62' | 161°46.86' | 358°55.80' | S 1°38.12' | 193°41.22' | 327°01.44' | S 14°21.94' | **20** |
| **21** | 174°59.25' | 0°45.87' | S 1°11.23' | 190°26.25' | 345°18.87' | S 7°56.92' | 176°48.85' | 358°56.27' | S 1°37.92' | 208°43.56' | 327°01.57' | S 14°21.90' | **21** |
| **22** | 189°59.05' | 0°48.53' | S 1°10.20' | 205°26.95' | 345°20.64' | S 7°56.21' | 191°50.84' | 358°56.75' | S 1°37.72' | 223°45.89' | 327°01.69' | S 14°21.86' | **22** |
| **23** | 204°58.86' | 0°51.19' | S 1°09.17' | 220°27.64' | 345°22.40' | S 7°55.51' | 206°52.83' | 358°57.22' | S 1°37.52' | 238°48.23' | 327°01.82' | S 14°21.83' | **23** |
| **24** | 219°58.66' | 0°53.85' | S 1°08.14' | 235°28.34' | 345°24.17' | S 7°54.80' | 221°54.82' | 358°57.70' | S 1°37.32' | 253°50.56' | 327°01.95' | S 14°21.79' | **24** |
| | δ 14.9968° | | *d* 1.0251' | δ 15.0116° | | *d* 0.7030' | δ 15.0331° | | *d* 0.1998' | δ 15.0389° | | *d* 0.0379' | |

## *Tuesday, May 3rd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°45.79' | 15.0011° | 40°06.72' | N 15°36.35' | 0.7383' | 156°19.18' | 14.5154° | 64°33.33' | N 22°41.70' | 7.8362' | 54.5045' | 220°52.51' | **00** |
| **01** | 195°45.86' | 15.0011° | 40°09.12' | N 15°37.09' | 0.7379' | 170°50.06' | 14.5147° | 65°04.92' | N 22°49.43' | 7.7291' | 54.4924' | 235°54.98' | **01** |
| **02** | 210°45.92' | 15.0011° | 40°11.52' | N 15°37.82' | 0.7374' | 185°20.89' | 14.5139° | 65°36.55' | N 22°57.05' | 7.6214' | 54.4804' | 250°57.44' | **02** |
| **03** | 225°45.98' | 15.0011° | 40°13.92' | N 15°38.56' | 0.7370' | 199°51.69' | 14.5132° | 66°08.22' | N 23°04.56' | 7.5130' | 54.4685' | 265°59.91' | **03** |
| **04** | 240°46.05' | 15.0011° | 40°16.32' | N 15°39.30' | 0.7365' | 214°22.44' | 14.5125° | 66°39.93' | N 23°11.97' | 7.4040' | 54.4568' | 281°02.37' | **04** |
| **05** | 255°46.11' | 15.0011° | 40°18.72' | N 15°40.03' | 0.7361' | 228°53.14' | 14.5118° | 67°11.69' | N 23°19.26' | 7.2943' | 54.4453' | 296°04.83' | **05** |
| **06** | 270°46.17' | 15.0011° | 40°21.12' | N 15°40.77' | 0.7356' | 243°23.81' | 14.5111° | 67°43.49' | N 23°26.44' | 7.1840' | 54.4339' | 311°07.30' | **06** |
| **07** | 285°46.24' | 15.0011° | 40°23.53' | N 15°41.50' | 0.7352' | 257°54.43' | 14.5104° | 68°15.33' | N 23°33.52' | 7.0732' | 54.4227' | 326°09.76' | **07** |
| **08** | 300°46.30' | 15.0010° | 40°25.93' | N 15°42.24' | 0.7347' | 272°25.02' | 14.5097° | 68°47.21' | N 23°40.48' | 6.9617' | 54.4117' | 341°12.23' | **08** |
| **09** | 315°46.36' | 15.0010° | 40°28.33' | N 15°42.97' | 0.7342' | 286°55.56' | 14.5090° | 69°19.13' | N 23°47.33' | 6.8496' | 54.4008' | 356°14.69' | **09** |
| **10** | 330°46.42' | 15.0010° | 40°30.73' | N 15°43.71' | 0.7338' | 301°26.06' | 14.5083° | 69°51.10' | N 23°54.07' | 6.7369' | 54.3901' | 11°17.16' | **10** |
| **11** | 345°46.49' | 15.0010° | 40°33.13' | N 15°44.44' | 0.7333' | 315°56.52' | 14.5077° | 70°23.10' | N 24°00.69' | 6.6236' | 54.3795' | 26°19.62' | **11** |
| **12** | 0°46.55' | 15.0010° | 40°35.53' | N 15°45.17' | 0.7329' | 330°26.94' | 14.5070° | 70°55.15' | N 24°07.20' | 6.5098' | 54.3692' | 41°22.08' | **12** |
| **13** | 15°46.61' | 15.0010° | 40°37.94' | N 15°45.90' | 0.7324' | 344°57.32' | 14.5063° | 71°27.23' | N 24°13.60' | 6.3954' | 54.3590' | 56°24.55' | **13** |
| **14** | 30°46.67' | 15.0010° | 40°40.34' | N 15°46.64' | 0.7320' | 359°27.66' | 14.5057° | 71°59.35' | N 24°19.88' | 6.2804' | 54.3489' | 71°27.01' | **14** |
| **15** | 45°46.73' | 15.0010° | 40°42.74' | N 15°47.37' | 0.7315' | 13°57.96' | 14.5051° | 72°31.51' | N 24°26.04' | 6.1649' | 54.3391' | 86°29.48' | **15** |
| **16** | 60°46.79' | 15.0010° | 40°45.15' | N 15°48.10' | 0.7311' | 28°28.23' | 14.5044° | 73°03.71' | N 24°32.09' | 6.0488' | 54.3294' | 101°31.94' | **16** |
| **17** | 75°46.85' | 15.0010° | 40°47.55' | N 15°48.83' | 0.7306' | 42°58.46' | 14.5038° | 73°35.95' | N 24°38.02' | 5.9322' | 54.3199' | 116°34.40' | **17** |
| **18** | 90°46.91' | 15.0010° | 40°49.95' | N 15°49.56' | 0.7302' | 57°28.65' | 14.5032° | 74°08.22' | N 24°43.84' | 5.8151' | 54.3106' | 131°36.87' | **18** |
| **19** | 105°46.98' | 15.0010° | 40°52.36' | N 15°50.29' | 0.7297' | 71°58.80' | 14.5026° | 74°40.53' | N 24°49.53' | 5.6975' | 54.3014' | 146°39.33' | **19** |
| **20** | 120°47.04' | 15.0010° | 40°54.76' | N 15°51.02' | 0.7292' | 86°28.92' | 14.5020° | 75°12.88' | N 24°55.11' | 5.5794' | 54.2925' | 161°41.80' | **20** |
| **21** | 135°47.09' | 15.0010° | 40°57.17' | N 15°51.75' | 0.7288' | 100°59.00' | 14.5014° | 75°45.26' | N 25°00.57' | 5.4608' | 54.2837' | 176°44.26' | **21** |
| **22** | 150°47.15' | 15.0010° | 40°59.57' | N 15°52.48' | 0.7283' | 115°29.05' | 14.5008° | 76°17.67' | N 25°05.92' | 5.3417' | 54.2751' | 191°46.73' | **22** |
| **23** | 165°47.21' | 15.0010° | 41°01.98' | N 15°53.20' | 0.7279' | 129°59.07' | 14.5003° | 76°50.12' | N 25°11.14' | 5.2221' | 54.2667' | 206°49.19' | **23** |
| **24** | 180°47.27' | 15.0010° | 41°04.38' | N 15°53.93' | 0.7274' | 144°29.05' | 14.4997° | 77°22.60' | N 25°16.24' | 5.1021' | 54.2585' | 221°51.65' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8659' | hp (π) 0.1454' | ½Ø 14.8147' | 6.57516520551918<br>4% +cre |
| | EoT at 12:00 UTC : +3m 6s (δ 0.25 s/h) | | Phase at 12:00 UTC : 29.59° | |
| | Meridian Pass. Time : 11:56:53.805 | | Age : 2.3 day(s) | |

| UT | Venus ♀ (π 0.14') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 219°58.66' | 0°53.85' | S 1°08.14' | 235°28.34' | 345°24.17' | S 7°54.80' | 221°54.82' | 358°57.70' | S 1°37.32' | 253°50.56' | 327°01.95' | S 14°21.79' | **00** |
| **01** | 234°58.47' | 0°56.51' | S 1°07.11' | 250°29.04' | 345°25.94' | S 7°54.10' | 236°56.81' | 358°58.17' | S 1°37.12' | 268°52.90' | 327°02.08' | S 14°21.75' | **01** |
| **02** | 249°58.28' | 0°59.17' | S 1°06.08' | 265°29.74' | 345°27.70' | S 7°53.39' | 251°58.80' | 358°58.65' | S 1°36.92' | 283°55.23' | 327°02.21' | S 14°21.72' | **02** |
| **03** | 264°58.08' | 1°01.83' | S 1°05.05' | 280°30.44' | 345°29.47' | S 7°52.69' | 267°00.79' | 358°59.12' | S 1°36.73' | 298°57.57' | 327°02.34' | S 14°21.68' | **03** |
| **04** | 279°57.89' | 1°04.49' | S 1°04.02' | 295°31.14' | 345°31.23' | S 7°51.98' | 282°02.78' | 358°59.60' | S 1°36.53' | 313°59.90' | 327°02.47' | S 14°21.64' | **04** |
| **05** | 294°57.69' | 1°07.14' | S 1°02.99' | 310°31.84' | 345°33.00' | S 7°51.27' | 297°04.77' | 359°00.07' | S 1°36.33' | 329°02.24' | 327°02.60' | S 14°21.61' | **05** |
| **06** | 309°57.50' | 1°09.80' | S 1°01.95' | 325°32.54' | 345°34.76' | S 7°50.57' | 312°06.76' | 359°00.54' | S 1°36.13' | 344°04.57' | 327°02.73' | S 14°21.57' | **06** |
| **07** | 324°57.30' | 1°12.46' | S 1°00.92' | 340°33.23' | 345°36.53' | S 7°49.86' | 327°08.75' | 359°01.02' | S 1°35.93' | 359°06.91' | 327°02.85' | S 14°21.53' | **07** |
| **08** | 339°57.11' | 1°15.12' | S 0°59.89' | 355°33.93' | 345°38.29' | S 7°49.16' | 342°10.74' | 359°01.49' | S 1°35.74' | 14°09.25' | 327°02.98' | S 14°21.50' | **08** |
| **09** | 354°56.91' | 1°17.78' | S 0°58.86' | 10°34.63' | 345°40.06' | S 7°48.45' | 357°12.73' | 359°01.96' | S 1°35.54' | 29°11.58' | 327°03.11' | S 14°21.46' | **09** |
| **10** | 9°56.72' | 1°20.44' | S 0°57.83' | 25°35.33' | 345°41.82' | S 7°47.74' | 12°14.72' | 359°02.44' | S 1°35.34' | 44°13.92' | 327°03.24' | S 14°21.43' | **10** |
| **11** | 24°56.52' | 1°23.10' | S 0°56.79' | 40°36.03' | 345°43.59' | S 7°47.04' | 27°16.71' | 359°02.91' | S 1°35.14' | 59°16.26' | 327°03.36' | S 14°21.39' | **11** |
| **12** | 39°56.32' | 1°25.76' | S 0°55.76' | 55°36.73' | 345°45.35' | S 7°46.33' | 42°18.70' | 359°03.38' | S 1°34.94' | 74°18.59' | 327°03.49' | S 14°21.35' | **12** |
| **13** | 54°56.13' | 1°28.42' | S 0°54.73' | 70°37.43' | 345°47.12' | S 7°45.62' | 57°20.69' | 359°03.86' | S 1°34.75' | 89°20.93' | 327°03.62' | S 14°21.32' | **13** |
| **14** | 69°55.93' | 1°31.08' | S 0°53.69' | 85°38.13' | 345°48.88' | S 7°44.92' | 72°22.68' | 359°04.33' | S 1°34.55' | 104°23.27' | 327°03.75' | S 14°21.28' | **14** |
| **15** | 84°55.74' | 1°33.74' | S 0°52.66' | 100°38.83' | 345°50.64' | S 7°44.21' | 87°24.67' | 359°04.80' | S 1°34.35' | 119°25.60' | 327°03.87' | S 14°21.24' | **15** |
| **16** | 99°55.54' | 1°36.40' | S 0°51.63' | 115°39.53' | 345°52.41' | S 7°43.50' | 102°26.66' | 359°05.28' | S 1°34.15' | 134°27.94' | 327°04.00' | S 14°21.21' | **16** |
| **17** | 114°55.35' | 1°39.06' | S 0°50.59' | 130°40.23' | 345°54.17' | S 7°42.80' | 117°28.66' | 359°05.75' | S 1°33.96' | 149°30.28' | 327°04.13' | S 14°21.17' | **17** |
| **18** | 129°55.15' | 1°41.72' | S 0°49.56' | 145°40.93' | 345°55.94' | S 7°42.09' | 132°30.65' | 359°06.22' | S 1°33.76' | 164°32.62' | 327°04.25' | S 14°21.14' | **18** |
| **19** | 144°54.95' | 1°44.38' | S 0°48.53' | 160°41.63' | 345°57.70' | S 7°41.38' | 147°32.64' | 359°06.69' | S 1°33.56' | 179°34.95' | 327°04.38' | S 14°21.10' | **19** |
| **20** | 159°54.76' | 1°47.04' | S 0°47.49' | 175°42.33' | 345°59.46' | S 7°40.68' | 162°34.63' | 359°07.17' | S 1°33.36' | 194°37.29' | 327°04.51' | S 14°21.07' | **20** |
| **21** | 174°54.56' | 1°49.70' | S 0°46.46' | 190°43.03' | 346°01.23' | S 7°39.97' | 177°36.62' | 359°07.64' | S 1°33.17' | 209°39.63' | 327°04.63' | S 14°21.03' | **21** |
| **22** | 189°54.37' | 1°52.36' | S 0°45.42' | 205°43.74' | 346°02.99' | S 7°39.26' | 192°38.62' | 359°08.11' | S 1°32.97' | 224°41.97' | 327°04.76' | S 14°20.99' | **22** |
| **23** | 204°54.17' | 1°55.02' | S 0°44.39' | 220°44.44' | 346°04.75' | S 7°38.55' | 207°40.61' | 359°08.58' | S 1°32.77' | 239°44.31' | 327°04.88' | S 14°20.96' | **23** |
| **24** | 219°53.97' | 1°57.68' | S 0°43.35' | 235°45.14' | 346°06.52' | S 7°37.85' | 222°42.60' | 359°09.05' | S 1°32.57' | 254°46.65' | 327°05.01' | S 14°20.92' | **24** |
| | δ 14.9968° | | *d* 1.0304' | δ 15.0116° | | *d* 0.7055' | δ 15.0332° | | *d* 0.1984' | δ 15.0389° | | *d* 0.0367' | |

## *Wednesday, May 4th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°47.27' | 15.0010° | 41°04.38' | N 15°53.93' | 0.7274' | 144°29.05' | 14.4997° | 77°22.60' | N 25°16.24' | 5.1021' | 54.2585' | 221°51.65' | **00** |
| **01** | 195°47.33' | 15.0010° | 41°06.79' | N 15°54.66' | 0.7269' | 158°59.00' | 14.4992° | 77°55.12' | N 25°21.22' | 4.9816' | 54.2505' | 236°54.12' | **01** |
| **02** | 210°47.39' | 15.0010° | 41°09.19' | N 15°55.38' | 0.7265' | 173°28.92' | 14.4986° | 78°27.67' | N 25°26.08' | 4.8607' | 54.2427' | 251°56.58' | **02** |
| **03** | 225°47.45' | 15.0010° | 41°11.60' | N 15°56.11' | 0.7260' | 187°58.80' | 14.4981° | 79°00.25' | N 25°30.82' | 4.7394' | 54.2351' | 266°59.05' | **03** |
| **04** | 240°47.51' | 15.0010° | 41°14.00' | N 15°56.84' | 0.7256' | 202°28.66' | 14.4976° | 79°32.85' | N 25°35.44' | 4.6176' | 54.2276' | 282°01.51' | **04** |
| **05** | 255°47.56' | 15.0010° | 41°16.41' | N 15°57.56' | 0.7251' | 216°58.48' | 14.4971° | 80°05.49' | N 25°39.93' | 4.4954' | 54.2204' | 297°03.97' | **05** |
| **06** | 270°47.62' | 15.0010° | 41°18.82' | N 15°58.29' | 0.7246' | 231°28.28' | 14.4966° | 80°38.16' | N 25°44.31' | 4.3728' | 54.2134' | 312°06.44' | **06** |
| **07** | 285°47.68' | 15.0010° | 41°21.22' | N 15°59.01' | 0.7242' | 245°58.04' | 14.4961° | 81°10.86' | N 25°48.56' | 4.2499' | 54.2066' | 327°08.90' | **07** |
| **08** | 300°47.74' | 15.0010° | 41°23.63' | N 15°59.73' | 0.7237' | 260°27.78' | 14.4957° | 81°43.58' | N 25°52.68' | 4.1265' | 54.1999' | 342°11.37' | **08** |
| **09** | 315°47.79' | 15.0009° | 41°26.04' | N 16°00.46' | 0.7233' | 274°57.50' | 14.4952° | 82°16.33' | N 25°56.69' | 4.0028' | 54.1935' | 357°13.83' | **09** |
| **10** | 330°47.85' | 15.0009° | 41°28.45' | N 16°01.18' | 0.7228' | 289°27.18' | 14.4948° | 82°49.11' | N 26°00.57' | 3.8788' | 54.1873' | 12°16.30' | **10** |
| **11** | 345°47.91' | 15.0009° | 41°30.85' | N 16°01.90' | 0.7223' | 303°56.84' | 14.4944° | 83°21.91' | N 26°04.32' | 3.7544' | 54.1813' | 27°18.76' | **11** |
| **12** | 0°47.96' | 15.0009° | 41°33.26' | N 16°02.62' | 0.7219' | 318°26.48' | 14.4939° | 83°54.74' | N 26°07.95' | 3.6296' | 54.1755' | 42°21.22' | **12** |
| **13** | 15°48.02' | 15.0009° | 41°35.67' | N 16°03.35' | 0.7214' | 332°56.09' | 14.4935° | 84°27.59' | N 26°11.45' | 3.5046' | 54.1699' | 57°23.69' | **13** |
| **14** | 30°48.07' | 15.0009° | 41°38.08' | N 16°04.07' | 0.7209' | 347°25.68' | 14.4932° | 85°00.47' | N 26°14.83' | 3.3792' | 54.1645' | 72°26.15' | **14** |
| **15** | 45°48.13' | 15.0009° | 41°40.49' | N 16°04.79' | 0.7205' | 1°55.25' | 14.4928° | 85°33.36' | N 26°18.09' | 3.2535' | 54.1594' | 87°28.62' | **15** |
| **16** | 60°48.18' | 15.0009° | 41°42.90' | N 16°05.51' | 0.7200' | 16°24.80' | 14.4924° | 86°06.28' | N 26°21.21' | 3.1276' | 54.1544' | 102°31.08' | **16** |
| **17** | 75°48.24' | 15.0009° | 41°45.30' | N 16°06.23' | 0.7195' | 30°54.32' | 14.4921° | 86°39.22' | N 26°24.22' | 3.0014' | 54.1497' | 117°33.54' | **17** |
| **18** | 90°48.29' | 15.0009° | 41°47.71' | N 16°06.95' | 0.7191' | 45°23.83' | 14.4918° | 87°12.18' | N 26°27.09' | 2.8749' | 54.1452' | 132°36.01' | **18** |
| **19** | 105°48.35' | 15.0009° | 41°50.12' | N 16°07.66' | 0.7186' | 59°53.32' | 14.4915° | 87°45.15' | N 26°29.84' | 2.7481' | 54.1409' | 147°38.47' | **19** |
| **20** | 120°48.40' | 15.0009° | 41°52.53' | N 16°08.38' | 0.7181' | 74°22.79' | 14.4912° | 88°18.15' | N 26°32.46' | 2.6212' | 54.1369' | 162°40.94' | **20** |
| **21** | 135°48.46' | 15.0009° | 41°54.94' | N 16°09.10' | 0.7177' | 88°52.24' | 14.4909° | 88°51.16' | N 26°34.95' | 2.4940' | 54.1330' | 177°43.40' | **21** |
| **22** | 150°48.51' | 15.0009° | 41°57.35' | N 16°09.82' | 0.7172' | 103°21.68' | 14.4906° | 89°24.18' | N 26°37.32' | 2.3665' | 54.1294' | 192°45.87' | **22** |
| **23** | 165°48.56' | 15.0009° | 41°59.76' | N 16°10.53' | 0.7167' | 117°51.10' | 14.4904° | 89°57.23' | N 26°39.56' | 2.2389' | 54.1260' | 207°48.33' | **23** |
| **24** | 180°48.62' | 15.0009° | 42°02.18' | N 16°11.25' | 0.7163' | 132°20.51' | 14.4901° | 90°30.28' | N 26°41.67' | 2.1111' | 54.1229' | 222°50.79' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 15.8621' | hp (π) 0.1454' | ½Ø 14.7619' | 12.0919750067675<br>64% +cre | |
| | EoT at 12:00 UTC : +3m 11s (δ 0.22 s/h) | | Phase at 12:00 UTC : 40.52° | | |
| | Meridian Pass. Time : 11:56:48.150 | | Age : 3.2 day(s) | | |

| UT | Venus ♀ (π 0.14') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 219°53.97' | 1°57.68' | S 0°43.35' | 235°45.14' | 346°06.52' | S 7°37.85' | 222°42.60' | 359°09.05' | S 1°32.57' | 254°46.65' | 327°05.01' | S 14°20.92' | **00** |
| **01** | 234°53.78' | 2°00.34' | S 0°42.32' | 250°45.84' | 346°08.28' | S 7°37.14' | 237°44.59' | 359°09.53' | S 1°32.38' | 269°48.98' | 327°05.13' | S 14°20.89' | **01** |
| **02** | 249°53.58' | 2°03.00' | S 0°41.28' | 265°46.54' | 346°10.04' | S 7°36.43' | 252°46.59' | 359°10.00' | S 1°32.18' | 284°51.32' | 327°05.26' | S 14°20.85' | **02** |
| **03** | 264°53.39' | 2°05.66' | S 0°40.25' | 280°47.24' | 346°11.80' | S 7°35.72' | 267°48.58' | 359°10.47' | S 1°31.98' | 299°53.66' | 327°05.38' | S 14°20.82' | **03** |
| **04** | 279°53.19' | 2°08.32' | S 0°39.21' | 295°47.94' | 346°13.57' | S 7°35.01' | 282°50.57' | 359°10.94' | S 1°31.79' | 314°56.00' | 327°05.51' | S 14°20.78' | **04** |
| **05** | 294°52.99' | 2°10.98' | S 0°38.17' | 310°48.65' | 346°15.33' | S 7°34.31' | 297°52.56' | 359°11.41' | S 1°31.59' | 329°58.34' | 327°05.63' | S 14°20.75' | **05** |
| **06** | 309°52.80' | 2°13.64' | S 0°37.14' | 325°49.35' | 346°17.09' | S 7°33.60' | 312°54.56' | 359°11.88' | S 1°31.39' | 345°00.68' | 327°05.76' | S 14°20.71' | **06** |
| **07** | 324°52.60' | 2°16.30' | S 0°36.10' | 340°50.05' | 346°18.85' | S 7°32.89' | 327°56.55' | 359°12.35' | S 1°31.20' | 0°03.02' | 327°05.88' | S 14°20.68' | **07** |
| **08** | 339°52.40' | 2°18.97' | S 0°35.06' | 355°50.75' | 346°20.62' | S 7°32.18' | 342°58.54' | 359°12.82' | S 1°31.00' | 15°05.36' | 327°06.01' | S 14°20.64' | **08** |
| **09** | 354°52.20' | 2°21.63' | S 0°34.03' | 10°51.45' | 346°22.38' | S 7°31.47' | 358°00.54' | 359°13.29' | S 1°30.80' | 30°07.70' | 327°06.13' | S 14°20.61' | **09** |
| **10** | 9°52.01' | 2°24.29' | S 0°32.99' | 25°52.16' | 346°24.14' | S 7°30.76' | 13°02.53' | 359°13.76' | S 1°30.61' | 45°10.04' | 327°06.26' | S 14°20.57' | **10** |
| **11** | 24°51.81' | 2°26.95' | S 0°31.95' | 40°52.86' | 346°25.90' | S 7°30.06' | 28°04.53' | 359°14.23' | S 1°30.41' | 60°12.38' | 327°06.38' | S 14°20.54' | **11** |
| **12** | 39°51.61' | 2°29.61' | S 0°30.91' | 55°53.56' | 346°27.66' | S 7°29.35' | 43°06.52' | 359°14.70' | S 1°30.21' | 75°14.72' | 327°06.50' | S 14°20.50' | **12** |
| **13** | 54°51.42' | 2°32.27' | S 0°29.88' | 70°54.26' | 346°29.42' | S 7°28.64' | 58°08.51' | 359°15.18' | S 1°30.02' | 90°17.06' | 327°06.63' | S 14°20.47' | **13** |
| **14** | 69°51.22' | 2°34.93' | S 0°28.84' | 85°54.97' | 346°31.19' | S 7°27.93' | 73°10.51' | 359°15.65' | S 1°29.82' | 105°19.40' | 327°06.75' | S 14°20.43' | **14** |
| **15** | 84°51.02' | 2°37.59' | S 0°27.80' | 100°55.67' | 346°32.95' | S 7°27.22' | 88°12.50' | 359°16.11' | S 1°29.62' | 120°21.74' | 327°06.87' | S 14°20.40' | **15** |
| **16** | 99°50.82' | 2°40.26' | S 0°26.76' | 115°56.37' | 346°34.71' | S 7°26.51' | 103°14.50' | 359°16.58' | S 1°29.43' | 135°24.08' | 327°07.00' | S 14°20.36' | **16** |
| **17** | 114°50.63' | 2°42.92' | S 0°25.72' | 130°57.08' | 346°36.47' | S 7°25.80' | 118°16.49' | 359°17.05' | S 1°29.23' | 150°26.42' | 327°07.12' | S 14°20.33' | **17** |
| **18** | 129°50.43' | 2°45.58' | S 0°24.69' | 145°57.78' | 346°38.23' | S 7°25.09' | 133°18.48' | 359°17.52' | S 1°29.03' | 165°28.76' | 327°07.24' | S 14°20.29' | **18** |
| **19** | 144°50.23' | 2°48.24' | S 0°23.65' | 160°58.48' | 346°39.99' | S 7°24.38' | 148°20.48' | 359°17.99' | S 1°28.84' | 180°31.11' | 327°07.37' | S 14°20.26' | **19** |
| **20** | 159°50.03' | 2°50.90' | S 0°22.61' | 175°59.19' | 346°41.75' | S 7°23.67' | 163°22.47' | 359°18.46' | S 1°28.64' | 195°33.45' | 327°07.49' | S 14°20.22' | **20** |
| **21** | 174°49.84' | 2°53.57' | S 0°21.57' | 190°59.89' | 346°43.51' | S 7°22.96' | 178°24.47' | 359°18.93' | S 1°28.45' | 210°35.79' | 327°07.61' | S 14°20.19' | **21** |
| **22** | 189°49.64' | 2°56.23' | S 0°20.53' | 206°00.59' | 346°45.27' | S 7°22.25' | 193°26.46' | 359°19.40' | S 1°28.25' | 225°38.13' | 327°07.73' | S 14°20.15' | **22** |
| **23** | 204°49.44' | 2°58.89' | S 0°19.49' | 221°01.30' | 346°47.03' | S 7°21.54' | 208°28.46' | 359°19.87' | S 1°28.06' | 240°40.47' | 327°07.86' | S 14°20.12' | **23** |
| **24** | 219°49.24' | 3°01.55' | S 0°18.45' | 236°02.00' | 346°48.79' | S 7°20.83' | 223°30.46' | 359°20.34' | S 1°27.86' | 255°42.82' | 327°07.98' | S 14°20.09' | **24** |
| | δ 14.9967° | | *d* 1.0353' | δ 15.0117° | | *d* 0.7077' | δ 15.0332° | | *d* 0.1971' | δ 15.0390° | | *d* 0.0355' | |

## *Thursday, May 5th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°48.62' | 15.0009° | 42°02.18' | N 16°11.25' | 0.7163' | 132°20.51' | 14.4901° | 90°30.28' | N 26°41.67' | 2.1111' | 54.1229' | 222°50.79' | **00** |
| **01** | 195°48.67' | 15.0009° | 42°04.59' | N 16°11.97' | 0.7158' | 146°49.91' | 14.4899° | 91°03.35' | N 26°43.65' | 1.9831' | 54.1199' | 237°53.26' | **01** |
| **02** | 210°48.72' | 15.0009° | 42°07.00' | N 16°12.68' | 0.7153' | 161°19.29' | 14.4897° | 91°36.43' | N 26°45.51' | 1.8550' | 54.1172' | 252°55.72' | **02** |
| **03** | 225°48.78' | 15.0009° | 42°09.41' | N 16°13.40' | 0.7149' | 175°48.66' | 14.4895° | 92°09.53' | N 26°47.24' | 1.7267' | 54.1148' | 267°58.19' | **03** |
| **04** | 240°48.83' | 15.0009° | 42°11.82' | N 16°14.11' | 0.7144' | 190°18.02' | 14.4893° | 92°42.63' | N 26°48.83' | 1.5982' | 54.1125' | 283°00.65' | **04** |
| **05** | 255°48.88' | 15.0009° | 42°14.23' | N 16°14.82' | 0.7139' | 204°47.37' | 14.4892° | 93°15.74' | N 26°50.30' | 1.4697' | 54.1105' | 298°03.11' | **05** |
| **06** | 270°48.93' | 15.0009° | 42°16.65' | N 16°15.54' | 0.7134' | 219°16.72' | 14.4890° | 93°48.86' | N 26°51.64' | 1.3410' | 54.1088' | 313°05.58' | **06** |
| **07** | 285°48.98' | 15.0009° | 42°19.06' | N 16°16.25' | 0.7130' | 233°46.05' | 14.4889° | 94°21.99' | N 26°52.86' | 1.2122' | 54.1073' | 328°08.04' | **07** |
| **08** | 300°49.04' | 15.0009° | 42°21.47' | N 16°16.96' | 0.7125' | 248°15.38' | 14.4888° | 94°55.13' | N 26°53.94' | 1.0833' | 54.1060' | 343°10.51' | **08** |
| **09** | 315°49.09' | 15.0009° | 42°23.88' | N 16°17.68' | 0.7120' | 262°44.70' | 14.4887° | 95°28.27' | N 26°54.89' | 0.9543' | 54.1049' | 358°12.97' | **09** |
| **10** | 330°49.14' | 15.0008° | 42°26.30' | N 16°18.39' | 0.7116' | 277°14.02' | 14.4886° | 96°01.42' | N 26°55.72' | 0.8253' | 54.1041' | 13°15.44' | **10** |
| **11** | 345°49.19' | 15.0008° | 42°28.71' | N 16°19.10' | 0.7111' | 291°43.33' | 14.4886° | 96°34.57' | N 26°56.42' | 0.6962' | 54.1036' | 28°17.90' | **11** |
| **12** | 0°49.24' | 15.0008° | 42°31.12' | N 16°19.81' | 0.7106' | 306°12.65' | 14.4885° | 97°07.72' | N 26°56.98' | 0.5671' | 54.1033' | 43°20.36' | **12** |
| **13** | 15°49.29' | 15.0008° | 42°33.54' | N 16°20.52' | 0.7101' | 320°41.96' | 14.4885° | 97°40.87' | N 26°57.42' | 0.4379' | 54.1032' | 58°22.83' | **13** |
| **14** | 30°49.34' | 15.0008° | 42°35.95' | N 16°21.23' | 0.7097' | 335°11.26' | 14.4885° | 98°14.03' | N 26°57.73' | 0.3087' | 54.1034' | 73°25.29' | **14** |
| **15** | 45°49.39' | 15.0008° | 42°38.37' | N 16°21.94' | 0.7092' | 349°40.57' | 14.4885° | 98°47.18' | N 26°57.91' | 0.1795' | 54.1038' | 88°27.76' | **15** |
| **16** | 60°49.44' | 15.0008° | 42°40.78' | N 16°22.65' | 0.7087' | 4°09.88' | 14.4885° | 99°20.34' | N 26°57.96' | 0.0503' | 54.1045' | 103°30.22' | **16** |
| **17** | 75°49.49' | 15.0008° | 42°43.20' | N 16°23.35' | 0.7082' | 18°39.19' | 14.4885° | 99°53.49' | N 26°57.88' | 0.0789' | 54.1055' | 118°32.68' | **17** |
| **18** | 90°49.54' | 15.0008° | 42°45.61' | N 16°24.06' | 0.7078' | 33°08.51' | 14.4886° | 100°26.64' | N 26°57.67' | 0.2080' | 54.1066' | 133°35.15' | **18** |
| **19** | 105°49.59' | 15.0008° | 42°48.03' | N 16°24.77' | 0.7073' | 47°37.83' | 14.4886° | 100°59.79' | N 26°57.33' | 0.3371' | 54.1081' | 148°37.61' | **19** |
| **20** | 120°49.64' | 15.0008° | 42°50.44' | N 16°25.48' | 0.7068' | 62°07.15' | 14.4887° | 101°32.93' | N 26°56.87' | 0.4661' | 54.1098' | 163°40.08' | **20** |
| **21** | 135°49.68' | 15.0008° | 42°52.86' | N 16°26.18' | 0.7063' | 76°36.48' | 14.4888° | 102°06.06' | N 26°56.27' | 0.5951' | 54.1117' | 178°42.54' | **21** |
| **22** | 150°49.73' | 15.0008° | 42°55.27' | N 16°26.89' | 0.7059' | 91°05.81' | 14.4889° | 102°39.19' | N 26°55.55' | 0.7240' | 54.1140' | 193°45.01' | **22** |
| **23** | 165°49.78' | 15.0008° | 42°57.69' | N 16°27.59' | 0.7054' | 105°35.16' | 14.4890° | 103°12.31' | N 26°54.70' | 0.8529' | 54.1164' | 208°47.47' | **23** |
| **24** | 180°49.83' | 15.0008° | 43°00.11' | N 16°28.30' | 0.7049' | 120°04.51' | 14.4892° | 103°45.43' | N 26°53.72' | 0.9816' | 54.1192' | 223°49.93' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 15.8583' | hp (π) 0.1453' | ½Ø 14.7422' | 18.9398668596939<br>7% +cre | |
| | EoT at 12:00 UTC : +3m 17s (δ 0.20 s/h) | | Phase at 12:00 UTC : 51.38° | | |
| | Meridian Pass. Time : 11:56:43.041 | | Age : 4.0 day(s) | | |

| UT | Venus ♀ (π 0.14') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 219°49.24' | 3°01.55' | S 0°18.45' | 236°02.00' | 346°48.79' | S 7°20.83' | 223°30.46' | 359°20.34' | S 1°27.86' | 255°42.82' | 327°07.98' | S 14°20.09' | **00** |
| **01** | 234°49.04' | 3°04.22' | S 0°17.41' | 251°02.71' | 346°50.55' | S 7°20.12' | 238°32.45' | 359°20.81' | S 1°27.66' | 270°45.16' | 327°08.10' | S 14°20.05' | **01** |
| **02** | 249°48.84' | 3°06.88' | S 0°16.37' | 266°03.41' | 346°52.31' | S 7°19.41' | 253°34.45' | 359°21.28' | S 1°27.47' | 285°47.50' | 327°08.22' | S 14°20.02' | **02** |
| **03** | 264°48.65' | 3°09.54' | S 0°15.33' | 281°04.11' | 346°54.07' | S 7°18.70' | 268°36.44' | 359°21.74' | S 1°27.27' | 300°49.84' | 327°08.34' | S 14°19.98' | **03** |
| **04** | 279°48.45' | 3°12.20' | S 0°14.29' | 296°04.82' | 346°55.83' | S 7°17.99' | 283°38.44' | 359°22.21' | S 1°27.08' | 315°52.19' | 327°08.47' | S 14°19.95' | **04** |
| **05** | 294°48.25' | 3°14.87' | S 0°13.25' | 311°05.52' | 346°57.59' | S 7°17.28' | 298°40.43' | 359°22.68' | S 1°26.88' | 330°54.53' | 327°08.59' | S 14°19.92' | **05** |
| **06** | 309°48.05' | 3°17.53' | S 0°12.21' | 326°06.23' | 346°59.35' | S 7°16.57' | 313°42.43' | 359°23.15' | S 1°26.69' | 345°56.87' | 327°08.71' | S 14°19.88' | **06** |
| **07** | 324°47.85' | 3°20.19' | S 0°11.17' | 341°06.93' | 347°01.11' | S 7°15.86' | 328°44.43' | 359°23.62' | S 1°26.49' | 0°59.21' | 327°08.83' | S 14°19.85' | **07** |
| **08** | 339°47.65' | 3°22.85' | S 0°10.13' | 356°07.64' | 347°02.87' | S 7°15.15' | 343°46.42' | 359°24.08' | S 1°26.30' | 16°01.56' | 327°08.95' | S 14°19.81' | **08** |
| **09** | 354°47.45' | 3°25.52' | S 0°09.09' | 11°08.34' | 347°04.63' | S 7°14.44' | 358°48.42' | 359°24.55' | S 1°26.10' | 31°03.90' | 327°09.07' | S 14°19.78' | **09** |
| **10** | 9°47.26' | 3°28.18' | S 0°08.05' | 26°09.05' | 347°06.39' | S 7°13.73' | 13°50.42' | 359°25.02' | S 1°25.90' | 46°06.25' | 327°09.19' | S 14°19.75' | **10** |
| **11** | 24°47.06' | 3°30.84' | S 0°07.00' | 41°09.75' | 347°08.15' | S 7°13.02' | 28°52.41' | 359°25.49' | S 1°25.71' | 61°08.59' | 327°09.31' | S 14°19.71' | **11** |
| **12** | 39°46.86' | 3°33.51' | S 0°05.96' | 56°10.46' | 347°09.90' | S 7°12.31' | 43°54.41' | 359°25.95' | S 1°25.51' | 76°10.93' | 327°09.43' | S 14°19.68' | **12** |
| **13** | 54°46.66' | 3°36.17' | S 0°04.92' | 71°11.16' | 347°11.66' | S 7°11.60' | 58°56.41' | 359°26.42' | S 1°25.32' | 91°13.28' | 327°09.55' | S 14°19.65' | **13** |
| **14** | 69°46.46' | 3°38.83' | S 0°03.88' | 86°11.87' | 347°13.42' | S 7°10.89' | 73°58.40' | 359°26.89' | S 1°25.12' | 106°15.62' | 327°09.67' | S 14°19.61' | **14** |
| **15** | 84°46.26' | 3°41.50' | S 0°02.84' | 101°12.58' | 347°15.18' | S 7°10.18' | 89°00.40' | 359°27.35' | S 1°24.93' | 121°17.97' | 327°09.79' | S 14°19.58' | **15** |
| **16** | 99°46.06' | 3°44.16' | S 0°01.79' | 116°13.28' | 347°16.94' | S 7°09.47' | 104°02.40' | 359°27.82' | S 1°24.73' | 136°20.31' | 327°09.91' | S 14°19.54' | **16** |
| **17** | 114°45.86' | 3°46.83' | S 0°00.75' | 131°13.99' | 347°18.70' | S 7°08.75' | 119°04.40' | 359°28.29' | S 1°24.54' | 151°22.66' | 327°10.03' | S 14°19.51' | **17** |
| **18** | 129°45.66' | 3°49.49' | N 0°00.29' | 146°14.69' | 347°20.46' | S 7°08.04' | 134°06.39' | 359°28.75' | S 1°24.35' | 166°25.00' | 327°10.15' | S 14°19.48' | **18** |
| **19** | 144°45.46' | 3°52.15' | N 0°01.33' | 161°15.40' | 347°22.21' | S 7°07.33' | 149°08.39' | 359°29.22' | S 1°24.15' | 181°27.34' | 327°10.27' | S 14°19.44' | **19** |
| **20** | 159°45.26' | 3°54.82' | N 0°02.38' | 176°16.11' | 347°23.97' | S 7°06.62' | 164°10.39' | 359°29.69' | S 1°23.96' | 196°29.69' | 327°10.39' | S 14°19.41' | **20** |
| **21** | 174°45.06' | 3°57.48' | N 0°03.42' | 191°16.81' | 347°25.73' | S 7°05.91' | 179°12.39' | 359°30.15' | S 1°23.76' | 211°32.04' | 327°10.51' | S 14°19.38' | **21** |
| **22** | 189°44.86' | 4°00.15' | N 0°04.46' | 206°17.52' | 347°27.49' | S 7°05.20' | 194°14.39' | 359°30.62' | S 1°23.57' | 226°34.38' | 327°10.62' | S 14°19.34' | **22** |
| **23** | 204°44.66' | 4°02.81' | N 0°05.51' | 221°18.23' | 347°29.24' | S 7°04.49' | 209°16.38' | 359°31.09' | S 1°23.37' | 241°36.73' | 327°10.74' | S 14°19.31' | **23** |
| **24** | 219°44.46' | 4°05.47' | N 0°06.55' | 236°18.93' | 347°31.00' | S 7°03.77' | 224°18.38' | 359°31.55' | S 1°23.18' | 256°39.07' | 327°10.86' | S 14°19.28' | **24** |
| | δ 14.9967° | | *d* 1.0398' | δ 15.0117° | | *d* 0.7099' | δ 15.0333° | | *d* 0.1957' | δ 15.0390° | | *d* 0.0342' | |

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°49.83' | 15.0008° | 43°00.11' | N 16°28.30' | 0.7049' | 120°04.51' | 14.4892° | 103°45.43' | N 26°53.72' | 0.9816' | 54.1192' | 223°49.93' | **00** |
| **01** | 195°49.87' | 15.0008° | 43°02.52' | N 16°29.00' | 0.7044' | 134°33.87' | 14.4893° | 104°18.53' | N 26°52.60' | 1.1102' | 54.1222' | 238°52.40' | **01** |
| **02** | 210°49.92' | 15.0008° | 43°04.94' | N 16°29.71' | 0.7039' | 149°03.24' | 14.4895° | 104°51.62' | N 26°51.37' | 1.2387' | 54.1254' | 253°54.86' | **02** |
| **03** | 225°49.97' | 15.0008° | 43°07.36' | N 16°30.41' | 0.7035' | 163°32.62' | 14.4897° | 105°24.70' | N 26°50.00' | 1.3671' | 54.1289' | 268°57.33' | **03** |
| **04** | 240°50.02' | 15.0008° | 43°09.78' | N 16°31.11' | 0.7030' | 178°02.02' | 14.4899° | 105°57.77' | N 26°48.50' | 1.4953' | 54.1327' | 283°59.79' | **04** |
| **05** | 255°50.06' | 15.0008° | 43°12.19' | N 16°31.82' | 0.7025' | 192°31.42' | 14.4901° | 106°30.83' | N 26°46.88' | 1.6233' | 54.1368' | 299°02.26' | **05** |
| **06** | 270°50.11' | 15.0008° | 43°14.61' | N 16°32.52' | 0.7020' | 207°00.84' | 14.4904° | 107°03.87' | N 26°45.13' | 1.7512' | 54.1411' | 314°04.72' | **06** |
| **07** | 285°50.15' | 15.0008° | 43°17.03' | N 16°33.22' | 0.7015' | 221°30.28' | 14.4906° | 107°36.90' | N 26°43.25' | 1.8789' | 54.1457' | 329°07.18' | **07** |
| **08** | 300°50.20' | 15.0008° | 43°19.45' | N 16°33.92' | 0.7011' | 235°59.73' | 14.4909° | 108°09.92' | N 26°41.24' | 2.0065' | 54.1505' | 344°09.65' | **08** |
| **09** | 315°50.25' | 15.0008° | 43°21.87' | N 16°34.62' | 0.7006' | 250°29.20' | 14.4911° | 108°42.91' | N 26°39.11' | 2.1338' | 54.1556' | 359°12.11' | **09** |
| **10** | 330°50.29' | 15.0008° | 43°24.29' | N 16°35.32' | 0.7001' | 264°58.68' | 14.4914° | 109°15.89' | N 26°36.85' | 2.2609' | 54.1610' | 14°14.58' | **10** |
| **11** | 345°50.34' | 15.0008° | 43°26.70' | N 16°36.02' | 0.6996' | 279°28.19' | 14.4917° | 109°48.85' | N 26°34.46' | 2.3878' | 54.1667' | 29°17.04' | **11** |
| **12** | 0°50.38' | 15.0007° | 43°29.12' | N 16°36.72' | 0.6991' | 293°57.71' | 14.4920° | 110°21.79' | N 26°31.95' | 2.5145' | 54.1726' | 44°19.50' | **12** |
| **13** | 15°50.42' | 15.0007° | 43°31.54' | N 16°37.42' | 0.6987' | 308°27.25' | 14.4924° | 110°54.72' | N 26°29.31' | 2.6409' | 54.1788' | 59°21.97' | **13** |
| **14** | 30°50.47' | 15.0007° | 43°33.96' | N 16°38.12' | 0.6982' | 322°56.81' | 14.4927° | 111°27.62' | N 26°26.54' | 2.7671' | 54.1853' | 74°24.43' | **14** |
| **15** | 45°50.51' | 15.0007° | 43°36.38' | N 16°38.81' | 0.6977' | 337°26.40' | 14.4931° | 112°00.50' | N 26°23.65' | 2.8930' | 54.1921' | 89°26.90' | **15** |
| **16** | 60°50.56' | 15.0007° | 43°38.80' | N 16°39.51' | 0.6972' | 351°56.00' | 14.4934° | 112°33.36' | N 26°20.63' | 3.0187' | 54.1991' | 104°29.36' | **16** |
| **17** | 75°50.60' | 15.0007° | 43°41.22' | N 16°40.21' | 0.6967' | 6°25.63' | 14.4938° | 113°06.19' | N 26°17.48' | 3.1440' | 54.2064' | 119°31.83' | **17** |
| **18** | 90°50.64' | 15.0007° | 43°43.65' | N 16°40.90' | 0.6962' | 20°55.28' | 14.4942° | 113°39.01' | N 26°14.21' | 3.2691' | 54.2140' | 134°34.29' | **18** |
| **19** | 105°50.69' | 15.0007° | 43°46.07' | N 16°41.60' | 0.6957' | 35°24.96' | 14.4946° | 114°11.80' | N 26°10.82' | 3.3939' | 54.2219' | 149°36.75' | **19** |
| **20** | 120°50.73' | 15.0007° | 43°48.49' | N 16°42.30' | 0.6953' | 49°54.66' | 14.4950° | 114°44.56' | N 26°07.30' | 3.5184' | 54.2300' | 164°39.22' | **20** |
| **21** | 135°50.77' | 15.0007° | 43°50.91' | N 16°42.99' | 0.6948' | 64°24.38' | 14.4954° | 115°17.30' | N 26°03.66' | 3.6425' | 54.2385' | 179°41.68' | **21** |
| **22** | 150°50.81' | 15.0007° | 43°53.33' | N 16°43.68' | 0.6943' | 78°54.14' | 14.4959° | 115°50.01' | N 25°59.89' | 3.7664' | 54.2472' | 194°44.15' | **22** |
| **23** | 165°50.86' | 15.0007° | 43°55.75' | N 16°44.38' | 0.6938' | 93°23.92' | 14.4963° | 116°22.69' | N 25°56.00' | 3.8899' | 54.2561' | 209°46.61' | **23** |
| **24** | 180°50.90' | 15.0007° | 43°58.18' | N 16°45.07' | 0.6933' | 107°53.72' | 14.4968° | 116°55.35' | N 25°51.99' | 4.0130' | 54.2654' | 224°49.07' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8545' | hp (π) 0.1453' | ½Ø 14.7611' | 26.8864216462844<br>36% +cre |
| | EoT at 12:00 UTC : +3m 21s (δ 0.18 s/h) | | Phase at 12:00 UTC : 62.24° | |
| | Meridian Pass. Time : 11:56:38.479 | | Age : 4.8 day(s) | |

| UT | Venus ♀ (π 0.14') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 219°44.46' | 4°05.47' | N 0°06.55' | 236°18.93' | 347°31.00' | S 7°03.77' | 224°18.38' | 359°31.55' | S 1°23.18' | 256°39.07' | 327°10.86' | S 14°19.28' | **00** |
| **01** | 234°44.26' | 4°08.14' | N 0°07.59' | 251°19.64' | 347°32.76' | S 7°03.06' | 239°20.38' | 359°32.02' | S 1°22.98' | 271°41.42' | 327°10.98' | S 14°19.25' | **01** |
| **02** | 249°44.06' | 4°10.80' | N 0°08.64' | 266°20.35' | 347°34.52' | S 7°02.35' | 254°22.38' | 359°32.48' | S 1°22.79' | 286°43.76' | 327°11.10' | S 14°19.21' | **02** |
| **03** | 264°43.86' | 4°13.47' | N 0°09.68' | 281°21.05' | 347°36.27' | S 7°01.64' | 269°24.38' | 359°32.95' | S 1°22.60' | 301°46.11' | 327°11.22' | S 14°19.18' | **03** |
| **04** | 279°43.66' | 4°16.13' | N 0°10.73' | 296°21.76' | 347°38.03' | S 7°00.93' | 284°26.38' | 359°33.41' | S 1°22.40' | 316°48.46' | 327°11.33' | S 14°19.15' | **04** |
| **05** | 294°43.46' | 4°18.80' | N 0°11.77' | 311°22.47' | 347°39.79' | S 7°00.21' | 299°28.38' | 359°33.88' | S 1°22.21' | 331°50.80' | 327°11.45' | S 14°19.11' | **05** |
| **06** | 309°43.26' | 4°21.46' | N 0°12.82' | 326°23.18' | 347°41.54' | S 6°59.50' | 314°30.38' | 359°34.34' | S 1°22.01' | 346°53.15' | 327°11.57' | S 14°19.08' | **06** |
| **07** | 324°43.06' | 4°24.13' | N 0°13.86' | 341°23.88' | 347°43.30' | S 6°58.79' | 329°32.38' | 359°34.81' | S 1°21.82' | 1°55.50' | 327°11.69' | S 14°19.05' | **07** |
| **08** | 339°42.86' | 4°26.79' | N 0°14.91' | 356°24.59' | 347°45.06' | S 6°58.08' | 344°34.38' | 359°35.27' | S 1°21.62' | 16°57.84' | 327°11.80' | S 14°19.02' | **08** |
| **09** | 354°42.65' | 4°29.46' | N 0°15.95' | 11°25.30' | 347°46.81' | S 6°57.36' | 359°36.37' | 359°35.74' | S 1°21.43' | 32°00.19' | 327°11.92' | S 14°18.98' | **09** |
| **10** | 9°42.45' | 4°32.12' | N 0°17.00' | 26°26.01' | 347°48.57' | S 6°56.65' | 14°38.37' | 359°36.20' | S 1°21.24' | 47°02.54' | 327°12.04' | S 14°18.95' | **10** |
| **11** | 24°42.25' | 4°34.79' | N 0°18.04' | 41°26.72' | 347°50.32' | S 6°55.94' | 29°40.37' | 359°36.67' | S 1°21.04' | 62°04.89' | 327°12.15' | S 14°18.92' | **11** |
| **12** | 39°42.05' | 4°37.45' | N 0°19.09' | 56°27.42' | 347°52.08' | S 6°55.23' | 44°42.37' | 359°37.13' | S 1°20.85' | 77°07.23' | 327°12.27' | S 14°18.89' | **12** |
| **13** | 54°41.85' | 4°40.12' | N 0°20.13' | 71°28.13' | 347°53.84' | S 6°54.51' | 59°44.37' | 359°37.59' | S 1°20.66' | 92°09.58' | 327°12.39' | S 14°18.85' | **13** |
| **14** | 69°41.65' | 4°42.79' | N 0°21.18' | 86°28.84' | 347°55.59' | S 6°53.80' | 74°46.37' | 359°38.06' | S 1°20.46' | 107°11.93' | 327°12.50' | S 14°18.82' | **14** |
| **15** | 84°41.45' | 4°45.45' | N 0°22.22' | 101°29.55' | 347°57.35' | S 6°53.09' | 89°48.38' | 359°38.52' | S 1°20.27' | 122°14.28' | 327°12.62' | S 14°18.79' | **15** |
| **16** | 99°41.24' | 4°48.12' | N 0°23.27' | 116°30.26' | 347°59.10' | S 6°52.37' | 104°50.38' | 359°38.99' | S 1°20.08' | 137°16.63' | 327°12.74' | S 14°18.76' | **16** |
| **17** | 114°41.04' | 4°50.78' | N 0°24.32' | 131°30.97' | 348°00.86' | S 6°51.66' | 119°52.38' | 359°39.45' | S 1°19.88' | 152°18.97' | 327°12.85' | S 14°18.73' | **17** |
| **18** | 129°40.84' | 4°53.45' | N 0°25.36' | 146°31.68' | 348°02.61' | S 6°50.95' | 134°54.38' | 359°39.91' | S 1°19.69' | 167°21.32' | 327°12.97' | S 14°18.69' | **18** |
| **19** | 144°40.64' | 4°56.12' | N 0°26.41' | 161°32.38' | 348°04.37' | S 6°50.23' | 149°56.38' | 359°40.38' | S 1°19.50' | 182°23.67' | 327°13.08' | S 14°18.66' | **19** |
| **20** | 159°40.44' | 4°58.78' | N 0°27.46' | 176°33.09' | 348°06.12' | S 6°49.52' | 164°58.38' | 359°40.84' | S 1°19.30' | 197°26.02' | 327°13.20' | S 14°18.63' | **20** |
| **21** | 174°40.23' | 5°01.45' | N 0°28.50' | 191°33.80' | 348°07.88' | S 6°48.81' | 180°00.38' | 359°41.30' | S 1°19.11' | 212°28.37' | 327°13.31' | S 14°18.60' | **21** |
| **22** | 189°40.03' | 5°04.11' | N 0°29.55' | 206°34.51' | 348°09.63' | S 6°48.09' | 195°02.38' | 359°41.76' | S 1°18.92' | 227°30.72' | 327°13.43' | S 14°18.57' | **22** |
| **23** | 204°39.83' | 5°06.78' | N 0°30.60' | 221°35.22' | 348°11.39' | S 6°47.38' | 210°04.38' | 359°42.23' | S 1°18.72' | 242°33.07' | 327°13.54' | S 14°18.53' | **23** |
| **24** | 219°39.63' | 5°09.45' | N 0°31.64' | 236°35.93' | 348°13.14' | S 6°46.67' | 225°06.38' | 359°42.69' | S 1°18.53' | 257°35.42' | 327°13.66' | S 14°18.50' | **24** |
| | δ 14.9967° | | *d* 1.0438' | δ 15.0118° | | *d* 0.7119' | δ 15.0333° | | *d* 0.1943' | δ 15.0391° | | *d* 0.0330' | |

## *Saturday, May 7th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°50.90' | 15.0007° | 43°58.18' | N 16°45.07' | 0.6933' | 107°53.72' | 14.4968° | 116°55.35' | N 25°51.99' | 4.0130' | 54.2654' | 224°49.07' | **00** |
| **01** | 195°50.94' | 15.0007° | 44°00.60' | N 16°45.76' | 0.6928' | 122°23.56' | 14.4973° | 117°27.98' | N 25°47.85' | 4.1358' | 54.2750' | 239°51.54' | **01** |
| **02** | 210°50.98' | 15.0007° | 44°03.02' | N 16°46.46' | 0.6923' | 136°53.42' | 14.4977° | 118°00.58' | N 25°43.60' | 4.2583' | 54.2848' | 254°54.00' | **02** |
| **03** | 225°51.02' | 15.0007° | 44°05.44' | N 16°47.15' | 0.6919' | 151°23.32' | 14.4982° | 118°33.15' | N 25°39.22' | 4.3804' | 54.2949' | 269°56.47' | **03** |
| **04** | 240°51.06' | 15.0007° | 44°07.87' | N 16°47.84' | 0.6914' | 165°53.24' | 14.4987° | 119°05.69' | N 25°34.71' | 4.5021' | 54.3053' | 284°58.93' | **04** |
| **05** | 255°51.11' | 15.0007° | 44°10.29' | N 16°48.53' | 0.6909' | 180°23.19' | 14.4992° | 119°38.20' | N 25°30.09' | 4.6234' | 54.3160' | 300°01.40' | **05** |
| **06** | 270°51.15' | 15.0007° | 44°12.71' | N 16°49.22' | 0.6904' | 194°53.18' | 14.4998° | 120°10.68' | N 25°25.35' | 4.7443' | 54.3270' | 315°03.86' | **06** |
| **07** | 285°51.19' | 15.0007° | 44°15.14' | N 16°49.91' | 0.6899' | 209°23.20' | 14.5003° | 120°43.13' | N 25°20.48' | 4.8649' | 54.3383' | 330°06.32' | **07** |
| **08** | 300°51.23' | 15.0007° | 44°17.56' | N 16°50.60' | 0.6894' | 223°53.25' | 14.5008° | 121°15.54' | N 25°15.50' | 4.9850' | 54.3498' | 345°08.79' | **08** |
| **09** | 315°51.27' | 15.0007° | 44°19.99' | N 16°51.29' | 0.6889' | 238°23.33' | 14.5014° | 121°47.92' | N 25°10.39' | 5.1047' | 54.3616' | 0°11.25' | **09** |
| **10** | 330°51.31' | 15.0007° | 44°22.41' | N 16°51.98' | 0.6884' | 252°53.44' | 14.5019° | 122°20.27' | N 25°05.17' | 5.2240' | 54.3737' | 15°13.72' | **10** |
| **11** | 345°51.34' | 15.0007° | 44°24.84' | N 16°52.67' | 0.6879' | 267°23.59' | 14.5025° | 122°52.59' | N 24°59.82' | 5.3429' | 54.3862' | 30°16.18' | **11** |
| **12** | 0°51.38' | 15.0007° | 44°27.26' | N 16°53.35' | 0.6874' | 281°53.77' | 14.5030° | 123°24.87' | N 24°54.36' | 5.4613' | 54.3989' | 45°18.64' | **12** |
| **13** | 15°51.42' | 15.0006° | 44°29.69' | N 16°54.04' | 0.6870' | 296°23.99' | 14.5036° | 123°57.12' | N 24°48.78' | 5.5793' | 54.4118' | 60°21.11' | **13** |
| **14** | 30°51.46' | 15.0006° | 44°32.11' | N 16°54.73' | 0.6865' | 310°54.24' | 14.5042° | 124°29.33' | N 24°43.09' | 5.6968' | 54.4251' | 75°23.57' | **14** |
| **15** | 45°51.50' | 15.0006° | 44°34.54' | N 16°55.41' | 0.6860' | 325°24.53' | 14.5048° | 125°01.51' | N 24°37.27' | 5.8139' | 54.4387' | 90°26.04' | **15** |
| **16** | 60°51.54' | 15.0006° | 44°36.96' | N 16°56.10' | 0.6855' | 339°54.85' | 14.5054° | 125°33.65' | N 24°31.34' | 5.9305' | 54.4525' | 105°28.50' | **16** |
| **17** | 75°51.58' | 15.0006° | 44°39.39' | N 16°56.78' | 0.6850' | 354°25.21' | 14.5060° | 126°05.75' | N 24°25.30' | 6.0467' | 54.4666' | 120°30.96' | **17** |
| **18** | 90°51.61' | 15.0006° | 44°41.82' | N 16°57.47' | 0.6845' | 8°55.61' | 14.5066° | 126°37.82' | N 24°19.13' | 6.1623' | 54.4811' | 135°33.43' | **18** |
| **19** | 105°51.65' | 15.0006° | 44°44.24' | N 16°58.15' | 0.6840' | 23°26.04' | 14.5072° | 127°09.86' | N 24°12.86' | 6.2775' | 54.4958' | 150°35.89' | **19** |
| **20** | 120°51.69' | 15.0006° | 44°46.67' | N 16°58.84' | 0.6835' | 37°56.51' | 14.5078° | 127°41.85' | N 24°06.46' | 6.3923' | 54.5108' | 165°38.36' | **20** |
| **21** | 135°51.72' | 15.0006° | 44°49.10' | N 16°59.52' | 0.6830' | 52°27.01' | 14.5084° | 128°13.81' | N 23°59.96' | 6.5065' | 54.5261' | 180°40.82' | **21** |
| **22** | 150°51.76' | 15.0006° | 44°51.52' | N 17°00.20' | 0.6825' | 66°57.55' | 14.5090° | 128°45.73' | N 23°53.34' | 6.6202' | 54.5417' | 195°43.29' | **22** |
| **23** | 165°51.80' | 15.0006° | 44°53.95' | N 17°00.88' | 0.6820' | 81°28.13' | 14.5097° | 129°17.62' | N 23°46.60' | 6.7335' | 54.5575' | 210°45.75' | **23** |
| **24** | 180°51.83' | 15.0006° | 44°56.38' | N 17°01.56' | 0.6815' | 95°58.75' | 14.5103° | 129°49.46' | N 23°39.76' | 6.8462' | 54.5737' | 225°48.21' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8508' | hp (π) 0.1453' | ½Ø 14.8227' | 35.6955709680717 9% +cre |
| | EoT at 12:00 UTC : +3m 25s (δ 0.16 s/h) | | Phase at 12:00 UTC : 73.17° | |
| | Meridian Pass. Time : 11:56:34.466 | | Age : 5.7 day(s) | |

| UT | Venus ♀ (π 0.14') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 219°39.63' | 5°09.45' | N 0°31.64' | 236°35.93' | 348°13.14' | S 6°46.67' | 225°06.38' | 359°42.69' | S 1°18.53' | 257°35.42' | 327°13.66' | S 14°18.50' | **00** |
| **01** | 234°39.42' | 5°12.11' | N 0°32.69' | 251°36.64' | 348°14.90' | S 6°45.95' | 240°08.39' | 359°43.15' | S 1°18.34' | 272°37.77' | 327°13.77' | S 14°18.47' | **01** |
| **02** | 249°39.22' | 5°14.78' | N 0°33.74' | 266°37.35' | 348°16.65' | S 6°45.24' | 255°10.39' | 359°43.61' | S 1°18.14' | 287°40.12' | 327°13.89' | S 14°18.44' | **02** |
| **03** | 264°39.02' | 5°17.45' | N 0°34.79' | 281°38.06' | 348°18.41' | S 6°44.52' | 270°12.39' | 359°44.08' | S 1°17.95' | 302°42.47' | 327°14.00' | S 14°18.41' | **03** |
| **04** | 279°38.82' | 5°20.12' | N 0°35.83' | 296°38.77' | 348°20.16' | S 6°43.81' | 285°14.39' | 359°44.54' | S 1°17.76' | 317°44.82' | 327°14.12' | S 14°18.38' | **04** |
| **05** | 294°38.61' | 5°22.78' | N 0°36.88' | 311°39.48' | 348°21.92' | S 6°43.10' | 300°16.39' | 359°45.00' | S 1°17.57' | 332°47.17' | 327°14.23' | S 14°18.34' | **05** |
| **06** | 309°38.41' | 5°25.45' | N 0°37.93' | 326°40.19' | 348°23.67' | S 6°42.38' | 315°18.40' | 359°45.46' | S 1°17.37' | 347°49.52' | 327°14.34' | S 14°18.31' | **06** |
| **07** | 324°38.21' | 5°28.12' | N 0°38.98' | 341°40.90' | 348°25.42' | S 6°41.67' | 330°20.40' | 359°45.92' | S 1°17.18' | 2°51.87' | 327°14.46' | S 14°18.28' | **07** |
| **08** | 339°38.00' | 5°30.79' | N 0°40.03' | 356°41.61' | 348°27.18' | S 6°40.95' | 345°22.40' | 359°46.39' | S 1°16.99' | 17°54.22' | 327°14.57' | S 14°18.25' | **08** |
| **09** | 354°37.80' | 5°33.45' | N 0°41.08' | 11°42.32' | 348°28.93' | S 6°40.24' | 0°24.40' | 359°46.85' | S 1°16.80' | 32°56.57' | 327°14.68' | S 14°18.22' | **09** |
| **10** | 9°37.60' | 5°36.12' | N 0°42.12' | 26°43.03' | 348°30.68' | S 6°39.52' | 15°26.41' | 359°47.31' | S 1°16.60' | 47°58.92' | 327°14.80' | S 14°18.19' | **10** |
| **11** | 24°37.39' | 5°38.79' | N 0°43.17' | 41°43.74' | 348°32.44' | S 6°38.81' | 30°28.41' | 359°47.77' | S 1°16.41' | 63°01.27' | 327°14.91' | S 14°18.16' | **11** |
| **12** | 39°37.19' | 5°41.46' | N 0°44.22' | 56°44.45' | 348°34.19' | S 6°38.10' | 45°30.41' | 359°48.23' | S 1°16.22' | 78°03.62' | 327°15.02' | S 14°18.13' | **12** |
| **13** | 54°36.98' | 5°44.12' | N 0°45.27' | 71°45.16' | 348°35.94' | S 6°37.38' | 60°32.42' | 359°48.69' | S 1°16.03' | 93°05.97' | 327°15.14' | S 14°18.09' | **13** |
| **14** | 69°36.78' | 5°46.79' | N 0°46.32' | 86°45.88' | 348°37.70' | S 6°36.67' | 75°34.42' | 359°49.15' | S 1°15.84' | 108°08.32' | 327°15.25' | S 14°18.06' | **14** |
| **15** | 84°36.58' | 5°49.46' | N 0°47.37' | 101°46.59' | 348°39.45' | S 6°35.95' | 90°36.42' | 359°49.61' | S 1°15.64' | 123°10.68' | 327°15.36' | S 14°18.03' | **15** |
| **16** | 99°36.37' | 5°52.13' | N 0°48.42' | 116°47.30' | 348°41.20' | S 6°35.24' | 105°38.43' | 359°50.07' | S 1°15.45' | 138°13.03' | 327°15.47' | S 14°18.00' | **16** |
| **17** | 114°36.17' | 5°54.80' | N 0°49.47' | 131°48.01' | 348°42.96' | S 6°34.52' | 120°40.43' | 359°50.53' | S 1°15.26' | 153°15.38' | 327°15.59' | S 14°17.97' | **17** |
| **18** | 129°35.96' | 5°57.47' | N 0°50.52' | 146°48.72' | 348°44.71' | S 6°33.81' | 135°42.43' | 359°50.99' | S 1°15.07' | 168°17.73' | 327°15.70' | S 14°17.94' | **18** |
| **19** | 144°35.76' | 6°00.13' | N 0°51.57' | 161°49.43' | 348°46.46' | S 6°33.09' | 150°44.44' | 359°51.46' | S 1°14.88' | 183°20.08' | 327°15.81' | S 14°17.91' | **19** |
| **20** | 159°35.55' | 6°02.80' | N 0°52.62' | 176°50.14' | 348°48.21' | S 6°32.38' | 165°46.44' | 359°51.92' | S 1°14.68' | 198°22.44' | 327°15.92' | S 14°17.88' | **20** |
| **21** | 174°35.35' | 6°05.47' | N 0°53.67' | 191°50.86' | 348°49.97' | S 6°31.66' | 180°48.45' | 359°52.37' | S 1°14.49' | 213°24.79' | 327°16.03' | S 14°17.85' | **21** |
| **22** | 189°35.14' | 6°08.14' | N 0°54.72' | 206°51.57' | 348°51.72' | S 6°30.95' | 195°50.45' | 359°52.83' | S 1°14.30' | 228°27.14' | 327°16.14' | S 14°17.82' | **22** |
| **23** | 204°34.94' | 6°10.81' | N 0°55.77' | 221°52.28' | 348°53.47' | S 6°30.23' | 210°52.46' | 359°53.29' | S 1°14.11' | 243°29.49' | 327°16.25' | S 14°17.79' | **23** |
| **24** | 219°34.73' | 6°13.48' | N 0°56.82' | 236°52.99' | 348°55.22' | S 6°29.51' | 225°54.46' | 359°53.75' | S 1°13.92' | 258°31.85' | 327°16.37' | S 14°17.76' | **24** |
| | δ 14.9966° | | *d* 1.0474' | δ 15.0118° | | *d* 0.7138' | δ 15.0334° | | *d* 0.1929' | δ 15.0392° | | *d* 0.0317' | |

## *Sunday, May 8th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°51.83' | 15.0006° | 44°56.38' | N 17°01.56' | 0.6815' | 95°58.75' | 14.5103° | 129°49.46' | N 23°39.76' | 6.8462' | 54.5737' | 225°48.21' | **00** |
| **01** | 195°51.87' | 15.0006° | 44°58.81' | N 17°02.25' | 0.6810' | 110°29.41' | 14.5109° | 130°21.27' | N 23°32.80' | 6.9584' | 54.5902' | 240°50.68' | **01** |
| **02** | 210°51.91' | 15.0006° | 45°01.24' | N 17°02.93' | 0.6805' | 125°00.10' | 14.5116° | 130°53.04' | N 23°25.73' | 7.0701' | 54.6069' | 255°53.14' | **02** |
| **03** | 225°51.94' | 15.0006° | 45°03.67' | N 17°03.61' | 0.6800' | 139°30.84' | 14.5122° | 131°24.77' | N 23°18.55' | 7.1813' | 54.6239' | 270°55.61' | **03** |
| **04** | 240°51.98' | 15.0006° | 45°06.09' | N 17°04.29' | 0.6795' | 154°01.61' | 14.5129° | 131°56.46' | N 23°11.26' | 7.2919' | 54.6412' | 285°58.07' | **04** |
| **05** | 255°52.01' | 15.0006° | 45°08.52' | N 17°04.96' | 0.6790' | 168°32.42' | 14.5135° | 132°28.12' | N 23°03.85' | 7.4020' | 54.6589' | 301°00.53' | **05** |
| **06** | 270°52.05' | 15.0006° | 45°10.95' | N 17°05.64' | 0.6785' | 183°03.27' | 14.5141° | 132°59.73' | N 22°56.34' | 7.5116' | 54.6767' | 316°03.00' | **06** |
| **07** | 285°52.08' | 15.0006° | 45°13.38' | N 17°06.32' | 0.6780' | 197°34.15' | 14.5148° | 133°31.31' | N 22°48.72' | 7.6206' | 54.6949' | 331°05.46' | **07** |
| **08** | 300°52.11' | 15.0006° | 45°15.81' | N 17°07.00' | 0.6775' | 212°05.08' | 14.5154° | 134°02.85' | N 22°40.99' | 7.7291' | 54.7134' | 346°07.93' | **08** |
| **09** | 315°52.15' | 15.0006° | 45°18.24' | N 17°07.68' | 0.6770' | 226°36.05' | 14.5161° | 134°34.34' | N 22°33.16' | 7.8371' | 54.7322' | 1°10.39' | **09** |
| **10** | 330°52.18' | 15.0006° | 45°20.67' | N 17°08.35' | 0.6765' | 241°07.05' | 14.5167° | 135°05.80' | N 22°25.21' | 7.9445' | 54.7512' | 16°12.86' | **10** |
| **11** | 345°52.22' | 15.0006° | 45°23.10' | N 17°09.03' | 0.6760' | 255°38.09' | 14.5174° | 135°37.23' | N 22°17.16' | 8.0513' | 54.7705' | 31°15.32' | **11** |
| **12** | 0°52.25' | 15.0006° | 45°25.53' | N 17°09.70' | 0.6755' | 270°09.18' | 14.5180° | 136°08.61' | N 22°09.00' | 8.1576' | 54.7902' | 46°17.78' | **12** |
| **13** | 15°52.28' | 15.0006° | 45°27.97' | N 17°10.38' | 0.6750' | 284°40.30' | 14.5187° | 136°39.95' | N 22°00.74' | 8.2633' | 54.8101' | 61°20.25' | **13** |
| **14** | 30°52.31' | 15.0005° | 45°30.40' | N 17°11.05' | 0.6745' | 299°11.46' | 14.5193° | 137°11.25' | N 21°52.37' | 8.3684' | 54.8303' | 76°22.71' | **14** |
| **15** | 45°52.35' | 15.0005° | 45°32.83' | N 17°11.73' | 0.6740' | 313°42.66' | 14.5200° | 137°42.52' | N 21°43.90' | 8.4730' | 54.8507' | 91°25.18' | **15** |
| **16** | 60°52.38' | 15.0005° | 45°35.26' | N 17°12.40' | 0.6735' | 328°13.89' | 14.5206° | 138°13.75' | N 21°35.32' | 8.5770' | 54.8715' | 106°27.64' | **16** |
| **17** | 75°52.41' | 15.0005° | 45°37.69' | N 17°13.07' | 0.6730' | 342°45.17' | 14.5213° | 138°44.94' | N 21°26.64' | 8.6804' | 54.8926' | 121°30.10' | **17** |
| **18** | 90°52.44' | 15.0005° | 45°40.12' | N 17°13.75' | 0.6725' | 357°16.48' | 14.5219° | 139°16.09' | N 21°17.86' | 8.7832' | 54.9139' | 136°32.57' | **18** |
| **19** | 105°52.48' | 15.0005° | 45°42.56' | N 17°14.42' | 0.6720' | 11°47.84' | 14.5225° | 139°47.20' | N 21°08.97' | 8.8855' | 54.9355' | 151°35.03' | **19** |
| **20** | 120°52.51' | 15.0005° | 45°44.99' | N 17°15.09' | 0.6715' | 26°19.23' | 14.5232° | 140°18.27' | N 20°59.98' | 8.9872' | 54.9574' | 166°37.50' | **20** |
| **21** | 135°52.54' | 15.0005° | 45°47.42' | N 17°15.76' | 0.6710' | 40°50.65' | 14.5238° | 140°49.31' | N 20°50.90' | 9.0882' | 54.9796' | 181°39.96' | **21** |
| **22** | 150°52.57' | 15.0005° | 45°49.86' | N 17°16.43' | 0.6705' | 55°22.12' | 14.5244° | 141°20.30' | N 20°41.71' | 9.1887' | 55.0020' | 196°42.42' | **22** |
| **23** | 165°52.60' | 15.0005° | 45°52.29' | N 17°17.10' | 0.6700' | 69°53.62' | 14.5251° | 141°51.26' | N 20°32.42' | 9.2886' | 55.0247' | 211°44.89' | **23** |
| **24** | 180°52.63' | 15.0005° | 45°54.72' | N 17°17.77' | 0.6695' | 84°25.17' | 14.5257° | 142°22.19' | N 20°23.03' | 9.3878' | 55.0478' | 226°47.35' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8472' | hp (π) 0.1452' | ½Ø 14.9294' | 45.1230856756939 6% +cre |
| | EoT at 12:00 UTC : +3m 29s (δ 0.13 s/h) | | Phase at 12:00 UTC : 84.23° | |
| | Meridian Pass. Time : 11:56:31.004 | | Age : 6.6 day(s) | |

| UT | Venus ♀ (π 0.14') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 219°34.73' | 6°13.48' | N 0°56.82' | 236°52.99' | 348°55.22' | S 6°29.51' | 225°54.46' | 359°53.75' | S 1°13.92' | 258°31.85' | 327°16.37' | S 14°17.76' | **00** |
| **01** | 234°34.53' | 6°16.15' | N 0°57.87' | 251°53.71' | 348°56.97' | S 6°28.80' | 240°56.46' | 359°54.21' | S 1°13.73' | 273°34.20' | 327°16.48' | S 14°17.73' | **01** |
| **02** | 249°34.32' | 6°18.82' | N 0°58.92' | 266°54.42' | 348°58.72' | S 6°28.08' | 255°58.47' | 359°54.67' | S 1°13.54' | 288°36.55' | 327°16.59' | S 14°17.70' | **02** |
| **03** | 264°34.12' | 6°21.49' | N 0°59.97' | 281°55.13' | 349°00.48' | S 6°27.37' | 271°00.47' | 359°55.13' | S 1°13.34' | 303°38.91' | 327°16.70' | S 14°17.67' | **03** |
| **04** | 279°33.91' | 6°24.16' | N 1°01.02' | 296°55.84' | 349°02.23' | S 6°26.65' | 286°02.48' | 359°55.59' | S 1°13.15' | 318°41.26' | 327°16.81' | S 14°17.63' | **04** |
| **05** | 294°33.71' | 6°26.83' | N 1°02.07' | 311°56.56' | 349°03.98' | S 6°25.94' | 301°04.49' | 359°56.05' | S 1°12.96' | 333°43.62' | 327°16.92' | S 14°17.60' | **05** |
| **06** | 309°33.50' | 6°29.50' | N 1°03.12' | 326°57.27' | 349°05.73' | S 6°25.22' | 316°06.49' | 359°56.51' | S 1°12.77' | 348°45.97' | 327°17.03' | S 14°17.57' | **06** |
| **07** | 324°33.30' | 6°32.17' | N 1°04.17' | 341°57.98' | 349°07.48' | S 6°24.50' | 331°08.50' | 359°56.97' | S 1°12.58' | 3°48.32' | 327°17.14' | S 14°17.54' | **07** |
| **08** | 339°33.09' | 6°34.84' | N 1°05.22' | 356°58.69' | 349°09.23' | S 6°23.79' | 346°10.50' | 359°57.42' | S 1°12.39' | 18°50.68' | 327°17.25' | S 14°17.51' | **08** |
| **09** | 354°32.88' | 6°37.51' | N 1°06.28' | 11°59.41' | 349°10.98' | S 6°23.07' | 1°12.51' | 359°57.88' | S 1°12.20' | 33°53.03' | 327°17.36' | S 14°17.48' | **09** |
| **10** | 9°32.68' | 6°40.18' | N 1°07.33' | 27°00.12' | 349°12.73' | S 6°22.36' | 16°14.51' | 359°58.34' | S 1°12.01' | 48°55.39' | 327°17.47' | S 14°17.45' | **10** |
| **11** | 24°32.47' | 6°42.85' | N 1°08.38' | 42°00.83' | 349°14.49' | S 6°21.64' | 31°16.52' | 359°58.80' | S 1°11.82' | 63°57.74' | 327°17.58' | S 14°17.42' | **11** |
| **12** | 39°32.26' | 6°45.52' | N 1°09.43' | 57°01.55' | 349°16.24' | S 6°20.92' | 46°18.53' | 359°59.26' | S 1°11.62' | 79°00.10' | 327°17.69' | S 14°17.39' | **12** |
| **13** | 54°32.06' | 6°48.19' | N 1°10.48' | 72°02.26' | 349°17.99' | S 6°20.21' | 61°20.53' | 359°59.71' | S 1°11.43' | 94°02.45' | 327°17.80' | S 14°17.36' | **13** |
| **14** | 69°31.85' | 6°50.86' | N 1°11.53' | 87°02.98' | 349°19.74' | S 6°19.49' | 76°22.54' | 0°00.17' | S 1°11.24' | 109°04.81' | 327°17.90' | S 14°17.34' | **14** |
| **15** | 84°31.64' | 6°53.53' | N 1°12.59' | 102°03.69' | 349°21.49' | S 6°18.77' | 91°24.55' | 0°00.63' | S 1°11.05' | 124°07.16' | 327°18.01' | S 14°17.31' | **15** |
| **16** | 99°31.44' | 6°56.20' | N 1°13.64' | 117°04.40' | 349°23.24' | S 6°18.06' | 106°26.55' | 0°01.09' | S 1°10.86' | 139°09.52' | 327°18.12' | S 14°17.28' | **16** |
| **17** | 114°31.23' | 6°58.87' | N 1°14.69' | 132°05.12' | 349°24.99' | S 6°17.34' | 121°28.56' | 0°01.54' | S 1°10.67' | 154°11.87' | 327°18.23' | S 14°17.25' | **17** |
| **18** | 129°31.02' | 7°01.55' | N 1°15.74' | 147°05.83' | 349°26.74' | S 6°16.62' | 136°30.57' | 0°02.00' | S 1°10.48' | 169°14.23' | 327°18.34' | S 14°17.22' | **18** |
| **19** | 144°30.82' | 7°04.22' | N 1°16.80' | 162°06.55' | 349°28.49' | S 6°15.91' | 151°32.57' | 0°02.46' | S 1°10.29' | 184°16.59' | 327°18.45' | S 14°17.19' | **19** |
| **20** | 159°30.61' | 7°06.89' | N 1°17.85' | 177°07.26' | 349°30.24' | S 6°15.19' | 166°34.58' | 0°02.92' | S 1°10.10' | 199°18.94' | 327°18.56' | S 14°17.16' | **20** |
| **21** | 174°30.40' | 7°09.56' | N 1°18.90' | 192°07.97' | 349°31.99' | S 6°14.47' | 181°36.59' | 0°03.37' | S 1°09.91' | 214°21.30' | 327°18.66' | S 14°17.13' | **21** |
| **22** | 189°30.19' | 7°12.23' | N 1°19.95' | 207°08.69' | 349°33.74' | S 6°13.76' | 196°38.60' | 0°03.83' | S 1°09.72' | 229°23.65' | 327°18.77' | S 14°17.10' | **22** |
| **23** | 204°29.99' | 7°14.90' | N 1°21.01' | 222°09.40' | 349°35.49' | S 6°13.04' | 211°40.60' | 0°04.28' | S 1°09.53' | 244°26.01' | 327°18.88' | S 14°17.07' | **23** |
| **24** | 219°29.78' | 7°17.58' | N 1°22.06' | 237°10.12' | 349°37.23' | S 6°12.32' | 226°42.61' | 0°04.74' | S 1°09.34' | 259°28.37' | 327°18.99' | S 14°17.04' | **24** |
| | δ 14.9966° | | *d* 1.0505' | δ 15.0119° | | *d* 0.7156' | δ 15.0334° | | *d* 0.1914' | δ 15.0392° | | *d* 0.0304' | |

## *Monday, May 9th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°52.63' | 15.0005° | 45°54.72' | N 17°17.77' | 0.6695' | 84°25.17' | 14.5257° | 142°22.19' | N 20°23.03' | 9.3878' | 55.0478' | 226°47.35' | **00** |
| **01** | 195°52.66' | 15.0005° | 45°57.16' | N 17°18.44' | 0.6690' | 98°56.74' | 14.5263° | 142°53.07' | N 20°13.54' | 9.4865' | 55.0710' | 241°49.82' | **01** |
| **02** | 210°52.69' | 15.0005° | 45°59.59' | N 17°19.11' | 0.6685' | 113°28.36' | 14.5269° | 143°23.92' | N 20°03.96' | 9.5845' | 55.0946' | 256°52.28' | **02** |
| **03** | 225°52.72' | 15.0005° | 46°02.03' | N 17°19.78' | 0.6680' | 128°00.01' | 14.5275° | 143°54.74' | N 19°54.28' | 9.6820' | 55.1185' | 271°54.75' | **03** |
| **04** | 240°52.75' | 15.0005° | 46°04.46' | N 17°20.44' | 0.6675' | 142°31.70' | 14.5281° | 144°25.51' | N 19°44.50' | 9.7788' | 55.1426' | 286°57.21' | **04** |
| **05** | 255°52.78' | 15.0005° | 46°06.90' | N 17°21.11' | 0.6670' | 157°03.42' | 14.5287° | 144°56.25' | N 19°34.62' | 9.8750' | 55.1670' | 301°59.67' | **05** |
| **06** | 270°52.81' | 15.0005° | 46°09.33' | N 17°21.78' | 0.6665' | 171°35.18' | 14.5293° | 145°26.96' | N 19°24.65' | 9.9706' | 55.1916' | 317°02.14' | **06** |
| **07** | 285°52.84' | 15.0005° | 46°11.77' | N 17°22.44' | 0.6659' | 186°06.97' | 14.5299° | 145°57.63' | N 19°14.59' | 10.0656' | 55.2165' | 332°04.60' | **07** |
| **08** | 300°52.86' | 15.0005° | 46°14.20' | N 17°23.11' | 0.6654' | 200°38.80' | 14.5305° | 146°28.26' | N 19°04.43' | 10.1599' | 55.2417' | 347°07.07' | **08** |
| **09** | 315°52.89' | 15.0005° | 46°16.64' | N 17°23.77' | 0.6649' | 215°10.66' | 14.5311° | 146°58.87' | N 18°54.17' | 10.2536' | 55.2672' | 2°09.53' | **09** |
| **10** | 330°52.92' | 15.0005° | 46°19.07' | N 17°24.44' | 0.6644' | 229°42.56' | 14.5316° | 147°29.43' | N 18°43.83' | 10.3467' | 55.2929' | 17°11.99' | **10** |
| **11** | 345°52.95' | 15.0005° | 46°21.51' | N 17°25.10' | 0.6639' | 244°14.49' | 14.5322° | 147°59.97' | N 18°33.39' | 10.4391' | 55.3189' | 32°14.46' | **11** |
| **12** | 0°52.98' | 15.0005° | 46°23.95' | N 17°25.77' | 0.6634' | 258°46.46' | 14.5327° | 148°30.47' | N 18°22.86' | 10.5309' | 55.3452' | 47°16.92' | **12** |
| **13** | 15°53.00' | 15.0005° | 46°26.38' | N 17°26.43' | 0.6629' | 273°18.45' | 14.5333° | 149°00.93' | N 18°12.24' | 10.6221' | 55.3717' | 62°19.39' | **13** |
| **14** | 30°53.03' | 15.0005° | 46°28.82' | N 17°27.09' | 0.6624' | 287°50.48' | 14.5338° | 149°31.37' | N 18°01.52' | 10.7126' | 55.3985' | 77°21.85' | **14** |
| **15** | 45°53.06' | 15.0004° | 46°31.26' | N 17°27.75' | 0.6619' | 302°22.54' | 14.5343° | 150°01.77' | N 17°50.72' | 10.8025' | 55.4256' | 92°24.31' | **15** |
| **16** | 60°53.08' | 15.0004° | 46°33.69' | N 17°28.41' | 0.6614' | 316°54.64' | 14.5349° | 150°32.14' | N 17°39.83' | 10.8917' | 55.4529' | 107°26.78' | **16** |
| **17** | 75°53.11' | 15.0004° | 46°36.13' | N 17°29.07' | 0.6609' | 331°26.76' | 14.5354° | 151°02.48' | N 17°28.85' | 10.9803' | 55.4804' | 122°29.24' | **17** |
| **18** | 90°53.14' | 15.0004° | 46°38.57' | N 17°29.74' | 0.6603' | 345°58.91' | 14.5359° | 151°32.80' | N 17°17.78' | 11.0682' | 55.5083' | 137°31.71' | **18** |
| **19** | 105°53.16' | 15.0004° | 46°41.01' | N 17°30.39' | 0.6598' | 0°31.09' | 14.5364° | 152°03.08' | N 17°06.62' | 11.1555' | 55.5363' | 152°34.17' | **19** |
| **20** | 120°53.19' | 15.0004° | 46°43.45' | N 17°31.05' | 0.6593' | 15°03.31' | 14.5369° | 152°33.33' | N 16°55.38' | 11.2420' | 55.5647' | 167°36.64' | **20** |
| **21** | 135°53.21' | 15.0004° | 46°45.89' | N 17°31.71' | 0.6588' | 29°35.55' | 14.5373° | 153°03.55' | N 16°44.05' | 11.3280' | 55.5932' | 182°39.10' | **21** |
| **22** | 150°53.24' | 15.0004° | 46°48.32' | N 17°32.37' | 0.6583' | 44°07.82' | 14.5378° | 153°33.75' | N 16°32.64' | 11.4132' | 55.6220' | 197°41.56' | **22** |
| **23** | 165°53.26' | 15.0004° | 46°50.76' | N 17°33.03' | 0.6578' | 58°40.11' | 14.5383° | 154°03.92' | N 16°21.14' | 11.4978' | 55.6511' | 212°44.03' | **23** |
| **24** | 180°53.29' | 15.0004° | 46°53.20' | N 17°33.69' | 0.6573' | 73°12.43' | 14.5387° | 154°34.06' | N 16°09.56' | 11.5818' | 55.6804' | 227°46.49' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 15.8436' | hp (π) 0.1452' | ½Ø 15.0806' | 54.9035470886612<br>8% +gib | |
| | EoT at 12:00 UTC : +3m 31s (δ 0.11 s/h) | | Phase at 12:00 UTC : 95.50° | | |
| | Meridian Pass. Time : 11:56:28.095 | | Age : 7.4 day(s) | | |

| UT | Venus ♀ (π 0.14') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 219°29.78' | 7°17.58' | N 1°22.06' | 237°10.12' | 349°37.23' | S 6°12.32' | 226°42.61' | 0°04.74' | S 1°09.34' | 259°28.37' | 327°18.99' | S 14°17.04' | **00** |
| **01** | 234°29.57' | 7°20.25' | N 1°23.11' | 252°10.83' | 349°38.98' | S 6°11.60' | 241°44.62' | 0°05.20' | S 1°09.15' | 274°30.72' | 327°19.09' | S 14°17.01' | **01** |
| **02** | 249°29.36' | 7°22.92' | N 1°24.17' | 267°11.55' | 349°40.73' | S 6°10.89' | 256°46.63' | 0°05.65' | S 1°08.96' | 289°33.08' | 327°19.20' | S 14°16.98' | **02** |
| **03** | 264°29.15' | 7°25.59' | N 1°25.22' | 282°12.26' | 349°42.48' | S 6°10.17' | 271°48.64' | 0°06.11' | S 1°08.77' | 304°35.44' | 327°19.31' | S 14°16.95' | **03** |
| **04** | 279°28.94' | 7°28.26' | N 1°26.27' | 297°12.98' | 349°44.23' | S 6°09.45' | 286°50.64' | 0°06.56' | S 1°08.58' | 319°37.80' | 327°19.41' | S 14°16.92' | **04** |
| **05** | 294°28.74' | 7°30.94' | N 1°27.33' | 312°13.69' | 349°45.98' | S 6°08.73' | 301°52.65' | 0°07.02' | S 1°08.39' | 334°40.15' | 327°19.52' | S 14°16.90' | **05** |
| **06** | 309°28.53' | 7°33.61' | N 1°28.38' | 327°14.41' | 349°47.73' | S 6°08.02' | 316°54.66' | 0°07.48' | S 1°08.20' | 349°42.51' | 327°19.63' | S 14°16.87' | **06** |
| **07** | 324°28.32' | 7°36.28' | N 1°29.44' | 342°15.12' | 349°49.48' | S 6°07.30' | 331°56.67' | 0°07.93' | S 1°08.01' | 4°44.87' | 327°19.73' | S 14°16.84' | **07** |
| **08** | 339°28.11' | 7°38.96' | N 1°30.49' | 357°15.84' | 349°51.23' | S 6°06.58' | 346°58.68' | 0°08.39' | S 1°07.82' | 19°47.23' | 327°19.84' | S 14°16.81' | **08** |
| **09** | 354°27.90' | 7°41.63' | N 1°31.54' | 12°16.56' | 349°52.97' | S 6°05.86' | 2°00.69' | 0°08.84' | S 1°07.63' | 34°49.59' | 327°19.94' | S 14°16.78' | **09** |
| **10** | 9°27.69' | 7°44.30' | N 1°32.60' | 27°17.27' | 349°54.72' | S 6°05.15' | 17°02.70' | 0°09.30' | S 1°07.44' | 49°51.94' | 327°20.05' | S 14°16.75' | **10** |
| **11** | 24°27.48' | 7°46.98' | N 1°33.65' | 42°17.99' | 349°56.47' | S 6°04.43' | 32°04.71' | 0°09.75' | S 1°07.25' | 64°54.30' | 327°20.16' | S 14°16.72' | **11** |
| **12** | 39°27.27' | 7°49.65' | N 1°34.71' | 57°18.70' | 349°58.22' | S 6°03.71' | 47°06.72' | 0°10.21' | S 1°07.07' | 79°56.66' | 327°20.26' | S 14°16.70' | **12** |
| **13** | 54°27.06' | 7°52.32' | N 1°35.76' | 72°19.42' | 349°59.97' | S 6°02.99' | 62°08.73' | 0°10.66' | S 1°06.88' | 94°59.02' | 327°20.37' | S 14°16.67' | **13** |
| **14** | 69°26.85' | 7°55.00' | N 1°36.81' | 87°20.14' | 350°01.71' | S 6°02.27' | 77°10.74' | 0°11.11' | S 1°06.69' | 110°01.38' | 327°20.47' | S 14°16.64' | **14** |
| **15** | 84°26.64' | 7°57.67' | N 1°37.87' | 102°20.85' | 350°03.46' | S 6°01.56' | 92°12.75' | 0°11.57' | S 1°06.50' | 125°03.74' | 327°20.58' | S 14°16.61' | **15** |
| **16** | 99°26.43' | 8°00.34' | N 1°38.92' | 117°21.57' | 350°05.21' | S 6°00.84' | 107°14.76' | 0°12.02' | S 1°06.31' | 140°06.10' | 327°20.68' | S 14°16.58' | **16** |
| **17** | 114°26.22' | 8°03.02' | N 1°39.98' | 132°22.29' | 350°06.96' | S 6°00.12' | 122°16.77' | 0°12.48' | S 1°06.12' | 155°08.46' | 327°20.79' | S 14°16.55' | **17** |
| **18** | 129°26.01' | 8°05.69' | N 1°41.03' | 147°23.00' | 350°08.70' | S 5°59.40' | 137°18.78' | 0°12.93' | S 1°05.93' | 170°10.82' | 327°20.89' | S 14°16.53' | **18** |
| **19** | 144°25.80' | 8°08.37' | N 1°42.09' | 162°23.72' | 350°10.45' | S 5°58.68' | 152°20.79' | 0°13.38' | S 1°05.74' | 185°13.18' | 327°21.00' | S 14°16.50' | **19** |
| **20** | 159°25.59' | 8°11.04' | N 1°43.14' | 177°24.44' | 350°12.20' | S 5°57.97' | 167°22.80' | 0°13.84' | S 1°05.55' | 200°15.54' | 327°21.10' | S 14°16.47' | **20** |
| **21** | 174°25.38' | 8°13.72' | N 1°44.20' | 192°25.15' | 350°13.95' | S 5°57.25' | 182°24.81' | 0°14.29' | S 1°05.37' | 215°17.89' | 327°21.20' | S 14°16.44' | **21** |
| **22** | 189°25.17' | 8°16.39' | N 1°45.25' | 207°25.87' | 350°15.69' | S 5°56.53' | 197°26.82' | 0°14.74' | S 1°05.18' | 230°20.26' | 327°21.31' | S 14°16.41' | **22** |
| **23** | 204°24.96' | 8°19.07' | N 1°46.31' | 222°26.59' | 350°17.44' | S 5°55.81' | 212°28.83' | 0°15.20' | S 1°04.99' | 245°22.62' | 327°21.41' | S 14°16.38' | **23** |
| **24** | 219°24.75' | 8°21.74' | N 1°47.36' | 237°27.31' | 350°19.19' | S 5°55.09' | 227°30.84' | 0°15.65' | S 1°04.80' | 260°24.98' | 327°21.52' | S 14°16.36' | **24** |
| | δ 14.9965° | | *d* 1.0532' | δ 15.0119° | | *d* 0.7172' | δ 15.0335° | | *d* 0.1899' | δ 15.0393° | | *d* 0.0291' | |

## *Tuesday, May 10th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°53.29' | 15.0004° | 46°53.20' | N 17°33.69' | 0.6573' | 73°12.43' | 14.5387° | 154°34.06' | N 16°09.56' | 11.5818' | 55.6804' | 227°46.49' | **00** |
| **01** | 195°53.31' | 15.0004° | 46°55.64' | N 17°34.34' | 0.6568' | 87°44.78' | 14.5391° | 155°04.17' | N 15°57.90' | 11.6650' | 55.7100' | 242°48.96' | **01** |
| **02** | 210°53.34' | 15.0004° | 46°58.08' | N 17°35.00' | 0.6562' | 102°17.16' | 14.5396° | 155°34.26' | N 15°46.15' | 11.7475' | 55.7398' | 257°51.42' | **02** |
| **03** | 225°53.36' | 15.0004° | 47°00.52' | N 17°35.66' | 0.6557' | 116°49.56' | 14.5400° | 156°04.33' | N 15°34.32' | 11.8294' | 55.7698' | 272°53.88' | **03** |
| **04** | 240°53.38' | 15.0004° | 47°02.96' | N 17°36.31' | 0.6552' | 131°21.98' | 14.5404° | 156°34.37' | N 15°22.41' | 11.9106' | 55.8000' | 287°56.35' | **04** |
| **05** | 255°53.41' | 15.0004° | 47°05.40' | N 17°36.96' | 0.6547' | 145°54.43' | 14.5408° | 157°04.38' | N 15°10.42' | 11.9911' | 55.8305' | 302°58.81' | **05** |
| **06** | 270°53.43' | 15.0004° | 47°07.85' | N 17°37.62' | 0.6542' | 160°26.90' | 14.5412° | 157°34.38' | N 14°58.35' | 12.0709' | 55.8613' | 318°01.28' | **06** |
| **07** | 285°53.45' | 15.0004° | 47°10.29' | N 17°38.27' | 0.6537' | 174°59.39' | 14.5415° | 158°04.35' | N 14°46.20' | 12.1500' | 55.8922' | 333°03.74' | **07** |
| **08** | 300°53.48' | 15.0004° | 47°12.73' | N 17°38.93' | 0.6531' | 189°31.90' | 14.5419° | 158°34.30' | N 14°33.97' | 12.2284' | 55.9234' | 348°06.20' | **08** |
| **09** | 315°53.50' | 15.0004° | 47°15.17' | N 17°39.58' | 0.6526' | 204°04.44' | 14.5422° | 159°04.23' | N 14°21.66' | 12.3061' | 55.9548' | 3°08.67' | **09** |
| **10** | 330°53.52' | 15.0004° | 47°17.61' | N 17°40.23' | 0.6521' | 218°36.99' | 14.5426° | 159°34.14' | N 14°09.28' | 12.3831' | 55.9864' | 18°11.13' | **10** |
| **11** | 345°53.54' | 15.0004° | 47°20.05' | N 17°40.88' | 0.6516' | 233°09.57' | 14.5429° | 160°04.03' | N 13°56.82' | 12.4594' | 56.0183' | 33°13.60' | **11** |
| **12** | 0°53.57' | 15.0004° | 47°22.50' | N 17°41.53' | 0.6511' | 247°42.16' | 14.5432° | 160°33.90' | N 13°44.29' | 12.5349' | 56.0503' | 48°16.06' | **12** |
| **13** | 15°53.59' | 15.0004° | 47°24.94' | N 17°42.18' | 0.6506' | 262°14.77' | 14.5435° | 161°03.75' | N 13°31.68' | 12.6098' | 56.0826' | 63°18.52' | **13** |
| **14** | 30°53.61' | 15.0004° | 47°27.38' | N 17°42.83' | 0.6500' | 276°47.40' | 14.5438° | 161°33.59' | N 13°18.99' | 12.6839' | 56.1151' | 78°20.99' | **14** |
| **15** | 45°53.63' | 15.0004° | 47°29.82' | N 17°43.48' | 0.6495' | 291°20.04' | 14.5441° | 162°03.41' | N 13°06.23' | 12.7573' | 56.1477' | 93°23.45' | **15** |
| **16** | 60°53.65' | 15.0003° | 47°32.27' | N 17°44.13' | 0.6490' | 305°52.70' | 14.5443° | 162°33.22' | N 12°53.40' | 12.8299' | 56.1806' | 108°25.92' | **16** |
| **17** | 75°53.67' | 15.0003° | 47°34.71' | N 17°44.78' | 0.6485' | 320°25.37' | 14.5446° | 163°03.01' | N 12°40.50' | 12.9018' | 56.2137' | 123°28.38' | **17** |
| **18** | 90°53.69' | 15.0003° | 47°37.15' | N 17°45.43' | 0.6480' | 334°58.06' | 14.5448° | 163°32.79' | N 12°27.53' | 12.9730' | 56.2470' | 138°30.85' | **18** |
| **19** | 105°53.71' | 15.0003° | 47°39.60' | N 17°46.08' | 0.6474' | 349°30.76' | 14.5450° | 164°02.55' | N 12°14.49' | 13.0434' | 56.2805' | 153°33.31' | **19** |
| **20** | 120°53.73' | 15.0003° | 47°42.04' | N 17°46.72' | 0.6469' | 4°03.47' | 14.5452° | 164°32.30' | N 12°01.37' | 13.1130' | 56.3142' | 168°35.77' | **20** |
| **21** | 135°53.75' | 15.0003° | 47°44.49' | N 17°47.37' | 0.6464' | 18°36.19' | 14.5454° | 165°02.04' | N 11°48.19' | 13.1819' | 56.3481' | 183°38.24' | **21** |
| **22** | 150°53.77' | 15.0003° | 47°46.93' | N 17°48.02' | 0.6459' | 33°08.93' | 14.5456° | 165°31.77' | N 11°34.94' | 13.2501' | 56.3821' | 198°40.70' | **22** |
| **23** | 165°53.79' | 15.0003° | 47°49.38' | N 17°48.66' | 0.6454' | 47°41.67' | 14.5457° | 166°01.50' | N 11°21.62' | 13.3174' | 56.4164' | 213°43.17' | **23** |
| **24** | 180°53.81' | 15.0003° | 47°51.82' | N 17°49.31' | 0.6448' | 62°14.42' | 14.5459° | 166°31.21' | N 11°08.24' | 13.3840' | 56.4508' | 228°45.63' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8400' | hp (π) 0.1452' | ½Ø 15.2727' | 64.7309590713115 % +gib |
| | EoT at 12:00 UTC : +3m 34s (δ 0.09 s/h) | | Phase at 12:00 UTC : 107.06° | |
| | Meridian Pass. Time : 11:56:25.738 | | Age : 8.3 day(s) | |

| UT | Venus ♀ (π 0.14') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 219°24.75' | 8°21.74' | N 1°47.36' | 237°27.31' | 350°19.19' | S 5°55.09' | 227°30.84' | 0°15.65' | S 1°04.80' | 260°24.98' | 327°21.52' | S 14°16.36' | **00** |
| **01** | 234°24.54' | 8°24.42' | N 1°48.42' | 252°28.02' | 350°20.93' | S 5°54.37' | 242°32.85' | 0°16.10' | S 1°04.61' | 275°27.34' | 327°21.62' | S 14°16.33' | **01** |
| **02** | 249°24.33' | 8°27.09' | N 1°49.47' | 267°28.74' | 350°22.68' | S 5°53.65' | 257°34.86' | 0°16.56' | S 1°04.42' | 290°29.70' | 327°21.72' | S 14°16.30' | **02** |
| **03** | 264°24.12' | 8°29.77' | N 1°50.53' | 282°29.46' | 350°24.43' | S 5°52.93' | 272°36.88' | 0°17.01' | S 1°04.23' | 305°32.06' | 327°21.83' | S 14°16.27' | **03** |
| **04** | 279°23.91' | 8°32.44' | N 1°51.59' | 297°30.18' | 350°26.17' | S 5°52.22' | 287°38.89' | 0°17.46' | S 1°04.05' | 320°34.42' | 327°21.93' | S 14°16.25' | **04** |
| **05** | 294°23.69' | 8°35.12' | N 1°52.64' | 312°30.89' | 350°27.92' | S 5°51.50' | 302°40.90' | 0°17.91' | S 1°03.86' | 335°36.78' | 327°22.03' | S 14°16.22' | **05** |
| **06** | 309°23.48' | 8°37.79' | N 1°53.70' | 327°31.61' | 350°29.66' | S 5°50.78' | 317°42.91' | 0°18.37' | S 1°03.67' | 350°39.14' | 327°22.13' | S 14°16.19' | **06** |
| **07** | 324°23.27' | 8°40.47' | N 1°54.75' | 342°32.33' | 350°31.41' | S 5°50.06' | 332°44.92' | 0°18.82' | S 1°03.48' | 5°41.50' | 327°22.24' | S 14°16.16' | **07** |
| **08** | 339°23.06' | 8°43.15' | N 1°55.81' | 357°33.05' | 350°33.16' | S 5°49.34' | 347°46.93' | 0°19.27' | S 1°03.29' | 20°43.87' | 327°22.34' | S 14°16.14' | **08** |
| **09** | 354°22.85' | 8°45.82' | N 1°56.87' | 12°33.77' | 350°34.90' | S 5°48.62' | 2°48.95' | 0°19.72' | S 1°03.11' | 35°46.23' | 327°22.44' | S 14°16.11' | **09** |
| **10** | 9°22.63' | 8°48.50' | N 1°57.92' | 27°34.48' | 350°36.65' | S 5°47.90' | 17°50.96' | 0°20.17' | S 1°02.92' | 50°48.59' | 327°22.54' | S 14°16.08' | **10** |
| **11** | 24°22.42' | 8°51.17' | N 1°58.98' | 42°35.20' | 350°38.39' | S 5°47.18' | 32°52.97' | 0°20.62' | S 1°02.73' | 65°50.95' | 327°22.65' | S 14°16.05' | **11** |
| **12** | 39°22.21' | 8°53.85' | N 2°00.03' | 57°35.92' | 350°40.14' | S 5°46.46' | 47°54.99' | 0°21.08' | S 1°02.54' | 80°53.31' | 327°22.75' | S 14°16.03' | **12** |
| **13** | 54°22.00' | 8°56.53' | N 2°01.09' | 72°36.64' | 350°41.88' | S 5°45.74' | 62°57.00' | 0°21.53' | S 1°02.36' | 95°55.68' | 327°22.85' | S 14°16.00' | **13** |
| **14** | 69°21.78' | 8°59.20' | N 2°02.15' | 87°37.36' | 350°43.63' | S 5°45.02' | 77°59.01' | 0°21.98' | S 1°02.17' | 110°58.04' | 327°22.95' | S 14°15.97' | **14** |
| **15** | 84°21.57' | 9°01.88' | N 2°03.20' | 102°38.08' | 350°45.37' | S 5°44.30' | 93°01.02' | 0°22.43' | S 1°01.98' | 126°00.40' | 327°23.05' | S 14°15.95' | **15** |
| **16** | 99°21.36' | 9°04.56' | N 2°04.26' | 117°38.80' | 350°47.12' | S 5°43.58' | 108°03.04' | 0°22.88' | S 1°01.79' | 141°02.76' | 327°23.15' | S 14°15.92' | **16** |
| **17** | 114°21.14' | 9°07.24' | N 2°05.32' | 132°39.52' | 350°48.86' | S 5°42.86' | 123°05.05' | 0°23.33' | S 1°01.61' | 156°05.13' | 327°23.25' | S 14°15.89' | **17** |
| **18** | 129°20.93' | 9°09.91' | N 2°06.37' | 147°40.24' | 350°50.61' | S 5°42.14' | 138°07.06' | 0°23.78' | S 1°01.42' | 171°07.49' | 327°23.35' | S 14°15.86' | **18** |
| **19** | 144°20.72' | 9°12.59' | N 2°07.43' | 162°40.96' | 350°52.35' | S 5°41.42' | 153°09.08' | 0°24.23' | S 1°01.23' | 186°09.85' | 327°23.46' | S 14°15.84' | **19** |
| **20** | 159°20.50' | 9°15.27' | N 2°08.49' | 177°41.67' | 350°54.10' | S 5°40.70' | 168°11.09' | 0°24.68' | S 1°01.04' | 201°12.22' | 327°23.56' | S 14°15.81' | **20** |
| **21** | 174°20.29' | 9°17.95' | N 2°09.54' | 192°42.39' | 350°55.84' | S 5°39.98' | 183°13.11' | 0°25.13' | S 1°00.86' | 216°14.58' | 327°23.66' | S 14°15.78' | **21** |
| **22** | 189°20.08' | 9°20.62' | N 2°10.60' | 207°43.11' | 350°57.59' | S 5°39.26' | 198°15.12' | 0°25.58' | S 1°00.67' | 231°16.94' | 327°23.76' | S 14°15.76' | **22** |
| **23** | 204°19.86' | 9°23.30' | N 2°11.66' | 222°43.83' | 350°59.33' | S 5°38.54' | 213°17.13' | 0°26.03' | S 1°00.48' | 246°19.31' | 327°23.86' | S 14°15.73' | **23** |
| **24** | 219°19.65' | 9°25.98' | N 2°12.72' | 237°44.55' | 351°01.08' | S 5°37.82' | 228°19.15' | 0°26.48' | S 1°00.30' | 261°21.67' | 327°23.96' | S 14°15.70' | **24** |
| | δ 14.9965° | | *d* 1.0554' | δ 15.0120° | | *d* 0.7187' | δ 15.0335° | | *d* 0.1884' | δ 15.0393° | | *d* 0.0278' | |

## *Wednesday, May 11th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°53.81' | 15.0003° | 47°51.82' | N 17°49.31' | 0.6448' | 62°14.42' | 14.5459° | 166°31.21' | N 11°08.24' | 13.3840' | 56.4508' | 228°45.63' | **00** |
| **01** | 195°53.83' | 15.0003° | 47°54.27' | N 17°49.95' | 0.6443' | 76°47.18' | 14.5460° | 167°00.91' | N 10°54.79' | 13.4498' | 56.4854' | 243°48.09' | **01** |
| **02** | 210°53.85' | 15.0003° | 47°56.71' | N 17°50.59' | 0.6438' | 91°19.95' | 14.5461° | 167°30.61' | N 10°41.28' | 13.5148' | 56.5201' | 258°50.56' | **02** |
| **03** | 225°53.86' | 15.0003° | 47°59.16' | N 17°51.24' | 0.6433' | 105°52.72' | 14.5462° | 168°00.30' | N 10°27.70' | 13.5791' | 56.5551' | 273°53.02' | **03** |
| **04** | 240°53.88' | 15.0003° | 48°01.60' | N 17°51.88' | 0.6427' | 120°25.49' | 14.5463° | 168°29.99' | N 10°14.05' | 13.6425' | 56.5902' | 288°55.49' | **04** |
| **05** | 255°53.90' | 15.0003° | 48°04.05' | N 17°52.52' | 0.6422' | 134°58.27' | 14.5463° | 168°59.68' | N 10°00.35' | 13.7051' | 56.6254' | 303°57.95' | **05** |
| **06** | 270°53.92' | 15.0003° | 48°06.50' | N 17°53.16' | 0.6417' | 149°31.06' | 14.5464° | 169°29.36' | N 9°46.58' | 13.7670' | 56.6609' | 319°00.41' | **06** |
| **07** | 285°53.93' | 15.0003° | 48°08.94' | N 17°53.80' | 0.6412' | 164°03.84' | 14.5464° | 169°59.04' | N 9°32.75' | 13.8280' | 56.6964' | 334°02.88' | **07** |
| **08** | 300°53.95' | 15.0003° | 48°11.39' | N 17°54.45' | 0.6406' | 178°36.63' | 14.5464° | 170°28.71' | N 9°18.87' | 13.8881' | 56.7322' | 349°05.34' | **08** |
| **09** | 315°53.97' | 15.0003° | 48°13.84' | N 17°55.09' | 0.6401' | 193°09.41' | 14.5464° | 170°58.39' | N 9°04.92' | 13.9475' | 56.7681' | 4°07.81' | **09** |
| **10** | 330°53.98' | 15.0003° | 48°16.29' | N 17°55.73' | 0.6396' | 207°42.20' | 14.5464° | 171°28.07' | N 8°50.91' | 14.0060' | 56.8041' | 19°10.27' | **10** |
| **11** | 345°54.00' | 15.0003° | 48°18.73' | N 17°56.36' | 0.6391' | 222°14.98' | 14.5464° | 171°57.75' | N 8°36.85' | 14.0637' | 56.8403' | 34°12.73' | **11** |
| **12** | 0°54.02' | 15.0003° | 48°21.18' | N 17°57.00' | 0.6385' | 236°47.76' | 14.5463° | 172°27.43' | N 8°22.73' | 14.1205' | 56.8766' | 49°15.20' | **12** |
| **13** | 15°54.03' | 15.0003° | 48°23.63' | N 17°57.64' | 0.6380' | 251°20.54' | 14.5463° | 172°57.12' | N 8°08.55' | 14.1764' | 56.9130' | 64°17.66' | **13** |
| **14** | 30°54.05' | 15.0003° | 48°26.08' | N 17°58.28' | 0.6375' | 265°53.31' | 14.5462° | 173°26.81' | N 7°54.32' | 14.2315' | 56.9495' | 79°20.13' | **14** |
| **15** | 45°54.06' | 15.0003° | 48°28.53' | N 17°58.92' | 0.6370' | 280°26.08' | 14.5461° | 173°56.51' | N 7°40.03' | 14.2858' | 56.9862' | 94°22.59' | **15** |
| **16** | 60°54.08' | 15.0003° | 48°30.98' | N 17°59.55' | 0.6364' | 294°58.84' | 14.5460° | 174°26.22' | N 7°25.69' | 14.3391' | 57.0230' | 109°25.05' | **16** |
| **17** | 75°54.09' | 15.0002° | 48°33.43' | N 18°00.19' | 0.6359' | 309°31.59' | 14.5458° | 174°55.93' | N 7°11.30' | 14.3916' | 57.0599' | 124°27.52' | **17** |
| **18** | 90°54.11' | 15.0002° | 48°35.88' | N 18°00.82' | 0.6354' | 324°04.33' | 14.5457° | 175°25.65' | N 6°56.86' | 14.4431' | 57.0970' | 139°29.98' | **18** |
| **19** | 105°54.12' | 15.0002° | 48°38.33' | N 18°01.46' | 0.6348' | 338°37.06' | 14.5455° | 175°55.38' | N 6°42.37' | 14.4937' | 57.1341' | 154°32.45' | **19** |
| **20** | 120°54.14' | 15.0002° | 48°40.78' | N 18°02.09' | 0.6343' | 353°09.78' | 14.5453° | 176°25.13' | N 6°27.82' | 14.5435' | 57.1714' | 169°34.91' | **20** |
| **21** | 135°54.15' | 15.0002° | 48°43.23' | N 18°02.73' | 0.6338' | 7°42.49' | 14.5451° | 176°54.88' | N 6°13.23' | 14.5923' | 57.2087' | 184°37.38' | **21** |
| **22** | 150°54.16' | 15.0002° | 48°45.68' | N 18°03.36' | 0.6333' | 22°15.18' | 14.5449° | 177°24.65' | N 5°58.59' | 14.6402' | 57.2461' | 199°39.84' | **22** |
| **23** | 165°54.18' | 15.0002° | 48°48.13' | N 18°03.99' | 0.6327' | 36°47.87' | 14.5447° | 177°54.44' | N 5°43.90' | 14.6871' | 57.2836' | 214°42.30' | **23** |
| **24** | 180°54.19' | 15.0002° | 48°50.58' | N 18°04.62' | 0.6322' | 51°20.53' | 14.5444° | 178°24.24' | N 5°29.17' | 14.7331' | 57.3212' | 229°44.77' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8365' | hp (π) 0.1451' | ½Ø 15.4978' | 74.2379752523861<br>1% +gib |
| | EoT at 12:00 UTC : +3m 36s (δ 0.06 s/h) | | Phase at 12:00 UTC : 118.98° | |
| | Meridian Pass. Time : 11:56:23.936 | | Age : 9.3 day(s) | |

| UT | Venus ♀ (π 0.14') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 219°19.65' | 9°25.98' | N 2°12.72' | 237°44.55' | 351°01.08' | S 5°37.82' | 228°19.15' | 0°26.48' | S 1°00.30' | 261°21.67' | 327°23.96' | S 14°15.70' | **00** |
| **01** | 234°19.43' | 9°28.66' | N 2°13.77' | 252°45.27' | 351°02.82' | S 5°37.10' | 243°21.16' | 0°26.93' | S 1°00.11' | 276°24.04' | 327°24.06' | S 14°15.68' | **01** |
| **02** | 249°19.22' | 9°31.34' | N 2°14.83' | 267°45.99' | 351°04.56' | S 5°36.38' | 258°23.18' | 0°27.38' | S 0°59.92' | 291°26.40' | 327°24.16' | S 14°15.65' | **02** |
| **03** | 264°19.00' | 9°34.02' | N 2°15.89' | 282°46.71' | 351°06.31' | S 5°35.66' | 273°25.19' | 0°27.83' | S 0°59.73' | 306°28.77' | 327°24.26' | S 14°15.62' | **03** |
| **04** | 279°18.79' | 9°36.70' | N 2°16.94' | 297°47.43' | 351°08.05' | S 5°34.94' | 288°27.21' | 0°28.28' | S 0°59.55' | 321°31.13' | 327°24.35' | S 14°15.60' | **04** |
| **05** | 294°18.58' | 9°39.37' | N 2°18.00' | 312°48.15' | 351°09.80' | S 5°34.22' | 303°29.22' | 0°28.73' | S 0°59.36' | 336°33.50' | 327°24.45' | S 14°15.57' | **05** |
| **06** | 309°18.36' | 9°42.05' | N 2°19.06' | 327°48.87' | 351°11.54' | S 5°33.50' | 318°31.24' | 0°29.18' | S 0°59.17' | 351°35.86' | 327°24.55' | S 14°15.55' | **06** |
| **07** | 324°18.14' | 9°44.73' | N 2°20.12' | 342°49.59' | 351°13.28' | S 5°32.78' | 333°33.25' | 0°29.62' | S 0°58.99' | 6°38.23' | 327°24.65' | S 14°15.52' | **07** |
| **08** | 339°17.93' | 9°47.41' | N 2°21.17' | 357°50.32' | 351°15.03' | S 5°32.06' | 348°35.27' | 0°30.07' | S 0°58.80' | 21°40.59' | 327°24.75' | S 14°15.49' | **08** |
| **09** | 354°17.71' | 9°50.09' | N 2°22.23' | 12°51.04' | 351°16.77' | S 5°31.34' | 3°37.28' | 0°30.52' | S 0°58.62' | 36°42.96' | 327°24.85' | S 14°15.47' | **09** |
| **10** | 9°17.50' | 9°52.77' | N 2°23.29' | 27°51.76' | 351°18.51' | S 5°30.62' | 18°39.30' | 0°30.97' | S 0°58.43' | 51°45.32' | 327°24.95' | S 14°15.44' | **10** |
| **11** | 24°17.28' | 9°55.45' | N 2°24.35' | 42°52.48' | 351°20.26' | S 5°29.90' | 33°41.32' | 0°31.42' | S 0°58.24' | 66°47.69' | 327°25.05' | S 14°15.42' | **11** |
| **12** | 39°17.07' | 9°58.13' | N 2°25.41' | 57°53.20' | 351°22.00' | S 5°29.18' | 48°43.33' | 0°31.87' | S 0°58.06' | 81°50.06' | 327°25.14' | S 14°15.39' | **12** |
| **13** | 54°16.85' | 10°00.81' | N 2°26.46' | 72°53.92' | 351°23.74' | S 5°28.46' | 63°45.35' | 0°32.31' | S 0°57.87' | 96°52.42' | 327°25.24' | S 14°15.36' | **13** |
| **14** | 69°16.63' | 10°03.49' | N 2°27.52' | 87°54.64' | 351°25.49' | S 5°27.74' | 78°47.36' | 0°32.76' | S 0°57.68' | 111°54.79' | 327°25.34' | S 14°15.34' | **14** |
| **15** | 84°16.42' | 10°06.17' | N 2°28.58' | 102°55.36' | 351°27.23' | S 5°27.02' | 93°49.38' | 0°33.21' | S 0°57.50' | 126°57.15' | 327°25.44' | S 14°15.31' | **15** |
| **16** | 99°16.20' | 10°08.85' | N 2°29.64' | 117°56.08' | 351°28.97' | S 5°26.30' | 108°51.40' | 0°33.66' | S 0°57.31' | 141°59.52' | 327°25.53' | S 14°15.29' | **16** |
| **17** | 114°15.98' | 10°11.53' | N 2°30.70' | 132°56.81' | 351°30.71' | S 5°25.57' | 123°53.41' | 0°34.10' | S 0°57.13' | 157°01.89' | 327°25.63' | S 14°15.26' | **17** |
| **18** | 129°15.77' | 10°14.22' | N 2°31.75' | 147°57.53' | 351°32.46' | S 5°24.85' | 138°55.43' | 0°34.55' | S 0°56.94' | 172°04.25' | 327°25.73' | S 14°15.23' | **18** |
| **19** | 144°15.55' | 10°16.90' | N 2°32.81' | 162°58.25' | 351°34.20' | S 5°24.13' | 153°57.45' | 0°35.00' | S 0°56.76' | 187°06.62' | 327°25.83' | S 14°15.21' | **19** |
| **20** | 159°15.33' | 10°19.58' | N 2°33.87' | 177°58.97' | 351°35.94' | S 5°23.41' | 168°59.47' | 0°35.45' | S 0°56.57' | 202°08.99' | 327°25.92' | S 14°15.18' | **20** |
| **21** | 174°15.12' | 10°22.26' | N 2°34.93' | 192°59.69' | 351°37.68' | S 5°22.69' | 184°01.48' | 0°35.89' | S 0°56.38' | 217°11.36' | 327°26.02' | S 14°15.16' | **21** |
| **22** | 189°14.90' | 10°24.94' | N 2°35.99' | 208°00.41' | 351°39.42' | S 5°21.97' | 199°03.50' | 0°36.34' | S 0°56.20' | 232°13.72' | 327°26.11' | S 14°15.13' | **22** |
| **23** | 204°14.68' | 10°27.62' | N 2°37.05' | 223°01.14' | 351°41.17' | S 5°21.25' | 214°05.52' | 0°36.79' | S 0°56.01' | 247°16.09' | 327°26.21' | S 14°15.11' | **23** |
| **24** | 219°14.46' | 10°30.30' | N 2°38.11' | 238°01.86' | 351°42.91' | S 5°20.53' | 229°07.54' | 0°37.23' | S 0°55.83' | 262°18.46' | 327°26.31' | S 14°15.08' | **24** |
| | δ 14.9964° | | *d* 1.0572' | δ 15.0120° | | *d* 0.7201' | δ 15.0336° | | *d* 0.1869' | δ 15.0394° | | *d* 0.0265' | |

## *Thursday, May 12th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°54.19' | 15.0002° | 48°50.58' | N 18°04.62' | 0.6322' | 51°20.53' | 14.5444° | 178°24.24' | N 5°29.17' | 14.7331' | 57.3212' | 229°44.77' | **00** |
| **01** | 195°54.20' | 15.0002° | 48°53.03' | N 18°05.26' | 0.6317' | 65°53.18' | 14.5441° | 178°54.05' | N 5°14.39' | 14.7781' | 57.3589' | 244°47.23' | **01** |
| **02** | 210°54.21' | 15.0002° | 48°55.48' | N 18°05.89' | 0.6311' | 80°25.81' | 14.5438° | 179°23.89' | N 4°59.57' | 14.8221' | 57.3967' | 259°49.70' | **02** |
| **03** | 225°54.23' | 15.0002° | 48°57.93' | N 18°06.52' | 0.6306' | 94°58.42' | 14.5435° | 179°53.74' | N 4°44.70' | 14.8652' | 57.4345' | 274°52.16' | **03** |
| **04** | 240°54.24' | 15.0002° | 49°00.38' | N 18°07.15' | 0.6301' | 109°31.01' | 14.5432° | 180°23.61' | N 4°29.80' | 14.9073' | 57.4724' | 289°54.62' | **04** |
| **05** | 255°54.25' | 15.0002° | 49°02.84' | N 18°07.78' | 0.6295' | 124°03.58' | 14.5428° | 180°53.51' | N 4°14.85' | 14.9484' | 57.5103' | 304°57.09' | **05** |
| **06** | 270°54.26' | 15.0002° | 49°05.29' | N 18°08.41' | 0.6290' | 138°36.13' | 14.5425° | 181°23.42' | N 3°59.86' | 14.9885' | 57.5483' | 319°59.55' | **06** |
| **07** | 285°54.27' | 15.0002° | 49°07.74' | N 18°09.03' | 0.6285' | 153°08.65' | 14.5421° | 181°53.36' | N 3°44.83' | 15.0275' | 57.5864' | 335°02.02' | **07** |
| **08** | 300°54.29' | 15.0002° | 49°10.19' | N 18°09.66' | 0.6279' | 167°41.15' | 14.5417° | 182°23.33' | N 3°29.77' | 15.0655' | 57.6245' | 350°04.48' | **08** |
| **09** | 315°54.30' | 15.0002° | 49°12.65' | N 18°10.29' | 0.6274' | 182°13.63' | 14.5412° | 182°53.32' | N 3°14.67' | 15.1025' | 57.6626' | 5°06.94' | **09** |
| **10** | 330°54.31' | 15.0002° | 49°15.10' | N 18°10.92' | 0.6269' | 196°46.07' | 14.5408° | 183°23.34' | N 2°59.53' | 15.1384' | 57.7008' | 20°09.41' | **10** |
| **11** | 345°54.32' | 15.0002° | 49°17.55' | N 18°11.54' | 0.6263' | 211°18.49' | 14.5403° | 183°53.38' | N 2°44.35' | 15.1733' | 57.7390' | 35°11.87' | **11** |
| **12** | 0°54.33' | 15.0002° | 49°20.01' | N 18°12.17' | 0.6258' | 225°50.88' | 14.5398° | 184°23.45' | N 2°29.15' | 15.2071' | 57.7772' | 50°14.34' | **12** |
| **13** | 15°54.34' | 15.0002° | 49°22.46' | N 18°12.79' | 0.6253' | 240°23.24' | 14.5393° | 184°53.56' | N 2°13.91' | 15.2398' | 57.8155' | 65°16.80' | **13** |
| **14** | 30°54.35' | 15.0002° | 49°24.92' | N 18°13.42' | 0.6247' | 254°55.57' | 14.5388° | 185°23.70' | N 1°58.64' | 15.2714' | 57.8537' | 80°19.26' | **14** |
| **15** | 45°54.36' | 15.0002° | 49°27.37' | N 18°14.04' | 0.6242' | 269°27.86' | 14.5382° | 185°53.87' | N 1°43.33' | 15.3018' | 57.8920' | 95°21.73' | **15** |
| **16** | 60°54.37' | 15.0002° | 49°29.83' | N 18°14.67' | 0.6237' | 284°00.12' | 14.5377° | 186°24.07' | N 1°28.00' | 15.3312' | 57.9303' | 110°24.19' | **16** |
| **17** | 75°54.37' | 15.0002° | 49°32.28' | N 18°15.29' | 0.6231' | 298°32.35' | 14.5371° | 186°54.31' | N 1°12.64' | 15.3594' | 57.9685' | 125°26.66' | **17** |
| **18** | 90°54.38' | 15.0001° | 49°34.74' | N 18°15.91' | 0.6226' | 313°04.54' | 14.5365° | 187°24.58' | N 0°57.26' | 15.3865' | 58.0068' | 140°29.12' | **18** |
| **19** | 105°54.39' | 15.0001° | 49°37.19' | N 18°16.53' | 0.6221' | 327°36.69' | 14.5359° | 187°54.90' | N 0°41.84' | 15.4124' | 58.0450' | 155°31.58' | **19** |
| **20** | 120°54.40' | 15.0001° | 49°39.65' | N 18°17.16' | 0.6215' | 342°08.80' | 14.5352° | 188°25.25' | N 0°26.41' | 15.4371' | 58.0833' | 170°34.05' | **20** |
| **21** | 135°54.41' | 15.0001° | 49°42.10' | N 18°17.78' | 0.6210' | 356°40.87' | 14.5345° | 188°55.64' | N 0°10.95' | 15.4607' | 58.1215' | 185°36.51' | **21** |
| **22** | 150°54.42' | 15.0001° | 49°44.56' | N 18°18.40' | 0.6205' | 11°12.90' | 14.5339° | 189°26.07' | S 0°04.54' | 15.4830' | 58.1596' | 200°38.98' | **22** |
| **23** | 165°54.42' | 15.0001° | 49°47.02' | N 18°19.02' | 0.6199' | 25°44.89' | 14.5331° | 189°56.55' | S 0°20.04' | 15.5041' | 58.1978' | 215°41.44' | **23** |
| **24** | 180°54.43' | 15.0001° | 49°49.47' | N 18°19.64' | 0.6194' | 40°16.84' | 14.5324° | 190°27.07' | S 0°35.56' | 15.5240' | 58.2358' | 230°43.90' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8330' | hp (π) 0.1451' | ½Ø 15.7432' | 82.9816316552678<br>3% +gib |
| | EoT at 12:00 UTC : +3m 37s (δ 0.04 s/h) | | Phase at 12:00 UTC : 131.29° | |
| | Meridian Pass. Time : 11:56:22.690 | | Age : 10.2 day(s) | |

| UT | Venus ♀ (π 0.14') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 219°14.46' | 10°30.30' | N 2°38.11' | 238°01.86' | 351°42.91' | S 5°20.53' | 229°07.54' | 0°37.23' | S 0°55.83' | 262°18.46' | 327°26.31' | S 14°15.08' | **00** |
| **01** | 234°14.24' | 10°32.99' | N 2°39.16' | 253°02.58' | 351°44.65' | S 5°19.80' | 244°09.55' | 0°37.68' | S 0°55.64' | 277°20.83' | 327°26.40' | S 14°15.06' | **01** |
| **02** | 249°14.03' | 10°35.67' | N 2°40.22' | 268°03.30' | 351°46.39' | S 5°19.08' | 259°11.57' | 0°38.12' | S 0°55.46' | 292°23.20' | 327°26.50' | S 14°15.03' | **02** |
| **03** | 264°13.81' | 10°38.35' | N 2°41.28' | 283°04.03' | 351°48.13' | S 5°18.36' | 274°13.59' | 0°38.57' | S 0°55.27' | 307°25.56' | 327°26.59' | S 14°15.01' | **03** |
| **04** | 279°13.59' | 10°41.03' | N 2°42.34' | 298°04.75' | 351°49.87' | S 5°17.64' | 289°15.61' | 0°39.02' | S 0°55.09' | 322°27.93' | 327°26.69' | S 14°14.98' | **04** |
| **05** | 294°13.37' | 10°43.72' | N 2°43.40' | 313°05.47' | 351°51.62' | S 5°16.92' | 304°17.63' | 0°39.46' | S 0°54.90' | 337°30.30' | 327°26.79' | S 14°14.96' | **05** |
| **06** | 309°13.15' | 10°46.40' | N 2°44.46' | 328°06.19' | 351°53.36' | S 5°16.20' | 319°19.65' | 0°39.91' | S 0°54.72' | 352°32.67' | 327°26.88' | S 14°14.93' | **06** |
| **07** | 324°12.93' | 10°49.08' | N 2°45.52' | 343°06.92' | 351°55.10' | S 5°15.47' | 334°21.66' | 0°40.35' | S 0°54.53' | 7°35.04' | 327°26.98' | S 14°14.91' | **07** |
| **08** | 339°12.71' | 10°51.76' | N 2°46.58' | 358°07.64' | 351°56.84' | S 5°14.75' | 349°23.68' | 0°40.80' | S 0°54.35' | 22°37.41' | 327°27.07' | S 14°14.88' | **08** |
| **09** | 354°12.50' | 10°54.45' | N 2°47.63' | 13°08.36' | 351°58.58' | S 5°14.03' | 4°25.70' | 0°41.24' | S 0°54.16' | 37°39.78' | 327°27.17' | S 14°14.86' | **09** |
| **10** | 9°12.28' | 10°57.13' | N 2°48.69' | 28°09.09' | 352°00.32' | S 5°13.31' | 19°27.72' | 0°41.69' | S 0°53.98' | 52°42.15' | 327°27.26' | S 14°14.83' | **10** |
| **11** | 24°12.06' | 10°59.81' | N 2°49.75' | 43°09.81' | 352°02.06' | S 5°12.59' | 34°29.74' | 0°42.13' | S 0°53.79' | 67°44.52' | 327°27.35' | S 14°14.81' | **11** |
| **12** | 39°11.84' | 11°02.50' | N 2°50.81' | 58°10.53' | 352°03.80' | S 5°11.87' | 49°31.76' | 0°42.58' | S 0°53.61' | 82°46.89' | 327°27.45' | S 14°14.78' | **12** |
| **13** | 54°11.62' | 11°05.18' | N 2°51.87' | 73°11.26' | 352°05.54' | S 5°11.14' | 64°33.78' | 0°43.02' | S 0°53.42' | 97°49.26' | 327°27.54' | S 14°14.76' | **13** |
| **14** | 69°11.40' | 11°07.87' | N 2°52.93' | 88°11.98' | 352°07.28' | S 5°10.42' | 79°35.80' | 0°43.47' | S 0°53.24' | 112°51.63' | 327°27.64' | S 14°14.73' | **14** |
| **15** | 84°11.18' | 11°10.55' | N 2°53.99' | 103°12.70' | 352°09.02' | S 5°09.70' | 94°37.82' | 0°43.91' | S 0°53.05' | 127°54.00' | 327°27.73' | S 14°14.71' | **15** |
| **16** | 99°10.96' | 11°13.24' | N 2°55.05' | 118°13.43' | 352°10.76' | S 5°08.98' | 109°39.84' | 0°44.35' | S 0°52.87' | 142°56.37' | 327°27.82' | S 14°14.69' | **16** |
| **17** | 114°10.74' | 11°15.92' | N 2°56.11' | 133°14.15' | 352°12.50' | S 5°08.25' | 124°41.86' | 0°44.80' | S 0°52.69' | 157°58.74' | 327°27.92' | S 14°14.66' | **17** |
| **18** | 129°10.52' | 11°18.60' | N 2°57.17' | 148°14.88' | 352°14.24' | S 5°07.53' | 139°43.88' | 0°45.24' | S 0°52.50' | 173°01.11' | 327°28.01' | S 14°14.64' | **18** |
| **19** | 144°10.29' | 11°21.29' | N 2°58.23' | 163°15.60' | 352°15.98' | S 5°06.81' | 154°45.90' | 0°45.69' | S 0°52.32' | 188°03.48' | 327°28.10' | S 14°14.61' | **19** |
| **20** | 159°10.07' | 11°23.97' | N 2°59.29' | 178°16.32' | 352°17.72' | S 5°06.09' | 169°47.92' | 0°46.13' | S 0°52.13' | 203°05.85' | 327°28.20' | S 14°14.59' | **20** |
| **21** | 174°09.85' | 11°26.66' | N 3°00.34' | 193°17.05' | 352°19.46' | S 5°05.37' | 184°49.94' | 0°46.57' | S 0°51.95' | 218°08.22' | 327°28.29' | S 14°14.56' | **21** |
| **22** | 189°09.63' | 11°29.35' | N 3°01.40' | 208°17.77' | 352°21.20' | S 5°04.64' | 199°51.96' | 0°47.02' | S 0°51.77' | 233°10.59' | 327°28.38' | S 14°14.54' | **22** |
| **23** | 204°09.41' | 11°32.03' | N 3°02.46' | 223°18.50' | 352°22.94' | S 5°03.92' | 214°53.98' | 0°47.46' | S 0°51.58' | 248°12.96' | 327°28.48' | S 14°14.52' | **23** |
| **24** | 219°09.19' | 11°34.72' | N 3°03.52' | 238°19.22' | 352°24.68' | S 5°03.20' | 229°56.00' | 0°47.90' | S 0°51.40' | 263°15.34' | 327°28.57' | S 14°14.49' | **24** |
| | δ 14.9964° | | *d* 1.0586' | δ 15.0120° | | *d* 0.7214' | δ 15.0336° | | *d* 0.1853' | δ 15.0395° | | *d* 0.0252' | |

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°54.43' | 15.0001° | 49°49.47' | N 18°19.64' | 0.6194' | 40°16.84' | 14.5324° | 190°27.07' | S 0°35.56' | 15.5240' | 58.2358' | 230°43.90' | **00** |
| **01** | 195°54.44' | 15.0001° | 49°51.93' | N 18°20.26' | 0.6188' | 54°48.74' | 14.5317° | 190°57.63' | S 0°51.11' | 15.5427' | 58.2739' | 245°46.37' | **01** |
| **02** | 210°54.45' | 15.0001° | 49°54.39' | N 18°20.87' | 0.6183' | 69°20.59' | 14.5309° | 191°28.24' | S 1°06.67' | 15.5601' | 58.3119' | 260°48.83' | **02** |
| **03** | 225°54.45' | 15.0001° | 49°56.85' | N 18°21.49' | 0.6178' | 83°52.40' | 14.5301° | 191°58.90' | S 1°22.24' | 15.5762' | 58.3498' | 275°51.30' | **03** |
| **04** | 240°54.46' | 15.0001° | 49°59.30' | N 18°22.11' | 0.6172' | 98°24.16' | 14.5293° | 192°29.61' | S 1°37.83' | 15.5910' | 58.3876' | 290°53.76' | **04** |
| **05** | 255°54.46' | 15.0001° | 50°01.76' | N 18°22.73' | 0.6167' | 112°55.86' | 14.5285° | 193°00.36' | S 1°53.44' | 15.6046' | 58.4254' | 305°56.22' | **05** |
| **06** | 270°54.47' | 15.0001° | 50°04.22' | N 18°23.34' | 0.6161' | 127°27.52' | 14.5276° | 193°31.17' | S 2°09.06' | 15.6168' | 58.4631' | 320°58.69' | **06** |
| **07** | 285°54.48' | 15.0001° | 50°06.68' | N 18°23.96' | 0.6156' | 141°59.12' | 14.5267° | 194°02.03' | S 2°24.68' | 15.6277' | 58.5007' | 336°01.15' | **07** |
| **08** | 300°54.48' | 15.0001° | 50°09.14' | N 18°24.57' | 0.6151' | 156°30.67' | 14.5258° | 194°32.94' | S 2°40.32' | 15.6373' | 58.5383' | 351°03.62' | **08** |
| **09** | 315°54.49' | 15.0001° | 50°11.60' | N 18°25.19' | 0.6145' | 171°02.17' | 14.5249° | 195°03.91' | S 2°55.97' | 15.6455' | 58.5757' | 6°06.08' | **09** |
| **10** | 330°54.49' | 15.0001° | 50°14.05' | N 18°25.80' | 0.6140' | 185°33.61' | 14.5240° | 195°34.94' | S 3°11.62' | 15.6523' | 58.6130' | 21°08.55' | **10** |
| **11** | 345°54.50' | 15.0001° | 50°16.51' | N 18°26.41' | 0.6134' | 200°04.99' | 14.5230° | 196°06.02' | S 3°27.28' | 15.6577' | 58.6503' | 36°11.01' | **11** |
| **12** | 0°54.50' | 15.0001° | 50°18.97' | N 18°27.03' | 0.6129' | 214°36.31' | 14.5221° | 196°37.16' | S 3°42.94' | 15.6617' | 58.6874' | 51°13.47' | **12** |
| **13** | 15°54.50' | 15.0001° | 50°21.43' | N 18°27.64' | 0.6124' | 229°07.58' | 14.5211° | 197°08.36' | S 3°58.60' | 15.6643' | 58.7244' | 66°15.94' | **13** |
| **14** | 30°54.51' | 15.0001° | 50°23.89' | N 18°28.25' | 0.6118' | 243°38.78' | 14.5200° | 197°39.62' | S 4°14.27' | 15.6655' | 58.7612' | 81°18.40' | **14** |
| **15** | 45°54.51' | 15.0001° | 50°26.35' | N 18°28.86' | 0.6113' | 258°09.92' | 14.5190° | 198°10.95' | S 4°29.93' | 15.6652' | 58.7980' | 96°20.87' | **15** |
| **16** | 60°54.52' | 15.0001° | 50°28.81' | N 18°29.47' | 0.6107' | 272°40.99' | 14.5179° | 198°42.34' | S 4°45.60' | 15.6635' | 58.8346' | 111°23.33' | **16** |
| **17** | 75°54.52' | 15.0001° | 50°31.28' | N 18°30.08' | 0.6102' | 287°12.00' | 14.5168° | 199°13.79' | S 5°01.26' | 15.6603' | 58.8710' | 126°25.79' | **17** |
| **18** | 90°54.52' | 15.0000° | 50°33.74' | N 18°30.69' | 0.6096' | 301°42.95' | 14.5157° | 199°45.31' | S 5°16.91' | 15.6555' | 58.9073' | 141°28.26' | **18** |
| **19** | 105°54.52' | 15.0000° | 50°36.20' | N 18°31.30' | 0.6091' | 316°13.83' | 14.5146° | 200°16.90' | S 5°32.56' | 15.6493' | 58.9434' | 156°30.72' | **19** |
| **20** | 120°54.53' | 15.0000° | 50°38.66' | N 18°31.91' | 0.6086' | 330°44.63' | 14.5135° | 200°48.55' | S 5°48.20' | 15.6415' | 58.9794' | 171°33.19' | **20** |
| **21** | 135°54.53' | 15.0000° | 50°41.12' | N 18°32.52' | 0.6080' | 345°15.37' | 14.5123° | 201°20.28' | S 6°03.84' | 15.6322' | 59.0152' | 186°35.65' | **21** |
| **22** | 150°54.53' | 15.0000° | 50°43.58' | N 18°33.13' | 0.6075' | 359°46.04' | 14.5111° | 201°52.07' | S 6°19.46' | 15.6213' | 59.0508' | 201°38.11' | **22** |
| **23** | 165°54.53' | 15.0000° | 50°46.05' | N 18°33.73' | 0.6069' | 14°16.64' | 14.5099° | 202°23.94' | S 6°35.07' | 15.6088' | 59.0863' | 216°40.58' | **23** |
| **24** | 180°54.53' | 15.0000° | 50°48.51' | N 18°34.34' | 0.6064' | 28°47.16' | 14.5087° | 202°55.88' | S 6°50.66' | 15.5948' | 59.1215' | 231°43.04' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8296' | hp (π) 0.1451' | ½Ø 15.9912' | 90.4462206928589 3% +gib |
| | EoT at 12:00 UTC : +3m 38s (δ 0.02 s/h) | | Phase at 12:00 UTC : 144.02° | |
| | Meridian Pass. Time : 11:56:22.000 | | Age : 11.2 day(s) | |

| UT | Venus ♀ (π 0.13') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 219°09.19' | 11°34.72' | N 3°03.52' | 238°19.22' | 352°24.68' | S 5°03.20' | 229°56.00' | 0°47.90' | S 0°51.40' | 263°15.34' | 327°28.57' | S 14°14.49' | **00** |
| **01** | 234°08.97' | 11°37.40' | N 3°04.58' | 253°19.95' | 352°26.42' | S 5°02.47' | 244°58.02' | 0°48.34' | S 0°51.21' | 278°17.71' | 327°28.66' | S 14°14.47' | **01** |
| **02** | 249°08.74' | 11°40.09' | N 3°05.64' | 268°20.67' | 352°28.16' | S 5°01.75' | 260°00.05' | 0°48.79' | S 0°51.03' | 293°20.08' | 327°28.75' | S 14°14.44' | **02** |
| **03** | 264°08.52' | 11°42.77' | N 3°06.70' | 283°21.40' | 352°29.90' | S 5°01.03' | 275°02.07' | 0°49.23' | S 0°50.85' | 308°22.45' | 327°28.84' | S 14°14.42' | **03** |
| **04** | 279°08.30' | 11°45.46' | N 3°07.76' | 298°22.12' | 352°31.64' | S 5°00.31' | 290°04.09' | 0°49.67' | S 0°50.66' | 323°24.82' | 327°28.94' | S 14°14.40' | **04** |
| **05** | 294°08.08' | 11°48.15' | N 3°08.82' | 313°22.85' | 352°33.38' | S 4°59.58' | 305°06.11' | 0°50.11' | S 0°50.48' | 338°27.20' | 327°29.03' | S 14°14.37' | **05** |
| **06** | 309°07.85' | 11°50.83' | N 3°09.88' | 328°23.57' | 352°35.12' | S 4°58.86' | 320°08.13' | 0°50.56' | S 0°50.30' | 353°29.57' | 327°29.12' | S 14°14.35' | **06** |
| **07** | 324°07.63' | 11°53.52' | N 3°10.94' | 343°24.30' | 352°36.86' | S 4°58.14' | 335°10.16' | 0°51.00' | S 0°50.11' | 8°31.94' | 327°29.21' | S 14°14.33' | **07** |
| **08** | 339°07.41' | 11°56.21' | N 3°12.00' | 358°25.02' | 352°38.60' | S 4°57.42' | 350°12.18' | 0°51.44' | S 0°49.93' | 23°34.32' | 327°29.30' | S 14°14.30' | **08** |
| **09** | 354°07.19' | 11°58.90' | N 3°13.06' | 13°25.75' | 352°40.33' | S 4°56.69' | 5°14.20' | 0°51.88' | S 0°49.75' | 38°36.69' | 327°29.39' | S 14°14.28' | **09** |
| **10** | 9°06.96' | 12°01.58' | N 3°14.12' | 28°26.47' | 352°42.07' | S 4°55.97' | 20°16.22' | 0°52.32' | S 0°49.56' | 53°39.06' | 327°29.48' | S 14°14.25' | **10** |
| **11** | 24°06.74' | 12°04.27' | N 3°15.18' | 43°27.20' | 352°43.81' | S 4°55.25' | 35°18.24' | 0°52.76' | S 0°49.38' | 68°41.43' | 327°29.57' | S 14°14.23' | **11** |
| **12** | 39°06.52' | 12°06.96' | N 3°16.24' | 58°27.92' | 352°45.55' | S 4°54.52' | 50°20.27' | 0°53.21' | S 0°49.20' | 83°43.81' | 327°29.66' | S 14°14.21' | **12** |
| **13** | 54°06.29' | 12°09.65' | N 3°17.30' | 73°28.65' | 352°47.29' | S 4°53.80' | 65°22.29' | 0°53.65' | S 0°49.01' | 98°46.18' | 327°29.76' | S 14°14.18' | **13** |
| **14** | 69°06.07' | 12°12.33' | N 3°18.36' | 88°29.38' | 352°49.03' | S 4°53.08' | 80°24.31' | 0°54.09' | S 0°48.83' | 113°48.56' | 327°29.85' | S 14°14.16' | **14** |
| **15** | 84°05.84' | 12°15.02' | N 3°19.42' | 103°30.10' | 352°50.76' | S 4°52.35' | 95°26.34' | 0°54.53' | S 0°48.65' | 128°50.93' | 327°29.94' | S 14°14.14' | **15** |
| **16** | 99°05.62' | 12°17.71' | N 3°20.48' | 118°30.83' | 352°52.50' | S 4°51.63' | 110°28.36' | 0°54.97' | S 0°48.47' | 143°53.30' | 327°30.03' | S 14°14.12' | **16** |
| **17** | 114°05.39' | 12°20.40' | N 3°21.54' | 133°31.55' | 352°54.24' | S 4°50.91' | 125°30.38' | 0°55.41' | S 0°48.28' | 158°55.68' | 327°30.12' | S 14°14.09' | **17** |
| **18** | 129°05.17' | 12°23.09' | N 3°22.60' | 148°32.28' | 352°55.98' | S 4°50.18' | 140°32.41' | 0°55.85' | S 0°48.10' | 173°58.05' | 327°30.20' | S 14°14.07' | **18** |
| **19** | 144°04.94' | 12°25.78' | N 3°23.66' | 163°33.01' | 352°57.72' | S 4°49.46' | 155°34.43' | 0°56.29' | S 0°47.92' | 189°00.43' | 327°30.29' | S 14°14.05' | **19** |
| **20** | 159°04.72' | 12°28.47' | N 3°24.72' | 178°33.73' | 352°59.45' | S 4°48.74' | 170°36.46' | 0°56.73' | S 0°47.74' | 204°02.80' | 327°30.38' | S 14°14.02' | **20** |
| **21** | 174°04.49' | 12°31.16' | N 3°25.78' | 193°34.46' | 353°01.19' | S 4°48.01' | 185°38.48' | 0°57.17' | S 0°47.55' | 219°05.18' | 327°30.47' | S 14°14.00' | **21** |
| **22** | 189°04.27' | 12°33.85' | N 3°26.84' | 208°35.19' | 353°02.93' | S 4°47.29' | 200°40.50' | 0°57.61' | S 0°47.37' | 234°07.55' | 327°30.56' | S 14°13.98' | **22** |
| **23** | 204°04.04' | 12°36.53' | N 3°27.90' | 223°35.91' | 353°04.67' | S 4°46.57' | 215°42.53' | 0°58.05' | S 0°47.19' | 249°09.93' | 327°30.65' | S 14°13.95' | **23** |
| **24** | 219°03.82' | 12°39.22' | N 3°28.96' | 238°36.64' | 353°06.40' | S 4°45.84' | 230°44.55' | 0°58.49' | S 0°47.01' | 264°12.30' | 327°30.74' | S 14°13.93' | **24** |
| | δ 14.9963° | | *d* 1.0595' | δ 15.0121° | | *d* 0.7226' | δ 15.0337° | | *d* 0.1838' | δ 15.0395° | | *d* 0.0239' | |

## *Saturday, May 14th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°54.53' | 15.0000° | 50°48.51' | N 18°34.34' | 0.6064' | 28°47.16' | 14.5087° | 202°55.88' | S 6°50.66' | 15.5948' | 59.1215' | 231°43.04' | **00** |
| **01** | 195°54.54' | 15.0000° | 50°50.97' | N 18°34.95' | 0.6058' | 43°17.60' | 14.5074° | 203°27.90' | S 7°06.24' | 15.5791' | 59.1566' | 246°45.51' | **01** |
| **02** | 210°54.54' | 15.0000° | 50°53.43' | N 18°35.55' | 0.6053' | 57°47.97' | 14.5062° | 203°60.00' | S 7°21.80' | 15.5618' | 59.1914' | 261°47.97' | **02** |
| **03** | 225°54.54' | 15.0000° | 50°55.90' | N 18°36.16' | 0.6047' | 72°18.27' | 14.5049° | 204°32.17' | S 7°37.34' | 15.5428' | 59.2261' | 276°50.43' | **03** |
| **04** | 240°54.54' | 15.0000° | 50°58.36' | N 18°36.76' | 0.6042' | 86°48.48' | 14.5036° | 205°04.41' | S 7°52.87' | 15.5222' | 59.2605' | 291°52.90' | **04** |
| **05** | 255°54.54' | 15.0000° | 51°00.82' | N 18°37.36' | 0.6036' | 101°18.62' | 14.5023° | 205°36.74' | S 8°08.37' | 15.4999' | 59.2947' | 306°55.36' | **05** |
| **06** | 270°54.54' | 15.0000° | 51°03.29' | N 18°37.97' | 0.6031' | 115°48.67' | 14.5009° | 206°09.15' | S 8°23.84' | 15.4759' | 59.3287' | 321°57.83' | **06** |
| **07** | 285°54.54' | 15.0000° | 51°05.75' | N 18°38.57' | 0.6026' | 130°18.65' | 14.4995° | 206°41.64' | S 8°39.29' | 15.4502' | 59.3625' | 337°00.29' | **07** |
| **08** | 300°54.54' | 15.0000° | 51°08.22' | N 18°39.17' | 0.6020' | 144°48.54' | 14.4982° | 207°14.22' | S 8°54.72' | 15.4228' | 59.3960' | 352°02.75' | **08** |
| **09** | 315°54.54' | 15.0000° | 51°10.68' | N 18°39.77' | 0.6015' | 159°18.34' | 14.4968° | 207°46.88' | S 9°10.11' | 15.3936' | 59.4293' | 7°05.22' | **09** |
| **10** | 330°54.54' | 15.0000° | 51°13.15' | N 18°40.37' | 0.6009' | 173°48.06' | 14.4953° | 208°19.62' | S 9°25.47' | 15.3627' | 59.4623' | 22°07.68' | **10** |
| **11** | 345°54.53' | 15.0000° | 51°15.61' | N 18°40.97' | 0.6004' | 188°17.69' | 14.4939° | 208°52.45' | S 9°40.80' | 15.3300' | 59.4950' | 37°10.15' | **11** |
| **12** | 0°54.53' | 15.0000° | 51°18.08' | N 18°41.57' | 0.5998' | 202°47.24' | 14.4924° | 209°25.37' | S 9°56.10' | 15.2955' | 59.5275' | 52°12.61' | **12** |
| **13** | 15°54.53' | 15.0000° | 51°20.54' | N 18°42.17' | 0.5993' | 217°16.70' | 14.4909° | 209°58.38' | S 10°11.36' | 15.2592' | 59.5598' | 67°15.08' | **13** |
| **14** | 30°54.53' | 15.0000° | 51°23.01' | N 18°42.77' | 0.5987' | 231°46.06' | 14.4894° | 210°31.48' | S 10°26.58' | 15.2210' | 59.5917' | 82°17.54' | **14** |
| **15** | 45°54.53' | 15.0000° | 51°25.48' | N 18°43.37' | 0.5982' | 246°15.34' | 14.4879° | 211°04.67' | S 10°41.76' | 15.1811' | 59.6234' | 97°20.00' | **15** |
| **16** | 60°54.52' | 15.0000° | 51°27.94' | N 18°43.97' | 0.5976' | 260°44.52' | 14.4864° | 211°37.95' | S 10°56.90' | 15.1392' | 59.6548' | 112°22.47' | **16** |
| **17** | 75°54.52' | 15.0000° | 51°30.41' | N 18°44.56' | 0.5971' | 275°13.61' | 14.4848° | 212°11.32' | S 11°11.99' | 15.0955' | 59.6859' | 127°24.93' | **17** |
| **18** | 90°54.52' | 15.0000° | 51°32.88' | N 18°45.16' | 0.5965' | 289°42.61' | 14.4833° | 212°44.79' | S 11°27.04' | 15.0500' | 59.7167' | 142°27.40' | **18** |
| **19** | 105°54.52' | 14.9999° | 51°35.34' | N 18°45.76' | 0.5960' | 304°11.51' | 14.4817° | 213°18.35' | S 11°42.05' | 15.0025' | 59.7472' | 157°29.86' | **19** |
| **20** | 120°54.51' | 14.9999° | 51°37.81' | N 18°46.35' | 0.5954' | 318°40.31' | 14.4801° | 213°52.01' | S 11°57.00' | 14.9531' | 59.7774' | 172°32.32' | **20** |
| **21** | 135°54.51' | 14.9999° | 51°40.28' | N 18°46.95' | 0.5949' | 333°09.02' | 14.4785° | 214°25.77' | S 12°11.90' | 14.9018' | 59.8072' | 187°34.79' | **21** |
| **22** | 150°54.51' | 14.9999° | 51°42.75' | N 18°47.54' | 0.5943' | 347°37.63' | 14.4768° | 214°59.62' | S 12°26.75' | 14.8485' | 59.8368' | 202°37.25' | **22** |
| **23** | 165°54.50' | 14.9999° | 51°45.22' | N 18°48.14' | 0.5938' | 2°06.14' | 14.4752° | 215°33.58' | S 12°41.54' | 14.7933' | 59.8660' | 217°39.72' | **23** |
| **24** | 180°54.50' | 14.9999° | 51°47.68' | N 18°48.73' | 0.5932' | 16°34.55' | 14.4735° | 216°07.63' | S 12°56.28' | 14.7361' | 59.8949' | 232°42.18' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8261' | hp (π) 0.1450' | ½Ø 16.2201' | 96.0753557530044<br>7% +gib |
| | EoT at 12:00 UTC : +3m 38s (δ -0.01 s/h) | | Phase at 12:00 UTC : 157.17° | |
| | Meridian Pass. Time : 11:56:21.869 | | Age : 12.2 day(s) | |

| UT | Venus ♀ (π 0.13') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 219°03.82' | 12°39.22' | N 3°28.96' | 238°36.64' | 353°06.40' | S 4°45.84' | 230°44.55' | 0°58.49' | S 0°47.01' | 264°12.30' | 327°30.74' | S 14°13.93' | **00** |
| **01** | 234°03.59' | 12°41.91' | N 3°30.02' | 253°37.37' | 353°08.14' | S 4°45.12' | 245°46.58' | 0°58.93' | S 0°46.82' | 279°14.68' | 327°30.83' | S 14°13.91' | **01** |
| **02** | 249°03.37' | 12°44.61' | N 3°31.08' | 268°38.09' | 353°09.88' | S 4°44.39' | 260°48.60' | 0°59.37' | S 0°46.64' | 294°17.05' | 327°30.92' | S 14°13.89' | **02** |
| **03** | 264°03.14' | 12°47.30' | N 3°32.14' | 283°38.82' | 353°11.61' | S 4°43.67' | 275°50.63' | 0°59.81' | S 0°46.46' | 309°19.43' | 327°31.00' | S 14°13.86' | **03** |
| **04** | 279°02.91' | 12°49.99' | N 3°33.20' | 298°39.55' | 353°13.35' | S 4°42.95' | 290°52.65' | 1°00.25' | S 0°46.28' | 324°21.81' | 327°31.09' | S 14°13.84' | **04** |
| **05** | 294°02.69' | 12°52.68' | N 3°34.26' | 313°40.27' | 353°15.09' | S 4°42.22' | 305°54.68' | 1°00.68' | S 0°46.10' | 339°24.18' | 327°31.18' | S 14°13.82' | **05** |
| **06** | 309°02.46' | 12°55.37' | N 3°35.32' | 328°41.00' | 353°16.82' | S 4°41.50' | 320°56.70' | 1°01.12' | S 0°45.91' | 354°26.56' | 327°31.27' | S 14°13.80' | **06** |
| **07** | 324°02.23' | 12°58.06' | N 3°36.38' | 343°41.73' | 353°18.56' | S 4°40.77' | 335°58.73' | 1°01.56' | S 0°45.73' | 9°28.94' | 327°31.36' | S 14°13.77' | **07** |
| **08** | 339°02.00' | 13°00.75' | N 3°37.44' | 358°42.46' | 353°20.30' | S 4°40.05' | 351°00.75' | 1°02.00' | S 0°45.55' | 24°31.31' | 327°31.44' | S 14°13.75' | **08** |
| **09** | 354°01.78' | 13°03.44' | N 3°38.50' | 13°43.18' | 353°22.03' | S 4°39.33' | 6°02.78' | 1°02.44' | S 0°45.37' | 39°33.69' | 327°31.53' | S 14°13.73' | **09** |
| **10** | 9°01.55' | 13°06.13' | N 3°39.56' | 28°43.91' | 353°23.77' | S 4°38.60' | 21°04.81' | 1°02.88' | S 0°45.19' | 54°36.07' | 327°31.62' | S 14°13.71' | **10** |
| **11** | 24°01.32' | 13°08.83' | N 3°40.62' | 43°44.64' | 353°25.51' | S 4°37.88' | 36°06.83' | 1°03.31' | S 0°45.01' | 69°38.44' | 327°31.70' | S 14°13.69' | **11** |
| **12** | 39°01.09' | 13°11.52' | N 3°41.68' | 58°45.37' | 353°27.24' | S 4°37.15' | 51°08.86' | 1°03.75' | S 0°44.82' | 84°40.82' | 327°31.79' | S 14°13.66' | **12** |
| **13** | 54°00.87' | 13°14.21' | N 3°42.74' | 73°46.10' | 353°28.98' | S 4°36.43' | 66°10.88' | 1°04.19' | S 0°44.64' | 99°43.20' | 327°31.88' | S 14°13.64' | **13** |
| **14** | 69°00.64' | 13°16.90' | N 3°43.80' | 88°46.82' | 353°30.71' | S 4°35.71' | 81°12.91' | 1°04.63' | S 0°44.46' | 114°45.58' | 327°31.96' | S 14°13.62' | **14** |
| **15** | 84°00.41' | 13°19.60' | N 3°44.86' | 103°47.55' | 353°32.45' | S 4°34.98' | 96°14.94' | 1°05.07' | S 0°44.28' | 129°47.95' | 327°32.05' | S 14°13.60' | **15** |
| **16** | 99°00.18' | 13°22.29' | N 3°45.92' | 118°48.28' | 353°34.19' | S 4°34.26' | 111°16.96' | 1°05.50' | S 0°44.10' | 144°50.33' | 327°32.14' | S 14°13.58' | **16** |
| **17** | 113°59.95' | 13°24.98' | N 3°46.98' | 133°49.01' | 353°35.92' | S 4°33.53' | 126°18.99' | 1°05.94' | S 0°43.92' | 159°52.71' | 327°32.22' | S 14°13.55' | **17** |
| **18** | 128°59.72' | 13°27.67' | N 3°48.04' | 148°49.74' | 353°37.66' | S 4°32.81' | 141°21.02' | 1°06.38' | S 0°43.74' | 174°55.09' | 327°32.31' | S 14°13.53' | **18** |
| **19** | 143°59.49' | 13°30.37' | N 3°49.10' | 163°50.47' | 353°39.39' | S 4°32.08' | 156°23.05' | 1°06.81' | S 0°43.56' | 189°57.47' | 327°32.39' | S 14°13.51' | **19** |
| **20** | 158°59.26' | 13°33.06' | N 3°50.16' | 178°51.19' | 353°41.13' | S 4°31.36' | 171°25.07' | 1°07.25' | S 0°43.38' | 204°59.84' | 327°32.48' | S 14°13.49' | **20** |
| **21** | 173°59.03' | 13°35.75' | N 3°51.22' | 193°51.92' | 353°42.86' | S 4°30.63' | 186°27.10' | 1°07.69' | S 0°43.19' | 220°02.22' | 327°32.57' | S 14°13.47' | **21** |
| **22** | 188°58.80' | 13°38.45' | N 3°52.28' | 208°52.65' | 353°44.60' | S 4°29.91' | 201°29.13' | 1°08.12' | S 0°43.01' | 235°04.60' | 327°32.65' | S 14°13.45' | **22** |
| **23** | 203°58.57' | 13°41.14' | N 3°53.34' | 223°53.38' | 353°46.34' | S 4°29.19' | 216°31.16' | 1°08.56' | S 0°42.83' | 250°06.98' | 327°32.74' | S 14°13.43' | **23** |
| **24** | 218°58.34' | 13°43.84' | N 3°54.40' | 238°54.11' | 353°48.07' | S 4°28.46' | 231°33.18' | 1°09.00' | S 0°42.65' | 265°09.36' | 327°32.82' | S 14°13.40' | **24** |
| | δ 14.9962° | | *d* 1.0600' | δ 15.0121° | | *d* 0.7237' | δ 15.0337° | | *d* 0.1822' | δ 15.0396° | | *d* 0.0226' | |

## *Sunday, May 15th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°54.50' | 14.9999° | 51°47.68' | N 18°48.73' | 0.5932' | 16°34.55' | 14.4735° | 216°07.63' | S 12°56.28' | 14.7361' | 59.8949' | 232°42.18' | **00** |
| **01** | 195°54.49' | 14.9999° | 51°50.15' | N 18°49.32' | 0.5927' | 31°02.86' | 14.4718° | 216°41.79' | S 13°10.96' | 14.6769' | 59.9234' | 247°44.64' | **01** |
| **02** | 210°54.49' | 14.9999° | 51°52.62' | N 18°49.91' | 0.5921' | 45°31.06' | 14.4701° | 217°16.05' | S 13°25.57' | 14.6157' | 59.9516' | 262°47.11' | **02** |
| **03** | 225°54.48' | 14.9999° | 51°55.09' | N 18°50.51' | 0.5915' | 59°59.17' | 14.4684° | 217°50.41' | S 13°40.12' | 14.5526' | 59.9795' | 277°49.57' | **03** |
| **04** | 240°54.48' | 14.9999° | 51°57.56' | N 18°51.10' | 0.5910' | 74°27.17' | 14.4667° | 218°24.87' | S 13°54.61' | 14.4873' | 60.0070' | 292°52.04' | **04** |
| **05** | 255°54.47' | 14.9999° | 52°00.03' | N 18°51.69' | 0.5904' | 88°55.06' | 14.4649° | 218°59.44' | S 14°09.03' | 14.4201' | 60.0341' | 307°54.50' | **05** |
| **06** | 270°54.47' | 14.9999° | 52°02.50' | N 18°52.28' | 0.5899' | 103°22.85' | 14.4632° | 219°34.11' | S 14°23.38' | 14.3508' | 60.0609' | 322°56.96' | **06** |
| **07** | 285°54.46' | 14.9999° | 52°04.97' | N 18°52.87' | 0.5893' | 117°50.53' | 14.4614° | 220°08.89' | S 14°37.66' | 14.2795' | 60.0873' | 337°59.43' | **07** |
| **08** | 300°54.45' | 14.9999° | 52°07.44' | N 18°53.45' | 0.5888' | 132°18.11' | 14.4596° | 220°43.78' | S 14°51.87' | 14.2060' | 60.1133' | 353°01.89' | **08** |
| **09** | 315°54.45' | 14.9999° | 52°09.91' | N 18°54.04' | 0.5882' | 146°45.58' | 14.4578° | 221°18.78' | S 15°06.00' | 14.1305' | 60.1390' | 8°04.36' | **09** |
| **10** | 330°54.44' | 14.9999° | 52°12.38' | N 18°54.63' | 0.5877' | 161°12.94' | 14.4560° | 221°53.88' | S 15°20.05' | 14.0530' | 60.1643' | 23°06.82' | **10** |
| **11** | 345°54.43' | 14.9999° | 52°14.85' | N 18°55.22' | 0.5871' | 175°40.20' | 14.4542° | 222°29.09' | S 15°34.02' | 13.9733' | 60.1891' | 38°09.29' | **11** |
| **12** | 0°54.43' | 14.9999° | 52°17.32' | N 18°55.80' | 0.5866' | 190°07.34' | 14.4524° | 223°04.41' | S 15°47.92' | 13.8915' | 60.2136' | 53°11.75' | **12** |
| **13** | 15°54.42' | 14.9999° | 52°19.80' | N 18°56.39' | 0.5860' | 204°34.37' | 14.4506° | 223°39.84' | S 16°01.72' | 13.8076' | 60.2377' | 68°14.21' | **13** |
| **14** | 30°54.41' | 14.9999° | 52°22.27' | N 18°56.98' | 0.5854' | 219°01.29' | 14.4487° | 224°15.38' | S 16°15.44' | 13.7215' | 60.2614' | 83°16.68' | **14** |
| **15** | 45°54.40' | 14.9999° | 52°24.74' | N 18°57.56' | 0.5849' | 233°28.11' | 14.4469° | 224°51.04' | S 16°29.08' | 13.6334' | 60.2847' | 98°19.14' | **15** |
| **16** | 60°54.39' | 14.9999° | 52°27.21' | N 18°58.14' | 0.5843' | 247°54.81' | 14.4450° | 225°26.80' | S 16°42.62' | 13.5431' | 60.3075' | 113°21.61' | **16** |
| **17** | 75°54.39' | 14.9999° | 52°29.68' | N 18°58.73' | 0.5838' | 262°21.39' | 14.4431° | 226°02.68' | S 16°56.07' | 13.4506' | 60.3300' | 128°24.07' | **17** |
| **18** | 90°54.38' | 14.9999° | 52°32.16' | N 18°59.31' | 0.5832' | 276°47.87' | 14.4413° | 226°38.67' | S 17°09.43' | 13.3560' | 60.3520' | 143°26.53' | **18** |
| **19** | 105°54.37' | 14.9999° | 52°34.63' | N 18°59.89' | 0.5827' | 291°14.23' | 14.4394° | 227°14.77' | S 17°22.69' | 13.2593' | 60.3736' | 158°29.00' | **19** |
| **20** | 120°54.36' | 14.9998° | 52°37.10' | N 19°00.48' | 0.5821' | 305°40.48' | 14.4375° | 227°50.98' | S 17°35.85' | 13.1604' | 60.3947' | 173°31.46' | **20** |
| **21** | 135°54.35' | 14.9998° | 52°39.58' | N 19°01.06' | 0.5815' | 320°06.62' | 14.4356° | 228°27.31' | S 17°48.91' | 13.0593' | 60.4155' | 188°33.93' | **21** |
| **22** | 150°54.34' | 14.9998° | 52°42.05' | N 19°01.64' | 0.5810' | 334°32.64' | 14.4337° | 229°03.75' | S 18°01.86' | 12.9561' | 60.4358' | 203°36.39' | **22** |
| **23** | 165°54.33' | 14.9998° | 52°44.53' | N 19°02.22' | 0.5804' | 348°58.55' | 14.4318° | 229°40.31' | S 18°14.71' | 12.8506' | 60.4556' | 218°38.86' | **23** |
| **24** | 180°54.32' | 14.9998° | 52°47.00' | N 19°02.80' | 0.5799' | 3°24.34' | 14.4299° | 230°16.98' | S 18°27.46' | 12.7431' | 60.4750' | 233°41.32' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8228' | hp (π) 0.1450' | ½Ø 16.4070' | 99.3411455950411 4% +gib |
| | EoT at 12:00 UTC : +3m 37s (δ -0.03 s/h) | | Phase at 12:00 UTC : 170.69° | |
| | Meridian Pass. Time : 11:56:22.297 | | Age : 13.3 day(s) | |

| UT | Venus ♀ (π 0.13') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 218°58.34' | 13°43.84' | N 3°54.40' | 238°54.11' | 353°48.07' | S 4°28.46' | 231°33.18' | 1°09.00' | S 0°42.65' | 265°09.36' | 327°32.82' | S 14°13.40' | **00** |
| **01** | 233°58.11' | 13°46.53' | N 3°55.46' | 253°54.84' | 353°49.81' | S 4°27.74' | 246°35.21' | 1°09.43' | S 0°42.47' | 280°11.74' | 327°32.91' | S 14°13.38' | **01** |
| **02** | 248°57.88' | 13°49.23' | N 3°56.52' | 268°55.57' | 353°51.54' | S 4°27.01' | 261°37.24' | 1°09.87' | S 0°42.29' | 295°14.12' | 327°32.99' | S 14°13.36' | **02** |
| **03** | 263°57.65' | 13°51.92' | N 3°57.58' | 283°56.30' | 353°53.28' | S 4°26.29' | 276°39.27' | 1°10.30' | S 0°42.11' | 310°16.50' | 327°33.07' | S 14°13.34' | **03** |
| **04** | 278°57.42' | 13°54.62' | N 3°58.64' | 298°57.03' | 353°55.01' | S 4°25.56' | 291°41.30' | 1°10.74' | S 0°41.93' | 325°18.88' | 327°33.16' | S 14°13.32' | **04** |
| **05** | 293°57.19' | 13°57.31' | N 3°59.70' | 313°57.76' | 353°56.74' | S 4°24.84' | 306°43.33' | 1°11.17' | S 0°41.75' | 340°21.26' | 327°33.24' | S 14°13.30' | **05** |
| **06** | 308°56.96' | 14°00.01' | N 4°00.76' | 328°58.49' | 353°58.48' | S 4°24.11' | 321°45.36' | 1°11.61' | S 0°41.57' | 355°23.64' | 327°33.33' | S 14°13.28' | **06** |
| **07** | 323°56.73' | 14°02.70' | N 4°01.82' | 343°59.22' | 354°00.21' | S 4°23.39' | 336°47.38' | 1°12.04' | S 0°41.39' | 10°26.02' | 327°33.41' | S 14°13.26' | **07** |
| **08** | 338°56.49' | 14°05.40' | N 4°02.88' | 358°59.94' | 354°01.95' | S 4°22.66' | 351°49.41' | 1°12.48' | S 0°41.21' | 25°28.40' | 327°33.49' | S 14°13.23' | **08** |
| **09** | 353°56.26' | 14°08.10' | N 4°03.94' | 14°00.67' | 354°03.68' | S 4°21.94' | 6°51.44' | 1°12.91' | S 0°41.03' | 40°30.78' | 327°33.58' | S 14°13.21' | **09** |
| **10** | 8°56.03' | 14°10.79' | N 4°05.00' | 29°01.40' | 354°05.42' | S 4°21.21' | 21°53.47' | 1°13.35' | S 0°40.85' | 55°33.16' | 327°33.66' | S 14°13.19' | **10** |
| **11** | 23°55.80' | 14°13.49' | N 4°06.06' | 44°02.13' | 354°07.15' | S 4°20.49' | 36°55.50' | 1°13.78' | S 0°40.67' | 70°35.54' | 327°33.74' | S 14°13.17' | **11** |
| **12** | 38°55.56' | 14°16.19' | N 4°07.12' | 59°02.86' | 354°08.89' | S 4°19.76' | 51°57.53' | 1°14.22' | S 0°40.49' | 85°37.92' | 327°33.83' | S 14°13.15' | **12** |
| **13** | 53°55.33' | 14°18.88' | N 4°08.18' | 74°03.59' | 354°10.62' | S 4°19.04' | 66°59.56' | 1°14.65' | S 0°40.31' | 100°40.30' | 327°33.91' | S 14°13.13' | **13** |
| **14** | 68°55.10' | 14°21.58' | N 4°09.24' | 89°04.32' | 354°12.35' | S 4°18.31' | 82°01.59' | 1°15.09' | S 0°40.13' | 115°42.69' | 327°33.99' | S 14°13.11' | **14** |
| **15** | 83°54.87' | 14°24.28' | N 4°10.30' | 104°05.06' | 354°14.09' | S 4°17.59' | 97°03.62' | 1°15.52' | S 0°39.95' | 130°45.07' | 327°34.08' | S 14°13.09' | **15** |
| **16** | 98°54.63' | 14°26.97' | N 4°11.36' | 119°05.79' | 354°15.82' | S 4°16.86' | 112°05.65' | 1°15.95' | S 0°39.77' | 145°47.45' | 327°34.16' | S 14°13.07' | **16** |
| **17** | 113°54.40' | 14°29.67' | N 4°12.42' | 134°06.52' | 354°17.55' | S 4°16.14' | 127°07.68' | 1°16.39' | S 0°39.59' | 160°49.83' | 327°34.24' | S 14°13.05' | **17** |
| **18** | 128°54.16' | 14°32.37' | N 4°13.48' | 149°07.25' | 354°19.29' | S 4°15.41' | 142°09.71' | 1°16.82' | S 0°39.41' | 175°52.21' | 327°34.32' | S 14°13.03' | **18** |
| **19** | 143°53.93' | 14°35.07' | N 4°14.54' | 164°07.98' | 354°21.02' | S 4°14.68' | 157°11.74' | 1°17.25' | S 0°39.23' | 190°54.59' | 327°34.40' | S 14°13.01' | **19** |
| **20** | 158°53.70' | 14°37.77' | N 4°15.60' | 179°08.71' | 354°22.76' | S 4°13.96' | 172°13.78' | 1°17.69' | S 0°39.05' | 205°56.98' | 327°34.49' | S 14°12.99' | **20** |
| **21** | 173°53.46' | 14°40.46' | N 4°16.66' | 194°09.44' | 354°24.49' | S 4°13.23' | 187°15.81' | 1°18.12' | S 0°38.87' | 220°59.36' | 327°34.57' | S 14°12.97' | **21** |
| **22** | 188°53.23' | 14°43.16' | N 4°17.72' | 209°10.17' | 354°26.22' | S 4°12.51' | 202°17.84' | 1°18.55' | S 0°38.70' | 236°01.74' | 327°34.65' | S 14°12.95' | **22** |
| **23** | 203°52.99' | 14°45.86' | N 4°18.78' | 224°10.90' | 354°27.95' | S 4°11.78' | 217°19.87' | 1°18.99' | S 0°38.52' | 251°04.12' | 327°34.73' | S 14°12.93' | **23** |
| **24** | 218°52.76' | 14°48.56' | N 4°19.84' | 239°11.63' | 354°29.69' | S 4°11.06' | 232°21.90' | 1°19.42' | S 0°38.34' | 266°06.51' | 327°34.81' | S 14°12.91' | **24** |
| | δ 14.9962° | | *d* 1.0601' | δ 15.0122° | | *d* 0.7247' | δ 15.0338° | | *d* 0.1806' | δ 15.0397° | | *d* 0.0213' | |

## *Monday, May 16th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°54.32' | 14.9998° | 52°47.00' | N 19°02.80' | 0.5799' | 3°24.34' | 14.4299° | 230°16.98' | S 18°27.46' | 12.7431' | 60.4750' | 233°41.32' | **00** |
| **01** | 195°54.31' | 14.9998° | 52°49.47' | N 19°03.38' | 0.5793' | 17°50.02' | 14.4280° | 230°53.76' | S 18°40.09' | 12.6333' | 60.4940' | 248°43.78' | **01** |
| **02** | 210°54.30' | 14.9998° | 52°51.95' | N 19°03.96' | 0.5787' | 32°15.59' | 14.4261° | 231°30.66' | S 18°52.61' | 12.5214' | 60.5125' | 263°46.25' | **02** |
| **03** | 225°54.29' | 14.9998° | 52°54.42' | N 19°04.54' | 0.5782' | 46°41.04' | 14.4242° | 232°07.67' | S 19°05.02' | 12.4073' | 60.5306' | 278°48.71' | **03** |
| **04** | 240°54.28' | 14.9998° | 52°56.90' | N 19°05.11' | 0.5776' | 61°06.38' | 14.4223° | 232°44.80' | S 19°17.31' | 12.2911' | 60.5482' | 293°51.18' | **04** |
| **05** | 255°54.26' | 14.9998° | 52°59.38' | N 19°05.69' | 0.5771' | 75°31.60' | 14.4204° | 233°22.04' | S 19°29.48' | 12.1727' | 60.5653' | 308°53.64' | **05** |
| **06** | 270°54.25' | 14.9998° | 53°01.85' | N 19°06.27' | 0.5765' | 89°56.71' | 14.4185° | 233°59.39' | S 19°41.53' | 12.0521' | 60.5820' | 323°56.10' | **06** |
| **07** | 285°54.24' | 14.9998° | 53°04.33' | N 19°06.84' | 0.5759' | 104°21.71' | 14.4166° | 234°36.86' | S 19°53.46' | 11.9294' | 60.5982' | 338°58.57' | **07** |
| **08** | 300°54.23' | 14.9998° | 53°06.80' | N 19°07.42' | 0.5754' | 118°46.59' | 14.4147° | 235°14.44' | S 20°05.27' | 11.8045' | 60.6139' | 354°01.03' | **08** |
| **09** | 315°54.22' | 14.9998° | 53°09.28' | N 19°07.99' | 0.5748' | 133°11.36' | 14.4128° | 235°52.13' | S 20°16.95' | 11.6775' | 60.6292' | 9°03.50' | **09** |
| **10** | 330°54.20' | 14.9998° | 53°11.76' | N 19°08.57' | 0.5743' | 147°36.02' | 14.4110° | 236°29.94' | S 20°28.49' | 11.5483' | 60.6440' | 24°05.96' | **10** |
| **11** | 345°54.19' | 14.9998° | 53°14.23' | N 19°09.14' | 0.5737' | 162°00.57' | 14.4091° | 237°07.86' | S 20°39.91' | 11.4170' | 60.6583' | 39°08.43' | **11** |
| **12** | 0°54.18' | 14.9998° | 53°16.71' | N 19°09.71' | 0.5731' | 176°25.00' | 14.4072° | 237°45.89' | S 20°51.19' | 11.2836' | 60.6721' | 54°10.89' | **12** |
| **13** | 15°54.16' | 14.9998° | 53°19.19' | N 19°10.29' | 0.5726' | 190°49.32' | 14.4054° | 238°24.03' | S 21°02.34' | 11.1481' | 60.6855' | 69°13.35' | **13** |
| **14** | 30°54.15' | 14.9998° | 53°21.67' | N 19°10.86' | 0.5720' | 205°13.53' | 14.4035° | 239°02.29' | S 21°13.35' | 11.0105' | 60.6983' | 84°15.82' | **14** |
| **15** | 45°54.14' | 14.9998° | 53°24.14' | N 19°11.43' | 0.5714' | 219°37.63' | 14.4017° | 239°40.65' | S 21°24.22' | 10.8708' | 60.7107' | 99°18.28' | **15** |
| **16** | 60°54.12' | 14.9998° | 53°26.62' | N 19°12.00' | 0.5709' | 234°01.62' | 14.3999° | 240°19.12' | S 21°34.95' | 10.7290' | 60.7226' | 114°20.75' | **16** |
| **17** | 75°54.11' | 14.9998° | 53°29.10' | N 19°12.57' | 0.5703' | 248°25.51' | 14.3980° | 240°57.71' | S 21°45.54' | 10.5852' | 60.7340' | 129°23.21' | **17** |
| **18** | 90°54.09' | 14.9998° | 53°31.58' | N 19°13.14' | 0.5698' | 262°49.28' | 14.3962° | 241°36.39' | S 21°55.98' | 10.4393' | 60.7449' | 144°25.67' | **18** |
| **19** | 105°54.08' | 14.9998° | 53°34.06' | N 19°13.71' | 0.5692' | 277°12.95' | 14.3945° | 242°15.19' | S 22°06.27' | 10.2915' | 60.7553' | 159°28.14' | **19** |
| **20** | 120°54.06' | 14.9997° | 53°36.54' | N 19°14.28' | 0.5686' | 291°36.51' | 14.3927° | 242°54.09' | S 22°16.41' | 10.1416' | 60.7653' | 174°30.60' | **20** |
| **21** | 135°54.05' | 14.9997° | 53°39.02' | N 19°14.85' | 0.5681' | 305°59.97' | 14.3909° | 243°33.10' | S 22°26.40' | 9.9897' | 60.7747' | 189°33.07' | **21** |
| **22** | 150°54.03' | 14.9997° | 53°41.50' | N 19°15.41' | 0.5675' | 320°23.32' | 14.3892° | 244°12.21' | S 22°36.24' | 9.8358' | 60.7836' | 204°35.53' | **22** |
| **23** | 165°54.02' | 14.9997° | 53°43.98' | N 19°15.98' | 0.5669' | 334°46.57' | 14.3875° | 244°51.43' | S 22°45.92' | 9.6800' | 60.7921' | 219°38.00' | **23** |
| **24** | 180°54.00' | 14.9997° | 53°46.46' | N 19°16.55' | 0.5664' | 349°09.71' | 14.3858° | 245°30.75' | S 22°55.44' | 9.5223' | 60.8000' | 234°40.46' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8194' | hp (π) 0.1450' | ½Ø 16.5319' | 99.8437322955004 7% -gib |
| | EoT at 12:00 UTC : +3m 36s (δ -0.05 s/h) | | Phase at 12:00 UTC : 184.49° | |
| | Meridian Pass. Time : 11:56:23.287 | | Age : 14.3 day(s) | |

| UT | Venus ♀ (π 0.13') | | | Mars ♂ (π 0.09') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 218°52.76' | 14°48.56' | N 4°19.84' | 239°11.63' | 354°29.69' | S 4°11.06' | 232°21.90' | 1°19.42' | S 0°38.34' | 266°06.51' | 327°34.81' | S 14°12.91' | **00** |
| **01** | 233°52.52' | 14°51.26' | N 4°20.90' | 254°12.36' | 354°31.42' | S 4°10.33' | 247°23.93' | 1°19.85' | S 0°38.16' | 281°08.89' | 327°34.89' | S 14°12.89' | **01** |
| **02** | 248°52.29' | 14°53.96' | N 4°21.96' | 269°13.09' | 354°33.15' | S 4°09.61' | 262°25.96' | 1°20.28' | S 0°37.98' | 296°11.27' | 327°34.97' | S 14°12.87' | **02** |
| **03** | 263°52.05' | 14°56.66' | N 4°23.02' | 284°13.83' | 354°34.89' | S 4°08.88' | 277°28.00' | 1°20.72' | S 0°37.80' | 311°13.66' | 327°35.05' | S 14°12.85' | **03** |
| **04** | 278°51.82' | 14°59.36' | N 4°24.08' | 299°14.56' | 354°36.62' | S 4°08.15' | 292°30.03' | 1°21.15' | S 0°37.62' | 326°16.04' | 327°35.13' | S 14°12.83' | **04** |
| **05** | 293°51.58' | 15°02.06' | N 4°25.14' | 314°15.29' | 354°38.35' | S 4°07.43' | 307°32.06' | 1°21.58' | S 0°37.44' | 341°18.43' | 327°35.22' | S 14°12.81' | **05** |
| **06** | 308°51.34' | 15°04.76' | N 4°26.20' | 329°16.02' | 354°40.08' | S 4°06.70' | 322°34.09' | 1°22.01' | S 0°37.26' | 356°20.81' | 327°35.30' | S 14°12.79' | **06** |
| **07** | 323°51.11' | 15°07.46' | N 4°27.26' | 344°16.75' | 354°41.82' | S 4°05.98' | 337°36.13' | 1°22.44' | S 0°37.09' | 11°23.19' | 327°35.38' | S 14°12.77' | **07** |
| **08** | 338°50.87' | 15°10.16' | N 4°28.32' | 359°17.48' | 354°43.55' | S 4°05.25' | 352°38.16' | 1°22.87' | S 0°36.91' | 26°25.58' | 327°35.46' | S 14°12.75' | **08** |
| **09** | 353°50.63' | 15°12.86' | N 4°29.38' | 14°18.22' | 354°45.28' | S 4°04.53' | 7°40.19' | 1°23.31' | S 0°36.73' | 41°27.96' | 327°35.54' | S 14°12.73' | **09** |
| **10** | 8°50.40' | 15°15.56' | N 4°30.44' | 29°18.95' | 354°47.01' | S 4°03.80' | 22°42.22' | 1°23.74' | S 0°36.55' | 56°30.35' | 327°35.61' | S 14°12.71' | **10** |
| **11** | 23°50.16' | 15°18.27' | N 4°31.50' | 44°19.68' | 354°48.75' | S 4°03.07' | 37°44.26' | 1°24.17' | S 0°36.37' | 71°32.73' | 327°35.69' | S 14°12.69' | **11** |
| **12** | 38°49.92' | 15°20.97' | N 4°32.56' | 59°20.41' | 354°50.48' | S 4°02.35' | 52°46.29' | 1°24.60' | S 0°36.19' | 86°35.12' | 327°35.77' | S 14°12.67' | **12** |
| **13** | 53°49.68' | 15°23.67' | N 4°33.62' | 74°21.14' | 354°52.21' | S 4°01.62' | 67°48.32' | 1°25.03' | S 0°36.02' | 101°37.50' | 327°35.85' | S 14°12.65' | **13** |
| **14** | 68°49.45' | 15°26.37' | N 4°34.68' | 89°21.88' | 354°53.94' | S 4°00.90' | 82°50.36' | 1°25.46' | S 0°35.84' | 116°39.89' | 327°35.93' | S 14°12.63' | **14** |
| **15** | 83°49.21' | 15°29.07' | N 4°35.74' | 104°22.61' | 354°55.67' | S 4°00.17' | 97°52.39' | 1°25.89' | S 0°35.66' | 131°42.27' | 327°36.01' | S 14°12.61' | **15** |
| **16** | 98°48.97' | 15°31.78' | N 4°36.79' | 119°23.34' | 354°57.41' | S 3°59.44' | 112°54.43' | 1°26.32' | S 0°35.48' | 146°44.66' | 327°36.09' | S 14°12.59' | **16** |
| **17** | 113°48.73' | 15°34.48' | N 4°37.85' | 134°24.07' | 354°59.14' | S 3°58.72' | 127°56.46' | 1°26.75' | S 0°35.30' | 161°47.04' | 327°36.17' | S 14°12.57' | **17** |
| **18** | 128°48.49' | 15°37.18' | N 4°38.91' | 149°24.81' | 355°00.87' | S 3°57.99' | 142°58.49' | 1°27.18' | S 0°35.13' | 176°49.43' | 327°36.25' | S 14°12.55' | **18** |
| **19** | 143°48.25' | 15°39.89' | N 4°39.97' | 164°25.54' | 355°02.60' | S 3°57.27' | 158°00.53' | 1°27.61' | S 0°34.95' | 191°51.81' | 327°36.32' | S 14°12.54' | **19** |
| **20** | 158°48.01' | 15°42.59' | N 4°41.03' | 179°26.27' | 355°04.33' | S 3°56.54' | 173°02.56' | 1°28.04' | S 0°34.77' | 206°54.20' | 327°36.40' | S 14°12.52' | **20** |
| **21** | 173°47.77' | 15°45.29' | N 4°42.09' | 194°27.00' | 355°06.06' | S 3°55.81' | 188°04.60' | 1°28.47' | S 0°34.59' | 221°56.59' | 327°36.48' | S 14°12.50' | **21** |
| **22** | 188°47.53' | 15°48.00' | N 4°43.15' | 209°27.74' | 355°07.79' | S 3°55.09' | 203°06.63' | 1°28.90' | S 0°34.42' | 236°58.97' | 327°36.56' | S 14°12.48' | **22** |
| **23** | 203°47.30' | 15°50.70' | N 4°44.21' | 224°28.47' | 355°09.53' | S 3°54.36' | 218°08.67' | 1°29.33' | S 0°34.24' | 252°01.36' | 327°36.64' | S 14°12.46' | **23** |
| **24** | 218°47.05' | 15°53.40' | N 4°45.27' | 239°29.20' | 355°11.26' | S 3°53.63' | 233°10.70' | 1°29.76' | S 0°34.06' | 267°03.75' | 327°36.71' | S 14°12.44' | **24** |
| | δ 14.9961° | | *d* 1.0598' | δ 15.0122° | | *d* 0.7256' | δ 15.0339° | | *d* 0.1790' | δ 15.0397° | | *d* 0.0200' | |

## *Tuesday, May 17th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°54.00' | 14.9997° | 53°46.46' | N 19°16.55' | 0.5664' | 349°09.71' | 14.3858° | 245°30.75' | S 22°55.44' | 9.5223' | 60.8000' | 234°40.46' | **00** |
| **01** | 195°53.99' | 14.9997° | 53°48.94' | N 19°17.11' | 0.5658' | 3°32.76' | 14.3841° | 246°10.16' | S 23°04.80' | 9.3626' | 60.8075' | 249°42.92' | **01** |
| **02** | 210°53.97' | 14.9997° | 53°51.42' | N 19°17.68' | 0.5652' | 17°55.71' | 14.3825° | 246°49.68' | S 23°14.00' | 9.2011' | 60.8144' | 264°45.39' | **02** |
| **03** | 225°53.95' | 14.9997° | 53°53.90' | N 19°18.24' | 0.5647' | 32°18.56' | 14.3808° | 247°29.29' | S 23°23.04' | 9.0378' | 60.8209' | 279°47.85' | **03** |
| **04** | 240°53.94' | 14.9997° | 53°56.38' | N 19°18.81' | 0.5641' | 46°41.32' | 14.3792° | 248°09.00' | S 23°31.91' | 8.8726' | 60.8268' | 294°50.32' | **04** |
| **05** | 255°53.92' | 14.9997° | 53°58.86' | N 19°19.37' | 0.5635' | 61°03.98' | 14.3777° | 248°48.81' | S 23°40.62' | 8.7056' | 60.8323' | 309°52.78' | **05** |
| **06** | 270°53.90' | 14.9997° | 54°01.34' | N 19°19.93' | 0.5630' | 75°26.54' | 14.3761° | 249°28.70' | S 23°49.16' | 8.5368' | 60.8372' | 324°55.25' | **06** |
| **07** | 285°53.88' | 14.9997° | 54°03.83' | N 19°20.50' | 0.5624' | 89°49.02' | 14.3746° | 250°08.69' | S 23°57.52' | 8.3663' | 60.8417' | 339°57.71' | **07** |
| **08** | 300°53.86' | 14.9997° | 54°06.31' | N 19°21.06' | 0.5618' | 104°11.40' | 14.3731° | 250°48.77' | S 24°05.72' | 8.1941' | 60.8456' | 355°00.17' | **08** |
| **09** | 315°53.85' | 14.9997° | 54°08.79' | N 19°21.62' | 0.5613' | 118°33.70' | 14.3716° | 251°28.94' | S 24°13.74' | 8.0203' | 60.8491' | 10°02.64' | **09** |
| **10** | 330°53.83' | 14.9997° | 54°11.27' | N 19°22.18' | 0.5607' | 132°55.91' | 14.3702° | 252°09.19' | S 24°21.58' | 7.8447' | 60.8520' | 25°05.10' | **10** |
| **11** | 345°53.81' | 14.9997° | 54°13.76' | N 19°22.74' | 0.5601' | 147°18.04' | 14.3688° | 252°49.53' | S 24°29.25' | 7.6676' | 60.8544' | 40°07.57' | **11** |
| **12** | 0°53.79' | 14.9997° | 54°16.24' | N 19°23.30' | 0.5596' | 161°40.08' | 14.3674° | 253°29.95' | S 24°36.74' | 7.4889' | 60.8564' | 55°10.03' | **12** |
| **13** | 15°53.77' | 14.9997° | 54°18.72' | N 19°23.86' | 0.5590' | 176°02.04' | 14.3661° | 254°10.45' | S 24°44.05' | 7.3087' | 60.8579' | 70°12.49' | **13** |
| **14** | 30°53.75' | 14.9997° | 54°21.21' | N 19°24.42' | 0.5584' | 190°23.93' | 14.3648° | 254°51.03' | S 24°51.17' | 7.1270' | 60.8588' | 85°14.96' | **14** |
| **15** | 45°53.73' | 14.9997° | 54°23.69' | N 19°24.98' | 0.5578' | 204°45.74' | 14.3635° | 255°31.69' | S 24°58.12' | 6.9438' | 60.8593' | 100°17.42' | **15** |
| **16** | 60°53.71' | 14.9997° | 54°26.18' | N 19°25.53' | 0.5573' | 219°07.47' | 14.3622° | 256°12.42' | S 25°04.88' | 6.7591' | 60.8593' | 115°19.89' | **16** |
| **17** | 75°53.69' | 14.9997° | 54°28.66' | N 19°26.09' | 0.5567' | 233°29.14' | 14.3611° | 256°53.22' | S 25°11.45' | 6.5732' | 60.8587' | 130°22.35' | **17** |
| **18** | 90°53.67' | 14.9997° | 54°31.14' | N 19°26.65' | 0.5561' | 247°50.73' | 14.3599° | 257°34.09' | S 25°17.83' | 6.3858' | 60.8577' | 145°24.82' | **18** |
| **19** | 105°53.65' | 14.9997° | 54°33.63' | N 19°27.20' | 0.5556' | 262°12.26' | 14.3588° | 258°15.02' | S 25°24.03' | 6.1972' | 60.8562' | 160°27.28' | **19** |
| **20** | 120°53.63' | 14.9997° | 54°36.11' | N 19°27.76' | 0.5550' | 276°33.72' | 14.3577° | 258°56.03' | S 25°30.04' | 6.0073' | 60.8542' | 175°29.74' | **20** |
| **21** | 135°53.61' | 14.9996° | 54°38.60' | N 19°28.31' | 0.5544' | 290°55.12' | 14.3567° | 259°37.09' | S 25°35.86' | 5.8163' | 60.8517' | 190°32.21' | **21** |
| **22** | 150°53.59' | 14.9996° | 54°41.09' | N 19°28.86' | 0.5539' | 305°16.46' | 14.3557° | 260°18.22' | S 25°41.48' | 5.6240' | 60.8488' | 205°34.67' | **22** |
| **23** | 165°53.57' | 14.9996° | 54°43.57' | N 19°29.42' | 0.5533' | 319°37.74' | 14.3547° | 260°59.40' | S 25°46.91' | 5.4307' | 60.8453' | 220°37.14' | **23** |
| **24** | 180°53.54' | 14.9996° | 54°46.06' | N 19°29.97' | 0.5527' | 333°58.97' | 14.3538° | 261°40.63' | S 25°52.15' | 5.2362' | 60.8414' | 235°39.60' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.8161' | hp (π) 0.1449' | ½Ø 16.5822' | 97.4122088986864<br>4% -gib | |
| EoT at 12:00 UTC : +3m 35s (δ -0.08 s/h) | | Phase at 12:00 UTC : 198.45° | | |
| Meridian Pass. Time : 11:56:24.840 | | Age : 15.4 day(s) | | |

| UT | Venus ♀ (π 0.13') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 218°47.05' | 15°53.40' | N 4°45.27' | 239°29.20' | 355°11.26' | S 3°53.63' | 233°10.70' | 1°29.76' | S 0°34.06' | 267°03.75' | 327°36.71' | S 14°12.44' | **00** |
| **01** | 233°46.81' | 15°56.11' | N 4°46.33' | 254°29.94' | 355°12.99' | S 3°52.91' | 248°12.74' | 1°30.19' | S 0°33.88' | 282°06.13' | 327°36.79' | S 14°12.42' | **01** |
| **02** | 248°46.57' | 15°58.81' | N 4°47.39' | 269°30.67' | 355°14.72' | S 3°52.18' | 263°14.77' | 1°30.62' | S 0°33.71' | 297°08.52' | 327°36.87' | S 14°12.40' | **02** |
| **03** | 263°46.33' | 16°01.52' | N 4°48.45' | 284°31.40' | 355°16.45' | S 3°51.45' | 278°16.81' | 1°31.04' | S 0°33.53' | 312°10.91' | 327°36.94' | S 14°12.39' | **03** |
| **04** | 278°46.09' | 16°04.22' | N 4°49.50' | 299°32.14' | 355°18.18' | S 3°50.73' | 293°18.84' | 1°31.47' | S 0°33.35' | 327°13.30' | 327°37.02' | S 14°12.37' | **04** |
| **05** | 293°45.85' | 16°06.93' | N 4°50.56' | 314°32.87' | 355°19.91' | S 3°50.00' | 308°20.88' | 1°31.90' | S 0°33.18' | 342°15.68' | 327°37.10' | S 14°12.35' | **05** |
| **06** | 308°45.61' | 16°09.64' | N 4°51.62' | 329°33.60' | 355°21.64' | S 3°49.28' | 323°22.92' | 1°32.33' | S 0°33.00' | 357°18.07' | 327°37.17' | S 14°12.33' | **06** |
| **07** | 323°45.37' | 16°12.34' | N 4°52.68' | 344°34.34' | 355°23.37' | S 3°48.55' | 338°24.95' | 1°32.76' | S 0°32.82' | 12°20.46' | 327°37.25' | S 14°12.31' | **07** |
| **08** | 338°45.13' | 16°15.05' | N 4°53.74' | 359°35.07' | 355°25.10' | S 3°47.82' | 353°26.99' | 1°33.19' | S 0°32.64' | 27°22.85' | 327°37.33' | S 14°12.29' | **08** |
| **09** | 353°44.88' | 16°17.75' | N 4°54.80' | 14°35.80' | 355°26.83' | S 3°47.10' | 8°29.02' | 1°33.61' | S 0°32.47' | 42°25.23' | 327°37.40' | S 14°12.27' | **09** |
| **10** | 8°44.64' | 16°20.46' | N 4°55.86' | 29°36.54' | 355°28.56' | S 3°46.37' | 23°31.06' | 1°34.04' | S 0°32.29' | 57°27.62' | 327°37.48' | S 14°12.26' | **10** |
| **11** | 23°44.40' | 16°23.17' | N 4°56.92' | 44°37.27' | 355°30.29' | S 3°45.64' | 38°33.10' | 1°34.47' | S 0°32.11' | 72°30.01' | 327°37.55' | S 14°12.24' | **11** |
| **12** | 38°44.16' | 16°25.87' | N 4°57.97' | 59°38.01' | 355°32.02' | S 3°44.92' | 53°35.13' | 1°34.90' | S 0°31.94' | 87°32.40' | 327°37.63' | S 14°12.22' | **12** |
| **13** | 53°43.91' | 16°28.58' | N 4°59.03' | 74°38.74' | 355°33.75' | S 3°44.19' | 68°37.17' | 1°35.32' | S 0°31.76' | 102°34.79' | 327°37.71' | S 14°12.20' | **13** |
| **14** | 68°43.67' | 16°31.29' | N 5°00.09' | 89°39.47' | 355°35.48' | S 3°43.46' | 83°39.21' | 1°35.75' | S 0°31.59' | 117°37.18' | 327°37.78' | S 14°12.18' | **14** |
| **15** | 83°43.43' | 16°34.00' | N 5°01.15' | 104°40.21' | 355°37.21' | S 3°42.74' | 98°41.25' | 1°36.18' | S 0°31.41' | 132°39.57' | 327°37.86' | S 14°12.17' | **15** |
| **16** | 98°43.18' | 16°36.70' | N 5°02.21' | 119°40.94' | 355°38.94' | S 3°42.01' | 113°43.28' | 1°36.60' | S 0°31.23' | 147°41.96' | 327°37.93' | S 14°12.15' | **16** |
| **17** | 113°42.94' | 16°39.41' | N 5°03.27' | 134°41.68' | 355°40.67' | S 3°41.28' | 128°45.32' | 1°37.03' | S 0°31.06' | 162°44.35' | 327°38.01' | S 14°12.13' | **17** |
| **18** | 128°42.70' | 16°42.12' | N 5°04.32' | 149°42.41' | 355°42.40' | S 3°40.56' | 143°47.36' | 1°37.46' | S 0°30.88' | 177°46.74' | 327°38.08' | S 14°12.11' | **18** |
| **19** | 143°42.45' | 16°44.83' | N 5°05.38' | 164°43.15' | 355°44.13' | S 3°39.83' | 158°49.40' | 1°37.88' | S 0°30.70' | 192°49.13' | 327°38.15' | S 14°12.10' | **19** |
| **20** | 158°42.21' | 16°47.54' | N 5°06.44' | 179°43.88' | 355°45.86' | S 3°39.10' | 173°51.44' | 1°38.31' | S 0°30.53' | 207°51.52' | 327°38.23' | S 14°12.08' | **20** |
| **21** | 173°41.96' | 16°50.25' | N 5°07.50' | 194°44.62' | 355°47.59' | S 3°38.37' | 188°53.47' | 1°38.73' | S 0°30.35' | 222°53.91' | 327°38.30' | S 14°12.06' | **21** |
| **22** | 188°41.72' | 16°52.96' | N 5°08.56' | 209°45.35' | 355°49.32' | S 3°37.65' | 203°55.51' | 1°39.16' | S 0°30.18' | 237°56.30' | 327°38.38' | S 14°12.04' | **22** |
| **23** | 203°41.47' | 16°55.66' | N 5°09.61' | 224°46.09' | 355°51.05' | S 3°36.92' | 218°57.55' | 1°39.59' | S 0°30.00' | 252°58.69' | 327°38.45' | S 14°12.02' | **23** |
| **24** | 218°41.23' | 16°58.37' | N 5°10.67' | 239°46.82' | 355°52.78' | S 3°36.19' | 233°59.59' | 1°40.01' | S 0°29.83' | 268°01.08' | 327°38.52' | S 14°12.01' | **24** |
| | δ 14.9960° | | *d* 1.0590' | δ 15.0122° | | *d* 0.7264' | δ 15.0339° | | *d* 0.1773' | δ 15.0398° | | *d* 0.0187' | |

## *Wednesday, May 18th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°53.54' | 14.9996° | 54°46.06' | N 19°29.97' | 0.5527' | 333°58.97' | 14.3538° | 261°40.63' | S 25°52.15' | 5.2362' | 60.8414' | 235°39.60' | **00** |
| **01** | 195°53.52' | 14.9996° | 54°48.54' | N 19°30.52' | 0.5521' | 348°20.14' | 14.3529° | 262°21.92' | S 25°57.19' | 5.0408' | 60.8370' | 250°42.07' | **01** |
| **02** | 210°53.50' | 14.9996° | 54°51.03' | N 19°31.07' | 0.5516' | 2°41.27' | 14.3521° | 263°03.26' | S 26°02.03' | 4.8444' | 60.8321' | 265°44.53' | **02** |
| **03** | 225°53.48' | 14.9996° | 54°53.52' | N 19°31.62' | 0.5510' | 17°02.35' | 14.3513° | 263°44.64' | S 26°06.68' | 4.6471' | 60.8268' | 280°46.99' | **03** |
| **04** | 240°53.45' | 14.9996° | 54°56.01' | N 19°32.18' | 0.5504' | 31°23.39' | 14.3506° | 264°26.07' | S 26°11.13' | 4.4489' | 60.8209' | 295°49.46' | **04** |
| **05** | 255°53.43' | 14.9996° | 54°58.49' | N 19°32.72' | 0.5498' | 45°44.38' | 14.3499° | 265°07.54' | S 26°15.38' | 4.2498' | 60.8146' | 310°51.92' | **05** |
| **06** | 270°53.41' | 14.9996° | 55°00.98' | N 19°33.27' | 0.5493' | 60°05.34' | 14.3493° | 265°49.05' | S 26°19.43' | 4.0500' | 60.8079' | 325°54.39' | **06** |
| **07** | 285°53.38' | 14.9996° | 55°03.47' | N 19°33.82' | 0.5487' | 74°26.26' | 14.3487° | 266°30.59' | S 26°23.28' | 3.8495' | 60.8007' | 340°56.85' | **07** |
| **08** | 300°53.36' | 14.9996° | 55°05.96' | N 19°34.37' | 0.5481' | 88°47.15' | 14.3482° | 267°12.17' | S 26°26.93' | 3.6483' | 60.7930' | 355°59.32' | **08** |
| **09** | 315°53.33' | 14.9996° | 55°08.44' | N 19°34.92' | 0.5475' | 103°08.01' | 14.3477° | 267°53.77' | S 26°30.37' | 3.4466' | 60.7848' | 11°01.78' | **09** |
| **10** | 330°53.31' | 14.9996° | 55°10.93' | N 19°35.47' | 0.5470' | 117°28.84' | 14.3472° | 268°35.40' | S 26°33.62' | 3.2442' | 60.7762' | 26°04.24' | **10** |
| **11** | 345°53.29' | 14.9996° | 55°13.42' | N 19°36.01' | 0.5464' | 131°49.65' | 14.3468° | 269°17.05' | S 26°36.66' | 3.0413' | 60.7672' | 41°06.71' | **11** |
| **12** | 0°53.26' | 14.9996° | 55°15.91' | N 19°36.56' | 0.5458' | 146°10.44' | 14.3465° | 269°58.73' | S 26°39.50' | 2.8380' | 60.7577' | 56°09.17' | **12** |
| **13** | 15°53.24' | 14.9996° | 55°18.40' | N 19°37.10' | 0.5452' | 160°31.22' | 14.3462° | 270°40.42' | S 26°42.13' | 2.6343' | 60.7478' | 71°11.64' | **13** |
| **14** | 30°53.21' | 14.9996° | 55°20.89' | N 19°37.65' | 0.5447' | 174°51.97' | 14.3460° | 271°22.13' | S 26°44.56' | 2.4302' | 60.7374' | 86°14.10' | **14** |
| **15** | 45°53.19' | 14.9996° | 55°23.38' | N 19°38.19' | 0.5441' | 189°12.72' | 14.3458° | 272°03.84' | S 26°46.79' | 2.2259' | 60.7266' | 101°16.56' | **15** |
| **16** | 60°53.16' | 14.9996° | 55°25.87' | N 19°38.74' | 0.5435' | 203°33.46' | 14.3456° | 272°45.57' | S 26°48.81' | 2.0213' | 60.7153' | 116°19.03' | **16** |
| **17** | 75°53.13' | 14.9996° | 55°28.36' | N 19°39.28' | 0.5429' | 217°54.19' | 14.3456° | 273°27.30' | S 26°50.62' | 1.8165' | 60.7037' | 131°21.49' | **17** |
| **18** | 90°53.11' | 14.9996° | 55°30.85' | N 19°39.82' | 0.5423' | 232°14.93' | 14.3455° | 274°09.03' | S 26°52.24' | 1.6116' | 60.6915' | 146°23.96' | **18** |
| **19** | 105°53.08' | 14.9996° | 55°33.34' | N 19°40.36' | 0.5418' | 246°35.66' | 14.3455° | 274°50.76' | S 26°53.64' | 1.4067' | 60.6790' | 161°26.42' | **19** |
| **20** | 120°53.05' | 14.9996° | 55°35.83' | N 19°40.90' | 0.5412' | 260°56.40' | 14.3456° | 275°32.49' | S 26°54.84' | 1.2017' | 60.6661' | 176°28.89' | **20** |
| **21** | 135°53.03' | 14.9995° | 55°38.32' | N 19°41.44' | 0.5406' | 275°17.14' | 14.3457° | 276°14.21' | S 26°55.84' | 0.9967' | 60.6527' | 191°31.35' | **21** |
| **22** | 150°53.00' | 14.9995° | 55°40.82' | N 19°41.98' | 0.5400' | 289°37.89' | 14.3459° | 276°55.92' | S 26°56.63' | 0.7919' | 60.6389' | 206°33.81' | **22** |
| **23** | 165°52.97' | 14.9995° | 55°43.31' | N 19°42.52' | 0.5395' | 303°58.66' | 14.3461° | 277°37.62' | S 26°57.22' | 0.5872' | 60.6248' | 221°36.28' | **23** |
| **24** | 180°52.94' | 14.9995° | 55°45.80' | N 19°43.06' | 0.5389' | 318°19.45' | 14.3464° | 278°19.30' | S 26°57.60' | 0.3826' | 60.6102' | 236°38.74' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8128' | hp (π) 0.1449' | ½Ø 16.5553' | 92.1643190012249 5% -gib |
| | EoT at 12:00 UTC : +3m 33s (δ -0.10 s/h) | | Phase at 12:00 UTC : 212.44° | |
| | Meridian Pass. Time : 11:56:26.955 | | Age : 16.5 day(s) | |

| UT | Venus ♀ (π 0.13') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 218°41.23' | 16°58.37' | N 5°10.67' | 239°46.82' | 355°52.78' | S 3°36.19' | 233°59.59' | 1°40.01' | S 0°29.83' | 268°01.08' | 327°38.52' | S 14°12.01' | **00** |
| **01** | 233°40.98' | 17°01.08' | N 5°11.73' | 254°47.56' | 355°54.51' | S 3°35.47' | 249°01.63' | 1°40.44' | S 0°29.65' | 283°03.47' | 327°38.60' | S 14°11.99' | **01** |
| **02** | 248°40.74' | 17°03.79' | N 5°12.79' | 269°48.29' | 355°56.24' | S 3°34.74' | 264°03.67' | 1°40.86' | S 0°29.47' | 298°05.86' | 327°38.67' | S 14°11.97' | **02** |
| **03** | 263°40.49' | 17°06.50' | N 5°13.85' | 284°49.03' | 355°57.97' | S 3°34.01' | 279°05.71' | 1°41.29' | S 0°29.30' | 313°08.25' | 327°38.74' | S 14°11.96' | **03** |
| **04** | 278°40.24' | 17°09.21' | N 5°14.90' | 299°49.76' | 355°59.70' | S 3°33.29' | 294°07.75' | 1°41.71' | S 0°29.12' | 328°10.64' | 327°38.82' | S 14°11.94' | **04** |
| **05** | 293°40.00' | 17°11.93' | N 5°15.96' | 314°50.50' | 356°01.42' | S 3°32.56' | 309°09.79' | 1°42.14' | S 0°28.95' | 343°13.03' | 327°38.89' | S 14°11.92' | **05** |
| **06** | 308°39.75' | 17°14.64' | N 5°17.02' | 329°51.23' | 356°03.15' | S 3°31.83' | 324°11.82' | 1°42.56' | S 0°28.77' | 358°15.42' | 327°38.96' | S 14°11.90' | **06** |
| **07** | 323°39.50' | 17°17.35' | N 5°18.08' | 344°51.97' | 356°04.88' | S 3°31.10' | 339°13.86' | 1°42.99' | S 0°28.60' | 13°17.82' | 327°39.04' | S 14°11.89' | **07** |
| **08** | 338°39.26' | 17°20.06' | N 5°19.13' | 359°52.71' | 356°06.61' | S 3°30.38' | 354°15.90' | 1°43.41' | S 0°28.42' | 28°20.21' | 327°39.11' | S 14°11.87' | **08** |
| **09** | 353°39.01' | 17°22.77' | N 5°20.19' | 14°53.44' | 356°08.34' | S 3°29.65' | 9°17.94' | 1°43.83' | S 0°28.25' | 43°22.60' | 327°39.18' | S 14°11.85' | **09** |
| **10** | 8°38.76' | 17°25.48' | N 5°21.25' | 29°54.18' | 356°10.07' | S 3°28.92' | 24°19.98' | 1°44.26' | S 0°28.07' | 58°24.99' | 327°39.25' | S 14°11.84' | **10** |
| **11** | 23°38.51' | 17°28.20' | N 5°22.30' | 44°54.91' | 356°11.80' | S 3°28.20' | 39°22.03' | 1°44.68' | S 0°27.90' | 73°27.38' | 327°39.32' | S 14°11.82' | **11** |
| **12** | 38°38.26' | 17°30.91' | N 5°23.36' | 59°55.65' | 356°13.52' | S 3°27.47' | 54°24.07' | 1°45.11' | S 0°27.72' | 88°29.78' | 327°39.40' | S 14°11.80' | **12** |
| **13** | 53°38.02' | 17°33.62' | N 5°24.42' | 74°56.38' | 356°15.25' | S 3°26.74' | 69°26.11' | 1°45.53' | S 0°27.55' | 103°32.17' | 327°39.47' | S 14°11.79' | **13** |
| **14** | 68°37.77' | 17°36.33' | N 5°25.48' | 89°57.12' | 356°16.98' | S 3°26.01' | 84°28.15' | 1°45.95' | S 0°27.37' | 118°34.56' | 327°39.54' | S 14°11.77' | **14** |
| **15** | 83°37.52' | 17°39.05' | N 5°26.53' | 104°57.86' | 356°18.71' | S 3°25.29' | 99°30.19' | 1°46.38' | S 0°27.20' | 133°36.96' | 327°39.61' | S 14°11.75' | **15** |
| **16** | 98°37.27' | 17°41.76' | N 5°27.59' | 119°58.59' | 356°20.44' | S 3°24.56' | 114°32.23' | 1°46.80' | S 0°27.02' | 148°39.35' | 327°39.68' | S 14°11.74' | **16** |
| **17** | 113°37.02' | 17°44.47' | N 5°28.65' | 134°59.33' | 356°22.16' | S 3°23.83' | 129°34.27' | 1°47.22' | S 0°26.85' | 163°41.74' | 327°39.75' | S 14°11.72' | **17** |
| **18** | 128°36.77' | 17°47.19' | N 5°29.70' | 150°00.07' | 356°23.89' | S 3°23.10' | 144°36.31' | 1°47.65' | S 0°26.67' | 178°44.14' | 327°39.82' | S 14°11.70' | **18** |
| **19** | 143°36.52' | 17°49.90' | N 5°30.76' | 165°00.80' | 356°25.62' | S 3°22.38' | 159°38.35' | 1°48.07' | S 0°26.50' | 193°46.53' | 327°39.89' | S 14°11.69' | **19** |
| **20** | 158°36.27' | 17°52.62' | N 5°31.82' | 180°01.54' | 356°27.35' | S 3°21.65' | 174°40.40' | 1°48.49' | S 0°26.33' | 208°48.92' | 327°39.96' | S 14°11.67' | **20** |
| **21** | 173°36.02' | 17°55.33' | N 5°32.87' | 195°02.28' | 356°29.07' | S 3°20.92' | 189°42.44' | 1°48.91' | S 0°26.15' | 223°51.32' | 327°40.03' | S 14°11.65' | **21** |
| **22** | 188°35.77' | 17°58.05' | N 5°33.93' | 210°03.01' | 356°30.80' | S 3°20.19' | 204°44.48' | 1°49.33' | S 0°25.98' | 238°53.71' | 327°40.10' | S 14°11.64' | **22** |
| **23** | 203°35.52' | 18°00.76' | N 5°34.98' | 225°03.75' | 356°32.53' | S 3°19.47' | 219°46.52' | 1°49.76' | S 0°25.80' | 253°56.11' | 327°40.17' | S 14°11.62' | **23** |
| **24** | 218°35.27' | 18°03.48' | N 5°36.04' | 240°04.49' | 356°34.26' | S 3°18.74' | 234°48.56' | 1°50.18' | S 0°25.63' | 268°58.50' | 327°40.24' | S 14°11.61' | **24** |
| | δ 14.9959° | | *d* 1.0578' | δ 15.0123° | | *d* 0.7270' | δ 15.0340° | | *d* 0.1756' | δ 15.0398° | | *d* 0.0174' | |

## *Thursday, May 19th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°52.94' | 14.9995° | 55°45.80' | N 19°43.06' | 0.5389' | 318°19.45' | 14.3464° | 278°19.30' | S 26°57.60' | 0.3826' | 60.6102' | 236°38.74' | **00** |
| **01** | 195°52.92' | 14.9995° | 55°48.29' | N 19°43.60' | 0.5383' | 332°40.25' | 14.3467° | 279°00.96' | S 26°57.78' | 0.1784' | 60.5952' | 251°41.21' | **01** |
| **02** | 210°52.89' | 14.9995° | 55°50.78' | N 19°44.14' | 0.5377' | 347°01.08' | 14.3471° | 279°42.59' | S 26°57.75' | 0.0256' | 60.5799' | 266°43.67' | **02** |
| **03** | 225°52.86' | 14.9995° | 55°53.28' | N 19°44.68' | 0.5371' | 1°21.93' | 14.3476° | 280°24.20' | S 26°57.53' | 0.2292' | 60.5641' | 281°46.14' | **03** |
| **04** | 240°52.83' | 14.9995° | 55°55.77' | N 19°45.21' | 0.5366' | 15°42.81' | 14.3480° | 281°05.79' | S 26°57.09' | 0.4324' | 60.5480' | 296°48.60' | **04** |
| **05** | 255°52.80' | 14.9995° | 55°58.26' | N 19°45.75' | 0.5360' | 30°03.73' | 14.3486° | 281°47.34' | S 26°56.46' | 0.6351' | 60.5314' | 311°51.06' | **05** |
| **06** | 270°52.77' | 14.9995° | 56°00.76' | N 19°46.28' | 0.5354' | 44°24.68' | 14.3491° | 282°28.85' | S 26°55.62' | 0.8373' | 60.5145' | 326°53.53' | **06** |
| **07** | 285°52.74' | 14.9995° | 56°03.25' | N 19°46.82' | 0.5348' | 58°45.66' | 14.3498° | 283°10.33' | S 26°54.58' | 1.0390' | 60.4973' | 341°55.99' | **07** |
| **08** | 300°52.71' | 14.9995° | 56°05.74' | N 19°47.35' | 0.5342' | 73°06.69' | 14.3505° | 283°51.77' | S 26°53.34' | 1.2400' | 60.4796' | 356°58.46' | **08** |
| **09** | 315°52.68' | 14.9995° | 56°08.24' | N 19°47.89' | 0.5336' | 87°27.76' | 14.3512° | 284°33.16' | S 26°51.90' | 1.4404' | 60.4617' | 12°00.92' | **09** |
| **10** | 330°52.65' | 14.9995° | 56°10.73' | N 19°48.42' | 0.5331' | 101°48.88' | 14.3520° | 285°14.51' | S 26°50.26' | 1.6401' | 60.4433' | 27°03.39' | **10** |
| **11** | 345°52.62' | 14.9995° | 56°13.23' | N 19°48.95' | 0.5325' | 116°10.04' | 14.3528° | 285°55.80' | S 26°48.42' | 1.8390' | 60.4246' | 42°05.85' | **11** |
| **12** | 0°52.59' | 14.9995° | 56°15.72' | N 19°49.48' | 0.5319' | 130°31.26' | 14.3536° | 286°37.05' | S 26°46.39' | 2.0371' | 60.4056' | 57°08.31' | **12** |
| **13** | 15°52.56' | 14.9995° | 56°18.22' | N 19°50.01' | 0.5313' | 144°52.54' | 14.3546° | 287°18.24' | S 26°44.15' | 2.2343' | 60.3862' | 72°10.78' | **13** |
| **14** | 30°52.53' | 14.9995° | 56°20.71' | N 19°50.55' | 0.5307' | 159°13.87' | 14.3555° | 287°59.37' | S 26°41.72' | 2.4307' | 60.3665' | 87°13.24' | **14** |
| **15** | 45°52.50' | 14.9995° | 56°23.21' | N 19°51.08' | 0.5301' | 173°35.26' | 14.3565° | 288°40.45' | S 26°39.09' | 2.6261' | 60.3464' | 102°15.71' | **15** |
| **16** | 60°52.47' | 14.9995° | 56°25.70' | N 19°51.61' | 0.5296' | 187°56.71' | 14.3576° | 289°21.46' | S 26°36.27' | 2.8205' | 60.3260' | 117°18.17' | **16** |
| **17** | 75°52.43' | 14.9995° | 56°28.20' | N 19°52.13' | 0.5290' | 202°18.24' | 14.3587° | 290°02.40' | S 26°33.26' | 3.0139' | 60.3053' | 132°20.64' | **17** |
| **18** | 90°52.40' | 14.9995° | 56°30.70' | N 19°52.66' | 0.5284' | 216°39.82' | 14.3598° | 290°43.28' | S 26°30.05' | 3.2062' | 60.2843' | 147°23.10' | **18** |
| **19** | 105°52.37' | 14.9995° | 56°33.19' | N 19°53.19' | 0.5278' | 231°01.48' | 14.3610° | 291°24.08' | S 26°26.66' | 3.3974' | 60.2630' | 162°25.56' | **19** |
| **20** | 120°52.34' | 14.9995° | 56°35.69' | N 19°53.72' | 0.5272' | 245°23.21' | 14.3622° | 292°04.81' | S 26°23.07' | 3.5875' | 60.2413' | 177°28.03' | **20** |
| **21** | 135°52.30' | 14.9995° | 56°38.19' | N 19°54.24' | 0.5266' | 259°45.02' | 14.3635° | 292°45.47' | S 26°19.29' | 3.7763' | 60.2194' | 192°30.49' | **21** |
| **22** | 150°52.27' | 14.9994° | 56°40.68' | N 19°54.77' | 0.5260' | 274°06.91' | 14.3648° | 293°26.05' | S 26°15.33' | 3.9640' | 60.1972' | 207°32.96' | **22** |
| **23** | 165°52.24' | 14.9994° | 56°43.18' | N 19°55.30' | 0.5255' | 288°28.87' | 14.3661° | 294°06.55' | S 26°11.18' | 4.1503' | 60.1746' | 222°35.42' | **23** |
| **24** | 180°52.20' | 14.9994° | 56°45.68' | N 19°55.82' | 0.5249' | 302°50.92' | 14.3675° | 294°46.96' | S 26°06.84' | 4.3354' | 60.1518' | 237°37.88' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 15.8095' | hp (π) 0.1449' | ½Ø 16.4593' | 84.4947046863943 1% -gib | |
| | EoT at 12:00 UTC : +3m 30s (δ -0.12 s/h) | | Phase at 12:00 UTC : 226.33° | | |
| | Meridian Pass. Time : 11:56:29.633 | | Age : 17.6 day(s) | | |

| UT | Venus ♀ (π 0.13') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 218°35.27' | 18°03.48' | N 5°36.04' | 240°04.49' | 356°34.26' | S 3°18.74' | 234°48.56' | 1°50.18' | S 0°25.63' | 268°58.50' | 327°40.24' | S 14°11.61' | **00** |
| **01** | 233°35.02' | 18°06.19' | N 5°37.10' | 255°05.22' | 356°35.98' | S 3°18.01' | 249°50.61' | 1°50.60' | S 0°25.46' | 284°00.89' | 327°40.31' | S 14°11.59' | **01** |
| **02** | 248°34.76' | 18°08.91' | N 5°38.15' | 270°05.96' | 356°37.71' | S 3°17.28' | 264°52.65' | 1°51.02' | S 0°25.28' | 299°03.29' | 327°40.38' | S 14°11.57' | **02** |
| **03** | 263°34.51' | 18°11.62' | N 5°39.21' | 285°06.70' | 356°39.44' | S 3°16.56' | 279°54.69' | 1°51.44' | S 0°25.11' | 314°05.68' | 327°40.45' | S 14°11.56' | **03** |
| **04** | 278°34.26' | 18°14.34' | N 5°40.26' | 300°07.44' | 356°41.16' | S 3°15.83' | 294°56.74' | 1°51.86' | S 0°24.93' | 329°08.08' | 327°40.52' | S 14°11.54' | **04** |
| **05** | 293°34.01' | 18°17.06' | N 5°41.32' | 315°08.17' | 356°42.89' | S 3°15.10' | 309°58.78' | 1°52.29' | S 0°24.76' | 344°10.47' | 327°40.59' | S 14°11.53' | **05** |
| **06** | 308°33.76' | 18°19.77' | N 5°42.38' | 330°08.91' | 356°44.62' | S 3°14.37' | 325°00.82' | 1°52.71' | S 0°24.59' | 359°12.87' | 327°40.66' | S 14°11.51' | **06** |
| **07** | 323°33.50' | 18°22.49' | N 5°43.43' | 345°09.65' | 356°46.34' | S 3°13.65' | 340°02.87' | 1°53.13' | S 0°24.41' | 14°15.27' | 327°40.73' | S 14°11.49' | **07** |
| **08** | 338°33.25' | 18°25.21' | N 5°44.49' | 0°10.39' | 356°48.07' | S 3°12.92' | 355°04.91' | 1°53.55' | S 0°24.24' | 29°17.66' | 327°40.80' | S 14°11.48' | **08** |
| **09** | 353°33.00' | 18°27.92' | N 5°45.54' | 15°11.12' | 356°49.80' | S 3°12.19' | 10°06.95' | 1°53.97' | S 0°24.07' | 44°20.06' | 327°40.86' | S 14°11.46' | **09** |
| **10** | 8°32.74' | 18°30.64' | N 5°46.60' | 30°11.86' | 356°51.52' | S 3°11.46' | 25°09.00' | 1°54.39' | S 0°23.89' | 59°22.45' | 327°40.93' | S 14°11.45' | **10** |
| **11** | 23°32.49' | 18°33.36' | N 5°47.65' | 45°12.60' | 356°53.25' | S 3°10.74' | 40°11.04' | 1°54.81' | S 0°23.72' | 74°24.85' | 327°41.00' | S 14°11.43' | **11** |
| **12** | 38°32.24' | 18°36.08' | N 5°48.71' | 60°13.34' | 356°54.98' | S 3°10.01' | 55°13.09' | 1°55.23' | S 0°23.55' | 89°27.25' | 327°41.07' | S 14°11.42' | **12** |
| **13** | 53°31.98' | 18°38.80' | N 5°49.76' | 75°14.08' | 356°56.70' | S 3°09.28' | 70°15.13' | 1°55.65' | S 0°23.37' | 104°29.64' | 327°41.14' | S 14°11.40' | **13** |
| **14** | 68°31.73' | 18°41.51' | N 5°50.82' | 90°14.81' | 356°58.43' | S 3°08.55' | 85°17.17' | 1°56.07' | S 0°23.20' | 119°32.04' | 327°41.20' | S 14°11.39' | **14** |
| **15** | 83°31.47' | 18°44.23' | N 5°51.87' | 105°15.55' | 357°00.16' | S 3°07.83' | 100°19.22' | 1°56.49' | S 0°23.03' | 134°34.44' | 327°41.27' | S 14°11.37' | **15** |
| **16** | 98°31.22' | 18°46.95' | N 5°52.93' | 120°16.29' | 357°01.88' | S 3°07.10' | 115°21.26' | 1°56.91' | S 0°22.86' | 149°36.83' | 327°41.34' | S 14°11.36' | **16** |
| **17** | 113°30.96' | 18°49.67' | N 5°53.98' | 135°17.03' | 357°03.61' | S 3°06.37' | 130°23.31' | 1°57.33' | S 0°22.68' | 164°39.23' | 327°41.41' | S 14°11.34' | **17** |
| **18** | 128°30.71' | 18°52.39' | N 5°55.04' | 150°17.77' | 357°05.33' | S 3°05.64' | 145°25.35' | 1°57.75' | S 0°22.51' | 179°41.63' | 327°41.47' | S 14°11.33' | **18** |
| **19** | 143°30.45' | 18°55.11' | N 5°56.09' | 165°18.50' | 357°07.06' | S 3°04.91' | 160°27.40' | 1°58.16' | S 0°22.34' | 194°44.02' | 327°41.54' | S 14°11.31' | **19** |
| **20** | 158°30.20' | 18°57.83' | N 5°57.15' | 180°19.24' | 357°08.78' | S 3°04.19' | 175°29.44' | 1°58.58' | S 0°22.16' | 209°46.42' | 327°41.61' | S 14°11.30' | **20** |
| **21** | 173°29.94' | 19°00.55' | N 5°58.20' | 195°19.98' | 357°10.51' | S 3°03.46' | 190°31.49' | 1°59.00' | S 0°21.99' | 224°48.82' | 327°41.67' | S 14°11.28' | **21** |
| **22** | 188°29.68' | 19°03.27' | N 5°59.26' | 210°20.72' | 357°12.24' | S 3°02.73' | 205°33.54' | 1°59.42' | S 0°21.82' | 239°51.22' | 327°41.74' | S 14°11.27' | **22** |
| **23** | 203°29.43' | 19°05.99' | N 6°00.31' | 225°21.46' | 357°13.96' | S 3°02.00' | 220°35.58' | 1°59.84' | S 0°21.65' | 254°53.62' | 327°41.80' | S 14°11.25' | **23** |
| **24** | 218°29.17' | 19°08.72' | N 6°01.36' | 240°22.20' | 357°15.69' | S 3°01.27' | 235°37.63' | 2°00.26' | S 0°21.47' | 269°56.01' | 327°41.87' | S 14°11.24' | **24** |
| | δ 14.9958° | | *d* 1.0561' | δ 15.0123° | | *d* 0.7275' | δ 15.0340° | | *d* 0.1739' | δ 15.0399° | | *d* 0.0160' | |

## *Friday, May 20th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°52.20' | 14.9994° | 56°45.68' | N 19°55.82' | 0.5249' | 302°50.92' | 14.3675° | 294°46.96' | S 26°06.84' | 4.3354' | 60.1518' | 237°37.88' | **00** |
| **01** | 195°52.17' | 14.9994° | 56°48.18' | N 19°56.34' | 0.5243' | 317°13.05' | 14.3689° | 295°27.30' | S 26°02.32' | 4.5191' | 60.1287' | 252°40.35' | **01** |
| **02** | 210°52.14' | 14.9994° | 56°50.68' | N 19°56.87' | 0.5237' | 331°35.27' | 14.3703° | 296°07.54' | S 25°57.62' | 4.7015' | 60.1054' | 267°42.81' | **02** |
| **03** | 225°52.10' | 14.9994° | 56°53.18' | N 19°57.39' | 0.5231' | 345°57.58' | 14.3718° | 296°47.70' | S 25°52.74' | 4.8825' | 60.0817' | 282°45.28' | **03** |
| **04** | 240°52.07' | 14.9994° | 56°55.67' | N 19°57.91' | 0.5225' | 0°19.98' | 14.3733° | 297°27.77' | S 25°47.68' | 5.0620' | 60.0578' | 297°47.74' | **04** |
| **05** | 255°52.03' | 14.9994° | 56°58.17' | N 19°58.44' | 0.5219' | 14°42.47' | 14.3748° | 298°07.74' | S 25°42.44' | 5.2401' | 60.0337' | 312°50.21' | **05** |
| **06** | 270°52.00' | 14.9994° | 57°00.67' | N 19°58.96' | 0.5213' | 29°05.05' | 14.3764° | 298°47.62' | S 25°37.02' | 5.4167' | 60.0093' | 327°52.67' | **06** |
| **07** | 285°51.96' | 14.9994° | 57°03.17' | N 19°59.48' | 0.5207' | 43°27.73' | 14.3780° | 299°27.40' | S 25°31.43' | 5.5918' | 59.9846' | 342°55.13' | **07** |
| **08** | 300°51.93' | 14.9994° | 57°05.67' | N 19°60.00' | 0.5202' | 57°50.51' | 14.3797° | 300°07.09' | S 25°25.66' | 5.7653' | 59.9597' | 357°57.60' | **08** |
| **09** | 315°51.89' | 14.9994° | 57°08.17' | N 20°00.52' | 0.5196' | 72°13.39' | 14.3813° | 300°46.67' | S 25°19.73' | 5.9372' | 59.9346' | 13°00.06' | **09** |
| **10** | 330°51.85' | 14.9994° | 57°10.67' | N 20°01.04' | 0.5190' | 86°36.37' | 14.3830° | 301°26.15' | S 25°13.62' | 6.1076' | 59.9092' | 28°02.53' | **10** |
| **11** | 345°51.82' | 14.9994° | 57°13.17' | N 20°01.56' | 0.5184' | 100°59.46' | 14.3847° | 302°05.53' | S 25°07.34' | 6.2763' | 59.8836' | 43°04.99' | **11** |
| **12** | 0°51.78' | 14.9994° | 57°15.67' | N 20°02.07' | 0.5178' | 115°22.64' | 14.3865° | 302°44.81' | S 25°00.90' | 6.4434' | 59.8578' | 58°07.46' | **12** |
| **13** | 15°51.75' | 14.9994° | 57°18.17' | N 20°02.59' | 0.5172' | 129°45.94' | 14.3882° | 303°23.98' | S 24°54.29' | 6.6089' | 59.8317' | 73°09.92' | **13** |
| **14** | 30°51.71' | 14.9994° | 57°20.68' | N 20°03.11' | 0.5166' | 144°09.34' | 14.3900° | 304°03.04' | S 24°47.52' | 6.7727' | 59.8055' | 88°12.38' | **14** |
| **15** | 45°51.67' | 14.9994° | 57°23.18' | N 20°03.62' | 0.5160' | 158°32.85' | 14.3918° | 304°42.00' | S 24°40.58' | 6.9347' | 59.7790' | 103°14.85' | **15** |
| **16** | 60°51.63' | 14.9994° | 57°25.68' | N 20°04.14' | 0.5154' | 172°56.47' | 14.3937° | 305°20.84' | S 24°33.49' | 7.0951' | 59.7524' | 118°17.31' | **16** |
| **17** | 75°51.60' | 14.9994° | 57°28.18' | N 20°04.65' | 0.5148' | 187°20.20' | 14.3955° | 305°59.58' | S 24°26.23' | 7.2537' | 59.7255' | 133°19.78' | **17** |
| **18** | 90°51.56' | 14.9994° | 57°30.68' | N 20°05.17' | 0.5142' | 201°44.04' | 14.3974° | 306°38.20' | S 24°18.82' | 7.4106' | 59.6985' | 148°22.24' | **18** |
| **19** | 105°51.52' | 14.9994° | 57°33.18' | N 20°05.68' | 0.5136' | 216°08.00' | 14.3993° | 307°16.71' | S 24°11.26' | 7.5657' | 59.6713' | 163°24.70' | **19** |
| **20** | 120°51.48' | 14.9994° | 57°35.69' | N 20°06.19' | 0.5131' | 230°32.07' | 14.4012° | 307°55.10' | S 24°03.54' | 7.7190' | 59.6438' | 178°27.17' | **20** |
| **21** | 135°51.44' | 14.9994° | 57°38.19' | N 20°06.71' | 0.5125' | 244°56.25' | 14.4031° | 308°33.38' | S 23°55.67' | 7.8706' | 59.6163' | 193°29.63' | **21** |
| **22** | 150°51.40' | 14.9994° | 57°40.69' | N 20°07.22' | 0.5119' | 259°20.55' | 14.4050° | 309°11.54' | S 23°47.65' | 8.0203' | 59.5885' | 208°32.10' | **22** |
| **23** | 165°51.36' | 14.9993° | 57°43.20' | N 20°07.73' | 0.5113' | 273°44.97' | 14.4070° | 309°49.59' | S 23°39.48' | 8.1682' | 59.5606' | 223°34.56' | **23** |
| **24** | 180°51.33' | 14.9993° | 57°45.70' | N 20°08.24' | 0.5107' | 288°09.51' | 14.4089° | 310°27.52' | S 23°31.17' | 8.3144' | 59.5325' | 238°37.03' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.8063' | hp (π) 0.1448' | ½Ø 16.3101' | 74.9964204418683<br>2% -gib | |
| EoT at 12:00 UTC : +3m 27s (δ -0.15 s/h) | | Phase at 12:00 UTC : 240.01° | | |
| Meridian Pass. Time : 11:56:32.872 | | Age : 18.7 day(s) | | |

| UT | Venus ♀ (π 0.13') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 218°29.17' | 19°08.72' | N 6°01.36' | 240°22.20' | 357°15.69' | S 3°01.27' | 235°37.63' | 2°00.26' | S 0°21.47' | 269°56.01' | 327°41.87' | S 14°11.24' | **00** |
| **01** | 233°28.91' | 19°11.44' | N 6°02.42' | 255°22.94' | 357°17.41' | S 3°00.55' | 250°39.67' | 2°00.67' | S 0°21.30' | 284°58.41' | 327°41.94' | S 14°11.22' | **01** |
| **02** | 248°28.65' | 19°14.16' | N 6°03.47' | 270°23.68' | 357°19.14' | S 2°59.82' | 265°41.72' | 2°01.09' | S 0°21.13' | 300°00.81' | 327°42.00' | S 14°11.21' | **02** |
| **03** | 263°28.40' | 19°16.88' | N 6°04.52' | 285°24.42' | 357°20.86' | S 2°59.09' | 280°43.77' | 2°01.51' | S 0°20.96' | 315°03.21' | 327°42.07' | S 14°11.19' | **03** |
| **04** | 278°28.14' | 19°19.60' | N 6°05.58' | 300°25.15' | 357°22.59' | S 2°58.36' | 295°45.81' | 2°01.93' | S 0°20.79' | 330°05.61' | 327°42.13' | S 14°11.18' | **04** |
| **05** | 293°27.88' | 19°22.32' | N 6°06.63' | 315°25.89' | 357°24.31' | S 2°57.64' | 310°47.86' | 2°02.34' | S 0°20.61' | 345°08.01' | 327°42.20' | S 14°11.16' | **05** |
| **06** | 308°27.62' | 19°25.05' | N 6°07.69' | 330°26.63' | 357°26.04' | S 2°56.91' | 325°49.91' | 2°02.76' | S 0°20.44' | 0°10.41' | 327°42.26' | S 14°11.15' | **06** |
| **07** | 323°27.36' | 19°27.77' | N 6°08.74' | 345°27.37' | 357°27.76' | S 2°56.18' | 340°51.96' | 2°03.18' | S 0°20.27' | 15°12.81' | 327°42.33' | S 14°11.14' | **07** |
| **08** | 338°27.10' | 19°30.49' | N 6°09.79' | 0°28.11' | 357°29.49' | S 2°55.45' | 355°54.00' | 2°03.60' | S 0°20.10' | 30°15.21' | 327°42.39' | S 14°11.12' | **08** |
| **09** | 353°26.85' | 19°33.22' | N 6°10.85' | 15°28.85' | 357°31.21' | S 2°54.72' | 10°56.05' | 2°04.01' | S 0°19.93' | 45°17.61' | 327°42.46' | S 14°11.11' | **09** |
| **10** | 8°26.59' | 19°35.94' | N 6°11.90' | 30°29.59' | 357°32.94' | S 2°54.00' | 25°58.10' | 2°04.43' | S 0°19.76' | 60°20.01' | 327°42.52' | S 14°11.09' | **10** |
| **11** | 23°26.33' | 19°38.66' | N 6°12.95' | 45°30.33' | 357°34.66' | S 2°53.27' | 41°00.15' | 2°04.84' | S 0°19.58' | 75°22.41' | 327°42.58' | S 14°11.08' | **11** |
| **12** | 38°26.07' | 19°41.39' | N 6°14.00' | 60°31.07' | 357°36.38' | S 2°52.54' | 56°02.19' | 2°05.26' | S 0°19.41' | 90°24.81' | 327°42.65' | S 14°11.06' | **12** |
| **13** | 53°25.81' | 19°44.11' | N 6°15.06' | 75°31.81' | 357°38.11' | S 2°51.81' | 71°04.24' | 2°05.68' | S 0°19.24' | 105°27.21' | 327°42.71' | S 14°11.05' | **13** |
| **14** | 68°25.55' | 19°46.84' | N 6°16.11' | 90°32.55' | 357°39.83' | S 2°51.08' | 86°06.29' | 2°06.09' | S 0°19.07' | 120°29.61' | 327°42.78' | S 14°11.04' | **14** |
| **15** | 83°25.28' | 19°49.56' | N 6°17.16' | 105°33.29' | 357°41.56' | S 2°50.36' | 101°08.34' | 2°06.51' | S 0°18.90' | 135°32.01' | 327°42.84' | S 14°11.02' | **15** |
| **16** | 98°25.02' | 19°52.29' | N 6°18.21' | 120°34.03' | 357°43.28' | S 2°49.63' | 116°10.39' | 2°06.92' | S 0°18.73' | 150°34.41' | 327°42.90' | S 14°11.01' | **16** |
| **17** | 113°24.76' | 19°55.01' | N 6°19.27' | 135°34.77' | 357°45.01' | S 2°48.90' | 131°12.44' | 2°07.34' | S 0°18.56' | 165°36.81' | 327°42.97' | S 14°11.00' | **17** |
| **18** | 128°24.50' | 19°57.74' | N 6°20.32' | 150°35.51' | 357°46.73' | S 2°48.17' | 146°14.49' | 2°07.75' | S 0°18.39' | 180°39.21' | 327°43.03' | S 14°10.98' | **18** |
| **19** | 143°24.24' | 20°00.47' | N 6°21.37' | 165°36.25' | 357°48.45' | S 2°47.44' | 161°16.53' | 2°08.17' | S 0°18.22' | 195°41.61' | 327°43.09' | S 14°10.97' | **19** |
| **20** | 158°23.98' | 20°03.19' | N 6°22.42' | 180°36.99' | 357°50.18' | S 2°46.72' | 176°18.58' | 2°08.58' | S 0°18.05' | 210°44.01' | 327°43.15' | S 14°10.95' | **20** |
| **21** | 173°23.71' | 20°05.92' | N 6°23.47' | 195°37.73' | 357°51.90' | S 2°45.99' | 191°20.63' | 2°09.00' | S 0°17.87' | 225°46.42' | 327°43.22' | S 14°10.94' | **21** |
| **22** | 188°23.45' | 20°08.65' | N 6°24.53' | 210°38.47' | 357°53.62' | S 2°45.26' | 206°22.68' | 2°09.41' | S 0°17.70' | 240°48.82' | 327°43.28' | S 14°10.93' | **22** |
| **23** | 203°23.19' | 20°11.37' | N 6°25.58' | 225°39.21' | 357°55.35' | S 2°44.53' | 221°24.73' | 2°09.83' | S 0°17.53' | 255°51.22' | 327°43.34' | S 14°10.91' | **23** |
| **24** | 218°22.93' | 20°14.10' | N 6°26.63' | 240°39.95' | 357°57.07' | S 2°43.80' | 236°26.78' | 2°10.24' | S 0°17.36' | 270°53.62' | 327°43.40' | S 14°10.90' | **24** |
| | δ 14.9957° | | *d* 1.0540' | δ 15.0123° | | *d* 0.7279' | δ 15.0341° | | *d* 0.1722' | δ 15.0400° | | *d* 0.0147' | |

## *Saturday, May 21st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°51.33' | 14.9993° | 57°45.70' | N 20°08.24' | 0.5107' | 288°09.51' | 14.4089° | 310°27.52' | S 23°31.17' | 8.3144' | 59.5325' | 238°37.03' | **00** |
| **01** | 195°51.29' | 14.9993° | 57°48.20' | N 20°08.75' | 0.5101' | 302°34.16' | 14.4109° | 311°05.33' | S 23°22.71' | 8.4587' | 59.5042' | 253°39.49' | **01** |
| **02** | 210°51.25' | 14.9993° | 57°50.71' | N 20°09.26' | 0.5095' | 316°58.93' | 14.4129° | 311°43.02' | S 23°14.11' | 8.6011' | 59.4759' | 268°41.95' | **02** |
| **03** | 225°51.21' | 14.9993° | 57°53.21' | N 20°09.77' | 0.5089' | 331°23.82' | 14.4149° | 312°20.59' | S 23°05.36' | 8.7418' | 59.4473' | 283°44.42' | **03** |
| **04** | 240°51.17' | 14.9993° | 57°55.72' | N 20°10.28' | 0.5083' | 345°48.83' | 14.4169° | 312°58.05' | S 22°56.48' | 8.8805' | 59.4186' | 298°46.88' | **04** |
| **05** | 255°51.12' | 14.9993° | 57°58.22' | N 20°10.78' | 0.5077' | 0°13.97' | 14.4189° | 313°35.38' | S 22°47.47' | 9.0175' | 59.3898' | 313°49.35' | **05** |
| **06** | 270°51.08' | 14.9993° | 58°00.73' | N 20°11.29' | 0.5071' | 14°39.22' | 14.4209° | 314°12.59' | S 22°38.31' | 9.1525' | 59.3609' | 328°51.81' | **06** |
| **07** | 285°51.04' | 14.9993° | 58°03.23' | N 20°11.80' | 0.5065' | 29°04.59' | 14.4229° | 314°49.68' | S 22°29.03' | 9.2857' | 59.3318' | 343°54.27' | **07** |
| **08** | 300°51.00' | 14.9993° | 58°05.74' | N 20°12.30' | 0.5059' | 43°30.09' | 14.4249° | 315°26.65' | S 22°19.61' | 9.4171' | 59.3026' | 358°56.74' | **08** |
| **09** | 315°50.96' | 14.9993° | 58°08.24' | N 20°12.81' | 0.5053' | 57°55.71' | 14.4269° | 316°03.50' | S 22°10.06' | 9.5466' | 59.2733' | 13°59.20' | **09** |
| **10** | 330°50.92' | 14.9993° | 58°10.75' | N 20°13.31' | 0.5047' | 72°21.44' | 14.4290° | 316°40.22' | S 22°00.39' | 9.6742' | 59.2439' | 29°01.67' | **10** |
| **11** | 345°50.88' | 14.9993° | 58°13.26' | N 20°13.82' | 0.5041' | 86°47.30' | 14.4310° | 317°16.83' | S 21°50.59' | 9.8000' | 59.2144' | 44°04.13' | **11** |
| **12** | 0°50.83' | 14.9993° | 58°15.76' | N 20°14.32' | 0.5035' | 101°13.29' | 14.4330° | 317°53.31' | S 21°40.67' | 9.9239' | 59.1848' | 59°06.60' | **12** |
| **13** | 15°50.79' | 14.9993° | 58°18.27' | N 20°14.82' | 0.5029' | 115°39.39' | 14.4351° | 318°29.67' | S 21°30.62' | 10.0460' | 59.1551' | 74°09.06' | **13** |
| **14** | 30°50.75' | 14.9993° | 58°20.78' | N 20°15.33' | 0.5023' | 130°05.62' | 14.4371° | 319°05.90' | S 21°20.45' | 10.1662' | 59.1252' | 89°11.52' | **14** |
| **15** | 45°50.71' | 14.9993° | 58°23.28' | N 20°15.83' | 0.5017' | 144°31.97' | 14.4391° | 319°42.02' | S 21°10.17' | 10.2846' | 59.0953' | 104°13.99' | **15** |
| **16** | 60°50.66' | 14.9993° | 58°25.79' | N 20°16.33' | 0.5011' | 158°58.44' | 14.4412° | 320°18.01' | S 20°59.77' | 10.4011' | 59.0653' | 119°16.45' | **16** |
| **17** | 75°50.62' | 14.9993° | 58°28.30' | N 20°16.83' | 0.5005' | 173°25.03' | 14.4432° | 320°53.88' | S 20°49.25' | 10.5157' | 59.0353' | 134°18.92' | **17** |
| **18** | 90°50.57' | 14.9993° | 58°30.81' | N 20°17.33' | 0.4999' | 187°51.75' | 14.4452° | 321°29.63' | S 20°38.62' | 10.6285' | 59.0051' | 149°21.38' | **18** |
| **19** | 105°50.53' | 14.9993° | 58°33.31' | N 20°17.83' | 0.4993' | 202°18.58' | 14.4473° | 322°05.26' | S 20°27.88' | 10.7395' | 58.9749' | 164°23.84' | **19** |
| **20** | 120°50.49' | 14.9993° | 58°35.82' | N 20°18.33' | 0.4987' | 216°45.54' | 14.4493° | 322°40.77' | S 20°17.04' | 10.8487' | 58.9446' | 179°26.31' | **20** |
| **21** | 135°50.44' | 14.9993° | 58°38.33' | N 20°18.83' | 0.4981' | 231°12.61' | 14.4513° | 323°16.16' | S 20°06.08' | 10.9560' | 58.9143' | 194°28.77' | **21** |
| **22** | 150°50.40' | 14.9993° | 58°40.84' | N 20°19.32' | 0.4975' | 245°39.81' | 14.4533° | 323°51.43' | S 19°55.02' | 11.0615' | 58.8839' | 209°31.24' | **22** |
| **23** | 165°50.35' | 14.9993° | 58°43.35' | N 20°19.82' | 0.4969' | 260°07.13' | 14.4553° | 324°26.57' | S 19°43.85' | 11.1653' | 58.8534' | 224°33.70' | **23** |
| **24** | 180°50.31' | 14.9992° | 58°45.86' | N 20°20.32' | 0.4963' | 274°34.56' | 14.4573° | 325°01.60' | S 19°32.59' | 11.2672' | 58.8229' | 239°36.17' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8031' | hp (π) 0.1448' | ½Ø 16.1267' | 64.3519028360323 5% -gib |
| | EoT at 12:00 UTC : +3m 23s (δ -0.17 s/h) | | Phase at 12:00 UTC : 253.38° | |
| | Meridian Pass. Time : 11:56:36.665 | | Age : 19.7 day(s) | |

| UT | Venus ♀ (π 0.13') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 218°22.93' | 20°14.10' | N 6°26.63' | 240°39.95' | 357°57.07' | S 2°43.80' | 236°26.78' | 2°10.24' | S 0°17.36' | 270°53.62' | 327°43.40' | S 14°10.90' | **00** |
| **01** | 233°22.66' | 20°16.83' | N 6°27.68' | 255°40.70' | 357°58.79' | S 2°43.07' | 251°28.83' | 2°10.66' | S 0°17.19' | 285°56.02' | 327°43.47' | S 14°10.89' | **01** |
| **02** | 248°22.40' | 20°19.55' | N 6°28.73' | 270°41.44' | 358°00.52' | S 2°42.35' | 266°30.88' | 2°11.07' | S 0°17.02' | 300°58.43' | 327°43.53' | S 14°10.87' | **02** |
| **03** | 263°22.14' | 20°22.28' | N 6°29.78' | 285°42.18' | 358°02.24' | S 2°41.62' | 281°32.93' | 2°11.48' | S 0°16.85' | 316°00.83' | 327°43.59' | S 14°10.86' | **03** |
| **04** | 278°21.87' | 20°25.01' | N 6°30.83' | 300°42.92' | 358°03.96' | S 2°40.89' | 296°34.98' | 2°11.90' | S 0°16.68' | 331°03.23' | 327°43.65' | S 14°10.85' | **04** |
| **05** | 293°21.61' | 20°27.74' | N 6°31.88' | 315°43.66' | 358°05.69' | S 2°40.16' | 311°37.03' | 2°12.31' | S 0°16.51' | 346°05.64' | 327°43.71' | S 14°10.84' | **05** |
| **06** | 308°21.34' | 20°30.47' | N 6°32.94' | 330°44.40' | 358°07.41' | S 2°39.43' | 326°39.09' | 2°12.72' | S 0°16.34' | 1°08.04' | 327°43.77' | S 14°10.82' | **06** |
| **07** | 323°21.08' | 20°33.20' | N 6°33.99' | 345°45.14' | 358°09.13' | S 2°38.71' | 341°41.14' | 2°13.14' | S 0°16.17' | 16°10.44' | 327°43.83' | S 14°10.81' | **07** |
| **08** | 338°20.81' | 20°35.93' | N 6°35.04' | 0°45.88' | 358°10.86' | S 2°37.98' | 356°43.19' | 2°13.55' | S 0°16.00' | 31°12.84' | 327°43.89' | S 14°10.80' | **08** |
| **09** | 353°20.55' | 20°38.66' | N 6°36.09' | 15°46.62' | 358°12.58' | S 2°37.25' | 11°45.24' | 2°13.96' | S 0°15.83' | 46°15.25' | 327°43.95' | S 14°10.78' | **09** |
| **10** | 8°20.28' | 20°41.39' | N 6°37.14' | 30°47.37' | 358°14.30' | S 2°36.52' | 26°47.29' | 2°14.38' | S 0°15.66' | 61°17.65' | 327°44.01' | S 14°10.77' | **10** |
| **11** | 23°20.01' | 20°44.12' | N 6°38.19' | 45°48.11' | 358°16.02' | S 2°35.79' | 41°49.34' | 2°14.79' | S 0°15.49' | 76°20.06' | 327°44.07' | S 14°10.76' | **11** |
| **12** | 38°19.75' | 20°46.85' | N 6°39.24' | 60°48.85' | 358°17.75' | S 2°35.06' | 56°51.39' | 2°15.20' | S 0°15.32' | 91°22.46' | 327°44.13' | S 14°10.75' | **12** |
| **13** | 53°19.48' | 20°49.58' | N 6°40.29' | 75°49.59' | 358°19.47' | S 2°34.34' | 71°53.45' | 2°15.61' | S 0°15.15' | 106°24.86' | 327°44.19' | S 14°10.73' | **13** |
| **14** | 68°19.21' | 20°52.31' | N 6°41.34' | 90°50.33' | 358°21.19' | S 2°33.61' | 86°55.50' | 2°16.03' | S 0°14.98' | 121°27.27' | 327°44.25' | S 14°10.72' | **14** |
| **15** | 83°18.95' | 20°55.04' | N 6°42.39' | 105°51.07' | 358°22.91' | S 2°32.88' | 101°57.55' | 2°16.44' | S 0°14.81' | 136°29.67' | 327°44.31' | S 14°10.71' | **15** |
| **16** | 98°18.68' | 20°57.77' | N 6°43.44' | 120°51.82' | 358°24.64' | S 2°32.15' | 116°59.60' | 2°16.85' | S 0°14.65' | 151°32.08' | 327°44.37' | S 14°10.70' | **16** |
| **17** | 113°18.41' | 21°00.50' | N 6°44.48' | 135°52.56' | 358°26.36' | S 2°31.42' | 132°01.66' | 2°17.26' | S 0°14.48' | 166°34.48' | 327°44.43' | S 14°10.68' | **17** |
| **18** | 128°18.14' | 21°03.24' | N 6°45.53' | 150°53.30' | 358°28.08' | S 2°30.70' | 147°03.71' | 2°17.67' | S 0°14.31' | 181°36.89' | 327°44.49' | S 14°10.67' | **18** |
| **19** | 143°17.88' | 21°05.97' | N 6°46.58' | 165°54.04' | 358°29.80' | S 2°29.97' | 162°05.76' | 2°18.08' | S 0°14.14' | 196°39.29' | 327°44.55' | S 14°10.66' | **19** |
| **20** | 158°17.61' | 21°08.70' | N 6°47.63' | 180°54.78' | 358°31.52' | S 2°29.24' | 177°07.81' | 2°18.49' | S 0°13.97' | 211°41.70' | 327°44.61' | S 14°10.65' | **20** |
| **21** | 173°17.34' | 21°11.43' | N 6°48.68' | 195°55.53' | 358°33.25' | S 2°28.51' | 192°09.87' | 2°18.90' | S 0°13.80' | 226°44.10' | 327°44.67' | S 14°10.63' | **21** |
| **22** | 188°17.07' | 21°14.17' | N 6°49.73' | 210°56.27' | 358°34.97' | S 2°27.78' | 207°11.92' | 2°19.32' | S 0°13.63' | 241°46.51' | 327°44.73' | S 14°10.62' | **22** |
| **23** | 203°16.80' | 21°16.90' | N 6°50.78' | 225°57.01' | 358°36.69' | S 2°27.05' | 222°13.98' | 2°19.73' | S 0°13.46' | 256°48.92' | 327°44.78' | S 14°10.61' | **23** |
| **24** | 218°16.53' | 21°19.63' | N 6°51.83' | 240°57.75' | 358°38.41' | S 2°26.33' | 237°16.03' | 2°20.14' | S 0°13.29' | 271°51.32' | 327°44.84' | S 14°10.60' | **24** |
| | δ 14.9956° | | *d* 1.0513' | δ 15.0123° | | *d* 0.7281' | δ 15.0342° | | *d* 0.1704' | δ 15.0400° | | *d* 0.0133' | |

## *Sunday, May 22nd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°50.31' | 14.9992° | 58°45.86' | N 20°20.32' | 0.4963' | 274°34.56' | 14.4573° | 325°01.60' | S 19°32.59' | 11.2672' | 58.8229' | 239°36.17' | **00** |
| **01** | 195°50.26' | 14.9992° | 58°48.37' | N 20°20.81' | 0.4957' | 289°02.12' | 14.4593° | 325°36.51' | S 19°21.22' | 11.3673' | 58.7924' | 254°38.63' | **01** |
| **02** | 210°50.22' | 14.9992° | 58°50.88' | N 20°21.31' | 0.4951' | 303°29.79' | 14.4612° | 326°11.30' | S 19°09.75' | 11.4656' | 58.7618' | 269°41.09' | **02** |
| **03** | 225°50.17' | 14.9992° | 58°53.39' | N 20°21.80' | 0.4945' | 317°57.59' | 14.4632° | 326°45.97' | S 18°58.19' | 11.5622' | 58.7312' | 284°43.56' | **03** |
| **04** | 240°50.12' | 14.9992° | 58°55.90' | N 20°22.30' | 0.4939' | 332°25.49' | 14.4651° | 327°20.53' | S 18°46.53' | 11.6570' | 58.7005' | 299°46.02' | **04** |
| **05** | 255°50.08' | 14.9992° | 58°58.41' | N 20°22.79' | 0.4933' | 346°53.52' | 14.4671° | 327°54.97' | S 18°34.78' | 11.7500' | 58.6698' | 314°48.49' | **05** |
| **06** | 270°50.03' | 14.9992° | 59°00.92' | N 20°23.28' | 0.4927' | 1°21.66' | 14.4690° | 328°29.29' | S 18°22.94' | 11.8413' | 58.6391' | 329°50.95' | **06** |
| **07** | 285°49.99' | 14.9992° | 59°03.43' | N 20°23.77' | 0.4921' | 15°49.92' | 14.4709° | 329°03.50' | S 18°11.01' | 11.9309' | 58.6083' | 344°53.41' | **07** |
| **08** | 300°49.94' | 14.9992° | 59°05.94' | N 20°24.27' | 0.4915' | 30°18.29' | 14.4729° | 329°37.59' | S 17°58.99' | 12.0187' | 58.5776' | 359°55.88' | **08** |
| **09** | 315°49.89' | 14.9992° | 59°08.45' | N 20°24.76' | 0.4909' | 44°46.77' | 14.4748° | 330°11.57' | S 17°46.89' | 12.1049' | 58.5468' | 14°58.34' | **09** |
| **10** | 330°49.84' | 14.9992° | 59°10.96' | N 20°25.25' | 0.4903' | 59°15.37' | 14.4766° | 330°45.43' | S 17°34.70' | 12.1893' | 58.5160' | 30°00.81' | **10** |
| **11** | 345°49.80' | 14.9992° | 59°13.47' | N 20°25.74' | 0.4897' | 73°44.08' | 14.4785° | 331°19.19' | S 17°22.43' | 12.2720' | 58.4852' | 45°03.27' | **11** |
| **12** | 0°49.75' | 14.9992° | 59°15.99' | N 20°26.23' | 0.4891' | 88°12.90' | 14.4804° | 331°52.83' | S 17°10.07' | 12.3531' | 58.4544' | 60°05.73' | **12** |
| **13** | 15°49.70' | 14.9992° | 59°18.50' | N 20°26.71' | 0.4884' | 102°41.84' | 14.4822° | 332°26.36' | S 16°57.64' | 12.4325' | 58.4236' | 75°08.20' | **13** |
| **14** | 30°49.65' | 14.9992° | 59°21.01' | N 20°27.20' | 0.4878' | 117°10.88' | 14.4840° | 332°59.78' | S 16°45.13' | 12.5102' | 58.3928' | 90°10.66' | **14** |
| **15** | 45°49.60' | 14.9992° | 59°23.52' | N 20°27.69' | 0.4872' | 131°40.03' | 14.4858° | 333°33.10' | S 16°32.54' | 12.5863' | 58.3620' | 105°13.13' | **15** |
| **16** | 60°49.55' | 14.9992° | 59°26.04' | N 20°28.18' | 0.4866' | 146°09.29' | 14.4876° | 334°06.30' | S 16°19.88' | 12.6607' | 58.3312' | 120°15.59' | **16** |
| **17** | 75°49.50' | 14.9992° | 59°28.55' | N 20°28.66' | 0.4860' | 160°38.65' | 14.4894° | 334°39.40' | S 16°07.15' | 12.7336' | 58.3005' | 135°18.06' | **17** |
| **18** | 90°49.46' | 14.9992° | 59°31.06' | N 20°29.15' | 0.4854' | 175°08.13' | 14.4912° | 335°12.39' | S 15°54.35' | 12.8048' | 58.2697' | 150°20.52' | **18** |
| **19** | 105°49.41' | 14.9992° | 59°33.58' | N 20°29.63' | 0.4848' | 189°37.70' | 14.4929° | 335°45.28' | S 15°41.47' | 12.8744' | 58.2390' | 165°22.98' | **19** |
| **20** | 120°49.36' | 14.9992° | 59°36.09' | N 20°30.12' | 0.4842' | 204°07.38' | 14.4947° | 336°18.06' | S 15°28.53' | 12.9425' | 58.2083' | 180°25.45' | **20** |
| **21** | 135°49.31' | 14.9992° | 59°38.61' | N 20°30.60' | 0.4836' | 218°37.17' | 14.4964° | 336°50.75' | S 15°15.52' | 13.0090' | 58.1776' | 195°27.91' | **21** |
| **22** | 150°49.26' | 14.9992° | 59°41.12' | N 20°31.08' | 0.4830' | 233°07.05' | 14.4981° | 337°23.32' | S 15°02.45' | 13.0739' | 58.1469' | 210°30.38' | **22** |
| **23** | 165°49.20' | 14.9992° | 59°43.64' | N 20°31.57' | 0.4824' | 247°37.04' | 14.4998° | 337°55.80' | S 14°49.31' | 13.1373' | 58.1163' | 225°32.84' | **23** |
| **24** | 180°49.15' | 14.9992° | 59°46.15' | N 20°32.05' | 0.4818' | 262°07.12' | 14.5014° | 338°28.18' | S 14°36.11' | 13.1992' | 58.0857' | 240°35.30' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.7999' | hp (π) 0.1448' | ½Ø 15.9277' | 53.2350979207902 9% -gib | |
| EoT at 12:00 UTC : +3m 19s (δ -0.19 s/h) | | Phase at 12:00 UTC : 266.42° | | |
| Meridian Pass. Time : 11:56:41.009 | | Age : 20.7 day(s) | | |

| UT | Venus ♀ (π 0.13') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 218°16.53' | 21°19.63' | N 6°51.83' | 240°57.75' | 358°38.41' | S 2°26.33' | 237°16.03' | 2°20.14' | S 0°13.29' | 271°51.32' | 327°44.84' | S 14°10.60' | **00** |
| **01** | 233°16.26' | 21°22.37' | N 6°52.87' | 255°58.50' | 358°40.13' | S 2°25.60' | 252°18.08' | 2°20.55' | S 0°13.12' | 286°53.73' | 327°44.90' | S 14°10.59' | **01** |
| **02** | 248°15.99' | 21°25.10' | N 6°53.92' | 270°59.24' | 358°41.85' | S 2°24.87' | 267°20.14' | 2°20.96' | S 0°12.96' | 301°56.14' | 327°44.96' | S 14°10.57' | **02** |
| **03** | 263°15.72' | 21°27.84' | N 6°54.97' | 285°59.98' | 358°43.58' | S 2°24.14' | 282°22.19' | 2°21.37' | S 0°12.79' | 316°58.54' | 327°45.02' | S 14°10.56' | **03** |
| **04** | 278°15.45' | 21°30.57' | N 6°56.02' | 301°00.73' | 358°45.30' | S 2°23.41' | 297°24.25' | 2°21.78' | S 0°12.62' | 332°00.95' | 327°45.07' | S 14°10.55' | **04** |
| **05** | 293°15.18' | 21°33.31' | N 6°57.07' | 316°01.47' | 358°47.02' | S 2°22.69' | 312°26.30' | 2°22.19' | S 0°12.45' | 347°03.36' | 327°45.13' | S 14°10.54' | **05** |
| **06** | 308°14.91' | 21°36.04' | N 6°58.11' | 331°02.21' | 358°48.74' | S 2°21.96' | 327°28.36' | 2°22.59' | S 0°12.28' | 2°05.76' | 327°45.19' | S 14°10.53' | **06** |
| **07** | 323°14.64' | 21°38.78' | N 6°59.16' | 346°02.95' | 358°50.46' | S 2°21.23' | 342°30.41' | 2°23.00' | S 0°12.11' | 17°08.17' | 327°45.24' | S 14°10.52' | **07** |
| **08** | 338°14.36' | 21°41.51' | N 7°00.21' | 1°03.70' | 358°52.18' | S 2°20.50' | 357°32.47' | 2°23.41' | S 0°11.95' | 32°10.58' | 327°45.30' | S 14°10.50' | **08** |
| **09** | 353°14.09' | 21°44.25' | N 7°01.25' | 16°04.44' | 358°53.90' | S 2°19.77' | 12°34.52' | 2°23.82' | S 0°11.78' | 47°12.98' | 327°45.36' | S 14°10.49' | **09** |
| **10** | 8°13.82' | 21°46.99' | N 7°02.30' | 31°05.18' | 358°55.62' | S 2°19.04' | 27°36.58' | 2°24.23' | S 0°11.61' | 62°15.39' | 327°45.41' | S 14°10.48' | **10** |
| **11** | 23°13.55' | 21°49.72' | N 7°03.35' | 46°05.93' | 358°57.34' | S 2°18.32' | 42°38.63' | 2°24.64' | S 0°11.44' | 77°17.80' | 327°45.47' | S 14°10.47' | **11** |
| **12** | 38°13.28' | 21°52.46' | N 7°04.40' | 61°06.67' | 358°59.06' | S 2°17.59' | 57°40.69' | 2°25.05' | S 0°11.28' | 92°20.21' | 327°45.53' | S 14°10.46' | **12** |
| **13** | 53°13.00' | 21°55.20' | N 7°05.44' | 76°07.41' | 359°00.78' | S 2°16.86' | 72°42.74' | 2°25.46' | S 0°11.11' | 107°22.62' | 327°45.58' | S 14°10.45' | **13** |
| **14** | 68°12.73' | 21°57.93' | N 7°06.49' | 91°08.16' | 359°02.51' | S 2°16.13' | 87°44.80' | 2°25.86' | S 0°10.94' | 122°25.02' | 327°45.64' | S 14°10.44' | **14** |
| **15** | 83°12.45' | 22°00.67' | N 7°07.53' | 106°08.90' | 359°04.23' | S 2°15.40' | 102°46.86' | 2°26.27' | S 0°10.77' | 137°27.43' | 327°45.69' | S 14°10.43' | **15** |
| **16** | 98°12.18' | 22°03.41' | N 7°08.58' | 121°09.65' | 359°05.95' | S 2°14.67' | 117°48.91' | 2°26.68' | S 0°10.60' | 152°29.84' | 327°45.75' | S 14°10.41' | **16** |
| **17** | 113°11.91' | 22°06.15' | N 7°09.63' | 136°10.39' | 359°07.67' | S 2°13.95' | 132°50.97' | 2°27.09' | S 0°10.44' | 167°32.25' | 327°45.80' | S 14°10.40' | **17** |
| **18** | 128°11.63' | 22°08.89' | N 7°10.67' | 151°11.13' | 359°09.39' | S 2°13.22' | 147°53.03' | 2°27.49' | S 0°10.27' | 182°34.66' | 327°45.86' | S 14°10.39' | **18** |
| **19** | 143°11.36' | 22°11.63' | N 7°11.72' | 166°11.88' | 359°11.11' | S 2°12.49' | 162°55.08' | 2°27.90' | S 0°10.10' | 197°37.07' | 327°45.91' | S 14°10.38' | **19** |
| **20** | 158°11.08' | 22°14.37' | N 7°12.76' | 181°12.62' | 359°12.83' | S 2°11.76' | 177°57.14' | 2°28.31' | S 0°09.94' | 212°39.48' | 327°45.97' | S 14°10.37' | **20** |
| **21** | 173°10.81' | 22°17.10' | N 7°13.81' | 196°13.36' | 359°14.55' | S 2°11.03' | 192°59.20' | 2°28.72' | S 0°09.77' | 227°41.89' | 327°46.02' | S 14°10.36' | **21** |
| **22** | 188°10.53' | 22°19.84' | N 7°14.85' | 211°14.11' | 359°16.27' | S 2°10.31' | 208°01.25' | 2°29.12' | S 0°09.60' | 242°44.30' | 327°46.08' | S 14°10.35' | **22** |
| **23** | 203°10.26' | 22°22.58' | N 7°15.90' | 226°14.85' | 359°17.99' | S 2°09.58' | 223°03.31' | 2°29.53' | S 0°09.43' | 257°46.71' | 327°46.13' | S 14°10.34' | **23** |
| **24** | 218°09.98' | 22°25.32' | N 7°16.94' | 241°15.60' | 359°19.71' | S 2°08.85' | 238°05.37' | 2°29.94' | S 0°09.27' | 272°49.12' | 327°46.19' | S 14°10.33' | **24** |
| | δ 14.9955° | | *d* 1.0482' | δ 15.0124° | | *d* 0.7282' | δ 15.0342° | | *d* 0.1686' | δ 15.0401° | | *d* 0.0119' | |

## *Monday, May 23rd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°49.15' | 14.9992° | 59°46.15' | N 20°32.05' | 0.4818' | 262°07.12' | 14.5014° | 338°28.18' | S 14°36.11' | 13.1992' | 58.0857' | 240°35.30' | **00** |
| **01** | 195°49.10' | 14.9991° | 59°48.67' | N 20°32.53' | 0.4811' | 276°37.31' | 14.5031° | 339°00.46' | S 14°22.85' | 13.2595' | 58.0551' | 255°37.77' | **01** |
| **02** | 210°49.05' | 14.9991° | 59°51.18' | N 20°33.01' | 0.4805' | 291°07.59' | 14.5047° | 339°32.64' | S 14°09.53' | 13.3184' | 58.0246' | 270°40.23' | **02** |
| **03** | 225°49.00' | 14.9991° | 59°53.70' | N 20°33.49' | 0.4799' | 305°37.97' | 14.5063° | 340°04.73' | S 13°56.16' | 13.3757' | 57.9941' | 285°42.70' | **03** |
| **04** | 240°48.95' | 14.9991° | 59°56.21' | N 20°33.97' | 0.4793' | 320°08.44' | 14.5079° | 340°36.72' | S 13°42.72' | 13.4316' | 57.9637' | 300°45.16' | **04** |
| **05** | 255°48.90' | 14.9991° | 59°58.73' | N 20°34.45' | 0.4787' | 334°39.01' | 14.5095° | 341°08.61' | S 13°29.24' | 13.4860' | 57.9333' | 315°47.62' | **05** |
| **06** | 270°48.84' | 14.9991° | 60°01.24' | N 20°34.92' | 0.4781' | 349°09.67' | 14.5110° | 341°40.42' | S 13°15.70' | 13.5390' | 57.9029' | 330°50.09' | **06** |
| **07** | 285°48.79' | 14.9991° | 60°03.76' | N 20°35.40' | 0.4775' | 3°40.43' | 14.5126° | 342°12.13' | S 13°02.11' | 13.5905' | 57.8727' | 345°52.55' | **07** |
| **08** | 300°48.74' | 14.9991° | 60°06.28' | N 20°35.88' | 0.4769' | 18°11.27' | 14.5141° | 342°43.75' | S 12°48.47' | 13.6406' | 57.8424' | 0°55.02' | **08** |
| **09** | 315°48.69' | 14.9991° | 60°08.79' | N 20°36.36' | 0.4763' | 32°42.20' | 14.5156° | 343°15.28' | S 12°34.78' | 13.6892' | 57.8123' | 15°57.48' | **09** |
| **10** | 330°48.63' | 14.9991° | 60°11.31' | N 20°36.83' | 0.4756' | 47°13.22' | 14.5170° | 343°46.72' | S 12°21.04' | 13.7365' | 57.7821' | 30°59.94' | **10** |
| **11** | 345°48.58' | 14.9991° | 60°13.83' | N 20°37.31' | 0.4750' | 61°44.33' | 14.5185° | 344°18.08' | S 12°07.26' | 13.7824' | 57.7521' | 46°02.41' | **11** |
| **12** | 0°48.53' | 14.9991° | 60°16.35' | N 20°37.78' | 0.4744' | 76°15.53' | 14.5199° | 344°49.35' | S 11°53.43' | 13.8269' | 57.7221' | 61°04.87' | **12** |
| **13** | 15°48.47' | 14.9991° | 60°18.86' | N 20°38.25' | 0.4738' | 90°46.81' | 14.5213° | 345°20.53' | S 11°39.56' | 13.8701' | 57.6922' | 76°07.34' | **13** |
| **14** | 30°48.42' | 14.9991° | 60°21.38' | N 20°38.73' | 0.4732' | 105°18.17' | 14.5227° | 345°51.63' | S 11°25.65' | 13.9119' | 57.6623' | 91°09.80' | **14** |
| **15** | 45°48.36' | 14.9991° | 60°23.90' | N 20°39.20' | 0.4726' | 119°49.61' | 14.5241° | 346°22.65' | S 11°11.70' | 13.9523' | 57.6325' | 106°12.27' | **15** |
| **16** | 60°48.31' | 14.9991° | 60°26.42' | N 20°39.67' | 0.4720' | 134°21.14' | 14.5254° | 346°53.59' | S 10°57.71' | 13.9914' | 57.6028' | 121°14.73' | **16** |
| **17** | 75°48.26' | 14.9991° | 60°28.94' | N 20°40.14' | 0.4713' | 148°52.75' | 14.5268° | 347°24.45' | S 10°43.68' | 14.0293' | 57.5732' | 136°17.19' | **17** |
| **18** | 90°48.20' | 14.9991° | 60°31.46' | N 20°40.61' | 0.4707' | 163°24.43' | 14.5281° | 347°55.23' | S 10°29.61' | 14.0658' | 57.5436' | 151°19.66' | **18** |
| **19** | 105°48.15' | 14.9991° | 60°33.98' | N 20°41.08' | 0.4701' | 177°56.19' | 14.5294° | 348°25.93' | S 10°15.51' | 14.1010' | 57.5141' | 166°22.12' | **19** |
| **20** | 120°48.09' | 14.9991° | 60°36.50' | N 20°41.55' | 0.4695' | 192°28.03' | 14.5306° | 348°56.56' | S 10°01.38' | 14.1349' | 57.4847' | 181°24.59' | **20** |
| **21** | 135°48.03' | 14.9991° | 60°39.02' | N 20°42.02' | 0.4689' | 206°59.94' | 14.5319° | 349°27.11' | S 9°47.21' | 14.1676' | 57.4554' | 196°27.05' | **21** |
| **22** | 150°47.98' | 14.9991° | 60°41.54' | N 20°42.49' | 0.4683' | 221°31.93' | 14.5331° | 349°57.59' | S 9°33.01' | 14.1990' | 57.4262' | 211°29.51' | **22** |
| **23** | 165°47.92' | 14.9991° | 60°44.06' | N 20°42.96' | 0.4677' | 236°03.99' | 14.5343° | 350°27.99' | S 9°18.78' | 14.2292' | 57.3970' | 226°31.98' | **23** |
| **24** | 180°47.87' | 14.9991° | 60°46.58' | N 20°43.43' | 0.4670' | 250°36.11' | 14.5355° | 350°58.33' | S 9°04.52' | 14.2581' | 57.3680' | 241°34.44' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.7969' | hp (π) 0.1448' | ½Ø 15.7282' | 42.2485542710015 % -cre | |
| EoT at 12:00 UTC : +3m 14s (δ -0.21 s/h) | | Phase at 12:00 UTC : 279.10° | | |
| Meridian Pass. Time : 11:56:45.894 | | Age : 21.7 day(s) | | |

| UT | Venus ♀ (π 0.13') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 218°09.98' | 22°25.32' | N 7°16.94' | 241°15.60' | 359°19.71' | S 2°08.85' | 238°05.37' | 2°29.94' | S 0°09.27' | 272°49.12' | 327°46.19' | S 14°10.33' | **00** |
| **01** | 233°09.70' | 22°28.07' | N 7°17.99' | 256°16.34' | 359°21.43' | S 2°08.12' | 253°07.43' | 2°30.34' | S 0°09.10' | 287°51.53' | 327°46.24' | S 14°10.32' | **01** |
| **02** | 248°09.43' | 22°30.81' | N 7°19.03' | 271°17.09' | 359°23.15' | S 2°07.39' | 268°09.48' | 2°30.75' | S 0°08.93' | 302°53.94' | 327°46.29' | S 14°10.31' | **02** |
| **03** | 263°09.15' | 22°33.55' | N 7°20.08' | 286°17.83' | 359°24.87' | S 2°06.66' | 283°11.54' | 2°31.15' | S 0°08.77' | 317°56.35' | 327°46.35' | S 14°10.30' | **03** |
| **04** | 278°08.87' | 22°36.29' | N 7°21.12' | 301°18.58' | 359°26.58' | S 2°05.94' | 298°13.60' | 2°31.56' | S 0°08.60' | 332°58.76' | 327°46.40' | S 14°10.29' | **04** |
| **05** | 293°08.59' | 22°39.03' | N 7°22.16' | 316°19.32' | 359°28.30' | S 2°05.21' | 313°15.66' | 2°31.96' | S 0°08.44' | 348°01.17' | 327°46.45' | S 14°10.28' | **05** |
| **06** | 308°08.32' | 22°41.77' | N 7°23.21' | 331°20.07' | 359°30.02' | S 2°04.48' | 328°17.72' | 2°32.37' | S 0°08.27' | 3°03.58' | 327°46.51' | S 14°10.27' | **06** |
| **07** | 323°08.04' | 22°44.52' | N 7°24.25' | 346°20.81' | 359°31.74' | S 2°03.75' | 343°19.78' | 2°32.78' | S 0°08.10' | 18°05.99' | 327°46.56' | S 14°10.26' | **07** |
| **08** | 338°07.76' | 22°47.26' | N 7°25.30' | 1°21.56' | 359°33.46' | S 2°03.02' | 358°21.84' | 2°33.18' | S 0°07.94' | 33°08.40' | 327°46.61' | S 14°10.25' | **08** |
| **09** | 353°07.48' | 22°50.00' | N 7°26.34' | 16°22.30' | 359°35.18' | S 2°02.30' | 13°23.90' | 2°33.59' | S 0°07.77' | 48°10.81' | 327°46.67' | S 14°10.24' | **09** |
| **10** | 8°07.20' | 22°52.74' | N 7°27.38' | 31°23.05' | 359°36.90' | S 2°01.57' | 28°25.96' | 2°33.99' | S 0°07.60' | 63°13.23' | 327°46.72' | S 14°10.23' | **10** |
| **11** | 23°06.92' | 22°55.49' | N 7°28.42' | 46°23.79' | 359°38.62' | S 2°00.84' | 43°28.01' | 2°34.39' | S 0°07.44' | 78°15.64' | 327°46.77' | S 14°10.22' | **11** |
| **12** | 38°06.64' | 22°58.23' | N 7°29.47' | 61°24.54' | 359°40.34' | S 2°00.11' | 58°30.07' | 2°34.80' | S 0°07.27' | 93°18.05' | 327°46.82' | S 14°10.21' | **12** |
| **13** | 53°06.36' | 23°00.98' | N 7°30.51' | 76°25.28' | 359°42.06' | S 1°59.38' | 73°32.13' | 2°35.20' | S 0°07.11' | 108°20.46' | 327°46.87' | S 14°10.20' | **13** |
| **14** | 68°06.08' | 23°03.72' | N 7°31.55' | 91°26.03' | 359°43.77' | S 1°58.65' | 88°34.19' | 2°35.61' | S 0°06.94' | 123°22.87' | 327°46.93' | S 14°10.19' | **14** |
| **15** | 83°05.80' | 23°06.46' | N 7°32.59' | 106°26.77' | 359°45.49' | S 1°57.93' | 103°36.25' | 2°36.01' | S 0°06.77' | 138°25.29' | 327°46.98' | S 14°10.18' | **15** |
| **16** | 98°05.52' | 23°09.21' | N 7°33.64' | 121°27.52' | 359°47.21' | S 1°57.20' | 118°38.31' | 2°36.41' | S 0°06.61' | 153°27.70' | 327°47.03' | S 14°10.17' | **16** |
| **17** | 113°05.24' | 23°11.95' | N 7°34.68' | 136°28.26' | 359°48.93' | S 1°56.47' | 133°40.38' | 2°36.82' | S 0°06.44' | 168°30.11' | 327°47.08' | S 14°10.16' | **17** |
| **18** | 128°04.96' | 23°14.70' | N 7°35.72' | 151°29.01' | 359°50.65' | S 1°55.74' | 148°42.44' | 2°37.22' | S 0°06.28' | 183°32.53' | 327°47.13' | S 14°10.15' | **18** |
| **19** | 143°04.68' | 23°17.45' | N 7°36.76' | 166°29.75' | 359°52.37' | S 1°55.01' | 163°44.50' | 2°37.62' | S 0°06.11' | 198°34.94' | 327°47.18' | S 14°10.14' | **19** |
| **20** | 158°04.39' | 23°20.19' | N 7°37.80' | 181°30.50' | 359°54.09' | S 1°54.29' | 178°46.56' | 2°38.03' | S 0°05.95' | 213°37.35' | 327°47.23' | S 14°10.13' | **20** |
| **21** | 173°04.11' | 23°22.94' | N 7°38.85' | 196°31.25' | 359°55.80' | S 1°53.56' | 193°48.62' | 2°38.43' | S 0°05.78' | 228°39.77' | 327°47.28' | S 14°10.12' | **21** |
| **22** | 188°03.83' | 23°25.68' | N 7°39.89' | 211°31.99' | 359°57.52' | S 1°52.83' | 208°50.68' | 2°38.83' | S 0°05.62' | 243°42.18' | 327°47.33' | S 14°10.11' | **22** |
| **23** | 203°03.55' | 23°28.43' | N 7°40.93' | 226°32.74' | 359°59.24' | S 1°52.10' | 223°52.74' | 2°39.24' | S 0°05.45' | 258°44.59' | 327°47.39' | S 14°10.10' | **23** |
| **24** | 218°03.26' | 23°31.18' | N 7°41.97' | 241°33.48' | 0°00.96' | S 1°51.37' | 238°54.80' | 2°39.64' | S 0°05.29' | 273°47.01' | 327°47.44' | S 14°10.09' | **24** |
| | δ 14.9954° | | *d* 1.0446' | δ 15.0124° | | *d* 0.7282' | δ 15.0343° | | *d* 0.1668' | δ 15.0402° | | *d* 0.0105' | |

## *Tuesday, May 24th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°47.87' | 14.9991° | 60°46.58' | N 20°43.43' | 0.4670' | 250°36.11' | 14.5355° | 350°58.33' | S 9°04.52' | 14.2581' | 57.3680' | 241°34.44' | **00** |
| **01** | 195°47.81' | 14.9991° | 60°49.10' | N 20°43.89' | 0.4664' | 265°08.31' | 14.5366° | 351°28.59' | S 8°50.24' | 14.2858' | 57.3390' | 256°36.91' | **01** |
| **02** | 210°47.75' | 14.9991° | 60°51.62' | N 20°44.36' | 0.4658' | 279°40.58' | 14.5378° | 351°58.79' | S 8°35.92' | 14.3123' | 57.3101' | 271°39.37' | **02** |
| **03** | 225°47.70' | 14.9990° | 60°54.14' | N 20°44.82' | 0.4652' | 294°12.91' | 14.5389° | 352°28.92' | S 8°21.59' | 14.3376' | 57.2813' | 286°41.83' | **03** |
| **04** | 240°47.64' | 14.9990° | 60°56.66' | N 20°45.29' | 0.4646' | 308°45.31' | 14.5400° | 352°58.98' | S 8°07.22' | 14.3617' | 57.2526' | 301°44.30' | **04** |
| **05** | 255°47.58' | 14.9990° | 60°59.18' | N 20°45.75' | 0.4639' | 323°17.78' | 14.5411° | 353°28.98' | S 7°52.84' | 14.3846' | 57.2241' | 316°46.76' | **05** |
| **06** | 270°47.52' | 14.9990° | 61°01.70' | N 20°46.21' | 0.4633' | 337°50.31' | 14.5421° | 353°58.92' | S 7°38.43' | 14.4064' | 57.1956' | 331°49.23' | **06** |
| **07** | 285°47.47' | 14.9990° | 61°04.23' | N 20°46.68' | 0.4627' | 352°22.90' | 14.5432° | 354°28.79' | S 7°24.01' | 14.4270' | 57.1671' | 346°51.69' | **07** |
| **08** | 300°47.41' | 14.9990° | 61°06.75' | N 20°47.14' | 0.4621' | 6°55.55' | 14.5442° | 354°58.61' | S 7°09.56' | 14.4464' | 57.1388' | 1°54.15' | **08** |
| **09** | 315°47.35' | 14.9990° | 61°09.27' | N 20°47.60' | 0.4615' | 21°28.26' | 14.5452° | 355°28.36' | S 6°55.10' | 14.4647' | 57.1106' | 16°56.62' | **09** |
| **10** | 330°47.29' | 14.9990° | 61°11.79' | N 20°48.06' | 0.4609' | 36°01.03' | 14.5461° | 355°58.06' | S 6°40.61' | 14.4819' | 57.0825' | 31°59.08' | **10** |
| **11** | 345°47.23' | 14.9990° | 61°14.32' | N 20°48.52' | 0.4602' | 50°33.85' | 14.5471° | 356°27.70' | S 6°26.12' | 14.4979' | 57.0545' | 47°01.55' | **11** |
| **12** | 0°47.17' | 14.9990° | 61°16.84' | N 20°48.98' | 0.4596' | 65°06.73' | 14.5480° | 356°57.28' | S 6°11.60' | 14.5129' | 57.0267' | 62°04.01' | **12** |
| **13** | 15°47.11' | 14.9990° | 61°19.36' | N 20°49.44' | 0.4590' | 79°39.67' | 14.5489° | 357°26.81' | S 5°57.08' | 14.5267' | 56.9989' | 77°06.47' | **13** |
| **14** | 30°47.05' | 14.9990° | 61°21.89' | N 20°49.90' | 0.4584' | 94°12.66' | 14.5498° | 357°56.28' | S 5°42.54' | 14.5394' | 56.9712' | 92°08.94' | **14** |
| **15** | 45°46.99' | 14.9990° | 61°24.41' | N 20°50.36' | 0.4577' | 108°45.70' | 14.5507° | 358°25.71' | S 5°27.99' | 14.5510' | 56.9436' | 107°11.40' | **15** |
| **16** | 60°46.93' | 14.9990° | 61°26.93' | N 20°50.81' | 0.4571' | 123°18.79' | 14.5515° | 358°55.08' | S 5°13.42' | 14.5616' | 56.9162' | 122°13.87' | **16** |
| **17** | 75°46.87' | 14.9990° | 61°29.46' | N 20°51.27' | 0.4565' | 137°51.93' | 14.5523° | 359°24.40' | S 4°58.85' | 14.5711' | 56.8888' | 137°16.33' | **17** |
| **18** | 90°46.81' | 14.9990° | 61°31.98' | N 20°51.73' | 0.4559' | 152°25.12' | 14.5531° | 359°53.68' | S 4°44.27' | 14.5795' | 56.8616' | 152°18.80' | **18** |
| **19** | 105°46.75' | 14.9990° | 61°34.51' | N 20°52.18' | 0.4553' | 166°58.35' | 14.5539° | 0°22.91' | S 4°29.69' | 14.5869' | 56.8344' | 167°21.26' | **19** |
| **20** | 120°46.69' | 14.9990° | 61°37.03' | N 20°52.64' | 0.4546' | 181°31.63' | 14.5547° | 0°52.09' | S 4°15.09' | 14.5932' | 56.8074' | 182°23.72' | **20** |
| **21** | 135°46.63' | 14.9990° | 61°39.56' | N 20°53.09' | 0.4540' | 196°04.96' | 14.5554° | 1°21.23' | S 4°00.49' | 14.5985' | 56.7805' | 197°26.19' | **21** |
| **22** | 150°46.57' | 14.9990° | 61°42.08' | N 20°53.54' | 0.4534' | 210°38.33' | 14.5561° | 1°50.33' | S 3°45.89' | 14.6028' | 56.7537' | 212°28.65' | **22** |
| **23** | 165°46.51' | 14.9990° | 61°44.61' | N 20°54.00' | 0.4528' | 225°11.74' | 14.5568° | 2°19.38' | S 3°31.29' | 14.6060' | 56.7271' | 227°31.12' | **23** |
| **24** | 180°46.45' | 14.9990° | 61°47.13' | N 20°54.45' | 0.4521' | 239°45.19' | 14.5575° | 2°48.39' | S 3°16.68' | 14.6083' | 56.7005' | 242°33.58' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7938' | hp (π) 0.1447' | ½Ø 15.5387' | 31.8969021974893<br>86% -cre |
| | EoT at 12:00 UTC : +3m 8s (δ -0.24 s/h) | | Phase at 12:00 UTC : 291.43° | |
| | Meridian Pass. Time : 11:56:51.312 | | Age : 22.7 day(s) | |

| UT | Venus ♀ (π 0.13') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 218°03.26' | 23°31.18' | N 7°41.97' | 241°33.48' | 0°00.96' | S 1°51.37' | 238°54.80' | 2°39.64' | S 0°05.29' | 273°47.01' | 327°47.44' | S 14°10.09' | **00** |
| **01** | 233°02.98' | 23°33.93' | N 7°43.01' | 256°34.23' | 0°02.68' | S 1°50.65' | 253°56.87' | 2°40.04' | S 0°05.12' | 288°49.42' | 327°47.49' | S 14°10.08' | **01** |
| **02** | 248°02.70' | 23°36.67' | N 7°44.05' | 271°34.98' | 0°04.39' | S 1°49.92' | 268°58.93' | 2°40.44' | S 0°04.96' | 303°51.84' | 327°47.54' | S 14°10.07' | **02** |
| **03** | 263°02.41' | 23°39.42' | N 7°45.09' | 286°35.72' | 0°06.11' | S 1°49.19' | 284°00.99' | 2°40.84' | S 0°04.79' | 318°54.25' | 327°47.58' | S 14°10.06' | **03** |
| **04** | 278°02.13' | 23°42.17' | N 7°46.13' | 301°36.47' | 0°07.83' | S 1°48.46' | 299°03.05' | 2°41.25' | S 0°04.63' | 333°56.66' | 327°47.63' | S 14°10.06' | **04** |
| **05** | 293°01.84' | 23°44.92' | N 7°47.17' | 316°37.22' | 0°09.55' | S 1°47.73' | 314°05.11' | 2°41.65' | S 0°04.46' | 348°59.08' | 327°47.68' | S 14°10.05' | **05** |
| **06** | 308°01.56' | 23°47.67' | N 7°48.21' | 331°37.96' | 0°11.26' | S 1°47.01' | 329°07.18' | 2°42.05' | S 0°04.30' | 4°01.49' | 327°47.73' | S 14°10.04' | **06** |
| **07** | 323°01.27' | 23°50.42' | N 7°49.25' | 346°38.71' | 0°12.98' | S 1°46.28' | 344°09.24' | 2°42.45' | S 0°04.13' | 19°03.91' | 327°47.78' | S 14°10.03' | **07** |
| **08** | 338°00.99' | 23°53.17' | N 7°50.29' | 1°39.46' | 0°14.70' | S 1°45.55' | 359°11.30' | 2°42.85' | S 0°03.97' | 34°06.32' | 327°47.83' | S 14°10.02' | **08** |
| **09** | 353°00.70' | 23°55.92' | N 7°51.33' | 16°40.20' | 0°16.42' | S 1°44.82' | 14°13.37' | 2°43.25' | S 0°03.81' | 49°08.74' | 327°47.88' | S 14°10.01' | **09** |
| **10** | 8°00.42' | 23°58.67' | N 7°52.37' | 31°40.95' | 0°18.13' | S 1°44.09' | 29°15.43' | 2°43.65' | S 0°03.64' | 64°11.16' | 327°47.93' | S 14°10.00' | **10** |
| **11** | 23°00.13' | 24°01.42' | N 7°53.40' | 46°41.70' | 0°19.85' | S 1°43.37' | 44°17.49' | 2°44.05' | S 0°03.48' | 79°13.57' | 327°47.98' | S 14°09.99' | **11** |
| **12** | 37°59.84' | 24°04.17' | N 7°54.44' | 61°42.44' | 0°21.57' | S 1°42.64' | 59°19.56' | 2°44.45' | S 0°03.31' | 94°15.99' | 327°48.02' | S 14°09.99' | **12** |
| **13** | 52°59.56' | 24°06.92' | N 7°55.48' | 76°43.19' | 0°23.28' | S 1°41.91' | 74°21.62' | 2°44.85' | S 0°03.15' | 109°18.40' | 327°48.07' | S 14°09.98' | **13** |
| **14** | 67°59.27' | 24°09.67' | N 7°56.52' | 91°43.94' | 0°25.00' | S 1°41.18' | 89°23.69' | 2°45.25' | S 0°02.99' | 124°20.82' | 327°48.12' | S 14°09.97' | **14** |
| **15** | 82°58.98' | 24°12.42' | N 7°57.56' | 106°44.69' | 0°26.72' | S 1°40.45' | 104°25.75' | 2°45.65' | S 0°02.82' | 139°23.24' | 327°48.17' | S 14°09.96' | **15** |
| **16** | 97°58.69' | 24°15.17' | N 7°58.59' | 121°45.43' | 0°28.43' | S 1°39.73' | 119°27.81' | 2°46.05' | S 0°02.66' | 154°25.65' | 327°48.21' | S 14°09.95' | **16** |
| **17** | 112°58.40' | 24°17.93' | N 7°59.63' | 136°46.18' | 0°30.15' | S 1°39.00' | 134°29.88' | 2°46.45' | S 0°02.49' | 169°28.07' | 327°48.26' | S 14°09.94' | **17** |
| **18** | 127°58.12' | 24°20.68' | N 8°00.67' | 151°46.93' | 0°31.87' | S 1°38.27' | 149°31.94' | 2°46.85' | S 0°02.33' | 184°30.49' | 327°48.31' | S 14°09.94' | **18** |
| **19** | 142°57.83' | 24°23.43' | N 8°01.71' | 166°47.67' | 0°33.58' | S 1°37.54' | 164°34.01' | 2°47.25' | S 0°02.17' | 199°32.90' | 327°48.36' | S 14°09.93' | **19** |
| **20** | 157°57.54' | 24°26.19' | N 8°02.74' | 181°48.42' | 0°35.30' | S 1°36.82' | 179°36.07' | 2°47.65' | S 0°02.00' | 214°35.32' | 327°48.40' | S 14°09.92' | **20** |
| **21** | 172°57.25' | 24°28.94' | N 8°03.78' | 196°49.17' | 0°37.02' | S 1°36.09' | 194°38.14' | 2°48.05' | S 0°01.84' | 229°37.74' | 327°48.45' | S 14°09.91' | **21** |
| **22** | 187°56.96' | 24°31.69' | N 8°04.82' | 211°49.92' | 0°38.73' | S 1°35.36' | 209°40.20' | 2°48.45' | S 0°01.68' | 244°40.16' | 327°48.50' | S 14°09.90' | **22** |
| **23** | 202°56.67' | 24°34.45' | N 8°05.85' | 226°50.67' | 0°40.45' | S 1°34.63' | 224°42.27' | 2°48.85' | S 0°01.51' | 259°42.57' | 327°48.54' | S 14°09.90' | **23** |
| **24** | 217°56.38' | 24°37.20' | N 8°06.89' | 241°51.41' | 0°42.17' | S 1°33.90' | 239°44.34' | 2°49.24' | S 0°01.35' | 274°44.99' | 327°48.59' | S 14°09.89' | **24** |
| | δ 14.9953° | | *d* 1.0406' | δ 15.0124° | | *d* 0.7280' | δ 15.0344° | | *d* 0.1649' | δ 15.0402° | | *d* 0.0091' | |

## *Wednesday, May 25th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°46.45' | 14.9990° | 61°47.13' | N 20°54.45' | 0.4521' | 239°45.19' | 14.5575° | 2°48.39' | S 3°16.68' | 14.6083' | 56.7005' | 242°33.58' | **00** |
| **01** | 195°46.38' | 14.9990° | 61°49.66' | N 20°54.90' | 0.4515' | 254°18.68' | 14.5582° | 3°17.37' | S 3°02.07' | 14.6095' | 56.6741' | 257°36.04' | **01** |
| **02** | 210°46.32' | 14.9990° | 61°52.19' | N 20°55.35' | 0.4509' | 268°52.20' | 14.5588° | 3°46.30' | S 2°47.46' | 14.6097' | 56.6478' | 272°38.51' | **02** |
| **03** | 225°46.26' | 14.9990° | 61°54.71' | N 20°55.80' | 0.4503' | 283°25.77' | 14.5594° | 4°15.20' | S 2°32.85' | 14.6089' | 56.6216' | 287°40.97' | **03** |
| **04** | 240°46.20' | 14.9990° | 61°57.24' | N 20°56.25' | 0.4496' | 297°59.37' | 14.5600° | 4°44.07' | S 2°18.24' | 14.6071' | 56.5955' | 302°43.44' | **04** |
| **05** | 255°46.13' | 14.9990° | 61°59.77' | N 20°56.70' | 0.4490' | 312°33.00' | 14.5606° | 5°12.90' | S 2°03.64' | 14.6044' | 56.5695' | 317°45.90' | **05** |
| **06** | 270°46.07' | 14.9989° | 62°02.29' | N 20°57.15' | 0.4484' | 327°06.67' | 14.5611° | 5°41.69' | S 1°49.04' | 14.6006' | 56.5437' | 332°48.36' | **06** |
| **07** | 285°46.01' | 14.9989° | 62°04.82' | N 20°57.60' | 0.4478' | 341°40.37' | 14.5617° | 6°10.46' | S 1°34.44' | 14.5959' | 56.5180' | 347°50.83' | **07** |
| **08** | 300°45.94' | 14.9989° | 62°07.35' | N 20°58.04' | 0.4471' | 356°14.10' | 14.5622° | 6°39.19' | S 1°19.85' | 14.5903' | 56.4924' | 2°53.29' | **08** |
| **09** | 315°45.88' | 14.9989° | 62°09.88' | N 20°58.49' | 0.4465' | 10°47.86' | 14.5627° | 7°07.89' | S 1°05.27' | 14.5836' | 56.4669' | 17°55.76' | **09** |
| **10** | 330°45.82' | 14.9989° | 62°12.40' | N 20°58.94' | 0.4459' | 25°21.65' | 14.5631° | 7°36.57' | S 0°50.69' | 14.5760' | 56.4416' | 32°58.22' | **10** |
| **11** | 345°45.75' | 14.9989° | 62°14.93' | N 20°59.38' | 0.4453' | 39°55.47' | 14.5636° | 8°05.22' | S 0°36.12' | 14.5675' | 56.4163' | 48°00.68' | **11** |
| **12** | 0°45.69' | 14.9989° | 62°17.46' | N 20°59.83' | 0.4446' | 54°29.31' | 14.5640° | 8°33.84' | S 0°21.57' | 14.5580' | 56.3912' | 63°03.15' | **12** |
| **13** | 15°45.62' | 14.9989° | 62°19.99' | N 21°00.27' | 0.4440' | 69°03.17' | 14.5644° | 9°02.44' | S 0°07.02' | 14.5476' | 56.3662' | 78°05.61' | **13** |
| **14** | 30°45.56' | 14.9989° | 62°22.52' | N 21°00.71' | 0.4434' | 83°37.06' | 14.5648° | 9°31.01' | N 0°07.52' | 14.5363' | 56.3414' | 93°08.08' | **14** |
| **15** | 45°45.49' | 14.9989° | 62°25.05' | N 21°01.16' | 0.4428' | 98°10.98' | 14.5652° | 9°59.56' | N 0°22.04' | 14.5240' | 56.3167' | 108°10.54' | **15** |
| **16** | 60°45.43' | 14.9989° | 62°27.58' | N 21°01.60' | 0.4421' | 112°44.91' | 14.5656° | 10°28.09' | N 0°36.55' | 14.5108' | 56.2921' | 123°13.00' | **16** |
| **17** | 75°45.36' | 14.9989° | 62°30.11' | N 21°02.04' | 0.4415' | 127°18.86' | 14.5659° | 10°56.60' | N 0°51.05' | 14.4967' | 56.2676' | 138°15.47' | **17** |
| **18** | 90°45.30' | 14.9989° | 62°32.64' | N 21°02.48' | 0.4409' | 141°52.84' | 14.5662° | 11°25.10' | N 1°05.53' | 14.4816' | 56.2432' | 153°17.93' | **18** |
| **19** | 105°45.23' | 14.9989° | 62°35.17' | N 21°02.92' | 0.4402' | 156°26.83' | 14.5665° | 11°53.57' | N 1°20.00' | 14.4657' | 56.2190' | 168°20.40' | **19** |
| **20** | 120°45.16' | 14.9989° | 62°37.70' | N 21°03.36' | 0.4396' | 171°00.83' | 14.5668° | 12°22.03' | N 1°34.45' | 14.4488' | 56.1949' | 183°22.86' | **20** |
| **21** | 135°45.10' | 14.9989° | 62°40.23' | N 21°03.80' | 0.4390' | 185°34.86' | 14.5670° | 12°50.47' | N 1°48.88' | 14.4310' | 56.1709' | 198°25.33' | **21** |
| **22** | 150°45.03' | 14.9989° | 62°42.76' | N 21°04.24' | 0.4384' | 200°08.89' | 14.5673° | 13°18.89' | N 2°03.29' | 14.4124' | 56.1471' | 213°27.79' | **22** |
| **23** | 165°44.96' | 14.9989° | 62°45.29' | N 21°04.68' | 0.4377' | 214°42.94' | 14.5675° | 13°47.31' | N 2°17.68' | 14.3928' | 56.1233' | 228°30.25' | **23** |
| **24** | 180°44.90' | 14.9989° | 62°47.82' | N 21°05.11' | 0.4371' | 229°17.01' | 14.5677° | 14°15.71' | N 2°32.05' | 14.3724' | 56.0997' | 243°32.72' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7909' | hp (π) 0.1447' | ½Ø 15.3656' | 22.5852069633210<br>42% -cre |
| | EoT at 12:00 UTC : +3m 2s (δ -0.26 s/h) | | Phase at 12:00 UTC : 303.45° | |
| | Meridian Pass. Time : 11:56:57.249 | | Age : 23.6 day(s) | |

| UT | Venus ♀ (π 0.13') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 217°56.38' | 24°37.20' | N 8°06.89' | 241°51.41' | 0°42.17' | S 1°33.90' | 239°44.34' | 2°49.24' | S 0°01.35' | 274°44.99' | 327°48.59' | S 14°09.89' | **00** |
| **01** | 232°56.09' | 24°39.96' | N 8°07.93' | 256°52.16' | 0°43.88' | S 1°33.18' | 254°46.40' | 2°49.64' | S 0°01.19' | 289°47.41' | 327°48.63' | S 14°09.88' | **01** |
| **02** | 247°55.80' | 24°42.71' | N 8°08.96' | 271°52.91' | 0°45.60' | S 1°32.45' | 269°48.47' | 2°50.04' | S 0°01.03' | 304°49.83' | 327°48.68' | S 14°09.87' | **02** |
| **03** | 262°55.51' | 24°45.47' | N 8°10.00' | 286°53.66' | 0°47.31' | S 1°31.72' | 284°50.53' | 2°50.44' | S 0°00.86' | 319°52.25' | 327°48.73' | S 14°09.86' | **03** |
| **04** | 277°55.21' | 24°48.22' | N 8°11.03' | 301°54.41' | 0°49.03' | S 1°30.99' | 299°52.60' | 2°50.84' | S 0°00.70' | 334°54.66' | 327°48.77' | S 14°09.86' | **04** |
| **05** | 292°54.92' | 24°50.98' | N 8°12.07' | 316°55.15' | 0°50.75' | S 1°30.27' | 314°54.67' | 2°51.23' | S 0°00.54' | 349°57.08' | 327°48.82' | S 14°09.85' | **05** |
| **06** | 307°54.63' | 24°53.73' | N 8°13.10' | 331°55.90' | 0°52.46' | S 1°29.54' | 329°56.73' | 2°51.63' | S 0°00.37' | 4°59.50' | 327°48.86' | S 14°09.84' | **06** |
| **07** | 322°54.34' | 24°56.49' | N 8°14.14' | 346°56.65' | 0°54.18' | S 1°28.81' | 344°58.80' | 2°52.03' | S 0°00.21' | 20°01.92' | 327°48.91' | S 14°09.83' | **07** |
| **08** | 337°54.04' | 24°59.25' | N 8°15.17' | 1°57.40' | 0°55.89' | S 1°28.08' | 0°00.87' | 2°52.42' | S 0°00.05' | 35°04.34' | 327°48.95' | S 14°09.83' | **08** |
| **09** | 352°53.75' | 25°02.00' | N 8°16.21' | 16°58.15' | 0°57.61' | S 1°27.36' | 15°02.94' | 2°52.82' | N 0°00.11' | 50°06.76' | 327°49.00' | S 14°09.82' | **09** |
| **10** | 7°53.46' | 25°04.76' | N 8°17.24' | 31°58.90' | 0°59.32' | S 1°26.63' | 30°05.00' | 2°53.22' | N 0°00.28' | 65°09.18' | 327°49.04' | S 14°09.81' | **10** |
| **11** | 22°53.16' | 25°07.52' | N 8°18.28' | 46°59.65' | 1°01.04' | S 1°25.90' | 45°07.07' | 2°53.61' | N 0°00.44' | 80°11.60' | 327°49.09' | S 14°09.81' | **11** |
| **12** | 37°52.87' | 25°10.28' | N 8°19.31' | 62°00.39' | 1°02.75' | S 1°25.17' | 60°09.14' | 2°54.01' | N 0°00.60' | 95°14.02' | 327°49.13' | S 14°09.80' | **12** |
| **13** | 52°52.58' | 25°13.04' | N 8°20.34' | 77°01.14' | 1°04.47' | S 1°24.44' | 75°11.21' | 2°54.41' | N 0°00.76' | 110°16.44' | 327°49.17' | S 14°09.79' | **13** |
| **14** | 67°52.28' | 25°15.79' | N 8°21.38' | 92°01.89' | 1°06.18' | S 1°23.72' | 90°13.27' | 2°54.80' | N 0°00.92' | 125°18.86' | 327°49.22' | S 14°09.78' | **14** |
| **15** | 82°51.99' | 25°18.55' | N 8°22.41' | 107°02.64' | 1°07.90' | S 1°22.99' | 105°15.34' | 2°55.20' | N 0°01.09' | 140°21.28' | 327°49.26' | S 14°09.78' | **15** |
| **16** | 97°51.69' | 25°21.31' | N 8°23.44' | 122°03.39' | 1°09.61' | S 1°22.26' | 120°17.41' | 2°55.59' | N 0°01.25' | 155°23.70' | 327°49.31' | S 14°09.77' | **16** |
| **17** | 112°51.40' | 25°24.07' | N 8°24.47' | 137°04.14' | 1°11.33' | S 1°21.53' | 135°19.48' | 2°55.99' | N 0°01.41' | 170°26.12' | 327°49.35' | S 14°09.76' | **17** |
| **18** | 127°51.10' | 25°26.83' | N 8°25.51' | 152°04.89' | 1°13.04' | S 1°20.81' | 150°21.55' | 2°56.38' | N 0°01.57' | 185°28.54' | 327°49.39' | S 14°09.76' | **18** |
| **19** | 142°50.80' | 25°29.59' | N 8°26.54' | 167°05.64' | 1°14.76' | S 1°20.08' | 165°23.62' | 2°56.78' | N 0°01.73' | 200°30.96' | 327°49.43' | S 14°09.75' | **19** |
| **20** | 157°50.51' | 25°32.35' | N 8°27.57' | 182°06.39' | 1°16.47' | S 1°19.35' | 180°25.69' | 2°57.17' | N 0°01.89' | 215°33.38' | 327°49.48' | S 14°09.74' | **20** |
| **21** | 172°50.21' | 25°35.11' | N 8°28.60' | 197°07.14' | 1°18.19' | S 1°18.63' | 195°27.76' | 2°57.57' | N 0°02.06' | 230°35.80' | 327°49.52' | S 14°09.74' | **21** |
| **22** | 187°49.91' | 25°37.88' | N 8°29.63' | 212°07.89' | 1°19.90' | S 1°17.90' | 210°29.83' | 2°57.96' | N 0°02.22' | 245°38.23' | 327°49.56' | S 14°09.73' | **22** |
| **23** | 202°49.62' | 25°40.64' | N 8°30.67' | 227°08.64' | 1°21.62' | S 1°17.17' | 225°31.90' | 2°58.36' | N 0°02.38' | 260°40.65' | 327°49.61' | S 14°09.72' | **23** |
| **24** | 217°49.32' | 25°43.40' | N 8°31.70' | 242°09.39' | 1°23.33' | S 1°16.44' | 240°33.97' | 2°58.75' | N 0°02.54' | 275°43.07' | 327°49.65' | S 14°09.72' | **24** |
| | δ 14.9952° | | *d* 1.0360' | δ 15.0125° | | *d* 0.7277' | δ 15.0344° | | *d* 0.1630' | δ 15.0403° | | *d* 0.0078' | |

## *Thursday, May 26th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°44.90' | 14.9989° | 62°47.82' | N 21°05.11' | 0.4371' | 229°17.01' | 14.5677° | 14°15.71' | N 2°32.05' | 14.3724' | 56.0997' | 243°32.72' | **00** |
| **01** | 195°44.83' | 14.9989° | 62°50.35' | N 21°05.55' | 0.4365' | 243°51.08' | 14.5679° | 14°44.10' | N 2°46.41' | 14.3510' | 56.0763' | 258°35.18' | **01** |
| **02** | 210°44.76' | 14.9989° | 62°52.88' | N 21°05.98' | 0.4358' | 258°25.16' | 14.5681° | 15°12.48' | N 3°00.73' | 14.3288' | 56.0529' | 273°37.65' | **02** |
| **03** | 225°44.70' | 14.9989° | 62°55.41' | N 21°06.42' | 0.4352' | 272°59.26' | 14.5682° | 15°40.85' | N 3°15.04' | 14.3057' | 56.0297' | 288°40.11' | **03** |
| **04** | 240°44.63' | 14.9989° | 62°57.95' | N 21°06.85' | 0.4346' | 287°33.36' | 14.5683° | 16°09.22' | N 3°29.32' | 14.2817' | 56.0066' | 303°42.57' | **04** |
| **05** | 255°44.56' | 14.9989° | 63°00.48' | N 21°07.29' | 0.4339' | 302°07.46' | 14.5684° | 16°37.58' | N 3°43.58' | 14.2568' | 55.9837' | 318°45.04' | **05** |
| **06** | 270°44.49' | 14.9989° | 63°03.01' | N 21°07.72' | 0.4333' | 316°41.57' | 14.5685° | 17°05.93' | N 3°57.81' | 14.2311' | 55.9609' | 333°47.50' | **06** |
| **07** | 285°44.42' | 14.9989° | 63°05.54' | N 21°08.15' | 0.4327' | 331°15.69' | 14.5686° | 17°34.28' | N 4°12.01' | 14.2045' | 55.9382' | 348°49.97' | **07** |
| **08** | 300°44.35' | 14.9989° | 63°08.08' | N 21°08.59' | 0.4320' | 345°49.81' | 14.5687° | 18°02.62' | N 4°26.19' | 14.1770' | 55.9156' | 3°52.43' | **08** |
| **09** | 315°44.28' | 14.9989° | 63°10.61' | N 21°09.02' | 0.4314' | 0°23.93' | 14.5687° | 18°30.96' | N 4°40.34' | 14.1486' | 55.8932' | 18°54.89' | **09** |
| **10** | 330°44.22' | 14.9988° | 63°13.14' | N 21°09.45' | 0.4308' | 14°58.06' | 14.5687° | 18°59.30' | N 4°54.46' | 14.1194' | 55.8708' | 33°57.36' | **10** |
| **11** | 345°44.15' | 14.9988° | 63°15.68' | N 21°09.88' | 0.4301' | 29°32.18' | 14.5687° | 19°27.64' | N 5°08.55' | 14.0893' | 55.8487' | 48°59.82' | **11** |
| **12** | 0°44.08' | 14.9988° | 63°18.21' | N 21°10.31' | 0.4295' | 44°06.30' | 14.5687° | 19°55.98' | N 5°22.61' | 14.0584' | 55.8266' | 64°02.29' | **12** |
| **13** | 15°44.01' | 14.9988° | 63°20.74' | N 21°10.74' | 0.4289' | 58°40.42' | 14.5687° | 20°24.33' | N 5°36.63' | 14.0266' | 55.8047' | 79°04.75' | **13** |
| **14** | 30°43.94' | 14.9988° | 63°23.28' | N 21°11.17' | 0.4282' | 73°14.54' | 14.5686° | 20°52.67' | N 5°50.63' | 13.9939' | 55.7829' | 94°07.21' | **14** |
| **15** | 45°43.87' | 14.9988° | 63°25.81' | N 21°11.59' | 0.4276' | 87°48.66' | 14.5686° | 21°21.02' | N 6°04.59' | 13.9604' | 55.7612' | 109°09.68' | **15** |
| **16** | 60°43.80' | 14.9988° | 63°28.35' | N 21°12.02' | 0.4270' | 102°22.77' | 14.5685° | 21°49.38' | N 6°18.51' | 13.9261' | 55.7397' | 124°12.14' | **16** |
| **17** | 75°43.73' | 14.9988° | 63°30.88' | N 21°12.45' | 0.4263' | 116°56.87' | 14.5684° | 22°17.74' | N 6°32.40' | 13.8908' | 55.7182' | 139°14.61' | **17** |
| **18** | 90°43.65' | 14.9988° | 63°33.42' | N 21°12.87' | 0.4257' | 131°30.97' | 14.5683° | 22°46.11' | N 6°46.26' | 13.8548' | 55.6970' | 154°17.07' | **18** |
| **19** | 105°43.58' | 14.9988° | 63°35.95' | N 21°13.30' | 0.4251' | 146°05.05' | 14.5681° | 23°14.48' | N 7°00.08' | 13.8179' | 55.6758' | 169°19.53' | **19** |
| **20** | 120°43.51' | 14.9988° | 63°38.49' | N 21°13.72' | 0.4244' | 160°39.13' | 14.5680° | 23°42.86' | N 7°13.86' | 13.7801' | 55.6548' | 184°22.00' | **20** |
| **21** | 135°43.44' | 14.9988° | 63°41.02' | N 21°14.15' | 0.4238' | 175°13.20' | 14.5678° | 24°11.26' | N 7°27.60' | 13.7415' | 55.6339' | 199°24.46' | **21** |
| **22** | 150°43.37' | 14.9988° | 63°43.56' | N 21°14.57' | 0.4231' | 189°47.26' | 14.5677° | 24°39.66' | N 7°41.30' | 13.7020' | 55.6131' | 214°26.93' | **22** |
| **23** | 165°43.30' | 14.9988° | 63°46.09' | N 21°14.99' | 0.4225' | 204°21.31' | 14.5675° | 25°08.08' | N 7°54.96' | 13.6617' | 55.5924' | 229°29.39' | **23** |
| **24** | 180°43.22' | 14.9988° | 63°48.63' | N 21°15.41' | 0.4219' | 218°55.35' | 14.5672° | 25°36.51' | N 8°08.58' | 13.6206' | 55.5719' | 244°31.86' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7880' | hp (π) 0.1447' | ½Ø 15.2118' | 14.6285288811711 55% -cre |
| | EoT at 12:00 UTC : +2m 56s (δ -0.28 s/h) | | Phase at 12:00 UTC : 315.20° | |
| | Meridian Pass. Time : 11:57:03.695 | | Age : 24.5 day(s) | |

| UT | Venus ♀ (π 0.12') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 217°49.32' | 25°43.40' | N 8°31.70' | 242°09.39' | 1°23.33' | S 1°16.44' | 240°33.97' | 2°58.75' | N 0°02.54' | 275°43.07' | 327°49.65' | S 14°09.72' | **00** |
| **01** | 232°49.02' | 25°46.16' | N 8°32.73' | 257°10.14' | 1°25.05' | S 1°15.72' | 255°36.04' | 2°59.15' | N 0°02.70' | 290°45.49' | 327°49.69' | S 14°09.71' | **01** |
| **02** | 247°48.72' | 25°48.92' | N 8°33.76' | 272°10.89' | 1°26.76' | S 1°14.99' | 270°38.11' | 2°59.54' | N 0°02.86' | 305°47.91' | 327°49.73' | S 14°09.70' | **02** |
| **03** | 262°48.42' | 25°51.69' | N 8°34.79' | 287°11.63' | 1°28.47' | S 1°14.26' | 285°40.18' | 2°59.93' | N 0°03.02' | 320°50.34' | 327°49.77' | S 14°09.70' | **03** |
| **04** | 277°48.12' | 25°54.45' | N 8°35.82' | 302°12.38' | 1°30.19' | S 1°13.53' | 300°42.25' | 3°00.33' | N 0°03.18' | 335°52.76' | 327°49.81' | S 14°09.69' | **04** |
| **05** | 292°47.82' | 25°57.21' | N 8°36.85' | 317°13.13' | 1°31.90' | S 1°12.81' | 315°44.32' | 3°00.72' | N 0°03.34' | 350°55.18' | 327°49.86' | S 14°09.69' | **05** |
| **06** | 307°47.53' | 25°59.98' | N 8°37.88' | 332°13.88' | 1°33.62' | S 1°12.08' | 330°46.39' | 3°01.11' | N 0°03.50' | 5°57.60' | 327°49.90' | S 14°09.68' | **06** |
| **07** | 322°47.23' | 26°02.74' | N 8°38.91' | 347°14.64' | 1°35.33' | S 1°11.35' | 345°48.46' | 3°01.51' | N 0°03.67' | 21°00.03' | 327°49.94' | S 14°09.67' | **07** |
| **08** | 337°46.93' | 26°05.50' | N 8°39.94' | 2°15.39' | 1°37.04' | S 1°10.63' | 0°50.53' | 3°01.90' | N 0°03.83' | 36°02.45' | 327°49.98' | S 14°09.67' | **08** |
| **09** | 352°46.62' | 26°08.27' | N 8°40.97' | 17°16.14' | 1°38.76' | S 1°09.90' | 15°52.60' | 3°02.29' | N 0°03.99' | 51°04.87' | 327°50.02' | S 14°09.66' | **09** |
| **10** | 7°46.32' | 26°11.03' | N 8°42.00' | 32°16.89' | 1°40.47' | S 1°09.17' | 30°54.67' | 3°02.68' | N 0°04.15' | 66°07.30' | 327°50.06' | S 14°09.66' | **10** |
| **11** | 22°46.02' | 26°13.80' | N 8°43.03' | 47°17.64' | 1°42.19' | S 1°08.44' | 45°56.75' | 3°03.08' | N 0°04.31' | 81°09.72' | 327°50.10' | S 14°09.65' | **11** |
| **12** | 37°45.72' | 26°16.57' | N 8°44.05' | 62°18.39' | 1°43.90' | S 1°07.72' | 60°58.82' | 3°03.47' | N 0°04.47' | 96°12.14' | 327°50.14' | S 14°09.64' | **12** |
| **13** | 52°45.42' | 26°19.33' | N 8°45.08' | 77°19.14' | 1°45.61' | S 1°06.99' | 76°00.89' | 3°03.86' | N 0°04.63' | 111°14.57' | 327°50.18' | S 14°09.64' | **13** |
| **14** | 67°45.12' | 26°22.10' | N 8°46.11' | 92°19.89' | 1°47.33' | S 1°06.26' | 91°02.96' | 3°04.25' | N 0°04.79' | 126°16.99' | 327°50.22' | S 14°09.63' | **14** |
| **15** | 82°44.81' | 26°24.86' | N 8°47.14' | 107°20.64' | 1°49.04' | S 1°05.54' | 106°05.03' | 3°04.64' | N 0°04.95' | 141°19.42' | 327°50.26' | S 14°09.63' | **15** |
| **16** | 97°44.51' | 26°27.63' | N 8°48.17' | 122°21.39' | 1°50.75' | S 1°04.81' | 121°07.11' | 3°05.03' | N 0°05.11' | 156°21.84' | 327°50.30' | S 14°09.62' | **16** |
| **17** | 112°44.21' | 26°30.40' | N 8°49.19' | 137°22.14' | 1°52.47' | S 1°04.08' | 136°09.18' | 3°05.43' | N 0°05.27' | 171°24.27' | 327°50.34' | S 14°09.62' | **17** |
| **18** | 127°43.90' | 26°33.17' | N 8°50.22' | 152°22.89' | 1°54.18' | S 1°03.35' | 151°11.25' | 3°05.82' | N 0°05.43' | 186°26.69' | 327°50.38' | S 14°09.61' | **18** |
| **19** | 142°43.60' | 26°35.93' | N 8°51.25' | 167°23.64' | 1°55.89' | S 1°02.63' | 166°13.33' | 3°06.21' | N 0°05.59' | 201°29.12' | 327°50.42' | S 14°09.60' | **19** |
| **20** | 157°43.30' | 26°38.70' | N 8°52.27' | 182°24.39' | 1°57.60' | S 1°01.90' | 181°15.40' | 3°06.60' | N 0°05.75' | 216°31.54' | 327°50.46' | S 14°09.60' | **20** |
| **21** | 172°42.99' | 26°41.47' | N 8°53.30' | 197°25.15' | 1°59.32' | S 1°01.17' | 196°17.47' | 3°06.99' | N 0°05.91' | 231°33.97' | 327°50.50' | S 14°09.59' | **21** |
| **22** | 187°42.69' | 26°44.24' | N 8°54.33' | 212°25.90' | 2°01.03' | S 1°00.45' | 211°19.55' | 3°07.38' | N 0°06.06' | 246°36.39' | 327°50.53' | S 14°09.59' | **22** |
| **23** | 202°42.38' | 26°47.01' | N 8°55.35' | 227°26.65' | 2°02.74' | S 0°59.72' | 226°21.62' | 3°07.77' | N 0°06.22' | 261°38.82' | 327°50.57' | S 14°09.58' | **23** |
| **24** | 217°42.08' | 26°49.78' | N 8°56.38' | 242°27.40' | 2°04.46' | S 0°58.99' | 241°23.70' | 3°08.16' | N 0°06.38' | 276°41.24' | 327°50.61' | S 14°09.58' | **24** |
| | δ 14.9950° | | *d* 1.0310' | δ 15.0125° | | *d* 0.7273' | δ 15.0345° | | *d* 0.1611' | δ 15.0404° | | *d* 0.0064' | |

## *Friday, May 27th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°43.22' | 14.9988° | 63°48.63' | N 21°15.41' | 0.4219' | 218°55.35' | 14.5672° | 25°36.51' | N 8°08.58' | 13.6206' | 55.5719' | 244°31.86' | **00** |
| **01** | 195°43.15' | 14.9988° | 63°51.17' | N 21°15.83' | 0.4212' | 233°29.37' | 14.5670° | 26°04.95' | N 8°22.16' | 13.5786' | 55.5515' | 259°34.32' | **01** |
| **02** | 210°43.08' | 14.9988° | 63°53.70' | N 21°16.25' | 0.4206' | 248°03.37' | 14.5668° | 26°33.41' | N 8°35.70' | 13.5357' | 55.5313' | 274°36.78' | **02** |
| **03** | 225°43.01' | 14.9988° | 63°56.24' | N 21°16.67' | 0.4200' | 262°37.36' | 14.5665° | 27°01.88' | N 8°49.19' | 13.4921' | 55.5111' | 289°39.25' | **03** |
| **04** | 240°42.93' | 14.9988° | 63°58.78' | N 21°17.09' | 0.4193' | 277°11.34' | 14.5662° | 27°30.37' | N 9°02.64' | 13.4476' | 55.4911' | 304°41.71' | **04** |
| **05** | 255°42.86' | 14.9988° | 64°01.32' | N 21°17.51' | 0.4187' | 291°45.30' | 14.5660° | 27°58.88' | N 9°16.04' | 13.4022' | 55.4712' | 319°44.18' | **05** |
| **06** | 270°42.79' | 14.9988° | 64°03.85' | N 21°17.93' | 0.4180' | 306°19.24' | 14.5657° | 28°27.40' | N 9°29.40' | 13.3560' | 55.4515' | 334°46.64' | **06** |
| **07** | 285°42.71' | 14.9988° | 64°06.39' | N 21°18.35' | 0.4174' | 320°53.16' | 14.5653° | 28°55.95' | N 9°42.70' | 13.3090' | 55.4319' | 349°49.10' | **07** |
| **08** | 300°42.64' | 14.9988° | 64°08.93' | N 21°18.76' | 0.4168' | 335°27.06' | 14.5650° | 29°24.51' | N 9°55.97' | 13.2611' | 55.4124' | 4°51.57' | **08** |
| **09** | 315°42.57' | 14.9988° | 64°11.47' | N 21°19.18' | 0.4161' | 350°00.94' | 14.5647° | 29°53.10' | N 10°09.18' | 13.2124' | 55.3930' | 19°54.03' | **09** |
| **10** | 330°42.49' | 14.9988° | 64°14.01' | N 21°19.60' | 0.4155' | 4°34.80' | 14.5643° | 30°21.70' | N 10°22.34' | 13.1629' | 55.3738' | 34°56.50' | **10** |
| **11** | 345°42.42' | 14.9988° | 64°16.54' | N 21°20.01' | 0.4149' | 19°08.63' | 14.5639° | 30°50.33' | N 10°35.45' | 13.1125' | 55.3546' | 49°58.96' | **11** |
| **12** | 0°42.34' | 14.9988° | 64°19.08' | N 21°20.43' | 0.4142' | 33°42.44' | 14.5635° | 31°18.98' | N 10°48.51' | 13.0613' | 55.3356' | 65°01.42' | **12** |
| **13** | 15°42.27' | 14.9988° | 64°21.62' | N 21°20.84' | 0.4136' | 48°16.23' | 14.5631° | 31°47.66' | N 11°01.52' | 13.0092' | 55.3168' | 80°03.89' | **13** |
| **14** | 30°42.19' | 14.9987° | 64°24.16' | N 21°21.25' | 0.4129' | 62°49.99' | 14.5627° | 32°16.36' | N 11°14.48' | 12.9563' | 55.2980' | 95°06.35' | **14** |
| **15** | 45°42.12' | 14.9987° | 64°26.70' | N 21°21.66' | 0.4123' | 77°23.73' | 14.5623° | 32°45.08' | N 11°27.38' | 12.9026' | 55.2794' | 110°08.82' | **15** |
| **16** | 60°42.04' | 14.9987° | 64°29.24' | N 21°22.08' | 0.4116' | 91°57.44' | 14.5619° | 33°13.84' | N 11°40.23' | 12.8481' | 55.2610' | 125°11.28' | **16** |
| **17** | 75°41.97' | 14.9987° | 64°31.78' | N 21°22.49' | 0.4110' | 106°31.13' | 14.5614° | 33°42.62' | N 11°53.02' | 12.7927' | 55.2426' | 140°13.74' | **17** |
| **18** | 90°41.89' | 14.9987° | 64°34.32' | N 21°22.90' | 0.4104' | 121°04.78' | 14.5609° | 34°11.43' | N 12°05.76' | 12.7365' | 55.2244' | 155°16.21' | **18** |
| **19** | 105°41.81' | 14.9987° | 64°36.86' | N 21°23.31' | 0.4097' | 135°38.41' | 14.5604° | 34°40.26' | N 12°18.44' | 12.6794' | 55.2063' | 170°18.67' | **19** |
| **20** | 120°41.74' | 14.9987° | 64°39.40' | N 21°23.72' | 0.4091' | 150°12.01' | 14.5600° | 35°09.13' | N 12°31.06' | 12.6215' | 55.1883' | 185°21.14' | **20** |
| **21** | 135°41.66' | 14.9987° | 64°41.94' | N 21°24.12' | 0.4084' | 164°45.57' | 14.5594° | 35°38.03' | N 12°43.62' | 12.5628' | 55.1704' | 200°23.60' | **21** |
| **22** | 150°41.58' | 14.9987° | 64°44.48' | N 21°24.53' | 0.4078' | 179°19.11' | 14.5589° | 36°06.96' | N 12°56.13' | 12.5032' | 55.1527' | 215°26.07' | **22** |
| **23** | 165°41.51' | 14.9987° | 64°47.02' | N 21°24.94' | 0.4071' | 193°52.61' | 14.5584° | 36°35.92' | N 13°08.57' | 12.4429' | 55.1351' | 230°28.53' | **23** |
| **24** | 180°41.43' | 14.9987° | 64°49.56' | N 21°25.35' | 0.4065' | 208°26.09' | 14.5579° | 37°04.91' | N 13°20.95' | 12.3816' | 55.1176' | 245°30.99' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7852' | hp (π) 0.1447' | ½Ø 15.0780' | 8.26274947144086<br>1% -cre |
| | EoT at 12:00 UTC : +2m 49s (δ -0.30 s/h) | | Phase at 12:00 UTC : 326.71° | |
| | Meridian Pass. Time : 11:57:10.633 | | Age : 25.4 day(s) | |

| UT | Venus ♀ (π 0.12') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 217°42.08' | 26°49.78' | N 8°56.38' | 242°27.40' | 2°04.46' | S 0°58.99' | 241°23.70' | 3°08.16' | N 0°06.38' | 276°41.24' | 327°50.61' | S 14°09.58' | **00** |
| **01** | 232°41.77' | 26°52.55' | N 8°57.40' | 257°28.15' | 2°06.17' | S 0°58.27' | 256°25.77' | 3°08.55' | N 0°06.54' | 291°43.67' | 327°50.65' | S 14°09.57' | **01** |
| **02** | 247°41.47' | 26°55.32' | N 8°58.43' | 272°28.90' | 2°07.88' | S 0°57.54' | 271°27.84' | 3°08.94' | N 0°06.70' | 306°46.10' | 327°50.69' | S 14°09.57' | **02** |
| **03** | 262°41.16' | 26°58.09' | N 8°59.45' | 287°29.65' | 2°09.59' | S 0°56.81' | 286°29.92' | 3°09.33' | N 0°06.86' | 321°48.52' | 327°50.73' | S 14°09.56' | **03** |
| **04** | 277°40.85' | 27°00.86' | N 9°00.48' | 302°30.41' | 2°11.31' | S 0°56.09' | 301°31.99' | 3°09.72' | N 0°07.02' | 336°50.95' | 327°50.76' | S 14°09.56' | **04** |
| **05** | 292°40.55' | 27°03.63' | N 9°01.50' | 317°31.16' | 2°13.02' | S 0°55.36' | 316°34.07' | 3°10.11' | N 0°07.18' | 351°53.38' | 327°50.80' | S 14°09.55' | **05** |
| **06** | 307°40.24' | 27°06.40' | N 9°02.53' | 332°31.91' | 2°14.73' | S 0°54.63' | 331°36.14' | 3°10.50' | N 0°07.34' | 6°55.80' | 327°50.84' | S 14°09.55' | **06** |
| **07** | 322°39.93' | 27°09.17' | N 9°03.55' | 347°32.66' | 2°16.44' | S 0°53.91' | 346°38.22' | 3°10.88' | N 0°07.50' | 21°58.23' | 327°50.87' | S 14°09.54' | **07** |
| **08** | 337°39.62' | 27°11.95' | N 9°04.58' | 2°33.41' | 2°18.16' | S 0°53.18' | 1°40.29' | 3°11.27' | N 0°07.65' | 37°00.66' | 327°50.91' | S 14°09.54' | **08** |
| **09** | 352°39.31' | 27°14.72' | N 9°05.60' | 17°34.16' | 2°19.87' | S 0°52.45' | 16°42.37' | 3°11.66' | N 0°07.81' | 52°03.08' | 327°50.95' | S 14°09.54' | **09** |
| **10** | 7°39.01' | 27°17.49' | N 9°06.62' | 32°34.92' | 2°21.58' | S 0°51.73' | 31°44.45' | 3°12.05' | N 0°07.97' | 67°05.51' | 327°50.98' | S 14°09.53' | **10** |
| **11** | 22°38.70' | 27°20.26' | N 9°07.65' | 47°35.67' | 2°23.29' | S 0°51.00' | 46°46.52' | 3°12.44' | N 0°08.13' | 82°07.94' | 327°51.02' | S 14°09.53' | **11** |
| **12** | 37°38.39' | 27°23.04' | N 9°08.67' | 62°36.42' | 2°25.00' | S 0°50.27' | 61°48.60' | 3°12.83' | N 0°08.29' | 97°10.37' | 327°51.06' | S 14°09.52' | **12** |
| **13** | 52°38.08' | 27°25.81' | N 9°09.69' | 77°37.17' | 2°26.71' | S 0°49.55' | 76°50.67' | 3°13.21' | N 0°08.45' | 112°12.79' | 327°51.09' | S 14°09.52' | **13** |
| **14** | 67°37.77' | 27°28.58' | N 9°10.71' | 92°37.93' | 2°28.43' | S 0°48.82' | 91°52.75' | 3°13.60' | N 0°08.60' | 127°15.22' | 327°51.13' | S 14°09.51' | **14** |
| **15** | 82°37.46' | 27°31.36' | N 9°11.74' | 107°38.68' | 2°30.14' | S 0°48.09' | 106°54.83' | 3°13.99' | N 0°08.76' | 142°17.65' | 327°51.17' | S 14°09.51' | **15** |
| **16** | 97°37.15' | 27°34.13' | N 9°12.76' | 122°39.43' | 2°31.85' | S 0°47.37' | 121°56.91' | 3°14.38' | N 0°08.92' | 157°20.08' | 327°51.20' | S 14°09.51' | **16** |
| **17** | 112°36.84' | 27°36.91' | N 9°13.78' | 137°40.18' | 2°33.56' | S 0°46.64' | 136°58.98' | 3°14.76' | N 0°09.08' | 172°22.51' | 327°51.24' | S 14°09.50' | **17** |
| **18** | 127°36.52' | 27°39.68' | N 9°14.80' | 152°40.94' | 2°35.27' | S 0°45.92' | 152°01.06' | 3°15.15' | N 0°09.24' | 187°24.94' | 327°51.27' | S 14°09.50' | **18** |
| **19** | 142°36.21' | 27°42.46' | N 9°15.82' | 167°41.69' | 2°36.98' | S 0°45.19' | 167°03.14' | 3°15.54' | N 0°09.39' | 202°27.37' | 327°51.31' | S 14°09.49' | **19** |
| **20** | 157°35.90' | 27°45.24' | N 9°16.84' | 182°42.44' | 2°38.70' | S 0°44.46' | 182°05.21' | 3°15.92' | N 0°09.55' | 217°29.80' | 327°51.34' | S 14°09.49' | **20** |
| **21** | 172°35.59' | 27°48.01' | N 9°17.86' | 197°43.19' | 2°40.41' | S 0°43.74' | 197°07.29' | 3°16.31' | N 0°09.71' | 232°32.22' | 327°51.38' | S 14°09.49' | **21** |
| **22** | 187°35.28' | 27°50.79' | N 9°18.88' | 212°43.95' | 2°42.12' | S 0°43.01' | 212°09.37' | 3°16.69' | N 0°09.87' | 247°34.65' | 327°51.41' | S 14°09.48' | **22** |
| **23** | 202°34.96' | 27°53.57' | N 9°19.90' | 227°44.70' | 2°43.83' | S 0°42.28' | 227°11.45' | 3°17.08' | N 0°10.02' | 262°37.08' | 327°51.45' | S 14°09.48' | **23** |
| **24** | 217°34.65' | 27°56.34' | N 9°20.92' | 242°45.45' | 2°45.54' | S 0°41.56' | 242°13.53' | 3°17.47' | N 0°10.18' | 277°39.51' | 327°51.48' | S 14°09.47' | **24** |
| | δ 14.9949° | | *d* 1.0255' | δ 15.0125° | | *d* 0.7268' | δ 15.0346° | | *d* 0.1592' | δ 15.0404° | | *d* 0.0050' | |

## *Saturday, May 28th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°41.43' | 14.9987° | 64°49.56' | N 21°25.35' | 0.4065' | 208°26.09' | 14.5579° | 37°04.91' | N 13°20.95' | 12.3816' | 55.1176' | 245°30.99' | **00** |
| **01** | 195°41.35' | 14.9987° | 64°52.11' | N 21°25.75' | 0.4059' | 222°59.52' | 14.5573° | 37°33.93' | N 13°33.27' | 12.3196' | 55.1002' | 260°33.46' | **01** |
| **02** | 210°41.27' | 14.9987° | 64°54.65' | N 21°26.16' | 0.4052' | 237°32.93' | 14.5567° | 38°02.99' | N 13°45.53' | 12.2567' | 55.0830' | 275°35.92' | **02** |
| **03** | 225°41.20' | 14.9987° | 64°57.19' | N 21°26.56' | 0.4046' | 252°06.30' | 14.5562° | 38°32.09' | N 13°57.72' | 12.1930' | 55.0659' | 290°38.39' | **03** |
| **04** | 240°41.12' | 14.9987° | 64°59.73' | N 21°26.97' | 0.4039' | 266°39.63' | 14.5556° | 39°01.22' | N 14°09.85' | 12.1284' | 55.0489' | 305°40.85' | **04** |
| **05** | 255°41.04' | 14.9987° | 65°02.27' | N 21°27.37' | 0.4033' | 281°12.93' | 14.5550° | 39°30.38' | N 14°21.91' | 12.0631' | 55.0321' | 320°43.31' | **05** |
| **06** | 270°40.96' | 14.9987° | 65°04.82' | N 21°27.77' | 0.4026' | 295°46.20' | 14.5544° | 39°59.58' | N 14°33.91' | 11.9968' | 55.0153' | 335°45.78' | **06** |
| **07** | 285°40.88' | 14.9987° | 65°07.36' | N 21°28.17' | 0.4020' | 310°19.42' | 14.5538° | 40°28.82' | N 14°45.84' | 11.9298' | 54.9987' | 350°48.24' | **07** |
| **08** | 300°40.81' | 14.9987° | 65°09.90' | N 21°28.57' | 0.4013' | 324°52.61' | 14.5531° | 40°58.10' | N 14°57.70' | 11.8619' | 54.9823' | 5°50.71' | **08** |
| **09** | 315°40.73' | 14.9987° | 65°12.44' | N 21°28.98' | 0.4007' | 339°25.76' | 14.5525° | 41°27.41' | N 15°09.49' | 11.7932' | 54.9659' | 20°53.17' | **09** |
| **10** | 330°40.65' | 14.9987° | 65°14.99' | N 21°29.38' | 0.4001' | 353°58.87' | 14.5519° | 41°56.76' | N 15°21.22' | 11.7237' | 54.9497' | 35°55.63' | **10** |
| **11** | 345°40.57' | 14.9987° | 65°17.53' | N 21°29.77' | 0.3994' | 8°31.95' | 14.5512° | 42°26.15' | N 15°32.87' | 11.6534' | 54.9336' | 50°58.10' | **11** |
| **12** | 0°40.49' | 14.9987° | 65°20.08' | N 21°30.17' | 0.3988' | 23°04.98' | 14.5505° | 42°55.59' | N 15°44.45' | 11.5822' | 54.9176' | 66°00.56' | **12** |
| **13** | 15°40.41' | 14.9987° | 65°22.62' | N 21°30.57' | 0.3981' | 37°37.97' | 14.5499° | 43°25.06' | N 15°55.96' | 11.5102' | 54.9017' | 81°03.03' | **13** |
| **14** | 30°40.33' | 14.9987° | 65°25.16' | N 21°30.97' | 0.3975' | 52°10.92' | 14.5492° | 43°54.57' | N 16°07.40' | 11.4373' | 54.8860' | 96°05.49' | **14** |
| **15** | 45°40.25' | 14.9987° | 65°27.71' | N 21°31.37' | 0.3968' | 66°43.83' | 14.5485° | 44°24.13' | N 16°18.76' | 11.3637' | 54.8704' | 111°07.96' | **15** |
| **16** | 60°40.17' | 14.9987° | 65°30.25' | N 21°31.76' | 0.3962' | 81°16.70' | 14.5478° | 44°53.72' | N 16°30.05' | 11.2892' | 54.8549' | 126°10.42' | **16** |
| **17** | 75°40.09' | 14.9987° | 65°32.80' | N 21°32.16' | 0.3955' | 95°49.52' | 14.5471° | 45°23.36' | N 16°41.27' | 11.2139' | 54.8396' | 141°12.88' | **17** |
| **18** | 90°40.01' | 14.9987° | 65°35.34' | N 21°32.55' | 0.3949' | 110°22.31' | 14.5464° | 45°53.04' | N 16°52.40' | 11.1377' | 54.8243' | 156°15.35' | **18** |
| **19** | 105°39.93' | 14.9987° | 65°37.89' | N 21°32.95' | 0.3942' | 124°55.05' | 14.5457° | 46°22.77' | N 17°03.47' | 11.0608' | 54.8092' | 171°17.81' | **19** |
| **20** | 120°39.84' | 14.9986° | 65°40.43' | N 21°33.34' | 0.3936' | 139°27.74' | 14.5449° | 46°52.54' | N 17°14.45' | 10.9830' | 54.7942' | 186°20.28' | **20** |
| **21** | 135°39.76' | 14.9986° | 65°42.98' | N 21°33.73' | 0.3929' | 154°00.39' | 14.5442° | 47°22.35' | N 17°25.35' | 10.9044' | 54.7794' | 201°22.74' | **21** |
| **22** | 150°39.68' | 14.9986° | 65°45.52' | N 21°34.13' | 0.3923' | 168°33.00' | 14.5434° | 47°52.21' | N 17°36.18' | 10.8250' | 54.7646' | 216°25.20' | **22** |
| **23** | 165°39.60' | 14.9986° | 65°48.07' | N 21°34.52' | 0.3916' | 183°05.56' | 14.5427° | 48°22.11' | N 17°46.92' | 10.7448' | 54.7500' | 231°27.67' | **23** |
| **24** | 180°39.52' | 14.9986° | 65°50.62' | N 21°34.91' | 0.3910' | 197°38.08' | 14.5419° | 48°52.05' | N 17°57.59' | 10.6637' | 54.7355' | 246°30.13' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7825' | hp (π) 0.1446' | ½Ø 14.9641' | 3.65204941269678<br>95% -cre |
| | EoT at 12:00 UTC : +2m 42s (δ -0.32 s/h) | | Phase at 12:00 UTC : 338.03° | |
| | Meridian Pass. Time : 11:57:18.048 | | Age : 26.3 day(s) | |

| UT | Venus ♀ (π 0.12') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 217°34.65' | 27°56.34' | N 9°20.92' | 242°45.45' | 2°45.54' | S 0°41.56' | 242°13.53' | 3°17.47' | N 0°10.18' | 277°39.51' | 327°51.48' | S 14°09.47' | **00** |
| **01** | 232°34.34' | 27°59.12' | N 9°21.94' | 257°46.21' | 2°47.25' | S 0°40.83' | 257°15.61' | 3°17.85' | N 0°10.34' | 292°41.94' | 327°51.51' | S 14°09.47' | **01** |
| **02** | 247°34.02' | 28°01.90' | N 9°22.96' | 272°46.96' | 2°48.96' | S 0°40.11' | 272°17.68' | 3°18.24' | N 0°10.49' | 307°44.37' | 327°51.55' | S 14°09.47' | **02** |
| **03** | 262°33.71' | 28°04.68' | N 9°23.98' | 287°47.71' | 2°50.67' | S 0°39.38' | 287°19.76' | 3°18.62' | N 0°10.65' | 322°46.80' | 327°51.58' | S 14°09.46' | **03** |
| **04** | 277°33.39' | 28°07.46' | N 9°25.00' | 302°48.47' | 2°52.38' | S 0°38.65' | 302°21.84' | 3°19.01' | N 0°10.81' | 337°49.23' | 327°51.62' | S 14°09.46' | **04** |
| **05** | 292°33.08' | 28°10.24' | N 9°26.02' | 317°49.22' | 2°54.09' | S 0°37.93' | 317°23.92' | 3°19.39' | N 0°10.97' | 352°51.67' | 327°51.65' | S 14°09.46' | **05** |
| **06** | 307°32.76' | 28°13.02' | N 9°27.03' | 332°49.97' | 2°55.80' | S 0°37.20' | 332°26.00' | 3°19.78' | N 0°11.12' | 7°54.10' | 327°51.68' | S 14°09.45' | **06** |
| **07** | 322°32.45' | 28°15.79' | N 9°28.05' | 347°50.73' | 2°57.51' | S 0°36.48' | 347°28.08' | 3°20.16' | N 0°11.28' | 22°56.53' | 327°51.72' | S 14°09.45' | **07** |
| **08** | 337°32.13' | 28°18.57' | N 9°29.07' | 2°51.48' | 2°59.23' | S 0°35.75' | 2°30.16' | 3°20.55' | N 0°11.44' | 37°58.96' | 327°51.75' | S 14°09.45' | **08** |
| **09** | 352°31.82' | 28°21.36' | N 9°30.09' | 17°52.24' | 3°00.94' | S 0°35.02' | 17°32.24' | 3°20.93' | N 0°11.59' | 53°01.39' | 327°51.78' | S 14°09.44' | **09** |
| **10** | 7°31.50' | 28°24.14' | N 9°31.10' | 32°52.99' | 3°02.65' | S 0°34.30' | 32°34.32' | 3°21.31' | N 0°11.75' | 68°03.82' | 327°51.81' | S 14°09.44' | **10** |
| **11** | 22°31.18' | 28°26.92' | N 9°32.12' | 47°53.74' | 3°04.36' | S 0°33.57' | 47°36.40' | 3°21.70' | N 0°11.91' | 83°06.25' | 327°51.85' | S 14°09.44' | **11** |
| **12** | 37°30.86' | 28°29.70' | N 9°33.14' | 62°54.50' | 3°06.07' | S 0°32.85' | 62°38.48' | 3°22.08' | N 0°12.06' | 98°08.68' | 327°51.88' | S 14°09.43' | **12** |
| **13** | 52°30.55' | 28°32.48' | N 9°34.15' | 77°55.25' | 3°07.78' | S 0°32.12' | 77°40.56' | 3°22.47' | N 0°12.22' | 113°11.12' | 327°51.91' | S 14°09.43' | **13** |
| **14** | 67°30.23' | 28°35.26' | N 9°35.17' | 92°56.00' | 3°09.49' | S 0°31.40' | 92°42.64' | 3°22.85' | N 0°12.37' | 128°13.55' | 327°51.94' | S 14°09.43' | **14** |
| **15** | 82°29.91' | 28°38.04' | N 9°36.19' | 107°56.76' | 3°11.20' | S 0°30.67' | 107°44.72' | 3°23.23' | N 0°12.53' | 143°15.98' | 327°51.97' | S 14°09.43' | **15** |
| **16** | 97°29.59' | 28°40.83' | N 9°37.20' | 122°57.51' | 3°12.91' | S 0°29.94' | 122°46.81' | 3°23.61' | N 0°12.69' | 158°18.41' | 327°52.01' | S 14°09.42' | **16** |
| **17** | 112°29.27' | 28°43.61' | N 9°38.22' | 137°58.27' | 3°14.62' | S 0°29.22' | 137°48.89' | 3°24.00' | N 0°12.84' | 173°20.85' | 327°52.04' | S 14°09.42' | **17** |
| **18** | 127°28.95' | 28°46.39' | N 9°39.23' | 152°59.02' | 3°16.33' | S 0°28.49' | 152°50.97' | 3°24.38' | N 0°13.00' | 188°23.28' | 327°52.07' | S 14°09.42' | **18** |
| **19** | 142°28.63' | 28°49.18' | N 9°40.25' | 167°59.78' | 3°18.04' | S 0°27.77' | 167°53.05' | 3°24.76' | N 0°13.15' | 203°25.71' | 327°52.10' | S 14°09.41' | **19** |
| **20** | 157°28.31' | 28°51.96' | N 9°41.26' | 183°00.53' | 3°19.75' | S 0°27.04' | 182°55.13' | 3°25.14' | N 0°13.31' | 218°28.14' | 327°52.13' | S 14°09.41' | **20** |
| **21** | 172°27.99' | 28°54.75' | N 9°42.28' | 198°01.29' | 3°21.45' | S 0°26.32' | 197°57.21' | 3°25.53' | N 0°13.46' | 233°30.58' | 327°52.16' | S 14°09.41' | **21** |
| **22** | 187°27.67' | 28°57.53' | N 9°43.29' | 213°02.04' | 3°23.16' | S 0°25.59' | 212°59.30' | 3°25.91' | N 0°13.62' | 248°33.01' | 327°52.19' | S 14°09.41' | **22** |
| **23** | 202°27.35' | 29°00.32' | N 9°44.30' | 228°02.80' | 3°24.87' | S 0°24.87' | 228°01.38' | 3°26.29' | N 0°13.78' | 263°35.45' | 327°52.22' | S 14°09.40' | **23** |
| **24** | 217°27.03' | 29°03.10' | N 9°45.32' | 243°03.55' | 3°26.58' | S 0°24.14' | 243°03.46' | 3°26.67' | N 0°13.93' | 278°37.88' | 327°52.25' | S 14°09.40' | **24** |
| | δ 14.9948° | | *d* 1.0195' | δ 15.0126° | | *d* 0.7261' | δ 15.0346° | | *d* 0.1572' | δ 15.0405° | | *d* 0.0037' | |

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°39.52' | 14.9986° | 65°50.62' | N 21°34.91' | 0.3910' | 197°38.08' | 14.5419° | 48°52.05' | N 17°57.59' | 10.6637' | 54.7355' | 246°30.13' | **00** |
| **01** | 195°39.44' | 14.9986° | 65°53.16' | N 21°35.30' | 0.3903' | 212°10.55' | 14.5412° | 49°22.05' | N 18°08.17' | 10.5819' | 54.7212' | 261°32.60' | **01** |
| **02** | 210°39.35' | 14.9986° | 65°55.71' | N 21°35.69' | 0.3897' | 226°42.97' | 14.5404° | 49°52.09' | N 18°18.67' | 10.4992' | 54.7069' | 276°35.06' | **02** |
| **03** | 225°39.27' | 14.9986° | 65°58.25' | N 21°36.08' | 0.3890' | 241°15.35' | 14.5397° | 50°22.17' | N 18°29.08' | 10.4157' | 54.6928' | 291°37.53' | **03** |
| **04** | 240°39.19' | 14.9986° | 66°00.80' | N 21°36.47' | 0.3884' | 255°47.69' | 14.5389° | 50°52.30' | N 18°39.41' | 10.3314' | 54.6789' | 306°39.99' | **04** |
| **05** | 255°39.10' | 14.9986° | 66°03.35' | N 21°36.85' | 0.3877' | 270°19.97' | 14.5381° | 51°22.48' | N 18°49.66' | 10.2463' | 54.6650' | 321°42.45' | **05** |
| **06** | 270°39.02' | 14.9986° | 66°05.90' | N 21°37.24' | 0.3871' | 284°52.21' | 14.5373° | 51°52.71' | N 18°59.82' | 10.1604' | 54.6513' | 336°44.92' | **06** |
| **07** | 285°38.94' | 14.9986° | 66°08.44' | N 21°37.63' | 0.3864' | 299°24.40' | 14.5365° | 52°22.98' | N 19°09.90' | 10.0737' | 54.6377' | 351°47.38' | **07** |
| **08** | 300°38.85' | 14.9986° | 66°10.99' | N 21°38.01' | 0.3858' | 313°56.55' | 14.5357° | 52°53.30' | N 19°19.88' | 9.9862' | 54.6242' | 6°49.85' | **08** |
| **09** | 315°38.77' | 14.9986° | 66°13.54' | N 21°38.40' | 0.3851' | 328°28.64' | 14.5349° | 53°23.67' | N 19°29.78' | 9.8979' | 54.6108' | 21°52.31' | **09** |
| **10** | 330°38.69' | 14.9986° | 66°16.09' | N 21°38.78' | 0.3845' | 343°00.69' | 14.5341° | 53°54.08' | N 19°39.59' | 9.8088' | 54.5976' | 36°54.77' | **10** |
| **11** | 345°38.60' | 14.9986° | 66°18.64' | N 21°39.17' | 0.3838' | 357°32.69' | 14.5333° | 54°24.55' | N 19°49.31' | 9.7190' | 54.5845' | 51°57.24' | **11** |
| **12** | 0°38.52' | 14.9986° | 66°21.18' | N 21°39.55' | 0.3832' | 12°04.64' | 14.5325° | 54°55.06' | N 19°58.94' | 9.6283' | 54.5715' | 66°59.70' | **12** |
| **13** | 15°38.43' | 14.9986° | 66°23.73' | N 21°39.93' | 0.3825' | 26°36.55' | 14.5317° | 55°25.62' | N 20°08.47' | 9.5368' | 54.5587' | 82°02.17' | **13** |
| **14** | 30°38.35' | 14.9986° | 66°26.28' | N 21°40.31' | 0.3819' | 41°08.40' | 14.5309° | 55°56.23' | N 20°17.92' | 9.4446' | 54.5459' | 97°04.63' | **14** |
| **15** | 45°38.26' | 14.9986° | 66°28.83' | N 21°40.70' | 0.3812' | 55°40.21' | 14.5301° | 56°26.89' | N 20°27.27' | 9.3516' | 54.5333' | 112°07.09' | **15** |
| **16** | 60°38.18' | 14.9986° | 66°31.38' | N 21°41.08' | 0.3806' | 70°11.97' | 14.5293° | 56°57.59' | N 20°36.53' | 9.2578' | 54.5209' | 127°09.56' | **16** |
| **17** | 75°38.09' | 14.9986° | 66°33.93' | N 21°41.46' | 0.3799' | 84°43.68' | 14.5285° | 57°28.35' | N 20°45.69' | 9.1632' | 54.5085' | 142°12.02' | **17** |
| **18** | 90°38.01' | 14.9986° | 66°36.48' | N 21°41.83' | 0.3793' | 99°15.34' | 14.5277° | 57°59.15' | N 20°54.76' | 9.0679' | 54.4963' | 157°14.49' | **18** |
| **19** | 105°37.92' | 14.9986° | 66°39.03' | N 21°42.21' | 0.3786' | 113°46.95' | 14.5269° | 58°30.00' | N 21°03.73' | 8.9718' | 54.4842' | 172°16.95' | **19** |
| **20** | 120°37.84' | 14.9986° | 66°41.58' | N 21°42.59' | 0.3779' | 128°18.51' | 14.5260° | 59°00.91' | N 21°12.60' | 8.8749' | 54.4723' | 187°19.42' | **20** |
| **21** | 135°37.75' | 14.9986° | 66°44.13' | N 21°42.97' | 0.3773' | 142°50.02' | 14.5252° | 59°31.86' | N 21°21.38' | 8.7773' | 54.4605' | 202°21.88' | **21** |
| **22** | 150°37.67' | 14.9986° | 66°46.68' | N 21°43.35' | 0.3766' | 157°21.49' | 14.5244° | 60°02.85' | N 21°30.06' | 8.6790' | 54.4488' | 217°24.34' | **22** |
| **23** | 165°37.58' | 14.9986° | 66°49.23' | N 21°43.72' | 0.3760' | 171°52.91' | 14.5236° | 60°33.90' | N 21°38.64' | 8.5798' | 54.4372' | 232°26.81' | **23** |
| **24** | 180°37.49' | 14.9986° | 66°51.78' | N 21°44.10' | 0.3753' | 186°24.27' | 14.5228° | 61°05.00' | N 21°47.12' | 8.4800' | 54.4258' | 247°29.27' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7798' | hp (π) 0.1446' | ½Ø 14.8698' | 0.89304206826329 45% -cre |
| | EoT at 12:00 UTC : +2m 34s (δ -0.34 s/h) | | Phase at 12:00 UTC : 349.19° | |
| | Meridian Pass. Time : 11:57:25.924 | | Age : 27.2 day(s) | |

| UT | Venus ♀ (π 0.12') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 217°27.03' | 29°03.10' | N 9°45.32' | 243°03.55' | 3°26.58' | S 0°24.14' | 243°03.46' | 3°26.67' | N 0°13.93' | 278°37.88' | 327°52.25' | S 14°09.40' | **00** |
| **01** | 232°26.71' | 29°05.89' | N 9°46.33' | 258°04.30' | 3°28.29' | S 0°23.42' | 258°05.54' | 3°27.05' | N 0°14.09' | 293°40.31' | 327°52.28' | S 14°09.40' | **01** |
| **02** | 247°26.39' | 29°08.67' | N 9°47.34' | 273°05.06' | 3°30.00' | S 0°22.69' | 273°07.63' | 3°27.43' | N 0°14.24' | 308°42.75' | 327°52.31' | S 14°09.40' | **02** |
| **03** | 262°26.06' | 29°11.46' | N 9°48.35' | 288°05.81' | 3°31.71' | S 0°21.97' | 288°09.71' | 3°27.81' | N 0°14.40' | 323°45.18' | 327°52.34' | S 14°09.40' | **03** |
| **04** | 277°25.74' | 29°14.25' | N 9°49.37' | 303°06.57' | 3°33.42' | S 0°21.24' | 303°11.79' | 3°28.19' | N 0°14.55' | 338°47.62' | 327°52.37' | S 14°09.39' | **04** |
| **05** | 292°25.42' | 29°17.04' | N 9°50.38' | 318°07.32' | 3°35.13' | S 0°20.52' | 318°13.88' | 3°28.58' | N 0°14.71' | 353°50.05' | 327°52.40' | S 14°09.39' | **05** |
| **06** | 307°25.09' | 29°19.82' | N 9°51.39' | 333°08.08' | 3°36.84' | S 0°19.79' | 333°15.96' | 3°28.96' | N 0°14.86' | 8°52.49' | 327°52.43' | S 14°09.39' | **06** |
| **07** | 322°24.77' | 29°22.61' | N 9°52.40' | 348°08.84' | 3°38.55' | S 0°19.06' | 348°18.05' | 3°29.34' | N 0°15.02' | 23°54.92' | 327°52.46' | S 14°09.39' | **07** |
| **08** | 337°24.45' | 29°25.40' | N 9°53.41' | 3°09.59' | 3°40.26' | S 0°18.34' | 3°20.13' | 3°29.72' | N 0°15.17' | 38°57.36' | 327°52.49' | S 14°09.39' | **08** |
| **09** | 352°24.12' | 29°28.19' | N 9°54.42' | 18°10.35' | 3°41.96' | S 0°17.61' | 18°22.21' | 3°30.10' | N 0°15.32' | 53°59.79' | 327°52.52' | S 14°09.38' | **09** |
| **10** | 7°23.80' | 29°30.98' | N 9°55.43' | 33°11.10' | 3°43.67' | S 0°16.89' | 33°24.30' | 3°30.48' | N 0°15.48' | 69°02.23' | 327°52.55' | S 14°09.38' | **10** |
| **11** | 22°23.47' | 29°33.77' | N 9°56.44' | 48°11.86' | 3°45.38' | S 0°16.17' | 48°26.38' | 3°30.85' | N 0°15.63' | 84°04.66' | 327°52.58' | S 14°09.38' | **11** |
| **12** | 37°23.15' | 29°36.56' | N 9°57.45' | 63°12.61' | 3°47.09' | S 0°15.44' | 63°28.47' | 3°31.23' | N 0°15.79' | 99°07.10' | 327°52.61' | S 14°09.38' | **12** |
| **13** | 52°22.82' | 29°39.35' | N 9°58.46' | 78°13.37' | 3°48.80' | S 0°14.72' | 78°30.55' | 3°31.61' | N 0°15.94' | 114°09.53' | 327°52.63' | S 14°09.38' | **13** |
| **14** | 67°22.49' | 29°42.14' | N 9°59.47' | 93°14.12' | 3°50.51' | S 0°13.99' | 93°32.64' | 3°31.99' | N 0°16.10' | 129°11.97' | 327°52.66' | S 14°09.38' | **14** |
| **15** | 82°22.17' | 29°44.93' | N 10°00.48' | 108°14.88' | 3°52.21' | S 0°13.27' | 108°34.72' | 3°32.37' | N 0°16.25' | 144°14.41' | 327°52.69' | S 14°09.37' | **15** |
| **16** | 97°21.84' | 29°47.72' | N 10°01.49' | 123°15.64' | 3°53.92' | S 0°12.54' | 123°36.81' | 3°32.75' | N 0°16.40' | 159°16.84' | 327°52.72' | S 14°09.37' | **16** |
| **17** | 112°21.51' | 29°50.51' | N 10°02.50' | 138°16.39' | 3°55.63' | S 0°11.82' | 138°38.90' | 3°33.13' | N 0°16.56' | 174°19.28' | 327°52.74' | S 14°09.37' | **17** |
| **18** | 127°21.19' | 29°53.30' | N 10°03.51' | 153°17.15' | 3°57.34' | S 0°11.09' | 153°40.98' | 3°33.51' | N 0°16.71' | 189°21.72' | 327°52.77' | S 14°09.37' | **18** |
| **19** | 142°20.86' | 29°56.09' | N 10°04.51' | 168°17.90' | 3°59.05' | S 0°10.37' | 168°43.07' | 3°33.88' | N 0°16.86' | 204°24.15' | 327°52.80' | S 14°09.37' | **19** |
| **20** | 157°20.53' | 29°58.89' | N 10°05.52' | 183°18.66' | 4°00.76' | S 0°09.64' | 183°45.15' | 3°34.26' | N 0°17.02' | 219°26.59' | 327°52.83' | S 14°09.37' | **20** |
| **21** | 172°20.20' | 30°01.68' | N 10°06.53' | 198°19.42' | 4°02.46' | S 0°08.92' | 198°47.24' | 3°34.64' | N 0°17.17' | 234°29.03' | 327°52.85' | S 14°09.37' | **21** |
| **22** | 187°19.87' | 30°04.47' | N 10°07.54' | 213°20.17' | 4°04.17' | S 0°08.19' | 213°49.33' | 3°35.02' | N 0°17.33' | 249°31.46' | 327°52.88' | S 14°09.37' | **22** |
| **23** | 202°19.54' | 30°07.27' | N 10°08.54' | 228°20.93' | 4°05.88' | S 0°07.47' | 228°51.41' | 3°35.39' | N 0°17.48' | 264°33.90' | 327°52.91' | S 14°09.36' | **23** |
| **24** | 217°19.21' | 30°10.06' | N 10°09.55' | 243°21.69' | 4°07.59' | S 0°06.74' | 243°53.50' | 3°35.77' | N 0°17.63' | 279°36.34' | 327°52.93' | S 14°09.36' | **24** |
| | δ 14.9946° | | *d* 1.0130' | δ 15.0126° | | *d* 0.7253' | δ 15.0347° | | *d* 0.1552' | δ 15.0406° | | *d* 0.0023' | |

## *Monday, May 30th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°37.49' | 14.9986° | 66°51.78' | N 21°44.10' | 0.3753' | 186°24.27' | 14.5228° | 61°05.00' | N 21°47.12' | 8.4800' | 54.4258' | 247°29.27' | **00** |
| **01** | 195°37.41' | 14.9986° | 66°54.33' | N 21°44.47' | 0.3747' | 200°55.59' | 14.5220° | 61°36.14' | N 21°55.50' | 8.3794' | 54.4145' | 262°31.74' | **01** |
| **02** | 210°37.32' | 14.9986° | 66°56.88' | N 21°44.85' | 0.3740' | 215°26.87' | 14.5212° | 62°07.33' | N 22°03.78' | 8.2781' | 54.4033' | 277°34.20' | **02** |
| **03** | 225°37.23' | 14.9985° | 66°59.43' | N 21°45.22' | 0.3734' | 229°58.09' | 14.5204° | 62°38.58' | N 22°11.95' | 8.1760' | 54.3922' | 292°36.66' | **03** |
| **04** | 240°37.14' | 14.9985° | 67°01.98' | N 21°45.59' | 0.3727' | 244°29.26' | 14.5196° | 63°09.86' | N 22°20.03' | 8.0732' | 54.3813' | 307°39.13' | **04** |
| **05** | 255°37.06' | 14.9985° | 67°04.54' | N 21°45.96' | 0.3720' | 259°00.39' | 14.5188° | 63°41.20' | N 22°28.00' | 7.9698' | 54.3706' | 322°41.59' | **05** |
| **06** | 270°36.97' | 14.9985° | 67°07.09' | N 21°46.33' | 0.3714' | 273°31.47' | 14.5180° | 64°12.59' | N 22°35.86' | 7.8656' | 54.3599' | 337°44.06' | **06** |
| **07** | 285°36.88' | 14.9985° | 67°09.64' | N 21°46.71' | 0.3707' | 288°02.50' | 14.5172° | 64°44.02' | N 22°43.62' | 7.7606' | 54.3494' | 352°46.52' | **07** |
| **08** | 300°36.79' | 14.9985° | 67°12.19' | N 21°47.08' | 0.3701' | 302°33.49' | 14.5164° | 65°15.50' | N 22°51.28' | 7.6550' | 54.3390' | 7°48.99' | **08** |
| **09** | 315°36.71' | 14.9985° | 67°14.74' | N 21°47.44' | 0.3694' | 317°04.43' | 14.5156° | 65°47.02' | N 22°58.83' | 7.5488' | 54.3288' | 22°51.45' | **09** |
| **10** | 330°36.62' | 14.9985° | 67°17.30' | N 21°47.81' | 0.3688' | 331°35.32' | 14.5149° | 66°18.60' | N 23°06.27' | 7.4418' | 54.3187' | 37°53.91' | **10** |
| **11** | 345°36.53' | 14.9985° | 67°19.85' | N 21°48.18' | 0.3681' | 346°06.16' | 14.5141° | 66°50.21' | N 23°13.60' | 7.3341' | 54.3087' | 52°56.38' | **11** |
| **12** | 0°36.44' | 14.9985° | 67°22.40' | N 21°48.55' | 0.3674' | 0°36.96' | 14.5133° | 67°21.88' | N 23°20.83' | 7.2258' | 54.2988' | 67°58.84' | **12** |
| **13** | 15°36.35' | 14.9985° | 67°24.96' | N 21°48.92' | 0.3668' | 15°07.72' | 14.5126° | 67°53.59' | N 23°27.95' | 7.1168' | 54.2891' | 83°01.31' | **13** |
| **14** | 30°36.26' | 14.9985° | 67°27.51' | N 21°49.28' | 0.3661' | 29°38.42' | 14.5118° | 68°25.35' | N 23°34.95' | 7.0072' | 54.2796' | 98°03.77' | **14** |
| **15** | 45°36.17' | 14.9985° | 67°30.06' | N 21°49.65' | 0.3655' | 44°09.09' | 14.5111° | 68°57.15' | N 23°41.85' | 6.8969' | 54.2701' | 113°06.24' | **15** |
| **16** | 60°36.08' | 14.9985° | 67°32.62' | N 21°50.01' | 0.3648' | 58°39.71' | 14.5103° | 69°28.99' | N 23°48.64' | 6.7859' | 54.2608' | 128°08.70' | **16** |
| **17** | 75°35.99' | 14.9985° | 67°35.17' | N 21°50.38' | 0.3641' | 73°10.28' | 14.5096° | 70°00.88' | N 23°55.31' | 6.6744' | 54.2517' | 143°11.16' | **17** |
| **18** | 90°35.90' | 14.9985° | 67°37.72' | N 21°50.74' | 0.3635' | 87°40.81' | 14.5089° | 70°32.81' | N 24°01.87' | 6.5622' | 54.2427' | 158°13.63' | **18** |
| **19** | 105°35.81' | 14.9985° | 67°40.28' | N 21°51.10' | 0.3628' | 102°11.30' | 14.5081° | 71°04.79' | N 24°08.32' | 6.4494' | 54.2338' | 173°16.09' | **19** |
| **20** | 120°35.72' | 14.9985° | 67°42.83' | N 21°51.46' | 0.3622' | 116°41.75' | 14.5074° | 71°36.81' | N 24°14.66' | 6.3359' | 54.2251' | 188°18.56' | **20** |
| **21** | 135°35.63' | 14.9985° | 67°45.39' | N 21°51.83' | 0.3615' | 131°12.15' | 14.5067° | 72°08.87' | N 24°20.88' | 6.2219' | 54.2165' | 203°21.02' | **21** |
| **22** | 150°35.54' | 14.9985° | 67°47.94' | N 21°52.19' | 0.3608' | 145°42.51' | 14.5060° | 72°40.97' | N 24°26.99' | 6.1073' | 54.2080' | 218°23.48' | **22** |
| **23** | 165°35.45' | 14.9985° | 67°50.50' | N 21°52.55' | 0.3602' | 160°12.83' | 14.5053° | 73°13.12' | N 24°32.98' | 5.9921' | 54.1997' | 233°25.95' | **23** |
| **24** | 180°35.36' | 14.9985° | 67°53.05' | N 21°52.91' | 0.3595' | 174°43.11' | 14.5047° | 73°45.30' | N 24°38.85' | 5.8764' | 54.1915' | 248°28.41' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7772' | hp (π) 0.1446' | ½Ø 14.7955' | 0.01810926955669 867% New |
| | EoT at 12:00 UTC : +2m 25s (δ -0.36 s/h) | | Phase at 12:00 UTC : 0.23° | |
| | Meridian Pass. Time : 11:57:34.243 | | Age : 0.0 day(s) | |

| UT | Venus ♀ (π 0.12') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 217°19.21' | 30°10.06' | N 10°09.55' | 243°21.69' | 4°07.59' | S 0°06.74' | 243°53.50' | 3°35.77' | N 0°17.63' | 279°36.34' | 327°52.93' | S 14°09.36' | **00** |
| **01** | 232°18.88' | 30°12.85' | N 10°10.56' | 258°22.44' | 4°09.29' | S 0°06.02' | 258°55.59' | 3°36.15' | N 0°17.79' | 294°38.78' | 327°52.96' | S 14°09.36' | **01** |
| **02** | 247°18.55' | 30°15.65' | N 10°11.56' | 273°23.20' | 4°11.00' | S 0°05.30' | 273°57.68' | 3°36.52' | N 0°17.94' | 309°41.22' | 327°52.98' | S 14°09.36' | **02** |
| **03** | 262°18.22' | 30°18.44' | N 10°12.57' | 288°23.96' | 4°12.71' | S 0°04.57' | 288°59.76' | 3°36.90' | N 0°18.09' | 324°43.65' | 327°53.01' | S 14°09.36' | **03** |
| **04** | 277°17.89' | 30°21.24' | N 10°13.57' | 303°24.71' | 4°14.42' | S 0°03.85' | 304°01.85' | 3°37.28' | N 0°18.24' | 339°46.09' | 327°53.04' | S 14°09.36' | **04** |
| **05** | 292°17.56' | 30°24.03' | N 10°14.58' | 318°25.47' | 4°16.12' | S 0°03.12' | 319°03.94' | 3°37.65' | N 0°18.40' | 354°48.53' | 327°53.06' | S 14°09.36' | **05** |
| **06** | 307°17.23' | 30°26.83' | N 10°15.58' | 333°26.23' | 4°17.83' | S 0°02.40' | 334°06.03' | 3°38.03' | N 0°18.55' | 9°50.97' | 327°53.09' | S 14°09.36' | **06** |
| **07** | 322°16.89' | 30°29.63' | N 10°16.58' | 348°26.98' | 4°19.54' | S 0°01.68' | 349°08.12' | 3°38.41' | N 0°18.70' | 24°53.41' | 327°53.11' | S 14°09.36' | **07** |
| **08** | 337°16.56' | 30°32.42' | N 10°17.59' | 3°27.74' | 4°21.25' | S 0°00.95' | 4°10.21' | 3°38.78' | N 0°18.86' | 39°55.85' | 327°53.14' | S 14°09.36' | **08** |
| **09** | 352°16.23' | 30°35.22' | N 10°18.59' | 18°28.50' | 4°22.95' | S 0°00.23' | 19°12.29' | 3°39.16' | N 0°19.01' | 54°58.29' | 327°53.16' | S 14°09.36' | **09** |
| **10** | 7°15.90' | 30°38.02' | N 10°19.60' | 33°29.25' | 4°24.66' | N 0°00.50' | 34°14.38' | 3°39.53' | N 0°19.16' | 70°00.73' | 327°53.19' | S 14°09.36' | **10** |
| **11** | 22°15.56' | 30°40.82' | N 10°20.60' | 48°30.01' | 4°26.37' | N 0°01.22' | 49°16.47' | 3°39.91' | N 0°19.31' | 85°03.17' | 327°53.21' | S 14°09.36' | **11** |
| **12** | 37°15.23' | 30°43.61' | N 10°21.60' | 63°30.77' | 4°28.07' | N 0°01.94' | 64°18.56' | 3°40.28' | N 0°19.46' | 100°05.61' | 327°53.24' | S 14°09.36' | **12** |
| **13** | 52°14.89' | 30°46.41' | N 10°22.60' | 78°31.53' | 4°29.78' | N 0°02.67' | 79°20.65' | 3°40.66' | N 0°19.62' | 115°08.05' | 327°53.26' | S 14°09.36' | **13** |
| **14** | 67°14.56' | 30°49.21' | N 10°23.61' | 93°32.28' | 4°31.49' | N 0°03.39' | 94°22.74' | 3°41.03' | N 0°19.77' | 130°10.49' | 327°53.28' | S 14°09.36' | **14** |
| **15** | 82°14.22' | 30°52.01' | N 10°24.61' | 108°33.04' | 4°33.19' | N 0°04.12' | 109°24.83' | 3°41.40' | N 0°19.92' | 145°12.93' | 327°53.31' | S 14°09.36' | **15** |
| **16** | 97°13.89' | 30°54.81' | N 10°25.61' | 123°33.80' | 4°34.90' | N 0°04.84' | 124°26.92' | 3°41.78' | N 0°20.07' | 160°15.37' | 327°53.33' | S 14°09.36' | **16** |
| **17** | 112°13.55' | 30°57.61' | N 10°26.61' | 138°34.56' | 4°36.61' | N 0°05.56' | 139°29.01' | 3°42.15' | N 0°20.22' | 175°17.81' | 327°53.36' | S 14°09.36' | **17** |
| **18** | 127°13.22' | 31°00.41' | N 10°27.61' | 153°35.31' | 4°38.31' | N 0°06.29' | 154°31.10' | 3°42.53' | N 0°20.38' | 190°20.25' | 327°53.38' | S 14°09.36' | **18** |
| **19** | 142°12.88' | 31°03.21' | N 10°28.61' | 168°36.07' | 4°40.02' | N 0°07.01' | 169°33.19' | 3°42.90' | N 0°20.53' | 205°22.69' | 327°53.40' | S 14°09.36' | **19** |
| **20** | 157°12.54' | 31°06.01' | N 10°29.61' | 183°36.83' | 4°41.73' | N 0°07.73' | 184°35.28' | 3°43.27' | N 0°20.68' | 220°25.13' | 327°53.43' | S 14°09.36' | **20** |
| **21** | 172°12.21' | 31°08.81' | N 10°30.61' | 198°37.59' | 4°43.43' | N 0°08.46' | 199°37.37' | 3°43.65' | N 0°20.83' | 235°27.57' | 327°53.45' | S 14°09.36' | **21** |
| **22** | 187°11.87' | 31°11.62' | N 10°31.61' | 213°38.35' | 4°45.14' | N 0°09.18' | 214°39.46' | 3°44.02' | N 0°20.98' | 250°30.01' | 327°53.47' | S 14°09.36' | **22** |
| **23** | 202°11.53' | 31°14.42' | N 10°32.61' | 228°39.10' | 4°46.84' | N 0°09.90' | 229°41.56' | 3°44.39' | N 0°21.13' | 265°32.45' | 327°53.49' | S 14°09.36' | **23** |
| **24** | 217°11.19' | 31°17.22' | N 10°33.61' | 243°39.86' | 4°48.55' | N 0°10.63' | 244°43.65' | 3°44.77' | N 0°21.28' | 280°34.90' | 327°53.52' | S 14°09.36' | **24** |
| | δ 14.9945° | | *d* 1.0060' | δ 15.0126° | | *d* 0.7243' | δ 15.0348° | | *d* 0.1532' | δ 15.0406° | | *d* 0.0009' | |

## *Tuesday, May 31st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°35.36' | 14.9985° | 67°53.05' | N 21°52.91' | 0.3595' | 174°43.11' | 14.5047° | 73°45.30' | N 24°38.85' | 5.8764' | 54.1915' | 248°28.41' | **00** |
| **01** | 195°35.27' | 14.9985° | 67°55.61' | N 21°53.27' | 0.3589' | 189°13.35' | 14.5040° | 74°17.52' | N 24°44.61' | 5.7600' | 54.1835' | 263°30.88' | **01** |
| **02** | 210°35.18' | 14.9985° | 67°58.16' | N 21°53.62' | 0.3582' | 203°43.55' | 14.5034° | 74°49.79' | N 24°50.26' | 5.6432' | 54.1756' | 278°33.34' | **02** |
| **03** | 225°35.09' | 14.9985° | 68°00.72' | N 21°53.98' | 0.3575' | 218°13.72' | 14.5027° | 75°22.09' | N 24°55.78' | 5.5257' | 54.1679' | 293°35.81' | **03** |
| **04** | 240°34.99' | 14.9985° | 68°03.28' | N 21°54.34' | 0.3569' | 232°43.84' | 14.5021° | 75°54.43' | N 25°01.19' | 5.4078' | 54.1603' | 308°38.27' | **04** |
| **05** | 255°34.90' | 14.9985° | 68°05.83' | N 21°54.69' | 0.3562' | 247°13.93' | 14.5015° | 76°26.81' | N 25°06.48' | 5.2893' | 54.1528' | 323°40.73' | **05** |
| **06** | 270°34.81' | 14.9985° | 68°08.39' | N 21°55.05' | 0.3555' | 261°43.98' | 14.5008° | 76°59.22' | N 25°11.65' | 5.1703' | 54.1455' | 338°43.20' | **06** |
| **07** | 285°34.72' | 14.9985° | 68°10.94' | N 21°55.41' | 0.3549' | 276°13.99' | 14.5002° | 77°31.67' | N 25°16.70' | 5.0508' | 54.1384' | 353°45.66' | **07** |
| **08** | 300°34.63' | 14.9985° | 68°13.50' | N 21°55.76' | 0.3542' | 290°43.97' | 14.4997° | 78°04.15' | N 25°21.63' | 4.9309' | 54.1314' | 8°48.13' | **08** |
| **09** | 315°34.53' | 14.9985° | 68°16.06' | N 21°56.11' | 0.3536' | 305°13.92' | 14.4991° | 78°36.67' | N 25°26.44' | 4.8104' | 54.1245' | 23°50.59' | **09** |
| **10** | 330°34.44' | 14.9985° | 68°18.61' | N 21°56.47' | 0.3529' | 319°43.83' | 14.4985° | 79°09.23' | N 25°31.13' | 4.6895' | 54.1178' | 38°53.05' | **10** |
| **11** | 345°34.35' | 14.9985° | 68°21.17' | N 21°56.82' | 0.3522' | 334°13.71' | 14.4980° | 79°41.81' | N 25°35.70' | 4.5681' | 54.1113' | 53°55.52' | **11** |
| **12** | 0°34.25' | 14.9984° | 68°23.73' | N 21°57.17' | 0.3516' | 348°43.55' | 14.4974° | 80°14.43' | N 25°40.15' | 4.4462' | 54.1049' | 68°57.98' | **12** |
| **13** | 15°34.16' | 14.9984° | 68°26.29' | N 21°57.52' | 0.3509' | 3°13.37' | 14.4969° | 80°47.08' | N 25°44.47' | 4.3240' | 54.0986' | 84°00.45' | **13** |
| **14** | 30°34.07' | 14.9984° | 68°28.84' | N 21°57.87' | 0.3502' | 17°43.15' | 14.4964° | 81°19.76' | N 25°48.67' | 4.2013' | 54.0925' | 99°02.91' | **14** |
| **15** | 45°33.97' | 14.9984° | 68°31.40' | N 21°58.22' | 0.3496' | 32°12.90' | 14.4959° | 81°52.47' | N 25°52.75' | 4.0782' | 54.0866' | 114°05.38' | **15** |
| **16** | 60°33.88' | 14.9984° | 68°33.96' | N 21°58.57' | 0.3489' | 46°42.63' | 14.4954° | 82°25.21' | N 25°56.71' | 3.9547' | 54.0808' | 129°07.84' | **16** |
| **17** | 75°33.79' | 14.9984° | 68°36.52' | N 21°58.92' | 0.3482' | 61°12.33' | 14.4950° | 82°57.98' | N 26°00.54' | 3.8308' | 54.0751' | 144°10.30' | **17** |
| **18** | 90°33.69' | 14.9984° | 68°39.08' | N 21°59.26' | 0.3476' | 75°42.00' | 14.4945° | 83°30.77' | N 26°04.24' | 3.7065' | 54.0697' | 159°12.77' | **18** |
| **19** | 105°33.60' | 14.9984° | 68°41.64' | N 21°59.61' | 0.3469' | 90°11.64' | 14.4941° | 84°03.59' | N 26°07.82' | 3.5819' | 54.0643' | 174°15.23' | **19** |
| **20** | 120°33.50' | 14.9984° | 68°44.19' | N 21°59.96' | 0.3462' | 104°41.26' | 14.4936° | 84°36.44' | N 26°11.28' | 3.4569' | 54.0592' | 189°17.70' | **20** |
| **21** | 135°33.41' | 14.9984° | 68°46.75' | N 22°00.30' | 0.3456' | 119°10.85' | 14.4932° | 85°09.31' | N 26°14.61' | 3.3316' | 54.0542' | 204°20.16' | **21** |
| **22** | 150°33.31' | 14.9984° | 68°49.31' | N 22°00.65' | 0.3449' | 133°40.42' | 14.4928° | 85°42.20' | N 26°17.82' | 3.2060' | 54.0493' | 219°22.62' | **22** |
| **23** | 165°33.22' | 14.9984° | 68°51.87' | N 22°00.99' | 0.3442' | 148°09.97' | 14.4925° | 86°15.12' | N 26°20.90' | 3.0801' | 54.0447' | 234°25.09' | **23** |
| **24** | 180°33.12' | 14.9984° | 68°54.43' | N 22°01.34' | 0.3436' | 162°39.50' | 14.4921° | 86°48.06' | N 26°23.85' | 2.9538' | 54.0401' | 249°27.55' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7748' | hp (π) 0.1446' | ½Ø 14.7426' | 1.00045600502434<br>72% +cre |
| | EoT at 12:00 UTC : +2m 17s (δ -0.37 s/h) | | Phase at 12:00 UTC : 11.17° | |
| | Meridian Pass. Time : 11:57:42.986 | | Age : 0.9 day(s) | |

| UT | Venus ♀ (π 0.12') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 217°11.19' | 31°17.22' | N 10°33.61' | 243°39.86' | 4°48.55' | N 0°10.63' | 244°43.65' | 3°44.77' | N 0°21.28' | 280°34.90' | 327°53.52' | S 14°09.36' | **00** |
| **01** | 232°10.85' | 31°20.02' | N 10°34.61' | 258°40.62' | 4°50.26' | N 0°11.35' | 259°45.74' | 3°45.14' | N 0°21.44' | 295°37.34' | 327°53.54' | S 14°09.36' | **01** |
| **02** | 247°10.51' | 31°22.83' | N 10°35.61' | 273°41.38' | 4°51.96' | N 0°12.07' | 274°47.83' | 3°45.51' | N 0°21.59' | 310°39.78' | 327°53.56' | S 14°09.36' | **02** |
| **03** | 262°10.17' | 31°25.63' | N 10°36.60' | 288°42.14' | 4°53.67' | N 0°12.80' | 289°49.92' | 3°45.88' | N 0°21.74' | 325°42.22' | 327°53.58' | S 14°09.36' | **03** |
| **04** | 277°09.83' | 31°28.43' | N 10°37.60' | 303°42.89' | 4°55.37' | N 0°13.52' | 304°52.02' | 3°46.25' | N 0°21.89' | 340°44.67' | 327°53.60' | S 14°09.36' | **04** |
| **05** | 292°09.49' | 31°31.24' | N 10°38.60' | 318°43.65' | 4°57.08' | N 0°14.24' | 319°54.11' | 3°46.63' | N 0°22.04' | 355°47.11' | 327°53.63' | S 14°09.36' | **05** |
| **06** | 307°09.15' | 31°34.04' | N 10°39.60' | 333°44.41' | 4°58.79' | N 0°14.97' | 334°56.20' | 3°47.00' | N 0°22.19' | 10°49.55' | 327°53.65' | S 14°09.36' | **06** |
| **07** | 322°08.81' | 31°36.85' | N 10°40.59' | 348°45.17' | 5°00.49' | N 0°15.69' | 349°58.29' | 3°47.37' | N 0°22.34' | 25°51.99' | 327°53.67' | S 14°09.36' | **07** |
| **08** | 337°08.47' | 31°39.65' | N 10°41.59' | 3°45.93' | 5°02.20' | N 0°16.41' | 5°00.39' | 3°47.74' | N 0°22.49' | 40°54.44' | 327°53.69' | S 14°09.36' | **08** |
| **09** | 352°08.13' | 31°42.46' | N 10°42.59' | 18°46.69' | 5°03.90' | N 0°17.14' | 20°02.48' | 3°48.11' | N 0°22.64' | 55°56.88' | 327°53.71' | S 14°09.37' | **09** |
| **10** | 7°07.79' | 31°45.27' | N 10°43.58' | 33°47.45' | 5°05.61' | N 0°17.86' | 35°04.57' | 3°48.48' | N 0°22.79' | 70°59.32' | 327°53.73' | S 14°09.37' | **10** |
| **11** | 22°07.45' | 31°48.07' | N 10°44.58' | 48°48.21' | 5°07.31' | N 0°18.58' | 50°06.67' | 3°48.85' | N 0°22.94' | 86°01.77' | 327°53.75' | S 14°09.37' | **11** |
| **12** | 37°07.10' | 31°50.88' | N 10°45.57' | 63°48.96' | 5°09.02' | N 0°19.30' | 65°08.76' | 3°49.22' | N 0°23.09' | 101°04.21' | 327°53.77' | S 14°09.37' | **12** |
| **13** | 52°06.76' | 31°53.69' | N 10°46.57' | 78°49.72' | 5°10.72' | N 0°20.03' | 80°10.86' | 3°49.59' | N 0°23.24' | 116°06.66' | 327°53.79' | S 14°09.37' | **13** |
| **14** | 67°06.42' | 31°56.49' | N 10°47.56' | 93°50.48' | 5°12.43' | N 0°20.75' | 95°12.95' | 3°49.96' | N 0°23.39' | 131°09.10' | 327°53.81' | S 14°09.37' | **14** |
| **15** | 82°06.07' | 31°59.30' | N 10°48.55' | 108°51.24' | 5°14.13' | N 0°21.47' | 110°15.04' | 3°50.33' | N 0°23.54' | 146°11.54' | 327°53.83' | S 14°09.37' | **15** |
| **16** | 97°05.73' | 32°02.11' | N 10°49.55' | 123°52.00' | 5°15.84' | N 0°22.19' | 125°17.14' | 3°50.70' | N 0°23.69' | 161°13.99' | 327°53.85' | S 14°09.37' | **16** |
| **17** | 112°05.38' | 32°04.92' | N 10°50.54' | 138°52.76' | 5°17.54' | N 0°22.92' | 140°19.23' | 3°51.07' | N 0°23.84' | 176°16.43' | 327°53.87' | S 14°09.37' | **17** |
| **18** | 127°05.04' | 32°07.73' | N 10°51.53' | 153°53.52' | 5°19.25' | N 0°23.64' | 155°21.33' | 3°51.44' | N 0°23.99' | 191°18.88' | 327°53.89' | S 14°09.38' | **18** |
| **19** | 142°04.69' | 32°10.54' | N 10°52.53' | 168°54.28' | 5°20.95' | N 0°24.36' | 170°23.42' | 3°51.81' | N 0°24.14' | 206°21.32' | 327°53.91' | S 14°09.38' | **19** |
| **20** | 157°04.35' | 32°13.35' | N 10°53.52' | 183°55.04' | 5°22.66' | N 0°25.08' | 185°25.52' | 3°52.18' | N 0°24.29' | 221°23.77' | 327°53.93' | S 14°09.38' | **20** |
| **21** | 172°04.00' | 32°16.16' | N 10°54.51' | 198°55.80' | 5°24.36' | N 0°25.81' | 200°27.61' | 3°52.55' | N 0°24.44' | 236°26.21' | 327°53.95' | S 14°09.38' | **21** |
| **22** | 187°03.66' | 32°18.97' | N 10°55.50' | 213°56.56' | 5°26.07' | N 0°26.53' | 215°29.71' | 3°52.92' | N 0°24.59' | 251°28.66' | 327°53.97' | S 14°09.38' | **22** |
| **23** | 202°03.31' | 32°21.78' | N 10°56.49' | 228°57.32' | 5°27.77' | N 0°27.25' | 230°31.81' | 3°53.28' | N 0°24.74' | 266°31.10' | 327°53.99' | S 14°09.38' | **23** |
| **24** | 217°02.96' | 32°24.59' | N 10°57.49' | 243°58.08' | 5°29.48' | N 0°27.97' | 245°33.90' | 3°53.65' | N 0°24.89' | 281°33.55' | 327°54.00' | S 14°09.39' | **24** |
| | δ 14.9944° | | *d* 0.9986' | δ 15.0126° | | *d* 0.7233' | δ 15.0349° | | *d* 0.1511' | δ 15.0407° | | *d* 0.0005' | |

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°33.12' | 14.9984° | 68°54.43' | N 22°01.34' | 0.3436' | 162°39.50' | 14.4921° | 86°48.06' | N 26°23.85' | 2.9538' | 54.0401' | 249°27.55' | **00** |
| **01** | 195°33.03' | 14.9984° | 68°56.99' | N 22°01.68' | 0.3429' | 177°09.00' | 14.4918° | 87°21.01' | N 26°26.68' | 2.8273' | 54.0358' | 264°30.02' | **01** |
| **02** | 210°32.93' | 14.9984° | 68°59.55' | N 22°02.02' | 0.3422' | 191°38.49' | 14.4914° | 87°53.99' | N 26°29.38' | 2.7005' | 54.0316' | 279°32.48' | **02** |
| **03** | 225°32.84' | 14.9984° | 69°02.11' | N 22°02.36' | 0.3416' | 206°07.96' | 14.4911° | 88°26.99' | N 26°31.95' | 2.5735' | 54.0276' | 294°34.95' | **03** |
| **04** | 240°32.74' | 14.9984° | 69°04.67' | N 22°02.70' | 0.3409' | 220°37.41' | 14.4908° | 89°00.00' | N 26°34.40' | 2.4462' | 54.0237' | 309°37.41' | **04** |
| **05** | 255°32.64' | 14.9984° | 69°07.23' | N 22°03.04' | 0.3402' | 235°06.84' | 14.4906° | 89°33.03' | N 26°36.72' | 2.3186' | 54.0200' | 324°39.87' | **05** |
| **06** | 270°32.55' | 14.9984° | 69°09.79' | N 22°03.38' | 0.3396' | 249°36.26' | 14.4903° | 90°06.08' | N 26°38.91' | 2.1909' | 54.0165' | 339°42.34' | **06** |
| **07** | 285°32.45' | 14.9984° | 69°12.35' | N 22°03.72' | 0.3389' | 264°05.66' | 14.4900° | 90°39.14' | N 26°40.97' | 2.0630' | 54.0131' | 354°44.80' | **07** |
| **08** | 300°32.35' | 14.9984° | 69°14.91' | N 22°04.06' | 0.3382' | 278°35.05' | 14.4898° | 91°12.22' | N 26°42.91' | 1.9348' | 54.0099' | 9°47.27' | **08** |
| **09** | 315°32.26' | 14.9984° | 69°17.47' | N 22°04.40' | 0.3376' | 293°04.43' | 14.4896° | 91°45.30' | N 26°44.71' | 1.8065' | 54.0069' | 24°49.73' | **09** |
| **10** | 330°32.16' | 14.9984° | 69°20.03' | N 22°04.74' | 0.3369' | 307°33.79' | 14.4894° | 92°18.40' | N 26°46.39' | 1.6781' | 54.0041' | 39°52.20' | **10** |
| **11** | 345°32.06' | 14.9984° | 69°22.60' | N 22°05.07' | 0.3362' | 322°03.15' | 14.4892° | 92°51.51' | N 26°47.94' | 1.5494' | 54.0014' | 54°54.66' | **11** |
| **12** | 0°31.97' | 14.9984° | 69°25.16' | N 22°05.41' | 0.3356' | 336°32.49' | 14.4891° | 93°24.63' | N 26°49.36' | 1.4207' | 53.9989' | 69°57.12' | **12** |
| **13** | 15°31.87' | 14.9984° | 69°27.72' | N 22°05.74' | 0.3349' | 351°01.83' | 14.4890° | 93°57.76' | N 26°50.65' | 1.2918' | 53.9966' | 84°59.59' | **13** |
| **14** | 30°31.77' | 14.9984° | 69°30.28' | N 22°06.08' | 0.3342' | 5°31.16' | 14.4888° | 94°30.89' | N 26°51.82' | 1.1629' | 53.9944' | 100°02.05' | **14** |
| **15** | 45°31.67' | 14.9984° | 69°32.84' | N 22°06.41' | 0.3335' | 20°00.48' | 14.4887° | 95°04.03' | N 26°52.85' | 1.0338' | 53.9925' | 115°04.52' | **15** |
| **16** | 60°31.58' | 14.9984° | 69°35.40' | N 22°06.74' | 0.3329' | 34°29.80' | 14.4886° | 95°37.18' | N 26°53.76' | 0.9047' | 53.9907' | 130°06.98' | **16** |
| **17** | 75°31.48' | 14.9984° | 69°37.97' | N 22°07.07' | 0.3322' | 48°59.12' | 14.4886° | 96°10.33' | N 26°54.53' | 0.7755' | 53.9891' | 145°09.44' | **17** |
| **18** | 90°31.38' | 14.9984° | 69°40.53' | N 22°07.41' | 0.3315' | 63°28.43' | 14.4885° | 96°43.48' | N 26°55.18' | 0.6462' | 53.9876' | 160°11.91' | **18** |
| **19** | 105°31.28' | 14.9984° | 69°43.09' | N 22°07.74' | 0.3309' | 77°57.74' | 14.4885° | 97°16.64' | N 26°55.69' | 0.5169' | 53.9864' | 175°14.37' | **19** |
| **20** | 120°31.18' | 14.9984° | 69°45.65' | N 22°08.07' | 0.3302' | 92°27.05' | 14.4885° | 97°49.79' | N 26°56.08' | 0.3876' | 53.9853' | 190°16.84' | **20** |
| **21** | 135°31.08' | 14.9984° | 69°48.22' | N 22°08.40' | 0.3295' | 106°56.36' | 14.4885° | 98°22.95' | N 26°56.34' | 0.2583' | 53.9844' | 205°19.30' | **21** |
| **22** | 150°30.98' | 14.9984° | 69°50.78' | N 22°08.73' | 0.3288' | 121°25.67' | 14.4885° | 98°56.10' | N 26°56.47' | 0.1290' | 53.9837' | 220°21.77' | **22** |
| **23** | 165°30.89' | 14.9983° | 69°53.34' | N 22°09.05' | 0.3282' | 135°54.98' | 14.4885° | 99°29.25' | N 26°56.47' | 0.0003' | 53.9832' | 235°24.23' | **23** |
| **24** | 180°30.79' | 14.9983° | 69°55.91' | N 22°09.38' | 0.3275' | 150°24.29' | 14.4886° | 100°02.40' | N 26°56.34' | 0.1295' | 53.9829' | 250°26.69' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 15.7723' | hp (π) 0.1445' | ½Ø 14.7138' | 3.76170826689081<br>75% +cre | |
| | EoT at 12:00 UTC : +2m 7s (δ -0.39 s/h) | | Phase at 12:00 UTC : 22.06° | | |
| | Meridian Pass. Time : 11:57:52.134 | | Age : 1.7 day(s) | | |

| UT | Venus ♀ (π 0.12') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 217°02.96' | 32°24.59' | N 10°57.49' | 243°58.08' | 5°29.48' | N 0°27.97' | 245°33.90' | 3°53.65' | N 0°24.89' | 281°33.55' | 327°54.00' | S 14°09.39' | **00** |
| **01** | 232°02.61' | 32°27.40' | N 10°58.48' | 258°58.84' | 5°31.18' | N 0°28.69' | 260°36.00' | 3°54.02' | N 0°25.04' | 296°36.00' | 327°54.02' | S 14°09.39' | **01** |
| **02** | 247°02.27' | 32°30.21' | N 10°59.47' | 273°59.60' | 5°32.89' | N 0°29.42' | 275°38.09' | 3°54.39' | N 0°25.19' | 311°38.44' | 327°54.04' | S 14°09.39' | **02** |
| **03** | 262°01.92' | 32°33.03' | N 11°00.46' | 289°00.36' | 5°34.59' | N 0°30.14' | 290°40.19' | 3°54.75' | N 0°25.33' | 326°40.89' | 327°54.06' | S 14°09.39' | **03** |
| **04** | 277°01.57' | 32°35.84' | N 11°01.45' | 304°01.12' | 5°36.29' | N 0°30.86' | 305°42.29' | 3°55.12' | N 0°25.48' | 341°43.33' | 327°54.08' | S 14°09.39' | **04** |
| **05** | 292°01.22' | 32°38.65' | N 11°02.44' | 319°01.88' | 5°38.00' | N 0°31.58' | 320°44.38' | 3°55.49' | N 0°25.63' | 356°45.78' | 327°54.09' | S 14°09.40' | **05** |
| **06** | 307°00.87' | 32°41.47' | N 11°03.42' | 334°02.64' | 5°39.70' | N 0°32.30' | 335°46.48' | 3°55.86' | N 0°25.78' | 11°48.23' | 327°54.11' | S 14°09.40' | **06** |
| **07** | 322°00.52' | 32°44.28' | N 11°04.41' | 349°03.40' | 5°41.41' | N 0°33.03' | 350°48.58' | 3°56.22' | N 0°25.93' | 26°50.67' | 327°54.13' | S 14°09.40' | **07** |
| **08** | 337°00.17' | 32°47.10' | N 11°05.40' | 4°04.16' | 5°43.11' | N 0°33.75' | 5°50.68' | 3°56.59' | N 0°26.08' | 41°53.12' | 327°54.15' | S 14°09.40' | **08** |
| **09** | 351°59.82' | 32°49.91' | N 11°06.39' | 19°04.92' | 5°44.81' | N 0°34.47' | 20°52.78' | 3°56.96' | N 0°26.23' | 56°55.57' | 327°54.16' | S 14°09.41' | **09** |
| **10** | 6°59.47' | 32°52.73' | N 11°07.38' | 34°05.68' | 5°46.52' | N 0°35.19' | 35°54.87' | 3°57.32' | N 0°26.37' | 71°58.02' | 327°54.18' | S 14°09.41' | **10** |
| **11** | 21°59.12' | 32°55.54' | N 11°08.36' | 49°06.44' | 5°48.22' | N 0°35.91' | 50°56.97' | 3°57.69' | N 0°26.52' | 87°00.46' | 327°54.20' | S 14°09.41' | **11** |
| **12** | 36°58.77' | 32°58.36' | N 11°09.35' | 64°07.20' | 5°49.93' | N 0°36.63' | 65°59.07' | 3°58.05' | N 0°26.67' | 102°02.91' | 327°54.21' | S 14°09.41' | **12** |
| **13** | 51°58.42' | 33°01.17' | N 11°10.34' | 79°07.96' | 5°51.63' | N 0°37.36' | 81°01.17' | 3°58.42' | N 0°26.82' | 117°05.36' | 327°54.23' | S 14°09.42' | **13** |
| **14** | 66°58.06' | 33°03.99' | N 11°11.32' | 94°08.72' | 5°53.33' | N 0°38.08' | 96°03.27' | 3°58.79' | N 0°26.97' | 132°07.81' | 327°54.24' | S 14°09.42' | **14** |
| **15** | 81°57.71' | 33°06.81' | N 11°12.31' | 109°09.48' | 5°55.04' | N 0°38.80' | 111°05.37' | 3°59.15' | N 0°27.11' | 147°10.26' | 327°54.26' | S 14°09.42' | **15** |
| **16** | 96°57.36' | 33°09.62' | N 11°13.29' | 124°10.24' | 5°56.74' | N 0°39.52' | 126°07.47' | 3°59.52' | N 0°27.26' | 162°12.70' | 327°54.28' | S 14°09.42' | **16** |
| **17** | 111°57.00' | 33°12.44' | N 11°14.28' | 139°11.00' | 5°58.44' | N 0°40.24' | 141°09.56' | 3°59.88' | N 0°27.41' | 177°15.15' | 327°54.29' | S 14°09.43' | **17** |
| **18** | 126°56.65' | 33°15.26' | N 11°15.26' | 154°11.76' | 6°00.15' | N 0°40.96' | 156°11.66' | 4°00.24' | N 0°27.56' | 192°17.60' | 327°54.31' | S 14°09.43' | **18** |
| **19** | 141°56.30' | 33°18.08' | N 11°16.25' | 169°12.52' | 6°01.85' | N 0°41.68' | 171°13.76' | 4°00.61' | N 0°27.70' | 207°20.05' | 327°54.32' | S 14°09.43' | **19** |
| **20** | 156°55.94' | 33°20.90' | N 11°17.23' | 184°13.28' | 6°03.55' | N 0°42.40' | 186°15.86' | 4°00.97' | N 0°27.85' | 222°22.50' | 327°54.34' | S 14°09.44' | **20** |
| **21** | 171°55.59' | 33°23.72' | N 11°18.22' | 199°14.05' | 6°05.26' | N 0°43.13' | 201°17.96' | 4°01.34' | N 0°28.00' | 237°24.95' | 327°54.35' | S 14°09.44' | **21** |
| **22** | 186°55.23' | 33°26.54' | N 11°19.20' | 214°14.81' | 6°06.96' | N 0°43.85' | 216°20.06' | 4°01.70' | N 0°28.15' | 252°27.40' | 327°54.37' | S 14°09.44' | **22** |
| **23** | 201°54.87' | 33°29.36' | N 11°20.18' | 229°15.57' | 6°08.66' | N 0°44.57' | 231°22.16' | 4°02.07' | N 0°28.29' | 267°29.85' | 327°54.38' | S 14°09.44' | **23** |
| **24** | 216°54.52' | 33°32.18' | N 11°21.17' | 244°16.33' | 6°10.36' | N 0°45.29' | 246°24.27' | 4°02.43' | N 0°28.44' | 282°32.30' | 327°54.40' | S 14°09.45' | **24** |
| | δ 14.9942° | | *d* 0.9907' | δ 15.0127° | | *d* 0.7221' | δ 15.0349° | | *d* 0.1490' | δ 15.0408° | | *d* 0.0019' | |

## *Thursday, June 2nd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°30.79' | 14.9983° | 69°55.91' | N 22°09.38' | 0.3275' | 150°24.29' | 14.4886° | 100°02.40' | N 26°56.34' | 0.1295' | 53.9829' | 250°26.69' | **00** |
| **01** | 195°30.69' | 14.9983° | 69°58.47' | N 22°09.71' | 0.3268' | 164°53.61' | 14.4887° | 100°35.54' | N 26°56.08' | 0.2587' | 53.9827' | 265°29.16' | **01** |
| **02** | 210°30.59' | 14.9983° | 70°01.03' | N 22°10.03' | 0.3262' | 179°22.94' | 14.4888° | 101°08.68' | N 26°55.69' | 0.3879' | 53.9828' | 280°31.62' | **02** |
| **03** | 225°30.49' | 14.9983° | 70°03.60' | N 22°10.36' | 0.3255' | 193°52.27' | 14.4889° | 101°41.81' | N 26°55.18' | 0.5169' | 53.9830' | 295°34.09' | **03** |
| **04** | 240°30.39' | 14.9983° | 70°06.16' | N 22°10.68' | 0.3248' | 208°21.61' | 14.4890° | 102°14.94' | N 26°54.53' | 0.6459' | 53.9835' | 310°36.55' | **04** |
| **05** | 255°30.29' | 14.9983° | 70°08.73' | N 22°11.01' | 0.3241' | 222°50.96' | 14.4891° | 102°48.05' | N 26°53.75' | 0.7748' | 53.9841' | 325°39.01' | **05** |
| **06** | 270°30.19' | 14.9983° | 70°11.29' | N 22°11.33' | 0.3235' | 237°20.32' | 14.4893° | 103°21.16' | N 26°52.85' | 0.9035' | 53.9849' | 340°41.48' | **06** |
| **07** | 285°30.09' | 14.9983° | 70°13.86' | N 22°11.66' | 0.3228' | 251°49.69' | 14.4895° | 103°54.25' | N 26°51.82' | 1.0321' | 53.9859' | 355°43.94' | **07** |
| **08** | 300°29.99' | 14.9983° | 70°16.42' | N 22°11.98' | 0.3221' | 266°19.07' | 14.4897° | 104°27.34' | N 26°50.66' | 1.1606' | 53.9871' | 10°46.41' | **08** |
| **09** | 315°29.89' | 14.9983° | 70°18.99' | N 22°12.30' | 0.3214' | 280°48.46' | 14.4899° | 105°00.41' | N 26°49.37' | 1.2889' | 53.9885' | 25°48.87' | **09** |
| **10** | 330°29.79' | 14.9983° | 70°21.55' | N 22°12.62' | 0.3208' | 295°17.87' | 14.4901° | 105°33.46' | N 26°47.95' | 1.4171' | 53.9901' | 40°51.34' | **10** |
| **11** | 345°29.68' | 14.9983° | 70°24.12' | N 22°12.94' | 0.3201' | 309°47.30' | 14.4904° | 106°06.50' | N 26°46.41' | 1.5451' | 53.9919' | 55°53.80' | **11** |
| **12** | 0°29.58' | 14.9983° | 70°26.68' | N 22°13.26' | 0.3194' | 324°16.73' | 14.4906° | 106°39.53' | N 26°44.73' | 1.6728' | 53.9939' | 70°56.26' | **12** |
| **13** | 15°29.48' | 14.9983° | 70°29.25' | N 22°13.58' | 0.3187' | 338°46.19' | 14.4909° | 107°12.54' | N 26°42.93' | 1.8004' | 53.9961' | 85°58.73' | **13** |
| **14** | 30°29.38' | 14.9983° | 70°31.81' | N 22°13.90' | 0.3181' | 353°15.66' | 14.4912° | 107°45.53' | N 26°41.01' | 1.9277' | 53.9985' | 101°01.19' | **14** |
| **15** | 45°29.28' | 14.9983° | 70°34.38' | N 22°14.21' | 0.3174' | 7°45.15' | 14.4915° | 108°18.50' | N 26°38.95' | 2.0548' | 54.0011' | 116°03.66' | **15** |
| **16** | 60°29.18' | 14.9983° | 70°36.94' | N 22°14.53' | 0.3167' | 22°14.67' | 14.4919° | 108°51.45' | N 26°36.77' | 2.1817' | 54.0040' | 131°06.12' | **16** |
| **17** | 75°29.08' | 14.9983° | 70°39.51' | N 22°14.85' | 0.3160' | 36°44.20' | 14.4922° | 109°24.39' | N 26°34.46' | 2.3083' | 54.0070' | 146°08.59' | **17** |
| **18** | 90°28.97' | 14.9983° | 70°42.08' | N 22°15.16' | 0.3154' | 51°13.75' | 14.4926° | 109°57.30' | N 26°32.03' | 2.4346' | 54.0102' | 161°11.05' | **18** |
| **19** | 105°28.87' | 14.9983° | 70°44.64' | N 22°15.48' | 0.3147' | 65°43.33' | 14.4929° | 110°30.18' | N 26°29.47' | 2.5607' | 54.0136' | 176°13.51' | **19** |
| **20** | 120°28.77' | 14.9983° | 70°47.21' | N 22°15.79' | 0.3140' | 80°12.93' | 14.4933° | 111°03.05' | N 26°26.78' | 2.6864' | 54.0173' | 191°15.98' | **20** |
| **21** | 135°28.67' | 14.9983° | 70°49.78' | N 22°16.10' | 0.3133' | 94°42.55' | 14.4937° | 111°35.89' | N 26°23.97' | 2.8119' | 54.0211' | 206°18.44' | **21** |
| **22** | 150°28.56' | 14.9983° | 70°52.34' | N 22°16.42' | 0.3127' | 109°12.20' | 14.4942° | 112°08.70' | N 26°21.03' | 2.9370' | 54.0252' | 221°20.91' | **22** |
| **23** | 165°28.46' | 14.9983° | 70°54.91' | N 22°16.73' | 0.3120' | 123°41.88' | 14.4946° | 112°41.49' | N 26°17.97' | 3.0618' | 54.0295' | 236°23.37' | **23** |
| **24** | 180°28.36' | 14.9983° | 70°57.48' | N 22°17.04' | 0.3113' | 138°11.58' | 14.4950° | 113°14.25' | N 26°14.78' | 3.1863' | 54.0340' | 251°25.83' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.7700' | hp (π) 0.1445' | ½Ø 14.7124' | 8.18123498239615<br>2% +cre | |
| EoT at 12:00 UTC : +1m 58s (δ -0.40 s/h) | | Phase at 12:00 UTC : 32.92° | | |
| Meridian Pass. Time : 11:58:01.667 | | Age : 2.6 day(s) | | |

| UT | Venus ♀ (π 0.12') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 216°54.52' | 33°32.18' | N 11°21.17' | 244°16.33' | 6°10.36' | N 0°45.29' | 246°24.27' | 4°02.43' | N 0°28.44' | 282°32.30' | 327°54.40' | S 14°09.45' | **00** |
| **01** | 231°54.16' | 33°35.00' | N 11°22.15' | 259°17.09' | 6°12.07' | N 0°46.01' | 261°26.37' | 4°02.79' | N 0°28.59' | 297°34.75' | 327°54.41' | S 14°09.45' | **01** |
| **02** | 246°53.80' | 33°37.82' | N 11°23.13' | 274°17.85' | 6°13.77' | N 0°46.73' | 276°28.47' | 4°03.16' | N 0°28.73' | 312°37.20' | 327°54.42' | S 14°09.45' | **02** |
| **03** | 261°53.45' | 33°40.64' | N 11°24.11' | 289°18.61' | 6°15.47' | N 0°47.45' | 291°30.57' | 4°03.52' | N 0°28.88' | 327°39.65' | 327°54.44' | S 14°09.46' | **03** |
| **04** | 276°53.09' | 33°43.46' | N 11°25.09' | 304°19.38' | 6°17.18' | N 0°48.17' | 306°32.67' | 4°03.88' | N 0°29.03' | 342°42.10' | 327°54.45' | S 14°09.46' | **04** |
| **05** | 291°52.73' | 33°46.28' | N 11°26.07' | 319°20.14' | 6°18.88' | N 0°48.89' | 321°34.77' | 4°04.24' | N 0°29.17' | 357°44.55' | 327°54.47' | S 14°09.47' | **05** |
| **06** | 306°52.37' | 33°49.11' | N 11°27.05' | 334°20.90' | 6°20.58' | N 0°49.61' | 336°36.87' | 4°04.61' | N 0°29.32' | 12°47.00' | 327°54.48' | S 14°09.47' | **06** |
| **07** | 321°52.01' | 33°51.93' | N 11°28.03' | 349°21.66' | 6°22.28' | N 0°50.33' | 351°38.98' | 4°04.97' | N 0°29.47' | 27°49.45' | 327°54.49' | S 14°09.47' | **07** |
| **08** | 336°51.65' | 33°54.75' | N 11°29.01' | 4°22.42' | 6°23.99' | N 0°51.05' | 6°41.08' | 4°05.33' | N 0°29.61' | 42°51.90' | 327°54.51' | S 14°09.48' | **08** |
| **09** | 351°51.30' | 33°57.58' | N 11°29.99' | 19°23.18' | 6°25.69' | N 0°51.77' | 21°43.18' | 4°05.69' | N 0°29.76' | 57°54.35' | 327°54.52' | S 14°09.48' | **09** |
| **10** | 6°50.94' | 34°00.40' | N 11°30.97' | 34°23.95' | 6°27.39' | N 0°52.49' | 36°45.28' | 4°06.05' | N 0°29.91' | 72°56.80' | 327°54.53' | S 14°09.48' | **10** |
| **11** | 21°50.57' | 34°03.23' | N 11°31.95' | 49°24.71' | 6°29.09' | N 0°53.21' | 51°47.39' | 4°06.41' | N 0°30.05' | 87°59.26' | 327°54.54' | S 14°09.49' | **11** |
| **12** | 36°50.21' | 34°06.05' | N 11°32.93' | 64°25.47' | 6°30.79' | N 0°53.93' | 66°49.49' | 4°06.78' | N 0°30.20' | 103°01.71' | 327°54.56' | S 14°09.49' | **12** |
| **13** | 51°49.85' | 34°08.88' | N 11°33.91' | 79°26.23' | 6°32.50' | N 0°54.65' | 81°51.59' | 4°07.14' | N 0°30.34' | 118°04.16' | 327°54.57' | S 14°09.50' | **13** |
| **14** | 66°49.49' | 34°11.70' | N 11°34.88' | 94°26.99' | 6°34.20' | N 0°55.37' | 96°53.69' | 4°07.50' | N 0°30.49' | 133°06.61' | 327°54.58' | S 14°09.50' | **14** |
| **15** | 81°49.13' | 34°14.53' | N 11°35.86' | 109°27.76' | 6°35.90' | N 0°56.09' | 111°55.80' | 4°07.86' | N 0°30.63' | 148°09.06' | 327°54.59' | S 14°09.50' | **15** |
| **16** | 96°48.77' | 34°17.35' | N 11°36.84' | 124°28.52' | 6°37.60' | N 0°56.81' | 126°57.90' | 4°08.22' | N 0°30.78' | 163°11.52' | 327°54.60' | S 14°09.51' | **16** |
| **17** | 111°48.40' | 34°20.18' | N 11°37.81' | 139°29.28' | 6°39.30' | N 0°57.53' | 142°00.01' | 4°08.58' | N 0°30.93' | 178°13.97' | 327°54.62' | S 14°09.51' | **17** |
| **18** | 126°48.04' | 34°23.01' | N 11°38.79' | 154°30.04' | 6°41.01' | N 0°58.25' | 157°02.11' | 4°08.94' | N 0°31.07' | 193°16.42' | 327°54.63' | S 14°09.52' | **18** |
| **19** | 141°47.68' | 34°25.84' | N 11°39.77' | 169°30.81' | 6°42.71' | N 0°58.97' | 172°04.21' | 4°09.30' | N 0°31.22' | 208°18.88' | 327°54.64' | S 14°09.52' | **19** |
| **20** | 156°47.31' | 34°28.66' | N 11°40.74' | 184°31.57' | 6°44.41' | N 0°59.69' | 187°06.32' | 4°09.66' | N 0°31.36' | 223°21.33' | 327°54.65' | S 14°09.53' | **20** |
| **21** | 171°46.95' | 34°31.49' | N 11°41.72' | 199°32.33' | 6°46.11' | N 1°00.41' | 202°08.42' | 4°10.02' | N 0°31.51' | 238°23.78' | 327°54.66' | S 14°09.53' | **21** |
| **22** | 186°46.58' | 34°34.32' | N 11°42.69' | 214°33.09' | 6°47.81' | N 1°01.13' | 217°10.53' | 4°10.38' | N 0°31.65' | 253°26.23' | 327°54.67' | S 14°09.53' | **22** |
| **23** | 201°46.22' | 34°37.15' | N 11°43.66' | 229°33.86' | 6°49.51' | N 1°01.85' | 232°12.63' | 4°10.74' | N 0°31.80' | 268°28.69' | 327°54.68' | S 14°09.54' | **23** |
| **24** | 216°45.85' | 34°39.98' | N 11°44.64' | 244°34.62' | 6°51.21' | N 1°02.57' | 247°14.74' | 4°11.10' | N 0°31.94' | 283°31.14' | 327°54.69' | S 14°09.54' | **24** |
| | δ 14.9941° | | *d* 0.9822' | δ 15.0127° | | *d* 0.7208' | δ 15.0350° | | *d* 0.1469' | δ 15.0408° | | *d* 0.0033' | |

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°28.36' | 14.9983° | 70°57.48' | N 22°17.04' | 0.3113' | 138°11.58' | 14.4950° | 113°14.25' | N 26°14.78' | 3.1863' | 54.0340' | 251°25.83' | **00** |
| **01** | 195°28.25' | 14.9983° | 71°00.04' | N 22°17.35' | 0.3106' | 152°41.31' | 14.4955° | 113°46.99' | N 26°11.47' | 3.3104' | 54.0387' | 266°28.30' | **01** |
| **02** | 210°28.15' | 14.9983° | 71°02.61' | N 22°17.66' | 0.3100' | 167°11.07' | 14.4960° | 114°19.69' | N 26°08.04' | 3.4341' | 54.0436' | 281°30.76' | **02** |
| **03** | 225°28.05' | 14.9983° | 71°05.18' | N 22°17.97' | 0.3093' | 181°40.86' | 14.4965° | 114°52.37' | N 26°04.48' | 3.5575' | 54.0487' | 296°33.23' | **03** |
| **04** | 240°27.94' | 14.9983° | 71°07.75' | N 22°18.28' | 0.3086' | 196°10.68' | 14.4970° | 115°25.02' | N 26°00.80' | 3.6805' | 54.0541' | 311°35.69' | **04** |
| **05** | 255°27.84' | 14.9983° | 71°10.32' | N 22°18.59' | 0.3079' | 210°40.53' | 14.4975° | 115°57.63' | N 25°57.00' | 3.8031' | 54.0597' | 326°38.16' | **05** |
| **06** | 270°27.74' | 14.9983° | 71°12.88' | N 22°18.89' | 0.3072' | 225°10.41' | 14.4980° | 116°30.21' | N 25°53.07' | 3.9254' | 54.0655' | 341°40.62' | **06** |
| **07** | 285°27.63' | 14.9983° | 71°15.45' | N 22°19.20' | 0.3066' | 239°40.32' | 14.4986° | 117°02.77' | N 25°49.02' | 4.0472' | 54.0715' | 356°43.08' | **07** |
| **08** | 300°27.53' | 14.9983° | 71°18.02' | N 22°19.51' | 0.3059' | 254°10.26' | 14.4991° | 117°35.28' | N 25°44.86' | 4.1685' | 54.0777' | 11°45.55' | **08** |
| **09** | 315°27.42' | 14.9983° | 71°20.59' | N 22°19.81' | 0.3052' | 268°40.24' | 14.4997° | 118°07.77' | N 25°40.57' | 4.2895' | 54.0842' | 26°48.01' | **09** |
| **10** | 330°27.32' | 14.9983° | 71°23.16' | N 22°20.12' | 0.3045' | 283°10.26' | 14.5002° | 118°40.22' | N 25°36.16' | 4.4100' | 54.0909' | 41°50.48' | **10** |
| **11** | 345°27.21' | 14.9983° | 71°25.73' | N 22°20.42' | 0.3038' | 297°40.31' | 14.5008° | 119°12.63' | N 25°31.63' | 4.5301' | 54.0978' | 56°52.94' | **11** |
| **12** | 0°27.11' | 14.9983° | 71°28.30' | N 22°20.72' | 0.3032' | 312°10.39' | 14.5014° | 119°45.01' | N 25°26.98' | 4.6497' | 54.1049' | 71°55.40' | **12** |
| **13** | 15°27.00' | 14.9982° | 71°30.87' | N 22°21.02' | 0.3025' | 326°40.52' | 14.5020° | 120°17.35' | N 25°22.21' | 4.7688' | 54.1123' | 86°57.87' | **13** |
| **14** | 30°26.90' | 14.9982° | 71°33.43' | N 22°21.33' | 0.3018' | 341°10.67' | 14.5026° | 120°49.66' | N 25°17.32' | 4.8875' | 54.1199' | 102°00.33' | **14** |
| **15** | 45°26.79' | 14.9982° | 71°36.00' | N 22°21.63' | 0.3011' | 355°40.87' | 14.5033° | 121°21.93' | N 25°12.32' | 5.0057' | 54.1277' | 117°02.80' | **15** |
| **16** | 60°26.69' | 14.9982° | 71°38.57' | N 22°21.93' | 0.3004' | 10°11.10' | 14.5039° | 121°54.16' | N 25°07.19' | 5.1234' | 54.1358' | 132°05.26' | **16** |
| **17** | 75°26.58' | 14.9982° | 71°41.14' | N 22°22.23' | 0.2998' | 24°41.38' | 14.5045° | 122°26.35' | N 25°01.95' | 5.2406' | 54.1441' | 147°07.73' | **17** |
| **18** | 90°26.48' | 14.9982° | 71°43.71' | N 22°22.53' | 0.2991' | 39°11.69' | 14.5052° | 122°58.50' | N 24°56.59' | 5.3573' | 54.1526' | 162°10.19' | **18** |
| **19** | 105°26.37' | 14.9982° | 71°46.28' | N 22°22.83' | 0.2984' | 53°42.04' | 14.5059° | 123°30.61' | N 24°51.12' | 5.4735' | 54.1614' | 177°12.65' | **19** |
| **20** | 120°26.26' | 14.9982° | 71°48.85' | N 22°23.12' | 0.2977' | 68°12.43' | 14.5065° | 124°02.69' | N 24°45.53' | 5.5891' | 54.1703' | 192°15.12' | **20** |
| **21** | 135°26.16' | 14.9982° | 71°51.42' | N 22°23.42' | 0.2970' | 82°42.86' | 14.5072° | 124°34.72' | N 24°39.83' | 5.7043' | 54.1796' | 207°17.58' | **21** |
| **22** | 150°26.05' | 14.9982° | 71°53.99' | N 22°23.72' | 0.2964' | 97°13.34' | 14.5079° | 125°06.71' | N 24°34.01' | 5.8189' | 54.1890' | 222°20.05' | **22** |
| **23** | 165°25.95' | 14.9982° | 71°56.57' | N 22°24.01' | 0.2957' | 111°43.85' | 14.5086° | 125°38.66' | N 24°28.08' | 5.9330' | 54.1987' | 237°22.51' | **23** |
| **24** | 180°25.84' | 14.9982° | 71°59.14' | N 22°24.31' | 0.2950' | 126°14.41' | 14.5093° | 126°10.57' | N 24°22.03' | 6.0465' | 54.2087' | 252°24.97' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 15.7678' | hp (π) 0.1445' | ½Ø 14.7427' | 14.1056661624290<br>99% +cre | |
| | EoT at 12:00 UTC : +1m 48s (δ -0.42 s/h) | | Phase at 12:00 UTC : 43.81° | | |
| | Meridian Pass. Time : 11:58:11.565 | | Age : 3.4 day(s) | | |

| UT | Venus ♀ (π 0.12') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 216°45.85' | 34°39.98' | N 11°44.64' | 244°34.62' | 6°51.21' | N 1°02.57' | 247°14.74' | 4°11.10' | N 0°31.94' | 283°31.14' | 327°54.69' | S 14°09.54' | **00** |
| **01** | 231°45.49' | 34°42.81' | N 11°45.61' | 259°35.38' | 6°52.92' | N 1°03.29' | 262°16.85' | 4°11.45' | N 0°32.09' | 298°33.60' | 327°54.70' | S 14°09.55' | **01** |
| **02** | 246°45.12' | 34°45.64' | N 11°46.58' | 274°36.15' | 6°54.62' | N 1°04.01' | 277°18.95' | 4°11.81' | N 0°32.23' | 313°36.05' | 327°54.71' | S 14°09.55' | **02** |
| **03** | 261°44.76' | 34°48.47' | N 11°47.56' | 289°36.91' | 6°56.32' | N 1°04.73' | 292°21.06' | 4°12.17' | N 0°32.38' | 328°38.50' | 327°54.72' | S 14°09.56' | **03** |
| **04** | 276°44.39' | 34°51.30' | N 11°48.53' | 304°37.67' | 6°58.02' | N 1°05.45' | 307°23.16' | 4°12.53' | N 0°32.52' | 343°40.96' | 327°54.73' | S 14°09.56' | **04** |
| **05** | 291°44.02' | 34°54.13' | N 11°49.50' | 319°38.43' | 6°59.72' | N 1°06.17' | 322°25.27' | 4°12.89' | N 0°32.66' | 358°43.41' | 327°54.74' | S 14°09.57' | **05** |
| **06** | 306°43.65' | 34°56.97' | N 11°50.47' | 334°39.20' | 7°01.42' | N 1°06.88' | 337°27.38' | 4°13.24' | N 0°32.81' | 13°45.87' | 327°54.75' | S 14°09.57' | **06** |
| **07** | 321°43.29' | 34°59.80' | N 11°51.44' | 349°39.96' | 7°03.12' | N 1°07.60' | 352°29.48' | 4°13.60' | N 0°32.95' | 28°48.32' | 327°54.76' | S 14°09.58' | **07** |
| **08** | 336°42.92' | 35°02.63' | N 11°52.41' | 4°40.72' | 7°04.82' | N 1°08.32' | 7°31.59' | 4°13.96' | N 0°33.10' | 43°50.78' | 327°54.77' | S 14°09.58' | **08** |
| **09** | 351°42.55' | 35°05.46' | N 11°53.38' | 19°41.49' | 7°06.52' | N 1°09.04' | 22°33.70' | 4°14.32' | N 0°33.24' | 58°53.23' | 327°54.78' | S 14°09.59' | **09** |
| **10** | 6°42.18' | 35°08.30' | N 11°54.35' | 34°42.25' | 7°08.23' | N 1°09.76' | 37°35.80' | 4°14.67' | N 0°33.39' | 73°55.69' | 327°54.79' | S 14°09.59' | **10** |
| **11** | 21°41.81' | 35°11.13' | N 11°55.32' | 49°43.01' | 7°09.93' | N 1°10.48' | 52°37.91' | 4°15.03' | N 0°33.53' | 88°58.14' | 327°54.80' | S 14°09.60' | **11** |
| **12** | 36°41.44' | 35°13.97' | N 11°56.29' | 64°43.78' | 7°11.63' | N 1°11.20' | 67°40.02' | 4°15.39' | N 0°33.67' | 104°00.60' | 327°54.80' | S 14°09.60' | **12** |
| **13** | 51°41.07' | 35°16.80' | N 11°57.26' | 79°44.54' | 7°13.33' | N 1°11.92' | 82°42.13' | 4°15.74' | N 0°33.82' | 119°03.06' | 327°54.81' | S 14°09.61' | **13** |
| **14** | 66°40.70' | 35°19.64' | N 11°58.23' | 94°45.31' | 7°15.03' | N 1°12.63' | 97°44.23' | 4°16.10' | N 0°33.96' | 134°05.51' | 327°54.82' | S 14°09.61' | **14** |
| **15** | 81°40.33' | 35°22.47' | N 11°59.20' | 109°46.07' | 7°16.73' | N 1°13.35' | 112°46.34' | 4°16.45' | N 0°34.10' | 149°07.97' | 327°54.83' | S 14°09.62' | **15** |
| **16** | 96°39.95' | 35°25.31' | N 12°00.17' | 124°46.83' | 7°18.43' | N 1°14.07' | 127°48.45' | 4°16.81' | N 0°34.25' | 164°10.43' | 327°54.84' | S 14°09.63' | **16** |
| **17** | 111°39.58' | 35°28.14' | N 12°01.13' | 139°47.60' | 7°20.13' | N 1°14.79' | 142°50.56' | 4°17.17' | N 0°34.39' | 179°12.88' | 327°54.84' | S 14°09.63' | **17** |
| **18** | 126°39.21' | 35°30.98' | N 12°02.10' | 154°48.36' | 7°21.83' | N 1°15.51' | 157°52.67' | 4°17.52' | N 0°34.53' | 194°15.34' | 327°54.85' | S 14°09.64' | **18** |
| **19** | 141°38.84' | 35°33.82' | N 12°03.07' | 169°49.13' | 7°23.53' | N 1°16.23' | 172°54.78' | 4°17.88' | N 0°34.68' | 209°17.80' | 327°54.86' | S 14°09.64' | **19** |
| **20** | 156°38.46' | 35°36.66' | N 12°04.03' | 184°49.89' | 7°25.23' | N 1°16.94' | 187°56.89' | 4°18.23' | N 0°34.82' | 224°20.25' | 327°54.87' | S 14°09.65' | **20** |
| **21** | 171°38.09' | 35°39.49' | N 12°05.00' | 199°50.65' | 7°26.93' | N 1°17.66' | 202°59.00' | 4°18.59' | N 0°34.96' | 239°22.71' | 327°54.87' | S 14°09.65' | **21** |
| **22** | 186°37.72' | 35°42.33' | N 12°05.96' | 214°51.42' | 7°28.63' | N 1°18.38' | 218°01.11' | 4°18.94' | N 0°35.11' | 254°25.17' | 327°54.88' | S 14°09.66' | **22** |
| **23** | 201°37.34' | 35°45.17' | N 12°06.93' | 229°52.18' | 7°30.33' | N 1°19.10' | 233°03.22' | 4°19.29' | N 0°35.25' | 269°27.62' | 327°54.89' | S 14°09.67' | **23** |
| **24** | 216°36.97' | 35°48.01' | N 12°07.89' | 244°52.95' | 7°32.03' | N 1°19.82' | 248°05.33' | 4°19.65' | N 0°35.39' | 284°30.08' | 327°54.89' | S 14°09.67' | **24** |
| | δ 14.9939° | | *d* 0.9733' | δ 15.0127° | | *d* 0.7193' | δ 15.0351° | | *d* 0.1448' | δ 15.0409° | | *d* 0.0047' | |

## *Saturday, June 4th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°25.84' | 14.9982° | 71°59.14' | N 22°24.31' | 0.2950' | 126°14.41' | 14.5093° | 126°10.57' | N 24°22.03' | 6.0465' | 54.2087' | 252°24.97' | **00** |
| **01** | 195°25.73' | 14.9982° | 72°01.71' | N 22°24.60' | 0.2943' | 140°45.01' | 14.5100° | 126°42.43' | N 24°15.87' | 6.1595' | 54.2189' | 267°27.44' | **01** |
| **02** | 210°25.63' | 14.9982° | 72°04.28' | N 22°24.90' | 0.2936' | 155°15.65' | 14.5107° | 127°14.25' | N 24°09.60' | 6.2719' | 54.2293' | 282°29.90' | **02** |
| **03** | 225°25.52' | 14.9982° | 72°06.85' | N 22°25.19' | 0.2929' | 169°46.33' | 14.5114° | 127°46.03' | N 24°03.21' | 6.3838' | 54.2399' | 297°32.37' | **03** |
| **04** | 240°25.41' | 14.9982° | 72°09.42' | N 22°25.48' | 0.2923' | 184°17.06' | 14.5121° | 128°17.77' | N 23°56.72' | 6.4950' | 54.2508' | 312°34.83' | **04** |
| **05** | 255°25.30' | 14.9982° | 72°11.99' | N 22°25.77' | 0.2916' | 198°47.83' | 14.5129° | 128°49.46' | N 23°50.11' | 6.6058' | 54.2620' | 327°37.30' | **05** |
| **06** | 270°25.20' | 14.9982° | 72°14.56' | N 22°26.06' | 0.2909' | 213°18.65' | 14.5136° | 129°21.11' | N 23°43.40' | 6.7159' | 54.2734' | 342°39.76' | **06** |
| **07** | 285°25.09' | 14.9982° | 72°17.14' | N 22°26.35' | 0.2902' | 227°49.51' | 14.5143° | 129°52.72' | N 23°36.57' | 6.8255' | 54.2850' | 357°42.22' | **07** |
| **08** | 300°24.98' | 14.9982° | 72°19.71' | N 22°26.64' | 0.2895' | 242°20.41' | 14.5151° | 130°24.28' | N 23°29.64' | 6.9344' | 54.2969' | 12°44.69' | **08** |
| **09** | 315°24.87' | 14.9982° | 72°22.28' | N 22°26.93' | 0.2888' | 256°51.36' | 14.5158° | 130°55.79' | N 23°22.59' | 7.0428' | 54.3090' | 27°47.15' | **09** |
| **10** | 330°24.76' | 14.9982° | 72°24.85' | N 22°27.22' | 0.2882' | 271°22.35' | 14.5165° | 131°27.26' | N 23°15.44' | 7.1506' | 54.3214' | 42°49.62' | **10** |
| **11** | 345°24.66' | 14.9982° | 72°27.42' | N 22°27.51' | 0.2875' | 285°53.39' | 14.5173° | 131°58.69' | N 23°08.19' | 7.2578' | 54.3340' | 57°52.08' | **11** |
| **12** | 0°24.55' | 14.9982° | 72°30.00' | N 22°27.79' | 0.2868' | 300°24.47' | 14.5180° | 132°30.07' | N 23°00.82' | 7.3643' | 54.3469' | 72°54.54' | **12** |
| **13** | 15°24.44' | 14.9982° | 72°32.57' | N 22°28.08' | 0.2861' | 314°55.60' | 14.5188° | 133°01.41' | N 22°53.35' | 7.4703' | 54.3600' | 87°57.01' | **13** |
| **14** | 30°24.33' | 14.9982° | 72°35.14' | N 22°28.37' | 0.2854' | 329°26.77' | 14.5195° | 133°32.70' | N 22°45.78' | 7.5757' | 54.3734' | 102°59.47' | **14** |
| **15** | 45°24.22' | 14.9982° | 72°37.72' | N 22°28.65' | 0.2847' | 343°57.99' | 14.5203° | 134°03.95' | N 22°38.10' | 7.6804' | 54.3870' | 118°01.94' | **15** |
| **16** | 60°24.11' | 14.9982° | 72°40.29' | N 22°28.93' | 0.2841' | 358°29.25' | 14.5211° | 134°35.15' | N 22°30.31' | 7.7845' | 54.4009' | 133°04.40' | **16** |
| **17** | 75°24.00' | 14.9982° | 72°42.86' | N 22°29.22' | 0.2834' | 13°00.56' | 14.5218° | 135°06.31' | N 22°22.42' | 7.8880' | 54.4150' | 148°06.87' | **17** |
| **18** | 90°23.89' | 14.9982° | 72°45.43' | N 22°29.50' | 0.2827' | 27°31.91' | 14.5226° | 135°37.42' | N 22°14.43' | 7.9909' | 54.4294' | 163°09.33' | **18** |
| **19** | 105°23.79' | 14.9982° | 72°48.01' | N 22°29.78' | 0.2820' | 42°03.31' | 14.5233° | 136°08.48' | N 22°06.34' | 8.0931' | 54.4440' | 178°11.79' | **19** |
| **20** | 120°23.68' | 14.9982° | 72°50.58' | N 22°30.06' | 0.2813' | 56°34.76' | 14.5241° | 136°39.50' | N 21°58.14' | 8.1947' | 54.4589' | 193°14.26' | **20** |
| **21** | 135°23.57' | 14.9982° | 72°53.16' | N 22°30.34' | 0.2806' | 71°06.25' | 14.5248° | 137°10.47' | N 21°49.85' | 8.2957' | 54.4741' | 208°16.72' | **21** |
| **22** | 150°23.46' | 14.9982° | 72°55.73' | N 22°30.62' | 0.2799' | 85°37.78' | 14.5256° | 137°41.40' | N 21°41.45' | 8.3960' | 54.4895' | 223°19.19' | **22** |
| **23** | 165°23.35' | 14.9982° | 72°58.30' | N 22°30.90' | 0.2793' | 100°09.36' | 14.5263° | 138°12.29' | N 21°32.96' | 8.4957' | 54.5051' | 238°21.65' | **23** |
| **24** | 180°23.24' | 14.9982° | 73°00.88' | N 22°31.18' | 0.2786' | 114°40.99' | 14.5271° | 138°43.13' | N 21°24.36' | 8.5947' | 54.5210' | 253°24.11' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7656' | hp (π) 0.1445' | ½Ø 14.8086' | 21.3567442641986<br>57% +cre |
| | EoT at 12:00 UTC : +1m 38s (δ -0.43 s/h) | | Phase at 12:00 UTC : 54.77° | |
| | Meridian Pass. Time : 11:58:21.808 | | Age : 4.3 day(s) | |

| UT | Venus ♀ (π 0.12') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 216°36.97' | 35°48.01' | N 12°07.89' | 244°52.95' | 7°32.03' | N 1°19.82' | 248°05.33' | 4°19.65' | N 0°35.39' | 284°30.08' | 327°54.89' | S 14°09.67' | **00** |
| **01** | 231°36.59' | 35°50.85' | N 12°08.85' | 259°53.71' | 7°33.73' | N 1°20.53' | 263°07.44' | 4°20.00' | N 0°35.53' | 299°32.54' | 327°54.90' | S 14°09.68' | **01** |
| **02** | 246°36.21' | 35°53.69' | N 12°09.82' | 274°54.48' | 7°35.43' | N 1°21.25' | 278°09.55' | 4°20.36' | N 0°35.68' | 314°35.00' | 327°54.90' | S 14°09.68' | **02** |
| **03** | 261°35.84' | 35°56.53' | N 12°10.78' | 289°55.24' | 7°37.13' | N 1°21.97' | 293°11.66' | 4°20.71' | N 0°35.82' | 329°37.46' | 327°54.91' | S 14°09.69' | **03** |
| **04** | 276°35.46' | 35°59.37' | N 12°11.74' | 304°56.00' | 7°38.83' | N 1°22.69' | 308°13.77' | 4°21.06' | N 0°35.96' | 344°39.91' | 327°54.92' | S 14°09.70' | **04** |
| **05** | 291°35.09' | 36°02.21' | N 12°12.71' | 319°56.77' | 7°40.53' | N 1°23.40' | 323°15.88' | 4°21.42' | N 0°36.10' | 359°42.37' | 327°54.92' | S 14°09.70' | **05** |
| **06** | 306°34.71' | 36°05.05' | N 12°13.67' | 334°57.53' | 7°42.23' | N 1°24.12' | 338°17.99' | 4°21.77' | N 0°36.25' | 14°44.83' | 327°54.93' | S 14°09.71' | **06** |
| **07** | 321°34.33' | 36°07.89' | N 12°14.63' | 349°58.30' | 7°43.93' | N 1°24.84' | 353°20.10' | 4°22.12' | N 0°36.39' | 29°47.29' | 327°54.93' | S 14°09.72' | **07** |
| **08** | 336°33.95' | 36°10.74' | N 12°15.59' | 4°59.06' | 7°45.62' | N 1°25.56' | 8°22.21' | 4°22.47' | N 0°36.53' | 44°49.75' | 327°54.94' | S 14°09.72' | **08** |
| **09** | 351°33.57' | 36°13.58' | N 12°16.55' | 19°59.83' | 7°47.32' | N 1°26.27' | 23°24.33' | 4°22.83' | N 0°36.67' | 59°52.21' | 327°54.94' | S 14°09.73' | **09** |
| **10** | 6°33.19' | 36°16.42' | N 12°17.51' | 35°00.59' | 7°49.02' | N 1°26.99' | 38°26.44' | 4°23.18' | N 0°36.81' | 74°54.67' | 327°54.95' | S 14°09.74' | **10** |
| **11** | 21°32.82' | 36°19.27' | N 12°18.47' | 50°01.36' | 7°50.72' | N 1°27.71' | 53°28.55' | 4°23.53' | N 0°36.95' | 89°57.13' | 327°54.95' | S 14°09.74' | **11** |
| **12** | 36°32.44' | 36°22.11' | N 12°19.43' | 65°02.12' | 7°52.42' | N 1°28.42' | 68°30.66' | 4°23.88' | N 0°37.10' | 104°59.59' | 327°54.96' | S 14°09.75' | **12** |
| **13** | 51°32.06' | 36°24.95' | N 12°20.39' | 80°02.89' | 7°54.12' | N 1°29.14' | 83°32.78' | 4°24.23' | N 0°37.24' | 120°02.05' | 327°54.96' | S 14°09.76' | **13** |
| **14** | 66°31.67' | 36°27.80' | N 12°21.35' | 95°03.65' | 7°55.82' | N 1°29.86' | 98°34.89' | 4°24.59' | N 0°37.38' | 135°04.51' | 327°54.96' | S 14°09.76' | **14** |
| **15** | 81°31.29' | 36°30.64' | N 12°22.31' | 110°04.42' | 7°57.52' | N 1°30.58' | 113°37.00' | 4°24.94' | N 0°37.52' | 150°06.97' | 327°54.97' | S 14°09.77' | **15** |
| **16** | 96°30.91' | 36°33.49' | N 12°23.27' | 125°05.18' | 7°59.22' | N 1°31.29' | 128°39.11' | 4°25.29' | N 0°37.66' | 165°09.43' | 327°54.97' | S 14°09.78' | **16** |
| **17** | 111°30.53' | 36°36.34' | N 12°24.22' | 140°05.95' | 8°00.92' | N 1°32.01' | 143°41.23' | 4°25.64' | N 0°37.80' | 180°11.89' | 327°54.98' | S 14°09.78' | **17** |
| **18** | 126°30.15' | 36°39.18' | N 12°25.18' | 155°06.71' | 8°02.61' | N 1°32.73' | 158°43.34' | 4°25.99' | N 0°37.94' | 195°14.35' | 327°54.98' | S 14°09.79' | **18** |
| **19** | 141°29.77' | 36°42.03' | N 12°26.14' | 170°07.48' | 8°04.31' | N 1°33.44' | 173°45.46' | 4°26.34' | N 0°38.08' | 210°16.81' | 327°54.98' | S 14°09.80' | **19** |
| **20** | 156°29.38' | 36°44.88' | N 12°27.09' | 185°08.25' | 8°06.01' | N 1°34.16' | 188°47.57' | 4°26.69' | N 0°38.23' | 225°19.27' | 327°54.99' | S 14°09.81' | **20** |
| **21** | 171°29.00' | 36°47.72' | N 12°28.05' | 200°09.01' | 8°07.71' | N 1°34.87' | 203°49.68' | 4°27.04' | N 0°38.37' | 240°21.73' | 327°54.99' | S 14°09.81' | **21** |
| **22** | 186°28.62' | 36°50.57' | N 12°29.00' | 215°09.78' | 8°09.41' | N 1°35.59' | 218°51.80' | 4°27.39' | N 0°38.51' | 255°24.19' | 327°54.99' | S 14°09.82' | **22** |
| **23** | 201°28.23' | 36°53.42' | N 12°29.96' | 230°10.54' | 8°11.11' | N 1°36.31' | 233°53.91' | 4°27.74' | N 0°38.65' | 270°26.66' | 327°54.99' | S 14°09.83' | **23** |
| **24** | 216°27.85' | 36°56.27' | N 12°30.91' | 245°11.31' | 8°12.81' | N 1°37.02' | 248°56.03' | 4°28.09' | N 0°38.79' | 285°29.12' | 327°55.00' | S 14°09.83' | **24** |
| | δ 14.9937° | | *d* 0.9640' | δ 15.0127° | | *d* 0.7178' | δ 15.0352° | | *d* 0.1426' | δ 15.0410° | | *d* 0.0061' | |

## *Sunday, June 5th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°23.24' | 14.9982° | 73°00.88' | N 22°31.18' | 0.2786' | 114°40.99' | 14.5271° | 138°43.13' | N 21°24.36' | 8.5947' | 54.5210' | 253°24.11' | **00** |
| **01** | 195°23.13' | 14.9982° | 73°03.45' | N 22°31.46' | 0.2779' | 129°12.66' | 14.5278° | 139°13.92' | N 21°15.67' | 8.6931' | 54.5372' | 268°26.58' | **01** |
| **02** | 210°23.02' | 14.9982° | 73°06.03' | N 22°31.74' | 0.2772' | 143°44.37' | 14.5286° | 139°44.67' | N 21°06.88' | 8.7909' | 54.5536' | 283°29.04' | **02** |
| **03** | 225°22.91' | 14.9982° | 73°08.60' | N 22°32.01' | 0.2765' | 158°16.13' | 14.5293° | 140°15.37' | N 20°57.99' | 8.8880' | 54.5703' | 298°31.51' | **03** |
| **04** | 240°22.80' | 14.9982° | 73°11.18' | N 22°32.29' | 0.2758' | 172°47.94' | 14.5301° | 140°46.03' | N 20°49.01' | 8.9845' | 54.5873' | 313°33.97' | **04** |
| **05** | 255°22.68' | 14.9982° | 73°13.75' | N 22°32.56' | 0.2751' | 187°19.79' | 14.5308° | 141°16.65' | N 20°39.93' | 9.0803' | 54.6045' | 328°36.44' | **05** |
| **06** | 270°22.57' | 14.9982° | 73°16.33' | N 22°32.84' | 0.2744' | 201°51.68' | 14.5315° | 141°47.22' | N 20°30.75' | 9.1754' | 54.6219' | 343°38.90' | **06** |
| **07** | 285°22.46' | 14.9982° | 73°18.90' | N 22°33.11' | 0.2738' | 216°23.62' | 14.5323° | 142°17.75' | N 20°21.48' | 9.2699' | 54.6396' | 358°41.36' | **07** |
| **08** | 300°22.35' | 14.9981° | 73°21.48' | N 22°33.39' | 0.2731' | 230°55.59' | 14.5330° | 142°48.23' | N 20°12.12' | 9.3638' | 54.6576' | 13°43.83' | **08** |
| **09** | 315°22.24' | 14.9981° | 73°24.05' | N 22°33.66' | 0.2724' | 245°27.62' | 14.5337° | 143°18.67' | N 20°02.66' | 9.4569' | 54.6759' | 28°46.29' | **09** |
| **10** | 330°22.13' | 14.9981° | 73°26.63' | N 22°33.93' | 0.2717' | 259°59.68' | 14.5344° | 143°49.07' | N 19°53.11' | 9.5495' | 54.6944' | 43°48.76' | **10** |
| **11** | 345°22.02' | 14.9981° | 73°29.20' | N 22°34.20' | 0.2710' | 274°31.79' | 14.5351° | 144°19.43' | N 19°43.47' | 9.6413' | 54.7131' | 58°51.22' | **11** |
| **12** | 0°21.91' | 14.9981° | 73°31.78' | N 22°34.47' | 0.2703' | 289°03.94' | 14.5358° | 144°49.74' | N 19°33.74' | 9.7325' | 54.7322' | 73°53.68' | **12** |
| **13** | 15°21.79' | 14.9981° | 73°34.35' | N 22°34.74' | 0.2696' | 303°36.14' | 14.5365° | 145°20.01' | N 19°23.91' | 9.8231' | 54.7515' | 88°56.15' | **13** |
| **14** | 30°21.68' | 14.9981° | 73°36.93' | N 22°35.01' | 0.2689' | 318°08.37' | 14.5372° | 145°50.24' | N 19°14.00' | 9.9129' | 54.7710' | 103°58.61' | **14** |
| **15** | 45°21.57' | 14.9981° | 73°39.51' | N 22°35.28' | 0.2682' | 332°40.65' | 14.5379° | 146°20.43' | N 19°04.00' | 10.0021' | 54.7908' | 119°01.08' | **15** |
| **16** | 60°21.46' | 14.9981° | 73°42.08' | N 22°35.55' | 0.2676' | 347°12.96' | 14.5386° | 146°50.58' | N 18°53.91' | 10.0907' | 54.8109' | 134°03.54' | **16** |
| **17** | 75°21.35' | 14.9981° | 73°44.66' | N 22°35.81' | 0.2669' | 1°45.32' | 14.5393° | 147°20.69' | N 18°43.73' | 10.1785' | 54.8312' | 149°06.01' | **17** |
| **18** | 90°21.23' | 14.9981° | 73°47.24' | N 22°36.08' | 0.2662' | 16°17.72' | 14.5399° | 147°50.75' | N 18°33.46' | 10.2658' | 54.8518' | 164°08.47' | **18** |
| **19** | 105°21.12' | 14.9981° | 73°49.81' | N 22°36.34' | 0.2655' | 30°50.15' | 14.5406° | 148°20.78' | N 18°23.11' | 10.3523' | 54.8727' | 179°10.93' | **19** |
| **20** | 120°21.01' | 14.9981° | 73°52.39' | N 22°36.61' | 0.2648' | 45°22.63' | 14.5413° | 148°50.77' | N 18°12.67' | 10.4382' | 54.8938' | 194°13.40' | **20** |
| **21** | 135°20.90' | 14.9981° | 73°54.97' | N 22°36.87' | 0.2641' | 59°55.14' | 14.5419° | 149°20.72' | N 18°02.15' | 10.5233' | 54.9152' | 209°15.86' | **21** |
| **22** | 150°20.78' | 14.9981° | 73°57.54' | N 22°37.14' | 0.2634' | 74°27.69' | 14.5425° | 149°50.63' | N 17°51.54' | 10.6079' | 54.9369' | 224°18.33' | **22** |
| **23** | 165°20.67' | 14.9981° | 74°00.12' | N 22°37.40' | 0.2627' | 89°00.28' | 14.5432° | 150°20.51' | N 17°40.85' | 10.6917' | 54.9588' | 239°20.79' | **23** |
| **24** | 180°20.56' | 14.9981° | 74°02.70' | N 22°37.66' | 0.2620' | 103°32.91' | 14.5438° | 150°50.35' | N 17°30.07' | 10.7749' | 54.9809' | 254°23.25' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7635' | hp (π) 0.1445' | ½Ø 14.9136' | 29.7349948282728<br>25% +cre |
| | EoT at 12:00 UTC : +1m 27s (δ -0.45 s/h) | | Phase at 12:00 UTC : 65.84° | |
| | Meridian Pass. Time : 11:58:32.375 | | Age : 5.1 day(s) | |

| UT | Venus ♀ (π 0.12') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 216°27.85' | 36°56.27' | N 12°30.91' | 245°11.31' | 8°12.81' | N 1°37.02' | 248°56.03' | 4°28.09' | N 0°38.79' | 285°29.12' | 327°55.00' | S 14°09.83' | **00** |
| **01** | 231°27.46' | 36°59.12' | N 12°31.87' | 260°12.07' | 8°14.50' | N 1°37.74' | 263°58.14' | 4°28.44' | N 0°38.93' | 300°31.58' | 327°55.00' | S 14°09.84' | **01** |
| **02** | 246°27.08' | 37°01.97' | N 12°32.82' | 275°12.84' | 8°16.20' | N 1°38.46' | 279°00.26' | 4°28.79' | N 0°39.07' | 315°34.04' | 327°55.00' | S 14°09.85' | **02** |
| **03** | 261°26.69' | 37°04.82' | N 12°33.77' | 290°13.61' | 8°17.90' | N 1°39.17' | 294°02.37' | 4°29.13' | N 0°39.21' | 330°36.50' | 327°55.00' | S 14°09.86' | **03** |
| **04** | 276°26.30' | 37°07.67' | N 12°34.73' | 305°14.37' | 8°19.60' | N 1°39.89' | 309°04.49' | 4°29.48' | N 0°39.35' | 345°38.97' | 327°55.00' | S 14°09.86' | **04** |
| **05** | 291°25.92' | 37°10.52' | N 12°35.68' | 320°15.14' | 8°21.30' | N 1°40.60' | 324°06.60' | 4°29.83' | N 0°39.49' | 0°41.43' | 327°55.01' | S 14°09.87' | **05** |
| **06** | 306°25.53' | 37°13.37' | N 12°36.63' | 335°15.90' | 8°22.99' | N 1°41.32' | 339°08.72' | 4°30.18' | N 0°39.63' | 15°43.89' | 327°55.01' | S 14°09.88' | **06** |
| **07** | 321°25.14' | 37°16.22' | N 12°37.58' | 350°16.67' | 8°24.69' | N 1°42.03' | 354°10.84' | 4°30.53' | N 0°39.77' | 30°46.35' | 327°55.01' | S 14°09.89' | **07** |
| **08** | 336°24.76' | 37°19.07' | N 12°38.53' | 5°17.44' | 8°26.39' | N 1°42.75' | 9°12.95' | 4°30.87' | N 0°39.91' | 45°48.82' | 327°55.01' | S 14°09.90' | **08** |
| **09** | 351°24.37' | 37°21.93' | N 12°39.48' | 20°18.20' | 8°28.09' | N 1°43.47' | 24°15.07' | 4°31.22' | N 0°40.05' | 60°51.28' | 327°55.01' | S 14°09.90' | **09** |
| **10** | 6°23.98' | 37°24.78' | N 12°40.43' | 35°18.97' | 8°29.79' | N 1°44.18' | 39°17.19' | 4°31.57' | N 0°40.19' | 75°53.74' | 327°55.01' | S 14°09.91' | **10** |
| **11** | 21°23.59' | 37°27.63' | N 12°41.38' | 50°19.74' | 8°31.48' | N 1°44.90' | 54°19.30' | 4°31.92' | N 0°40.33' | 90°56.21' | 327°55.01' | S 14°09.92' | **11** |
| **12** | 36°23.20' | 37°30.48' | N 12°42.33' | 65°20.50' | 8°33.18' | N 1°45.61' | 69°21.42' | 4°32.26' | N 0°40.47' | 105°58.67' | 327°55.01' | S 14°09.93' | **12** |
| **13** | 51°22.81' | 37°33.34' | N 12°43.28' | 80°21.27' | 8°34.88' | N 1°46.33' | 84°23.54' | 4°32.61' | N 0°40.61' | 121°01.14' | 327°55.01' | S 14°09.94' | **13** |
| **14** | 66°22.42' | 37°36.19' | N 12°44.23' | 95°22.04' | 8°36.58' | N 1°47.04' | 99°25.66' | 4°32.96' | N 0°40.74' | 136°03.60' | 327°55.01' | S 14°09.94' | **14** |
| **15** | 81°22.03' | 37°39.05' | N 12°45.18' | 110°22.80' | 8°38.27' | N 1°47.76' | 114°27.77' | 4°33.30' | N 0°40.88' | 151°06.06' | 327°55.01' | S 14°09.95' | **15** |
| **16** | 96°21.64' | 37°41.90' | N 12°46.13' | 125°23.57' | 8°39.97' | N 1°48.47' | 129°29.89' | 4°33.65' | N 0°41.02' | 166°08.53' | 327°55.01' | S 14°09.96' | **16** |
| **17** | 111°21.25' | 37°44.76' | N 12°47.07' | 140°24.34' | 8°41.67' | N 1°49.19' | 144°32.01' | 4°34.00' | N 0°41.16' | 181°10.99' | 327°55.01' | S 14°09.97' | **17** |
| **18** | 126°20.85' | 37°47.62' | N 12°48.02' | 155°25.10' | 8°43.37' | N 1°49.90' | 159°34.13' | 4°34.34' | N 0°41.30' | 196°13.46' | 327°55.01' | S 14°09.98' | **18** |
| **19** | 141°20.46' | 37°50.47' | N 12°48.97' | 170°25.87' | 8°45.06' | N 1°50.62' | 174°36.25' | 4°34.69' | N 0°41.44' | 211°15.92' | 327°55.01' | S 14°09.99' | **19** |
| **20** | 156°20.07' | 37°53.33' | N 12°49.91' | 185°26.64' | 8°46.76' | N 1°51.33' | 189°38.37' | 4°35.03' | N 0°41.58' | 226°18.39' | 327°55.01' | S 14°10.00' | **20** |
| **21** | 171°19.67' | 37°56.19' | N 12°50.86' | 200°27.40' | 8°48.46' | N 1°52.05' | 204°40.48' | 4°35.38' | N 0°41.72' | 241°20.85' | 327°55.01' | S 14°10.00' | **21** |
| **22** | 186°19.28' | 37°59.04' | N 12°51.80' | 215°28.17' | 8°50.15' | N 1°52.76' | 219°42.60' | 4°35.72' | N 0°41.85' | 256°23.32' | 327°55.01' | S 14°10.01' | **22** |
| **23** | 201°18.89' | 38°01.90' | N 12°52.75' | 230°28.94' | 8°51.85' | N 1°53.47' | 234°44.72' | 4°36.07' | N 0°41.99' | 271°25.78' | 327°55.01' | S 14°10.02' | **23** |
| **24** | 216°18.49' | 38°04.76' | N 12°53.69' | 245°29.71' | 8°53.55' | N 1°54.19' | 249°46.84' | 4°36.41' | N 0°42.13' | 286°28.25' | 327°55.00' | S 14°10.03' | **24** |
| | δ 14.9936° | | *d* 0.9541' | δ 15.0128° | | *d* 0.7161' | δ 15.0353° | | *d* 0.1404' | δ 15.0410° | | *d* 0.0075' | |

## *Monday, June 6th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°20.56' | 14.9981° | 74°02.70' | N 22°37.66' | 0.2620' | 103°32.91' | 14.5438° | 150°50.35' | N 17°30.07' | 10.7749' | 54.9809' | 254°23.25' | **00** |
| **01** | 195°20.44' | 14.9981° | 74°05.27' | N 22°37.92' | 0.2613' | 118°05.57' | 14.5444° | 151°20.15' | N 17°19.22' | 10.8574' | 55.0034' | 269°25.72' | **01** |
| **02** | 210°20.33' | 14.9981° | 74°07.85' | N 22°38.18' | 0.2607' | 132°38.27' | 14.5450° | 151°49.91' | N 17°08.28' | 10.9392' | 55.0261' | 284°28.18' | **02** |
| **03** | 225°20.22' | 14.9981° | 74°10.43' | N 22°38.44' | 0.2600' | 147°11.00' | 14.5456° | 152°19.64' | N 16°57.26' | 11.0204' | 55.0490' | 299°30.65' | **03** |
| **04** | 240°20.10' | 14.9981° | 74°13.01' | N 22°38.70' | 0.2593' | 161°43.77' | 14.5461° | 152°49.34' | N 16°46.16' | 11.1009' | 55.0723' | 314°33.11' | **04** |
| **05** | 255°19.99' | 14.9981° | 74°15.59' | N 22°38.96' | 0.2586' | 176°16.57' | 14.5467° | 153°19.00' | N 16°34.98' | 11.1807' | 55.0958' | 329°35.57' | **05** |
| **06** | 270°19.87' | 14.9981° | 74°18.16' | N 22°39.22' | 0.2579' | 190°49.41' | 14.5473° | 153°48.63' | N 16°23.72' | 11.2598' | 55.1195' | 344°38.04' | **06** |
| **07** | 285°19.76' | 14.9981° | 74°20.74' | N 22°39.48' | 0.2572' | 205°22.28' | 14.5478° | 154°18.22' | N 16°12.38' | 11.3382' | 55.1435' | 359°40.50' | **07** |
| **08** | 300°19.65' | 14.9981° | 74°23.32' | N 22°39.73' | 0.2565' | 219°55.18' | 14.5484° | 154°47.79' | N 16°00.96' | 11.4160' | 55.1678' | 14°42.97' | **08** |
| **09** | 315°19.53' | 14.9981° | 74°25.90' | N 22°39.99' | 0.2558' | 234°28.11' | 14.5489° | 155°17.32' | N 15°49.47' | 11.4931' | 55.1923' | 29°45.43' | **09** |
| **10** | 330°19.42' | 14.9981° | 74°28.48' | N 22°40.24' | 0.2551' | 249°01.08' | 14.5494° | 155°46.82' | N 15°37.90' | 11.5695' | 55.2171' | 44°47.90' | **10** |
| **11** | 345°19.30' | 14.9981° | 74°31.06' | N 22°40.50' | 0.2544' | 263°34.07' | 14.5499° | 156°16.29' | N 15°26.25' | 11.6452' | 55.2421' | 59°50.36' | **11** |
| **12** | 0°19.19' | 14.9981° | 74°33.63' | N 22°40.75' | 0.2537' | 278°07.10' | 14.5504° | 156°45.73' | N 15°14.53' | 11.7203' | 55.2674' | 74°52.82' | **12** |
| **13** | 15°19.07' | 14.9981° | 74°36.21' | N 22°41.00' | 0.2530' | 292°40.15' | 14.5509° | 157°15.14' | N 15°02.74' | 11.7946' | 55.2930' | 89°55.29' | **13** |
| **14** | 30°18.96' | 14.9981° | 74°38.79' | N 22°41.26' | 0.2523' | 307°13.23' | 14.5513° | 157°44.52' | N 14°50.87' | 11.8683' | 55.3188' | 104°57.75' | **14** |
| **15** | 45°18.84' | 14.9981° | 74°41.37' | N 22°41.51' | 0.2517' | 321°46.34' | 14.5518° | 158°13.88' | N 14°38.93' | 11.9413' | 55.3449' | 120°00.22' | **15** |
| **16** | 60°18.73' | 14.9981° | 74°43.95' | N 22°41.76' | 0.2510' | 336°19.47' | 14.5522° | 158°43.21' | N 14°26.92' | 12.0136' | 55.3712' | 135°02.68' | **16** |
| **17** | 75°18.61' | 14.9981° | 74°46.53' | N 22°42.01' | 0.2503' | 350°52.63' | 14.5527° | 159°12.51' | N 14°14.83' | 12.0852' | 55.3978' | 150°05.14' | **17** |
| **18** | 90°18.50' | 14.9981° | 74°49.11' | N 22°42.26' | 0.2496' | 5°25.82' | 14.5531° | 159°41.79' | N 14°02.67' | 12.1562' | 55.4247' | 165°07.61' | **18** |
| **19** | 105°18.38' | 14.9981° | 74°51.69' | N 22°42.51' | 0.2489' | 19°59.02' | 14.5535° | 160°11.05' | N 13°50.45' | 12.2264' | 55.4518' | 180°10.07' | **19** |
| **20** | 120°18.27' | 14.9981° | 74°54.27' | N 22°42.76' | 0.2482' | 34°32.26' | 14.5539° | 160°40.28' | N 13°38.15' | 12.2960' | 55.4791' | 195°12.54' | **20** |
| **21** | 135°18.15' | 14.9981° | 74°56.85' | N 22°43.00' | 0.2475' | 49°05.51' | 14.5543° | 161°09.49' | N 13°25.79' | 12.3648' | 55.5067' | 210°15.00' | **21** |
| **22** | 150°18.04' | 14.9981° | 74°59.43' | N 22°43.25' | 0.2468' | 63°38.79' | 14.5546° | 161°38.68' | N 13°13.35' | 12.4330' | 55.5346' | 225°17.46' | **22** |
| **23** | 165°17.92' | 14.9981° | 75°02.01' | N 22°43.50' | 0.2461' | 78°12.09' | 14.5550° | 162°07.84' | N 13°00.85' | 12.5004' | 55.5627' | 240°19.93' | **23** |
| **24** | 180°17.80' | 14.9981° | 75°04.59' | N 22°43.74' | 0.2454' | 92°45.40' | 14.5553° | 162°36.99' | N 12°48.29' | 12.5672' | 55.5910' | 255°22.39' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 15.7615' | hp (π) 0.1444' | ½Ø 15.0594' | 39.0163493531794 % +cre | |
| | EoT at 12:00 UTC : +1m 16s (δ -0.46 s/h) | | Phase at 12:00 UTC : 77.11° | | |
| | Meridian Pass. Time : 11:58:43.245 | | Age : 6.0 day(s) | | |

| UT | Venus ♀ (π 0.12') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 216°18.49' | 38°04.76' | N 12°53.69' | 245°29.71' | 8°53.55' | N 1°54.19' | 249°46.84' | 4°36.41' | N 0°42.13' | 286°28.25' | 327°55.00' | S 14°10.03' | **00** |
| **01** | 231°18.10' | 38°07.62' | N 12°54.64' | 260°30.47' | 8°55.25' | N 1°54.90' | 264°48.96' | 4°36.75' | N 0°42.27' | 301°30.72' | 327°55.00' | S 14°10.04' | **01** |
| **02** | 246°17.70' | 38°10.48' | N 12°55.58' | 275°31.24' | 8°56.94' | N 1°55.62' | 279°51.08' | 4°37.10' | N 0°42.41' | 316°33.18' | 327°55.00' | S 14°10.05' | **02** |
| **03** | 261°17.31' | 38°13.34' | N 12°56.52' | 290°32.01' | 8°58.64' | N 1°56.33' | 294°53.20' | 4°37.44' | N 0°42.55' | 331°35.65' | 327°55.00' | S 14°10.06' | **03** |
| **04** | 276°16.91' | 38°16.20' | N 12°57.47' | 305°32.78' | 9°00.34' | N 1°57.05' | 309°55.32' | 4°37.79' | N 0°42.68' | 346°38.11' | 327°55.00' | S 14°10.07' | **04** |
| **05** | 291°16.51' | 38°19.06' | N 12°58.41' | 320°33.54' | 9°02.03' | N 1°57.76' | 324°57.44' | 4°38.13' | N 0°42.82' | 1°40.58' | 327°54.99' | S 14°10.08' | **05** |
| **06** | 306°16.12' | 38°21.92' | N 12°59.35' | 335°34.31' | 9°03.73' | N 1°58.47' | 339°59.57' | 4°38.47' | N 0°42.96' | 16°43.05' | 327°54.99' | S 14°10.08' | **06** |
| **07** | 321°15.72' | 38°24.78' | N 13°00.29' | 350°35.08' | 9°05.42' | N 1°59.19' | 355°01.69' | 4°38.82' | N 0°43.10' | 31°45.51' | 327°54.99' | S 14°10.09' | **07** |
| **08** | 336°15.32' | 38°27.65' | N 13°01.23' | 5°35.85' | 9°07.12' | N 1°59.90' | 10°03.81' | 4°39.16' | N 0°43.23' | 46°47.98' | 327°54.99' | S 14°10.10' | **08** |
| **09** | 351°14.92' | 38°30.51' | N 13°02.17' | 20°36.61' | 9°08.82' | N 2°00.61' | 25°05.93' | 4°39.50' | N 0°43.37' | 61°50.45' | 327°54.98' | S 14°10.11' | **09** |
| **10** | 6°14.52' | 38°33.37' | N 13°03.11' | 35°37.38' | 9°10.51' | N 2°01.33' | 40°08.05' | 4°39.84' | N 0°43.51' | 76°52.92' | 327°54.98' | S 14°10.12' | **10** |
| **11** | 21°14.13' | 38°36.23' | N 13°04.05' | 50°38.15' | 9°12.21' | N 2°02.04' | 55°10.17' | 4°40.19' | N 0°43.65' | 91°55.38' | 327°54.98' | S 14°10.13' | **11** |
| **12** | 36°13.73' | 38°39.10' | N 13°04.99' | 65°38.92' | 9°13.91' | N 2°02.76' | 70°12.29' | 4°40.53' | N 0°43.78' | 106°57.85' | 327°54.97' | S 14°10.14' | **12** |
| **13** | 51°13.33' | 38°41.96' | N 13°05.93' | 80°39.68' | 9°15.60' | N 2°03.47' | 85°14.42' | 4°40.87' | N 0°43.92' | 122°00.32' | 327°54.97' | S 14°10.15' | **13** |
| **14** | 66°12.93' | 38°44.83' | N 13°06.86' | 95°40.45' | 9°17.30' | N 2°04.18' | 100°16.54' | 4°41.21' | N 0°44.06' | 137°02.79' | 327°54.97' | S 14°10.16' | **14** |
| **15** | 81°12.52' | 38°47.69' | N 13°07.80' | 110°41.22' | 9°18.99' | N 2°04.89' | 115°18.66' | 4°41.55' | N 0°44.19' | 152°05.25' | 327°54.96' | S 14°10.17' | **15** |
| **16** | 96°12.12' | 38°50.56' | N 13°08.74' | 125°41.99' | 9°20.69' | N 2°05.61' | 130°20.79' | 4°41.89' | N 0°44.33' | 167°07.72' | 327°54.96' | S 14°10.18' | **16** |
| **17** | 111°11.72' | 38°53.42' | N 13°09.68' | 140°42.76' | 9°22.39' | N 2°06.32' | 145°22.91' | 4°42.24' | N 0°44.47' | 182°10.19' | 327°54.95' | S 14°10.19' | **17** |
| **18** | 126°11.32' | 38°56.29' | N 13°10.61' | 155°43.53' | 9°24.08' | N 2°07.03' | 160°25.03' | 4°42.58' | N 0°44.60' | 197°12.66' | 327°54.95' | S 14°10.20' | **18** |
| **19** | 141°10.92' | 38°59.15' | N 13°11.55' | 170°44.29' | 9°25.78' | N 2°07.75' | 175°27.16' | 4°42.92' | N 0°44.74' | 212°15.13' | 327°54.94' | S 14°10.21' | **19** |
| **20** | 156°10.51' | 39°02.02' | N 13°12.48' | 185°45.06' | 9°27.47' | N 2°08.46' | 190°29.28' | 4°43.26' | N 0°44.88' | 227°17.60' | 327°54.94' | S 14°10.22' | **20** |
| **21** | 171°10.11' | 39°04.89' | N 13°13.42' | 200°45.83' | 9°29.17' | N 2°09.17' | 205°31.40' | 4°43.60' | N 0°45.01' | 242°20.07' | 327°54.93' | S 14°10.23' | **21** |
| **22** | 186°09.71' | 39°07.76' | N 13°14.35' | 215°46.60' | 9°30.87' | N 2°09.88' | 220°33.53' | 4°43.94' | N 0°45.15' | 257°22.54' | 327°54.93' | S 14°10.24' | **22** |
| **23** | 201°09.30' | 39°10.63' | N 13°15.29' | 230°47.37' | 9°32.56' | N 2°10.60' | 235°35.65' | 4°44.28' | N 0°45.28' | 272°25.01' | 327°54.92' | S 14°10.25' | **23** |
| **24** | 216°08.90' | 39°13.49' | N 13°16.22' | 245°48.14' | 9°34.26' | N 2°11.31' | 250°37.78' | 4°44.62' | N 0°45.42' | 287°27.48' | 327°54.92' | S 14°10.26' | **24** |
| | δ 14.9934° | | *d* 0.9437' | δ 15.0128° | | *d* 0.7143' | δ 15.0353° | | *d* 0.1381' | δ 15.0411° | | *d* 0.0089' | |

## *Tuesday, June 7th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°17.80' | 14.9981° | 75°04.59' | N 22°43.74' | 0.2454' | 92°45.40' | 14.5553° | 162°36.99' | N 12°48.29' | 12.5672' | 55.5910' | 255°22.39' | **00** |
| **01** | 195°17.69' | 14.9981° | 75°07.17' | N 22°43.99' | 0.2447' | 107°18.74' | 14.5556° | 163°06.11' | N 12°35.65' | 12.6333' | 55.6196' | 270°24.86' | **01** |
| **02** | 210°17.57' | 14.9981° | 75°09.75' | N 22°44.23' | 0.2440' | 121°52.10' | 14.5559° | 163°35.22' | N 12°22.95' | 12.6986' | 55.6485' | 285°27.32' | **02** |
| **03** | 225°17.45' | 14.9981° | 75°12.33' | N 22°44.47' | 0.2433' | 136°25.47' | 14.5562° | 164°04.31' | N 12°10.19' | 12.7633' | 55.6776' | 300°29.78' | **03** |
| **04** | 240°17.34' | 14.9981° | 75°14.91' | N 22°44.72' | 0.2426' | 150°58.86' | 14.5565° | 164°33.39' | N 11°57.36' | 12.8273' | 55.7069' | 315°32.25' | **04** |
| **05** | 255°17.22' | 14.9981° | 75°17.49' | N 22°44.96' | 0.2419' | 165°32.27' | 14.5568° | 165°02.45' | N 11°44.47' | 12.8905' | 55.7365' | 330°34.71' | **05** |
| **06** | 270°17.10' | 14.9981° | 75°20.07' | N 22°45.20' | 0.2412' | 180°05.69' | 14.5570° | 165°31.49' | N 11°31.52' | 12.9531' | 55.7663' | 345°37.18' | **06** |
| **07** | 285°16.99' | 14.9981° | 75°22.65' | N 22°45.44' | 0.2405' | 194°39.12' | 14.5572° | 166°00.52' | N 11°18.51' | 13.0149' | 55.7964' | 0°39.64' | **07** |
| **08** | 300°16.87' | 14.9980° | 75°25.23' | N 22°45.68' | 0.2398' | 209°12.57' | 14.5574° | 166°29.54' | N 11°05.43' | 13.0760' | 55.8267' | 15°42.11' | **08** |
| **09** | 315°16.75' | 14.9980° | 75°27.82' | N 22°45.92' | 0.2392' | 223°46.02' | 14.5576° | 166°58.55' | N 10°52.29' | 13.1364' | 55.8572' | 30°44.57' | **09** |
| **10** | 330°16.64' | 14.9980° | 75°30.40' | N 22°46.16' | 0.2385' | 238°19.49' | 14.5578° | 167°27.54' | N 10°39.10' | 13.1961' | 55.8880' | 45°47.03' | **10** |
| **11** | 345°16.52' | 14.9980° | 75°32.98' | N 22°46.40' | 0.2378' | 252°52.97' | 14.5580° | 167°56.52' | N 10°25.84' | 13.2550' | 55.9190' | 60°49.50' | **11** |
| **12** | 0°16.40' | 14.9980° | 75°35.56' | N 22°46.63' | 0.2371' | 267°26.46' | 14.5581° | 168°25.50' | N 10°12.53' | 13.3133' | 55.9503' | 75°51.96' | **12** |
| **13** | 15°16.28' | 14.9980° | 75°38.14' | N 22°46.87' | 0.2364' | 281°59.96' | 14.5583° | 168°54.47' | N 9°59.16' | 13.3708' | 55.9818' | 90°54.43' | **13** |
| **14** | 30°16.17' | 14.9980° | 75°40.72' | N 22°47.11' | 0.2357' | 296°33.46' | 14.5584° | 169°23.43' | N 9°45.73' | 13.4275' | 56.0135' | 105°56.89' | **14** |
| **15** | 45°16.05' | 14.9980° | 75°43.31' | N 22°47.34' | 0.2350' | 311°06.97' | 14.5585° | 169°52.38' | N 9°32.25' | 13.4836' | 56.0454' | 120°59.35' | **15** |
| **16** | 60°15.93' | 14.9980° | 75°45.89' | N 22°47.57' | 0.2343' | 325°40.49' | 14.5586° | 170°21.33' | N 9°18.71' | 13.5389' | 56.0776' | 136°01.82' | **16** |
| **17** | 75°15.81' | 14.9980° | 75°48.47' | N 22°47.81' | 0.2336' | 340°14.01' | 14.5586° | 170°50.28' | N 9°05.11' | 13.5934' | 56.1100' | 151°04.28' | **17** |
| **18** | 90°15.69' | 14.9980° | 75°51.05' | N 22°48.04' | 0.2329' | 354°47.53' | 14.5587° | 171°19.22' | N 8°51.47' | 13.6472' | 56.1426' | 166°06.75' | **18** |
| **19** | 105°15.58' | 14.9980° | 75°53.63' | N 22°48.27' | 0.2322' | 9°21.05' | 14.5587° | 171°48.16' | N 8°37.77' | 13.7003' | 56.1754' | 181°09.21' | **19** |
| **20** | 120°15.46' | 14.9980° | 75°56.22' | N 22°48.50' | 0.2315' | 23°54.58' | 14.5587° | 172°17.10' | N 8°24.01' | 13.7526' | 56.2085' | 196°11.67' | **20** |
| **21** | 135°15.34' | 14.9980° | 75°58.80' | N 22°48.74' | 0.2308' | 38°28.10' | 14.5587° | 172°46.04' | N 8°10.21' | 13.8041' | 56.2417' | 211°14.14' | **21** |
| **22** | 150°15.22' | 14.9980° | 76°01.38' | N 22°48.97' | 0.2301' | 53°01.62' | 14.5587° | 173°14.98' | N 7°56.36' | 13.8549' | 56.2752' | 226°16.60' | **22** |
| **23** | 165°15.10' | 14.9980° | 76°03.97' | N 22°49.19' | 0.2294' | 67°35.15' | 14.5587° | 173°43.92' | N 7°42.45' | 13.9049' | 56.3089' | 241°19.07' | **23** |
| **24** | 180°14.98' | 14.9980° | 76°06.55' | N 22°49.42' | 0.2287' | 82°08.66' | 14.5586° | 174°12.87' | N 7°28.50' | 13.9542' | 56.3428' | 256°21.53' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7596' | hp (π) 0.1444' | ½Ø 15.2454' | 48.9400910828719 % +cre |
| | EoT at 12:00 UTC : +1m 5s (δ -0.47 s/h) | | Phase at 12:00 UTC : 88.63° | |
| | Meridian Pass. Time : 11:58:54.396 | | Age : 6.9 day(s) | |

| UT | Venus ♀ (π 0.12') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 216°08.90' | 39°13.49' | N 13°16.22' | 245°48.14' | 9°34.26' | N 2°11.31' | 250°37.78' | 4°44.62' | N 0°45.42' | 287°27.48' | 327°54.92' | S 14°10.26' | **00** |
| **01** | 231°08.49' | 39°16.36' | N 13°17.15' | 260°48.90' | 9°35.95' | N 2°12.02' | 265°39.90' | 4°44.96' | N 0°45.56' | 302°29.95' | 327°54.91' | S 14°10.27' | **01** |
| **02** | 246°08.09' | 39°19.23' | N 13°18.08' | 275°49.67' | 9°37.65' | N 2°12.73' | 280°42.03' | 4°45.29' | N 0°45.69' | 317°32.42' | 327°54.91' | S 14°10.28' | **02** |
| **03** | 261°07.68' | 39°22.10' | N 13°19.02' | 290°50.44' | 9°39.34' | N 2°13.45' | 295°44.15' | 4°45.63' | N 0°45.83' | 332°34.89' | 327°54.90' | S 14°10.29' | **03** |
| **04** | 276°07.28' | 39°24.97' | N 13°19.95' | 305°51.21' | 9°41.04' | N 2°14.16' | 310°46.28' | 4°45.97' | N 0°45.96' | 347°37.36' | 327°54.89' | S 14°10.30' | **04** |
| **05** | 291°06.87' | 39°27.84' | N 13°20.88' | 320°51.98' | 9°42.73' | N 2°14.87' | 325°48.40' | 4°46.31' | N 0°46.10' | 2°39.83' | 327°54.89' | S 14°10.31' | **05** |
| **06** | 306°06.46' | 39°30.72' | N 13°21.81' | 335°52.75' | 9°44.43' | N 2°15.58' | 340°50.53' | 4°46.65' | N 0°46.23' | 17°42.30' | 327°54.88' | S 14°10.32' | **06** |
| **07** | 321°06.05' | 39°33.59' | N 13°22.74' | 350°53.52' | 9°46.12' | N 2°16.30' | 355°52.65' | 4°46.99' | N 0°46.37' | 32°44.77' | 327°54.87' | S 14°10.33' | **07** |
| **08** | 336°05.65' | 39°36.46' | N 13°23.67' | 5°54.29' | 9°47.82' | N 2°17.01' | 10°54.78' | 4°47.33' | N 0°46.50' | 47°47.24' | 327°54.87' | S 14°10.34' | **08** |
| **09** | 351°05.24' | 39°39.33' | N 13°24.60' | 20°55.06' | 9°49.51' | N 2°17.72' | 25°56.91' | 4°47.66' | N 0°46.64' | 62°49.71' | 327°54.86' | S 14°10.35' | **09** |
| **10** | 6°04.83' | 39°42.21' | N 13°25.53' | 35°55.83' | 9°51.21' | N 2°18.43' | 40°59.03' | 4°48.00' | N 0°46.78' | 77°52.18' | 327°54.85' | S 14°10.36' | **10** |
| **11** | 21°04.42' | 39°45.08' | N 13°26.45' | 50°56.59' | 9°52.90' | N 2°19.14' | 56°01.16' | 4°48.34' | N 0°46.91' | 92°54.65' | 327°54.84' | S 14°10.38' | **11** |
| **12** | 36°04.01' | 39°47.95' | N 13°27.38' | 65°57.36' | 9°54.60' | N 2°19.85' | 71°03.29' | 4°48.67' | N 0°47.04' | 107°57.12' | 327°54.84' | S 14°10.39' | **12** |
| **13** | 51°03.60' | 39°50.83' | N 13°28.31' | 80°58.13' | 9°56.29' | N 2°20.56' | 86°05.41' | 4°49.01' | N 0°47.18' | 122°59.60' | 327°54.83' | S 14°10.40' | **13** |
| **14** | 66°03.19' | 39°53.70' | N 13°29.24' | 95°58.90' | 9°57.99' | N 2°21.28' | 101°07.54' | 4°49.35' | N 0°47.31' | 138°02.07' | 327°54.82' | S 14°10.41' | **14** |
| **15** | 81°02.78' | 39°56.58' | N 13°30.16' | 110°59.67' | 9°59.68' | N 2°21.99' | 116°09.67' | 4°49.68' | N 0°47.45' | 153°04.54' | 327°54.81' | S 14°10.42' | **15** |
| **16** | 96°02.37' | 39°59.45' | N 13°31.09' | 126°00.44' | 10°01.38' | N 2°22.70' | 131°11.80' | 4°50.02' | N 0°47.58' | 168°07.01' | 327°54.81' | S 14°10.43' | **16** |
| **17** | 111°01.95' | 40°02.33' | N 13°32.01' | 141°01.21' | 10°03.07' | N 2°23.41' | 146°13.92' | 4°50.36' | N 0°47.72' | 183°09.49' | 327°54.80' | S 14°10.44' | **17** |
| **18** | 126°01.54' | 40°05.20' | N 13°32.94' | 156°01.98' | 10°04.77' | N 2°24.12' | 161°16.05' | 4°50.69' | N 0°47.85' | 198°11.96' | 327°54.79' | S 14°10.45' | **18** |
| **19** | 141°01.13' | 40°08.08' | N 13°33.86' | 171°02.75' | 10°06.46' | N 2°24.83' | 176°18.18' | 4°51.03' | N 0°47.99' | 213°14.43' | 327°54.78' | S 14°10.46' | **19** |
| **20** | 156°00.72' | 40°10.96' | N 13°34.79' | 186°03.52' | 10°08.15' | N 2°25.54' | 191°20.31' | 4°51.36' | N 0°48.12' | 228°16.90' | 327°54.77' | S 14°10.48' | **20** |
| **21** | 171°00.30' | 40°13.84' | N 13°35.71' | 201°04.29' | 10°09.85' | N 2°26.25' | 206°22.44' | 4°51.70' | N 0°48.25' | 243°19.38' | 327°54.76' | S 14°10.49' | **21** |
| **22** | 185°59.89' | 40°16.71' | N 13°36.63' | 216°05.06' | 10°11.54' | N 2°26.96' | 221°24.57' | 4°52.03' | N 0°48.39' | 258°21.85' | 327°54.75' | S 14°10.50' | **22** |
| **23** | 200°59.47' | 40°19.59' | N 13°37.56' | 231°05.83' | 10°13.24' | N 2°27.67' | 236°26.70' | 4°52.37' | N 0°48.52' | 273°24.32' | 327°54.74' | S 14°10.51' | **23** |
| **24** | 215°59.06' | 40°22.47' | N 13°38.48' | 246°06.60' | 10°14.93' | N 2°28.38' | 251°28.83' | 4°52.70' | N 0°48.66' | 288°26.80' | 327°54.73' | S 14°10.52' | **24** |
| | δ 14.9932° | | *d* 0.9329' | δ 15.0128° | | *d* 0.7124' | δ 15.0354° | | *d* 0.1359' | δ 15.0412° | | *d* 0.0103' | |

## *Wednesday, June 8th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°14.98' | 14.9980° | 76°06.55' | N 22°49.42' | 0.2287' | 82°08.66' | 14.5586° | 174°12.87' | N 7°28.50' | 13.9542' | 56.3428' | 256°21.53' | **00** |
| **01** | 195°14.86' | 14.9980° | 76°09.13' | N 22°49.65' | 0.2280' | 96°42.18' | 14.5586° | 174°41.82' | N 7°14.49' | 14.0026' | 56.3770' | 271°23.99' | **01** |
| **02** | 210°14.74' | 14.9980° | 76°11.71' | N 22°49.88' | 0.2273' | 111°15.68' | 14.5585° | 175°10.77' | N 7°00.44' | 14.0503' | 56.4113' | 286°26.46' | **02** |
| **03** | 225°14.63' | 14.9980° | 76°14.30' | N 22°50.11' | 0.2266' | 125°49.19' | 14.5584° | 175°39.74' | N 6°46.35' | 14.0972' | 56.4458' | 301°28.92' | **03** |
| **04** | 240°14.51' | 14.9980° | 76°16.88' | N 22°50.33' | 0.2259' | 140°22.68' | 14.5582° | 176°08.71' | N 6°32.20' | 14.1433' | 56.4805' | 316°31.39' | **04** |
| **05** | 255°14.39' | 14.9980° | 76°19.46' | N 22°50.56' | 0.2252' | 154°56.16' | 14.5581° | 176°37.69' | N 6°18.01' | 14.1886' | 56.5155' | 331°33.85' | **05** |
| **06** | 270°14.27' | 14.9980° | 76°22.05' | N 22°50.78' | 0.2245' | 169°29.64' | 14.5579° | 177°06.68' | N 6°03.78' | 14.2330' | 56.5506' | 346°36.32' | **06** |
| **07** | 285°14.15' | 14.9980° | 76°24.63' | N 22°51.00' | 0.2238' | 184°03.10' | 14.5577° | 177°35.68' | N 5°49.50' | 14.2767' | 56.5859' | 1°38.78' | **07** |
| **08** | 300°14.03' | 14.9980° | 76°27.22' | N 22°51.23' | 0.2231' | 198°36.55' | 14.5575° | 178°04.69' | N 5°35.18' | 14.3196' | 56.6214' | 16°41.24' | **08** |
| **09** | 315°13.91' | 14.9980° | 76°29.80' | N 22°51.45' | 0.2224' | 213°09.99' | 14.5573° | 178°33.72' | N 5°20.82' | 14.3616' | 56.6571' | 31°43.71' | **09** |
| **10** | 330°13.79' | 14.9980° | 76°32.38' | N 22°51.67' | 0.2217' | 227°43.41' | 14.5570° | 179°02.76' | N 5°06.42' | 14.4028' | 56.6930' | 46°46.17' | **10** |
| **11** | 345°13.67' | 14.9980° | 76°34.97' | N 22°51.89' | 0.2210' | 242°16.82' | 14.5568° | 179°31.82' | N 4°51.98' | 14.4432' | 56.7290' | 61°48.64' | **11** |
| **12** | 0°13.55' | 14.9980° | 76°37.55' | N 22°52.11' | 0.2203' | 256°50.21' | 14.5565° | 180°00.89' | N 4°37.49' | 14.4827' | 56.7653' | 76°51.10' | **12** |
| **13** | 15°13.43' | 14.9980° | 76°40.14' | N 22°52.33' | 0.2196' | 271°23.58' | 14.5562° | 180°29.98' | N 4°22.97' | 14.5214' | 56.8017' | 91°53.56' | **13** |
| **14** | 30°13.31' | 14.9980° | 76°42.72' | N 22°52.55' | 0.2189' | 285°56.93' | 14.5559° | 180°59.10' | N 4°08.41' | 14.5592' | 56.8383' | 106°56.03' | **14** |
| **15** | 45°13.19' | 14.9980° | 76°45.30' | N 22°52.77' | 0.2182' | 300°30.26' | 14.5555° | 181°28.23' | N 3°53.82' | 14.5961' | 56.8750' | 121°58.49' | **15** |
| **16** | 60°13.07' | 14.9980° | 76°47.89' | N 22°52.99' | 0.2175' | 315°03.57' | 14.5552° | 181°57.38' | N 3°39.19' | 14.6322' | 56.9119' | 137°00.96' | **16** |
| **17** | 75°12.95' | 14.9980° | 76°50.47' | N 22°53.20' | 0.2168' | 329°36.86' | 14.5548° | 182°26.56' | N 3°24.52' | 14.6674' | 56.9490' | 152°03.42' | **17** |
| **18** | 90°12.83' | 14.9980° | 76°53.06' | N 22°53.42' | 0.2161' | 344°10.12' | 14.5544° | 182°55.76' | N 3°09.82' | 14.7017' | 56.9863' | 167°05.88' | **18** |
| **19** | 105°12.70' | 14.9980° | 76°55.64' | N 22°53.64' | 0.2154' | 358°43.36' | 14.5540° | 183°24.99' | N 2°55.08' | 14.7351' | 57.0237' | 182°08.35' | **19** |
| **20** | 120°12.58' | 14.9980° | 76°58.23' | N 22°53.85' | 0.2147' | 13°16.57' | 14.5535° | 183°54.24' | N 2°40.31' | 14.7676' | 57.0612' | 197°10.81' | **20** |
| **21** | 135°12.46' | 14.9980° | 77°00.81' | N 22°54.06' | 0.2140' | 27°49.75' | 14.5530° | 184°23.52' | N 2°25.51' | 14.7991' | 57.0989' | 212°13.28' | **21** |
| **22** | 150°12.34' | 14.9980° | 77°03.40' | N 22°54.28' | 0.2133' | 42°22.91' | 14.5526° | 184°52.83' | N 2°10.69' | 14.8298' | 57.1368' | 227°15.74' | **22** |
| **23** | 165°12.22' | 14.9980° | 77°05.98' | N 22°54.49' | 0.2126' | 56°56.03' | 14.5520° | 185°22.18' | N 1°55.83' | 14.8595' | 57.1748' | 242°18.20' | **23** |
| **24** | 180°12.10' | 14.9980° | 77°08.57' | N 22°54.70' | 0.2119' | 71°29.12' | 14.5515° | 185°51.55' | N 1°40.94' | 14.8882' | 57.2129' | 257°20.67' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7577' | hp (π) 0.1444' | ½Ø 15.4675' | 59.1894426086789 9% +gib |
| | EoT at 12:00 UTC : +54s (δ -0.48 s/h) | | Phase at 12:00 UTC : 100.48° | |
| | Meridian Pass. Time : 11:59:05.808 | | Age : 7.8 day(s) | |

| UT | Venus ♀ (π 0.12') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 215°59.06' | 40°22.47' | N 13°38.48' | 246°06.60' | 10°14.93' | N 2°28.38' | 251°28.83' | 4°52.70' | N 0°48.66' | 288°26.80' | 327°54.73' | S 14°10.52' | **00** |
| **01** | 230°58.64' | 40°25.35' | N 13°39.40' | 261°07.37' | 10°16.63' | N 2°29.10' | 266°30.96' | 4°53.04' | N 0°48.79' | 303°29.27' | 327°54.72' | S 14°10.53' | **01** |
| **02** | 245°58.23' | 40°28.23' | N 13°40.32' | 276°08.14' | 10°18.32' | N 2°29.81' | 281°33.09' | 4°53.37' | N 0°48.92' | 318°31.74' | 327°54.71' | S 14°10.54' | **02** |
| **03** | 260°57.81' | 40°31.11' | N 13°41.24' | 291°08.91' | 10°20.01' | N 2°30.52' | 296°35.22' | 4°53.71' | N 0°49.06' | 333°34.22' | 327°54.70' | S 14°10.56' | **03** |
| **04** | 275°57.39' | 40°33.99' | N 13°42.16' | 306°09.68' | 10°21.71' | N 2°31.23' | 311°37.35' | 4°54.04' | N 0°49.19' | 348°36.69' | 327°54.69' | S 14°10.57' | **04** |
| **05** | 290°56.98' | 40°36.87' | N 13°43.08' | 321°10.45' | 10°23.40' | N 2°31.94' | 326°39.48' | 4°54.37' | N 0°49.32' | 3°39.17' | 327°54.68' | S 14°10.58' | **05** |
| **06** | 305°56.56' | 40°39.76' | N 13°44.00' | 336°11.22' | 10°25.10' | N 2°32.65' | 341°41.61' | 4°54.71' | N 0°49.46' | 18°41.64' | 327°54.67' | S 14°10.59' | **06** |
| **07** | 320°56.14' | 40°42.64' | N 13°44.92' | 351°11.99' | 10°26.79' | N 2°33.36' | 356°43.74' | 4°55.04' | N 0°49.59' | 33°44.12' | 327°54.66' | S 14°10.60' | **07** |
| **08** | 335°55.72' | 40°45.52' | N 13°45.84' | 6°12.76' | 10°28.48' | N 2°34.07' | 11°45.87' | 4°55.37' | N 0°49.72' | 48°46.59' | 327°54.65' | S 14°10.62' | **08** |
| **09** | 350°55.30' | 40°48.40' | N 13°46.76' | 21°13.53' | 10°30.18' | N 2°34.78' | 26°48.00' | 4°55.71' | N 0°49.85' | 63°49.07' | 327°54.64' | S 14°10.63' | **09** |
| **10** | 5°54.89' | 40°51.29' | N 13°47.67' | 36°14.30' | 10°31.87' | N 2°35.48' | 41°50.13' | 4°56.04' | N 0°49.99' | 78°51.54' | 327°54.63' | S 14°10.64' | **10** |
| **11** | 20°54.47' | 40°54.17' | N 13°48.59' | 51°15.07' | 10°33.56' | N 2°36.19' | 56°52.27' | 4°56.37' | N 0°50.12' | 93°54.02' | 327°54.62' | S 14°10.65' | **11** |
| **12** | 35°54.05' | 40°57.05' | N 13°49.51' | 66°15.84' | 10°35.26' | N 2°36.90' | 71°54.40' | 4°56.70' | N 0°50.25' | 108°56.49' | 327°54.61' | S 14°10.66' | **12** |
| **13** | 50°53.62' | 40°59.94' | N 13°50.42' | 81°16.61' | 10°36.95' | N 2°37.61' | 86°56.53' | 4°57.03' | N 0°50.38' | 123°58.97' | 327°54.59' | S 14°10.68' | **13** |
| **14** | 65°53.20' | 41°02.82' | N 13°51.34' | 96°17.38' | 10°38.64' | N 2°38.32' | 101°58.66' | 4°57.37' | N 0°50.52' | 139°01.45' | 327°54.58' | S 14°10.69' | **14** |
| **15** | 80°52.78' | 41°05.71' | N 13°52.25' | 111°18.15' | 10°40.34' | N 2°39.03' | 117°00.79' | 4°57.70' | N 0°50.65' | 154°03.92' | 327°54.57' | S 14°10.70' | **15** |
| **16** | 95°52.36' | 41°08.60' | N 13°53.17' | 126°18.93' | 10°42.03' | N 2°39.74' | 132°02.93' | 4°58.03' | N 0°50.78' | 169°06.40' | 327°54.56' | S 14°10.71' | **16** |
| **17** | 110°51.94' | 41°11.48' | N 13°54.08' | 141°19.70' | 10°43.72' | N 2°40.45' | 147°05.06' | 4°58.36' | N 0°50.91' | 184°08.87' | 327°54.55' | S 14°10.73' | **17** |
| **18** | 125°51.51' | 41°14.37' | N 13°54.99' | 156°20.47' | 10°45.42' | N 2°41.16' | 162°07.19' | 4°58.69' | N 0°51.05' | 199°11.35' | 327°54.53' | S 14°10.74' | **18** |
| **19** | 140°51.09' | 41°17.26' | N 13°55.91' | 171°21.24' | 10°47.11' | N 2°41.87' | 177°09.33' | 4°59.02' | N 0°51.18' | 214°13.83' | 327°54.52' | S 14°10.75' | **19** |
| **20** | 155°50.67' | 41°20.14' | N 13°56.82' | 186°22.01' | 10°48.80' | N 2°42.58' | 192°11.46' | 4°59.35' | N 0°51.31' | 229°16.30' | 327°54.51' | S 14°10.76' | **20** |
| **21** | 170°50.24' | 41°23.03' | N 13°57.73' | 201°22.78' | 10°50.50' | N 2°43.28' | 207°13.59' | 4°59.68' | N 0°51.44' | 244°18.78' | 327°54.50' | S 14°10.78' | **21** |
| **22** | 185°49.82' | 41°25.92' | N 13°58.64' | 216°23.55' | 10°52.19' | N 2°43.99' | 222°15.73' | 5°00.01' | N 0°51.57' | 259°21.26' | 327°54.48' | S 14°10.79' | **22** |
| **23** | 200°49.39' | 41°28.81' | N 13°59.55' | 231°24.32' | 10°53.88' | N 2°44.70' | 237°17.86' | 5°00.34' | N 0°51.70' | 274°23.74' | 327°54.47' | S 14°10.80' | **23** |
| **24** | 215°48.97' | 41°31.70' | N 14°00.46' | 246°25.09' | 10°55.58' | N 2°45.41' | 252°20.00' | 5°00.67' | N 0°51.84' | 289°26.21' | 327°54.46' | S 14°10.82' | **24** |
| | δ 14.9931° | | *d* 0.9216' | δ 15.0128° | | *d* 0.7104' | δ 15.0355° | | *d* 0.1336' | δ 15.0412° | | *d* 0.0116' | |

## *Thursday, June 9th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°12.10' | 14.9980° | 77°08.57' | N 22°54.70' | 0.2119' | 71°29.12' | 14.5515° | 185°51.55' | N 1°40.94' | 14.8882' | 57.2129' | 257°20.67' | **00** |
| **01** | 195°11.98' | 14.9980° | 77°11.16' | N 22°54.91' | 0.2112' | 86°02.18' | 14.5510° | 186°20.96' | N 1°26.02' | 14.9160' | 57.2511' | 272°23.13' | **01** |
| **02** | 210°11.86' | 14.9980° | 77°13.74' | N 22°55.12' | 0.2105' | 100°35.20' | 14.5504° | 186°50.40' | N 1°11.08' | 14.9429' | 57.2895' | 287°25.60' | **02** |
| **03** | 225°11.73' | 14.9980° | 77°16.33' | N 22°55.33' | 0.2098' | 115°08.19' | 14.5498° | 187°19.87' | N 0°56.11' | 14.9687' | 57.3281' | 302°28.06' | **03** |
| **04** | 240°11.61' | 14.9980° | 77°18.91' | N 22°55.54' | 0.2091' | 129°41.14' | 14.5492° | 187°49.38' | N 0°41.12' | 14.9936' | 57.3667' | 317°30.52' | **04** |
| **05** | 255°11.49' | 14.9980° | 77°21.50' | N 22°55.75' | 0.2084' | 144°14.05' | 14.5486° | 188°18.93' | N 0°26.10' | 15.0175' | 57.4055' | 332°32.99' | **05** |
| **06** | 270°11.37' | 14.9980° | 77°24.08' | N 22°55.96' | 0.2077' | 158°46.93' | 14.5479° | 188°48.52' | N 0°11.06' | 15.0404' | 57.4443' | 347°35.45' | **06** |
| **07** | 285°11.25' | 14.9980° | 77°26.67' | N 22°56.17' | 0.2070' | 173°19.76' | 14.5472° | 189°18.16' | S 0°04.00' | 15.0622' | 57.4833' | 2°37.92' | **07** |
| **08** | 300°11.12' | 14.9980° | 77°29.26' | N 22°56.37' | 0.2063' | 187°52.55' | 14.5465° | 189°47.83' | S 0°19.09' | 15.0830' | 57.5224' | 17°40.38' | **08** |
| **09** | 315°11.00' | 14.9980° | 77°31.84' | N 22°56.58' | 0.2056' | 202°25.30' | 14.5458° | 190°17.54' | S 0°34.19' | 15.1028' | 57.5616' | 32°42.85' | **09** |
| **10** | 330°10.88' | 14.9980° | 77°34.43' | N 22°56.78' | 0.2049' | 216°58.00' | 14.5451° | 190°47.31' | S 0°49.31' | 15.1215' | 57.6009' | 47°45.31' | **10** |
| **11** | 345°10.76' | 14.9980° | 77°37.02' | N 22°56.99' | 0.2042' | 231°30.66' | 14.5443° | 191°17.11' | S 1°04.45' | 15.1392' | 57.6403' | 62°47.77' | **11** |
| **12** | 0°10.63' | 14.9980° | 77°39.60' | N 22°57.19' | 0.2035' | 246°03.27' | 14.5435° | 191°46.97' | S 1°19.61' | 15.1557' | 57.6798' | 77°50.24' | **12** |
| **13** | 15°10.51' | 14.9980° | 77°42.19' | N 22°57.39' | 0.2028' | 260°35.83' | 14.5427° | 192°16.87' | S 1°34.78' | 15.1712' | 57.7193' | 92°52.70' | **13** |
| **14** | 30°10.39' | 14.9980° | 77°44.78' | N 22°57.60' | 0.2021' | 275°08.34' | 14.5419° | 192°46.82' | S 1°49.96' | 15.1856' | 57.7589' | 107°55.17' | **14** |
| **15** | 45°10.27' | 14.9980° | 77°47.36' | N 22°57.80' | 0.2014' | 289°40.80' | 14.5410° | 193°16.82' | S 2°05.16' | 15.1989' | 57.7987' | 122°57.63' | **15** |
| **16** | 60°10.14' | 14.9980° | 77°49.95' | N 22°58.00' | 0.2007' | 304°13.21' | 14.5401° | 193°46.88' | S 2°20.37' | 15.2110' | 57.8384' | 138°00.09' | **16** |
| **17** | 75°10.02' | 14.9980° | 77°52.54' | N 22°58.20' | 0.2000' | 318°45.57' | 14.5392° | 194°16.99' | S 2°35.59' | 15.2220' | 57.8783' | 153°02.56' | **17** |
| **18** | 90°09.90' | 14.9979° | 77°55.12' | N 22°58.40' | 0.1993' | 333°17.86' | 14.5383° | 194°47.16' | S 2°50.83' | 15.2318' | 57.9182' | 168°05.02' | **18** |
| **19** | 105°09.77' | 14.9979° | 77°57.71' | N 22°58.60' | 0.1985' | 347°50.11' | 14.5374° | 195°17.38' | S 3°06.07' | 15.2404' | 57.9581' | 183°07.49' | **19** |
| **20** | 120°09.65' | 14.9979° | 78°00.30' | N 22°58.79' | 0.1978' | 2°22.29' | 14.5364° | 195°47.66' | S 3°21.31' | 15.2479' | 57.9981' | 198°09.95' | **20** |
| **21** | 135°09.53' | 14.9979° | 78°02.89' | N 22°58.99' | 0.1971' | 16°54.41' | 14.5354° | 196°18.00' | S 3°36.57' | 15.2541' | 58.0382' | 213°12.41' | **21** |
| **22** | 150°09.40' | 14.9979° | 78°05.47' | N 22°59.19' | 0.1964' | 31°26.48' | 14.5344° | 196°48.40' | S 3°51.83' | 15.2592' | 58.0783' | 228°14.88' | **22** |
| **23** | 165°09.28' | 14.9979° | 78°08.06' | N 22°59.38' | 0.1957' | 45°58.48' | 14.5334° | 197°18.86' | S 4°07.09' | 15.2630' | 58.1184' | 243°17.34' | **23** |
| **24** | 180°09.16' | 14.9979° | 78°10.65' | N 22°59.58' | 0.1950' | 60°30.42' | 14.5323° | 197°49.39' | S 4°22.36' | 15.2656' | 58.1585' | 258°19.81' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.7559' | hp (π) 0.1444' | ½Ø 15.7167' | 69.3695668736483 % +gib | |
| EoT at 12:00 UTC : +42s (δ -0.49 s/h) | | Phase at 12:00 UTC : 112.70° | | |
| Meridian Pass. Time : 11:59:17.460 | | Age : 8.8 day(s) | | |

| UT | Venus ♀ (π 0.12') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 215°48.97' | 41°31.70' | N 14°00.46' | 246°25.09' | 10°55.58' | N 2°45.41' | 252°20.00' | 5°00.67' | N 0°51.84' | 289°26.21' | 327°54.46' | S 14°10.82' | **00** |
| **01** | 230°48.54' | 41°34.59' | N 14°01.37' | 261°25.86' | 10°57.27' | N 2°46.12' | 267°22.13' | 5°01.00' | N 0°51.97' | 304°28.69' | 327°54.44' | S 14°10.83' | **01** |
| **02** | 245°48.12' | 41°37.48' | N 14°02.28' | 276°26.64' | 10°58.96' | N 2°46.83' | 282°24.27' | 5°01.33' | N 0°52.10' | 319°31.17' | 327°54.43' | S 14°10.84' | **02** |
| **03** | 260°47.69' | 41°40.37' | N 14°03.19' | 291°27.41' | 11°00.65' | N 2°47.53' | 297°26.40' | 5°01.66' | N 0°52.23' | 334°33.65' | 327°54.41' | S 14°10.85' | **03** |
| **04** | 275°47.26' | 41°43.26' | N 14°04.10' | 306°28.18' | 11°02.35' | N 2°48.24' | 312°28.54' | 5°01.99' | N 0°52.36' | 349°36.13' | 327°54.40' | S 14°10.87' | **04** |
| **05** | 290°46.84' | 41°46.15' | N 14°05.01' | 321°28.95' | 11°04.04' | N 2°48.95' | 327°30.67' | 5°02.32' | N 0°52.49' | 4°38.60' | 327°54.39' | S 14°10.88' | **05** |
| **06** | 305°46.41' | 41°49.05' | N 14°05.91' | 336°29.72' | 11°05.73' | N 2°49.66' | 342°32.81' | 5°02.64' | N 0°52.62' | 19°41.08' | 327°54.37' | S 14°10.89' | **06** |
| **07** | 320°45.98' | 41°51.94' | N 14°06.82' | 351°30.49' | 11°07.42' | N 2°50.37' | 357°34.94' | 5°02.97' | N 0°52.75' | 34°43.56' | 327°54.36' | S 14°10.91' | **07** |
| **08** | 335°45.55' | 41°54.83' | N 14°07.73' | 6°31.26' | 11°09.12' | N 2°51.07' | 12°37.08' | 5°03.30' | N 0°52.88' | 49°46.04' | 327°54.34' | S 14°10.92' | **08** |
| **09** | 350°45.12' | 41°57.73' | N 14°08.63' | 21°32.04' | 11°10.81' | N 2°51.78' | 27°39.22' | 5°03.63' | N 0°53.01' | 64°48.52' | 327°54.33' | S 14°10.93' | **09** |
| **10** | 5°44.69' | 42°00.62' | N 14°09.54' | 36°32.81' | 11°12.50' | N 2°52.49' | 42°41.35' | 5°03.96' | N 0°53.14' | 79°51.00' | 327°54.31' | S 14°10.95' | **10** |
| **11** | 20°44.26' | 42°03.51' | N 14°10.44' | 51°33.58' | 11°14.19' | N 2°53.20' | 57°43.49' | 5°04.28' | N 0°53.27' | 94°53.48' | 327°54.30' | S 14°10.96' | **11** |
| **12** | 35°43.83' | 42°06.41' | N 14°11.35' | 66°34.35' | 11°15.89' | N 2°53.90' | 72°45.63' | 5°04.61' | N 0°53.40' | 109°55.96' | 327°54.28' | S 14°10.97' | **12** |
| **13** | 50°43.40' | 42°09.30' | N 14°12.25' | 81°35.12' | 11°17.58' | N 2°54.61' | 87°47.76' | 5°04.94' | N 0°53.54' | 124°58.44' | 327°54.26' | S 14°10.99' | **13** |
| **14** | 65°42.97' | 42°12.20' | N 14°13.15' | 96°35.90' | 11°19.27' | N 2°55.32' | 102°49.90' | 5°05.26' | N 0°53.67' | 140°00.92' | 327°54.25' | S 14°11.00' | **14** |
| **15** | 80°42.53' | 42°15.10' | N 14°14.06' | 111°36.67' | 11°20.96' | N 2°56.02' | 117°52.04' | 5°05.59' | N 0°53.80' | 155°03.40' | 327°54.23' | S 14°11.02' | **15** |
| **16** | 95°42.10' | 42°17.99' | N 14°14.96' | 126°37.44' | 11°22.65' | N 2°56.73' | 132°54.18' | 5°05.92' | N 0°53.92' | 170°05.88' | 327°54.22' | S 14°11.03' | **16** |
| **17** | 110°41.67' | 42°20.89' | N 14°15.86' | 141°38.21' | 11°24.35' | N 2°57.44' | 147°56.32' | 5°06.24' | N 0°54.05' | 185°08.36' | 327°54.20' | S 14°11.04' | **17** |
| **18** | 125°41.23' | 42°23.79' | N 14°16.76' | 156°38.98' | 11°26.04' | N 2°58.15' | 162°58.45' | 5°06.57' | N 0°54.18' | 200°10.84' | 327°54.18' | S 14°11.06' | **18** |
| **19** | 140°40.80' | 42°26.68' | N 14°17.66' | 171°39.76' | 11°27.73' | N 2°58.85' | 178°00.59' | 5°06.89' | N 0°54.31' | 215°13.32' | 327°54.17' | S 14°11.07' | **19** |
| **20** | 155°40.37' | 42°29.58' | N 14°18.56' | 186°40.53' | 11°29.42' | N 2°59.56' | 193°02.73' | 5°07.22' | N 0°54.44' | 230°15.80' | 327°54.15' | S 14°11.09' | **20** |
| **21** | 170°39.93' | 42°32.48' | N 14°19.46' | 201°41.30' | 11°31.11' | N 3°00.27' | 208°04.87' | 5°07.54' | N 0°54.57' | 245°18.28' | 327°54.13' | S 14°11.10' | **21** |
| **22** | 185°39.50' | 42°35.38' | N 14°20.36' | 216°42.07' | 11°32.81' | N 3°00.97' | 223°07.01' | 5°07.87' | N 0°54.70' | 260°20.76' | 327°54.12' | S 14°11.11' | **22** |
| **23** | 200°39.06' | 42°38.28' | N 14°21.26' | 231°42.84' | 11°34.50' | N 3°01.68' | 238°09.15' | 5°08.19' | N 0°54.83' | 275°23.24' | 327°54.10' | S 14°11.13' | **23** |
| **24** | 215°38.62' | 42°41.18' | N 14°22.16' | 246°43.62' | 11°36.19' | N 3°02.38' | 253°11.29' | 5°08.52' | N 0°54.96' | 290°25.72' | 327°54.08' | S 14°11.14' | **24** |
| | δ 14.9929° | | *d* 0.9098' | δ 15.0129° | | *d* 0.7083' | δ 15.0356° | | *d* 0.1313' | δ 15.0413° | | *d* 0.0130' | |

## *Friday, June 10th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°09.16' | 14.9979° | 78°10.65' | N 22°59.58' | 0.1950' | 60°30.42' | 14.5323° | 197°49.39' | S 4°22.36' | 15.2656' | 58.1585' | 258°19.81' | **00** |
| **01** | 195°09.03' | 14.9979° | 78°13.24' | N 22°59.77' | 0.1943' | 75°02.29' | 14.5312° | 198°19.98' | S 4°37.62' | 15.2669' | 58.1987' | 273°22.27' | **01** |
| **02** | 210°08.91' | 14.9979° | 78°15.82' | N 22°59.97' | 0.1936' | 89°34.10' | 14.5301° | 198°50.64' | S 4°52.89' | 15.2669' | 58.2389' | 288°24.73' | **02** |
| **03** | 225°08.79' | 14.9979° | 78°18.41' | N 23°00.16' | 0.1929' | 104°05.83' | 14.5290° | 199°21.36' | S 5°08.16' | 15.2656' | 58.2791' | 303°27.20' | **03** |
| **04** | 240°08.66' | 14.9979° | 78°21.00' | N 23°00.35' | 0.1922' | 118°37.51' | 14.5278° | 199°52.16' | S 5°23.42' | 15.2630' | 58.3193' | 318°29.66' | **04** |
| **05** | 255°08.54' | 14.9979° | 78°23.59' | N 23°00.54' | 0.1915' | 133°09.10' | 14.5267° | 200°23.02' | S 5°38.68' | 15.2591' | 58.3595' | 333°32.13' | **05** |
| **06** | 270°08.41' | 14.9979° | 78°26.18' | N 23°00.73' | 0.1908' | 147°40.63' | 14.5255° | 200°53.96' | S 5°53.93' | 15.2539' | 58.3997' | 348°34.59' | **06** |
| **07** | 285°08.29' | 14.9979° | 78°28.77' | N 23°00.92' | 0.1901' | 162°12.09' | 14.5243° | 201°24.97' | S 6°09.18' | 15.2472' | 58.4399' | 3°37.05' | **07** |
| **08** | 300°08.17' | 14.9979° | 78°31.35' | N 23°01.11' | 0.1894' | 176°43.47' | 14.5230° | 201°56.05' | S 6°24.42' | 15.2393' | 58.4801' | 18°39.52' | **08** |
| **09** | 315°08.04' | 14.9979° | 78°33.94' | N 23°01.30' | 0.1887' | 191°14.77' | 14.5217° | 202°27.21' | S 6°39.65' | 15.2299' | 58.5203' | 33°41.98' | **09** |
| **10** | 330°07.92' | 14.9979° | 78°36.53' | N 23°01.49' | 0.1880' | 205°46.00' | 14.5205° | 202°58.45' | S 6°54.87' | 15.2191' | 58.5604' | 48°44.45' | **10** |
| **11** | 345°07.79' | 14.9979° | 78°39.12' | N 23°01.68' | 0.1873' | 220°17.15' | 14.5192° | 203°29.76' | S 7°10.07' | 15.2069' | 58.6005' | 63°46.91' | **11** |
| **12** | 0°07.67' | 14.9979° | 78°41.71' | N 23°01.86' | 0.1866' | 234°48.22' | 14.5178° | 204°01.16' | S 7°25.27' | 15.1932' | 58.6405' | 78°49.38' | **12** |
| **13** | 15°07.54' | 14.9979° | 78°44.30' | N 23°02.05' | 0.1859' | 249°19.21' | 14.5165° | 204°32.63' | S 7°40.45' | 15.1781' | 58.6805' | 93°51.84' | **13** |
| **14** | 30°07.42' | 14.9979° | 78°46.89' | N 23°02.23' | 0.1852' | 263°50.11' | 14.5151° | 205°04.19' | S 7°55.61' | 15.1614' | 58.7205' | 108°54.30' | **14** |
| **15** | 45°07.29' | 14.9979° | 78°49.48' | N 23°02.42' | 0.1845' | 278°20.94' | 14.5137° | 205°35.83' | S 8°10.75' | 15.1433' | 58.7604' | 123°56.77' | **15** |
| **16** | 60°07.17' | 14.9979° | 78°52.06' | N 23°02.60' | 0.1838' | 292°51.67' | 14.5123° | 206°07.56' | S 8°25.87' | 15.1237' | 58.8002' | 138°59.23' | **16** |
| **17** | 75°07.04' | 14.9979° | 78°54.65' | N 23°02.78' | 0.1830' | 307°22.32' | 14.5108° | 206°39.37' | S 8°40.98' | 15.1025' | 58.8400' | 154°01.70' | **17** |
| **18** | 90°06.92' | 14.9979° | 78°57.24' | N 23°02.97' | 0.1823' | 321°52.88' | 14.5094° | 207°11.28' | S 8°56.06' | 15.0798' | 58.8797' | 169°04.16' | **18** |
| **19** | 105°06.79' | 14.9979° | 78°59.83' | N 23°03.15' | 0.1816' | 336°23.36' | 14.5079° | 207°43.27' | S 9°11.11' | 15.0555' | 58.9193' | 184°06.62' | **19** |
| **20** | 120°06.67' | 14.9979° | 79°02.42' | N 23°03.33' | 0.1809' | 350°53.74' | 14.5064° | 208°15.35' | S 9°26.14' | 15.0297' | 58.9588' | 199°09.09' | **20** |
| **21** | 135°06.54' | 14.9979° | 79°05.01' | N 23°03.51' | 0.1802' | 5°24.03' | 14.5048° | 208°47.53' | S 9°41.14' | 15.0022' | 58.9982' | 214°11.55' | **21** |
| **22** | 150°06.42' | 14.9979° | 79°07.60' | N 23°03.69' | 0.1795' | 19°54.22' | 14.5033° | 209°19.79' | S 9°56.12' | 14.9731' | 59.0375' | 229°14.02' | **22** |
| **23** | 165°06.29' | 14.9979° | 79°10.19' | N 23°03.87' | 0.1788' | 34°24.33' | 14.5017° | 209°52.16' | S 10°11.06' | 14.9423' | 59.0767' | 244°16.48' | **23** |
| **24** | 180°06.16' | 14.9979° | 79°12.78' | N 23°04.05' | 0.1781' | 48°54.33' | 14.5001° | 210°24.61' | S 10°25.97' | 14.9099' | 59.1158' | 259°18.94' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 15.7542' | hp (π) 0.1444' | ½Ø 15.9784' | 78.9912197737504<br>3% +gib | |
| | EoT at 12:00 UTC : +30s (δ -0.50 s/h) | | Phase at 12:00 UTC : 125.36° | | |
| | Meridian Pass. Time : 11:59:29.333 | | Age : 9.8 day(s) | | |

| UT | Venus ♀ (π 0.11') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 215°38.62' | 42°41.18' | N 14°22.16' | 246°43.62' | 11°36.19' | N 3°02.38' | 253°11.29' | 5°08.52' | N 0°54.96' | 290°25.72' | 327°54.08' | S 14°11.14' | **00** |
| **01** | 230°38.19' | 42°44.08' | N 14°23.05' | 261°44.39' | 11°37.88' | N 3°03.09' | 268°13.43' | 5°08.84' | N 0°55.09' | 305°28.21' | 327°54.06' | S 14°11.16' | **01** |
| **02** | 245°37.75' | 42°46.98' | N 14°23.95' | 276°45.16' | 11°39.57' | N 3°03.80' | 283°15.57' | 5°09.17' | N 0°55.22' | 320°30.69' | 327°54.05' | S 14°11.17' | **02** |
| **03** | 260°37.31' | 42°49.88' | N 14°24.85' | 291°45.93' | 11°41.26' | N 3°04.50' | 298°17.71' | 5°09.49' | N 0°55.35' | 335°33.17' | 327°54.03' | S 14°11.19' | **03** |
| **04** | 275°36.88' | 42°52.79' | N 14°25.74' | 306°46.71' | 11°42.96' | N 3°05.21' | 313°19.85' | 5°09.81' | N 0°55.48' | 350°35.65' | 327°54.01' | S 14°11.20' | **04** |
| **05** | 290°36.44' | 42°55.69' | N 14°26.64' | 321°47.48' | 11°44.65' | N 3°05.91' | 328°21.99' | 5°10.14' | N 0°55.60' | 5°38.13' | 327°53.99' | S 14°11.21' | **05** |
| **06** | 305°36.00' | 42°58.59' | N 14°27.53' | 336°48.25' | 11°46.34' | N 3°06.62' | 343°24.13' | 5°10.46' | N 0°55.73' | 20°40.62' | 327°53.97' | S 14°11.23' | **06** |
| **07** | 320°35.56' | 43°01.50' | N 14°28.43' | 351°49.03' | 11°48.03' | N 3°07.32' | 358°26.27' | 5°10.78' | N 0°55.86' | 35°43.10' | 327°53.96' | S 14°11.24' | **07** |
| **08** | 335°35.12' | 43°04.40' | N 14°29.32' | 6°49.80' | 11°49.72' | N 3°08.03' | 13°28.41' | 5°11.11' | N 0°55.99' | 50°45.58' | 327°53.94' | S 14°11.26' | **08** |
| **09** | 350°34.68' | 43°07.30' | N 14°30.22' | 21°50.57' | 11°51.41' | N 3°08.74' | 28°30.55' | 5°11.43' | N 0°56.12' | 65°48.06' | 327°53.92' | S 14°11.27' | **09** |
| **10** | 5°34.24' | 43°10.21' | N 14°31.11' | 36°51.34' | 11°53.10' | N 3°09.44' | 43°32.70' | 5°11.75' | N 0°56.25' | 80°50.55' | 327°53.90' | S 14°11.29' | **10** |
| **11** | 20°33.80' | 43°13.11' | N 14°32.00' | 51°52.12' | 11°54.79' | N 3°10.15' | 58°34.84' | 5°12.07' | N 0°56.37' | 95°53.03' | 327°53.88' | S 14°11.30' | **11** |
| **12** | 35°33.36' | 43°16.02' | N 14°32.89' | 66°52.89' | 11°56.49' | N 3°10.85' | 73°36.98' | 5°12.40' | N 0°56.50' | 110°55.51' | 327°53.86' | S 14°11.32' | **12** |
| **13** | 50°32.91' | 43°18.93' | N 14°33.78' | 81°53.66' | 11°58.18' | N 3°11.56' | 88°39.12' | 5°12.72' | N 0°56.63' | 125°58.00' | 327°53.84' | S 14°11.33' | **13** |
| **14** | 65°32.47' | 43°21.83' | N 14°34.68' | 96°54.44' | 11°59.87' | N 3°12.26' | 103°41.26' | 5°13.04' | N 0°56.76' | 141°00.48' | 327°53.82' | S 14°11.35' | **14** |
| **15** | 80°32.03' | 43°24.74' | N 14°35.57' | 111°55.21' | 12°01.56' | N 3°12.97' | 118°43.41' | 5°13.36' | N 0°56.89' | 156°02.97' | 327°53.80' | S 14°11.36' | **15** |
| **16** | 95°31.59' | 43°27.65' | N 14°36.46' | 126°55.98' | 12°03.25' | N 3°13.67' | 133°45.55' | 5°13.68' | N 0°57.01' | 171°05.45' | 327°53.78' | S 14°11.38' | **16** |
| **17** | 110°31.14' | 43°30.55' | N 14°37.34' | 141°56.76' | 12°04.94' | N 3°14.37' | 148°47.69' | 5°14.00' | N 0°57.14' | 186°07.93' | 327°53.76' | S 14°11.39' | **17** |
| **18** | 125°30.70' | 43°33.46' | N 14°38.23' | 156°57.53' | 12°06.63' | N 3°15.08' | 163°49.84' | 5°14.32' | N 0°57.27' | 201°10.42' | 327°53.74' | S 14°11.41' | **18** |
| **19** | 140°30.25' | 43°36.37' | N 14°39.12' | 171°58.30' | 12°08.32' | N 3°15.78' | 178°51.98' | 5°14.64' | N 0°57.39' | 216°12.90' | 327°53.72' | S 14°11.42' | **19** |
| **20** | 155°29.81' | 43°39.28' | N 14°40.01' | 186°59.08' | 12°10.01' | N 3°16.49' | 193°54.12' | 5°14.96' | N 0°57.52' | 231°15.39' | 327°53.70' | S 14°11.44' | **20** |
| **21** | 170°29.36' | 43°42.19' | N 14°40.90' | 201°59.85' | 12°11.70' | N 3°17.19' | 208°56.27' | 5°15.28' | N 0°57.65' | 246°17.87' | 327°53.68' | S 14°11.45' | **21** |
| **22** | 185°28.92' | 43°45.10' | N 14°41.78' | 217°00.62' | 12°13.39' | N 3°17.90' | 223°58.41' | 5°15.60' | N 0°57.78' | 261°20.36' | 327°53.66' | S 14°11.47' | **22** |
| **23** | 200°28.47' | 43°48.01' | N 14°42.67' | 232°01.40' | 12°15.08' | N 3°18.60' | 239°00.56' | 5°15.92' | N 0°57.90' | 276°22.84' | 327°53.64' | S 14°11.49' | **23** |
| **24** | 215°28.02' | 43°50.92' | N 14°43.55' | 247°02.17' | 12°16.77' | N 3°19.30' | 254°02.70' | 5°16.24' | N 0°58.03' | 291°25.33' | 327°53.62' | S 14°11.50' | **24** |
| | δ 14.9927° | | *d* 0.8975' | δ 15.0129° | | *d* 0.7061' | δ 15.0357° | | *d* 0.1290' | δ 15.0414° | | *d* 0.0143' | |

## *Saturday, June 11th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°06.16' | 14.9979° | 79°12.78' | N 23°04.05' | 0.1781' | 48°54.33' | 14.5001° | 210°24.61' | S 10°25.97' | 14.9099' | 59.1158' | 259°18.94' | **00** |
| **01** | 195°06.04' | 14.9979° | 79°15.37' | N 23°04.22' | 0.1774' | 63°24.24' | 14.4985° | 210°57.17' | S 10°40.84' | 14.8758' | 59.1547' | 274°21.41' | **01** |
| **02** | 210°05.91' | 14.9979° | 79°17.96' | N 23°04.40' | 0.1767' | 77°54.05' | 14.4968° | 211°29.82' | S 10°55.68' | 14.8399' | 59.1936' | 289°23.87' | **02** |
| **03** | 225°05.79' | 14.9979° | 79°20.55' | N 23°04.58' | 0.1760' | 92°23.76' | 14.4952° | 212°02.57' | S 11°10.49' | 14.8024' | 59.2323' | 304°26.34' | **03** |
| **04** | 240°05.66' | 14.9979° | 79°23.14' | N 23°04.75' | 0.1753' | 106°53.37' | 14.4935° | 212°35.43' | S 11°25.25' | 14.7631' | 59.2708' | 319°28.80' | **04** |
| **05** | 255°05.53' | 14.9979° | 79°25.73' | N 23°04.93' | 0.1746' | 121°22.88' | 14.4918° | 213°08.38' | S 11°39.97' | 14.7221' | 59.3092' | 334°31.27' | **05** |
| **06** | 270°05.41' | 14.9979° | 79°28.32' | N 23°05.10' | 0.1739' | 135°52.29' | 14.4901° | 213°41.44' | S 11°54.65' | 14.6793' | 59.3475' | 349°33.73' | **06** |
| **07** | 285°05.28' | 14.9979° | 79°30.91' | N 23°05.27' | 0.1732' | 150°21.59' | 14.4883° | 214°14.61' | S 12°09.29' | 14.6346' | 59.3855' | 4°36.19' | **07** |
| **08** | 300°05.16' | 14.9979° | 79°33.50' | N 23°05.45' | 0.1725' | 164°50.78' | 14.4866° | 214°47.88' | S 12°23.87' | 14.5882' | 59.4234' | 19°38.66' | **08** |
| **09** | 315°05.03' | 14.9979° | 79°36.09' | N 23°05.62' | 0.1717' | 179°19.87' | 14.4848° | 215°21.25' | S 12°38.41' | 14.5399' | 59.4612' | 34°41.12' | **09** |
| **10** | 330°04.90' | 14.9979° | 79°38.68' | N 23°05.79' | 0.1710' | 193°48.85' | 14.4830° | 215°54.74' | S 12°52.90' | 14.4898' | 59.4987' | 49°43.59' | **10** |
| **11** | 345°04.78' | 14.9979° | 79°41.27' | N 23°05.96' | 0.1703' | 208°17.72' | 14.4812° | 216°28.33' | S 13°07.34' | 14.4378' | 59.5361' | 64°46.05' | **11** |
| **12** | 0°04.65' | 14.9979° | 79°43.87' | N 23°06.13' | 0.1696' | 222°46.48' | 14.4793° | 217°02.04' | S 13°21.73' | 14.3839' | 59.5733' | 79°48.51' | **12** |
| **13** | 15°04.52' | 14.9979° | 79°46.46' | N 23°06.30' | 0.1689' | 237°15.13' | 14.4775° | 217°35.85' | S 13°36.05' | 14.3281' | 59.6102' | 94°50.98' | **13** |
| **14** | 30°04.40' | 14.9979° | 79°49.05' | N 23°06.47' | 0.1682' | 251°43.66' | 14.4756° | 218°09.78' | S 13°50.32' | 14.2704' | 59.6470' | 109°53.44' | **14** |
| **15** | 45°04.27' | 14.9979° | 79°51.64' | N 23°06.63' | 0.1675' | 266°12.08' | 14.4737° | 218°43.82' | S 14°04.54' | 14.2108' | 59.6835' | 124°55.91' | **15** |
| **16** | 60°04.14' | 14.9979° | 79°54.23' | N 23°06.80' | 0.1668' | 280°40.39' | 14.4718° | 219°17.98' | S 14°18.68' | 14.1491' | 59.7198' | 139°58.37' | **16** |
| **17** | 75°04.01' | 14.9979° | 79°56.82' | N 23°06.97' | 0.1661' | 295°08.59' | 14.4699° | 219°52.25' | S 14°32.77' | 14.0855' | 59.7559' | 155°00.83' | **17** |
| **18** | 90°03.89' | 14.9979° | 79°59.41' | N 23°07.13' | 0.1654' | 309°36.66' | 14.4679° | 220°26.64' | S 14°46.79' | 14.0199' | 59.7917' | 170°03.30' | **18** |
| **19** | 105°03.76' | 14.9979° | 80°02.00' | N 23°07.30' | 0.1647' | 324°04.62' | 14.4660° | 221°01.14' | S 15°00.74' | 13.9523' | 59.8273' | 185°05.76' | **19** |
| **20** | 120°03.63' | 14.9979° | 80°04.59' | N 23°07.46' | 0.1640' | 338°32.46' | 14.4640° | 221°35.77' | S 15°14.62' | 13.8827' | 59.8626' | 200°08.23' | **20** |
| **21** | 135°03.51' | 14.9979° | 80°07.19' | N 23°07.62' | 0.1633' | 353°00.18' | 14.4620° | 222°10.51' | S 15°28.44' | 13.8110' | 59.8977' | 215°10.69' | **21** |
| **22** | 150°03.38' | 14.9979° | 80°09.78' | N 23°07.79' | 0.1626' | 7°27.78' | 14.4600° | 222°45.37' | S 15°42.17' | 13.7372' | 59.9325' | 230°13.16' | **22** |
| **23** | 165°03.25' | 14.9979° | 80°12.37' | N 23°07.95' | 0.1618' | 21°55.26' | 14.4580° | 223°20.36' | S 15°55.83' | 13.6614' | 59.9670' | 245°15.62' | **23** |
| **24** | 180°03.12' | 14.9979° | 80°14.96' | N 23°08.11' | 0.1611' | 36°22.62' | 14.4560° | 223°55.47' | S 16°09.42' | 13.5834' | 60.0013' | 260°18.08' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7525' | hp (π) 0.1444' | ½Ø 16.2326' | 87.4726077429747 9% +gib |
| | EoT at 12:00 UTC : +18s (δ -0.51 s/h) | | Phase at 12:00 UTC : 138.47° | |
| | Meridian Pass. Time : 11:59:41.405 | | Age : 10.8 day(s) | |

| UT | Venus ♀ (π 0.11') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 215°28.02' | 43°50.92' | N 14°43.55' | 247°02.17' | 12°16.77' | N 3°19.30' | 254°02.70' | 5°16.24' | N 0°58.03' | 291°25.33' | 327°53.62' | S 14°11.50' | **00** |
| **01** | 230°27.57' | 43°53.83' | N 14°44.44' | 262°02.94' | 12°18.46' | N 3°20.01' | 269°04.85' | 5°16.56' | N 0°58.16' | 306°27.81' | 327°53.59' | S 14°11.52' | **01** |
| **02** | 245°27.13' | 43°56.75' | N 14°45.32' | 277°03.72' | 12°20.16' | N 3°20.71' | 284°06.99' | 5°16.88' | N 0°58.28' | 321°30.30' | 327°53.57' | S 14°11.53' | **02** |
| **03** | 260°26.68' | 43°59.66' | N 14°46.21' | 292°04.49' | 12°21.85' | N 3°21.42' | 299°09.14' | 5°17.20' | N 0°58.41' | 336°32.79' | 327°53.55' | S 14°11.55' | **03** |
| **04** | 275°26.23' | 44°02.57' | N 14°47.09' | 307°05.26' | 12°23.54' | N 3°22.12' | 314°11.28' | 5°17.52' | N 0°58.54' | 351°35.27' | 327°53.53' | S 14°11.56' | **04** |
| **05** | 290°25.78' | 44°05.49' | N 14°47.97' | 322°06.04' | 12°25.23' | N 3°22.82' | 329°13.43' | 5°17.84' | N 0°58.66' | 6°37.76' | 327°53.51' | S 14°11.58' | **05** |
| **06** | 305°25.33' | 44°08.40' | N 14°48.85' | 337°06.81' | 12°26.92' | N 3°23.53' | 344°15.57' | 5°18.16' | N 0°58.79' | 21°40.24' | 327°53.48' | S 14°11.60' | **06** |
| **07** | 320°24.88' | 44°11.31' | N 14°49.74' | 352°07.59' | 12°28.61' | N 3°24.23' | 359°17.72' | 5°18.47' | N 0°58.91' | 36°42.73' | 327°53.46' | S 14°11.61' | **07** |
| **08** | 335°24.43' | 44°14.23' | N 14°50.62' | 7°08.36' | 12°30.30' | N 3°24.93' | 14°19.87' | 5°18.79' | N 0°59.04' | 51°45.22' | 327°53.44' | S 14°11.63' | **08** |
| **09** | 350°23.98' | 44°17.14' | N 14°51.50' | 22°09.13' | 12°31.99' | N 3°25.64' | 29°22.01' | 5°19.11' | N 0°59.17' | 66°47.71' | 327°53.42' | S 14°11.64' | **09** |
| **10** | 5°23.53' | 44°20.06' | N 14°52.38' | 37°09.91' | 12°33.68' | N 3°26.34' | 44°24.16' | 5°19.43' | N 0°59.29' | 81°50.19' | 327°53.39' | S 14°11.66' | **10** |
| **11** | 20°23.07' | 44°22.98' | N 14°53.26' | 52°10.68' | 12°35.37' | N 3°27.04' | 59°26.31' | 5°19.74' | N 0°59.42' | 96°52.68' | 327°53.37' | S 14°11.68' | **11** |
| **12** | 35°22.62' | 44°25.89' | N 14°54.14' | 67°11.46' | 12°37.06' | N 3°27.74' | 74°28.45' | 5°20.06' | N 0°59.54' | 111°55.17' | 327°53.35' | S 14°11.69' | **12** |
| **13** | 50°22.17' | 44°28.81' | N 14°55.01' | 82°12.23' | 12°38.75' | N 3°28.45' | 89°30.60' | 5°20.38' | N 0°59.67' | 126°57.65' | 327°53.32' | S 14°11.71' | **13** |
| **14** | 65°21.72' | 44°31.73' | N 14°55.89' | 97°13.01' | 12°40.44' | N 3°29.15' | 104°32.75' | 5°20.69' | N 0°59.79' | 142°00.14' | 327°53.30' | S 14°11.73' | **14** |
| **15** | 80°21.26' | 44°34.65' | N 14°56.77' | 112°13.78' | 12°42.13' | N 3°29.85' | 119°34.90' | 5°21.01' | N 0°59.92' | 157°02.63' | 327°53.28' | S 14°11.74' | **15** |
| **16** | 95°20.81' | 44°37.56' | N 14°57.65' | 127°14.55' | 12°43.82' | N 3°30.55' | 134°37.05' | 5°21.32' | N 1°00.04' | 172°05.12' | 327°53.25' | S 14°11.76' | **16** |
| **17** | 110°20.35' | 44°40.48' | N 14°58.52' | 142°15.33' | 12°45.51' | N 3°31.26' | 149°39.19' | 5°21.64' | N 1°00.17' | 187°07.61' | 327°53.23' | S 14°11.77' | **17** |
| **18** | 125°19.90' | 44°43.40' | N 14°59.40' | 157°16.10' | 12°47.20' | N 3°31.96' | 164°41.34' | 5°21.96' | N 1°00.29' | 202°10.09' | 327°53.20' | S 14°11.79' | **18** |
| **19** | 140°19.44' | 44°46.32' | N 15°00.27' | 172°16.88' | 12°48.89' | N 3°32.66' | 179°43.49' | 5°22.27' | N 1°00.42' | 217°12.58' | 327°53.18' | S 14°11.81' | **19** |
| **20** | 155°18.98' | 44°49.24' | N 15°01.15' | 187°17.65' | 12°50.58' | N 3°33.36' | 194°45.64' | 5°22.59' | N 1°00.54' | 232°15.07' | 327°53.16' | S 14°11.82' | **20** |
| **21** | 170°18.53' | 44°52.16' | N 15°02.02' | 202°18.43' | 12°52.26' | N 3°34.06' | 209°47.79' | 5°22.90' | N 1°00.67' | 247°17.56' | 327°53.13' | S 14°11.84' | **21** |
| **22** | 185°18.07' | 44°55.08' | N 15°02.89' | 217°19.20' | 12°53.95' | N 3°34.77' | 224°49.94' | 5°23.22' | N 1°00.79' | 262°20.05' | 327°53.11' | S 14°11.86' | **22** |
| **23** | 200°17.61' | 44°58.01' | N 15°03.77' | 232°19.98' | 12°55.64' | N 3°35.47' | 239°52.09' | 5°23.53' | N 1°00.92' | 277°22.54' | 327°53.08' | S 14°11.88' | **23** |
| **24** | 215°17.16' | 45°00.93' | N 15°04.64' | 247°20.75' | 12°57.33' | N 3°36.17' | 254°54.24' | 5°23.85' | N 1°01.04' | 292°25.03' | 327°53.06' | S 14°11.89' | **24** |
| | δ 14.9925° | | *d* 0.8848' | δ 15.0129° | | *d* 0.7038' | δ 15.0357° | | *d* 0.1267' | δ 15.0414° | | *d* 0.0156' | |

## *Sunday, June 12th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°03.12' | 14.9979° | 80°14.96' | N 23°08.11' | 0.1611' | 36°22.62' | 14.4560° | 223°55.47' | S 16°09.42' | 13.5834' | 60.0013' | 260°18.08' | **00** |
| **01** | 195°02.99' | 14.9979° | 80°17.55' | N 23°08.27' | 0.1604' | 50°49.85' | 14.4539° | 224°30.70' | S 16°22.92' | 13.5034' | 60.0352' | 275°20.55' | **01** |
| **02** | 210°02.87' | 14.9979° | 80°20.15' | N 23°08.43' | 0.1597' | 65°16.96' | 14.4519° | 225°06.05' | S 16°36.34' | 13.4213' | 60.0689' | 290°23.01' | **02** |
| **03** | 225°02.74' | 14.9979° | 80°22.74' | N 23°08.59' | 0.1590' | 79°43.95' | 14.4498° | 225°41.53' | S 16°49.68' | 13.3370' | 60.1023' | 305°25.48' | **03** |
| **04** | 240°02.61' | 14.9979° | 80°25.33' | N 23°08.75' | 0.1583' | 94°10.81' | 14.4477° | 226°17.13' | S 17°02.93' | 13.2505' | 60.1353' | 320°27.94' | **04** |
| **05** | 255°02.48' | 14.9979° | 80°27.92' | N 23°08.90' | 0.1576' | 108°37.55' | 14.4456° | 226°52.85' | S 17°16.09' | 13.1619' | 60.1681' | 335°30.40' | **05** |
| **06** | 270°02.36' | 14.9979° | 80°30.51' | N 23°09.06' | 0.1569' | 123°04.16' | 14.4435° | 227°28.71' | S 17°29.16' | 13.0712' | 60.2005' | 350°32.87' | **06** |
| **07** | 285°02.23' | 14.9979° | 80°33.11' | N 23°09.22' | 0.1562' | 137°30.65' | 14.4414° | 228°04.69' | S 17°42.14' | 12.9782' | 60.2326' | 5°35.33' | **07** |
| **08** | 300°02.10' | 14.9979° | 80°35.70' | N 23°09.37' | 0.1555' | 151°57.00' | 14.4393° | 228°40.79' | S 17°55.02' | 12.8831' | 60.2644' | 20°37.80' | **08** |
| **09** | 315°01.97' | 14.9979° | 80°38.29' | N 23°09.53' | 0.1548' | 166°23.23' | 14.4372° | 229°17.03' | S 18°07.81' | 12.7857' | 60.2958' | 35°40.26' | **09** |
| **10** | 330°01.84' | 14.9979° | 80°40.88' | N 23°09.68' | 0.1541' | 180°49.34' | 14.4350° | 229°53.39' | S 18°20.50' | 12.6861' | 60.3269' | 50°42.73' | **10** |
| **11** | 345°01.71' | 14.9979° | 80°43.48' | N 23°09.83' | 0.1533' | 195°15.31' | 14.4329° | 230°29.88' | S 18°33.08' | 12.5843' | 60.3576' | 65°45.19' | **11** |
| **12** | 0°01.59' | 14.9979° | 80°46.07' | N 23°09.99' | 0.1526' | 209°41.16' | 14.4308° | 231°06.50' | S 18°45.56' | 12.4803' | 60.3879' | 80°47.65' | **12** |
| **13** | 15°01.46' | 14.9979° | 80°48.66' | N 23°10.14' | 0.1519' | 224°06.87' | 14.4286° | 231°43.25' | S 18°57.93' | 12.3740' | 60.4179' | 95°50.12' | **13** |
| **14** | 30°01.33' | 14.9979° | 80°51.25' | N 23°10.29' | 0.1512' | 238°32.46' | 14.4265° | 232°20.12' | S 19°10.20' | 12.2655' | 60.4475' | 110°52.58' | **14** |
| **15** | 45°01.20' | 14.9979° | 80°53.85' | N 23°10.44' | 0.1505' | 252°57.92' | 14.4243° | 232°57.13' | S 19°22.36' | 12.1547' | 60.4768' | 125°55.05' | **15** |
| **16** | 60°01.07' | 14.9979° | 80°56.44' | N 23°10.59' | 0.1498' | 267°23.25' | 14.4221° | 233°34.27' | S 19°34.40' | 12.0417' | 60.5056' | 140°57.51' | **16** |
| **17** | 75°00.94' | 14.9979° | 80°59.03' | N 23°10.74' | 0.1491' | 281°48.44' | 14.4200° | 234°11.53' | S 19°46.32' | 11.9264' | 60.5341' | 155°59.97' | **17** |
| **18** | 90°00.81' | 14.9979° | 81°01.63' | N 23°10.89' | 0.1484' | 296°13.51' | 14.4178° | 234°48.93' | S 19°58.13' | 11.8088' | 60.5621' | 171°02.44' | **18** |
| **19** | 105°00.68' | 14.9979° | 81°04.22' | N 23°11.04' | 0.1477' | 310°38.45' | 14.4157° | 235°26.45' | S 20°09.82' | 11.6890' | 60.5897' | 186°04.90' | **19** |
| **20** | 120°00.55' | 14.9978° | 81°06.81' | N 23°11.18' | 0.1470' | 325°03.26' | 14.4135° | 236°04.10' | S 20°21.39' | 11.5669' | 60.6170' | 201°07.37' | **20** |
| **21** | 135°00.43' | 14.9978° | 81°09.41' | N 23°11.33' | 0.1463' | 339°27.94' | 14.4114° | 236°41.89' | S 20°32.83' | 11.4425' | 60.6438' | 216°09.83' | **21** |
| **22** | 150°00.30' | 14.9978° | 81°12.00' | N 23°11.47' | 0.1455' | 353°52.50' | 14.4092° | 237°19.80' | S 20°44.15' | 11.3159' | 60.6702' | 231°12.30' | **22** |
| **23** | 165°00.17' | 14.9978° | 81°14.59' | N 23°11.62' | 0.1448' | 8°16.92' | 14.4071° | 237°57.84' | S 20°55.33' | 11.1870' | 60.6961' | 246°14.76' | **23** |
| **24** | 180°00.04' | 14.9978° | 81°17.19' | N 23°11.76' | 0.1441' | 22°41.22' | 14.4049° | 238°36.01' | S 21°06.39' | 11.0558' | 60.7217' | 261°17.22' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7508' | hp (π) 0.1443' | ½Ø 16.4545' | 94.1756542487557<br>3% +gib |
| | EoT at 12:00 UTC : +6s (δ -0.51 s/h) | | Phase at 12:00 UTC : 152.01° | |
| | Meridian Pass. Time : 11:59:53.658 | | Age : 11.8 day(s) | |

| UT | Venus ♀ (π 0.11') | | | Mars ♂ (π 0.10') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 215°17.16' | 45°00.93' | N 15°04.64' | 247°20.75' | 12°57.33' | N 3°36.17' | 254°54.24' | 5°23.85' | N 1°01.04' | 292°25.03' | 327°53.06' | S 14°11.89' | **00** |
| **01** | 230°16.70' | 45°03.85' | N 15°05.51' | 262°21.53' | 12°59.02' | N 3°36.87' | 269°56.39' | 5°24.16' | N 1°01.17' | 307°27.52' | 327°53.03' | S 14°11.91' | **01** |
| **02** | 245°16.24' | 45°06.77' | N 15°06.38' | 277°22.30' | 13°00.71' | N 3°37.57' | 284°58.54' | 5°24.47' | N 1°01.29' | 322°30.01' | 327°53.01' | S 14°11.93' | **02** |
| **03** | 260°15.78' | 45°09.70' | N 15°07.25' | 292°23.07' | 13°02.40' | N 3°38.27' | 300°00.69' | 5°24.79' | N 1°01.42' | 337°32.50' | 327°52.98' | S 14°11.94' | **03** |
| **04** | 275°15.32' | 45°12.62' | N 15°08.12' | 307°23.85' | 13°04.09' | N 3°38.97' | 315°02.84' | 5°25.10' | N 1°01.54' | 352°34.99' | 327°52.95' | S 14°11.96' | **04** |
| **05** | 290°14.86' | 45°15.55' | N 15°08.99' | 322°24.62' | 13°05.78' | N 3°39.67' | 330°04.99' | 5°25.41' | N 1°01.66' | 7°37.48' | 327°52.93' | S 14°11.98' | **05** |
| **06** | 305°14.40' | 45°18.47' | N 15°09.86' | 337°25.40' | 13°07.47' | N 3°40.38' | 345°07.14' | 5°25.73' | N 1°01.79' | 22°39.97' | 327°52.90' | S 14°11.99' | **06** |
| **07** | 320°13.94' | 45°21.40' | N 15°10.73' | 352°26.17' | 13°09.16' | N 3°41.08' | 0°09.29' | 5°26.04' | N 1°01.91' | 37°42.46' | 327°52.88' | S 14°12.01' | **07** |
| **08** | 335°13.47' | 45°24.32' | N 15°11.60' | 7°26.95' | 13°10.85' | N 3°41.78' | 15°11.44' | 5°26.35' | N 1°02.03' | 52°44.95' | 327°52.85' | S 14°12.03' | **08** |
| **09** | 350°13.01' | 45°27.25' | N 15°12.46' | 22°27.72' | 13°12.54' | N 3°42.48' | 30°13.60' | 5°26.66' | N 1°02.16' | 67°47.44' | 327°52.82' | S 14°12.05' | **09** |
| **10** | 5°12.55' | 45°30.18' | N 15°13.33' | 37°28.50' | 13°14.23' | N 3°43.18' | 45°15.75' | 5°26.98' | N 1°02.28' | 82°49.93' | 327°52.80' | S 14°12.06' | **10** |
| **11** | 20°12.09' | 45°33.10' | N 15°14.20' | 52°29.27' | 13°15.91' | N 3°43.88' | 60°17.90' | 5°27.29' | N 1°02.40' | 97°52.42' | 327°52.77' | S 14°12.08' | **11** |
| **12** | 35°11.62' | 45°36.03' | N 15°15.06' | 67°30.05' | 13°17.60' | N 3°44.58' | 75°20.05' | 5°27.60' | N 1°02.53' | 112°54.91' | 327°52.74' | S 14°12.10' | **12** |
| **13** | 50°11.16' | 45°38.96' | N 15°15.93' | 82°30.83' | 13°19.29' | N 3°45.28' | 90°22.21' | 5°27.91' | N 1°02.65' | 127°57.40' | 327°52.71' | S 14°12.12' | **13** |
| **14** | 65°10.69' | 45°41.89' | N 15°16.79' | 97°31.60' | 13°20.98' | N 3°45.98' | 105°24.36' | 5°28.22' | N 1°02.77' | 142°59.89' | 327°52.69' | S 14°12.13' | **14** |
| **15** | 80°10.23' | 45°44.82' | N 15°17.65' | 112°32.38' | 13°22.67' | N 3°46.68' | 120°26.51' | 5°28.53' | N 1°02.90' | 158°02.39' | 327°52.66' | S 14°12.15' | **15** |
| **16** | 95°09.76' | 45°47.75' | N 15°18.52' | 127°33.15' | 13°24.36' | N 3°47.38' | 135°28.67' | 5°28.85' | N 1°03.02' | 173°04.88' | 327°52.63' | S 14°12.17' | **16** |
| **17** | 110°09.30' | 45°50.68' | N 15°19.38' | 142°33.93' | 13°26.05' | N 3°48.08' | 150°30.82' | 5°29.16' | N 1°03.14' | 188°07.37' | 327°52.60' | S 14°12.19' | **17** |
| **18** | 125°08.83' | 45°53.61' | N 15°20.24' | 157°34.70' | 13°27.74' | N 3°48.78' | 165°32.97' | 5°29.47' | N 1°03.27' | 203°09.86' | 327°52.58' | S 14°12.21' | **18** |
| **19** | 140°08.36' | 45°56.54' | N 15°21.10' | 172°35.48' | 13°29.42' | N 3°49.48' | 180°35.13' | 5°29.78' | N 1°03.39' | 218°12.36' | 327°52.55' | S 14°12.22' | **19** |
| **20** | 155°07.90' | 45°59.47' | N 15°21.96' | 187°36.25' | 13°31.11' | N 3°50.18' | 195°37.28' | 5°30.09' | N 1°03.51' | 233°14.85' | 327°52.52' | S 14°12.24' | **20** |
| **21** | 170°07.43' | 46°02.40' | N 15°22.82' | 202°37.03' | 13°32.80' | N 3°50.88' | 210°39.44' | 5°30.40' | N 1°03.63' | 248°17.34' | 327°52.49' | S 14°12.26' | **21** |
| **22** | 185°06.96' | 46°05.34' | N 15°23.68' | 217°37.81' | 13°34.49' | N 3°51.58' | 225°41.59' | 5°30.71' | N 1°03.76' | 263°19.83' | 327°52.46' | S 14°12.28' | **22** |
| **23** | 200°06.49' | 46°08.27' | N 15°24.54' | 232°38.58' | 13°36.18' | N 3°52.28' | 240°43.74' | 5°31.02' | N 1°03.88' | 278°22.33' | 327°52.43' | S 14°12.30' | **23** |
| **24** | 215°06.02' | 46°11.20' | N 15°25.40' | 247°39.36' | 13°37.87' | N 3°52.98' | 255°45.90' | 5°31.32' | N 1°04.00' | 293°24.82' | 327°52.40' | S 14°12.31' | **24** |
| | δ 14.9924° | | *d* 0.8717' | δ 15.0129° | | *d* 0.7014' | δ 15.0358° | | *d* 0.1243' | δ 15.0415° | | *d* 0.0170' | |

## *Monday, June 13th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°00.04' | 14.9978° | 81°17.19' | N 23°11.76' | 0.1441' | 22°41.22' | 14.4049° | 238°36.01' | S 21°06.39' | 11.0558' | 60.7217' | 261°17.22' | **00** |
| **01** | 194°59.91' | 14.9978° | 81°19.78' | N 23°11.91' | 0.1434' | 37°05.38' | 14.4028° | 239°14.31' | S 21°17.31' | 10.9224' | 60.7468' | 276°19.69' | **01** |
| **02** | 209°59.78' | 14.9978° | 81°22.37' | N 23°12.05' | 0.1427' | 51°29.42' | 14.4007° | 239°52.73' | S 21°28.10' | 10.7867' | 60.7714' | 291°22.15' | **02** |
| **03** | 224°59.65' | 14.9978° | 81°24.97' | N 23°12.19' | 0.1420' | 65°53.33' | 14.3985° | 240°31.28' | S 21°38.75' | 10.6487' | 60.7956' | 306°24.62' | **03** |
| **04** | 239°59.52' | 14.9978° | 81°27.56' | N 23°12.33' | 0.1413' | 80°17.12' | 14.3964° | 241°09.96' | S 21°49.26' | 10.5085' | 60.8193' | 321°27.08' | **04** |
| **05** | 254°59.39' | 14.9978° | 81°30.15' | N 23°12.47' | 0.1406' | 94°40.78' | 14.3943° | 241°48.77' | S 21°59.62' | 10.3661' | 60.8426' | 336°29.55' | **05** |
| **06** | 269°59.26' | 14.9978° | 81°32.75' | N 23°12.61' | 0.1399' | 109°04.31' | 14.3922° | 242°27.70' | S 22°09.84' | 10.2215' | 60.8654' | 351°32.01' | **06** |
| **07** | 284°59.13' | 14.9978° | 81°35.34' | N 23°12.75' | 0.1392' | 123°27.72' | 14.3902° | 243°06.75' | S 22°19.92' | 10.0746' | 60.8877' | 6°34.47' | **07** |
| **08** | 299°59.00' | 14.9978° | 81°37.94' | N 23°12.89' | 0.1385' | 137°51.01' | 14.3881° | 243°45.93' | S 22°29.84' | 9.9256' | 60.9095' | 21°36.94' | **08** |
| **09** | 314°58.87' | 14.9978° | 81°40.53' | N 23°13.03' | 0.1377' | 152°14.18' | 14.3861° | 244°25.23' | S 22°39.62' | 9.7743' | 60.9309' | 36°39.40' | **09** |
| **10** | 329°58.74' | 14.9978° | 81°43.12' | N 23°13.17' | 0.1370' | 166°37.22' | 14.3841° | 245°04.65' | S 22°49.24' | 9.6209' | 60.9518' | 51°41.87' | **10** |
| **11** | 344°58.61' | 14.9978° | 81°45.72' | N 23°13.30' | 0.1363' | 181°00.14' | 14.3820° | 245°44.19' | S 22°58.70' | 9.4653' | 60.9721' | 66°44.33' | **11** |
| **12** | 359°58.48' | 14.9978° | 81°48.31' | N 23°13.44' | 0.1356' | 195°22.95' | 14.3801° | 246°23.85' | S 23°08.01' | 9.3076' | 60.9920' | 81°46.79' | **12** |
| **13** | 14°58.35' | 14.9978° | 81°50.91' | N 23°13.57' | 0.1349' | 209°45.63' | 14.3781° | 247°03.63' | S 23°17.16' | 9.1477' | 61.0114' | 96°49.26' | **13** |
| **14** | 29°58.22' | 14.9978° | 81°53.50' | N 23°13.71' | 0.1342' | 224°08.20' | 14.3762° | 247°43.52' | S 23°26.14' | 8.9858' | 61.0303' | 111°51.72' | **14** |
| **15** | 44°58.09' | 14.9978° | 81°56.10' | N 23°13.84' | 0.1335' | 238°30.66' | 14.3742° | 248°23.53' | S 23°34.97' | 8.8218' | 61.0486' | 126°54.19' | **15** |
| **16** | 59°57.96' | 14.9978° | 81°58.69' | N 23°13.97' | 0.1328' | 252°53.00' | 14.3723° | 249°03.66' | S 23°43.62' | 8.6557' | 61.0665' | 141°56.65' | **16** |
| **17** | 74°57.83' | 14.9978° | 82°01.29' | N 23°14.11' | 0.1321' | 267°15.22' | 14.3705° | 249°43.89' | S 23°52.11' | 8.4876' | 61.0838' | 156°59.12' | **17** |
| **18** | 89°57.70' | 14.9978° | 82°03.88' | N 23°14.24' | 0.1314' | 281°37.34' | 14.3686° | 250°24.24' | S 24°00.43' | 8.3175' | 61.1006' | 172°01.58' | **18** |
| **19** | 104°57.57' | 14.9978° | 82°06.48' | N 23°14.37' | 0.1306' | 295°59.35' | 14.3668° | 251°04.70' | S 24°08.57' | 8.1454' | 61.1168' | 187°04.04' | **19** |
| **20** | 119°57.44' | 14.9978° | 82°09.07' | N 23°14.50' | 0.1299' | 310°21.25' | 14.3650° | 251°45.26' | S 24°16.54' | 7.9713' | 61.1326' | 202°06.51' | **20** |
| **21** | 134°57.31' | 14.9978° | 82°11.67' | N 23°14.63' | 0.1292' | 324°43.04' | 14.3633° | 252°25.93' | S 24°24.34' | 7.7954' | 61.1478' | 217°08.97' | **21** |
| **22** | 149°57.18' | 14.9978° | 82°14.26' | N 23°14.76' | 0.1285' | 339°04.73' | 14.3615° | 253°06.70' | S 24°31.96' | 7.6175' | 61.1625' | 232°11.44' | **22** |
| **23** | 164°57.05' | 14.9978° | 82°16.86' | N 23°14.88' | 0.1278' | 353°26.32' | 14.3598° | 253°47.58' | S 24°39.39' | 7.4378' | 61.1766' | 247°13.90' | **23** |
| **24** | 179°56.92' | 14.9978° | 82°19.45' | N 23°15.01' | 0.1271' | 7°47.81' | 14.3582° | 254°28.55' | S 24°46.65' | 7.2563' | 61.1902' | 262°16.37' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.7492' | hp (π) 0.1443' | ½Ø 16.6191' | 98.4883640074798 % +gib | |
| EoT at 12:00 UTC : -6s (δ -0.52 s/h) | | Phase at 12:00 UTC : 165.92° | | |
| Meridian Pass. Time : 12:00:06.076 | | Age : 12.9 day(s) | | |

| UT | Venus ♀ (π 0.11') | | | Mars ♂ (π 0.11') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 215°06.02' | 46°11.20' | N 15°25.40' | 247°39.36' | 13°37.87' | N 3°52.98' | 255°45.90' | 5°31.32' | N 1°04.00' | 293°24.82' | 327°52.40' | S 14°12.31' | **00** |
| **01** | 230°05.55' | 46°14.14' | N 15°26.26' | 262°40.13' | 13°39.56' | N 3°53.67' | 270°48.05' | 5°31.63' | N 1°04.12' | 308°27.31' | 327°52.38' | S 14°12.33' | **01** |
| **02** | 245°05.08' | 46°17.07' | N 15°27.12' | 277°40.91' | 13°41.24' | N 3°54.37' | 285°50.21' | 5°31.94' | N 1°04.24' | 323°29.81' | 327°52.35' | S 14°12.35' | **02** |
| **03** | 260°04.61' | 46°20.01' | N 15°27.97' | 292°41.68' | 13°42.93' | N 3°55.07' | 300°52.37' | 5°32.25' | N 1°04.37' | 338°32.30' | 327°52.32' | S 14°12.37' | **03** |
| **04** | 275°04.14' | 46°22.94' | N 15°28.83' | 307°42.46' | 13°44.62' | N 3°55.77' | 315°54.52' | 5°32.56' | N 1°04.49' | 353°34.79' | 327°52.29' | S 14°12.39' | **04** |
| **05** | 290°03.67' | 46°25.88' | N 15°29.69' | 322°43.24' | 13°46.31' | N 3°56.47' | 330°56.68' | 5°32.87' | N 1°04.61' | 8°37.29' | 327°52.26' | S 14°12.41' | **05** |
| **06** | 305°03.20' | 46°28.81' | N 15°30.54' | 337°44.01' | 13°48.00' | N 3°57.17' | 345°58.83' | 5°33.17' | N 1°04.73' | 23°39.78' | 327°52.23' | S 14°12.42' | **06** |
| **07** | 320°02.72' | 46°31.75' | N 15°31.40' | 352°44.79' | 13°49.69' | N 3°57.87' | 1°00.99' | 5°33.48' | N 1°04.85' | 38°42.28' | 327°52.20' | S 14°12.44' | **07** |
| **08** | 335°02.25' | 46°34.69' | N 15°32.25' | 7°45.56' | 13°51.37' | N 3°58.56' | 16°03.15' | 5°33.79' | N 1°04.97' | 53°44.77' | 327°52.17' | S 14°12.46' | **08** |
| **09** | 350°01.78' | 46°37.63' | N 15°33.10' | 22°46.34' | 13°53.06' | N 3°59.26' | 31°05.31' | 5°34.10' | N 1°05.09' | 68°47.27' | 327°52.14' | S 14°12.48' | **09** |
| **10** | 5°01.30' | 46°40.56' | N 15°33.96' | 37°47.12' | 13°54.75' | N 3°59.96' | 46°07.46' | 5°34.40' | N 1°05.21' | 83°49.76' | 327°52.11' | S 14°12.50' | **10** |
| **11** | 20°00.83' | 46°43.50' | N 15°34.81' | 52°47.89' | 13°56.44' | N 4°00.66' | 61°09.62' | 5°34.71' | N 1°05.34' | 98°52.26' | 327°52.08' | S 14°12.52' | **11** |
| **12** | 35°00.35' | 46°46.44' | N 15°35.66' | 67°48.67' | 13°58.13' | N 4°01.36' | 76°11.78' | 5°35.02' | N 1°05.46' | 113°54.75' | 327°52.04' | S 14°12.54' | **12** |
| **13** | 49°59.88' | 46°49.38' | N 15°36.51' | 82°49.45' | 13°59.81' | N 4°02.05' | 91°13.94' | 5°35.32' | N 1°05.58' | 128°57.25' | 327°52.01' | S 14°12.56' | **13** |
| **14** | 64°59.40' | 46°52.32' | N 15°37.36' | 97°50.22' | 14°01.50' | N 4°02.75' | 106°16.09' | 5°35.63' | N 1°05.70' | 143°59.74' | 327°51.98' | S 14°12.58' | **14** |
| **15** | 79°58.93' | 46°55.26' | N 15°38.21' | 112°51.00' | 14°03.19' | N 4°03.45' | 121°18.25' | 5°35.94' | N 1°05.82' | 159°02.24' | 327°51.95' | S 14°12.59' | **15** |
| **16** | 94°58.45' | 46°58.20' | N 15°39.06' | 127°51.77' | 14°04.88' | N 4°04.15' | 136°20.41' | 5°36.24' | N 1°05.94' | 174°04.73' | 327°51.92' | S 14°12.61' | **16** |
| **17** | 109°57.97' | 47°01.14' | N 15°39.91' | 142°52.55' | 14°06.56' | N 4°04.84' | 151°22.57' | 5°36.55' | N 1°06.06' | 189°07.23' | 327°51.89' | S 14°12.63' | **17** |
| **18** | 124°57.49' | 47°04.09' | N 15°40.76' | 157°53.33' | 14°08.25' | N 4°05.54' | 166°24.73' | 5°36.85' | N 1°06.18' | 204°09.72' | 327°51.86' | S 14°12.65' | **18** |
| **19** | 139°57.01' | 47°07.03' | N 15°41.61' | 172°54.10' | 14°09.94' | N 4°06.24' | 181°26.89' | 5°37.16' | N 1°06.30' | 219°12.22' | 327°51.82' | S 14°12.67' | **19** |
| **20** | 154°56.54' | 47°09.97' | N 15°42.45' | 187°54.88' | 14°11.63' | N 4°06.94' | 196°29.05' | 5°37.46' | N 1°06.42' | 234°14.72' | 327°51.79' | S 14°12.69' | **20** |
| **21** | 169°56.06' | 47°12.92' | N 15°43.30' | 202°55.66' | 14°13.32' | N 4°07.63' | 211°31.21' | 5°37.77' | N 1°06.54' | 249°17.21' | 327°51.76' | S 14°12.71' | **21** |
| **22** | 184°55.58' | 47°15.86' | N 15°44.14' | 217°56.43' | 14°15.00' | N 4°08.33' | 226°33.37' | 5°38.07' | N 1°06.66' | 264°19.71' | 327°51.73' | S 14°12.73' | **22** |
| **23** | 199°55.10' | 47°18.80' | N 15°44.99' | 232°57.21' | 14°16.69' | N 4°09.03' | 241°35.53' | 5°38.37' | N 1°06.78' | 279°22.21' | 327°51.69' | S 14°12.75' | **23** |
| **24** | 214°54.62' | 47°21.75' | N 15°45.83' | 247°57.99' | 14°18.38' | N 4°09.72' | 256°37.69' | 5°38.68' | N 1°06.90' | 294°24.70' | 327°51.66' | S 14°12.77' | **24** |
| | δ 14.9922° | | *d* 0.8580' | δ 15.0129° | | *d* 0.6990' | δ 15.0359° | | *d* 0.1220' | δ 15.0416° | | *d* 0.0183' | |

## *Tuesday, June 14th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°56.92' | 14.9978° | 82°19.45' | N 23°15.01' | 0.1271' | 7°47.81' | 14.3582° | 254°28.55' | S 24°46.65' | 7.2563' | 61.1902' | 262°16.37' | **00** |
| **01** | 194°56.78' | 14.9978° | 82°22.05' | N 23°15.14' | 0.1264' | 22°09.21' | 14.3565° | 255°09.62' | S 24°53.72' | 7.0729' | 61.2032' | 277°18.83' | **01** |
| **02** | 209°56.65' | 14.9978° | 82°24.64' | N 23°15.26' | 0.1257' | 36°30.50' | 14.3550° | 255°50.79' | S 25°00.61' | 6.8879' | 61.2157' | 292°21.29' | **02** |
| **03** | 224°56.52' | 14.9978° | 82°27.24' | N 23°15.39' | 0.1250' | 50°51.71' | 14.3534° | 256°32.05' | S 25°07.31' | 6.7011' | 61.2276' | 307°23.76' | **03** |
| **04** | 239°56.39' | 14.9978° | 82°29.83' | N 23°15.51' | 0.1243' | 65°12.82' | 14.3519° | 257°13.40' | S 25°13.83' | 6.5126' | 61.2390' | 322°26.22' | **04** |
| **05** | 254°56.26' | 14.9978° | 82°32.43' | N 23°15.63' | 0.1235' | 79°33.85' | 14.3504° | 257°54.84' | S 25°20.15' | 6.3226' | 61.2498' | 337°28.69' | **05** |
| **06** | 269°56.13' | 14.9978° | 82°35.02' | N 23°15.76' | 0.1228' | 93°54.79' | 14.3490° | 258°36.36' | S 25°26.28' | 6.1309' | 61.2601' | 352°31.15' | **06** |
| **07** | 284°56.00' | 14.9978° | 82°37.62' | N 23°15.88' | 0.1221' | 108°15.65' | 14.3476° | 259°17.97' | S 25°32.22' | 5.9377' | 61.2698' | 7°33.62' | **07** |
| **08** | 299°55.87' | 14.9978° | 82°40.21' | N 23°16.00' | 0.1214' | 122°36.42' | 14.3463° | 259°59.66' | S 25°37.96' | 5.7430' | 61.2789' | 22°36.08' | **08** |
| **09** | 314°55.73' | 14.9978° | 82°42.81' | N 23°16.12' | 0.1207' | 136°57.12' | 14.3450° | 260°41.43' | S 25°43.51' | 5.5468' | 61.2875' | 37°38.54' | **09** |
| **10** | 329°55.60' | 14.9978° | 82°45.40' | N 23°16.24' | 0.1200' | 151°17.74' | 14.3437° | 261°23.27' | S 25°48.86' | 5.3493' | 61.2955' | 52°41.01' | **10** |
| **11** | 344°55.47' | 14.9978° | 82°48.00' | N 23°16.36' | 0.1193' | 165°38.29' | 14.3425° | 262°05.18' | S 25°54.01' | 5.1503' | 61.3029' | 67°43.47' | **11** |
| **12** | 359°55.34' | 14.9978° | 82°50.60' | N 23°16.48' | 0.1186' | 179°58.77' | 14.3413° | 262°47.17' | S 25°58.96' | 4.9501' | 61.3097' | 82°45.94' | **12** |
| **13** | 14°55.21' | 14.9978° | 82°53.19' | N 23°16.60' | 0.1179' | 194°19.18' | 14.3402° | 263°29.22' | S 26°03.70' | 4.7486' | 61.3160' | 97°48.40' | **13** |
| **14** | 29°55.08' | 14.9978° | 82°55.79' | N 23°16.71' | 0.1171' | 208°39.53' | 14.3392° | 264°11.33' | S 26°08.25' | 4.5460' | 61.3217' | 112°50.86' | **14** |
| **15** | 44°54.95' | 14.9978° | 82°58.38' | N 23°16.83' | 0.1164' | 222°59.82' | 14.3381° | 264°53.51' | S 26°12.59' | 4.3421' | 61.3268' | 127°53.33' | **15** |
| **16** | 59°54.81' | 14.9978° | 83°00.98' | N 23°16.95' | 0.1157' | 237°20.05' | 14.3372° | 265°35.74' | S 26°16.73' | 4.1372' | 61.3314' | 142°55.79' | **16** |
| **17** | 74°54.68' | 14.9978° | 83°03.58' | N 23°17.06' | 0.1150' | 251°40.23' | 14.3363° | 266°18.03' | S 26°20.66' | 3.9313' | 61.3354' | 157°58.26' | **17** |
| **18** | 89°54.55' | 14.9978° | 83°06.17' | N 23°17.18' | 0.1143' | 266°00.36' | 14.3354° | 267°00.37' | S 26°24.39' | 3.7243' | 61.3388' | 173°00.72' | **18** |
| **19** | 104°54.42' | 14.9978° | 83°08.77' | N 23°17.29' | 0.1136' | 280°20.43' | 14.3346° | 267°42.75' | S 26°27.90' | 3.5164' | 61.3416' | 188°03.19' | **19** |
| **20** | 119°54.29' | 14.9978° | 83°11.36' | N 23°17.40' | 0.1129' | 294°40.47' | 14.3339° | 268°25.18' | S 26°31.21' | 3.3077' | 61.3438' | 203°05.65' | **20** |
| **21** | 134°54.15' | 14.9978° | 83°13.96' | N 23°17.51' | 0.1122' | 309°00.46' | 14.3332° | 269°07.66' | S 26°34.31' | 3.0982' | 61.3455' | 218°08.11' | **21** |
| **22** | 149°54.02' | 14.9978° | 83°16.56' | N 23°17.63' | 0.1115' | 323°20.41' | 14.3325° | 269°50.17' | S 26°37.20' | 2.8879' | 61.3466' | 233°10.58' | **22** |
| **23** | 164°53.89' | 14.9978° | 83°19.15' | N 23°17.74' | 0.1107' | 337°40.32' | 14.3319° | 270°32.72' | S 26°39.87' | 2.6769' | 61.3471' | 248°13.04' | **23** |
| **24** | 179°53.76' | 14.9978° | 83°21.75' | N 23°17.85' | 0.1100' | 352°00.21' | 14.3314° | 271°15.30' | S 26°42.34' | 2.4653' | 61.3470' | 263°15.51' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.7477' | hp (π) 0.1443' | ½Ø 16.7057' | 99.9444084586167 % Full | |
| EoT at 12:00 UTC : -18s (δ -0.53 s/h) | | Phase at 12:00 UTC : 180.08° | | |
| Meridian Pass. Time : 12:00:18.639 | | Age : 14.0 day(s) | | |

| UT | Venus ♀ (π 0.11') | | | Mars ♂ (π 0.11') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 214°54.62' | 47°21.75' | N 15°45.83' | 247°57.99' | 14°18.38' | N 4°09.72' | 256°37.69' | 5°38.68' | N 1°06.90' | 294°24.70' | 327°51.66' | S 14°12.77' | **00** |
| **01** | 229°54.13' | 47°24.69' | N 15°46.68' | 262°58.76' | 14°20.07' | N 4°10.42' | 271°39.85' | 5°38.98' | N 1°07.02' | 309°27.20' | 327°51.63' | S 14°12.79' | **01** |
| **02** | 244°53.65' | 47°27.64' | N 15°47.52' | 277°59.54' | 14°21.75' | N 4°11.11' | 286°42.01' | 5°39.29' | N 1°07.14' | 324°29.70' | 327°51.59' | S 14°12.81' | **02** |
| **03** | 259°53.17' | 47°30.59' | N 15°48.36' | 293°00.32' | 14°23.44' | N 4°11.81' | 301°44.17' | 5°39.59' | N 1°07.26' | 339°32.20' | 327°51.56' | S 14°12.83' | **03** |
| **04** | 274°52.69' | 47°33.53' | N 15°49.21' | 308°01.10' | 14°25.13' | N 4°12.51' | 316°46.33' | 5°39.89' | N 1°07.38' | 354°34.69' | 327°51.53' | S 14°12.85' | **04** |
| **05** | 289°52.21' | 47°36.48' | N 15°50.05' | 323°01.87' | 14°26.81' | N 4°13.20' | 331°48.49' | 5°40.19' | N 1°07.50' | 9°37.19' | 327°51.49' | S 14°12.87' | **05** |
| **06** | 304°51.72' | 47°39.43' | N 15°50.89' | 338°02.65' | 14°28.50' | N 4°13.90' | 346°50.65' | 5°40.50' | N 1°07.62' | 24°39.69' | 327°51.46' | S 14°12.89' | **06** |
| **07** | 319°51.24' | 47°42.38' | N 15°51.73' | 353°03.43' | 14°30.19' | N 4°14.59' | 1°52.82' | 5°40.80' | N 1°07.73' | 39°42.19' | 327°51.43' | S 14°12.91' | **07** |
| **08** | 334°50.75' | 47°45.33' | N 15°52.57' | 8°04.20' | 14°31.88' | N 4°15.29' | 16°54.98' | 5°41.10' | N 1°07.85' | 54°44.69' | 327°51.39' | S 14°12.93' | **08** |
| **09** | 349°50.27' | 47°48.28' | N 15°53.41' | 23°04.98' | 14°33.56' | N 4°15.99' | 31°57.14' | 5°41.40' | N 1°07.97' | 69°47.19' | 327°51.36' | S 14°12.95' | **09** |
| **10** | 4°49.78' | 47°51.22' | N 15°54.25' | 38°05.76' | 14°35.25' | N 4°16.68' | 46°59.30' | 5°41.71' | N 1°08.09' | 84°49.68' | 327°51.32' | S 14°12.97' | **10** |
| **11** | 19°49.30' | 47°54.18' | N 15°55.08' | 53°06.53' | 14°36.94' | N 4°17.38' | 62°01.47' | 5°42.01' | N 1°08.21' | 99°52.18' | 327°51.29' | S 14°12.99' | **11** |
| **12** | 34°48.81' | 47°57.13' | N 15°55.92' | 68°07.31' | 14°38.62' | N 4°18.07' | 77°03.63' | 5°42.31' | N 1°08.33' | 114°54.68' | 327°51.25' | S 14°13.01' | **12** |
| **13** | 49°48.32' | 48°00.08' | N 15°56.76' | 83°08.09' | 14°40.31' | N 4°18.77' | 92°05.79' | 5°42.61' | N 1°08.45' | 129°57.18' | 327°51.22' | S 14°13.03' | **13** |
| **14** | 64°47.84' | 48°03.03' | N 15°57.59' | 98°08.87' | 14°42.00' | N 4°19.46' | 107°07.96' | 5°42.91' | N 1°08.56' | 144°59.68' | 327°51.18' | S 14°13.05' | **14** |
| **15** | 79°47.35' | 48°05.98' | N 15°58.43' | 113°09.64' | 14°43.68' | N 4°20.16' | 122°10.12' | 5°43.21' | N 1°08.68' | 160°02.18' | 327°51.15' | S 14°13.07' | **15** |
| **16** | 94°46.86' | 48°08.93' | N 15°59.26' | 128°10.42' | 14°45.37' | N 4°20.85' | 137°12.28' | 5°43.51' | N 1°08.80' | 175°04.68' | 327°51.11' | S 14°13.09' | **16** |
| **17** | 109°46.37' | 48°11.89' | N 16°00.10' | 143°11.20' | 14°47.06' | N 4°21.55' | 152°14.45' | 5°43.81' | N 1°08.92' | 190°07.18' | 327°51.08' | S 14°13.11' | **17** |
| **18** | 124°45.88' | 48°14.84' | N 16°00.93' | 158°11.98' | 14°48.75' | N 4°22.24' | 167°16.61' | 5°44.11' | N 1°09.04' | 205°09.68' | 327°51.04' | S 14°13.13' | **18** |
| **19** | 139°45.39' | 48°17.79' | N 16°01.77' | 173°12.75' | 14°50.43' | N 4°22.94' | 182°18.78' | 5°44.41' | N 1°09.15' | 220°12.18' | 327°51.01' | S 14°13.15' | **19** |
| **20** | 154°44.90' | 48°20.75' | N 16°02.60' | 188°13.53' | 14°52.12' | N 4°23.63' | 197°20.94' | 5°44.71' | N 1°09.27' | 235°14.68' | 327°50.97' | S 14°13.17' | **20** |
| **21** | 169°44.41' | 48°23.70' | N 16°03.43' | 203°14.31' | 14°53.81' | N 4°24.32' | 212°23.11' | 5°45.01' | N 1°09.39' | 250°17.18' | 327°50.94' | S 14°13.19' | **21** |
| **22** | 184°43.92' | 48°26.66' | N 16°04.26' | 218°15.09' | 14°55.49' | N 4°25.02' | 227°25.27' | 5°45.31' | N 1°09.51' | 265°19.68' | 327°50.90' | S 14°13.21' | **22** |
| **23** | 199°43.43' | 48°29.62' | N 16°05.09' | 233°15.86' | 14°57.18' | N 4°25.71' | 242°27.44' | 5°45.61' | N 1°09.62' | 280°22.18' | 327°50.86' | S 14°13.23' | **23** |
| **24** | 214°42.94' | 48°32.57' | N 16°05.92' | 248°16.64' | 14°58.86' | N 4°26.41' | 257°29.60' | 5°45.91' | N 1°09.74' | 295°24.68' | 327°50.83' | S 14°13.25' | **24** |
| | δ 14.9920° | | *d* 0.8439' | δ 15.0129° | | *d* 0.6964' | δ 15.0360° | | *d* 0.1196' | δ 15.0416° | | *d* 0.0196' | |

## *Wednesday, June 15th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°53.76' | 14.9978° | 83°21.75' | N 23°17.85' | 0.1100' | 352°00.21' | 14.3314° | 271°15.30' | S 26°42.34' | 2.4653' | 61.3470' | 263°15.51' | **00** |
| **01** | 194°53.63' | 14.9978° | 83°24.35' | N 23°17.96' | 0.1093' | 6°20.07' | 14.3310° | 271°57.90' | S 26°44.59' | 2.2531' | 61.3464' | 278°17.97' | **01** |
| **02** | 209°53.49' | 14.9978° | 83°26.94' | N 23°18.07' | 0.1086' | 20°39.90' | 14.3305° | 272°40.54' | S 26°46.63' | 2.0405' | 61.3452' | 293°20.44' | **02** |
| **03** | 224°53.36' | 14.9978° | 83°29.54' | N 23°18.17' | 0.1079' | 34°59.71' | 14.3302° | 273°23.19' | S 26°48.46' | 1.8273' | 61.3434' | 308°22.90' | **03** |
| **04** | 239°53.23' | 14.9978° | 83°32.14' | N 23°18.28' | 0.1072' | 49°19.50' | 14.3299° | 274°05.86' | S 26°50.07' | 1.6138' | 61.3410' | 323°25.36' | **04** |
| **05** | 254°53.10' | 14.9978° | 83°34.73' | N 23°18.39' | 0.1065' | 63°39.28' | 14.3297° | 274°48.55' | S 26°51.47' | 1.4000' | 61.3381' | 338°27.83' | **05** |
| **06** | 269°52.96' | 14.9978° | 83°37.33' | N 23°18.49' | 0.1058' | 77°59.05' | 14.3295° | 275°31.24' | S 26°52.66' | 1.1860' | 61.3345' | 353°30.29' | **06** |
| **07** | 284°52.83' | 14.9978° | 83°39.93' | N 23°18.60' | 0.1051' | 92°18.81' | 14.3294° | 276°13.94' | S 26°53.63' | 0.9717' | 61.3304' | 8°32.76' | **07** |
| **08** | 299°52.70' | 14.9978° | 83°42.52' | N 23°18.70' | 0.1043' | 106°38.57' | 14.3293° | 276°56.65' | S 26°54.39' | 0.7573' | 61.3258' | 23°35.22' | **08** |
| **09** | 314°52.57' | 14.9978° | 83°45.12' | N 23°18.81' | 0.1036' | 120°58.33' | 14.3293° | 277°39.36' | S 26°54.93' | 0.5429' | 61.3206' | 38°37.69' | **09** |
| **10** | 329°52.43' | 14.9978° | 83°47.72' | N 23°18.91' | 0.1029' | 135°18.09' | 14.3293° | 278°22.06' | S 26°55.26' | 0.3284' | 61.3148' | 53°40.15' | **10** |
| **11** | 344°52.30' | 14.9978° | 83°50.31' | N 23°19.01' | 0.1022' | 149°37.86' | 14.3295° | 279°04.76' | S 26°55.37' | 0.1140' | 61.3084' | 68°42.61' | **11** |
| **12** | 359°52.17' | 14.9978° | 83°52.91' | N 23°19.11' | 0.1015' | 163°57.63' | 14.3296° | 279°47.45' | S 26°55.27' | 0.1002' | 61.3015' | 83°45.08' | **12** |
| **13** | 14°52.03' | 14.9978° | 83°55.51' | N 23°19.21' | 0.1008' | 178°17.43' | 14.3299° | 280°30.12' | S 26°54.96' | 0.3143' | 61.2940' | 98°47.54' | **13** |
| **14** | 29°51.90' | 14.9978° | 83°58.11' | N 23°19.31' | 0.1001' | 192°37.24' | 14.3302° | 281°12.77' | S 26°54.43' | 0.5281' | 61.2860' | 113°50.01' | **14** |
| **15** | 44°51.77' | 14.9978° | 84°00.70' | N 23°19.41' | 0.0994' | 206°57.07' | 14.3305° | 281°55.41' | S 26°53.69' | 0.7416' | 61.2774' | 128°52.47' | **15** |
| **16** | 59°51.64' | 14.9978° | 84°03.30' | N 23°19.51' | 0.0986' | 221°16.92' | 14.3309° | 282°38.01' | S 26°52.73' | 0.9547' | 61.2683' | 143°54.94' | **16** |
| **17** | 74°51.50' | 14.9978° | 84°05.90' | N 23°19.61' | 0.0979' | 235°36.80' | 14.3314° | 283°20.60' | S 26°51.57' | 1.1674' | 61.2586' | 158°57.40' | **17** |
| **18** | 89°51.37' | 14.9978° | 84°08.49' | N 23°19.71' | 0.0972' | 249°56.72' | 14.3319° | 284°03.15' | S 26°50.19' | 1.3796' | 61.2483' | 173°59.86' | **18** |
| **19** | 104°51.24' | 14.9978° | 84°11.09' | N 23°19.80' | 0.0965' | 264°16.67' | 14.3325° | 284°45.66' | S 26°48.60' | 1.5912' | 61.2375' | 189°02.33' | **19** |
| **20** | 119°51.10' | 14.9978° | 84°13.69' | N 23°19.90' | 0.0958' | 278°36.66' | 14.3331° | 285°28.14' | S 26°46.79' | 1.8022' | 61.2262' | 204°04.79' | **20** |
| **21** | 134°50.97' | 14.9978° | 84°16.29' | N 23°19.99' | 0.0951' | 292°56.68' | 14.3338° | 286°10.57' | S 26°44.78' | 2.0125' | 61.2144' | 219°07.26' | **21** |
| **22** | 149°50.84' | 14.9978° | 84°18.88' | N 23°20.09' | 0.0944' | 307°16.76' | 14.3346° | 286°52.96' | S 26°42.56' | 2.2221' | 61.2020' | 234°09.72' | **22** |
| **23** | 164°50.70' | 14.9978° | 84°21.48' | N 23°20.18' | 0.0937' | 321°36.88' | 14.3354° | 287°35.30' | S 26°40.13' | 2.4308' | 61.1890' | 249°12.19' | **23** |
| **24** | 179°50.57' | 14.9978° | 84°24.08' | N 23°20.27' | 0.0929' | 335°57.05' | 14.3362° | 288°17.59' | S 26°37.49' | 2.6387' | 61.1756' | 264°14.65' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 15.7462' | hp (π) 0.1443' | ½Ø 16.7034' | 98.3408269981190 4% -gib | |
| | EoT at 12:00 UTC : -31s (δ -0.53 s/h) | | Phase at 12:00 UTC : 194.36° | | |
| | Meridian Pass. Time : 12:00:31.330 | | Age : 15.1 day(s) | | |

| UT | Venus ♀ (π 0.11') | | | Mars ♂ (π 0.11') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 214°42.94' | 48°32.57' | N 16°05.92' | 248°16.64' | 14°58.86' | N 4°26.41' | 257°29.60' | 5°45.91' | N 1°09.74' | 295°24.68' | 327°50.83' | S 14°13.25' | **00** |
| **01** | 229°42.44' | 48°35.53' | N 16°06.75' | 263°17.42' | 15°00.55' | N 4°27.10' | 272°31.77' | 5°46.20' | N 1°09.86' | 310°27.18' | 327°50.79' | S 14°13.27' | **01** |
| **02** | 244°41.95' | 48°38.49' | N 16°07.58' | 278°18.20' | 15°02.24' | N 4°27.79' | 287°33.93' | 5°46.50' | N 1°09.98' | 325°29.68' | 327°50.75' | S 14°13.30' | **02** |
| **03** | 259°41.46' | 48°41.44' | N 16°08.41' | 293°18.98' | 15°03.92' | N 4°28.49' | 302°36.10' | 5°46.80' | N 1°10.09' | 340°32.19' | 327°50.71' | S 14°13.32' | **03** |
| **04** | 274°40.96' | 48°44.40' | N 16°09.24' | 308°19.75' | 15°05.61' | N 4°29.18' | 317°38.27' | 5°47.10' | N 1°10.21' | 355°34.69' | 327°50.68' | S 14°13.34' | **04** |
| **05** | 289°40.47' | 48°47.36' | N 16°10.06' | 323°20.53' | 15°07.30' | N 4°29.87' | 332°40.43' | 5°47.39' | N 1°10.33' | 10°37.19' | 327°50.64' | S 14°13.36' | **05** |
| **06** | 304°39.97' | 48°50.32' | N 16°10.89' | 338°21.31' | 15°08.98' | N 4°30.57' | 347°42.60' | 5°47.69' | N 1°10.44' | 25°39.69' | 327°50.60' | S 14°13.38' | **06** |
| **07** | 319°39.48' | 48°53.28' | N 16°11.71' | 353°22.09' | 15°10.67' | N 4°31.26' | 2°44.77' | 5°47.99' | N 1°10.56' | 40°42.19' | 327°50.56' | S 14°13.40' | **07** |
| **08** | 334°38.98' | 48°56.24' | N 16°12.54' | 8°22.87' | 15°12.36' | N 4°31.95' | 17°46.94' | 5°48.29' | N 1°10.68' | 55°44.69' | 327°50.53' | S 14°13.42' | **08** |
| **09** | 349°38.48' | 48°59.20' | N 16°13.36' | 23°23.64' | 15°14.04' | N 4°32.65' | 32°49.10' | 5°48.58' | N 1°10.79' | 70°47.20' | 327°50.49' | S 14°13.44' | **09** |
| **10** | 4°37.99' | 49°02.16' | N 16°14.19' | 38°24.42' | 15°15.73' | N 4°33.34' | 47°51.27' | 5°48.88' | N 1°10.91' | 85°49.70' | 327°50.45' | S 14°13.46' | **10** |
| **11** | 19°37.49' | 49°05.12' | N 16°15.01' | 53°25.20' | 15°17.41' | N 4°34.03' | 62°53.44' | 5°49.17' | N 1°11.03' | 100°52.20' | 327°50.41' | S 14°13.49' | **11** |
| **12** | 34°36.99' | 49°08.09' | N 16°15.83' | 68°25.98' | 15°19.10' | N 4°34.72' | 77°55.61' | 5°49.47' | N 1°11.14' | 115°54.71' | 327°50.37' | S 14°13.51' | **12** |
| **13** | 49°36.49' | 49°11.05' | N 16°16.66' | 83°26.76' | 15°20.79' | N 4°35.42' | 92°57.78' | 5°49.77' | N 1°11.26' | 130°57.21' | 327°50.33' | S 14°13.53' | **13** |
| **14** | 64°35.99' | 49°14.01' | N 16°17.48' | 98°27.54' | 15°22.47' | N 4°36.11' | 107°59.95' | 5°50.06' | N 1°11.37' | 145°59.71' | 327°50.30' | S 14°13.55' | **14** |
| **15** | 79°35.49' | 49°16.98' | N 16°18.30' | 113°28.31' | 15°24.16' | N 4°36.80' | 123°02.11' | 5°50.36' | N 1°11.49' | 161°02.21' | 327°50.26' | S 14°13.57' | **15** |
| **16** | 94°34.99' | 49°19.94' | N 16°19.12' | 128°29.09' | 15°25.84' | N 4°37.49' | 138°04.28' | 5°50.65' | N 1°11.60' | 176°04.72' | 327°50.22' | S 14°13.59' | **16** |
| **17** | 109°34.49' | 49°22.91' | N 16°19.94' | 143°29.87' | 15°27.53' | N 4°38.18' | 153°06.45' | 5°50.95' | N 1°11.72' | 191°07.22' | 327°50.18' | S 14°13.62' | **17** |
| **18** | 124°33.99' | 49°25.87' | N 16°20.76' | 158°30.65' | 15°29.22' | N 4°38.88' | 168°08.62' | 5°51.24' | N 1°11.84' | 206°09.73' | 327°50.14' | S 14°13.64' | **18** |
| **19** | 139°33.49' | 49°28.84' | N 16°21.57' | 173°31.43' | 15°30.90' | N 4°39.57' | 183°10.79' | 5°51.54' | N 1°11.95' | 221°12.23' | 327°50.10' | S 14°13.66' | **19** |
| **20** | 154°32.99' | 49°31.80' | N 16°22.39' | 188°32.21' | 15°32.59' | N 4°40.26' | 198°12.96' | 5°51.83' | N 1°12.07' | 236°14.73' | 327°50.06' | S 14°13.68' | **20** |
| **21** | 169°32.49' | 49°34.77' | N 16°23.21' | 203°32.98' | 15°34.27' | N 4°40.95' | 213°15.13' | 5°52.12' | N 1°12.18' | 251°17.24' | 327°50.02' | S 14°13.70' | **21** |
| **22** | 184°31.99' | 49°37.74' | N 16°24.02' | 218°33.76' | 15°35.96' | N 4°41.64' | 228°17.30' | 5°52.42' | N 1°12.30' | 266°19.74' | 327°49.98' | S 14°13.73' | **22** |
| **23** | 199°31.48' | 49°40.70' | N 16°24.84' | 233°34.54' | 15°37.64' | N 4°42.33' | 243°19.47' | 5°52.71' | N 1°12.41' | 281°22.25' | 327°49.94' | S 14°13.75' | **23** |
| **24** | 214°30.98' | 49°43.67' | N 16°25.65' | 248°35.32' | 15°39.33' | N 4°43.03' | 258°21.65' | 5°53.00' | N 1°12.53' | 296°24.75' | 327°49.90' | S 14°13.77' | **24** |
| | δ 14.9918° | | *d* 0.8294' | δ 15.0130° | | *d* 0.6938' | δ 15.0361° | | *d* 0.1172' | δ 15.0417° | | *d* 0.0209' | |

## *Thursday, June 16th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°50.57' | 14.9978° | 84°24.08' | N 23°20.27' | 0.0929' | 335°57.05' | 14.3362° | 288°17.59' | S 26°37.49' | 2.6387' | 61.1756' | 264°14.65' | **00** |
| **01** | 194°50.44' | 14.9978° | 84°26.68' | N 23°20.37' | 0.0922' | 350°17.28' | 14.3371° | 288°59.83' | S 26°34.64' | 2.8457' | 61.1616' | 279°17.11' | **01** |
| **02** | 209°50.30' | 14.9978° | 84°29.27' | N 23°20.46' | 0.0915' | 4°37.57' | 14.3381° | 289°42.01' | S 26°31.59' | 3.0518' | 61.1471' | 294°19.58' | **02** |
| **03** | 224°50.17' | 14.9978° | 84°31.87' | N 23°20.55' | 0.0908' | 18°57.92' | 14.3391° | 290°24.13' | S 26°28.34' | 3.2568' | 61.1321' | 309°22.04' | **03** |
| **04** | 239°50.04' | 14.9978° | 84°34.47' | N 23°20.64' | 0.0901' | 33°18.33' | 14.3402° | 291°06.18' | S 26°24.87' | 3.4607' | 61.1166' | 324°24.51' | **04** |
| **05** | 254°49.90' | 14.9978° | 84°37.07' | N 23°20.73' | 0.0894' | 47°38.81' | 14.3413° | 291°48.16' | S 26°21.21' | 3.6635' | 61.1006' | 339°26.97' | **05** |
| **06** | 269°49.77' | 14.9978° | 84°39.67' | N 23°20.82' | 0.0887' | 61°59.35' | 14.3425° | 292°30.08' | S 26°17.35' | 3.8652' | 61.0841' | 354°29.44' | **06** |
| **07** | 284°49.64' | 14.9978° | 84°42.26' | N 23°20.91' | 0.0880' | 76°19.97' | 14.3437° | 293°11.92' | S 26°13.28' | 4.0656' | 61.0671' | 9°31.90' | **07** |
| **08** | 299°49.50' | 14.9978° | 84°44.86' | N 23°20.99' | 0.0872' | 90°40.67' | 14.3449° | 293°53.69' | S 26°09.02' | 4.2647' | 61.0496' | 24°34.36' | **08** |
| **09** | 314°49.37' | 14.9978° | 84°47.46' | N 23°21.08' | 0.0865' | 105°01.45' | 14.3463° | 294°35.38' | S 26°04.55' | 4.4625' | 61.0316' | 39°36.83' | **09** |
| **10** | 329°49.23' | 14.9978° | 84°50.06' | N 23°21.16' | 0.0858' | 119°22.30' | 14.3476° | 295°16.99' | S 25°59.89' | 4.6590' | 61.0131' | 54°39.29' | **10** |
| **11** | 344°49.10' | 14.9978° | 84°52.66' | N 23°21.25' | 0.0851' | 133°43.24' | 14.3490° | 295°58.51' | S 25°55.04' | 4.8540' | 60.9941' | 69°41.76' | **11** |
| **12** | 359°48.97' | 14.9978° | 84°55.25' | N 23°21.33' | 0.0844' | 148°04.27' | 14.3504° | 296°39.95' | S 25°49.99' | 5.0476' | 60.9747' | 84°44.22' | **12** |
| **13** | 14°48.83' | 14.9978° | 84°57.85' | N 23°21.42' | 0.0837' | 162°25.39' | 14.3519° | 297°21.30' | S 25°44.75' | 5.2396' | 60.9548' | 99°46.68' | **13** |
| **14** | 29°48.70' | 14.9978° | 85°00.45' | N 23°21.50' | 0.0830' | 176°46.59' | 14.3534° | 298°02.56' | S 25°39.32' | 5.4301' | 60.9344' | 114°49.15' | **14** |
| **15** | 44°48.56' | 14.9978° | 85°03.05' | N 23°21.58' | 0.0822' | 191°07.89' | 14.3550° | 298°43.72' | S 25°33.70' | 5.6191' | 60.9136' | 129°51.61' | **15** |
| **16** | 59°48.43' | 14.9978° | 85°05.65' | N 23°21.66' | 0.0815' | 205°29.29' | 14.3566° | 299°24.79' | S 25°27.90' | 5.8064' | 60.8923' | 144°54.08' | **16** |
| **17** | 74°48.30' | 14.9978° | 85°08.24' | N 23°21.75' | 0.0808' | 219°50.79' | 14.3583° | 300°05.76' | S 25°21.90' | 5.9921' | 60.8706' | 159°56.54' | **17** |
| **18** | 89°48.16' | 14.9978° | 85°10.84' | N 23°21.83' | 0.0801' | 234°12.38' | 14.3599° | 300°46.62' | S 25°15.73' | 6.1760' | 60.8485' | 174°59.01' | **18** |
| **19** | 104°48.03' | 14.9978° | 85°13.44' | N 23°21.90' | 0.0794' | 248°34.08' | 14.3616° | 301°27.39' | S 25°09.37' | 6.3583' | 60.8259' | 190°01.47' | **19** |
| **20** | 119°47.89' | 14.9978° | 85°16.04' | N 23°21.98' | 0.0787' | 262°55.88' | 14.3634° | 302°08.05' | S 25°02.83' | 6.5387' | 60.8028' | 205°03.93' | **20** |
| **21** | 134°47.76' | 14.9978° | 85°18.64' | N 23°22.06' | 0.0780' | 277°17.79' | 14.3652° | 302°48.61' | S 24°56.11' | 6.7174' | 60.7794' | 220°06.40' | **21** |
| **22** | 149°47.63' | 14.9978° | 85°21.24' | N 23°22.14' | 0.0772' | 291°39.81' | 14.3670° | 303°29.05' | S 24°49.22' | 6.8943' | 60.7555' | 235°08.86' | **22** |
| **23** | 164°47.49' | 14.9978° | 85°23.84' | N 23°22.22' | 0.0765' | 306°01.94' | 14.3688° | 304°09.39' | S 24°42.15' | 7.0693' | 60.7312' | 250°11.33' | **23** |
| **24** | 179°47.36' | 14.9978° | 85°26.43' | N 23°22.29' | 0.0758' | 320°24.18' | 14.3707° | 304°49.61' | S 24°34.91' | 7.2425' | 60.7065' | 265°13.79' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.7447' | hp (π) 0.1443' | ½Ø 16.6144' | 93.7999029943331 7% -gib | |
| EoT at 12:00 UTC : -44s (δ -0.54 s/h) | | Phase at 12:00 UTC : 208.57° | | |
| Meridian Pass. Time : 12:00:44.133 | | Age : 16.2 day(s) | | |

| UT | Venus ♀ (π 0.11') | | | Mars ♂ (π 0.11') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 214°30.98' | 49°43.67' | N 16°25.65' | 248°35.32' | 15°39.33' | N 4°43.03' | 258°21.65' | 5°53.00' | N 1°12.53' | 296°24.75' | 327°49.90' | S 14°13.77' | **00** |
| **01** | 229°30.47' | 49°46.64' | N 16°26.47' | 263°36.10' | 15°41.01' | N 4°43.72' | 273°23.82' | 5°53.30' | N 1°12.64' | 311°27.26' | 327°49.86' | S 14°13.79' | **01** |
| **02** | 244°29.97' | 49°49.61' | N 16°27.28' | 278°36.88' | 15°42.70' | N 4°44.41' | 288°25.99' | 5°53.59' | N 1°12.76' | 326°29.76' | 327°49.82' | S 14°13.81' | **02** |
| **03** | 259°29.46' | 49°52.58' | N 16°28.10' | 293°37.66' | 15°44.39' | N 4°45.10' | 303°28.16' | 5°53.88' | N 1°12.87' | 341°32.27' | 327°49.78' | S 14°13.84' | **03** |
| **04** | 274°28.96' | 49°55.55' | N 16°28.91' | 308°38.44' | 15°46.07' | N 4°45.79' | 318°30.33' | 5°54.17' | N 1°12.98' | 356°34.77' | 327°49.73' | S 14°13.86' | **04** |
| **05** | 289°28.45' | 49°58.52' | N 16°29.72' | 323°39.21' | 15°47.76' | N 4°46.48' | 333°32.50' | 5°54.47' | N 1°13.10' | 11°37.28' | 327°49.69' | S 14°13.88' | **05** |
| **06** | 304°27.94' | 50°01.49' | N 16°30.53' | 338°39.99' | 15°49.44' | N 4°47.17' | 348°34.68' | 5°54.76' | N 1°13.21' | 26°39.78' | 327°49.65' | S 14°13.90' | **06** |
| **07** | 319°27.44' | 50°04.46' | N 16°31.34' | 353°40.77' | 15°51.13' | N 4°47.86' | 3°36.85' | 5°55.05' | N 1°13.33' | 41°42.29' | 327°49.61' | S 14°13.93' | **07** |
| **08** | 334°26.93' | 50°07.43' | N 16°32.15' | 8°41.55' | 15°52.81' | N 4°48.55' | 18°39.02' | 5°55.34' | N 1°13.44' | 56°44.80' | 327°49.57' | S 14°13.95' | **08** |
| **09** | 349°26.42' | 50°10.41' | N 16°32.96' | 23°42.33' | 15°54.50' | N 4°49.24' | 33°41.20' | 5°55.63' | N 1°13.55' | 71°47.30' | 327°49.53' | S 14°13.97' | **09** |
| **10** | 4°25.91' | 50°13.38' | N 16°33.77' | 38°43.11' | 15°56.18' | N 4°49.93' | 48°43.37' | 5°55.92' | N 1°13.67' | 86°49.81' | 327°49.48' | S 14°14.00' | **10** |
| **11** | 19°25.40' | 50°16.35' | N 16°34.58' | 53°43.89' | 15°57.87' | N 4°50.62' | 63°45.54' | 5°56.21' | N 1°13.78' | 101°52.31' | 327°49.44' | S 14°14.02' | **11** |
| **12** | 34°24.89' | 50°19.33' | N 16°35.38' | 68°44.67' | 15°59.55' | N 4°51.31' | 78°47.72' | 5°56.50' | N 1°13.90' | 116°54.82' | 327°49.40' | S 14°14.04' | **12** |
| **13** | 49°24.38' | 50°22.30' | N 16°36.19' | 83°45.45' | 16°01.24' | N 4°52.00' | 93°49.89' | 5°56.79' | N 1°14.01' | 131°57.33' | 327°49.36' | S 14°14.06' | **13** |
| **14** | 64°23.87' | 50°25.28' | N 16°37.00' | 98°46.23' | 16°02.92' | N 4°52.69' | 108°52.07' | 5°57.08' | N 1°14.12' | 146°59.83' | 327°49.31' | S 14°14.09' | **14** |
| **15** | 79°23.36' | 50°28.25' | N 16°37.80' | 113°47.01' | 16°04.61' | N 4°53.38' | 123°54.24' | 5°57.37' | N 1°14.24' | 162°02.34' | 327°49.27' | S 14°14.11' | **15** |
| **16** | 94°22.85' | 50°31.23' | N 16°38.61' | 128°47.79' | 16°06.29' | N 4°54.07' | 138°56.41' | 5°57.66' | N 1°14.35' | 177°04.85' | 327°49.23' | S 14°14.13' | **16** |
| **17** | 109°22.34' | 50°34.20' | N 16°39.41' | 143°48.56' | 16°07.98' | N 4°54.76' | 153°58.59' | 5°57.95' | N 1°14.46' | 192°07.36' | 327°49.19' | S 14°14.16' | **17** |
| **18** | 124°21.83' | 50°37.18' | N 16°40.21' | 158°49.34' | 16°09.66' | N 4°55.45' | 169°00.76' | 5°58.24' | N 1°14.58' | 207°09.86' | 327°49.14' | S 14°14.18' | **18** |
| **19** | 139°21.31' | 50°40.16' | N 16°41.02' | 173°50.12' | 16°11.35' | N 4°56.13' | 184°02.94' | 5°58.53' | N 1°14.69' | 222°12.37' | 327°49.10' | S 14°14.20' | **19** |
| **20** | 154°20.80' | 50°43.14' | N 16°41.82' | 188°50.90' | 16°13.03' | N 4°56.82' | 199°05.12' | 5°58.82' | N 1°14.80' | 237°14.88' | 327°49.05' | S 14°14.23' | **20** |
| **21** | 169°20.28' | 50°46.11' | N 16°42.62' | 203°51.68' | 16°14.72' | N 4°57.51' | 214°07.29' | 5°59.11' | N 1°14.91' | 252°17.39' | 327°49.01' | S 14°14.25' | **21** |
| **22** | 184°19.77' | 50°49.09' | N 16°43.42' | 218°52.46' | 16°16.40' | N 4°58.20' | 229°09.47' | 5°59.40' | N 1°15.03' | 267°19.90' | 327°48.97' | S 14°14.27' | **22** |
| **23** | 199°19.26' | 50°52.07' | N 16°44.22' | 233°53.24' | 16°18.09' | N 4°58.89' | 244°11.64' | 5°59.68' | N 1°15.14' | 282°22.40' | 327°48.92' | S 14°14.30' | **23** |
| **24** | 214°18.74' | 50°55.05' | N 16°45.02' | 248°54.02' | 16°19.77' | N 4°59.58' | 259°13.82' | 5°59.97' | N 1°15.25' | 297°24.91' | 327°48.88' | S 14°14.32' | **24** |
| | δ 14.9916° | | *d* 0.8143' | δ 15.0130° | | *d* 0.6910' | δ 15.0362° | | *d* 0.1147' | δ 15.0417° | | *d* 0.0222' | |

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°47.36' | 14.9978° | 85°26.43' | N 23°22.29' | 0.0758' | 320°24.18' | 14.3707° | 304°49.61' | S 24°34.91' | 7.2425' | 60.7065' | 265°13.79' | **00** |
| **01** | 194°47.22' | 14.9978° | 85°29.03' | N 23°22.37' | 0.0751' | 334°46.54' | 14.3726° | 305°29.72' | S 24°27.49' | 7.4137' | 60.6814' | 280°16.26' | **01** |
| **02** | 209°47.09' | 14.9978° | 85°31.63' | N 23°22.44' | 0.0744' | 349°09.01' | 14.3745° | 306°09.71' | S 24°19.91' | 7.5830' | 60.6560' | 295°18.72' | **02** |
| **03** | 224°46.95' | 14.9978° | 85°34.23' | N 23°22.51' | 0.0737' | 3°31.59' | 14.3765° | 306°49.59' | S 24°12.16' | 7.7504' | 60.6301' | 310°21.18' | **03** |
| **04** | 239°46.82' | 14.9978° | 85°36.83' | N 23°22.59' | 0.0730' | 17°54.30' | 14.3784° | 307°29.35' | S 24°04.25' | 7.9158' | 60.6038' | 325°23.65' | **04** |
| **05** | 254°46.69' | 14.9978° | 85°39.43' | N 23°22.66' | 0.0722' | 32°17.13' | 14.3804° | 308°08.99' | S 23°56.17' | 8.0792' | 60.5772' | 340°26.11' | **05** |
| **06** | 269°46.55' | 14.9978° | 85°42.03' | N 23°22.73' | 0.0715' | 46°40.07' | 14.3824° | 308°48.50' | S 23°47.93' | 8.2406' | 60.5502' | 355°28.58' | **06** |
| **07** | 284°46.42' | 14.9978° | 85°44.62' | N 23°22.80' | 0.0708' | 61°03.14' | 14.3845° | 309°27.90' | S 23°39.53' | 8.3999' | 60.5228' | 10°31.04' | **07** |
| **08** | 299°46.28' | 14.9978° | 85°47.22' | N 23°22.87' | 0.0701' | 75°26.33' | 14.3865° | 310°07.17' | S 23°30.97' | 8.5572' | 60.4951' | 25°33.50' | **08** |
| **09** | 314°46.15' | 14.9978° | 85°49.82' | N 23°22.94' | 0.0694' | 89°49.65' | 14.3886° | 310°46.32' | S 23°22.26' | 8.7125' | 60.4670' | 40°35.97' | **09** |
| **10** | 329°46.01' | 14.9978° | 85°52.42' | N 23°23.01' | 0.0687' | 104°13.09' | 14.3907° | 311°25.34' | S 23°13.39' | 8.8657' | 60.4386' | 55°38.43' | **10** |
| **11** | 344°45.88' | 14.9978° | 85°55.02' | N 23°23.08' | 0.0680' | 118°36.66' | 14.3928° | 312°04.24' | S 23°04.37' | 9.0168' | 60.4098' | 70°40.90' | **11** |
| **12** | 359°45.74' | 14.9978° | 85°57.62' | N 23°23.15' | 0.0672' | 133°00.36' | 14.3949° | 312°43.00' | S 22°55.21' | 9.1658' | 60.3807' | 85°43.36' | **12** |
| **13** | 14°45.61' | 14.9978° | 86°00.22' | N 23°23.21' | 0.0665' | 147°24.18' | 14.3971° | 313°21.65' | S 22°45.90' | 9.3127' | 60.3513' | 100°45.83' | **13** |
| **14** | 29°45.47' | 14.9978° | 86°02.82' | N 23°23.28' | 0.0658' | 161°48.13' | 14.3992° | 314°00.16' | S 22°36.44' | 9.4575' | 60.3216' | 115°48.29' | **14** |
| **15** | 44°45.34' | 14.9978° | 86°05.42' | N 23°23.34' | 0.0651' | 176°12.22' | 14.4014° | 314°38.54' | S 22°26.84' | 9.6002' | 60.2915' | 130°50.75' | **15** |
| **16** | 59°45.20' | 14.9978° | 86°08.02' | N 23°23.41' | 0.0644' | 190°36.43' | 14.4035° | 315°16.79' | S 22°17.10' | 9.7407' | 60.2612' | 145°53.22' | **16** |
| **17** | 74°45.07' | 14.9978° | 86°10.61' | N 23°23.47' | 0.0637' | 205°00.77' | 14.4057° | 315°54.91' | S 22°07.22' | 9.8791' | 60.2305' | 160°55.68' | **17** |
| **18** | 89°44.93' | 14.9978° | 86°13.21' | N 23°23.53' | 0.0630' | 219°25.24' | 14.4079° | 316°32.90' | S 21°57.20' | 10.0154' | 60.1996' | 175°58.15' | **18** |
| **19** | 104°44.80' | 14.9978° | 86°15.81' | N 23°23.60' | 0.0622' | 233°49.85' | 14.4101° | 317°10.76' | S 21°47.05' | 10.1496' | 60.1683' | 191°00.61' | **19** |
| **20** | 119°44.66' | 14.9978° | 86°18.41' | N 23°23.66' | 0.0615' | 248°14.59' | 14.4123° | 317°48.49' | S 21°36.77' | 10.2816' | 60.1368' | 206°03.08' | **20** |
| **21** | 134°44.53' | 14.9977° | 86°21.01' | N 23°23.72' | 0.0608' | 262°39.46' | 14.4145° | 318°26.08' | S 21°26.36' | 10.4114' | 60.1050' | 221°05.54' | **21** |
| **22** | 149°44.39' | 14.9977° | 86°23.61' | N 23°23.78' | 0.0601' | 277°04.46' | 14.4167° | 319°03.55' | S 21°15.82' | 10.5391' | 60.0730' | 236°08.00' | **22** |
| **23** | 164°44.26' | 14.9977° | 86°26.21' | N 23°23.84' | 0.0594' | 291°29.59' | 14.4189° | 319°40.88' | S 21°05.16' | 10.6647' | 60.0407' | 251°10.47' | **23** |
| **24** | 179°44.12' | 14.9977° | 86°28.81' | N 23°23.90' | 0.0587' | 305°54.86' | 14.4211° | 320°18.07' | S 20°54.37' | 10.7881' | 60.0081' | 266°12.93' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 15.7433' | hp (π) 0.1443' | ½Ø 16.4526' | 86.7427794624852 7% -gib | |
| | EoT at 12:00 UTC : -57s (δ -0.54 s/h) | | Phase at 12:00 UTC : 222.56° | | |
| | Meridian Pass. Time : 12:00:57.030 | | Age : 17.3 day(s) | | |

| UT | Venus ♀ (π 0.11') | | | Mars ♂ (π 0.11') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 214°18.74' | 50°55.05' | N 16°45.02' | 248°54.02' | 16°19.77' | N 4°59.58' | 259°13.82' | 5°59.97' | N 1°15.25' | 297°24.91' | 327°48.88' | S 14°14.32' | **00** |
| **01** | 229°18.22' | 50°58.03' | N 16°45.82' | 263°54.80' | 16°21.45' | N 5°00.26' | 274°16.00' | 6°00.26' | N 1°15.36' | 312°27.42' | 327°48.83' | S 14°14.34' | **01** |
| **02** | 244°17.71' | 51°01.01' | N 16°46.62' | 278°55.58' | 16°23.14' | N 5°00.95' | 289°18.17' | 6°00.55' | N 1°15.48' | 327°29.93' | 327°48.79' | S 14°14.37' | **02** |
| **03** | 259°17.19' | 51°03.99' | N 16°47.42' | 293°56.36' | 16°24.82' | N 5°01.64' | 304°20.35' | 6°00.83' | N 1°15.59' | 342°32.44' | 327°48.74' | S 14°14.39' | **03** |
| **04** | 274°16.67' | 51°06.98' | N 16°48.21' | 308°57.14' | 16°26.51' | N 5°02.33' | 319°22.53' | 6°01.12' | N 1°15.70' | 357°34.95' | 327°48.70' | S 14°14.41' | **04** |
| **05** | 289°16.15' | 51°09.96' | N 16°49.01' | 323°57.92' | 16°28.19' | N 5°03.02' | 334°24.71' | 6°01.41' | N 1°15.81' | 12°37.46' | 327°48.65' | S 14°14.44' | **05** |
| **06** | 304°15.64' | 51°12.94' | N 16°49.80' | 338°58.70' | 16°29.88' | N 5°03.70' | 349°26.88' | 6°01.69' | N 1°15.92' | 27°39.97' | 327°48.61' | S 14°14.46' | **06** |
| **07** | 319°15.12' | 51°15.92' | N 16°50.60' | 353°59.48' | 16°31.56' | N 5°04.39' | 4°29.06' | 6°01.98' | N 1°16.03' | 42°42.48' | 327°48.56' | S 14°14.49' | **07** |
| **08** | 334°14.60' | 51°18.91' | N 16°51.39' | 9°00.26' | 16°33.25' | N 5°05.08' | 19°31.24' | 6°02.26' | N 1°16.15' | 57°44.99' | 327°48.52' | S 14°14.51' | **08** |
| **09** | 349°14.08' | 51°21.89' | N 16°52.19' | 24°01.04' | 16°34.93' | N 5°05.77' | 34°33.42' | 6°02.55' | N 1°16.26' | 72°47.50' | 327°48.47' | S 14°14.53' | **09** |
| **10** | 4°13.56' | 51°24.88' | N 16°52.98' | 39°01.82' | 16°36.61' | N 5°06.45' | 49°35.60' | 6°02.83' | N 1°16.37' | 87°50.01' | 327°48.43' | S 14°14.56' | **10** |
| **11** | 19°13.04' | 51°27.86' | N 16°53.77' | 54°02.60' | 16°38.30' | N 5°07.14' | 64°37.78' | 6°03.12' | N 1°16.48' | 102°52.52' | 327°48.38' | S 14°14.58' | **11** |
| **12** | 34°12.51' | 51°30.85' | N 16°54.56' | 69°03.38' | 16°39.98' | N 5°07.83' | 79°39.96' | 6°03.40' | N 1°16.59' | 117°55.03' | 327°48.33' | S 14°14.61' | **12** |
| **13** | 49°11.99' | 51°33.83' | N 16°55.35' | 84°04.16' | 16°41.67' | N 5°08.51' | 94°42.14' | 6°03.69' | N 1°16.70' | 132°57.54' | 327°48.29' | S 14°14.63' | **13** |
| **14** | 64°11.47' | 51°36.82' | N 16°56.14' | 99°04.94' | 16°43.35' | N 5°09.20' | 109°44.32' | 6°03.97' | N 1°16.81' | 148°00.05' | 327°48.24' | S 14°14.65' | **14** |
| **15** | 79°10.95' | 51°39.81' | N 16°56.93' | 114°05.72' | 16°45.03' | N 5°09.89' | 124°46.50' | 6°04.26' | N 1°16.92' | 163°02.56' | 327°48.19' | S 14°14.68' | **15** |
| **16** | 94°10.42' | 51°42.79' | N 16°57.72' | 129°06.50' | 16°46.72' | N 5°10.57' | 139°48.68' | 6°04.54' | N 1°17.03' | 178°05.07' | 327°48.15' | S 14°14.70' | **16** |
| **17** | 109°09.90' | 51°45.78' | N 16°58.51' | 144°07.28' | 16°48.40' | N 5°11.26' | 154°50.86' | 6°04.83' | N 1°17.14' | 193°07.58' | 327°48.10' | S 14°14.73' | **17** |
| **18** | 124°09.38' | 51°48.77' | N 16°59.30' | 159°08.06' | 16°50.09' | N 5°11.94' | 169°53.04' | 6°05.11' | N 1°17.26' | 208°10.09' | 327°48.05' | S 14°14.75' | **18** |
| **19** | 139°08.85' | 51°51.76' | N 17°00.09' | 174°08.84' | 16°51.77' | N 5°12.63' | 184°55.22' | 6°05.39' | N 1°17.37' | 223°12.61' | 327°48.00' | S 14°14.78' | **19** |
| **20** | 154°08.33' | 51°54.75' | N 17°00.87' | 189°09.62' | 16°53.45' | N 5°13.32' | 199°57.40' | 6°05.68' | N 1°17.48' | 238°15.12' | 327°47.96' | S 14°14.80' | **20** |
| **21** | 169°07.80' | 51°57.74' | N 17°01.66' | 204°10.40' | 16°55.14' | N 5°14.00' | 214°59.58' | 6°05.96' | N 1°17.59' | 253°17.63' | 327°47.91' | S 14°14.83' | **21** |
| **22** | 184°07.27' | 52°00.73' | N 17°02.44' | 219°11.18' | 16°56.82' | N 5°14.69' | 230°01.76' | 6°06.24' | N 1°17.70' | 268°20.14' | 327°47.86' | S 14°14.85' | **22** |
| **23** | 199°06.75' | 52°03.72' | N 17°03.23' | 234°11.96' | 16°58.50' | N 5°15.37' | 245°03.95' | 6°06.52' | N 1°17.81' | 283°22.65' | 327°47.81' | S 14°14.87' | **23** |
| **24** | 214°06.22' | 52°06.71' | N 17°04.01' | 249°12.74' | 17°00.19' | N 5°16.06' | 260°06.13' | 6°06.80' | N 1°17.92' | 298°25.17' | 327°47.77' | S 14°14.90' | **24** |
| | δ 14.9914° | | *d* 0.7988' | δ 15.0130° | | *d* 0.6881' | δ 15.0363° | | *d* 0.1122' | δ 15.0418° | | *d* 0.0236' | |

## *Saturday, June 18th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°44.12' | 14.9977° | 86°28.81' | N 23°23.90' | 0.0587' | 305°54.86' | 14.4211° | 320°18.07' | S 20°54.37' | 10.7881' | 60.0081' | 266°12.93' | **00** |
| **01** | 194°43.99' | 14.9977° | 86°31.41' | N 23°23.95' | 0.0579' | 320°20.26' | 14.4233° | 320°55.14' | S 20°43.46' | 10.9094' | 59.9753' | 281°15.40' | **01** |
| **02** | 209°43.85' | 14.9977° | 86°34.01' | N 23°24.01' | 0.0572' | 334°45.79' | 14.4255° | 321°32.07' | S 20°32.43' | 11.0286' | 59.9422' | 296°17.86' | **02** |
| **03** | 224°43.72' | 14.9977° | 86°36.61' | N 23°24.07' | 0.0565' | 349°11.45' | 14.4277° | 322°08.87' | S 20°21.28' | 11.1456' | 59.9089' | 311°20.32' | **03** |
| **04** | 239°43.58' | 14.9977° | 86°39.21' | N 23°24.12' | 0.0558' | 3°37.25' | 14.4299° | 322°45.54' | S 20°10.02' | 11.2606' | 59.8754' | 326°22.79' | **04** |
| **05** | 254°43.45' | 14.9977° | 86°41.81' | N 23°24.18' | 0.0551' | 18°03.18' | 14.4321° | 323°22.08' | S 19°58.65' | 11.3734' | 59.8417' | 341°25.25' | **05** |
| **06** | 269°43.31' | 14.9977° | 86°44.40' | N 23°24.23' | 0.0544' | 32°29.24' | 14.4343° | 323°58.48' | S 19°47.17' | 11.4841' | 59.8077' | 356°27.72' | **06** |
| **07** | 284°43.18' | 14.9977° | 86°47.00' | N 23°24.29' | 0.0537' | 46°55.43' | 14.4365° | 324°34.75' | S 19°35.57' | 11.5926' | 59.7736' | 11°30.18' | **07** |
| **08** | 299°43.04' | 14.9977° | 86°49.60' | N 23°24.34' | 0.0529' | 61°21.75' | 14.4387° | 325°10.89' | S 19°23.87' | 11.6991' | 59.7392' | 26°32.65' | **08** |
| **09** | 314°42.91' | 14.9977° | 86°52.20' | N 23°24.39' | 0.0522' | 75°48.21' | 14.4409° | 325°46.90' | S 19°12.07' | 11.8036' | 59.7047' | 41°35.11' | **09** |
| **10** | 329°42.77' | 14.9977° | 86°54.80' | N 23°24.44' | 0.0515' | 90°14.79' | 14.4431° | 326°22.78' | S 19°00.16' | 11.9059' | 59.6699' | 56°37.57' | **10** |
| **11** | 344°42.64' | 14.9977° | 86°57.40' | N 23°24.49' | 0.0508' | 104°41.50' | 14.4452° | 326°58.53' | S 18°48.16' | 12.0062' | 59.6350' | 71°40.04' | **11** |
| **12** | 359°42.50' | 14.9977° | 87°00.00' | N 23°24.54' | 0.0501' | 119°08.35' | 14.4474° | 327°34.15' | S 18°36.05' | 12.1044' | 59.5999' | 86°42.50' | **12** |
| **13** | 14°42.36' | 14.9977° | 87°02.60' | N 23°24.59' | 0.0494' | 133°35.32' | 14.4495° | 328°09.64' | S 18°23.85' | 12.2006' | 59.5646' | 101°44.97' | **13** |
| **14** | 29°42.23' | 14.9977° | 87°05.20' | N 23°24.64' | 0.0486' | 148°02.42' | 14.4517° | 328°45.01' | S 18°11.56' | 12.2947' | 59.5292' | 116°47.43' | **14** |
| **15** | 44°42.09' | 14.9977° | 87°07.80' | N 23°24.69' | 0.0479' | 162°29.65' | 14.4538° | 329°20.24' | S 17°59.17' | 12.3869' | 59.4936' | 131°49.89' | **15** |
| **16** | 59°41.96' | 14.9977° | 87°10.40' | N 23°24.74' | 0.0472' | 176°57.01' | 14.4559° | 329°55.35' | S 17°46.69' | 12.4770' | 59.4579' | 146°52.36' | **16** |
| **17** | 74°41.82' | 14.9977° | 87°13.00' | N 23°24.78' | 0.0465' | 191°24.49' | 14.4580° | 330°30.33' | S 17°34.13' | 12.5651' | 59.4220' | 161°54.82' | **17** |
| **18** | 89°41.69' | 14.9977° | 87°15.60' | N 23°24.83' | 0.0458' | 205°52.10' | 14.4601° | 331°05.19' | S 17°21.48' | 12.6513' | 59.3860' | 176°57.29' | **18** |
| **19** | 104°41.55' | 14.9977° | 87°18.20' | N 23°24.87' | 0.0451' | 220°19.83' | 14.4622° | 331°39.92' | S 17°08.74' | 12.7355' | 59.3498' | 191°59.75' | **19** |
| **20** | 119°41.42' | 14.9977° | 87°20.80' | N 23°24.92' | 0.0443' | 234°47.69' | 14.4643° | 332°14.53' | S 16°55.93' | 12.8177' | 59.3136' | 207°02.21' | **20** |
| **21** | 134°41.28' | 14.9977° | 87°23.40' | N 23°24.96' | 0.0436' | 249°15.67' | 14.4663° | 332°49.01' | S 16°43.03' | 12.8980' | 59.2772' | 222°04.68' | **21** |
| **22** | 149°41.14' | 14.9977° | 87°26.00' | N 23°25.01' | 0.0429' | 263°43.77' | 14.4684° | 333°23.38' | S 16°30.05' | 12.9764' | 59.2407' | 237°07.14' | **22** |
| **23** | 164°41.01' | 14.9977° | 87°28.60' | N 23°25.05' | 0.0422' | 278°11.99' | 14.4704° | 333°57.62' | S 16°17.00' | 13.0529' | 59.2041' | 252°09.61' | **23** |
| **24** | 179°40.87' | 14.9977° | 87°31.20' | N 23°25.09' | 0.0415' | 292°40.34' | 14.4724° | 334°31.74' | S 16°03.87' | 13.1275' | 59.1674' | 267°12.07' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.7419' | hp (π) 0.1443' | ½Ø 16.2398' | 77.7886783077335 5% -gib | |
| EoT at 12:00 UTC : -1m 10s (δ -0.54 s/h) | | Phase at 12:00 UTC : 236.19° | | |
| Meridian Pass. Time : 12:01:10.000 | | Age : 18.4 day(s) | | |

| UT | Venus ♀ (π 0.11') | | | Mars ♂ (π 0.11') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 214°06.22' | 52°06.71' | N 17°04.01' | 249°12.74' | 17°00.19' | N 5°16.06' | 260°06.13' | 6°06.80' | N 1°17.92' | 298°25.17' | 327°47.77' | S 14°14.90' | **00** |
| **01** | 229°05.69' | 52°09.70' | N 17°04.79' | 264°13.52' | 17°01.87' | N 5°16.74' | 275°08.31' | 6°07.09' | N 1°18.03' | 313°27.68' | 327°47.72' | S 14°14.92' | **01** |
| **02** | 244°05.16' | 52°12.70' | N 17°05.57' | 279°14.31' | 17°03.55' | N 5°17.43' | 290°10.49' | 6°07.37' | N 1°18.13' | 328°30.19' | 327°47.67' | S 14°14.95' | **02** |
| **03** | 259°04.63' | 52°15.69' | N 17°06.36' | 294°15.09' | 17°05.24' | N 5°18.11' | 305°12.67' | 6°07.65' | N 1°18.24' | 343°32.70' | 327°47.62' | S 14°14.97' | **03** |
| **04** | 274°04.10' | 52°18.68' | N 17°07.14' | 309°15.87' | 17°06.92' | N 5°18.80' | 320°14.86' | 6°07.93' | N 1°18.35' | 358°35.22' | 327°47.57' | S 14°15.00' | **04** |
| **05** | 289°03.57' | 52°21.68' | N 17°07.92' | 324°16.65' | 17°08.60' | N 5°19.48' | 335°17.04' | 6°08.21' | N 1°18.46' | 13°37.73' | 327°47.52' | S 14°15.02' | **05** |
| **06** | 304°03.04' | 52°24.67' | N 17°08.70' | 339°17.43' | 17°10.29' | N 5°20.17' | 350°19.22' | 6°08.49' | N 1°18.57' | 28°40.24' | 327°47.47' | S 14°15.05' | **06** |
| **07** | 319°02.51' | 52°27.67' | N 17°09.48' | 354°18.21' | 17°11.97' | N 5°20.85' | 5°21.41' | 6°08.77' | N 1°18.68' | 43°42.76' | 327°47.42' | S 14°15.07' | **07** |
| **08** | 334°01.98' | 52°30.66' | N 17°10.25' | 9°18.99' | 17°13.65' | N 5°21.53' | 20°23.59' | 6°09.05' | N 1°18.79' | 58°45.27' | 327°47.37' | S 14°15.10' | **08** |
| **09** | 349°01.45' | 52°33.66' | N 17°11.03' | 24°19.77' | 17°15.34' | N 5°22.22' | 35°25.78' | 6°09.33' | N 1°18.90' | 73°47.79' | 327°47.32' | S 14°15.13' | **09** |
| **10** | 4°00.92' | 52°36.66' | N 17°11.81' | 39°20.55' | 17°17.02' | N 5°22.90' | 50°27.96' | 6°09.61' | N 1°19.01' | 88°50.30' | 327°47.27' | S 14°15.15' | **10** |
| **11** | 19°00.39' | 52°39.65' | N 17°12.58' | 54°21.33' | 17°18.70' | N 5°23.59' | 65°30.15' | 6°09.89' | N 1°19.12' | 103°52.81' | 327°47.22' | S 14°15.18' | **11** |
| **12** | 33°59.85' | 52°42.65' | N 17°13.36' | 69°22.11' | 17°20.39' | N 5°24.27' | 80°32.33' | 6°10.17' | N 1°19.23' | 118°55.33' | 327°47.17' | S 14°15.20' | **12** |
| **13** | 48°59.32' | 52°45.65' | N 17°14.13' | 84°22.90' | 17°22.07' | N 5°24.95' | 95°34.52' | 6°10.45' | N 1°19.33' | 133°57.84' | 327°47.12' | S 14°15.23' | **13** |
| **14** | 63°58.78' | 52°48.65' | N 17°14.91' | 99°23.68' | 17°23.75' | N 5°25.64' | 110°36.70' | 6°10.73' | N 1°19.44' | 149°00.36' | 327°47.07' | S 14°15.25' | **14** |
| **15** | 78°58.25' | 52°51.64' | N 17°15.68' | 114°24.46' | 17°25.44' | N 5°26.32' | 125°38.89' | 6°11.01' | N 1°19.55' | 164°02.87' | 327°47.02' | S 14°15.28' | **15** |
| **16** | 93°57.71' | 52°54.64' | N 17°16.45' | 129°25.24' | 17°27.12' | N 5°27.00' | 140°41.07' | 6°11.29' | N 1°19.66' | 179°05.39' | 327°46.97' | S 14°15.30' | **16** |
| **17** | 108°57.18' | 52°57.64' | N 17°17.23' | 144°26.02' | 17°28.80' | N 5°27.69' | 155°43.26' | 6°11.56' | N 1°19.77' | 194°07.90' | 327°46.92' | S 14°15.33' | **17** |
| **18** | 123°56.64' | 53°00.64' | N 17°18.00' | 159°26.80' | 17°30.49' | N 5°28.37' | 170°45.44' | 6°11.84' | N 1°19.87' | 209°10.42' | 327°46.87' | S 14°15.36' | **18** |
| **19** | 138°56.11' | 53°03.64' | N 17°18.77' | 174°27.58' | 17°32.17' | N 5°29.05' | 185°47.63' | 6°12.12' | N 1°19.98' | 224°12.93' | 327°46.82' | S 14°15.38' | **19** |
| **20** | 153°55.57' | 53°06.65' | N 17°19.54' | 189°28.36' | 17°33.85' | N 5°29.73' | 200°49.82' | 6°12.40' | N 1°20.09' | 239°15.45' | 327°46.77' | S 14°15.41' | **20** |
| **21** | 168°55.03' | 53°09.65' | N 17°20.31' | 204°29.15' | 17°35.53' | N 5°30.42' | 215°52.01' | 6°12.67' | N 1°20.20' | 254°17.96' | 327°46.72' | S 14°15.43' | **21** |
| **22** | 183°54.49' | 53°12.65' | N 17°21.07' | 219°29.93' | 17°37.22' | N 5°31.10' | 230°54.19' | 6°12.95' | N 1°20.30' | 269°20.48' | 327°46.66' | S 14°15.46' | **22** |
| **23** | 198°53.95' | 53°15.65' | N 17°21.84' | 234°30.71' | 17°38.90' | N 5°31.78' | 245°56.38' | 6°13.23' | N 1°20.41' | 284°23.00' | 327°46.61' | S 14°15.49' | **23** |
| **24** | 213°53.41' | 53°18.66' | N 17°22.61' | 249°31.49' | 17°40.58' | N 5°32.46' | 260°58.57' | 6°13.50' | N 1°20.52' | 299°25.51' | 327°46.56' | S 14°15.51' | **24** |
| | δ 14.9912° | | *d* 0.7828' | δ 15.0130° | | *d* 0.6851' | δ 15.0364° | | *d* 0.1097' | δ 15.0419° | | *d* 0.0249' | |

## *Sunday, June 19th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°40.87' | 14.9977° | 87°31.20' | N 23°25.09' | 0.0415' | 292°40.34' | 14.4724° | 334°31.74' | S 16°03.87' | 13.1275' | 59.1674' | 267°12.07' | **00** |
| **01** | 194°40.74' | 14.9977° | 87°33.80' | N 23°25.13' | 0.0408' | 307°08.80' | 14.4744° | 335°05.74' | S 15°50.67' | 13.2002' | 59.1305' | 282°14.54' | **01** |
| **02** | 209°40.60' | 14.9977° | 87°36.40' | N 23°25.17' | 0.0400' | 321°37.38' | 14.4764° | 335°39.62' | S 15°37.40' | 13.2711' | 59.0937' | 297°17.00' | **02** |
| **03** | 224°40.47' | 14.9977° | 87°39.00' | N 23°25.21' | 0.0393' | 336°06.08' | 14.4783° | 336°13.38' | S 15°24.06' | 13.3401' | 59.0567' | 312°19.46' | **03** |
| **04** | 239°40.33' | 14.9977° | 87°41.60' | N 23°25.25' | 0.0386' | 350°34.90' | 14.4803° | 336°47.03' | S 15°10.65' | 13.4073' | 59.0196' | 327°21.93' | **04** |
| **05** | 254°40.19' | 14.9977° | 87°44.20' | N 23°25.29' | 0.0379' | 5°03.83' | 14.4822° | 337°20.57' | S 14°57.18' | 13.4727' | 58.9825' | 342°24.39' | **05** |
| **06** | 269°40.06' | 14.9977° | 87°46.80' | N 23°25.32' | 0.0372' | 19°32.87' | 14.4841° | 337°53.98' | S 14°43.64' | 13.5364' | 58.9453' | 357°26.86' | **06** |
| **07** | 284°39.92' | 14.9977° | 87°49.40' | N 23°25.36' | 0.0365' | 34°02.03' | 14.4860° | 338°27.29' | S 14°30.04' | 13.5982' | 58.9081' | 12°29.32' | **07** |
| **08** | 299°39.79' | 14.9977° | 87°52.00' | N 23°25.40' | 0.0357' | 48°31.30' | 14.4878° | 339°00.48' | S 14°16.39' | 13.6583' | 58.8707' | 27°31.78' | **08** |
| **09** | 314°39.65' | 14.9977° | 87°54.60' | N 23°25.43' | 0.0350' | 63°00.68' | 14.4897° | 339°33.57' | S 14°02.67' | 13.7166' | 58.8334' | 42°34.25' | **09** |
| **10** | 329°39.52' | 14.9977° | 87°57.20' | N 23°25.46' | 0.0343' | 77°30.17' | 14.4915° | 340°06.54' | S 13°48.90' | 13.7732' | 58.7960' | 57°36.71' | **10** |
| **11** | 344°39.38' | 14.9977° | 87°59.80' | N 23°25.50' | 0.0336' | 91°59.77' | 14.4933° | 340°39.40' | S 13°35.07' | 13.8282' | 58.7586' | 72°39.18' | **11** |
| **12** | 359°39.24' | 14.9977° | 88°02.40' | N 23°25.53' | 0.0329' | 106°29.48' | 14.4951° | 341°12.16' | S 13°21.19' | 13.8814' | 58.7211' | 87°41.64' | **12** |
| **13** | 14°39.11' | 14.9977° | 88°05.00' | N 23°25.56' | 0.0322' | 120°59.30' | 14.4969° | 341°44.81' | S 13°07.25' | 13.9329' | 58.6836' | 102°44.10' | **13** |
| **14** | 29°38.97' | 14.9977° | 88°07.60' | N 23°25.59' | 0.0314' | 135°29.21' | 14.4986° | 342°17.35' | S 12°53.27' | 13.9829' | 58.6461' | 117°46.57' | **14** |
| **15** | 44°38.84' | 14.9977° | 88°10.20' | N 23°25.63' | 0.0307' | 149°59.24' | 14.5004° | 342°49.80' | S 12°39.24' | 14.0311' | 58.6085' | 132°49.03' | **15** |
| **16** | 59°38.70' | 14.9977° | 88°12.80' | N 23°25.66' | 0.0300' | 164°29.36' | 14.5021° | 343°22.13' | S 12°25.16' | 14.0778' | 58.5710' | 147°51.50' | **16** |
| **17** | 74°38.56' | 14.9977° | 88°15.40' | N 23°25.68' | 0.0293' | 178°59.59' | 14.5038° | 343°54.37' | S 12°11.04' | 14.1228' | 58.5334' | 162°53.96' | **17** |
| **18** | 89°38.43' | 14.9977° | 88°18.00' | N 23°25.71' | 0.0286' | 193°29.91' | 14.5054° | 344°26.51' | S 11°56.87' | 14.1663' | 58.4959' | 177°56.43' | **18** |
| **19** | 104°38.29' | 14.9977° | 88°20.60' | N 23°25.74' | 0.0279' | 208°00.34' | 14.5071° | 344°58.55' | S 11°42.66' | 14.2082' | 58.4583' | 192°58.89' | **19** |
| **20** | 119°38.16' | 14.9977° | 88°23.20' | N 23°25.77' | 0.0271' | 222°30.86' | 14.5087° | 345°30.49' | S 11°28.42' | 14.2486' | 58.4208' | 208°01.35' | **20** |
| **21** | 134°38.02' | 14.9977° | 88°25.80' | N 23°25.79' | 0.0264' | 237°01.48' | 14.5103° | 346°02.34' | S 11°14.13' | 14.2874' | 58.3832' | 223°03.82' | **21** |
| **22** | 149°37.88' | 14.9977° | 88°28.40' | N 23°25.82' | 0.0257' | 251°32.19' | 14.5119° | 346°34.09' | S 10°59.80' | 14.3247' | 58.3457' | 238°06.28' | **22** |
| **23** | 164°37.75' | 14.9977° | 88°31.00' | N 23°25.85' | 0.0250' | 266°03.00' | 14.5134° | 347°05.75' | S 10°45.44' | 14.3605' | 58.3082' | 253°08.75' | **23** |
| **24** | 179°37.61' | 14.9977° | 88°33.60' | N 23°25.87' | 0.0243' | 280°33.90' | 14.5150° | 347°37.31' | S 10°31.05' | 14.3949' | 58.2707' | 268°11.21' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7406' | hp (π) 0.1442' | ½Ø 16.0004' | 67.6282143595540<br>8% -gib |
| | EoT at 12:00 UTC : -1m 23s (δ -0.54 s/h) | | Phase at 12:00 UTC : 249.41° | |
| | Meridian Pass. Time : 12:01:23.025 | | Age : 19.4 day(s) | |

| UT | Venus ♀ (π 0.11') | | | Mars ♂ (π 0.11') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 213°53.41' | 53°18.66' | N 17°22.61' | 249°31.49' | 17°40.58' | N 5°32.46' | 260°58.57' | 6°13.50' | N 1°20.52' | 299°25.51' | 327°46.56' | S 14°15.51' | **00** |
| **01** | 228°52.88' | 53°21.66' | N 17°23.38' | 264°32.27' | 17°42.26' | N 5°33.15' | 276°00.76' | 6°13.78' | N 1°20.63' | 314°28.03' | 327°46.51' | S 14°15.54' | **01** |
| **02** | 243°52.33' | 53°24.66' | N 17°24.14' | 279°33.05' | 17°43.95' | N 5°33.83' | 291°02.94' | 6°14.06' | N 1°20.73' | 329°30.54' | 327°46.46' | S 14°15.56' | **02** |
| **03** | 258°51.79' | 53°27.67' | N 17°24.91' | 294°33.83' | 17°45.63' | N 5°34.51' | 306°05.13' | 6°14.33' | N 1°20.84' | 344°33.06' | 327°46.40' | S 14°15.59' | **03** |
| **04** | 273°51.25' | 53°30.67' | N 17°25.67' | 309°34.62' | 17°47.31' | N 5°35.19' | 321°07.32' | 6°14.61' | N 1°20.95' | 359°35.58' | 327°46.35' | S 14°15.62' | **04** |
| **05** | 288°50.71' | 53°33.68' | N 17°26.43' | 324°35.40' | 17°48.99' | N 5°35.87' | 336°09.51' | 6°14.88' | N 1°21.05' | 14°38.09' | 327°46.30' | S 14°15.64' | **05** |
| **06** | 303°50.17' | 53°36.69' | N 17°27.20' | 339°36.18' | 17°50.68' | N 5°36.55' | 351°11.70' | 6°15.16' | N 1°21.16' | 29°40.61' | 327°46.24' | S 14°15.67' | **06** |
| **07** | 318°49.63' | 53°39.69' | N 17°27.96' | 354°36.96' | 17°52.36' | N 5°37.24' | 6°13.89' | 6°15.43' | N 1°21.27' | 44°43.13' | 327°46.19' | S 14°15.70' | **07** |
| **08** | 333°49.08' | 53°42.70' | N 17°28.72' | 9°37.74' | 17°54.04' | N 5°37.92' | 21°16.08' | 6°15.71' | N 1°21.37' | 59°45.65' | 327°46.14' | S 14°15.72' | **08** |
| **09** | 348°48.54' | 53°45.71' | N 17°29.48' | 24°38.53' | 17°55.72' | N 5°38.60' | 36°18.27' | 6°15.98' | N 1°21.48' | 74°48.16' | 327°46.08' | S 14°15.75' | **09** |
| **10** | 3°48.00' | 53°48.72' | N 17°30.24' | 39°39.31' | 17°57.40' | N 5°39.28' | 51°20.46' | 6°16.25' | N 1°21.59' | 89°50.68' | 327°46.03' | S 14°15.78' | **10** |
| **11** | 18°47.45' | 53°51.73' | N 17°31.00' | 54°40.09' | 17°59.09' | N 5°39.96' | 66°22.65' | 6°16.53' | N 1°21.69' | 104°53.20' | 327°45.98' | S 14°15.80' | **11** |
| **12** | 33°46.91' | 53°54.73' | N 17°31.76' | 69°40.87' | 18°00.77' | N 5°40.64' | 81°24.84' | 6°16.80' | N 1°21.80' | 119°55.72' | 327°45.92' | S 14°15.83' | **12** |
| **13** | 48°46.36' | 53°57.74' | N 17°32.52' | 84°41.65' | 18°02.45' | N 5°41.32' | 96°27.03' | 6°17.08' | N 1°21.90' | 134°58.24' | 327°45.87' | S 14°15.86' | **13** |
| **14** | 63°45.81' | 54°00.75' | N 17°33.27' | 99°42.44' | 18°04.13' | N 5°42.00' | 111°29.22' | 6°17.35' | N 1°22.01' | 150°00.75' | 327°45.81' | S 14°15.88' | **14** |
| **15** | 78°45.27' | 54°03.77' | N 17°34.03' | 114°43.22' | 18°05.82' | N 5°42.68' | 126°31.41' | 6°17.62' | N 1°22.12' | 165°03.27' | 327°45.76' | S 14°15.91' | **15** |
| **16** | 93°44.72' | 54°06.78' | N 17°34.79' | 129°44.00' | 18°07.50' | N 5°43.36' | 141°33.60' | 6°17.89' | N 1°22.22' | 180°05.79' | 327°45.70' | S 14°15.94' | **16** |
| **17** | 108°44.17' | 54°09.79' | N 17°35.54' | 144°44.78' | 18°09.18' | N 5°44.04' | 156°35.80' | 6°18.17' | N 1°22.33' | 195°08.31' | 327°45.65' | S 14°15.96' | **17** |
| **18** | 123°43.63' | 54°12.80' | N 17°36.30' | 159°45.56' | 18°10.86' | N 5°44.72' | 171°37.99' | 6°18.44' | N 1°22.43' | 210°10.83' | 327°45.60' | S 14°15.99' | **18** |
| **19** | 138°43.08' | 54°15.81' | N 17°37.05' | 174°46.35' | 18°12.54' | N 5°45.40' | 186°40.18' | 6°18.71' | N 1°22.54' | 225°13.35' | 327°45.54' | S 14°16.02' | **19** |
| **20** | 153°42.53' | 54°18.83' | N 17°37.80' | 189°47.13' | 18°14.22' | N 5°46.08' | 201°42.37' | 6°18.98' | N 1°22.64' | 240°15.87' | 327°45.48' | S 14°16.04' | **20** |
| **21** | 168°41.98' | 54°21.84' | N 17°38.55' | 204°47.91' | 18°15.91' | N 5°46.76' | 216°44.56' | 6°19.25' | N 1°22.75' | 255°18.39' | 327°45.43' | S 14°16.07' | **21** |
| **22** | 183°41.43' | 54°24.85' | N 17°39.31' | 219°48.69' | 18°17.59' | N 5°47.44' | 231°46.76' | 6°19.52' | N 1°22.85' | 270°20.91' | 327°45.37' | S 14°16.10' | **22** |
| **23** | 198°40.88' | 54°27.87' | N 17°40.06' | 234°49.48' | 18°19.27' | N 5°48.12' | 246°48.95' | 6°19.80' | N 1°22.96' | 285°23.43' | 327°45.32' | S 14°16.13' | **23** |
| **24** | 213°40.33' | 54°30.88' | N 17°40.81' | 249°50.26' | 18°20.95' | N 5°48.79' | 261°51.14' | 6°20.07' | N 1°23.06' | 300°25.95' | 327°45.26' | S 14°16.15' | **24** |
| | δ 14.9910° | | *d* 0.7663' | δ 15.0130° | | *d* 0.6820' | δ 15.0365° | | *d* 0.1072' | δ 15.0419° | | *d* 0.0262' | |

## *Monday, June 20th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°37.61' | 14.9977° | 88°33.60' | N 23°25.87' | 0.0243' | 280°33.90' | 14.5150° | 347°37.31' | S 10°31.05' | 14.3949' | 58.2707' | 268°11.21' | **00** |
| **01** | 194°37.48' | 14.9977° | 88°36.20' | N 23°25.89' | 0.0235' | 295°04.89' | 14.5165° | 348°08.79' | S 10°16.62' | 14.4278' | 58.2333' | 283°13.67' | **01** |
| **02** | 209°37.34' | 14.9977° | 88°38.80' | N 23°25.92' | 0.0228' | 309°35.97' | 14.5180° | 348°40.17' | S 10°02.16' | 14.4592' | 58.1959' | 298°16.14' | **02** |
| **03** | 224°37.20' | 14.9977° | 88°41.40' | N 23°25.94' | 0.0221' | 324°07.13' | 14.5195° | 349°11.47' | S 9°47.67' | 14.4892' | 58.1585' | 313°18.60' | **03** |
| **04** | 239°37.07' | 14.9977° | 88°44.00' | N 23°25.96' | 0.0214' | 338°38.39' | 14.5209° | 349°42.68' | S 9°33.15' | 14.5177' | 58.1212' | 328°21.07' | **04** |
| **05** | 254°36.93' | 14.9977° | 88°46.60' | N 23°25.98' | 0.0207' | 353°09.73' | 14.5223° | 350°13.80' | S 9°18.61' | 14.5449' | 58.0839' | 343°23.53' | **05** |
| **06** | 269°36.80' | 14.9977° | 88°49.20' | N 23°26.00' | 0.0200' | 7°41.15' | 14.5237° | 350°44.84' | S 9°04.04' | 14.5707' | 58.0467' | 358°25.99' | **06** |
| **07** | 284°36.66' | 14.9977° | 88°51.80' | N 23°26.02' | 0.0192' | 22°12.66' | 14.5251° | 351°15.80' | S 8°49.44' | 14.5952' | 58.0096' | 13°28.46' | **07** |
| **08** | 299°36.52' | 14.9977° | 88°54.40' | N 23°26.04' | 0.0185' | 36°44.24' | 14.5265° | 351°46.68' | S 8°34.83' | 14.6182' | 57.9725' | 28°30.92' | **08** |
| **09** | 314°36.39' | 14.9977° | 88°57.00' | N 23°26.06' | 0.0178' | 51°15.91' | 14.5278° | 352°17.48' | S 8°20.19' | 14.6400' | 57.9354' | 43°33.39' | **09** |
| **10** | 329°36.25' | 14.9977° | 88°59.60' | N 23°26.07' | 0.0171' | 65°47.66' | 14.5291° | 352°48.19' | S 8°05.53' | 14.6604' | 57.8985' | 58°35.85' | **10** |
| **11** | 344°36.12' | 14.9977° | 89°02.20' | N 23°26.09' | 0.0164' | 80°19.48' | 14.5304° | 353°18.84' | S 7°50.85' | 14.6795' | 57.8616' | 73°38.31' | **11** |
| **12** | 359°35.98' | 14.9977° | 89°04.80' | N 23°26.11' | 0.0157' | 94°51.38' | 14.5316° | 353°49.40' | S 7°36.15' | 14.6974' | 57.8248' | 88°40.78' | **12** |
| **13** | 14°35.84' | 14.9977° | 89°07.40' | N 23°26.12' | 0.0149' | 109°23.35' | 14.5329° | 354°19.89' | S 7°21.43' | 14.7139' | 57.7880' | 103°43.24' | **13** |
| **14** | 29°35.71' | 14.9977° | 89°10.00' | N 23°26.13' | 0.0142' | 123°55.40' | 14.5341° | 354°50.31' | S 7°06.71' | 14.7292' | 57.7514' | 118°45.71' | **14** |
| **15** | 44°35.57' | 14.9977° | 89°12.60' | N 23°26.15' | 0.0135' | 138°27.51' | 14.5353° | 355°20.66' | S 6°51.96' | 14.7433' | 57.7148' | 133°48.17' | **15** |
| **16** | 59°35.44' | 14.9977° | 89°15.20' | N 23°26.16' | 0.0128' | 152°59.70' | 14.5365° | 355°50.93' | S 6°37.21' | 14.7561' | 57.6784' | 148°50.64' | **16** |
| **17** | 74°35.30' | 14.9977° | 89°17.80' | N 23°26.17' | 0.0121' | 167°31.96' | 14.5376° | 356°21.14' | S 6°22.44' | 14.7677' | 57.6420' | 163°53.10' | **17** |
| **18** | 89°35.16' | 14.9977° | 89°20.40' | N 23°26.18' | 0.0114' | 182°04.28' | 14.5387° | 356°51.28' | S 6°07.66' | 14.7781' | 57.6057' | 178°55.56' | **18** |
| **19** | 104°35.03' | 14.9977° | 89°23.00' | N 23°26.19' | 0.0106' | 196°36.67' | 14.5398° | 357°21.35' | S 5°52.87' | 14.7873' | 57.5695' | 193°58.03' | **19** |
| **20** | 119°34.89' | 14.9977° | 89°25.60' | N 23°26.20' | 0.0099' | 211°09.13' | 14.5409° | 357°51.36' | S 5°38.08' | 14.7953' | 57.5335' | 209°00.49' | **20** |
| **21** | 134°34.75' | 14.9977° | 89°28.20' | N 23°26.21' | 0.0092' | 225°41.65' | 14.5420° | 358°21.31' | S 5°23.28' | 14.8022' | 57.4975' | 224°02.96' | **21** |
| **22** | 149°34.62' | 14.9977° | 89°30.80' | N 23°26.22' | 0.0085' | 240°14.23' | 14.5430° | 358°51.19' | S 5°08.47' | 14.8079' | 57.4617' | 239°05.42' | **22** |
| **23** | 164°34.48' | 14.9977° | 89°33.40' | N 23°26.23' | 0.0078' | 254°46.87' | 14.5440° | 359°21.02' | S 4°53.65' | 14.8124' | 57.4259' | 254°07.88' | **23** |
| **24** | 179°34.35' | 14.9977° | 89°36.00' | N 23°26.24' | 0.0070' | 269°19.57' | 14.5450° | 359°50.78' | S 4°38.84' | 14.8159' | 57.3903' | 269°10.35' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 15.7394' | hp (π) 0.1442' | ½Ø 15.7562' | 56.9192218969454<br>5% -gib | |
| | EoT at 12:00 UTC : -1m 36s (δ -0.54 s/h) | | Phase at 12:00 UTC : 262.16° | | |
| | Meridian Pass. Time : 12:01:36.082 | | Age : 20.4 day(s) | | |

| UT | Venus ♀ (π 0.11') | | | Mars ♂ (π 0.11') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 213°40.33' | 54°30.88' | N 17°40.81' | 249°50.26' | 18°20.95' | N 5°48.79' | 261°51.14' | 6°20.07' | N 1°23.06' | 300°25.95' | 327°45.26' | S 14°16.15' | **00** |
| **01** | 228°39.77' | 54°33.90' | N 17°41.56' | 264°51.04' | 18°22.63' | N 5°49.47' | 276°53.34' | 6°20.34' | N 1°23.17' | 315°28.47' | 327°45.21' | S 14°16.18' | **01** |
| **02** | 243°39.22' | 54°36.92' | N 17°42.30' | 279°51.82' | 18°24.31' | N 5°50.15' | 291°55.53' | 6°20.61' | N 1°23.27' | 330°30.99' | 327°45.15' | S 14°16.21' | **02** |
| **03** | 258°38.67' | 54°39.93' | N 17°43.05' | 294°52.61' | 18°26.00' | N 5°50.83' | 306°57.73' | 6°20.88' | N 1°23.38' | 345°33.51' | 327°45.09' | S 14°16.24' | **03** |
| **04** | 273°38.12' | 54°42.95' | N 17°43.80' | 309°53.39' | 18°27.68' | N 5°51.51' | 321°59.92' | 6°21.15' | N 1°23.48' | 0°36.03' | 327°45.04' | S 14°16.26' | **04** |
| **05** | 288°37.56' | 54°45.97' | N 17°44.55' | 324°54.17' | 18°29.36' | N 5°52.19' | 337°02.11' | 6°21.42' | N 1°23.58' | 15°38.55' | 327°44.98' | S 14°16.29' | **05** |
| **06** | 303°37.01' | 54°48.98' | N 17°45.29' | 339°54.95' | 18°31.04' | N 5°52.87' | 352°04.31' | 6°21.68' | N 1°23.69' | 30°41.07' | 327°44.92' | S 14°16.32' | **06** |
| **07** | 318°36.46' | 54°52.00' | N 17°46.04' | 354°55.74' | 18°32.72' | N 5°53.54' | 7°06.50' | 6°21.95' | N 1°23.79' | 45°43.59' | 327°44.87' | S 14°16.35' | **07** |
| **08** | 333°35.90' | 54°55.02' | N 17°46.78' | 9°56.52' | 18°34.40' | N 5°54.22' | 22°08.70' | 6°22.22' | N 1°23.90' | 60°46.11' | 327°44.81' | S 14°16.38' | **08** |
| **09** | 348°35.34' | 54°58.04' | N 17°47.53' | 24°57.30' | 18°36.08' | N 5°54.90' | 37°10.90' | 6°22.49' | N 1°24.00' | 75°48.63' | 327°44.75' | S 14°16.40' | **09** |
| **10** | 3°34.79' | 55°01.06' | N 17°48.27' | 39°58.09' | 18°37.76' | N 5°55.58' | 52°13.09' | 6°22.76' | N 1°24.10' | 90°51.16' | 327°44.69' | S 14°16.43' | **10** |
| **11** | 18°34.23' | 55°04.08' | N 17°49.01' | 54°58.87' | 18°39.45' | N 5°56.25' | 67°15.29' | 6°23.03' | N 1°24.21' | 105°53.68' | 327°44.64' | S 14°16.46' | **11** |
| **12** | 33°33.68' | 55°07.10' | N 17°49.75' | 69°59.65' | 18°41.13' | N 5°56.93' | 82°17.48' | 6°23.30' | N 1°24.31' | 120°56.20' | 327°44.58' | S 14°16.49' | **12** |
| **13** | 48°33.12' | 55°10.12' | N 17°50.49' | 85°00.43' | 18°42.81' | N 5°57.61' | 97°19.68' | 6°23.56' | N 1°24.41' | 135°58.72' | 327°44.52' | S 14°16.52' | **13** |
| **14** | 63°32.56' | 55°13.15' | N 17°51.23' | 100°01.22' | 18°44.49' | N 5°58.28' | 112°21.88' | 6°23.83' | N 1°24.52' | 151°01.24' | 327°44.46' | S 14°16.54' | **14** |
| **15** | 78°32.00' | 55°16.17' | N 17°51.97' | 115°02.00' | 18°46.17' | N 5°58.96' | 127°24.07' | 6°24.10' | N 1°24.62' | 166°03.77' | 327°44.40' | S 14°16.57' | **15** |
| **16** | 93°31.44' | 55°19.19' | N 17°52.71' | 130°02.78' | 18°47.85' | N 5°59.64' | 142°26.27' | 6°24.36' | N 1°24.72' | 181°06.29' | 327°44.35' | S 14°16.60' | **16** |
| **17** | 108°30.88' | 55°22.22' | N 17°53.45' | 145°03.57' | 18°49.53' | N 6°00.31' | 157°28.47' | 6°24.63' | N 1°24.82' | 196°08.81' | 327°44.29' | S 14°16.63' | **17** |
| **18** | 123°30.32' | 55°25.24' | N 17°54.19' | 160°04.35' | 18°51.21' | N 6°00.99' | 172°30.67' | 6°24.90' | N 1°24.93' | 211°11.33' | 327°44.23' | S 14°16.66' | **18** |
| **19** | 138°29.76' | 55°28.26' | N 17°54.92' | 175°05.13' | 18°52.89' | N 6°01.67' | 187°32.86' | 6°25.16' | N 1°25.03' | 226°13.86' | 327°44.17' | S 14°16.68' | **19** |
| **20** | 153°29.20' | 55°31.29' | N 17°55.66' | 190°05.92' | 18°54.57' | N 6°02.34' | 202°35.06' | 6°25.43' | N 1°25.13' | 241°16.38' | 327°44.11' | S 14°16.71' | **20** |
| **21** | 168°28.64' | 55°34.31' | N 17°56.39' | 205°06.70' | 18°56.25' | N 6°03.02' | 217°37.26' | 6°25.69' | N 1°25.24' | 256°18.90' | 327°44.05' | S 14°16.74' | **21** |
| **22** | 183°28.08' | 55°37.34' | N 17°57.13' | 220°07.48' | 18°57.94' | N 6°03.70' | 232°39.46' | 6°25.96' | N 1°25.34' | 271°21.43' | 327°43.99' | S 14°16.77' | **22** |
| **23** | 198°27.52' | 55°40.37' | N 17°57.86' | 235°08.27' | 18°59.62' | N 6°04.37' | 247°41.66' | 6°26.23' | N 1°25.44' | 286°23.95' | 327°43.93' | S 14°16.80' | **23** |
| **24** | 213°26.95' | 55°43.39' | N 17°58.59' | 250°09.05' | 19°01.30' | N 6°05.05' | 262°43.86' | 6°26.49' | N 1°25.54' | 301°26.47' | 327°43.87' | S 14°16.83' | **24** |
| | δ 14.9908° | | *d* 0.7494' | δ 15.0130° | | *d* 0.6788' | δ 15.0366° | | *d* 0.1046' | δ 15.0420° | | *d* 0.0274' | |

## *Tuesday, June 21st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°34.35' | 14.9977° | 89°36.00' | N 23°26.24' | 0.0070' | 269°19.57' | 14.5450° | 359°50.78' | S 4°38.84' | 14.8159' | 57.3903' | 269°10.35' | **00** |
| **01** | 194°34.21' | 14.9977° | 89°38.60' | N 23°26.24' | 0.0063' | 283°52.33' | 14.5460° | 0°20.49' | S 4°24.02' | 14.8182' | 57.3548' | 284°12.81' | **01** |
| **02** | 209°34.07' | 14.9977° | 89°41.20' | N 23°26.25' | 0.0056' | 298°25.14' | 14.5469° | 0°50.13' | S 4°09.20' | 14.8194' | 57.3195' | 299°15.28' | **02** |
| **03** | 224°33.94' | 14.9977° | 89°43.80' | N 23°26.25' | 0.0049' | 312°58.01' | 14.5478° | 1°19.73' | S 3°54.38' | 14.8196' | 57.2842' | 314°17.74' | **03** |
| **04** | 239°33.80' | 14.9977° | 89°46.40' | N 23°26.26' | 0.0042' | 327°30.94' | 14.5487° | 1°49.27' | S 3°39.56' | 14.8186' | 57.2491' | 329°20.20' | **04** |
| **05** | 254°33.67' | 14.9977° | 89°49.00' | N 23°26.26' | 0.0035' | 342°03.91' | 14.5496° | 2°18.76' | S 3°24.75' | 14.8166' | 57.2141' | 344°22.67' | **05** |
| **06** | 269°33.53' | 14.9977° | 89°51.60' | N 23°26.26' | 0.0027' | 356°36.94' | 14.5505° | 2°48.19' | S 3°09.93' | 14.8136' | 57.1793' | 359°25.13' | **06** |
| **07** | 284°33.39' | 14.9977° | 89°54.20' | N 23°26.27' | 0.0020' | 11°10.02' | 14.5513° | 3°17.58' | S 2°55.12' | 14.8095' | 57.1446' | 14°27.60' | **07** |
| **08** | 299°33.26' | 14.9977° | 89°56.80' | N 23°26.27' | 0.0013' | 25°43.14' | 14.5521° | 3°46.92' | S 2°40.32' | 14.8043' | 57.1100' | 29°30.06' | **08** |
| **09** | 314°33.12' | 14.9977° | 89°59.40' | N 23°26.27' | 0.0006' | 40°16.31' | 14.5529° | 4°16.21' | S 2°25.52' | 14.7981' | 57.0756' | 44°32.52' | **09** |
| **10** | 329°32.99' | 14.9977° | 90°02.00' | N 23°26.27' | 0.0001' | 54°49.53' | 14.5536° | 4°45.46' | S 2°10.73' | 14.7910' | 57.0413' | 59°34.99' | **10** |
| **11** | 344°32.85' | 14.9977° | 90°04.60' | N 23°26.27' | 0.0008' | 69°22.79' | 14.5544° | 5°14.66' | S 1°55.95' | 14.7828' | 57.0072' | 74°37.45' | **11** |
| **12** | 359°32.71' | 14.9977° | 90°07.20' | N 23°26.27' | 0.0016' | 83°56.10' | 14.5551° | 5°43.82' | S 1°41.17' | 14.7736' | 56.9732' | 89°39.92' | **12** |
| **13** | 14°32.58' | 14.9977° | 90°09.80' | N 23°26.26' | 0.0023' | 98°29.45' | 14.5558° | 6°12.93' | S 1°26.41' | 14.7634' | 56.9394' | 104°42.38' | **13** |
| **14** | 29°32.44' | 14.9977° | 90°12.40' | N 23°26.26' | 0.0030' | 113°02.83' | 14.5565° | 6°42.01' | S 1°11.66' | 14.7523' | 56.9057' | 119°44.84' | **14** |
| **15** | 44°32.30' | 14.9977° | 90°15.00' | N 23°26.26' | 0.0037' | 127°36.26' | 14.5571° | 7°11.05' | S 0°56.92' | 14.7402' | 56.8722' | 134°47.31' | **15** |
| **16** | 59°32.17' | 14.9977° | 90°17.60' | N 23°26.25' | 0.0044' | 142°09.73' | 14.5577° | 7°40.05' | S 0°42.19' | 14.7271' | 56.8388' | 149°49.77' | **16** |
| **17** | 74°32.03' | 14.9977° | 90°20.20' | N 23°26.25' | 0.0052' | 156°43.23' | 14.5584° | 8°09.01' | S 0°27.48' | 14.7131' | 56.8057' | 164°52.24' | **17** |
| **18** | 89°31.90' | 14.9977° | 90°22.80' | N 23°26.24' | 0.0059' | 171°16.76' | 14.5589° | 8°37.94' | S 0°12.78' | 14.6981' | 56.7726' | 179°54.70' | **18** |
| **19** | 104°31.76' | 14.9977° | 90°25.40' | N 23°26.23' | 0.0066' | 185°50.33' | 14.5595° | 9°06.83' | N 0°01.90' | 14.6822' | 56.7398' | 194°57.17' | **19** |
| **20** | 119°31.62' | 14.9977° | 90°28.00' | N 23°26.23' | 0.0073' | 200°23.94' | 14.5600° | 9°35.69' | N 0°16.57' | 14.6654' | 56.7071' | 209°59.63' | **20** |
| **21** | 134°31.49' | 14.9977° | 90°30.60' | N 23°26.22' | 0.0080' | 214°57.57' | 14.5606° | 10°04.52' | N 0°31.22' | 14.6477' | 56.6745' | 225°02.09' | **21** |
| **22** | 149°31.35' | 14.9977° | 90°33.20' | N 23°26.21' | 0.0087' | 229°31.24' | 14.5611° | 10°33.32' | N 0°45.84' | 14.6290' | 56.6422' | 240°04.56' | **22** |
| **23** | 164°31.22' | 14.9977° | 90°35.81' | N 23°26.20' | 0.0095' | 244°04.93' | 14.5616° | 11°02.09' | N 1°00.45' | 14.6095' | 56.6100' | 255°07.02' | **23** |
| **24** | 179°31.08' | 14.9977° | 90°38.41' | N 23°26.19' | 0.0102' | 258°38.65' | 14.5620° | 11°30.84' | N 1°15.04' | 14.5890' | 56.5780' | 270°09.49' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7383' | hp (π) 0.1442' | ½Ø 15.5242' | 46.2282736826378<br>1% -cre |
| | EoT at 12:00 UTC : -1m 49s (δ -0.54 s/h) | | Phase at 12:00 UTC : 274.48° | |
| | Meridian Pass. Time : 12:01:49.148 | | Age : 21.3 day(s) | |

| UT | Venus ♀ (π 0.11') | | | Mars ♂ (π 0.11') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 213°26.95' | 55°43.39' | N 17°58.59' | 250°09.05' | 19°01.30' | N 6°05.05' | 262°43.86' | 6°26.49' | N 1°25.54' | 301°26.47' | 327°43.87' | S 14°16.83' | **00** |
| **01** | 228°26.39' | 55°46.42' | N 17°59.32' | 265°09.83' | 19°02.98' | N 6°05.72' | 277°46.06' | 6°26.75' | N 1°25.64' | 316°29.00' | 327°43.81' | S 14°16.86' | **01** |
| **02** | 243°25.83' | 55°49.45' | N 18°00.06' | 280°10.62' | 19°04.66' | N 6°06.40' | 292°48.26' | 6°27.02' | N 1°25.75' | 331°31.52' | 327°43.75' | S 14°16.88' | **02** |
| **03** | 258°25.26' | 55°52.48' | N 18°00.79' | 295°11.40' | 19°06.34' | N 6°07.07' | 307°50.46' | 6°27.28' | N 1°25.85' | 346°34.05' | 327°43.69' | S 14°16.91' | **03** |
| **04** | 273°24.70' | 55°55.51' | N 18°01.52' | 310°12.19' | 19°08.02' | N 6°07.75' | 322°52.66' | 6°27.55' | N 1°25.95' | 1°36.57' | 327°43.63' | S 14°16.94' | **04** |
| **05** | 288°24.13' | 55°58.54' | N 18°02.24' | 325°12.97' | 19°09.70' | N 6°08.42' | 337°54.86' | 6°27.81' | N 1°26.05' | 16°39.10' | 327°43.57' | S 14°16.97' | **05** |
| **06** | 303°23.57' | 56°01.57' | N 18°02.97' | 340°13.75' | 19°11.38' | N 6°09.10' | 352°57.06' | 6°28.07' | N 1°26.15' | 31°41.62' | 327°43.51' | S 14°17.00' | **06** |
| **07** | 318°23.00' | 56°04.60' | N 18°03.70' | 355°14.54' | 19°13.06' | N 6°09.77' | 7°59.26' | 6°28.34' | N 1°26.25' | 46°44.15' | 327°43.45' | S 14°17.03' | **07** |
| **08** | 333°22.43' | 56°07.63' | N 18°04.43' | 10°15.32' | 19°14.74' | N 6°10.45' | 23°01.46' | 6°28.60' | N 1°26.35' | 61°46.67' | 327°43.39' | S 14°17.06' | **08** |
| **09** | 348°21.87' | 56°10.66' | N 18°05.15' | 25°16.10' | 19°16.42' | N 6°11.12' | 38°03.66' | 6°28.86' | N 1°26.46' | 76°49.20' | 327°43.33' | S 14°17.09' | **09** |
| **10** | 3°21.30' | 56°13.69' | N 18°05.88' | 40°16.89' | 19°18.10' | N 6°11.79' | 53°05.86' | 6°29.13' | N 1°26.56' | 91°51.72' | 327°43.27' | S 14°17.12' | **10** |
| **11** | 18°20.73' | 56°16.72' | N 18°06.60' | 55°17.67' | 19°19.78' | N 6°12.47' | 68°08.06' | 6°29.39' | N 1°26.66' | 106°54.25' | 327°43.21' | S 14°17.15' | **11** |
| **12** | 33°20.16' | 56°19.76' | N 18°07.33' | 70°18.46' | 19°21.46' | N 6°13.14' | 83°10.27' | 6°29.65' | N 1°26.76' | 121°56.77' | 327°43.14' | S 14°17.18' | **12** |
| **13** | 48°19.59' | 56°22.79' | N 18°08.05' | 85°19.24' | 19°23.14' | N 6°13.82' | 98°12.47' | 6°29.91' | N 1°26.86' | 136°59.30' | 327°43.08' | S 14°17.20' | **13** |
| **14** | 63°19.02' | 56°25.82' | N 18°08.77' | 100°20.02' | 19°24.82' | N 6°14.49' | 113°14.67' | 6°30.17' | N 1°26.96' | 152°01.82' | 327°43.02' | S 14°17.23' | **14** |
| **15** | 78°18.45' | 56°28.86' | N 18°09.49' | 115°20.81' | 19°26.50' | N 6°15.16' | 128°16.87' | 6°30.43' | N 1°27.06' | 167°04.35' | 327°42.96' | S 14°17.26' | **15** |
| **16** | 93°17.88' | 56°31.89' | N 18°10.21' | 130°21.59' | 19°28.18' | N 6°15.84' | 143°19.08' | 6°30.70' | N 1°27.16' | 182°06.88' | 327°42.90' | S 14°17.29' | **16** |
| **17** | 108°17.31' | 56°34.93' | N 18°10.93' | 145°22.38' | 19°29.86' | N 6°16.51' | 158°21.28' | 6°30.96' | N 1°27.26' | 197°09.40' | 327°42.83' | S 14°17.32' | **17** |
| **18** | 123°16.74' | 56°37.96' | N 18°11.65' | 160°23.16' | 19°31.54' | N 6°17.18' | 173°23.48' | 6°31.22' | N 1°27.36' | 212°11.93' | 327°42.77' | S 14°17.35' | **18** |
| **19** | 138°16.17' | 56°41.00' | N 18°12.37' | 175°23.95' | 19°33.22' | N 6°17.85' | 188°25.69' | 6°31.48' | N 1°27.46' | 227°14.46' | 327°42.71' | S 14°17.38' | **19** |
| **20** | 153°15.59' | 56°44.04' | N 18°13.09' | 190°24.73' | 19°34.90' | N 6°18.53' | 203°27.89' | 6°31.74' | N 1°27.56' | 242°16.98' | 327°42.65' | S 14°17.41' | **20** |
| **21** | 168°15.02' | 56°47.07' | N 18°13.81' | 205°25.51' | 19°36.58' | N 6°19.20' | 218°30.10' | 6°32.00' | N 1°27.66' | 257°19.51' | 327°42.58' | S 14°17.44' | **21** |
| **22** | 183°14.45' | 56°50.11' | N 18°14.52' | 220°26.30' | 19°38.26' | N 6°19.87' | 233°32.30' | 6°32.26' | N 1°27.76' | 272°22.04' | 327°42.52' | S 14°17.47' | **22** |
| **23** | 198°13.87' | 56°53.15' | N 18°15.24' | 235°27.08' | 19°39.94' | N 6°20.54' | 248°34.51' | 6°32.52' | N 1°27.86' | 287°24.56' | 327°42.46' | S 14°17.50' | **23** |
| **24** | 213°13.30' | 56°56.19' | N 18°15.95' | 250°27.87' | 19°41.62' | N 6°21.22' | 263°36.71' | 6°32.77' | N 1°27.96' | 302°27.09' | 327°42.39' | S 14°17.53' | **24** |
| | δ 14.9906° | | *d* 0.7319' | δ 15.0131° | | *d* 0.6754' | δ 15.0367° | | *d* 0.1020' | δ 15.0421° | | *d* 0.0287' | |

## *Wednesday, June 22nd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°31.08' | 14.9977° | 90°38.41' | N 23°26.19' | 0.0102' | 258°38.65' | 14.5620° | 11°30.84' | N 1°15.04' | 14.5890' | 56.5780' | 270°09.49' | **00** |
| **01** | 194°30.94' | 14.9977° | 90°41.01' | N 23°26.18' | 0.0109' | 273°12.40' | 14.5625° | 11°59.55' | N 1°29.61' | 14.5677' | 56.5461' | 285°11.95' | **01** |
| **02** | 209°30.81' | 14.9977° | 90°43.61' | N 23°26.17' | 0.0116' | 287°46.17' | 14.5629° | 12°28.25' | N 1°44.16' | 14.5455' | 56.5145' | 300°14.41' | **02** |
| **03** | 224°30.67' | 14.9977° | 90°46.21' | N 23°26.16' | 0.0123' | 302°19.96' | 14.5633° | 12°56.91' | N 1°58.68' | 14.5224' | 56.4830' | 315°16.88' | **03** |
| **04** | 239°30.54' | 14.9977° | 90°48.81' | N 23°26.14' | 0.0131' | 316°53.78' | 14.5636° | 13°25.56' | N 2°13.18' | 14.4984' | 56.4517' | 330°19.34' | **04** |
| **05** | 254°30.40' | 14.9977° | 90°51.41' | N 23°26.13' | 0.0138' | 331°27.62' | 14.5640° | 13°54.18' | N 2°27.65' | 14.4736' | 56.4206' | 345°21.81' | **05** |
| **06** | 269°30.26' | 14.9977° | 90°54.01' | N 23°26.11' | 0.0145' | 346°01.48' | 14.5643° | 14°22.79' | N 2°42.10' | 14.4479' | 56.3896' | 0°24.27' | **06** |
| **07** | 284°30.13' | 14.9977° | 90°56.61' | N 23°26.10' | 0.0152' | 0°35.36' | 14.5646° | 14°51.37' | N 2°56.52' | 14.4214' | 56.3589' | 15°26.73' | **07** |
| **08** | 299°29.99' | 14.9977° | 90°59.21' | N 23°26.08' | 0.0159' | 15°09.26' | 14.5649° | 15°19.94' | N 3°10.91' | 14.3940' | 56.3283' | 30°29.20' | **08** |
| **09** | 314°29.86' | 14.9977° | 91°01.81' | N 23°26.07' | 0.0166' | 29°43.17' | 14.5652° | 15°48.49' | N 3°25.28' | 14.3658' | 56.2979' | 45°31.66' | **09** |
| **10** | 329°29.72' | 14.9977° | 91°04.40' | N 23°26.05' | 0.0174' | 44°17.10' | 14.5655° | 16°17.03' | N 3°39.62' | 14.3367' | 56.2677' | 60°34.13' | **10** |
| **11** | 344°29.59' | 14.9977° | 91°07.00' | N 23°26.03' | 0.0181' | 58°51.04' | 14.5657° | 16°45.55' | N 3°53.92' | 14.3068' | 56.2377' | 75°36.59' | **11** |
| **12** | 359°29.45' | 14.9977° | 91°09.60' | N 23°26.01' | 0.0188' | 73°25.00' | 14.5659° | 17°14.06' | N 4°08.20' | 14.2761' | 56.2079' | 90°39.05' | **12** |
| **13** | 14°29.31' | 14.9977° | 91°12.20' | N 23°25.99' | 0.0195' | 87°58.97' | 14.5661° | 17°42.55' | N 4°22.44' | 14.2446' | 56.1783' | 105°41.52' | **13** |
| **14** | 29°29.18' | 14.9977° | 91°14.80' | N 23°25.97' | 0.0202' | 102°32.94' | 14.5663° | 18°11.04' | N 4°36.66' | 14.2122' | 56.1489' | 120°43.98' | **14** |
| **15** | 44°29.04' | 14.9977° | 91°17.40' | N 23°25.95' | 0.0209' | 117°06.93' | 14.5665° | 18°39.52' | N 4°50.84' | 14.1790' | 56.1196' | 135°46.45' | **15** |
| **16** | 59°28.91' | 14.9977° | 91°20.00' | N 23°25.93' | 0.0217' | 131°40.93' | 14.5666° | 19°07.98' | N 5°04.98' | 14.1451' | 56.0906' | 150°48.91' | **16** |
| **17** | 74°28.77' | 14.9977° | 91°22.60' | N 23°25.91' | 0.0224' | 146°14.93' | 14.5667° | 19°36.45' | N 5°19.09' | 14.1103' | 56.0617' | 165°51.38' | **17** |
| **18** | 89°28.64' | 14.9977° | 91°25.20' | N 23°25.88' | 0.0231' | 160°48.94' | 14.5668° | 20°04.90' | N 5°33.17' | 14.0747' | 56.0331' | 180°53.84' | **18** |
| **19** | 104°28.50' | 14.9977° | 91°27.80' | N 23°25.86' | 0.0238' | 175°22.95' | 14.5669° | 20°33.35' | N 5°47.20' | 14.0383' | 56.0046' | 195°56.30' | **19** |
| **20** | 119°28.36' | 14.9977° | 91°30.40' | N 23°25.84' | 0.0245' | 189°56.97' | 14.5670° | 21°01.80' | N 6°01.20' | 14.0011' | 55.9764' | 210°58.77' | **20** |
| **21** | 134°28.23' | 14.9977° | 91°33.00' | N 23°25.81' | 0.0252' | 204°30.99' | 14.5670° | 21°30.24' | N 6°15.17' | 13.9632' | 55.9483' | 226°01.23' | **21** |
| **22** | 149°28.09' | 14.9977° | 91°35.60' | N 23°25.79' | 0.0260' | 219°05.01' | 14.5670° | 21°58.68' | N 6°29.09' | 13.9244' | 55.9205' | 241°03.70' | **22** |
| **23** | 164°27.96' | 14.9977° | 91°38.20' | N 23°25.76' | 0.0267' | 233°39.03' | 14.5670° | 22°27.13' | N 6°42.98' | 13.8849' | 55.8928' | 256°06.16' | **23** |
| **24** | 179°27.82' | 14.9977° | 91°40.80' | N 23°25.73' | 0.0274' | 248°13.06' | 14.5670° | 22°55.57' | N 6°56.82' | 13.8445' | 55.8654' | 271°08.62' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7372' | hp (π) 0.1442' | ½Ø 15.3156' | 36.0146801117214<br>3% -cre |
| | EoT at 12:00 UTC : -2m 2s (δ -0.54 s/h) | | Phase at 12:00 UTC : 286.41° | |
| | Meridian Pass. Time : 12:02:02.200 | | Age : 22.3 day(s) | |

| UT | Venus ♀ (π 0.11') | | | Mars ♂ (π 0.11') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 213°13.30' | 56°56.19' | N 18°15.95' | 250°27.87' | 19°41.62' | N 6°21.22' | 263°36.71' | 6°32.77' | N 1°27.96' | 302°27.09' | 327°42.39' | S 14°17.53' | **00** |
| **01** | 228°12.72' | 56°59.23' | N 18°16.67' | 265°28.65' | 19°43.30' | N 6°21.89' | 278°38.92' | 6°33.03' | N 1°28.06' | 317°29.62' | 327°42.33' | S 14°17.56' | **01** |
| **02** | 243°12.15' | 57°02.27' | N 18°17.38' | 280°29.44' | 19°44.98' | N 6°22.56' | 293°41.12' | 6°33.29' | N 1°28.16' | 332°32.15' | 327°42.27' | S 14°17.59' | **02** |
| **03** | 258°11.57' | 57°05.31' | N 18°18.09' | 295°30.22' | 19°46.66' | N 6°23.23' | 308°43.33' | 6°33.55' | N 1°28.26' | 347°34.68' | 327°42.20' | S 14°17.62' | **03** |
| **04** | 273°10.99' | 57°08.35' | N 18°18.81' | 310°31.01' | 19°48.34' | N 6°23.90' | 323°45.53' | 6°33.81' | N 1°28.36' | 2°37.20' | 327°42.14' | S 14°17.65' | **04** |
| **05** | 288°10.42' | 57°11.39' | N 18°19.52' | 325°31.79' | 19°50.02' | N 6°24.57' | 338°47.74' | 6°34.07' | N 1°28.46' | 17°39.73' | 327°42.07' | S 14°17.68' | **05** |
| **06** | 303°09.84' | 57°14.43' | N 18°20.23' | 340°32.58' | 19°51.69' | N 6°25.25' | 353°49.95' | 6°34.32' | N 1°28.55' | 32°42.26' | 327°42.01' | S 14°17.71' | **06** |
| **07** | 318°09.26' | 57°17.47' | N 18°20.94' | 355°33.36' | 19°53.37' | N 6°25.92' | 8°52.15' | 6°34.58' | N 1°28.65' | 47°44.79' | 327°41.95' | S 14°17.74' | **07** |
| **08** | 333°08.68' | 57°20.52' | N 18°21.65' | 10°34.14' | 19°55.05' | N 6°26.59' | 23°54.36' | 6°34.84' | N 1°28.75' | 62°47.32' | 327°41.88' | S 14°17.77' | **08** |
| **09** | 348°08.10' | 57°23.56' | N 18°22.35' | 25°34.93' | 19°56.73' | N 6°27.26' | 38°56.57' | 6°35.10' | N 1°28.85' | 77°49.85' | 327°41.82' | S 14°17.80' | **09** |
| **10** | 3°07.52' | 57°26.60' | N 18°23.06' | 40°35.71' | 19°58.41' | N 6°27.93' | 53°58.77' | 6°35.35' | N 1°28.95' | 92°52.38' | 327°41.75' | S 14°17.83' | **10** |
| **11** | 18°06.94' | 57°29.65' | N 18°23.77' | 55°36.50' | 20°00.09' | N 6°28.60' | 69°00.98' | 6°35.61' | N 1°29.05' | 107°54.90' | 327°41.69' | S 14°17.86' | **11** |
| **12** | 33°06.36' | 57°32.69' | N 18°24.47' | 70°37.28' | 20°01.77' | N 6°29.27' | 84°03.19' | 6°35.86' | N 1°29.14' | 122°57.43' | 327°41.62' | S 14°17.89' | **12** |
| **13** | 48°05.78' | 57°35.74' | N 18°25.18' | 85°38.07' | 20°03.45' | N 6°29.94' | 99°05.40' | 6°36.12' | N 1°29.24' | 137°59.96' | 327°41.56' | S 14°17.92' | **13** |
| **14** | 63°05.20' | 57°38.78' | N 18°25.88' | 100°38.85' | 20°05.13' | N 6°30.61' | 114°07.61' | 6°36.38' | N 1°29.34' | 153°02.49' | 327°41.49' | S 14°17.95' | **14** |
| **15** | 78°04.62' | 57°41.83' | N 18°26.58' | 115°39.64' | 20°06.81' | N 6°31.28' | 129°09.82' | 6°36.63' | N 1°29.44' | 168°05.02' | 327°41.42' | S 14°17.99' | **15** |
| **16** | 93°04.04' | 57°44.87' | N 18°27.29' | 130°40.43' | 20°08.49' | N 6°31.95' | 144°12.02' | 6°36.89' | N 1°29.54' | 183°07.55' | 327°41.36' | S 14°18.02' | **16** |
| **17** | 108°03.45' | 57°47.92' | N 18°27.99' | 145°41.21' | 20°10.16' | N 6°32.62' | 159°14.23' | 6°37.14' | N 1°29.63' | 198°10.08' | 327°41.29' | S 14°18.05' | **17** |
| **18** | 123°02.87' | 57°50.97' | N 18°28.69' | 160°42.00' | 20°11.84' | N 6°33.29' | 174°16.44' | 6°37.40' | N 1°29.73' | 213°12.61' | 327°41.23' | S 14°18.08' | **18** |
| **19** | 138°02.29' | 57°54.02' | N 18°29.39' | 175°42.78' | 20°13.52' | N 6°33.96' | 189°18.65' | 6°37.65' | N 1°29.83' | 228°15.14' | 327°41.16' | S 14°18.11' | **19** |
| **20** | 153°01.70' | 57°57.07' | N 18°30.09' | 190°43.57' | 20°15.20' | N 6°34.63' | 204°20.86' | 6°37.90' | N 1°29.93' | 243°17.67' | 327°41.09' | S 14°18.14' | **20** |
| **21** | 168°01.12' | 58°00.11' | N 18°30.79' | 205°44.35' | 20°16.88' | N 6°35.30' | 219°23.07' | 6°38.16' | N 1°30.02' | 258°20.21' | 327°41.03' | S 14°18.17' | **21** |
| **22** | 183°00.53' | 58°03.16' | N 18°31.49' | 220°45.14' | 20°18.56' | N 6°35.96' | 234°25.28' | 6°38.41' | N 1°30.12' | 273°22.74' | 327°40.96' | S 14°18.20' | **22** |
| **23** | 197°59.95' | 58°06.21' | N 18°32.18' | 235°45.92' | 20°20.24' | N 6°36.63' | 249°27.49' | 6°38.67' | N 1°30.22' | 288°25.27' | 327°40.89' | S 14°18.23' | **23** |
| **24** | 212°59.36' | 58°09.26' | N 18°32.88' | 250°46.71' | 20°21.92' | N 6°37.30' | 264°29.70' | 6°38.92' | N 1°30.31' | 303°27.80' | 327°40.83' | S 14°18.26' | **24** |
| | δ 14.9904° | | *d* 0.7140' | δ 15.0131° | | *d* 0.6719' | δ 15.0368° | | *d* 0.0994' | δ 15.0421° | | *d* 0.0299' | |

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°27.82' | 14.9977° | 91°40.80' | N 23°25.73' | 0.0274' | 248°13.06' | 14.5670° | 22°55.57' | N 6°56.82' | 13.8445' | 55.8654' | 271°08.62' | **00** |
| **01** | 194°27.69' | 14.9977° | 91°43.40' | N 23°25.70' | 0.0281' | 262°47.08' | 14.5670° | 23°24.01' | N 7°10.63' | 13.8034' | 55.8381' | 286°11.09' | **01** |
| **02** | 209°27.55' | 14.9977° | 91°46.00' | N 23°25.67' | 0.0288' | 277°21.09' | 14.5670° | 23°52.46' | N 7°24.39' | 13.7616' | 55.8110' | 301°13.55' | **02** |
| **03** | 224°27.42' | 14.9977° | 91°48.60' | N 23°25.64' | 0.0295' | 291°55.11' | 14.5669° | 24°20.91' | N 7°38.11' | 13.7189' | 55.7842' | 316°16.02' | **03** |
| **04** | 239°27.28' | 14.9977° | 91°51.20' | N 23°25.61' | 0.0303' | 306°29.11' | 14.5668° | 24°49.37' | N 7°51.78' | 13.6755' | 55.7576' | 331°18.48' | **04** |
| **05** | 254°27.14' | 14.9977° | 91°53.80' | N 23°25.58' | 0.0310' | 321°03.12' | 14.5667° | 25°17.83' | N 8°05.41' | 13.6313' | 55.7311' | 346°20.94' | **05** |
| **06** | 269°27.01' | 14.9977° | 91°56.40' | N 23°25.55' | 0.0317' | 335°37.11' | 14.5666° | 25°46.30' | N 8°19.00' | 13.5863' | 55.7049' | 1°23.41' | **06** |
| **07** | 284°26.87' | 14.9977° | 91°59.00' | N 23°25.52' | 0.0324' | 350°11.10' | 14.5665° | 26°14.77' | N 8°32.54' | 13.5405' | 55.6788' | 16°25.87' | **07** |
| **08** | 299°26.74' | 14.9977° | 92°01.60' | N 23°25.49' | 0.0331' | 4°45.08' | 14.5663° | 26°43.26' | N 8°46.03' | 13.4940' | 55.6530' | 31°28.34' | **08** |
| **09** | 314°26.60' | 14.9977° | 92°04.20' | N 23°25.45' | 0.0339' | 19°19.05' | 14.5661° | 27°11.75' | N 8°59.48' | 13.4468' | 55.6274' | 46°30.80' | **09** |
| **10** | 329°26.47' | 14.9977° | 92°06.80' | N 23°25.42' | 0.0346' | 33°53.01' | 14.5660° | 27°40.26' | N 9°12.88' | 13.3987' | 55.6020' | 61°33.26' | **10** |
| **11** | 344°26.33' | 14.9977° | 92°09.40' | N 23°25.38' | 0.0353' | 48°26.95' | 14.5658° | 28°08.78' | N 9°26.23' | 13.3499' | 55.5767' | 76°35.73' | **11** |
| **12** | 359°26.20' | 14.9977° | 92°12.00' | N 23°25.35' | 0.0360' | 63°00.88' | 14.5655° | 28°37.31' | N 9°39.53' | 13.3004' | 55.5517' | 91°38.19' | **12** |
| **13** | 14°26.06' | 14.9977° | 92°14.60' | N 23°25.31' | 0.0367' | 77°34.80' | 14.5653° | 29°05.85' | N 9°52.78' | 13.2501' | 55.5269' | 106°40.66' | **13** |
| **14** | 29°25.93' | 14.9977° | 92°17.19' | N 23°25.27' | 0.0374' | 92°08.71' | 14.5651° | 29°34.41' | N 10°05.98' | 13.1990' | 55.5023' | 121°43.12' | **14** |
| **15** | 44°25.79' | 14.9977° | 92°19.79' | N 23°25.23' | 0.0382' | 106°42.60' | 14.5648° | 30°02.99' | N 10°19.13' | 13.1472' | 55.4779' | 136°45.59' | **15** |
| **16** | 59°25.66' | 14.9977° | 92°22.39' | N 23°25.20' | 0.0389' | 121°16.47' | 14.5645° | 30°31.58' | N 10°32.22' | 13.0946' | 55.4537' | 151°48.05' | **16** |
| **17** | 74°25.52' | 14.9977° | 92°24.99' | N 23°25.16' | 0.0396' | 135°50.32' | 14.5642° | 31°00.19' | N 10°45.26' | 13.0412' | 55.4298' | 166°50.51' | **17** |
| **18** | 89°25.39' | 14.9977° | 92°27.59' | N 23°25.12' | 0.0403' | 150°24.15' | 14.5639° | 31°28.82' | N 10°58.25' | 12.9872' | 55.4060' | 181°52.98' | **18** |
| **19** | 104°25.25' | 14.9977° | 92°30.19' | N 23°25.07' | 0.0410' | 164°57.97' | 14.5636° | 31°57.47' | N 11°11.18' | 12.9323' | 55.3824' | 196°55.44' | **19** |
| **20** | 119°25.12' | 14.9977° | 92°32.79' | N 23°25.03' | 0.0417' | 179°31.77' | 14.5632° | 32°26.14' | N 11°24.06' | 12.8767' | 55.3591' | 211°57.91' | **20** |
| **21** | 134°24.98' | 14.9977° | 92°35.39' | N 23°24.99' | 0.0425' | 194°05.54' | 14.5629° | 32°54.83' | N 11°36.88' | 12.8203' | 55.3359' | 227°00.37' | **21** |
| **22** | 149°24.85' | 14.9978° | 92°37.99' | N 23°24.95' | 0.0432' | 208°39.29' | 14.5625° | 33°23.54' | N 11°49.64' | 12.7632' | 55.3130' | 242°02.83' | **22** |
| **23** | 164°24.71' | 14.9978° | 92°40.59' | N 23°24.90' | 0.0439' | 223°13.02' | 14.5621° | 33°52.28' | N 12°02.35' | 12.7054' | 55.2902' | 257°05.30' | **23** |
| **24** | 179°24.58' | 14.9978° | 92°43.19' | N 23°24.86' | 0.0446' | 237°46.72' | 14.5617° | 34°21.04' | N 12°14.99' | 12.6468' | 55.2677' | 272°07.76' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7362' | hp (π) 0.1442' | ½Ø 15.1369' | 26.6405795452781<br>43% -cre |
| | EoT at 12:00 UTC : -2m 15s (δ -0.54 s/h) | | Phase at 12:00 UTC : 298.00° | |
| | Meridian Pass. Time : 12:02:15.213 | | Age : 23.2 day(s) | |

| UT | Venus ♀ (π 0.11') | | | Mars ♂ (π 0.11') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 212°59.36' | 58°09.26' | N 18°32.88' | 250°46.71' | 20°21.92' | N 6°37.30' | 264°29.70' | 6°38.92' | N 1°30.31' | 303°27.80' | 327°40.83' | S 14°18.26' | **00** |
| **01** | 227°58.77' | 58°12.32' | N 18°33.58' | 265°47.49' | 20°23.59' | N 6°37.97' | 279°31.92' | 6°39.17' | N 1°30.41' | 318°30.33' | 327°40.76' | S 14°18.29' | **01** |
| **02** | 242°58.18' | 58°15.37' | N 18°34.27' | 280°48.28' | 20°25.27' | N 6°38.64' | 294°34.13' | 6°39.42' | N 1°30.51' | 333°32.86' | 327°40.69' | S 14°18.33' | **02** |
| **03** | 257°57.60' | 58°18.42' | N 18°34.97' | 295°49.07' | 20°26.95' | N 6°39.31' | 309°36.34' | 6°39.68' | N 1°30.60' | 348°35.39' | 327°40.62' | S 14°18.36' | **03** |
| **04** | 272°57.01' | 58°21.47' | N 18°35.66' | 310°49.85' | 20°28.63' | N 6°39.97' | 324°38.55' | 6°39.93' | N 1°30.70' | 3°37.92' | 327°40.56' | S 14°18.39' | **04** |
| **05** | 287°56.42' | 58°24.52' | N 18°36.35' | 325°50.64' | 20°30.31' | N 6°40.64' | 339°40.76' | 6°40.18' | N 1°30.80' | 18°40.46' | 327°40.49' | S 14°18.42' | **05** |
| **06** | 302°55.83' | 58°27.58' | N 18°37.04' | 340°51.42' | 20°31.99' | N 6°41.31' | 354°42.98' | 6°40.43' | N 1°30.89' | 33°42.99' | 327°40.42' | S 14°18.45' | **06** |
| **07** | 317°55.24' | 58°30.63' | N 18°37.73' | 355°52.21' | 20°33.66' | N 6°41.98' | 9°45.19' | 6°40.68' | N 1°30.99' | 48°45.52' | 327°40.35' | S 14°18.48' | **07** |
| **08** | 332°54.65' | 58°33.69' | N 18°38.42' | 10°52.99' | 20°35.34' | N 6°42.64' | 24°47.40' | 6°40.94' | N 1°31.08' | 63°48.05' | 327°40.28' | S 14°18.51' | **08** |
| **09** | 347°54.06' | 58°36.74' | N 18°39.11' | 25°53.78' | 20°37.02' | N 6°43.31' | 39°49.61' | 6°41.19' | N 1°31.18' | 78°50.59' | 327°40.21' | S 14°18.55' | **09** |
| **10** | 2°53.47' | 58°39.80' | N 18°39.80' | 40°54.57' | 20°38.70' | N 6°43.98' | 54°51.83' | 6°41.44' | N 1°31.28' | 93°53.12' | 327°40.15' | S 14°18.58' | **10** |
| **11** | 17°52.88' | 58°42.85' | N 18°40.49' | 55°55.35' | 20°40.38' | N 6°44.65' | 69°54.04' | 6°41.69' | N 1°31.37' | 108°55.65' | 327°40.08' | S 14°18.61' | **11** |
| **12** | 32°52.28' | 58°45.91' | N 18°41.18' | 70°56.14' | 20°42.05' | N 6°45.31' | 84°56.26' | 6°41.94' | N 1°31.47' | 123°58.19' | 327°40.01' | S 14°18.64' | **12** |
| **13** | 47°51.69' | 58°48.97' | N 18°41.86' | 85°56.92' | 20°43.73' | N 6°45.98' | 99°58.47' | 6°42.19' | N 1°31.56' | 139°00.72' | 327°39.94' | S 14°18.67' | **13** |
| **14** | 62°51.10' | 58°52.02' | N 18°42.55' | 100°57.71' | 20°45.41' | N 6°46.65' | 115°00.68' | 6°42.44' | N 1°31.66' | 154°03.25' | 327°39.87' | S 14°18.70' | **14** |
| **15** | 77°50.50' | 58°55.08' | N 18°43.23' | 115°58.50' | 20°47.09' | N 6°47.31' | 130°02.90' | 6°42.69' | N 1°31.75' | 169°05.79' | 327°39.80' | S 14°18.74' | **15** |
| **16** | 92°49.91' | 58°58.14' | N 18°43.92' | 130°59.28' | 20°48.77' | N 6°47.98' | 145°05.11' | 6°42.94' | N 1°31.85' | 184°08.32' | 327°39.73' | S 14°18.77' | **16** |
| **17** | 107°49.32' | 59°01.20' | N 18°44.60' | 146°00.07' | 20°50.44' | N 6°48.64' | 160°07.33' | 6°43.18' | N 1°31.94' | 199°10.85' | 327°39.66' | S 14°18.80' | **17** |
| **18** | 122°48.72' | 59°04.26' | N 18°45.28' | 161°00.86' | 20°52.12' | N 6°49.31' | 175°09.54' | 6°43.43' | N 1°32.04' | 214°13.39' | 327°39.59' | S 14°18.83' | **18** |
| **19** | 137°48.12' | 59°07.32' | N 18°45.97' | 176°01.64' | 20°53.80' | N 6°49.97' | 190°11.76' | 6°43.68' | N 1°32.13' | 229°15.92' | 327°39.52' | S 14°18.86' | **19** |
| **20** | 152°47.53' | 59°10.38' | N 18°46.65' | 191°02.43' | 20°55.48' | N 6°50.64' | 205°13.98' | 6°43.93' | N 1°32.23' | 244°18.46' | 327°39.45' | S 14°18.90' | **20** |
| **21** | 167°46.93' | 59°13.44' | N 18°47.33' | 206°03.22' | 20°57.15' | N 6°51.31' | 220°16.19' | 6°44.18' | N 1°32.32' | 259°20.99' | 327°39.38' | S 14°18.93' | **21** |
| **22** | 182°46.33' | 59°16.50' | N 18°48.01' | 221°04.00' | 20°58.83' | N 6°51.97' | 235°18.41' | 6°44.43' | N 1°32.42' | 274°23.52' | 327°39.31' | S 14°18.96' | **22** |
| **23** | 197°45.74' | 59°19.56' | N 18°48.68' | 236°04.79' | 21°00.51' | N 6°52.64' | 250°20.62' | 6°44.67' | N 1°32.51' | 289°26.06' | 327°39.24' | S 14°18.99' | **23** |
| **24** | 212°45.14' | 59°22.62' | N 18°49.36' | 251°05.58' | 21°02.19' | N 6°53.30' | 265°22.84' | 6°44.92' | N 1°32.60' | 304°28.59' | 327°39.17' | S 14°19.03' | **24** |
| | δ 14.9902° | | *d* 0.6957' | δ 15.0131° | | *d* 0.6684' | δ 15.0369° | | *d* 0.0967' | δ 15.0422° | | *d* 0.0312' | |

## *Friday, June 24th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°24.58' | 14.9978° | 92°43.19' | N 23°24.86' | 0.0446' | 237°46.72' | 14.5617° | 34°21.04' | N 12°14.99' | 12.6468' | 55.2677' | 272°07.76' | **00** |
| **01** | 194°24.44' | 14.9978° | 92°45.79' | N 23°24.81' | 0.0453' | 252°20.40' | 14.5613° | 34°49.82' | N 12°27.58' | 12.5874' | 55.2454' | 287°10.23' | **01** |
| **02** | 209°24.31' | 14.9978° | 92°48.38' | N 23°24.77' | 0.0460' | 266°54.06' | 14.5609° | 35°18.63' | N 12°40.11' | 12.5273' | 55.2232' | 302°12.69' | **02** |
| **03** | 224°24.17' | 14.9978° | 92°50.98' | N 23°24.72' | 0.0468' | 281°27.68' | 14.5605° | 35°47.47' | N 12°52.57' | 12.4664' | 55.2013' | 317°15.15' | **03** |
| **04** | 239°24.04' | 14.9978° | 92°53.58' | N 23°24.67' | 0.0475' | 296°01.28' | 14.5600° | 36°16.33' | N 13°04.98' | 12.4048' | 55.1796' | 332°17.62' | **04** |
| **05** | 254°23.90' | 14.9978° | 92°56.18' | N 23°24.62' | 0.0482' | 310°34.86' | 14.5595° | 36°45.23' | N 13°17.32' | 12.3424' | 55.1581' | 347°20.08' | **05** |
| **06** | 269°23.77' | 14.9978° | 92°58.78' | N 23°24.58' | 0.0489' | 325°08.40' | 14.5591° | 37°14.15' | N 13°29.60' | 12.2793' | 55.1368' | 2°22.55' | **06** |
| **07** | 284°23.63' | 14.9978° | 93°01.38' | N 23°24.53' | 0.0496' | 339°41.91' | 14.5586° | 37°43.10' | N 13°41.82' | 12.2154' | 55.1157' | 17°25.01' | **07** |
| **08** | 299°23.50' | 14.9978° | 93°03.98' | N 23°24.48' | 0.0503' | 354°15.40' | 14.5581° | 38°12.08' | N 13°53.97' | 12.1508' | 55.0948' | 32°27.48' | **08** |
| **09** | 314°23.36' | 14.9978° | 93°06.58' | N 23°24.42' | 0.0510' | 8°48.85' | 14.5575° | 38°41.09' | N 14°06.05' | 12.0854' | 55.0741' | 47°29.94' | **09** |
| **10** | 329°23.23' | 14.9978° | 93°09.17' | N 23°24.37' | 0.0518' | 23°22.27' | 14.5570° | 39°10.13' | N 14°18.07' | 12.0193' | 55.0537' | 62°32.40' | **10** |
| **11** | 344°23.09' | 14.9978° | 93°11.77' | N 23°24.32' | 0.0525' | 37°55.66' | 14.5565° | 39°39.21' | N 14°30.02' | 11.9524' | 55.0334' | 77°34.87' | **11** |
| **12** | 359°22.96' | 14.9978° | 93°14.37' | N 23°24.27' | 0.0532' | 52°29.01' | 14.5559° | 40°08.32' | N 14°41.91' | 11.8848' | 55.0133' | 92°37.33' | **12** |
| **13** | 14°22.83' | 14.9978° | 93°16.97' | N 23°24.21' | 0.0539' | 67°02.33' | 14.5553° | 40°37.46' | N 14°53.73' | 11.8164' | 54.9935' | 107°39.80' | **13** |
| **14** | 29°22.69' | 14.9978° | 93°19.57' | N 23°24.16' | 0.0546' | 81°35.62' | 14.5548° | 41°06.64' | N 15°05.47' | 11.7473' | 54.9738' | 122°42.26' | **14** |
| **15** | 44°22.56' | 14.9978° | 93°22.17' | N 23°24.10' | 0.0553' | 96°08.87' | 14.5542° | 41°35.86' | N 15°17.15' | 11.6774' | 54.9543' | 137°44.72' | **15** |
| **16** | 59°22.42' | 14.9978° | 93°24.77' | N 23°24.05' | 0.0561' | 110°42.08' | 14.5536° | 42°05.11' | N 15°28.76' | 11.6067' | 54.9351' | 152°47.19' | **16** |
| **17** | 74°22.29' | 14.9978° | 93°27.36' | N 23°23.99' | 0.0568' | 125°15.26' | 14.5530° | 42°34.39' | N 15°40.29' | 11.5353' | 54.9160' | 167°49.65' | **17** |
| **18** | 89°22.15' | 14.9978° | 93°29.96' | N 23°23.93' | 0.0575' | 139°48.40' | 14.5523° | 43°03.72' | N 15°51.76' | 11.4632' | 54.8972' | 182°52.12' | **18** |
| **19** | 104°22.02' | 14.9978° | 93°32.56' | N 23°23.87' | 0.0582' | 154°21.50' | 14.5517° | 43°33.08' | N 16°03.15' | 11.3903' | 54.8785' | 197°54.58' | **19** |
| **20** | 119°21.89' | 14.9978° | 93°35.16' | N 23°23.82' | 0.0589' | 168°54.57' | 14.5511° | 44°02.48' | N 16°14.46' | 11.3166' | 54.8600' | 212°57.04' | **20** |
| **21** | 134°21.75' | 14.9978° | 93°37.76' | N 23°23.76' | 0.0596' | 183°27.59' | 14.5504° | 44°31.92' | N 16°25.70' | 11.2422' | 54.8418' | 227°59.51' | **21** |
| **22** | 149°21.62' | 14.9978° | 93°40.36' | N 23°23.70' | 0.0604' | 198°00.58' | 14.5498° | 45°01.40' | N 16°36.87' | 11.1671' | 54.8237' | 243°01.97' | **22** |
| **23** | 164°21.48' | 14.9978° | 93°42.95' | N 23°23.63' | 0.0611' | 212°33.52' | 14.5491° | 45°30.91' | N 16°47.96' | 11.0911' | 54.8059' | 258°04.44' | **23** |
| **24** | 179°21.35' | 14.9978° | 93°45.55' | N 23°23.57' | 0.0618' | 227°06.43' | 14.5484° | 46°00.47' | N 16°58.98' | 11.0145' | 54.7882' | 273°06.90' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7352' | hp (π) 0.1442' | ½Ø 14.9902' | 18.3904083071957<br>84% -cre |
| | EoT at 12:00 UTC : -2m 28s (δ -0.54 s/h) | | Phase at 12:00 UTC : 309.33° | |
| | Meridian Pass. Time : 12:02:28.160 | | Age : 24.1 day(s) | |

| UT | Venus ♀ (π 0.11') | | | Mars ♂ (π 0.11') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 212°45.14' | 59°22.62' | N 18°49.36' | 251°05.58' | 21°02.19' | N 6°53.30' | 265°22.84' | 6°44.92' | N 1°32.60' | 304°28.59' | 327°39.17' | S 14°19.03' | **00** |
| **01** | 227°44.54' | 59°25.69' | N 18°50.04' | 266°06.36' | 21°03.86' | N 6°53.97' | 280°25.06' | 6°45.17' | N 1°32.70' | 319°31.13' | 327°39.10' | S 14°19.06' | **01** |
| **02** | 242°43.94' | 59°28.75' | N 18°50.71' | 281°07.15' | 21°05.54' | N 6°54.63' | 295°27.28' | 6°45.41' | N 1°32.79' | 334°33.66' | 327°39.03' | S 14°19.09' | **02** |
| **03** | 257°43.34' | 59°31.81' | N 18°51.39' | 296°07.94' | 21°07.22' | N 6°55.29' | 310°29.49' | 6°45.66' | N 1°32.89' | 349°36.20' | 327°38.95' | S 14°19.12' | **03** |
| **04** | 272°42.74' | 59°34.88' | N 18°52.06' | 311°08.72' | 21°08.90' | N 6°55.96' | 325°31.71' | 6°45.91' | N 1°32.98' | 4°38.74' | 327°38.88' | S 14°19.16' | **04** |
| **05** | 287°42.14' | 59°37.94' | N 18°52.74' | 326°09.51' | 21°10.57' | N 6°56.62' | 340°33.93' | 6°46.15' | N 1°33.07' | 19°41.27' | 327°38.81' | S 14°19.19' | **05** |
| **06** | 302°41.54' | 59°41.01' | N 18°53.41' | 341°10.30' | 21°12.25' | N 6°57.29' | 355°36.15' | 6°46.40' | N 1°33.17' | 34°43.81' | 327°38.74' | S 14°19.22' | **06** |
| **07** | 317°40.94' | 59°44.07' | N 18°54.08' | 356°11.08' | 21°13.93' | N 6°57.95' | 10°38.37' | 6°46.64' | N 1°33.26' | 49°46.34' | 327°38.67' | S 14°19.25' | **07** |
| **08** | 332°40.34' | 59°47.14' | N 18°54.75' | 11°11.87' | 21°15.61' | N 6°58.61' | 25°40.59' | 6°46.89' | N 1°33.35' | 64°48.88' | 327°38.60' | S 14°19.29' | **08** |
| **09** | 347°39.73' | 59°50.20' | N 18°55.42' | 26°12.66' | 21°17.28' | N 6°59.28' | 40°42.81' | 6°47.13' | N 1°33.45' | 79°51.42' | 327°38.52' | S 14°19.32' | **09** |
| **10** | 2°39.13' | 59°53.27' | N 18°56.09' | 41°13.44' | 21°18.96' | N 6°59.94' | 55°45.02' | 6°47.38' | N 1°33.54' | 94°53.95' | 327°38.45' | S 14°19.35' | **10** |
| **11** | 17°38.53' | 59°56.34' | N 18°56.76' | 56°14.23' | 21°20.64' | N 7°00.60' | 70°47.24' | 6°47.62' | N 1°33.63' | 109°56.49' | 327°38.38' | S 14°19.39' | **11** |
| **12** | 32°37.92' | 59°59.41' | N 18°57.43' | 71°15.02' | 21°22.31' | N 7°01.27' | 85°49.46' | 6°47.87' | N 1°33.73' | 124°59.03' | 327°38.31' | S 14°19.42' | **12** |
| **13** | 47°37.32' | 60°02.48' | N 18°58.10' | 86°15.81' | 21°23.99' | N 7°01.93' | 100°51.68' | 6°48.11' | N 1°33.82' | 140°01.56' | 327°38.23' | S 14°19.45' | **13** |
| **14** | 62°36.72' | 60°05.54' | N 18°58.76' | 101°16.59' | 21°25.67' | N 7°02.59' | 115°53.90' | 6°48.36' | N 1°33.91' | 155°04.10' | 327°38.16' | S 14°19.48' | **14** |
| **15** | 77°36.11' | 60°08.61' | N 18°59.43' | 116°17.38' | 21°27.34' | N 7°03.25' | 130°56.13' | 6°48.60' | N 1°34.00' | 170°06.64' | 327°38.09' | S 14°19.52' | **15** |
| **16** | 92°35.50' | 60°11.68' | N 19°00.10' | 131°18.17' | 21°29.02' | N 7°03.92' | 145°58.35' | 6°48.84' | N 1°34.10' | 185°09.17' | 327°38.01' | S 14°19.55' | **16** |
| **17** | 107°34.90' | 60°14.75' | N 19°00.76' | 146°18.95' | 21°30.70' | N 7°04.58' | 161°00.57' | 6°49.08' | N 1°34.19' | 200°11.71' | 327°37.94' | S 14°19.58' | **17** |
| **18** | 122°34.29' | 60°17.83' | N 19°01.42' | 161°19.74' | 21°32.37' | N 7°05.24' | 176°02.79' | 6°49.33' | N 1°34.28' | 215°14.25' | 327°37.87' | S 14°19.62' | **18** |
| **19** | 137°33.68' | 60°20.90' | N 19°02.09' | 176°20.53' | 21°34.05' | N 7°05.90' | 191°05.01' | 6°49.57' | N 1°34.37' | 230°16.79' | 327°37.79' | S 14°19.65' | **19** |
| **20** | 152°33.08' | 60°23.97' | N 19°02.75' | 191°21.32' | 21°35.73' | N 7°06.56' | 206°07.23' | 6°49.81' | N 1°34.46' | 245°19.32' | 327°37.72' | S 14°19.68' | **20** |
| **21** | 167°32.47' | 60°27.04' | N 19°03.41' | 206°22.11' | 21°37.40' | N 7°07.23' | 221°09.45' | 6°50.05' | N 1°34.56' | 260°21.86' | 327°37.65' | S 14°19.72' | **21** |
| **22** | 182°31.86' | 60°30.11' | N 19°04.07' | 221°22.89' | 21°39.08' | N 7°07.89' | 236°11.68' | 6°50.30' | N 1°34.65' | 275°24.40' | 327°37.57' | S 14°19.75' | **22** |
| **23** | 197°31.25' | 60°33.19' | N 19°04.73' | 236°23.68' | 21°40.76' | N 7°08.55' | 251°13.90' | 6°50.54' | N 1°34.74' | 290°26.94' | 327°37.50' | S 14°19.78' | **23** |
| **24** | 212°30.64' | 60°36.26' | N 19°05.39' | 251°24.47' | 21°42.43' | N 7°09.21' | 266°16.12' | 6°50.78' | N 1°34.83' | 305°29.48' | 327°37.42' | S 14°19.82' | **24** |
| | δ 14.9900° | | *d* 0.6769' | δ 15.0131° | | *d* 0.6647' | δ 15.0370° | | *d* 0.0940' | δ 15.0423° | | *d* 0.0324' | |

## *Saturday, June 25th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°21.35' | 14.9978° | 93°45.55' | N 23°23.57' | 0.0618' | 227°06.43' | 14.5484° | 46°00.47' | N 16°58.98' | 11.0145' | 54.7882' | 273°06.90' | **00** |
| **01** | 194°21.22' | 14.9978° | 93°48.15' | N 23°23.51' | 0.0625' | 241°39.29' | 14.5477° | 46°30.08' | N 17°09.91' | 10.9370' | 54.7708' | 288°09.37' | **01** |
| **02** | 209°21.08' | 14.9978° | 93°50.75' | N 23°23.45' | 0.0632' | 256°12.11' | 14.5470° | 46°59.72' | N 17°20.77' | 10.8589' | 54.7535' | 303°11.83' | **02** |
| **03** | 224°20.95' | 14.9978° | 93°53.35' | N 23°23.38' | 0.0639' | 270°44.89' | 14.5463° | 47°29.40' | N 17°31.55' | 10.7799' | 54.7365' | 318°14.29' | **03** |
| **04** | 239°20.81' | 14.9978° | 93°55.94' | N 23°23.32' | 0.0646' | 285°17.63' | 14.5456° | 47°59.13' | N 17°42.25' | 10.7003' | 54.7196' | 333°16.76' | **04** |
| **05** | 254°20.68' | 14.9978° | 93°58.54' | N 23°23.25' | 0.0654' | 299°50.32' | 14.5449° | 48°28.90' | N 17°52.87' | 10.6198' | 54.7029' | 348°19.22' | **05** |
| **06** | 269°20.55' | 14.9978° | 94°01.14' | N 23°23.19' | 0.0661' | 314°22.97' | 14.5442° | 48°58.72' | N 18°03.41' | 10.5386' | 54.6864' | 3°21.69' | **06** |
| **07** | 284°20.41' | 14.9978° | 94°03.74' | N 23°23.12' | 0.0668' | 328°55.57' | 14.5434° | 49°28.58' | N 18°13.87' | 10.4567' | 54.6702' | 18°24.15' | **07** |
| **08** | 299°20.28' | 14.9978° | 94°06.33' | N 23°23.05' | 0.0675' | 343°28.13' | 14.5427° | 49°58.48' | N 18°24.24' | 10.3740' | 54.6541' | 33°26.61' | **08** |
| **09** | 314°20.15' | 14.9978° | 94°08.93' | N 23°22.98' | 0.0682' | 358°00.65' | 14.5419° | 50°28.43' | N 18°34.53' | 10.2906' | 54.6382' | 48°29.08' | **09** |
| **10** | 329°20.01' | 14.9978° | 94°11.53' | N 23°22.92' | 0.0689' | 12°33.12' | 14.5412° | 50°58.42' | N 18°44.74' | 10.2064' | 54.6225' | 63°31.54' | **10** |
| **11** | 344°19.88' | 14.9978° | 94°14.13' | N 23°22.85' | 0.0697' | 27°05.54' | 14.5404° | 51°28.46' | N 18°54.86' | 10.1214' | 54.6070' | 78°34.01' | **11** |
| **12** | 359°19.75' | 14.9978° | 94°16.73' | N 23°22.78' | 0.0704' | 41°37.92' | 14.5396° | 51°58.55' | N 19°04.90' | 10.0357' | 54.5917' | 93°36.47' | **12** |
| **13** | 14°19.61' | 14.9978° | 94°19.32' | N 23°22.70' | 0.0711' | 56°10.26' | 14.5389° | 52°28.68' | N 19°14.85' | 9.9493' | 54.5766' | 108°38.94' | **13** |
| **14** | 29°19.48' | 14.9978° | 94°21.92' | N 23°22.63' | 0.0718' | 70°42.54' | 14.5381° | 52°58.86' | N 19°24.71' | 9.8621' | 54.5617' | 123°41.40' | **14** |
| **15** | 44°19.35' | 14.9978° | 94°24.52' | N 23°22.56' | 0.0725' | 85°14.78' | 14.5373° | 53°29.08' | N 19°34.48' | 9.7742' | 54.5469' | 138°43.86' | **15** |
| **16** | 59°19.21' | 14.9978° | 94°27.12' | N 23°22.49' | 0.0732' | 99°46.97' | 14.5365° | 53°59.36' | N 19°44.17' | 9.6855' | 54.5324' | 153°46.33' | **16** |
| **17** | 74°19.08' | 14.9978° | 94°29.71' | N 23°22.41' | 0.0739' | 114°19.12' | 14.5357° | 54°29.68' | N 19°53.76' | 9.5961' | 54.5180' | 168°48.79' | **17** |
| **18** | 89°18.95' | 14.9978° | 94°32.31' | N 23°22.34' | 0.0747' | 128°51.21' | 14.5349° | 55°00.04' | N 20°03.27' | 9.5059' | 54.5039' | 183°51.26' | **18** |
| **19** | 104°18.81' | 14.9978° | 94°34.91' | N 23°22.26' | 0.0754' | 143°23.26' | 14.5341° | 55°30.46' | N 20°12.68' | 9.4150' | 54.4899' | 198°53.72' | **19** |
| **20** | 119°18.68' | 14.9978° | 94°37.50' | N 23°22.19' | 0.0761' | 157°55.26' | 14.5333° | 56°00.92' | N 20°22.01' | 9.3234' | 54.4761' | 213°56.18' | **20** |
| **21** | 134°18.55' | 14.9978° | 94°40.10' | N 23°22.11' | 0.0768' | 172°27.22' | 14.5325° | 56°31.43' | N 20°31.24' | 9.2310' | 54.4625' | 228°58.65' | **21** |
| **22** | 149°18.41' | 14.9978° | 94°42.70' | N 23°22.03' | 0.0775' | 186°59.12' | 14.5317° | 57°01.99' | N 20°40.38' | 9.1379' | 54.4491' | 244°01.11' | **22** |
| **23** | 164°18.28' | 14.9978° | 94°45.29' | N 23°21.95' | 0.0782' | 201°30.97' | 14.5309° | 57°32.60' | N 20°49.42' | 9.0440' | 54.4358' | 259°03.58' | **23** |
| **24** | 179°18.15' | 14.9978° | 94°47.89' | N 23°21.88' | 0.0789' | 216°02.78' | 14.5301° | 58°03.26' | N 20°58.37' | 8.9495' | 54.4228' | 274°06.04' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | ½Ø 15.7344' | hp (π) 0.1442' | ½Ø 14.8753' | 11.4887848685329<br>92% -cre | | |
| | EoT at 12:00 UTC : -2m 41s (δ -0.53 s/h) | | Phase at 12:00 UTC : 320.47° | | | |
| | Meridian Pass. Time : 12:02:41.017 | | Age : 24.9 day(s) | | | |

| UT | Venus ♀ (π 0.11') | | | Mars ♂ (π 0.11') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 212°30.64' | 60°36.26' | N 19°05.39' | 251°24.47' | 21°42.43' | N 7°09.21' | 266°16.12' | 6°50.78' | N 1°34.83' | 305°29.48' | 327°37.42' | S 14°19.82' | **00** |
| **01** | 227°30.03' | 60°39.33' | N 19°06.04' | 266°25.26' | 21°44.11' | N 7°09.87' | 281°18.35' | 6°51.02' | N 1°34.92' | 320°32.02' | 327°37.35' | S 14°19.85' | **01** |
| **02** | 242°29.42' | 60°42.41' | N 19°06.70' | 281°26.04' | 21°45.79' | N 7°10.53' | 296°20.57' | 6°51.26' | N 1°35.01' | 335°34.56' | 327°37.27' | S 14°19.88' | **02** |
| **03** | 257°28.81' | 60°45.48' | N 19°07.36' | 296°26.83' | 21°47.46' | N 7°11.19' | 311°22.79' | 6°51.50' | N 1°35.10' | 350°37.09' | 327°37.20' | S 14°19.92' | **03** |
| **04** | 272°28.20' | 60°48.56' | N 19°08.01' | 311°27.62' | 21°49.14' | N 7°11.85' | 326°25.02' | 6°51.74' | N 1°35.19' | 5°39.63' | 327°37.12' | S 14°19.95' | **04** |
| **05** | 287°27.59' | 60°51.64' | N 19°08.66' | 326°28.41' | 21°50.81' | N 7°12.51' | 341°27.24' | 6°51.98' | N 1°35.29' | 20°42.17' | 327°37.05' | S 14°19.99' | **05** |
| **06** | 302°26.97' | 60°54.71' | N 19°09.32' | 341°29.20' | 21°52.49' | N 7°13.17' | 356°29.47' | 6°52.22' | N 1°35.38' | 35°44.71' | 327°36.97' | S 14°20.02' | **06** |
| **07** | 317°26.36' | 60°57.79' | N 19°09.97' | 356°29.98' | 21°54.17' | N 7°13.83' | 11°31.69' | 6°52.46' | N 1°35.47' | 50°47.25' | 327°36.90' | S 14°20.05' | **07** |
| **08** | 332°25.75' | 61°00.87' | N 19°10.62' | 11°30.77' | 21°55.84' | N 7°14.49' | 26°33.92' | 6°52.70' | N 1°35.56' | 65°49.79' | 327°36.82' | S 14°20.09' | **08** |
| **09** | 347°25.13' | 61°03.95' | N 19°11.27' | 26°31.56' | 21°57.52' | N 7°15.15' | 41°36.14' | 6°52.94' | N 1°35.65' | 80°52.33' | 327°36.75' | S 14°20.12' | **09** |
| **10** | 2°24.52' | 61°07.02' | N 19°11.92' | 41°32.35' | 21°59.19' | N 7°15.81' | 56°38.37' | 6°53.18' | N 1°35.74' | 95°54.87' | 327°36.67' | S 14°20.16' | **10** |
| **11** | 17°23.90' | 61°10.10' | N 19°12.57' | 56°33.14' | 22°00.87' | N 7°16.47' | 71°40.59' | 6°53.41' | N 1°35.83' | 110°57.41' | 327°36.59' | S 14°20.19' | **11** |
| **12** | 32°23.29' | 61°13.18' | N 19°13.22' | 71°33.92' | 22°02.55' | N 7°17.13' | 86°42.82' | 6°53.65' | N 1°35.92' | 125°59.95' | 327°36.52' | S 14°20.22' | **12** |
| **13** | 47°22.67' | 61°16.26' | N 19°13.87' | 86°34.71' | 22°04.22' | N 7°17.79' | 101°45.04' | 6°53.89' | N 1°36.01' | 141°02.49' | 327°36.44' | S 14°20.26' | **13** |
| **14** | 62°22.06' | 61°19.34' | N 19°14.52' | 101°35.50' | 22°05.90' | N 7°18.45' | 116°47.27' | 6°54.13' | N 1°36.10' | 156°05.03' | 327°36.37' | S 14°20.29' | **14** |
| **15** | 77°21.44' | 61°22.42' | N 19°15.16' | 116°36.29' | 22°07.57' | N 7°19.11' | 131°49.50' | 6°54.37' | N 1°36.19' | 171°07.58' | 327°36.29' | S 14°20.33' | **15** |
| **16** | 92°20.82' | 61°25.51' | N 19°15.81' | 131°37.08' | 22°09.25' | N 7°19.76' | 146°51.72' | 6°54.60' | N 1°36.28' | 186°10.12' | 327°36.21' | S 14°20.36' | **16** |
| **17** | 107°20.20' | 61°28.59' | N 19°16.45' | 146°37.87' | 22°10.92' | N 7°20.42' | 161°53.95' | 6°54.84' | N 1°36.37' | 201°12.66' | 327°36.13' | S 14°20.40' | **17** |
| **18** | 122°19.59' | 61°31.67' | N 19°17.10' | 161°38.66' | 22°12.60' | N 7°21.08' | 176°56.18' | 6°55.08' | N 1°36.46' | 216°15.20' | 327°36.06' | S 14°20.43' | **18** |
| **19** | 137°18.97' | 61°34.75' | N 19°17.74' | 176°39.44' | 22°14.28' | N 7°21.74' | 191°58.41' | 6°55.31' | N 1°36.55' | 231°17.74' | 327°35.98' | S 14°20.46' | **19** |
| **20** | 152°18.35' | 61°37.84' | N 19°18.38' | 191°40.23' | 22°15.95' | N 7°22.40' | 207°00.64' | 6°55.55' | N 1°36.64' | 246°20.28' | 327°35.90' | S 14°20.50' | **20** |
| **21** | 167°17.73' | 61°40.92' | N 19°19.02' | 206°41.02' | 22°17.63' | N 7°23.05' | 222°02.86' | 6°55.78' | N 1°36.72' | 261°22.82' | 327°35.83' | S 14°20.53' | **21** |
| **22** | 182°17.11' | 61°44.00' | N 19°19.66' | 221°41.81' | 22°19.30' | N 7°23.71' | 237°05.09' | 6°56.02' | N 1°36.81' | 276°25.37' | 327°35.75' | S 14°20.57' | **22** |
| **23** | 197°16.49' | 61°47.09' | N 19°20.30' | 236°42.60' | 22°20.98' | N 7°24.37' | 252°07.32' | 6°56.26' | N 1°36.90' | 291°27.91' | 327°35.67' | S 14°20.60' | **23** |
| **24** | 212°15.87' | 61°50.17' | N 19°20.94' | 251°43.39' | 22°22.65' | N 7°25.03' | 267°09.55' | 6°56.49' | N 1°36.99' | 306°30.45' | 327°35.59' | S 14°20.64' | **24** |
| | δ 14.9898° | | *d* 0.6576' | δ 15.0131° | | *d* 0.6609' | δ 15.0371° | | *d* 0.0913' | δ 15.0423° | | *d* 0.0336' | |

## *Sunday, June 26th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°18.15' | 14.9978° | 94°47.89' | N 23°21.88' | 0.0789' | 216°02.78' | 14.5301° | 58°03.26' | N 20°58.37' | 8.9495' | 54.4228' | 274°06.04' | **00** |
| **01** | 194°18.02' | 14.9978° | 94°50.49' | N 23°21.80' | 0.0797' | 230°34.54' | 14.5293° | 58°33.97' | N 21°07.22' | 8.8542' | 54.4099' | 289°08.51' | **01** |
| **02** | 209°17.88' | 14.9978° | 94°53.09' | N 23°21.72' | 0.0804' | 245°06.25' | 14.5285° | 59°04.72' | N 21°15.98' | 8.7581' | 54.3973' | 304°10.97' | **02** |
| **03** | 224°17.75' | 14.9978° | 94°55.68' | N 23°21.63' | 0.0811' | 259°37.91' | 14.5277° | 59°35.52' | N 21°24.64' | 8.6614' | 54.3848' | 319°13.43' | **03** |
| **04** | 239°17.62' | 14.9978° | 94°58.28' | N 23°21.55' | 0.0818' | 274°09.52' | 14.5269° | 60°06.38' | N 21°33.21' | 8.5639' | 54.3724' | 334°15.90' | **04** |
| **05** | 254°17.49' | 14.9978° | 95°00.88' | N 23°21.47' | 0.0825' | 288°41.08' | 14.5260° | 60°37.28' | N 21°41.67' | 8.4657' | 54.3603' | 349°18.36' | **05** |
| **06** | 269°17.35' | 14.9978° | 95°03.47' | N 23°21.39' | 0.0832' | 303°12.60' | 14.5252° | 61°08.23' | N 21°50.04' | 8.3668' | 54.3484' | 4°20.83' | **06** |
| **07** | 284°17.22' | 14.9978° | 95°06.07' | N 23°21.30' | 0.0839' | 317°44.06' | 14.5244° | 61°39.23' | N 21°58.31' | 8.2672' | 54.3366' | 19°23.29' | **07** |
| **08** | 299°17.09' | 14.9978° | 95°08.67' | N 23°21.22' | 0.0846' | 332°15.48' | 14.5236° | 62°10.28' | N 22°06.47' | 8.1669' | 54.3250' | 34°25.75' | **08** |
| **09** | 314°16.96' | 14.9978° | 95°11.26' | N 23°21.13' | 0.0854' | 346°46.84' | 14.5228° | 62°41.38' | N 22°14.54' | 8.0659' | 54.3136' | 49°28.22' | **09** |
| **10** | 329°16.82' | 14.9978° | 95°13.86' | N 23°21.05' | 0.0861' | 1°18.16' | 14.5220° | 63°12.52' | N 22°22.50' | 7.9642' | 54.3024' | 64°30.68' | **10** |
| **11** | 344°16.69' | 14.9978° | 95°16.45' | N 23°20.96' | 0.0868' | 15°49.43' | 14.5212° | 63°43.72' | N 22°30.37' | 7.8618' | 54.2913' | 79°33.15' | **11** |
| **12** | 359°16.56' | 14.9978° | 95°19.05' | N 23°20.87' | 0.0875' | 30°20.65' | 14.5204° | 64°14.96' | N 22°38.13' | 7.7587' | 54.2805' | 94°35.61' | **12** |
| **13** | 14°16.43' | 14.9978° | 95°21.65' | N 23°20.78' | 0.0882' | 44°51.83' | 14.5195° | 64°46.25' | N 22°45.78' | 7.6549' | 54.2698' | 109°38.08' | **13** |
| **14** | 29°16.30' | 14.9978° | 95°24.24' | N 23°20.70' | 0.0889' | 59°22.95' | 14.5187° | 65°17.59' | N 22°53.33' | 7.5504' | 54.2593' | 124°40.54' | **14** |
| **15** | 44°16.17' | 14.9978° | 95°26.84' | N 23°20.61' | 0.0896' | 73°54.03' | 14.5179° | 65°48.98' | N 23°00.78' | 7.4453' | 54.2489' | 139°43.00' | **15** |
| **16** | 59°16.03' | 14.9978° | 95°29.43' | N 23°20.52' | 0.0904' | 88°25.06' | 14.5172° | 66°20.41' | N 23°08.12' | 7.3395' | 54.2388' | 154°45.47' | **16** |
| **17** | 74°15.90' | 14.9978° | 95°32.03' | N 23°20.42' | 0.0911' | 102°56.04' | 14.5164° | 66°51.89' | N 23°15.35' | 7.2330' | 54.2288' | 169°47.93' | **17** |
| **18** | 89°15.77' | 14.9978° | 95°34.63' | N 23°20.33' | 0.0918' | 117°26.97' | 14.5156° | 67°23.42' | N 23°22.47' | 7.1258' | 54.2190' | 184°50.40' | **18** |
| **19** | 104°15.64' | 14.9978° | 95°37.22' | N 23°20.24' | 0.0925' | 131°57.86' | 14.5148° | 67°55.00' | N 23°29.49' | 7.0180' | 54.2093' | 199°52.86' | **19** |
| **20** | 119°15.51' | 14.9978° | 95°39.82' | N 23°20.15' | 0.0932' | 146°28.70' | 14.5140° | 68°26.62' | N 23°36.40' | 6.9096' | 54.1998' | 214°55.32' | **20** |
| **21** | 134°15.38' | 14.9978° | 95°42.41' | N 23°20.05' | 0.0939' | 160°59.50' | 14.5132° | 68°58.29' | N 23°43.20' | 6.8005' | 54.1905' | 229°57.79' | **21** |
| **22** | 149°15.24' | 14.9978° | 95°45.01' | N 23°19.96' | 0.0946' | 175°30.25' | 14.5125° | 69°30.01' | N 23°49.89' | 6.6908' | 54.1814' | 245°00.25' | **22** |
| **23** | 164°15.11' | 14.9978° | 95°47.60' | N 23°19.86' | 0.0953' | 190°00.95' | 14.5117° | 70°01.77' | N 23°56.47' | 6.5804' | 54.1725' | 260°02.72' | **23** |
| **24** | 179°14.98' | 14.9978° | 95°50.20' | N 23°19.77' | 0.0961' | 204°31.61' | 14.5110° | 70°33.57' | N 24°02.94' | 6.4694' | 54.1637' | 275°05.18' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.7336' | hp (π) 0.1442' | ½Ø 14.7905' | 6.11210540570826 8% -cre | |
| EoT at 12:00 UTC : -2m 53s (δ -0.53 s/h) | | Phase at 12:00 UTC : 331.47° | | |
| Meridian Pass. Time : 12:02:53.757 | | Age : 25.8 day(s) | | |

| UT | Venus ♀ (π 0.11') | | | Mars ♂ (π 0.11') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 212°15.87' | 61°50.17' | N 19°20.94' | 251°43.39' | 22°22.65' | N 7°25.03' | 267°09.55' | 6°56.49' | N 1°36.99' | 306°30.45' | 327°35.59' | S 14°20.64' | **00** |
| **01** | 227°15.25' | 61°53.26' | N 19°21.58' | 266°44.18' | 22°24.33' | N 7°25.68' | 282°11.78' | 6°56.73' | N 1°37.08' | 321°32.99' | 327°35.51' | S 14°20.67' | **01** |
| **02** | 242°14.62' | 61°56.35' | N 19°22.22' | 281°44.97' | 22°26.00' | N 7°26.34' | 297°14.01' | 6°56.96' | N 1°37.17' | 336°35.53' | 327°35.43' | S 14°20.71' | **02** |
| **03** | 257°14.00' | 61°59.43' | N 19°22.85' | 296°45.76' | 22°27.68' | N 7°27.00' | 312°16.24' | 6°57.19' | N 1°37.26' | 351°38.08' | 327°35.36' | S 14°20.74' | **03** |
| **04** | 272°13.38' | 62°02.52' | N 19°23.49' | 311°46.54' | 22°29.35' | N 7°27.65' | 327°18.47' | 6°57.43' | N 1°37.35' | 6°40.62' | 327°35.28' | S 14°20.78' | **04** |
| **05** | 287°12.75' | 62°05.61' | N 19°24.12' | 326°47.33' | 22°31.03' | N 7°28.31' | 342°20.70' | 6°57.66' | N 1°37.43' | 21°43.16' | 327°35.20' | S 14°20.81' | **05** |
| **06** | 302°12.13' | 62°08.70' | N 19°24.76' | 341°48.12' | 22°32.70' | N 7°28.97' | 357°22.93' | 6°57.90' | N 1°37.52' | 36°45.71' | 327°35.12' | S 14°20.85' | **06** |
| **07** | 317°11.51' | 62°11.78' | N 19°25.39' | 356°48.91' | 22°34.38' | N 7°29.62' | 12°25.16' | 6°58.13' | N 1°37.61' | 51°48.25' | 327°35.04' | S 14°20.88' | **07** |
| **08** | 332°10.88' | 62°14.87' | N 19°26.02' | 11°49.70' | 22°36.05' | N 7°30.28' | 27°27.39' | 6°58.36' | N 1°37.70' | 66°50.79' | 327°34.96' | S 14°20.92' | **08** |
| **09** | 347°10.26' | 62°17.96' | N 19°26.65' | 26°50.49' | 22°37.73' | N 7°30.93' | 42°29.62' | 6°58.59' | N 1°37.78' | 81°53.34' | 327°34.88' | S 14°20.95' | **09** |
| **10** | 2°09.63' | 62°21.05' | N 19°27.28' | 41°51.28' | 22°39.40' | N 7°31.59' | 57°31.86' | 6°58.83' | N 1°37.87' | 96°55.88' | 327°34.80' | S 14°20.99' | **10** |
| **11** | 17°09.00' | 62°24.14' | N 19°27.91' | 56°52.07' | 22°41.08' | N 7°32.24' | 72°34.09' | 6°59.06' | N 1°37.96' | 111°58.42' | 327°34.72' | S 14°21.02' | **11** |
| **12** | 32°08.38' | 62°27.23' | N 19°28.54' | 71°52.86' | 22°42.75' | N 7°32.90' | 87°36.32' | 6°59.29' | N 1°38.05' | 127°00.97' | 327°34.64' | S 14°21.06' | **12** |
| **13** | 47°07.75' | 62°30.33' | N 19°29.17' | 86°53.65' | 22°44.43' | N 7°33.55' | 102°38.55' | 6°59.52' | N 1°38.13' | 142°03.51' | 327°34.56' | S 14°21.09' | **13** |
| **14** | 62°07.12' | 62°33.42' | N 19°29.80' | 101°54.44' | 22°46.10' | N 7°34.21' | 117°40.78' | 6°59.75' | N 1°38.22' | 157°06.06' | 327°34.48' | S 14°21.13' | **14** |
| **15** | 77°06.49' | 62°36.51' | N 19°30.42' | 116°55.23' | 22°47.78' | N 7°34.86' | 132°43.02' | 6°59.99' | N 1°38.31' | 172°08.60' | 327°34.40' | S 14°21.16' | **15** |
| **16** | 92°05.87' | 62°39.60' | N 19°31.05' | 131°56.02' | 22°49.45' | N 7°35.52' | 147°45.25' | 7°00.22' | N 1°38.40' | 187°11.15' | 327°34.32' | S 14°21.20' | **16** |
| **17** | 107°05.24' | 62°42.70' | N 19°31.67' | 146°56.81' | 22°51.13' | N 7°36.17' | 162°47.48' | 7°00.45' | N 1°38.48' | 202°13.69' | 327°34.24' | S 14°21.24' | **17** |
| **18** | 122°04.61' | 62°45.79' | N 19°32.30' | 161°57.60' | 22°52.80' | N 7°36.83' | 177°49.72' | 7°00.68' | N 1°38.57' | 217°16.24' | 327°34.16' | S 14°21.27' | **18** |
| **19** | 137°03.98' | 62°48.88' | N 19°32.92' | 176°58.39' | 22°54.47' | N 7°37.48' | 192°51.95' | 7°00.91' | N 1°38.66' | 232°18.78' | 327°34.08' | S 14°21.31' | **19** |
| **20** | 152°03.35' | 62°51.98' | N 19°33.54' | 191°59.18' | 22°56.15' | N 7°38.13' | 207°54.19' | 7°01.14' | N 1°38.74' | 247°21.33' | 327°34.00' | S 14°21.34' | **20** |
| **21** | 167°02.72' | 62°55.07' | N 19°34.16' | 206°59.97' | 22°57.82' | N 7°38.79' | 222°56.42' | 7°01.37' | N 1°38.83' | 262°23.87' | 327°33.92' | S 14°21.38' | **21** |
| **22** | 182°02.08' | 62°58.17' | N 19°34.78' | 222°00.76' | 22°59.50' | N 7°39.44' | 237°58.66' | 7°01.60' | N 1°38.91' | 277°26.42' | 327°33.84' | S 14°21.41' | **22** |
| **23** | 197°01.45' | 63°01.27' | N 19°35.40' | 237°01.55' | 23°01.17' | N 7°40.09' | 253°00.89' | 7°01.83' | N 1°39.00' | 292°28.96' | 327°33.76' | S 14°21.45' | **23** |
| **24** | 212°00.82' | 63°04.36' | N 19°36.02' | 252°02.34' | 23°02.85' | N 7°40.75' | 268°03.13' | 7°02.06' | N 1°39.09' | 307°31.51' | 327°33.67' | S 14°21.49' | **24** |
| | δ 14.9896° | | *d* 0.6379' | δ 15.0131° | | *d* 0.6570' | δ 15.0372° | | *d* 0.0886' | δ 15.0424° | | *d* 0.0348' | |

## *Monday, June 27th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°14.98' | 14.9978° | 95°50.20' | N 23°19.77' | 0.0961' | 204°31.61' | 14.5110° | 70°33.57' | N 24°02.94' | 6.4694' | 54.1637' | 275°05.18' | **00** |
| **01** | 194°14.85' | 14.9978° | 95°52.80' | N 23°19.67' | 0.0968' | 219°02.22' | 14.5102° | 71°05.43' | N 24°09.30' | 6.3578' | 54.1551' | 290°07.65' | **01** |
| **02** | 209°14.72' | 14.9978° | 95°55.39' | N 23°19.57' | 0.0975' | 233°32.79' | 14.5095° | 71°37.32' | N 24°15.55' | 6.2456' | 54.1466' | 305°10.11' | **02** |
| **03** | 224°14.59' | 14.9978° | 95°57.99' | N 23°19.47' | 0.0982' | 248°03.31' | 14.5088° | 72°09.26' | N 24°21.68' | 6.1328' | 54.1384' | 320°12.57' | **03** |
| **04** | 239°14.46' | 14.9978° | 96°00.58' | N 23°19.38' | 0.0989' | 262°33.80' | 14.5080° | 72°41.24' | N 24°27.70' | 6.0194' | 54.1303' | 335°15.04' | **04** |
| **05** | 254°14.33' | 14.9978° | 96°03.18' | N 23°19.28' | 0.0996' | 277°04.24' | 14.5073° | 73°13.27' | N 24°33.60' | 5.9054' | 54.1223' | 350°17.50' | **05** |
| **06** | 269°14.20' | 14.9978° | 96°05.77' | N 23°19.18' | 0.1003' | 291°34.63' | 14.5066° | 73°45.33' | N 24°39.39' | 5.7908' | 54.1146' | 5°19.97' | **06** |
| **07** | 284°14.06' | 14.9978° | 96°08.37' | N 23°19.08' | 0.1010' | 306°04.99' | 14.5059° | 74°17.44' | N 24°45.07' | 5.6757' | 54.1070' | 20°22.43' | **07** |
| **08** | 299°13.93' | 14.9978° | 96°10.96' | N 23°18.97' | 0.1017' | 320°35.30' | 14.5052° | 74°49.60' | N 24°50.63' | 5.5600' | 54.0995' | 35°24.89' | **08** |
| **09** | 314°13.80' | 14.9978° | 96°13.56' | N 23°18.87' | 0.1025' | 335°05.57' | 14.5045° | 75°21.79' | N 24°56.07' | 5.4437' | 54.0923' | 50°27.36' | **09** |
| **10** | 329°13.67' | 14.9978° | 96°16.15' | N 23°18.77' | 0.1032' | 349°35.81' | 14.5039° | 75°54.02' | N 25°01.40' | 5.3269' | 54.0852' | 65°29.82' | **10** |
| **11** | 344°13.54' | 14.9978° | 96°18.75' | N 23°18.66' | 0.1039' | 4°06.00' | 14.5032° | 76°26.29' | N 25°06.61' | 5.2095' | 54.0782' | 80°32.29' | **11** |
| **12** | 359°13.41' | 14.9978° | 96°21.34' | N 23°18.56' | 0.1046' | 18°36.15' | 14.5026° | 76°58.60' | N 25°11.70' | 5.0917' | 54.0715' | 95°34.75' | **12** |
| **13** | 14°13.28' | 14.9978° | 96°23.93' | N 23°18.45' | 0.1053' | 33°06.27' | 14.5019° | 77°30.95' | N 25°16.68' | 4.9733' | 54.0649' | 110°37.22' | **13** |
| **14** | 29°13.15' | 14.9978° | 96°26.53' | N 23°18.35' | 0.1060' | 47°36.35' | 14.5013° | 78°03.33' | N 25°21.53' | 4.8544' | 54.0584' | 125°39.68' | **14** |
| **15** | 44°13.02' | 14.9978° | 96°29.12' | N 23°18.24' | 0.1067' | 62°06.39' | 14.5007° | 78°35.75' | N 25°26.26' | 4.7350' | 54.0521' | 140°42.14' | **15** |
| **16** | 59°12.89' | 14.9978° | 96°31.72' | N 23°18.13' | 0.1074' | 76°36.40' | 14.5001° | 79°08.21' | N 25°30.88' | 4.6151' | 54.0460' | 155°44.61' | **16** |
| **17** | 74°12.76' | 14.9978° | 96°34.31' | N 23°18.03' | 0.1082' | 91°06.37' | 14.4995° | 79°40.71' | N 25°35.37' | 4.4947' | 54.0401' | 170°47.07' | **17** |
| **18** | 89°12.63' | 14.9978° | 96°36.91' | N 23°17.92' | 0.1089' | 105°36.30' | 14.4989° | 80°13.23' | N 25°39.75' | 4.3739' | 54.0343' | 185°49.54' | **18** |
| **19** | 104°12.50' | 14.9978° | 96°39.50' | N 23°17.81' | 0.1096' | 120°06.21' | 14.4984° | 80°45.80' | N 25°44.00' | 4.2526' | 54.0287' | 200°52.00' | **19** |
| **20** | 119°12.37' | 14.9978° | 96°42.09' | N 23°17.70' | 0.1103' | 134°36.08' | 14.4978° | 81°18.39' | N 25°48.13' | 4.1309' | 54.0232' | 215°54.47' | **20** |
| **21** | 134°12.24' | 14.9978° | 96°44.69' | N 23°17.59' | 0.1110' | 149°05.91' | 14.4973° | 81°51.02' | N 25°52.14' | 4.0087' | 54.0179' | 230°56.93' | **21** |
| **22** | 149°12.11' | 14.9978° | 96°47.28' | N 23°17.47' | 0.1117' | 163°35.72' | 14.4968° | 82°23.68' | N 25°56.03' | 3.8861' | 54.0127' | 245°59.39' | **22** |
| **23** | 164°11.98' | 14.9978° | 96°49.88' | N 23°17.36' | 0.1124' | 178°05.49' | 14.4963° | 82°56.36' | N 25°59.79' | 3.7631' | 54.0078' | 261°01.86' | **23** |
| **24** | 179°11.85' | 14.9978° | 96°52.47' | N 23°17.25' | 0.1131' | 192°35.24' | 14.4958° | 83°29.08' | N 26°03.43' | 3.6397' | 54.0029' | 276°04.32' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 15.7330' | hp (π) 0.1442' | ½Ø 14.7335' | 2.39360015114544<br>2% -cre | |
| | EoT at 12:00 UTC : -3m 6s (δ -0.52 s/h) | | Phase at 12:00 UTC : 342.39° | | |
| | Meridian Pass. Time : 12:03:06.353 | | Age : 26.6 day(s) | | |

| UT | Venus ♀ (π 0.11') | | | Mars ♂ (π 0.11') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 212°00.82' | 63°04.36' | N 19°36.02' | 252°02.34' | 23°02.85' | N 7°40.75' | 268°03.13' | 7°02.06' | N 1°39.09' | 307°31.51' | 327°33.67' | S 14°21.49' | **00** |
| **01** | 227°00.19' | 63°07.46' | N 19°36.64' | 267°03.13' | 23°04.52' | N 7°41.40' | 283°05.36' | 7°02.28' | N 1°39.17' | 322°34.05' | 327°33.59' | S 14°21.52' | **01** |
| **02** | 241°59.55' | 63°10.56' | N 19°37.25' | 282°03.92' | 23°06.19' | N 7°42.05' | 298°07.60' | 7°02.51' | N 1°39.26' | 337°36.60' | 327°33.51' | S 14°21.56' | **02** |
| **03** | 256°58.92' | 63°13.65' | N 19°37.87' | 297°04.71' | 23°07.87' | N 7°42.71' | 313°09.83' | 7°02.74' | N 1°39.34' | 352°39.15' | 327°33.43' | S 14°21.59' | **03** |
| **04** | 271°58.29' | 63°16.75' | N 19°38.49' | 312°05.50' | 23°09.54' | N 7°43.36' | 328°12.07' | 7°02.97' | N 1°39.43' | 7°41.69' | 327°33.35' | S 14°21.63' | **04** |
| **05** | 286°57.65' | 63°19.85' | N 19°39.10' | 327°06.29' | 23°11.22' | N 7°44.01' | 343°14.31' | 7°03.20' | N 1°39.51' | 22°44.24' | 327°33.26' | S 14°21.67' | **05** |
| **06** | 301°57.02' | 63°22.95' | N 19°39.71' | 342°07.08' | 23°12.89' | N 7°44.66' | 358°16.54' | 7°03.42' | N 1°39.60' | 37°46.79' | 327°33.18' | S 14°21.70' | **06** |
| **07** | 316°56.38' | 63°26.05' | N 19°40.33' | 357°07.87' | 23°14.56' | N 7°45.31' | 13°18.78' | 7°03.65' | N 1°39.69' | 52°49.33' | 327°33.10' | S 14°21.74' | **07** |
| **08** | 331°55.74' | 63°29.15' | N 19°40.94' | 12°08.66' | 23°16.24' | N 7°45.97' | 28°21.02' | 7°03.88' | N 1°39.77' | 67°51.88' | 327°33.02' | S 14°21.78' | **08** |
| **09** | 346°55.11' | 63°32.25' | N 19°41.55' | 27°09.45' | 23°17.91' | N 7°46.62' | 43°23.25' | 7°04.10' | N 1°39.86' | 82°54.43' | 327°32.93' | S 14°21.81' | **09** |
| **10** | 1°54.47' | 63°35.35' | N 19°42.16' | 42°10.24' | 23°19.58' | N 7°47.27' | 58°25.49' | 7°04.33' | N 1°39.94' | 97°56.97' | 327°32.85' | S 14°21.85' | **10** |
| **11** | 16°53.83' | 63°38.45' | N 19°42.77' | 57°11.03' | 23°21.26' | N 7°47.92' | 73°27.73' | 7°04.56' | N 1°40.02' | 112°59.52' | 327°32.77' | S 14°21.88' | **11** |
| **12** | 31°53.19' | 63°41.56' | N 19°43.38' | 72°11.82' | 23°22.93' | N 7°48.57' | 88°29.97' | 7°04.78' | N 1°40.11' | 128°02.07' | 327°32.68' | S 14°21.92' | **12** |
| **13** | 46°52.56' | 63°44.66' | N 19°43.98' | 87°12.61' | 23°24.60' | N 7°49.22' | 103°32.21' | 7°05.01' | N 1°40.19' | 143°04.62' | 327°32.60' | S 14°21.96' | **13** |
| **14** | 61°51.92' | 63°47.76' | N 19°44.59' | 102°13.40' | 23°26.28' | N 7°49.87' | 118°34.45' | 7°05.23' | N 1°40.28' | 158°07.16' | 327°32.52' | S 14°21.99' | **14** |
| **15** | 76°51.28' | 63°50.87' | N 19°45.20' | 117°14.19' | 23°27.95' | N 7°50.52' | 133°36.69' | 7°05.46' | N 1°40.36' | 173°09.71' | 327°32.43' | S 14°22.03' | **15** |
| **16** | 91°50.64' | 63°53.97' | N 19°45.80' | 132°14.98' | 23°29.62' | N 7°51.17' | 148°38.93' | 7°05.68' | N 1°40.45' | 188°12.26' | 327°32.35' | S 14°22.07' | **16** |
| **17** | 106°50.00' | 63°57.07' | N 19°46.40' | 147°15.77' | 23°31.30' | N 7°51.82' | 163°41.17' | 7°05.91' | N 1°40.53' | 203°14.81' | 327°32.26' | S 14°22.10' | **17** |
| **18** | 121°49.36' | 64°00.18' | N 19°47.01' | 162°16.57' | 23°32.97' | N 7°52.47' | 178°43.41' | 7°06.13' | N 1°40.61' | 218°17.36' | 327°32.18' | S 14°22.14' | **18** |
| **19** | 136°48.72' | 64°03.29' | N 19°47.61' | 177°17.36' | 23°34.64' | N 7°53.12' | 193°45.65' | 7°06.36' | N 1°40.70' | 233°19.91' | 327°32.09' | S 14°22.18' | **19** |
| **20** | 151°48.07' | 64°06.39' | N 19°48.21' | 192°18.15' | 23°36.32' | N 7°53.77' | 208°47.89' | 7°06.58' | N 1°40.78' | 248°22.46' | 327°32.01' | S 14°22.22' | **20** |
| **21** | 166°47.43' | 64°09.50' | N 19°48.81' | 207°18.94' | 23°37.99' | N 7°54.42' | 223°50.13' | 7°06.80' | N 1°40.87' | 263°25.00' | 327°31.93' | S 14°22.25' | **21** |
| **22** | 181°46.79' | 64°12.60' | N 19°49.41' | 222°19.73' | 23°39.66' | N 7°55.07' | 238°52.37' | 7°07.03' | N 1°40.95' | 278°27.55' | 327°31.84' | S 14°22.29' | **22** |
| **23** | 196°46.15' | 64°15.71' | N 19°50.01' | 237°20.52' | 23°41.34' | N 7°55.72' | 253°54.61' | 7°07.25' | N 1°41.03' | 293°30.10' | 327°31.76' | S 14°22.33' | **23** |
| **24** | 211°45.50' | 64°18.82' | N 19°50.61' | 252°21.31' | 23°43.01' | N 7°56.37' | 268°56.85' | 7°07.47' | N 1°41.12' | 308°32.65' | 327°31.67' | S 14°22.36' | **24** |
| | δ 14.9895° | | *d* 0.6177' | δ 15.0132° | | *d* 0.6530' | δ 15.0373° | | *d* 0.0859' | δ 15.0424° | | *d* 0.0360' | |

## *Tuesday, June 28th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°11.85' | 14.9978° | 96°52.47' | N 23°17.25' | 0.1131' | 192°35.24' | 14.4958° | 83°29.08' | N 26°03.43' | 3.6397' | 54.0029' | 276°04.32' | **00** |
| **01** | 194°11.72' | 14.9978° | 96°55.06' | N 23°17.13' | 0.1138' | 207°04.96' | 14.4953° | 84°01.83' | N 26°06.95' | 3.5159' | 53.9983' | 291°06.79' | **01** |
| **02** | 209°11.59' | 14.9978° | 96°57.66' | N 23°17.02' | 0.1145' | 221°34.65' | 14.4948° | 84°34.60' | N 26°10.34' | 3.3917' | 53.9938' | 306°09.25' | **02** |
| **03** | 224°11.46' | 14.9978° | 97°00.25' | N 23°16.90' | 0.1153' | 236°04.31' | 14.4944° | 85°07.41' | N 26°13.60' | 3.2672' | 53.9894' | 321°11.71' | **03** |
| **04** | 239°11.34' | 14.9978° | 97°02.84' | N 23°16.79' | 0.1160' | 250°33.94' | 14.4939° | 85°40.23' | N 26°16.75' | 3.1423' | 53.9853' | 336°14.18' | **04** |
| **05** | 254°11.21' | 14.9978° | 97°05.44' | N 23°16.67' | 0.1167' | 265°03.56' | 14.4935° | 86°13.09' | N 26°19.76' | 3.0171' | 53.9812' | 351°16.64' | **05** |
| **06** | 269°11.08' | 14.9978° | 97°08.03' | N 23°16.55' | 0.1174' | 279°33.14' | 14.4931° | 86°45.96' | N 26°22.66' | 2.8915' | 53.9774' | 6°19.11' | **06** |
| **07** | 284°10.95' | 14.9979° | 97°10.62' | N 23°16.44' | 0.1181' | 294°02.71' | 14.4927° | 87°18.86' | N 26°25.42' | 2.7656' | 53.9737' | 21°21.57' | **07** |
| **08** | 299°10.82' | 14.9979° | 97°13.22' | N 23°16.32' | 0.1188' | 308°32.25' | 14.4924° | 87°51.79' | N 26°28.06' | 2.6395' | 53.9701' | 36°24.04' | **08** |
| **09** | 314°10.69' | 14.9979° | 97°15.81' | N 23°16.20' | 0.1195' | 323°01.77' | 14.4920° | 88°24.73' | N 26°30.57' | 2.5130' | 53.9667' | 51°26.50' | **09** |
| **10** | 329°10.56' | 14.9979° | 97°18.40' | N 23°16.08' | 0.1202' | 337°31.27' | 14.4917° | 88°57.69' | N 26°32.96' | 2.3863' | 53.9635' | 66°28.96' | **10** |
| **11** | 344°10.43' | 14.9979° | 97°20.99' | N 23°15.96' | 0.1209' | 352°00.75' | 14.4914° | 89°30.68' | N 26°35.22' | 2.2593' | 53.9604' | 81°31.43' | **11** |
| **12** | 359°10.31' | 14.9979° | 97°23.59' | N 23°15.84' | 0.1216' | 6°30.21' | 14.4910° | 90°03.68' | N 26°37.35' | 2.1320' | 53.9575' | 96°33.89' | **12** |
| **13** | 14°10.18' | 14.9979° | 97°26.18' | N 23°15.71' | 0.1224' | 20°59.66' | 14.4908° | 90°36.70' | N 26°39.36' | 2.0046' | 53.9547' | 111°36.36' | **13** |
| **14** | 29°10.05' | 14.9979° | 97°28.77' | N 23°15.59' | 0.1231' | 35°29.09' | 14.4905° | 91°09.73' | N 26°41.23' | 1.8769' | 53.9521' | 126°38.82' | **14** |
| **15** | 44°09.92' | 14.9979° | 97°31.36' | N 23°15.47' | 0.1238' | 49°58.50' | 14.4902° | 91°42.78' | N 26°42.98' | 1.7490' | 53.9497' | 141°41.29' | **15** |
| **16** | 59°09.79' | 14.9979° | 97°33.96' | N 23°15.34' | 0.1245' | 64°27.90' | 14.4900° | 92°15.85' | N 26°44.60' | 1.6209' | 53.9474' | 156°43.75' | **16** |
| **17** | 74°09.66' | 14.9979° | 97°36.55' | N 23°15.22' | 0.1252' | 78°57.29' | 14.4898° | 92°48.92' | N 26°46.09' | 1.4926' | 53.9452' | 171°46.21' | **17** |
| **18** | 89°09.54' | 14.9979° | 97°39.14' | N 23°15.09' | 0.1259' | 93°26.67' | 14.4896° | 93°22.01' | N 26°47.46' | 1.3642' | 53.9433' | 186°48.68' | **18** |
| **19** | 104°09.41' | 14.9979° | 97°41.73' | N 23°14.96' | 0.1266' | 107°56.03' | 14.4894° | 93°55.11' | N 26°48.69' | 1.2356' | 53.9414' | 201°51.14' | **19** |
| **20** | 119°09.28' | 14.9979° | 97°44.33' | N 23°14.84' | 0.1273' | 122°25.39' | 14.4893° | 94°28.22' | N 26°49.80' | 1.1069' | 53.9398' | 216°53.61' | **20** |
| **21** | 134°09.15' | 14.9979° | 97°46.92' | N 23°14.71' | 0.1280' | 136°54.74' | 14.4891° | 95°01.33' | N 26°50.78' | 0.9780' | 53.9383' | 231°56.07' | **21** |
| **22** | 149°09.02' | 14.9979° | 97°49.51' | N 23°14.58' | 0.1287' | 151°24.08' | 14.4890° | 95°34.46' | N 26°51.63' | 0.8491' | 53.9369' | 246°58.53' | **22** |
| **23** | 164°08.90' | 14.9979° | 97°52.10' | N 23°14.45' | 0.1294' | 165°53.41' | 14.4889° | 96°07.59' | N 26°52.35' | 0.7200' | 53.9357' | 262°01.00' | **23** |
| **24** | 179°08.77' | 14.9979° | 97°54.69' | N 23°14.32' | 0.1301' | 180°22.74' | 14.4888° | 96°40.73' | N 26°52.94' | 0.5909' | 53.9347' | 277°03.46' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7324' | hp (π) 0.1442' | ½Ø 14.7025' | 0.42388542954324 704% -cre |
| | EoT at 12:00 UTC : -3m 18s (δ -0.51 s/h) | | Phase at 12:00 UTC : 353.27° | |
| | Meridian Pass. Time : 12:03:18.779 | | Age : 27.5 day(s) | |

| UT | Venus ♀ (π 0.11') | | | Mars ♂ (π 0.11') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 211°45.50' | 64°18.82' | N 19°50.61' | 252°21.31' | 23°43.01' | N 7°56.37' | 268°56.85' | 7°07.47' | N 1°41.12' | 308°32.65' | 327°31.67' | S 14°22.36' | **00** |
| **01** | 226°44.86' | 64°21.93' | N 19°51.21' | 267°22.10' | 23°44.68' | N 7°57.02' | 283°59.09' | 7°07.69' | N 1°41.20' | 323°35.20' | 327°31.58' | S 14°22.40' | **01** |
| **02** | 241°44.21' | 64°25.04' | N 19°51.80' | 282°22.90' | 23°46.36' | N 7°57.67' | 299°01.33' | 7°07.92' | N 1°41.28' | 338°37.75' | 327°31.50' | S 14°22.44' | **02** |
| **03** | 256°43.57' | 64°28.14' | N 19°52.40' | 297°23.69' | 23°48.03' | N 7°58.32' | 314°03.58' | 7°08.14' | N 1°41.36' | 353°40.30' | 327°31.41' | S 14°22.48' | **03** |
| **04** | 271°42.92' | 64°31.25' | N 19°52.99' | 312°24.48' | 23°49.70' | N 7°58.97' | 329°05.82' | 7°08.36' | N 1°41.45' | 8°42.85' | 327°31.33' | S 14°22.51' | **04** |
| **05** | 286°42.28' | 64°34.36' | N 19°53.59' | 327°25.27' | 23°51.37' | N 7°59.61' | 344°08.06' | 7°08.58' | N 1°41.53' | 23°45.40' | 327°31.24' | S 14°22.55' | **05** |
| **06** | 301°41.63' | 64°37.47' | N 19°54.18' | 342°26.06' | 23°53.05' | N 8°00.26' | 359°10.31' | 7°08.80' | N 1°41.61' | 38°47.95' | 327°31.16' | S 14°22.59' | **06** |
| **07** | 316°40.99' | 64°40.59' | N 19°54.77' | 357°26.85' | 23°54.72' | N 8°00.91' | 14°12.55' | 7°09.02' | N 1°41.69' | 53°50.50' | 327°31.07' | S 14°22.62' | **07** |
| **08** | 331°40.34' | 64°43.70' | N 19°55.36' | 12°27.64' | 23°56.39' | N 8°01.56' | 29°14.79' | 7°09.24' | N 1°41.78' | 68°53.05' | 327°30.98' | S 14°22.66' | **08** |
| **09** | 346°39.69' | 64°46.81' | N 19°55.95' | 27°28.44' | 23°58.06' | N 8°02.21' | 44°17.04' | 7°09.46' | N 1°41.86' | 83°55.60' | 327°30.90' | S 14°22.70' | **09** |
| **10** | 1°39.04' | 64°49.92' | N 19°56.54' | 42°29.23' | 23°59.74' | N 8°02.85' | 59°19.28' | 7°09.68' | N 1°41.94' | 98°58.15' | 327°30.81' | S 14°22.74' | **10** |
| **11** | 16°38.39' | 64°53.03' | N 19°57.13' | 57°30.02' | 24°01.41' | N 8°03.50' | 74°21.52' | 7°09.90' | N 1°42.02' | 114°00.70' | 327°30.72' | S 14°22.77' | **11** |
| **12** | 31°37.75' | 64°56.15' | N 19°57.72' | 72°30.81' | 24°03.08' | N 8°04.15' | 89°23.77' | 7°10.12' | N 1°42.11' | 129°03.26' | 327°30.64' | S 14°22.81' | **12** |
| **13** | 46°37.10' | 64°59.26' | N 19°58.30' | 87°31.60' | 24°04.75' | N 8°04.79' | 104°26.01' | 7°10.34' | N 1°42.19' | 144°05.81' | 327°30.55' | S 14°22.85' | **13** |
| **14** | 61°36.45' | 65°02.37' | N 19°58.89' | 102°32.40' | 24°06.43' | N 8°05.44' | 119°28.26' | 7°10.56' | N 1°42.27' | 159°08.36' | 327°30.46' | S 14°22.89' | **14** |
| **15** | 76°35.80' | 65°05.49' | N 19°59.47' | 117°33.19' | 24°08.10' | N 8°06.09' | 134°30.50' | 7°10.78' | N 1°42.35' | 174°10.91' | 327°30.38' | S 14°22.93' | **15** |
| **16** | 91°35.14' | 65°08.60' | N 20°00.06' | 132°33.98' | 24°09.77' | N 8°06.73' | 149°32.75' | 7°11.00' | N 1°42.43' | 189°13.46' | 327°30.29' | S 14°22.96' | **16** |
| **17** | 106°34.49' | 65°11.72' | N 20°00.64' | 147°34.77' | 24°11.44' | N 8°07.38' | 164°35.00' | 7°11.22' | N 1°42.51' | 204°16.01' | 327°30.20' | S 14°23.00' | **17** |
| **18** | 121°33.84' | 65°14.84' | N 20°01.22' | 162°35.56' | 24°13.11' | N 8°08.02' | 179°37.24' | 7°11.43' | N 1°42.59' | 219°18.57' | 327°30.11' | S 14°23.04' | **18** |
| **19** | 136°33.19' | 65°17.95' | N 20°01.81' | 177°36.36' | 24°14.79' | N 8°08.67' | 194°39.49' | 7°11.65' | N 1°42.67' | 234°21.12' | 327°30.02' | S 14°23.08' | **19** |
| **20** | 151°32.54' | 65°21.07' | N 20°02.39' | 192°37.15' | 24°16.46' | N 8°09.32' | 209°41.74' | 7°11.87' | N 1°42.76' | 249°23.67' | 327°29.94' | S 14°23.12' | **20** |
| **21** | 166°31.88' | 65°24.19' | N 20°02.97' | 207°37.94' | 24°18.13' | N 8°09.96' | 224°43.98' | 7°12.09' | N 1°42.84' | 264°26.22' | 327°29.85' | S 14°23.15' | **21** |
| **22** | 181°31.23' | 65°27.30' | N 20°03.54' | 222°38.73' | 24°19.80' | N 8°10.61' | 239°46.23' | 7°12.30' | N 1°42.92' | 279°28.77' | 327°29.76' | S 14°23.19' | **22** |
| **23** | 196°30.58' | 65°30.42' | N 20°04.12' | 237°39.53' | 24°21.47' | N 8°11.25' | 254°48.48' | 7°12.52' | N 1°43.00' | 294°31.33' | 327°29.67' | S 14°23.23' | **23** |
| **24** | 211°29.92' | 65°33.54' | N 20°04.70' | 252°40.32' | 24°23.14' | N 8°11.90' | 269°50.73' | 7°12.74' | N 1°43.08' | 309°33.88' | 327°29.58' | S 14°23.27' | **24** |
| | δ 14.9893° | | *d* 0.5971' | δ 15.0132° | | *d* 0.6489' | δ 15.0374° | | *d* 0.0831' | δ 15.0425° | | *d* 0.0372' | |

## *Wednesday, June 29th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°08.77' | 14.9979° | 97°54.69' | N 23°14.32' | 0.1301' | 180°22.74' | 14.4888° | 96°40.73' | N 26°52.94' | 0.5909' | 53.9347' | 277°03.46' | **00** |
| **01** | 194°08.64' | 14.9979° | 97°57.28' | N 23°14.19' | 0.1309' | 194°52.06' | 14.4887° | 97°13.87' | N 26°53.40' | 0.4617' | 53.9338' | 292°05.93' | **01** |
| **02** | 209°08.52' | 14.9979° | 97°59.88' | N 23°14.06' | 0.1316' | 209°21.38' | 14.4887° | 97°47.01' | N 26°53.73' | 0.3325' | 53.9331' | 307°08.39' | **02** |
| **03** | 224°08.39' | 14.9979° | 98°02.47' | N 23°13.93' | 0.1323' | 223°50.70' | 14.4886° | 98°20.16' | N 26°53.94' | 0.2033' | 53.9325' | 322°10.86' | **03** |
| **04** | 239°08.26' | 14.9979° | 98°05.06' | N 23°13.79' | 0.1330' | 238°20.02' | 14.4886° | 98°53.30' | N 26°54.01' | 0.0740' | 53.9321' | 337°13.32' | **04** |
| **05** | 254°08.13' | 14.9979° | 98°07.65' | N 23°13.66' | 0.1337' | 252°49.34' | 14.4886° | 99°26.45' | N 26°53.96' | 0.0553' | 53.9318' | 352°15.78' | **05** |
| **06** | 269°08.01' | 14.9979° | 98°10.24' | N 23°13.52' | 0.1344' | 267°18.66' | 14.4887° | 99°59.59' | N 26°53.77' | 0.1846' | 53.9317' | 7°18.25' | **06** |
| **07** | 284°07.88' | 14.9979° | 98°12.83' | N 23°13.39' | 0.1351' | 281°47.98' | 14.4887° | 100°32.73' | N 26°53.46' | 0.3138' | 53.9318' | 22°20.71' | **07** |
| **08** | 299°07.75' | 14.9979° | 98°15.42' | N 23°13.25' | 0.1358' | 296°17.31' | 14.4888° | 101°05.87' | N 26°53.01' | 0.4430' | 53.9320' | 37°23.18' | **08** |
| **09** | 314°07.63' | 14.9979° | 98°18.01' | N 23°13.12' | 0.1365' | 310°46.64' | 14.4889° | 101°39.00' | N 26°52.44' | 0.5722' | 53.9324' | 52°25.64' | **09** |
| **10** | 329°07.50' | 14.9979° | 98°20.60' | N 23°12.98' | 0.1372' | 325°15.97' | 14.4889° | 102°12.13' | N 26°51.74' | 0.7013' | 53.9329' | 67°28.10' | **10** |
| **11** | 344°07.37' | 14.9979° | 98°23.19' | N 23°12.84' | 0.1379' | 339°45.32' | 14.4891° | 102°45.25' | N 26°50.91' | 0.8303' | 53.9336' | 82°30.57' | **11** |
| **12** | 359°07.25' | 14.9979° | 98°25.79' | N 23°12.70' | 0.1386' | 354°14.67' | 14.4892° | 103°18.36' | N 26°49.95' | 0.9592' | 53.9344' | 97°33.03' | **12** |
| **13** | 14°07.12' | 14.9979° | 98°28.38' | N 23°12.56' | 0.1393' | 8°44.03' | 14.4894° | 103°51.47' | N 26°48.86' | 1.0880' | 53.9354' | 112°35.50' | **13** |
| **14** | 29°07.00' | 14.9979° | 98°30.97' | N 23°12.42' | 0.1400' | 23°13.40' | 14.4895° | 104°24.56' | N 26°47.65' | 1.2166' | 53.9365' | 127°37.96' | **14** |
| **15** | 44°06.87' | 14.9979° | 98°33.56' | N 23°12.28' | 0.1408' | 37°42.79' | 14.4897° | 104°57.64' | N 26°46.30' | 1.3451' | 53.9378' | 142°40.43' | **15** |
| **16** | 59°06.74' | 14.9979° | 98°36.15' | N 23°12.14' | 0.1415' | 52°12.18' | 14.4899° | 105°30.71' | N 26°44.83' | 1.4735' | 53.9393' | 157°42.89' | **16** |
| **17** | 74°06.62' | 14.9979° | 98°38.74' | N 23°12.00' | 0.1422' | 66°41.59' | 14.4902° | 106°03.76' | N 26°43.23' | 1.6017' | 53.9409' | 172°45.35' | **17** |
| **18** | 89°06.49' | 14.9979° | 98°41.33' | N 23°11.86' | 0.1429' | 81°11.02' | 14.4904° | 106°36.80' | N 26°41.50' | 1.7297' | 53.9427' | 187°47.82' | **18** |
| **19** | 104°06.37' | 14.9979° | 98°43.92' | N 23°11.71' | 0.1436' | 95°40.45' | 14.4907° | 107°09.83' | N 26°39.64' | 1.8575' | 53.9447' | 202°50.28' | **19** |
| **20** | 119°06.24' | 14.9979° | 98°46.51' | N 23°11.57' | 0.1443' | 110°09.91' | 14.4909° | 107°42.84' | N 26°37.65' | 1.9851' | 53.9468' | 217°52.75' | **20** |
| **21** | 134°06.12' | 14.9979° | 98°49.10' | N 23°11.42' | 0.1450' | 124°39.39' | 14.4912° | 108°15.83' | N 26°35.54' | 2.1125' | 53.9490' | 232°55.21' | **21** |
| **22** | 149°05.99' | 14.9979° | 98°51.69' | N 23°11.28' | 0.1457' | 139°08.88' | 14.4915° | 108°48.80' | N 26°33.30' | 2.2396' | 53.9514' | 247°57.68' | **22** |
| **23** | 164°05.86' | 14.9979° | 98°54.27' | N 23°11.13' | 0.1464' | 153°38.39' | 14.4919° | 109°21.75' | N 26°30.94' | 2.3665' | 53.9540' | 263°00.14' | **23** |
| **24** | 179°05.74' | 14.9979° | 98°56.86' | N 23°10.99' | 0.1471' | 168°07.92' | 14.4922° | 109°54.68' | N 26°28.44' | 2.4931' | 53.9567' | 278°02.60' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | ½Ø 15.7319' | hp (π) 0.1442' | ½Ø 14.6962' | 0.24955061147661 772% +cre | [redacted] | |
| | EoT at 12:00 UTC : -3m 31s (δ -0.51 s/h) | | Phase at 12:00 UTC : 4.14° | | | |
| | Meridian Pass. Time : 12:03:31.009 | | Age : 0.3 day(s) | | | |

| UT | Venus ♀ (π 0.11') | | | Mars ♂ (π 0.11') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 211°29.92' | 65°33.54' | N 20°04.70' | 252°40.32' | 24°23.14' | N 8°11.90' | 269°50.73' | 7°12.74' | N 1°43.08' | 309°33.88' | 327°29.58' | S 14°23.27' | **00** |
| **01** | 226°29.27' | 65°36.66' | N 20°05.28' | 267°41.11' | 24°24.82' | N 8°12.54' | 284°52.97' | 7°12.95' | N 1°43.16' | 324°36.43' | 327°29.49' | S 14°23.31' | **01** |
| **02** | 241°28.61' | 65°39.78' | N 20°05.85' | 282°41.90' | 24°26.49' | N 8°13.18' | 299°55.22' | 7°13.17' | N 1°43.24' | 339°38.99' | 327°29.40' | S 14°23.35' | **02** |
| **03** | 256°27.96' | 65°42.90' | N 20°06.43' | 297°42.70' | 24°28.16' | N 8°13.83' | 314°57.47' | 7°13.38' | N 1°43.32' | 354°41.54' | 327°29.32' | S 14°23.38' | **03** |
| **04** | 271°27.30' | 65°46.02' | N 20°07.00' | 312°43.49' | 24°29.83' | N 8°14.47' | 329°59.72' | 7°13.60' | N 1°43.40' | 9°44.09' | 327°29.23' | S 14°23.42' | **04** |
| **05** | 286°26.64' | 65°49.14' | N 20°07.57' | 327°44.28' | 24°31.50' | N 8°15.12' | 345°01.97' | 7°13.81' | N 1°43.48' | 24°46.65' | 327°29.14' | S 14°23.46' | **05** |
| **06** | 301°25.99' | 65°52.26' | N 20°08.14' | 342°45.07' | 24°33.17' | N 8°15.76' | 0°04.22' | 7°14.03' | N 1°43.56' | 39°49.20' | 327°29.05' | S 14°23.50' | **06** |
| **07** | 316°25.33' | 65°55.38' | N 20°08.71' | 357°45.87' | 24°34.85' | N 8°16.40' | 15°06.47' | 7°14.24' | N 1°43.64' | 54°51.75' | 327°28.96' | S 14°23.54' | **07** |
| **08** | 331°24.67' | 65°58.51' | N 20°09.28' | 12°46.66' | 24°36.52' | N 8°17.05' | 30°08.72' | 7°14.46' | N 1°43.72' | 69°54.31' | 327°28.87' | S 14°23.58' | **08** |
| **09** | 346°24.01' | 66°01.63' | N 20°09.85' | 27°47.45' | 24°38.19' | N 8°17.69' | 45°10.97' | 7°14.67' | N 1°43.80' | 84°56.86' | 327°28.78' | S 14°23.62' | **09** |
| **10** | 1°23.35' | 66°04.75' | N 20°10.42' | 42°48.25' | 24°39.86' | N 8°18.33' | 60°13.22' | 7°14.89' | N 1°43.88' | 99°59.42' | 327°28.69' | S 14°23.65' | **10** |
| **11** | 16°22.69' | 66°07.88' | N 20°10.99' | 57°49.04' | 24°41.53' | N 8°18.98' | 75°15.47' | 7°15.10' | N 1°43.95' | 115°01.97' | 327°28.60' | S 14°23.69' | **11** |
| **12** | 31°22.03' | 66°11.00' | N 20°11.55' | 72°49.83' | 24°43.20' | N 8°19.62' | 90°17.72' | 7°15.31' | N 1°44.03' | 130°04.53' | 327°28.51' | S 14°23.73' | **12** |
| **13** | 46°21.37' | 66°14.12' | N 20°12.12' | 87°50.63' | 24°44.87' | N 8°20.26' | 105°19.97' | 7°15.53' | N 1°44.11' | 145°07.08' | 327°28.42' | S 14°23.77' | **13** |
| **14** | 61°20.71' | 66°17.25' | N 20°12.68' | 102°51.42' | 24°46.54' | N 8°20.90' | 120°22.22' | 7°15.74' | N 1°44.19' | 160°09.64' | 327°28.33' | S 14°23.81' | **14** |
| **15** | 76°20.05' | 66°20.37' | N 20°13.25' | 117°52.21' | 24°48.21' | N 8°21.55' | 135°24.48' | 7°15.95' | N 1°44.27' | 175°12.19' | 327°28.23' | S 14°23.85' | **15** |
| **16** | 91°19.39' | 66°23.50' | N 20°13.81' | 132°53.01' | 24°49.88' | N 8°22.19' | 150°26.73' | 7°16.16' | N 1°44.35' | 190°14.75' | 327°28.14' | S 14°23.89' | **16** |
| **17** | 106°18.73' | 66°26.63' | N 20°14.37' | 147°53.80' | 24°51.56' | N 8°22.83' | 165°28.98' | 7°16.37' | N 1°44.43' | 205°17.30' | 327°28.05' | S 14°23.93' | **17** |
| **18** | 121°18.06' | 66°29.75' | N 20°14.93' | 162°54.59' | 24°53.23' | N 8°23.47' | 180°31.23' | 7°16.59' | N 1°44.50' | 220°19.86' | 327°27.96' | S 14°23.97' | **18** |
| **19** | 136°17.40' | 66°32.88' | N 20°15.49' | 177°55.39' | 24°54.90' | N 8°24.11' | 195°33.49' | 7°16.80' | N 1°44.58' | 235°22.41' | 327°27.87' | S 14°24.00' | **19** |
| **20** | 151°16.74' | 66°36.01' | N 20°16.05' | 192°56.18' | 24°56.57' | N 8°24.75' | 210°35.74' | 7°17.01' | N 1°44.66' | 250°24.97' | 327°27.78' | S 14°24.04' | **20** |
| **21** | 166°16.07' | 66°39.14' | N 20°16.61' | 207°56.97' | 24°58.24' | N 8°25.40' | 225°37.99' | 7°17.22' | N 1°44.74' | 265°27.52' | 327°27.69' | S 14°24.08' | **21** |
| **22** | 181°15.41' | 66°42.27' | N 20°17.17' | 222°57.77' | 24°59.91' | N 8°26.04' | 240°40.25' | 7°17.43' | N 1°44.82' | 280°30.08' | 327°27.59' | S 14°24.12' | **22** |
| **23** | 196°14.75' | 66°45.39' | N 20°17.73' | 237°58.56' | 25°01.58' | N 8°26.68' | 255°42.50' | 7°17.64' | N 1°44.89' | 295°32.64' | 327°27.50' | S 14°24.16' | **23** |
| **24** | 211°14.08' | 66°48.52' | N 20°18.28' | 252°59.35' | 25°03.25' | N 8°27.32' | 270°44.75' | 7°17.85' | N 1°44.97' | 310°35.19' | 327°27.41' | S 14°24.20' | **24** |
| | δ 14.9891° | | *d* 0.5761' | δ 15.0132° | | *d* 0.6446' | δ 15.0375° | | *d* 0.0803' | δ 15.0426° | | *d* 0.0383' | |

## *Thursday, June 30th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°05.74' | 14.9979° | 98°56.86' | N 23°10.99' | 0.1471' | 168°07.92' | 14.4922° | 109°54.68' | N 26°28.44' | 2.4931' | 53.9567' | 278°02.60' | **00** |
| **01** | 194°05.61' | 14.9979° | 98°59.45' | N 23°10.84' | 0.1478' | 182°37.48' | 14.4926° | 110°27.59' | N 26°25.82' | 2.6194' | 53.9596' | 293°05.07' | **01** |
| **02** | 209°05.49' | 14.9979° | 99°02.04' | N 23°10.69' | 0.1485' | 197°07.06' | 14.4930° | 111°00.47' | N 26°23.08' | 2.7454' | 53.9627' | 308°07.53' | **02** |
| **03** | 224°05.36' | 14.9979° | 99°04.63' | N 23°10.54' | 0.1492' | 211°36.66' | 14.4934° | 111°33.33' | N 26°20.21' | 2.8711' | 53.9659' | 323°10.00' | **03** |
| **04** | 239°05.24' | 14.9979° | 99°07.22' | N 23°10.39' | 0.1499' | 226°06.29' | 14.4938° | 112°06.17' | N 26°17.21' | 2.9965' | 53.9693' | 338°12.46' | **04** |
| **05** | 254°05.12' | 14.9979° | 99°09.81' | N 23°10.24' | 0.1506' | 240°35.94' | 14.4942° | 112°38.98' | N 26°14.09' | 3.1216' | 53.9728' | 353°14.92' | **05** |
| **06** | 269°04.99' | 14.9979° | 99°12.40' | N 23°10.09' | 0.1513' | 255°05.62' | 14.4947° | 113°11.77' | N 26°10.84' | 3.2463' | 53.9765' | 8°17.39' | **06** |
| **07** | 284°04.87' | 14.9979° | 99°14.99' | N 23°09.94' | 0.1520' | 269°35.33' | 14.4951° | 113°44.53' | N 26°07.47' | 3.3707' | 53.9804' | 23°19.85' | **07** |
| **08** | 299°04.74' | 14.9979° | 99°17.58' | N 23°09.78' | 0.1528' | 284°05.06' | 14.4956° | 114°17.25' | N 26°03.98' | 3.4947' | 53.9844' | 38°22.32' | **08** |
| **09** | 314°04.62' | 14.9979° | 99°20.16' | N 23°09.63' | 0.1535' | 298°34.83' | 14.4961° | 114°49.95' | N 26°00.36' | 3.6183' | 53.9886' | 53°24.78' | **09** |
| **10** | 329°04.49' | 14.9979° | 99°22.75' | N 23°09.48' | 0.1542' | 313°04.62' | 14.4966° | 115°22.62' | N 25°56.62' | 3.7415' | 53.9930' | 68°27.25' | **10** |
| **11** | 344°04.37' | 14.9979° | 99°25.34' | N 23°09.32' | 0.1549' | 327°34.45' | 14.4971° | 115°55.26' | N 25°52.75' | 3.8643' | 53.9975' | 83°29.71' | **11** |
| **12** | 359°04.25' | 14.9979° | 99°27.93' | N 23°09.16' | 0.1556' | 342°04.31' | 14.4976° | 116°27.86' | N 25°48.77' | 3.9867' | 54.0022' | 98°32.17' | **12** |
| **13** | 14°04.12' | 14.9979° | 99°30.52' | N 23°09.01' | 0.1563' | 356°34.20' | 14.4982° | 117°00.44' | N 25°44.66' | 4.1087' | 54.0070' | 113°34.64' | **13** |
| **14** | 29°04.00' | 14.9979° | 99°33.10' | N 23°08.85' | 0.1570' | 11°04.13' | 14.4987° | 117°32.98' | N 25°40.43' | 4.2302' | 54.0120' | 128°37.10' | **14** |
| **15** | 44°03.87' | 14.9979° | 99°35.69' | N 23°08.69' | 0.1577' | 25°34.08' | 14.4993° | 118°05.48' | N 25°36.08' | 4.3513' | 54.0172' | 143°39.57' | **15** |
| **16** | 59°03.75' | 14.9979° | 99°38.28' | N 23°08.54' | 0.1584' | 40°04.08' | 14.4999° | 118°37.95' | N 25°31.60' | 4.4719' | 54.0225' | 158°42.03' | **16** |
| **17** | 74°03.63' | 14.9979° | 99°40.87' | N 23°08.38' | 0.1591' | 54°34.11' | 14.5005° | 119°10.39' | N 25°27.01' | 4.5920' | 54.0280' | 173°44.49' | **17** |
| **18** | 89°03.50' | 14.9979° | 99°43.45' | N 23°08.22' | 0.1598' | 69°04.18' | 14.5011° | 119°42.78' | N 25°22.30' | 4.7116' | 54.0337' | 188°46.96' | **18** |
| **19** | 104°03.38' | 14.9979° | 99°46.04' | N 23°08.06' | 0.1605' | 83°34.28' | 14.5017° | 120°15.14' | N 25°17.47' | 4.8308' | 54.0395' | 203°49.42' | **19** |
| **20** | 119°03.26' | 14.9979° | 99°48.63' | N 23°07.89' | 0.1612' | 98°04.42' | 14.5024° | 120°47.46' | N 25°12.52' | 4.9494' | 54.0455' | 218°51.89' | **20** |
| **21** | 134°03.14' | 14.9980° | 99°51.22' | N 23°07.73' | 0.1619' | 112°34.61' | 14.5030° | 121°19.75' | N 25°07.45' | 5.0676' | 54.0517' | 233°54.35' | **21** |
| **22** | 149°03.01' | 14.9980° | 99°53.80' | N 23°07.57' | 0.1626' | 127°04.83' | 14.5037° | 121°51.99' | N 25°02.27' | 5.1852' | 54.0581' | 248°56.82' | **22** |
| **23** | 164°02.89' | 14.9980° | 99°56.39' | N 23°07.41' | 0.1633' | 141°35.09' | 14.5043° | 122°24.19' | N 24°56.97' | 5.3023' | 54.0646' | 263°59.28' | **23** |
| **24** | 179°02.77' | 14.9980° | 99°58.98' | N 23°07.24' | 0.1640' | 156°05.39' | 14.5050° | 122°56.36' | N 24°51.55' | 5.4188' | 54.0713' | 279°01.74' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7315' | hp (π) 0.1442' | ½Ø 14.7147' | 1.87181455804705<br>24% +cre |
| | EoT at 12:00 UTC : -3m 43s (δ -0.50 s/h) | | Phase at 12:00 UTC : 15.03° | |
| | Meridian Pass. Time : 12:03:43.016 | | Age : 1.2 day(s) | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.11') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 211°14.08' | 66°48.52' | N 20°18.28' | 252°59.35' | 25°03.25' | N 8°27.32' | 270°44.75' | 7°17.85' | N 1°44.97' | 310°35.19' | 327°27.41' | S 14°24.20' | **00** |
| **01** | 226°13.41' | 66°51.65' | N 20°18.84' | 268°00.15' | 25°04.92' | N 8°27.96' | 285°47.01' | 7°18.06' | N 1°45.05' | 325°37.75' | 327°27.32' | S 14°24.24' | **01** |
| **02** | 241°12.75' | 66°54.78' | N 20°19.39' | 283°00.94' | 25°06.59' | N 8°28.60' | 300°49.26' | 7°18.27' | N 1°45.13' | 340°40.31' | 327°27.23' | S 14°24.28' | **02** |
| **03** | 256°12.08' | 66°57.91' | N 20°19.94' | 298°01.74' | 25°08.26' | N 8°29.24' | 315°51.52' | 7°18.48' | N 1°45.20' | 355°42.86' | 327°27.13' | S 14°24.32' | **03** |
| **04** | 271°11.41' | 67°01.05' | N 20°20.49' | 313°02.53' | 25°09.93' | N 8°29.88' | 330°53.77' | 7°18.69' | N 1°45.28' | 10°45.42' | 327°27.04' | S 14°24.36' | **04** |
| **05** | 286°10.75' | 67°04.18' | N 20°21.05' | 328°03.32' | 25°11.60' | N 8°30.52' | 345°56.03' | 7°18.90' | N 1°45.36' | 25°47.98' | 327°26.95' | S 14°24.40' | **05** |
| **06** | 301°10.08' | 67°07.31' | N 20°21.60' | 343°04.12' | 25°13.27' | N 8°31.16' | 0°58.29' | 7°19.10' | N 1°45.43' | 40°50.53' | 327°26.85' | S 14°24.44' | **06** |
| **07** | 316°09.41' | 67°10.44' | N 20°22.14' | 358°04.91' | 25°14.94' | N 8°31.80' | 16°00.54' | 7°19.31' | N 1°45.51' | 55°53.09' | 327°26.76' | S 14°24.48' | **07** |
| **08** | 331°08.74' | 67°13.57' | N 20°22.69' | 13°05.71' | 25°16.61' | N 8°32.43' | 31°02.80' | 7°19.52' | N 1°45.59' | 70°55.65' | 327°26.67' | S 14°24.52' | **08** |
| **09** | 346°08.07' | 67°16.71' | N 20°23.24' | 28°06.50' | 25°18.28' | N 8°33.07' | 46°05.05' | 7°19.73' | N 1°45.66' | 85°58.21' | 327°26.57' | S 14°24.56' | **09** |
| **10** | 1°07.40' | 67°19.84' | N 20°23.79' | 43°07.29' | 25°19.95' | N 8°33.71' | 61°07.31' | 7°19.93' | N 1°45.74' | 101°00.76' | 327°26.48' | S 14°24.60' | **10** |
| **11** | 16°06.73' | 67°22.98' | N 20°24.33' | 58°08.09' | 25°21.62' | N 8°34.35' | 76°09.57' | 7°20.14' | N 1°45.82' | 116°03.32' | 327°26.39' | S 14°24.64' | **11** |
| **12** | 31°06.06' | 67°26.11' | N 20°24.88' | 73°08.88' | 25°23.29' | N 8°34.99' | 91°11.83' | 7°20.35' | N 1°45.89' | 131°05.88' | 327°26.29' | S 14°24.68' | **12** |
| **13** | 46°05.39' | 67°29.25' | N 20°25.42' | 88°09.68' | 25°24.96' | N 8°35.63' | 106°14.08' | 7°20.55' | N 1°45.97' | 146°08.44' | 327°26.20' | S 14°24.72' | **13** |
| **14** | 61°04.72' | 67°32.38' | N 20°25.96' | 103°10.47' | 25°26.63' | N 8°36.27' | 121°16.34' | 7°20.76' | N 1°46.05' | 161°11.00' | 327°26.10' | S 14°24.76' | **14** |
| **15** | 76°04.05' | 67°35.52' | N 20°26.51' | 118°11.27' | 25°28.30' | N 8°36.90' | 136°18.60' | 7°20.97' | N 1°46.12' | 176°13.56' | 327°26.01' | S 14°24.80' | **15** |
| **16** | 91°03.38' | 67°38.65' | N 20°27.05' | 133°12.06' | 25°29.97' | N 8°37.54' | 151°20.86' | 7°21.17' | N 1°46.20' | 191°16.11' | 327°25.92' | S 14°24.84' | **16** |
| **17** | 106°02.70' | 67°41.79' | N 20°27.59' | 148°12.86' | 25°31.64' | N 8°38.18' | 166°23.12' | 7°21.38' | N 1°46.27' | 206°18.67' | 327°25.82' | S 14°24.88' | **17** |
| **18** | 121°02.03' | 67°44.93' | N 20°28.13' | 163°13.65' | 25°33.31' | N 8°38.81' | 181°25.38' | 7°21.58' | N 1°46.35' | 221°21.23' | 327°25.73' | S 14°24.92' | **18** |
| **19** | 136°01.36' | 67°48.07' | N 20°28.67' | 178°14.45' | 25°34.98' | N 8°39.45' | 196°27.64' | 7°21.79' | N 1°46.42' | 236°23.79' | 327°25.63' | S 14°24.96' | **19** |
| **20** | 151°00.68' | 67°51.20' | N 20°29.20' | 193°15.24' | 25°36.65' | N 8°40.09' | 211°29.90' | 7°21.99' | N 1°46.50' | 251°26.35' | 327°25.54' | S 14°25.00' | **20** |
| **21** | 166°00.01' | 67°54.34' | N 20°29.74' | 208°16.04' | 25°38.32' | N 8°40.73' | 226°32.15' | 7°22.20' | N 1°46.57' | 266°28.91' | 327°25.44' | S 14°25.04' | **21** |
| **22** | 180°59.33' | 67°57.48' | N 20°30.28' | 223°16.83' | 25°39.99' | N 8°41.36' | 241°34.42' | 7°22.40' | N 1°46.65' | 281°31.47' | 327°25.35' | S 14°25.08' | **22** |
| **23** | 195°58.66' | 68°00.62' | N 20°30.81' | 238°17.63' | 25°41.65' | N 8°42.00' | 256°36.68' | 7°22.60' | N 1°46.72' | 296°34.03' | 327°25.25' | S 14°25.12' | **23** |
| **24** | 210°57.98' | 68°03.76' | N 20°31.34' | 253°18.42' | 25°43.32' | N 8°42.63' | 271°38.94' | 7°22.81' | N 1°46.80' | 311°36.59' | 327°25.16' | S 14°25.16' | **24** |
| | δ 14.9889° | | *d* 0.5547' | δ 15.0132° | | *d* 0.6403' | δ 15.0376° | | *d* 0.0774' | δ 15.0426° | | *d* 0.0395' | |

## *Friday, July 1st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°02.77' | 14.9980° | 99°58.98' | N 23°07.24' | 0.1640' | 156°05.39' | 14.5050° | 122°56.36' | N 24°51.55' | 5.4188' | 54.0713' | 279°01.74' | **00** |
| **01** | 194°02.65' | 14.9980° | 100°01.56' | N 23°07.08' | 0.1647' | 170°35.73' | 14.5057° | 123°28.48' | N 24°46.01' | 5.5348' | 54.0781' | 294°04.21' | **01** |
| **02** | 209°02.52' | 14.9980° | 100°04.15' | N 23°06.91' | 0.1654' | 185°06.12' | 14.5064° | 124°00.56' | N 24°40.36' | 5.6502' | 54.0851' | 309°06.67' | **02** |
| **03** | 224°02.40' | 14.9980° | 100°06.74' | N 23°06.75' | 0.1661' | 199°36.54' | 14.5071° | 124°32.59' | N 24°34.60' | 5.7651' | 54.0923' | 324°09.14' | **03** |
| **04** | 239°02.28' | 14.9980° | 100°09.32' | N 23°06.58' | 0.1668' | 214°07.01' | 14.5078° | 125°04.59' | N 24°28.72' | 5.8794' | 54.0997' | 339°11.60' | **04** |
| **05** | 254°02.16' | 14.9980° | 100°11.91' | N 23°06.41' | 0.1675' | 228°37.53' | 14.5086° | 125°36.54' | N 24°22.72' | 5.9931' | 54.1073' | 354°14.06' | **05** |
| **06** | 269°02.03' | 14.9980° | 100°14.49' | N 23°06.24' | 0.1682' | 243°08.08' | 14.5093° | 126°08.44' | N 24°16.62' | 6.1062' | 54.1150' | 9°16.53' | **06** |
| **07** | 284°01.91' | 14.9980° | 100°17.08' | N 23°06.08' | 0.1689' | 257°38.69' | 14.5100° | 126°40.31' | N 24°10.40' | 6.2187' | 54.1229' | 24°18.99' | **07** |
| **08** | 299°01.79' | 14.9980° | 100°19.67' | N 23°05.91' | 0.1696' | 272°09.33' | 14.5108° | 127°12.12' | N 24°04.07' | 6.3306' | 54.1309' | 39°21.46' | **08** |
| **09** | 314°01.67' | 14.9980° | 100°22.25' | N 23°05.74' | 0.1703' | 286°40.02' | 14.5115° | 127°43.90' | N 23°57.63' | 6.4419' | 54.1392' | 54°23.92' | **09** |
| **10** | 329°01.55' | 14.9980° | 100°24.84' | N 23°05.56' | 0.1710' | 301°10.76' | 14.5123° | 128°15.62' | N 23°51.07' | 6.5526' | 54.1476' | 69°26.39' | **10** |
| **11** | 344°01.43' | 14.9980° | 100°27.42' | N 23°05.39' | 0.1717' | 315°41.55' | 14.5131° | 128°47.30' | N 23°44.41' | 6.6626' | 54.1562' | 84°28.85' | **11** |
| **12** | 359°01.31' | 14.9980° | 100°30.01' | N 23°05.22' | 0.1724' | 330°12.38' | 14.5138° | 129°18.94' | N 23°37.64' | 6.7720' | 54.1650' | 99°31.31' | **12** |
| **13** | 14°01.18' | 14.9980° | 100°32.59' | N 23°05.05' | 0.1731' | 344°43.25' | 14.5146° | 129°50.52' | N 23°30.76' | 6.8808' | 54.1739' | 114°33.78' | **13** |
| **14** | 29°01.06' | 14.9980° | 100°35.18' | N 23°04.87' | 0.1738' | 359°14.18' | 14.5154° | 130°22.06' | N 23°23.77' | 6.9889' | 54.1830' | 129°36.24' | **14** |
| **15** | 44°00.94' | 14.9980° | 100°37.76' | N 23°04.70' | 0.1745' | 13°45.15' | 14.5162° | 130°53.56' | N 23°16.67' | 7.0964' | 54.1923' | 144°38.71' | **15** |
| **16** | 59°00.82' | 14.9980° | 100°40.35' | N 23°04.52' | 0.1752' | 28°16.17' | 14.5170° | 131°25.00' | N 23°09.47' | 7.2032' | 54.2018' | 159°41.17' | **16** |
| **17** | 74°00.70' | 14.9980° | 100°42.93' | N 23°04.35' | 0.1759' | 42°47.24' | 14.5178° | 131°56.40' | N 23°02.16' | 7.3094' | 54.2115' | 174°43.63' | **17** |
| **18** | 89°00.58' | 14.9980° | 100°45.52' | N 23°04.17' | 0.1766' | 57°18.35' | 14.5186° | 132°27.75' | N 22°54.75' | 7.4149' | 54.2213' | 189°46.10' | **18** |
| **19** | 104°00.46' | 14.9980° | 100°48.10' | N 23°03.99' | 0.1773' | 71°49.52' | 14.5194° | 132°59.05' | N 22°47.23' | 7.5197' | 54.2314' | 204°48.56' | **19** |
| **20** | 119°00.34' | 14.9980° | 100°50.69' | N 23°03.82' | 0.1780' | 86°20.73' | 14.5202° | 133°30.30' | N 22°39.60' | 7.6238' | 54.2416' | 219°51.03' | **20** |
| **21** | 134°00.22' | 14.9980° | 100°53.27' | N 23°03.64' | 0.1787' | 100°51.99' | 14.5210° | 134°01.50' | N 22°31.87' | 7.7273' | 54.2520' | 234°53.49' | **21** |
| **22** | 149°00.10' | 14.9980° | 100°55.85' | N 23°03.46' | 0.1794' | 115°23.30' | 14.5218° | 134°32.65' | N 22°24.04' | 7.8301' | 54.2625' | 249°55.96' | **22** |
| **23** | 163°59.98' | 14.9980° | 100°58.44' | N 23°03.28' | 0.1801' | 129°54.66' | 14.5227° | 135°03.76' | N 22°16.11' | 7.9321' | 54.2733' | 264°58.42' | **23** |
| **24** | 178°59.86' | 14.9980° | 101°01.02' | N 23°03.10' | 0.1808' | 144°26.07' | 14.5235° | 135°34.81' | N 22°08.08' | 8.0335' | 54.2843' | 280°00.88' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7312' | hp (π) 0.1442' | ½Ø 14.7590' | 5.24655325400095 8% +cre |
| | EoT at 12:00 UTC : -3m 54s (δ -0.48 s/h) | | Phase at 12:00 UTC : 25.98° | |
| | Meridian Pass. Time : 12:03:54.776 | | Age : 2.0 day(s) | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.11') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 210°57.98' | 68°03.76' | N 20°31.34' | 253°18.42' | 25°43.32' | N 8°42.63' | 271°38.94' | 7°22.81' | N 1°46.80' | 311°36.59' | 327°25.16' | S 14°25.16' | **00** |
| **01** | 225°57.31' | 68°06.90' | N 20°31.88' | 268°19.22' | 25°44.99' | N 8°43.27' | 286°41.20' | 7°23.01' | N 1°46.87' | 326°39.15' | 327°25.06' | S 14°25.20' | **01** |
| **02** | 240°56.63' | 68°10.04' | N 20°32.41' | 283°20.01' | 25°46.66' | N 8°43.91' | 301°43.46' | 7°23.21' | N 1°46.95' | 341°41.71' | 327°24.96' | S 14°25.24' | **02** |
| **03** | 255°55.95' | 68°13.18' | N 20°32.94' | 298°20.81' | 25°48.33' | N 8°44.54' | 316°45.72' | 7°23.42' | N 1°47.02' | 356°44.27' | 327°24.87' | S 14°25.28' | **03** |
| **04** | 270°55.28' | 68°16.32' | N 20°33.47' | 313°21.60' | 25°50.00' | N 8°45.18' | 331°47.98' | 7°23.62' | N 1°47.09' | 11°46.83' | 327°24.77' | S 14°25.32' | **04** |
| **05** | 285°54.60' | 68°19.47' | N 20°34.00' | 328°22.40' | 25°51.67' | N 8°45.81' | 346°50.24' | 7°23.82' | N 1°47.17' | 26°49.39' | 327°24.67' | S 14°25.36' | **05** |
| **06** | 300°53.92' | 68°22.61' | N 20°34.53' | 343°23.19' | 25°53.34' | N 8°46.45' | 1°52.51' | 7°24.02' | N 1°47.24' | 41°51.95' | 327°24.58' | S 14°25.41' | **06** |
| **07** | 315°53.24' | 68°25.75' | N 20°35.05' | 358°23.99' | 25°55.01' | N 8°47.08' | 16°54.77' | 7°24.22' | N 1°47.32' | 56°54.51' | 327°24.48' | S 14°25.45' | **07** |
| **08** | 330°52.56' | 68°28.90' | N 20°35.58' | 13°24.78' | 25°56.67' | N 8°47.72' | 31°57.03' | 7°24.43' | N 1°47.39' | 71°57.07' | 327°24.39' | S 14°25.49' | **08** |
| **09** | 345°51.88' | 68°32.04' | N 20°36.11' | 28°25.58' | 25°58.34' | N 8°48.35' | 46°59.29' | 7°24.63' | N 1°47.46' | 86°59.63' | 327°24.29' | S 14°25.53' | **09** |
| **10** | 0°51.20' | 68°35.18' | N 20°36.63' | 43°26.37' | 26°00.01' | N 8°48.98' | 62°01.56' | 7°24.83' | N 1°47.54' | 102°02.19' | 327°24.19' | S 14°25.57' | **10** |
| **11** | 15°50.52' | 68°38.33' | N 20°37.15' | 58°27.17' | 26°01.68' | N 8°49.62' | 77°03.82' | 7°25.03' | N 1°47.61' | 117°04.76' | 327°24.09' | S 14°25.61' | **11** |
| **12** | 30°49.84' | 68°41.47' | N 20°37.68' | 73°27.97' | 26°03.35' | N 8°50.25' | 92°06.09' | 7°25.23' | N 1°47.68' | 132°07.32' | 327°24.00' | S 14°25.65' | **12** |
| **13** | 45°49.16' | 68°44.62' | N 20°38.20' | 88°28.76' | 26°05.02' | N 8°50.89' | 107°08.35' | 7°25.43' | N 1°47.76' | 147°09.88' | 327°23.90' | S 14°25.69' | **13** |
| **14** | 60°48.48' | 68°47.76' | N 20°38.72' | 103°29.56' | 26°06.69' | N 8°51.52' | 122°10.61' | 7°25.63' | N 1°47.83' | 162°12.44' | 327°23.80' | S 14°25.73' | **14** |
| **15** | 75°47.80' | 68°50.91' | N 20°39.24' | 118°30.35' | 26°08.35' | N 8°52.15' | 137°12.88' | 7°25.83' | N 1°47.90' | 177°15.00' | 327°23.70' | S 14°25.77' | **15** |
| **16** | 90°47.11' | 68°54.06' | N 20°39.76' | 133°31.15' | 26°10.02' | N 8°52.79' | 152°15.14' | 7°26.03' | N 1°47.98' | 192°17.56' | 327°23.61' | S 14°25.82' | **16** |
| **17** | 105°46.43' | 68°57.21' | N 20°40.28' | 148°31.94' | 26°11.69' | N 8°53.42' | 167°17.41' | 7°26.23' | N 1°48.05' | 207°20.13' | 327°23.51' | S 14°25.86' | **17** |
| **18** | 120°45.75' | 69°00.35' | N 20°40.79' | 163°32.74' | 26°13.36' | N 8°54.05' | 182°19.67' | 7°26.42' | N 1°48.12' | 222°22.69' | 327°23.41' | S 14°25.90' | **18** |
| **19** | 135°45.06' | 69°03.50' | N 20°41.31' | 178°33.54' | 26°15.03' | N 8°54.68' | 197°21.94' | 7°26.62' | N 1°48.19' | 237°25.25' | 327°23.31' | S 14°25.94' | **19** |
| **20** | 150°44.38' | 69°06.65' | N 20°41.83' | 193°34.33' | 26°16.69' | N 8°55.32' | 212°24.21' | 7°26.82' | N 1°48.27' | 252°27.81' | 327°23.21' | S 14°25.98' | **20** |
| **21** | 165°43.69' | 69°09.80' | N 20°42.34' | 208°35.13' | 26°18.36' | N 8°55.95' | 227°26.47' | 7°27.02' | N 1°48.34' | 267°30.38' | 327°23.11' | S 14°26.02' | **21** |
| **22** | 180°43.01' | 69°12.95' | N 20°42.85' | 223°35.93' | 26°20.03' | N 8°56.58' | 242°28.74' | 7°27.22' | N 1°48.41' | 282°32.94' | 327°23.02' | S 14°26.06' | **22** |
| **23** | 195°42.32' | 69°16.10' | N 20°43.37' | 238°36.72' | 26°21.70' | N 8°57.21' | 257°31.01' | 7°27.41' | N 1°48.48' | 297°35.50' | 327°22.92' | S 14°26.11' | **23** |
| **24** | 210°41.64' | 69°19.25' | N 20°43.88' | 253°37.52' | 26°23.37' | N 8°57.84' | 272°33.27' | 7°27.61' | N 1°48.55' | 312°38.07' | 327°22.82' | S 14°26.15' | **24** |
| | δ 14.9887° | | *d* 0.5329' | δ 15.0133° | | *d* 0.6359' | δ 15.0377° | | *d* 0.0746' | δ 15.0427° | | *d* 0.0406' | |

## *Saturday, July 2nd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°59.86' | 14.9980° | 101°01.02' | N 23°03.10' | 0.1808' | 144°26.07' | 14.5235° | 135°34.81' | N 22°08.08' | 8.0335' | 54.2843' | 280°00.88' | **00** |
| **01** | 193°59.74' | 14.9980° | 101°03.61' | N 23°02.91' | 0.1815' | 158°57.53' | 14.5243° | 136°05.82' | N 21°59.94' | 8.1342' | 54.2954' | 295°03.35' | **01** |
| **02** | 208°59.62' | 14.9980° | 101°06.19' | N 23°02.73' | 0.1822' | 173°29.04' | 14.5251° | 136°36.78' | N 21°51.71' | 8.2342' | 54.3067' | 310°05.81' | **02** |
| **03** | 223°59.50' | 14.9980° | 101°08.77' | N 23°02.55' | 0.1829' | 188°00.59' | 14.5259° | 137°07.69' | N 21°43.38' | 8.3335' | 54.3182' | 325°08.28' | **03** |
| **04** | 238°59.38' | 14.9980° | 101°11.36' | N 23°02.37' | 0.1836' | 202°32.20' | 14.5268° | 137°38.54' | N 21°34.94' | 8.4320' | 54.3299' | 340°10.74' | **04** |
| **05** | 253°59.26' | 14.9980° | 101°13.94' | N 23°02.18' | 0.1843' | 217°03.85' | 14.5276° | 138°09.35' | N 21°26.41' | 8.5299' | 54.3418' | 355°13.20' | **05** |
| **06** | 268°59.15' | 14.9980° | 101°16.52' | N 23°02.00' | 0.1850' | 231°35.56' | 14.5284° | 138°40.11' | N 21°17.79' | 8.6270' | 54.3539' | 10°15.67' | **06** |
| **07** | 283°59.03' | 14.9980° | 101°19.11' | N 23°01.81' | 0.1857' | 246°07.31' | 14.5292° | 139°10.82' | N 21°09.06' | 8.7235' | 54.3661' | 25°18.13' | **07** |
| **08** | 298°58.91' | 14.9980° | 101°21.69' | N 23°01.62' | 0.1864' | 260°39.11' | 14.5300° | 139°41.48' | N 21°00.25' | 8.8192' | 54.3786' | 40°20.60' | **08** |
| **09** | 313°58.79' | 14.9980° | 101°24.27' | N 23°01.44' | 0.1871' | 275°10.97' | 14.5309° | 140°12.10' | N 20°51.33' | 8.9142' | 54.3912' | 55°23.06' | **09** |
| **10** | 328°58.67' | 14.9980° | 101°26.85' | N 23°01.25' | 0.1878' | 289°42.87' | 14.5317° | 140°42.66' | N 20°42.32' | 9.0084' | 54.4041' | 70°25.53' | **10** |
| **11** | 343°58.55' | 14.9980° | 101°29.44' | N 23°01.06' | 0.1885' | 304°14.82' | 14.5325° | 141°13.17' | N 20°33.22' | 9.1019' | 54.4171' | 85°27.99' | **11** |
| **12** | 358°58.43' | 14.9980° | 101°32.02' | N 23°00.87' | 0.1892' | 318°46.82' | 14.5333° | 141°43.64' | N 20°24.03' | 9.1947' | 54.4303' | 100°30.45' | **12** |
| **13** | 13°58.32' | 14.9980° | 101°34.60' | N 23°00.68' | 0.1899' | 333°18.86' | 14.5341° | 142°14.06' | N 20°14.74' | 9.2868' | 54.4437' | 115°32.92' | **13** |
| **14** | 28°58.20' | 14.9980° | 101°37.18' | N 23°00.49' | 0.1906' | 347°50.96' | 14.5349° | 142°44.42' | N 20°05.36' | 9.3782' | 54.4573' | 130°35.38' | **14** |
| **15** | 43°58.08' | 14.9980° | 101°39.77' | N 23°00.30' | 0.1913' | 2°23.10' | 14.5357° | 143°14.74' | N 19°55.89' | 9.4688' | 54.4711' | 145°37.85' | **15** |
| **16** | 58°57.96' | 14.9980° | 101°42.35' | N 23°00.11' | 0.1920' | 16°55.29' | 14.5365° | 143°45.02' | N 19°46.33' | 9.5586' | 54.4851' | 160°40.31' | **16** |
| **17** | 73°57.85' | 14.9980° | 101°44.93' | N 22°59.92' | 0.1927' | 31°27.53' | 14.5373° | 144°15.24' | N 19°36.69' | 9.6478' | 54.4993' | 175°42.77' | **17** |
| **18** | 88°57.73' | 14.9980° | 101°47.51' | N 22°59.72' | 0.1934' | 45°59.82' | 14.5381° | 144°45.42' | N 19°26.95' | 9.7362' | 54.5137' | 190°45.24' | **18** |
| **19** | 103°57.61' | 14.9980° | 101°50.09' | N 22°59.53' | 0.1941' | 60°32.15' | 14.5389° | 145°15.55' | N 19°17.13' | 9.8238' | 54.5283' | 205°47.70' | **19** |
| **20** | 118°57.49' | 14.9980° | 101°52.67' | N 22°59.33' | 0.1948' | 75°04.54' | 14.5397° | 145°45.63' | N 19°07.22' | 9.9107' | 54.5431' | 220°50.17' | **20** |
| **21** | 133°57.38' | 14.9980° | 101°55.25' | N 22°59.14' | 0.1955' | 89°36.96' | 14.5405° | 146°15.67' | N 18°57.22' | 9.9969' | 54.5581' | 235°52.63' | **21** |
| **22** | 148°57.26' | 14.9981° | 101°57.84' | N 22°58.94' | 0.1962' | 104°09.44' | 14.5412° | 146°45.66' | N 18°47.14' | 10.0824' | 54.5733' | 250°55.10' | **22** |
| **23** | 163°57.14' | 14.9981° | 102°00.42' | N 22°58.74' | 0.1969' | 118°41.96' | 14.5420° | 147°15.60' | N 18°36.97' | 10.1670' | 54.5887' | 265°57.56' | **23** |
| **24** | 178°57.03' | 14.9981° | 102°03.00' | N 22°58.55' | 0.1976' | 133°14.52' | 14.5428° | 147°45.50' | N 18°26.72' | 10.2510' | 54.6042' | 281°00.02' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7310' | hp (π) 0.1442' | ½Ø 14.8313' | 10.2861718009935<br>04% +cre |
| | EoT at 12:00 UTC : -4m 6s (δ -0.47 s/h) | | Phase at 12:00 UTC : 37.02° | |
| | Meridian Pass. Time : 12:04:06.262 | | Age : 2.9 day(s) | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.11') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 210°41.64' | 69°19.25' | N 20°43.88' | 253°37.52' | 26°23.37' | N 8°57.84' | 272°33.27' | 7°27.61' | N 1°48.55' | 312°38.07' | 327°22.82' | S 14°26.15' | **00** |
| **01** | 225°40.95' | 69°22.40' | N 20°44.39' | 268°38.31' | 26°25.03' | N 8°58.48' | 287°35.54' | 7°27.81' | N 1°48.63' | 327°40.63' | 327°22.72' | S 14°26.19' | **01** |
| **02** | 240°40.26' | 69°25.55' | N 20°44.90' | 283°39.11' | 26°26.70' | N 8°59.11' | 302°37.81' | 7°28.00' | N 1°48.70' | 342°43.19' | 327°22.62' | S 14°26.23' | **02** |
| **03** | 255°39.58' | 69°28.70' | N 20°45.41' | 298°39.91' | 26°28.37' | N 8°59.74' | 317°40.08' | 7°28.20' | N 1°48.77' | 357°45.76' | 327°22.52' | S 14°26.27' | **03** |
| **04** | 270°38.89' | 69°31.85' | N 20°45.91' | 313°40.70' | 26°30.04' | N 9°00.37' | 332°42.35' | 7°28.40' | N 1°48.84' | 12°48.32' | 327°22.42' | S 14°26.32' | **04** |
| **05** | 285°38.20' | 69°35.00' | N 20°46.42' | 328°41.50' | 26°31.70' | N 9°01.00' | 347°44.61' | 7°28.59' | N 1°48.91' | 27°50.88' | 327°22.32' | S 14°26.36' | **05** |
| **06** | 300°37.51' | 69°38.16' | N 20°46.93' | 343°42.30' | 26°33.37' | N 9°01.63' | 2°46.88' | 7°28.79' | N 1°48.98' | 42°53.45' | 327°22.22' | S 14°26.40' | **06** |
| **07** | 315°36.82' | 69°41.31' | N 20°47.43' | 358°43.09' | 26°35.04' | N 9°02.26' | 17°49.15' | 7°28.98' | N 1°49.05' | 57°56.01' | 327°22.12' | S 14°26.44' | **07** |
| **08** | 330°36.13' | 69°44.46' | N 20°47.94' | 13°43.89' | 26°36.71' | N 9°02.89' | 32°51.42' | 7°29.18' | N 1°49.12' | 72°58.58' | 327°22.02' | S 14°26.48' | **08** |
| **09** | 345°35.44' | 69°47.62' | N 20°48.44' | 28°44.69' | 26°38.37' | N 9°03.52' | 47°53.69' | 7°29.37' | N 1°49.19' | 88°01.14' | 327°21.92' | S 14°26.52' | **09** |
| **10** | 0°34.75' | 69°50.77' | N 20°48.94' | 43°45.48' | 26°40.04' | N 9°04.15' | 62°55.96' | 7°29.57' | N 1°49.27' | 103°03.71' | 327°21.82' | S 14°26.57' | **10** |
| **11** | 15°34.06' | 69°53.93' | N 20°49.44' | 58°46.28' | 26°41.71' | N 9°04.78' | 77°58.23' | 7°29.76' | N 1°49.34' | 118°06.27' | 327°21.72' | S 14°26.61' | **11** |
| **12** | 30°33.37' | 69°57.08' | N 20°49.94' | 73°47.08' | 26°43.37' | N 9°05.41' | 93°00.50' | 7°29.95' | N 1°49.41' | 133°08.84' | 327°21.62' | S 14°26.65' | **12** |
| **13** | 45°32.68' | 70°00.24' | N 20°50.44' | 88°47.88' | 26°45.04' | N 9°06.04' | 108°02.77' | 7°30.15' | N 1°49.48' | 148°11.40' | 327°21.52' | S 14°26.69' | **13** |
| **14** | 60°31.99' | 70°03.39' | N 20°50.94' | 103°48.67' | 26°46.71' | N 9°06.67' | 123°05.04' | 7°30.34' | N 1°49.55' | 163°13.97' | 327°21.42' | S 14°26.74' | **14** |
| **15** | 75°31.30' | 70°06.55' | N 20°51.44' | 118°49.47' | 26°48.38' | N 9°07.29' | 138°07.31' | 7°30.53' | N 1°49.62' | 178°16.53' | 327°21.32' | S 14°26.78' | **15** |
| **16** | 90°30.60' | 70°09.71' | N 20°51.94' | 133°50.27' | 26°50.04' | N 9°07.92' | 153°09.59' | 7°30.72' | N 1°49.69' | 193°19.10' | 327°21.21' | S 14°26.82' | **16** |
| **17** | 105°29.91' | 70°12.86' | N 20°52.43' | 148°51.07' | 26°51.71' | N 9°08.55' | 168°11.86' | 7°30.92' | N 1°49.76' | 208°21.66' | 327°21.11' | S 14°26.86' | **17** |
| **18** | 120°29.22' | 70°16.02' | N 20°52.93' | 163°51.86' | 26°53.38' | N 9°09.18' | 183°14.13' | 7°31.11' | N 1°49.83' | 223°24.23' | 327°21.01' | S 14°26.91' | **18** |
| **19** | 135°28.52' | 70°19.18' | N 20°53.42' | 178°52.66' | 26°55.04' | N 9°09.81' | 198°16.40' | 7°31.30' | N 1°49.90' | 238°26.79' | 327°20.91' | S 14°26.95' | **19** |
| **20** | 150°27.83' | 70°22.34' | N 20°53.91' | 193°53.46' | 26°56.71' | N 9°10.44' | 213°18.67' | 7°31.49' | N 1°49.96' | 253°29.36' | 327°20.81' | S 14°26.99' | **20** |
| **21** | 165°27.13' | 70°25.50' | N 20°54.40' | 208°54.25' | 26°58.38' | N 9°11.06' | 228°20.95' | 7°31.68' | N 1°50.03' | 268°31.93' | 327°20.71' | S 14°27.03' | **21** |
| **22** | 180°26.44' | 70°28.66' | N 20°54.90' | 223°55.05' | 27°00.04' | N 9°11.69' | 243°23.22' | 7°31.87' | N 1°50.10' | 283°34.49' | 327°20.60' | S 14°27.08' | **22** |
| **23** | 195°25.74' | 70°31.82' | N 20°55.38' | 238°55.85' | 27°01.71' | N 9°12.32' | 258°25.49' | 7°32.07' | N 1°50.17' | 298°37.06' | 327°20.50' | S 14°27.12' | **23** |
| **24** | 210°25.05' | 70°34.98' | N 20°55.87' | 253°56.65' | 27°03.38' | N 9°12.94' | 273°27.77' | 7°32.26' | N 1°50.24' | 313°39.62' | 327°20.40' | S 14°27.16' | **24** |
| | δ 14.9886° | | *d* 0.5106' | δ 15.0133° | | *d* 0.6314' | δ 15.0378° | | *d* 0.0717' | δ 15.0427° | | *d* 0.0417' | |

## *Sunday, July 3rd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°57.03' | 14.9981° | 102°03.00' | N 22°58.55' | 0.1976' | 133°14.52' | 14.5428° | 147°45.50' | N 18°26.72' | 10.2510' | 54.6042' | 281°00.02' | **00** |
| **01** | 193°56.91' | 14.9981° | 102°05.58' | N 22°58.35' | 0.1983' | 147°47.13' | 14.5435° | 148°15.35' | N 18°16.38' | 10.3342' | 54.6200' | 296°02.49' | **01** |
| **02** | 208°56.79' | 14.9981° | 102°08.16' | N 22°58.15' | 0.1990' | 162°19.79' | 14.5443° | 148°45.16' | N 18°05.97' | 10.4167' | 54.6360' | 311°04.95' | **02** |
| **03** | 223°56.68' | 14.9981° | 102°10.74' | N 22°57.95' | 0.1997' | 176°52.49' | 14.5450° | 149°14.93' | N 17°55.47' | 10.4984' | 54.6522' | 326°07.42' | **03** |
| **04** | 238°56.56' | 14.9981° | 102°13.32' | N 22°57.75' | 0.2004' | 191°25.23' | 14.5457° | 149°44.65' | N 17°44.89' | 10.5794' | 54.6686' | 341°09.88' | **04** |
| **05** | 253°56.45' | 14.9981° | 102°15.90' | N 22°57.55' | 0.2011' | 205°58.02' | 14.5464° | 150°14.33' | N 17°34.23' | 10.6596' | 54.6852' | 356°12.34' | **05** |
| **06** | 268°56.33' | 14.9981° | 102°18.48' | N 22°57.35' | 0.2018' | 220°30.85' | 14.5472° | 150°43.96' | N 17°23.49' | 10.7391' | 54.7020' | 11°14.81' | **06** |
| **07** | 283°56.21' | 14.9981° | 102°21.06' | N 22°57.14' | 0.2025' | 235°03.72' | 14.5479° | 151°13.55' | N 17°12.67' | 10.8178' | 54.7190' | 26°17.27' | **07** |
| **08** | 298°56.10' | 14.9981° | 102°23.64' | N 22°56.94' | 0.2032' | 249°36.63' | 14.5486° | 151°43.10' | N 17°01.78' | 10.8958' | 54.7363' | 41°19.74' | **08** |
| **09** | 313°55.98' | 14.9981° | 102°26.22' | N 22°56.74' | 0.2039' | 264°09.59' | 14.5493° | 152°12.61' | N 16°50.80' | 10.9731' | 54.7537' | 56°22.20' | **09** |
| **10** | 328°55.87' | 14.9981° | 102°28.80' | N 22°56.53' | 0.2046' | 278°42.59' | 14.5499° | 152°42.08' | N 16°39.75' | 11.0496' | 54.7713' | 71°24.66' | **10** |
| **11** | 343°55.75' | 14.9981° | 102°31.38' | N 22°56.33' | 0.2052' | 293°15.62' | 14.5506° | 153°11.51' | N 16°28.63' | 11.1254' | 54.7891' | 86°27.13' | **11** |
| **12** | 358°55.64' | 14.9981° | 102°33.96' | N 22°56.12' | 0.2059' | 307°48.70' | 14.5513° | 153°40.89' | N 16°17.43' | 11.2004' | 54.8072' | 101°29.59' | **12** |
| **13** | 13°55.52' | 14.9981° | 102°36.53' | N 22°55.91' | 0.2066' | 322°21.82' | 14.5519° | 154°10.24' | N 16°06.15' | 11.2747' | 54.8254' | 116°32.06' | **13** |
| **14** | 28°55.41' | 14.9981° | 102°39.11' | N 22°55.71' | 0.2073' | 336°54.97' | 14.5526° | 154°39.55' | N 15°54.81' | 11.3482' | 54.8439' | 131°34.52' | **14** |
| **15** | 43°55.29' | 14.9981° | 102°41.69' | N 22°55.50' | 0.2080' | 351°28.16' | 14.5532° | 155°08.82' | N 15°43.38' | 11.4210' | 54.8626' | 146°36.99' | **15** |
| **16** | 58°55.18' | 14.9981° | 102°44.27' | N 22°55.29' | 0.2087' | 6°01.39' | 14.5538° | 155°38.06' | N 15°31.89' | 11.4931' | 54.8814' | 161°39.45' | **16** |
| **17** | 73°55.06' | 14.9981° | 102°46.85' | N 22°55.08' | 0.2094' | 20°34.66' | 14.5544° | 156°07.26' | N 15°20.33' | 11.5644' | 54.9005' | 176°41.91' | **17** |
| **18** | 88°54.95' | 14.9981° | 102°49.43' | N 22°54.87' | 0.2101' | 35°07.96' | 14.5550° | 156°36.42' | N 15°08.69' | 11.6349' | 54.9198' | 191°44.38' | **18** |
| **19** | 103°54.84' | 14.9981° | 102°52.01' | N 22°54.66' | 0.2108' | 49°41.30' | 14.5556° | 157°05.54' | N 14°56.99' | 11.7047' | 54.9393' | 206°46.84' | **19** |
| **20** | 118°54.72' | 14.9981° | 102°54.58' | N 22°54.45' | 0.2115' | 64°14.67' | 14.5562° | 157°34.63' | N 14°45.21' | 11.7738' | 54.9591' | 221°49.31' | **20** |
| **21** | 133°54.61' | 14.9981° | 102°57.16' | N 22°54.24' | 0.2122' | 78°48.08' | 14.5568° | 158°03.69' | N 14°33.37' | 11.8422' | 54.9790' | 236°51.77' | **21** |
| **22** | 148°54.50' | 14.9981° | 102°59.74' | N 22°54.02' | 0.2129' | 93°21.52' | 14.5573° | 158°32.72' | N 14°21.46' | 11.9098' | 54.9991' | 251°54.23' | **22** |
| **23** | 163°54.38' | 14.9981° | 103°02.32' | N 22°53.81' | 0.2136' | 107°54.99' | 14.5579° | 159°01.71' | N 14°09.49' | 11.9766' | 55.0195' | 266°56.70' | **23** |
| **24** | 178°54.27' | 14.9981° | 103°04.89' | N 22°53.60' | 0.2143' | 122°28.50' | 14.5584° | 159°30.67' | N 13°57.44' | 12.0427' | 55.0400' | 281°59.16' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.7309' | hp (π) 0.1442' | ½Ø 14.9340' | 16.8624442451747<br>5% +cre | |
| EoT at 12:00 UTC : -4m 17s (δ -0.46 s/h) | | Phase at 12:00 UTC : 48.18° | | |
| Meridian Pass. Time : 12:04:17.451 | | Age : 3.7 day(s) | | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.11') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 210°25.05' | 70°34.98' | N 20°55.87' | 253°56.65' | 27°03.38' | N 9°12.94' | 273°27.77' | 7°32.26' | N 1°50.24' | 313°39.62' | 327°20.40' | S 14°27.16' | **00** |
| **01** | 225°24.35' | 70°38.14' | N 20°56.36' | 268°57.45' | 27°05.04' | N 9°13.57' | 288°30.04' | 7°32.45' | N 1°50.31' | 328°42.19' | 327°20.30' | S 14°27.20' | **01** |
| **02** | 240°23.65' | 70°41.30' | N 20°56.85' | 283°58.24' | 27°06.71' | N 9°14.20' | 303°32.32' | 7°32.64' | N 1°50.38' | 343°44.76' | 327°20.19' | S 14°27.25' | **02** |
| **03** | 255°22.96' | 70°44.46' | N 20°57.34' | 298°59.04' | 27°08.37' | N 9°14.82' | 318°34.59' | 7°32.83' | N 1°50.45' | 358°47.32' | 327°20.09' | S 14°27.29' | **03** |
| **04** | 270°22.26' | 70°47.62' | N 20°57.82' | 313°59.84' | 27°10.04' | N 9°15.45' | 333°36.87' | 7°33.01' | N 1°50.52' | 13°49.89' | 327°19.99' | S 14°27.33' | **04** |
| **05** | 285°21.56' | 70°50.78' | N 20°58.30' | 329°00.64' | 27°11.71' | N 9°16.08' | 348°39.14' | 7°33.20' | N 1°50.58' | 28°52.46' | 327°19.88' | S 14°27.38' | **05** |
| **06** | 300°20.86' | 70°53.95' | N 20°58.79' | 344°01.44' | 27°13.37' | N 9°16.70' | 3°41.42' | 7°33.39' | N 1°50.65' | 43°55.03' | 327°19.78' | S 14°27.42' | **06** |
| **07** | 315°20.16' | 70°57.11' | N 20°59.27' | 359°02.23' | 27°15.04' | N 9°17.33' | 18°43.69' | 7°33.58' | N 1°50.72' | 58°57.59' | 327°19.68' | S 14°27.46' | **07** |
| **08** | 330°19.46' | 71°00.27' | N 20°59.75' | 14°03.03' | 27°16.70' | N 9°17.95' | 33°45.97' | 7°33.77' | N 1°50.79' | 74°00.16' | 327°19.57' | S 14°27.50' | **08** |
| **09** | 345°18.76' | 71°03.44' | N 21°00.23' | 29°03.83' | 27°18.37' | N 9°18.58' | 48°48.24' | 7°33.96' | N 1°50.86' | 89°02.73' | 327°19.47' | S 14°27.55' | **09** |
| **10** | 0°18.06' | 71°06.60' | N 21°00.71' | 44°04.63' | 27°20.04' | N 9°19.20' | 63°50.52' | 7°34.14' | N 1°50.92' | 104°05.30' | 327°19.37' | S 14°27.59' | **10** |
| **11** | 15°17.36' | 71°09.77' | N 21°01.19' | 59°05.43' | 27°21.70' | N 9°19.83' | 78°52.80' | 7°34.33' | N 1°50.99' | 119°07.87' | 327°19.26' | S 14°27.63' | **11** |
| **12** | 30°16.66' | 71°12.93' | N 21°01.67' | 74°06.23' | 27°23.37' | N 9°20.45' | 93°55.07' | 7°34.52' | N 1°51.06' | 134°10.43' | 327°19.16' | S 14°27.68' | **12** |
| **13** | 45°15.96' | 71°16.10' | N 21°02.14' | 89°07.02' | 27°25.03' | N 9°21.08' | 108°57.35' | 7°34.71' | N 1°51.13' | 149°13.00' | 327°19.06' | S 14°27.72' | **13** |
| **14** | 60°15.26' | 71°19.26' | N 21°02.62' | 104°07.82' | 27°26.70' | N 9°21.70' | 123°59.63' | 7°34.89' | N 1°51.19' | 164°15.57' | 327°18.95' | S 14°27.76' | **14** |
| **15** | 75°14.56' | 71°22.43' | N 21°03.09' | 119°08.62' | 27°28.36' | N 9°22.33' | 139°01.91' | 7°35.08' | N 1°51.26' | 179°18.14' | 327°18.85' | S 14°27.81' | **15** |
| **16** | 90°13.85' | 71°25.60' | N 21°03.57' | 134°09.42' | 27°30.03' | N 9°22.95' | 154°04.19' | 7°35.26' | N 1°51.33' | 194°20.71' | 327°18.74' | S 14°27.85' | **16** |
| **17** | 105°13.15' | 71°28.76' | N 21°04.04' | 149°10.22' | 27°31.70' | N 9°23.57' | 169°06.46' | 7°35.45' | N 1°51.39' | 209°23.28' | 327°18.64' | S 14°27.89' | **17** |
| **18** | 120°12.45' | 71°31.93' | N 21°04.51' | 164°11.02' | 27°33.36' | N 9°24.20' | 184°08.74' | 7°35.64' | N 1°51.46' | 224°25.85' | 327°18.53' | S 14°27.94' | **18** |
| **19** | 135°11.74' | 71°35.10' | N 21°04.98' | 179°11.82' | 27°35.03' | N 9°24.82' | 199°11.02' | 7°35.82' | N 1°51.53' | 239°28.41' | 327°18.43' | S 14°27.98' | **19** |
| **20** | 150°11.04' | 71°38.27' | N 21°05.45' | 194°12.61' | 27°36.69' | N 9°25.44' | 214°13.30' | 7°36.01' | N 1°51.59' | 254°30.98' | 327°18.32' | S 14°28.03' | **20** |
| **21** | 165°10.33' | 71°41.44' | N 21°05.92' | 209°13.41' | 27°38.36' | N 9°26.07' | 229°15.58' | 7°36.19' | N 1°51.66' | 269°33.55' | 327°18.22' | S 14°28.07' | **21** |
| **22** | 180°09.63' | 71°44.60' | N 21°06.39' | 224°14.21' | 27°40.02' | N 9°26.69' | 244°17.86' | 7°36.37' | N 1°51.73' | 284°36.12' | 327°18.11' | S 14°28.11' | **22** |
| **23** | 195°08.92' | 71°47.77' | N 21°06.86' | 239°15.01' | 27°41.69' | N 9°27.31' | 259°20.14' | 7°36.56' | N 1°51.79' | 299°38.69' | 327°18.01' | S 14°28.16' | **23** |
| **24** | 210°08.22' | 71°50.94' | N 21°07.32' | 254°15.81' | 27°43.35' | N 9°27.93' | 274°22.42' | 7°36.74' | N 1°51.86' | 314°41.26' | 327°17.90' | S 14°28.20' | **24** |
| | δ 14.9884° | | *d* 0.4880' | δ 15.0133° | | *d* 0.6268' | δ 15.0379° | | *d* 0.0688' | δ 15.0428° | | *d* 0.0428' | |

## *Monday, July 4th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°54.27' | 14.9981° | 103°04.89' | N 22°53.60' | 0.2143' | 122°28.50' | 14.5584° | 159°30.67' | N 13°57.44' | 12.0427' | 55.0400' | 281°59.16' | **00** |
| **01** | 193°54.16' | 14.9981° | 103°07.47' | N 22°53.38' | 0.2150' | 137°02.03' | 14.5589° | 159°59.59' | N 13°45.33' | 12.1081' | 55.0608' | 297°01.63' | **01** |
| **02** | 208°54.04' | 14.9981° | 103°10.05' | N 22°53.17' | 0.2157' | 151°35.60' | 14.5594° | 160°28.49' | N 13°33.16' | 12.1727' | 55.0818' | 312°04.09' | **02** |
| **03** | 223°53.93' | 14.9981° | 103°12.63' | N 22°52.95' | 0.2163' | 166°09.19' | 14.5599° | 160°57.36' | N 13°20.92' | 12.2366' | 55.1030' | 327°06.55' | **03** |
| **04** | 238°53.82' | 14.9981° | 103°15.20' | N 22°52.73' | 0.2170' | 180°42.82' | 14.5604° | 161°26.20' | N 13°08.63' | 12.2998' | 55.1244' | 342°09.02' | **04** |
| **05** | 253°53.70' | 14.9981° | 103°17.78' | N 22°52.51' | 0.2177' | 195°16.47' | 14.5609° | 161°55.01' | N 12°56.26' | 12.3622' | 55.1461' | 357°11.48' | **05** |
| **06** | 268°53.59' | 14.9981° | 103°20.36' | N 22°52.30' | 0.2184' | 209°50.15' | 14.5613° | 162°23.80' | N 12°43.84' | 12.4239' | 55.1679' | 12°13.95' | **06** |
| **07** | 283°53.48' | 14.9981° | 103°22.93' | N 22°52.08' | 0.2191' | 224°23.86' | 14.5618° | 162°52.55' | N 12°31.35' | 12.4848' | 55.1900' | 27°16.41' | **07** |
| **08** | 298°53.37' | 14.9981° | 103°25.51' | N 22°51.86' | 0.2198' | 238°57.59' | 14.5622° | 163°21.29' | N 12°18.81' | 12.5450' | 55.2122' | 42°18.87' | **08** |
| **09** | 313°53.26' | 14.9981° | 103°28.08' | N 22°51.64' | 0.2205' | 253°31.35' | 14.5626° | 163°49.99' | N 12°06.20' | 12.6045' | 55.2347' | 57°21.34' | **09** |
| **10** | 328°53.14' | 14.9981° | 103°30.66' | N 22°51.41' | 0.2212' | 268°05.13' | 14.5630° | 164°18.68' | N 11°53.54' | 12.6632' | 55.2574' | 72°23.80' | **10** |
| **11** | 343°53.03' | 14.9981° | 103°33.24' | N 22°51.19' | 0.2219' | 282°38.93' | 14.5634° | 164°47.34' | N 11°40.82' | 12.7212' | 55.2803' | 87°26.27' | **11** |
| **12** | 358°52.92' | 14.9981° | 103°35.81' | N 22°50.97' | 0.2226' | 297°12.76' | 14.5638° | 165°15.98' | N 11°28.04' | 12.7784' | 55.3035' | 102°28.73' | **12** |
| **13** | 13°52.81' | 14.9981° | 103°38.39' | N 22°50.75' | 0.2233' | 311°46.60' | 14.5641° | 165°44.59' | N 11°15.21' | 12.8349' | 55.3268' | 117°31.20' | **13** |
| **14** | 28°52.70' | 14.9981° | 103°40.96' | N 22°50.52' | 0.2240' | 326°20.47' | 14.5645° | 166°13.19' | N 11°02.32' | 12.8906' | 55.3504' | 132°33.66' | **14** |
| **15** | 43°52.59' | 14.9981° | 103°43.54' | N 22°50.30' | 0.2246' | 340°54.36' | 14.5648° | 166°41.77' | N 10°49.37' | 12.9456' | 55.3741' | 147°36.12' | **15** |
| **16** | 58°52.48' | 14.9982° | 103°46.11' | N 22°50.07' | 0.2253' | 355°28.26' | 14.5651° | 167°10.33' | N 10°36.37' | 12.9999' | 55.3981' | 162°38.59' | **16** |
| **17** | 73°52.36' | 14.9982° | 103°48.69' | N 22°49.85' | 0.2260' | 10°02.19' | 14.5654° | 167°38.87' | N 10°23.32' | 13.0534' | 55.4223' | 177°41.05' | **17** |
| **18** | 88°52.25' | 14.9982° | 103°51.26' | N 22°49.62' | 0.2267' | 24°36.13' | 14.5657° | 168°07.39' | N 10°10.21' | 13.1062' | 55.4467' | 192°43.52' | **18** |
| **19** | 103°52.14' | 14.9982° | 103°53.84' | N 22°49.39' | 0.2274' | 39°10.08' | 14.5659° | 168°35.90' | N 9°57.05' | 13.1582' | 55.4714' | 207°45.98' | **19** |
| **20** | 118°52.03' | 14.9982° | 103°56.41' | N 22°49.17' | 0.2281' | 53°44.05' | 14.5662° | 169°04.39' | N 9°43.84' | 13.2095' | 55.4962' | 222°48.44' | **20** |
| **21** | 133°51.92' | 14.9982° | 103°58.98' | N 22°48.94' | 0.2288' | 68°18.04' | 14.5664° | 169°32.87' | N 9°30.58' | 13.2601' | 55.5213' | 237°50.91' | **21** |
| **22** | 148°51.81' | 14.9982° | 104°01.56' | N 22°48.71' | 0.2295' | 82°52.03' | 14.5666° | 170°01.34' | N 9°17.27' | 13.3098' | 55.5465' | 252°53.37' | **22** |
| **23** | 163°51.70' | 14.9982° | 104°04.13' | N 22°48.48' | 0.2302' | 97°26.04' | 14.5668° | 170°29.79' | N 9°03.91' | 13.3589' | 55.5720' | 267°55.84' | **23** |
| **24** | 178°51.59' | 14.9982° | 104°06.71' | N 22°48.25' | 0.2308' | 112°00.06' | 14.5670° | 170°58.24' | N 8°50.51' | 13.4072' | 55.5977' | 282°58.30' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7309' | hp (π) 0.1442' | ½Ø 15.0692' | 24.8077338777729<br>32% +cre |
| | EoT at 12:00 UTC : -4m 28s (δ -0.45 s/h) | | Phase at 12:00 UTC : 59.50° | |
| | Meridian Pass. Time : 12:04:28.319 | | Age : 4.6 day(s) | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.11') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 210°08.22' | 71°50.94' | N 21°07.32' | 254°15.81' | 27°43.35' | N 9°27.93' | 274°22.42' | 7°36.74' | N 1°51.86' | 314°41.26' | 327°17.90' | S 14°28.20' | **00** |
| **01** | 225°07.51' | 71°54.11' | N 21°07.79' | 269°16.61' | 27°45.02' | N 9°28.55' | 289°24.70' | 7°36.93' | N 1°51.92' | 329°43.83' | 327°17.79' | S 14°28.24' | **01** |
| **02** | 240°06.81' | 71°57.29' | N 21°08.25' | 284°17.41' | 27°46.68' | N 9°29.18' | 304°26.98' | 7°37.11' | N 1°51.99' | 344°46.40' | 327°17.69' | S 14°28.29' | **02** |
| **03** | 255°06.10' | 72°00.46' | N 21°08.72' | 299°18.21' | 27°48.35' | N 9°29.80' | 319°29.26' | 7°37.29' | N 1°52.06' | 359°48.97' | 327°17.58' | S 14°28.33' | **03** |
| **04** | 270°05.39' | 72°03.63' | N 21°09.18' | 314°19.01' | 27°50.01' | N 9°30.42' | 334°31.54' | 7°37.47' | N 1°52.12' | 14°51.54' | 327°17.48' | S 14°28.38' | **04** |
| **05** | 285°04.68' | 72°06.80' | N 21°09.64' | 329°19.81' | 27°51.68' | N 9°31.04' | 349°33.83' | 7°37.66' | N 1°52.19' | 29°54.11' | 327°17.37' | S 14°28.42' | **05** |
| **06** | 300°03.97' | 72°09.97' | N 21°10.10' | 344°20.61' | 27°53.34' | N 9°31.66' | 4°36.11' | 7°37.84' | N 1°52.25' | 44°56.68' | 327°17.26' | S 14°28.46' | **06** |
| **07** | 315°03.27' | 72°13.14' | N 21°10.56' | 359°21.41' | 27°55.01' | N 9°32.28' | 19°38.39' | 7°38.02' | N 1°52.32' | 59°59.25' | 327°17.16' | S 14°28.51' | **07** |
| **08** | 330°02.56' | 72°16.32' | N 21°11.02' | 14°22.21' | 27°56.67' | N 9°32.90' | 34°40.67' | 7°38.20' | N 1°52.38' | 75°01.83' | 327°17.05' | S 14°28.55' | **08** |
| **09** | 345°01.85' | 72°19.49' | N 21°11.47' | 29°23.00' | 27°58.33' | N 9°33.52' | 49°42.96' | 7°38.38' | N 1°52.45' | 90°04.40' | 327°16.94' | S 14°28.60' | **09** |
| **10** | 0°01.14' | 72°22.67' | N 21°11.93' | 44°23.80' | 27°60.00' | N 9°34.14' | 64°45.24' | 7°38.56' | N 1°52.51' | 105°06.97' | 327°16.84' | S 14°28.64' | **10** |
| **11** | 15°00.43' | 72°25.84' | N 21°12.39' | 59°24.60' | 28°01.66' | N 9°34.76' | 79°47.52' | 7°38.75' | N 1°52.58' | 120°09.54' | 327°16.73' | S 14°28.68' | **11** |
| **12** | 29°59.72' | 72°29.01' | N 21°12.84' | 74°25.40' | 28°03.33' | N 9°35.38' | 94°49.81' | 7°38.93' | N 1°52.64' | 135°12.11' | 327°16.62' | S 14°28.73' | **12** |
| **13** | 44°59.01' | 72°32.19' | N 21°13.29' | 89°26.20' | 28°04.99' | N 9°36.00' | 109°52.09' | 7°39.11' | N 1°52.70' | 150°14.68' | 327°16.51' | S 14°28.77' | **13** |
| **14** | 59°58.29' | 72°35.36' | N 21°13.75' | 104°27.00' | 28°06.66' | N 9°36.62' | 124°54.37' | 7°39.29' | N 1°52.77' | 165°17.25' | 327°16.41' | S 14°28.82' | **14** |
| **15** | 74°57.58' | 72°38.54' | N 21°14.20' | 119°27.80' | 28°08.32' | N 9°37.24' | 139°56.66' | 7°39.47' | N 1°52.83' | 180°19.83' | 327°16.30' | S 14°28.86' | **15** |
| **16** | 89°56.87' | 72°41.72' | N 21°14.65' | 134°28.60' | 28°09.98' | N 9°37.86' | 154°58.94' | 7°39.64' | N 1°52.90' | 195°22.40' | 327°16.19' | S 14°28.91' | **16** |
| **17** | 104°56.16' | 72°44.89' | N 21°15.10' | 149°29.40' | 28°11.65' | N 9°38.48' | 170°01.23' | 7°39.82' | N 1°52.96' | 210°24.97' | 327°16.08' | S 14°28.95' | **17** |
| **18** | 119°55.45' | 72°48.07' | N 21°15.55' | 164°30.20' | 28°13.31' | N 9°39.10' | 185°03.51' | 7°40.00' | N 1°53.02' | 225°27.54' | 327°15.97' | S 14°29.00' | **18** |
| **19** | 134°54.73' | 72°51.25' | N 21°15.99' | 179°31.00' | 28°14.98' | N 9°39.72' | 200°05.80' | 7°40.18' | N 1°53.09' | 240°30.11' | 327°15.87' | S 14°29.04' | **19** |
| **20** | 149°54.02' | 72°54.43' | N 21°16.44' | 194°31.80' | 28°16.64' | N 9°40.34' | 215°08.09' | 7°40.36' | N 1°53.15' | 255°32.69' | 327°15.76' | S 14°29.08' | **20** |
| **21** | 164°53.30' | 72°57.60' | N 21°16.89' | 209°32.60' | 28°18.30' | N 9°40.95' | 230°10.37' | 7°40.54' | N 1°53.22' | 270°35.26' | 327°15.65' | S 14°29.13' | **21** |
| **22** | 179°52.59' | 73°00.78' | N 21°17.33' | 224°33.41' | 28°19.97' | N 9°41.57' | 245°12.66' | 7°40.71' | N 1°53.28' | 285°37.83' | 327°15.54' | S 14°29.17' | **22** |
| **23** | 194°51.87' | 73°03.96' | N 21°17.77' | 239°34.21' | 28°21.63' | N 9°42.19' | 260°14.94' | 7°40.89' | N 1°53.34' | 300°40.41' | 327°15.43' | S 14°29.22' | **23** |
| **24** | 209°51.16' | 73°07.14' | N 21°18.22' | 254°35.01' | 28°23.29' | N 9°42.81' | 275°17.23' | 7°41.07' | N 1°53.40' | 315°42.98' | 327°15.32' | S 14°29.26' | **24** |
| | δ 14.9882° | | *d* 0.4650' | δ 15.0133° | | *d* 0.6221' | δ 15.0380° | | *d* 0.0658' | δ 15.0428° | | *d* 0.0438' | |

## *Tuesday, July 5th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°51.59' | 14.9982° | 104°06.71' | N 22°48.25' | 0.2308' | 112°00.06' | 14.5670° | 170°58.24' | N 8°50.51' | 13.4072' | 55.5977' | 282°58.30' | **00** |
| **01** | 193°51.48' | 14.9982° | 104°09.28' | N 22°48.01' | 0.2315' | 126°34.09' | 14.5672° | 171°26.67' | N 8°37.05' | 13.4547' | 55.6236' | 298°00.76' | **01** |
| **02** | 208°51.37' | 14.9982° | 104°11.85' | N 22°47.78' | 0.2322' | 141°08.13' | 14.5673° | 171°55.10' | N 8°23.55' | 13.5015' | 55.6497' | 313°03.23' | **02** |
| **03** | 223°51.27' | 14.9982° | 104°14.43' | N 22°47.55' | 0.2329' | 155°42.18' | 14.5675° | 172°23.51' | N 8°10.00' | 13.5475' | 55.6761' | 328°05.69' | **03** |
| **04** | 238°51.16' | 14.9982° | 104°17.00' | N 22°47.32' | 0.2336' | 170°16.23' | 14.5676° | 172°51.92' | N 7°56.41' | 13.5928' | 55.7026' | 343°08.16' | **04** |
| **05** | 253°51.05' | 14.9982° | 104°19.57' | N 22°47.08' | 0.2343' | 184°50.29' | 14.5677° | 173°20.33' | N 7°42.77' | 13.6373' | 55.7294' | 358°10.62' | **05** |
| **06** | 268°50.94' | 14.9982° | 104°22.15' | N 22°46.85' | 0.2350' | 199°24.36' | 14.5677° | 173°48.73' | N 7°29.09' | 13.6811' | 55.7563' | 13°13.08' | **06** |
| **07** | 283°50.83' | 14.9982° | 104°24.72' | N 22°46.61' | 0.2357' | 213°58.43' | 14.5678° | 174°17.12' | N 7°15.37' | 13.7240' | 55.7835' | 28°15.55' | **07** |
| **08** | 298°50.72' | 14.9982° | 104°27.29' | N 22°46.37' | 0.2364' | 228°32.50' | 14.5678° | 174°45.52' | N 7°01.60' | 13.7663' | 55.8109' | 43°18.01' | **08** |
| **09** | 313°50.61' | 14.9982° | 104°29.86' | N 22°46.14' | 0.2370' | 243°06.57' | 14.5679° | 175°13.91' | N 6°47.79' | 13.8077' | 55.8385' | 58°20.48' | **09** |
| **10** | 328°50.51' | 14.9982° | 104°32.44' | N 22°45.90' | 0.2377' | 257°40.64' | 14.5679° | 175°42.30' | N 6°33.95' | 13.8484' | 55.8663' | 73°22.94' | **10** |
| **11** | 343°50.40' | 14.9982° | 104°35.01' | N 22°45.66' | 0.2384' | 272°14.72' | 14.5679° | 176°10.69' | N 6°20.06' | 13.8883' | 55.8943' | 88°25.41' | **11** |
| **12** | 358°50.29' | 14.9982° | 104°37.58' | N 22°45.42' | 0.2391' | 286°48.79' | 14.5678° | 176°39.08' | N 6°06.13' | 13.9274' | 55.9225' | 103°27.87' | **12** |
| **13** | 13°50.18' | 14.9982° | 104°40.15' | N 22°45.18' | 0.2398' | 301°22.85' | 14.5678° | 177°07.48' | N 5°52.16' | 13.9658' | 55.9509' | 118°30.33' | **13** |
| **14** | 28°50.07' | 14.9982° | 104°42.72' | N 22°44.94' | 0.2405' | 315°56.92' | 14.5677° | 177°35.88' | N 5°38.16' | 14.0034' | 55.9795' | 133°32.80' | **14** |
| **15** | 43°49.97' | 14.9982° | 104°45.29' | N 22°44.70' | 0.2412' | 330°30.98' | 14.5677° | 178°04.28' | N 5°24.12' | 14.0402' | 56.0084' | 148°35.26' | **15** |
| **16** | 58°49.86' | 14.9982° | 104°47.87' | N 22°44.46' | 0.2418' | 345°05.03' | 14.5676° | 178°32.69' | N 5°10.04' | 14.0761' | 56.0374' | 163°37.73' | **16** |
| **17** | 73°49.75' | 14.9982° | 104°50.44' | N 22°44.22' | 0.2425' | 359°39.08' | 14.5674° | 179°01.11' | N 4°55.93' | 14.1113' | 56.0666' | 178°40.19' | **17** |
| **18** | 88°49.65' | 14.9982° | 104°53.01' | N 22°43.97' | 0.2432' | 14°13.12' | 14.5673° | 179°29.54' | N 4°41.79' | 14.1458' | 56.0961' | 193°42.65' | **18** |
| **19** | 103°49.54' | 14.9982° | 104°55.58' | N 22°43.73' | 0.2439' | 28°47.14' | 14.5671° | 179°57.97' | N 4°27.61' | 14.1794' | 56.1257' | 208°45.12' | **19** |
| **20** | 118°49.43' | 14.9982° | 104°58.15' | N 22°43.48' | 0.2446' | 43°21.16' | 14.5670° | 180°26.42' | N 4°13.40' | 14.2122' | 56.1555' | 223°47.58' | **20** |
| **21** | 133°49.33' | 14.9982° | 105°00.72' | N 22°43.24' | 0.2453' | 57°55.17' | 14.5668° | 180°54.88' | N 3°59.15' | 14.2441' | 56.1856' | 238°50.05' | **21** |
| **22** | 148°49.22' | 14.9982° | 105°03.29' | N 22°42.99' | 0.2460' | 72°29.16' | 14.5665° | 181°23.35' | N 3°44.88' | 14.2753' | 56.2158' | 253°52.51' | **22** |
| **23** | 163°49.11' | 14.9982° | 105°05.86' | N 22°42.75' | 0.2466' | 87°03.14' | 14.5663° | 181°51.84' | N 3°30.57' | 14.3057' | 56.2462' | 268°54.97' | **23** |
| **24** | 178°49.01' | 14.9982° | 105°08.43' | N 22°42.50' | 0.2473' | 101°37.10' | 14.5661° | 182°20.34' | N 3°16.24' | 14.3352' | 56.2769' | 283°57.44' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.7309' | hp (π) 0.1442' | ½Ø 15.2379' | 33.9112344085164 9% +cre | |
| EoT at 12:00 UTC : -4m 38s (δ -0.43 s/h) | | Phase at 12:00 UTC : 71.04° | | |
| Meridian Pass. Time : 12:04:38.843 | | Age : 5.5 day(s) | | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.11') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 209°51.16' | 73°07.14' | N 21°18.22' | 254°35.01' | 28°23.29' | N 9°42.81' | 275°17.23' | 7°41.07' | N 1°53.40' | 315°42.98' | 327°15.32' | S 14°29.26' | **00** |
| **01** | 224°50.44' | 73°10.32' | N 21°18.66' | 269°35.81' | 28°24.96' | N 9°43.43' | 290°19.52' | 7°41.25' | N 1°53.47' | 330°45.55' | 327°15.21' | S 14°29.31' | **01** |
| **02** | 239°49.73' | 73°13.50' | N 21°19.10' | 284°36.61' | 28°26.62' | N 9°44.04' | 305°21.81' | 7°41.42' | N 1°53.53' | 345°48.12' | 327°15.10' | S 14°29.35' | **02** |
| **03** | 254°49.01' | 73°16.68' | N 21°19.54' | 299°37.41' | 28°28.28' | N 9°44.66' | 320°24.09' | 7°41.60' | N 1°53.59' | 0°50.70' | 327°14.99' | S 14°29.40' | **03** |
| **04** | 269°48.29' | 73°19.86' | N 21°19.98' | 314°38.21' | 28°29.95' | N 9°45.28' | 335°26.38' | 7°41.77' | N 1°53.66' | 15°53.27' | 327°14.88' | S 14°29.44' | **04** |
| **05** | 284°47.58' | 73°23.04' | N 21°20.41' | 329°39.01' | 28°31.61' | N 9°45.89' | 350°28.67' | 7°41.95' | N 1°53.72' | 30°55.85' | 327°14.78' | S 14°29.49' | **05** |
| **06** | 299°46.86' | 73°26.22' | N 21°20.85' | 344°39.81' | 28°33.27' | N 9°46.51' | 5°30.96' | 7°42.13' | N 1°53.78' | 45°58.42' | 327°14.67' | S 14°29.53' | **06** |
| **07** | 314°46.14' | 73°29.41' | N 21°21.29' | 359°40.61' | 28°34.94' | N 9°47.12' | 20°33.25' | 7°42.30' | N 1°53.84' | 61°00.99' | 327°14.56' | S 14°29.58' | **07** |
| **08** | 329°45.42' | 73°32.59' | N 21°21.72' | 14°41.41' | 28°36.60' | N 9°47.74' | 35°35.54' | 7°42.48' | N 1°53.90' | 76°03.57' | 327°14.45' | S 14°29.62' | **08** |
| **09** | 344°44.70' | 73°35.77' | N 21°22.16' | 29°42.21' | 28°38.26' | N 9°48.36' | 50°37.83' | 7°42.65' | N 1°53.97' | 91°06.14' | 327°14.34' | S 14°29.67' | **09** |
| **10** | 359°43.99' | 73°38.96' | N 21°22.59' | 44°43.01' | 28°39.93' | N 9°48.97' | 65°40.12' | 7°42.82' | N 1°54.03' | 106°08.72' | 327°14.23' | S 14°29.71' | **10** |
| **11** | 14°43.27' | 73°42.14' | N 21°23.02' | 59°43.82' | 28°41.59' | N 9°49.59' | 80°42.41' | 7°43.00' | N 1°54.09' | 121°11.29' | 327°14.11' | S 14°29.76' | **11** |
| **12** | 29°42.55' | 73°45.32' | N 21°23.45' | 74°44.62' | 28°43.25' | N 9°50.20' | 95°44.70' | 7°43.17' | N 1°54.15' | 136°13.87' | 327°14.00' | S 14°29.81' | **12** |
| **13** | 44°41.83' | 73°48.51' | N 21°23.88' | 89°45.42' | 28°44.92' | N 9°50.82' | 110°46.99' | 7°43.35' | N 1°54.21' | 151°16.44' | 327°13.89' | S 14°29.85' | **13** |
| **14** | 59°41.11' | 73°51.69' | N 21°24.31' | 104°46.22' | 28°46.58' | N 9°51.43' | 125°49.28' | 7°43.52' | N 1°54.27' | 166°19.01' | 327°13.78' | S 14°29.90' | **14** |
| **15** | 74°40.38' | 73°54.88' | N 21°24.74' | 119°47.02' | 28°48.24' | N 9°52.05' | 140°51.57' | 7°43.69' | N 1°54.34' | 181°21.59' | 327°13.67' | S 14°29.94' | **15** |
| **16** | 89°39.66' | 73°58.06' | N 21°25.17' | 134°47.82' | 28°49.90' | N 9°52.66' | 155°53.86' | 7°43.86' | N 1°54.40' | 196°24.17' | 327°13.56' | S 14°29.99' | **16** |
| **17** | 104°38.94' | 74°01.25' | N 21°25.59' | 149°48.62' | 28°51.57' | N 9°53.27' | 170°56.15' | 7°44.04' | N 1°54.46' | 211°26.74' | 327°13.45' | S 14°30.03' | **17** |
| **18** | 119°38.22' | 74°04.43' | N 21°26.02' | 164°49.42' | 28°53.23' | N 9°53.89' | 185°58.45' | 7°44.21' | N 1°54.52' | 226°29.32' | 327°13.34' | S 14°30.08' | **18** |
| **19** | 134°37.50' | 74°07.62' | N 21°26.44' | 179°50.23' | 28°54.89' | N 9°54.50' | 201°00.74' | 7°44.38' | N 1°54.58' | 241°31.89' | 327°13.23' | S 14°30.12' | **19** |
| **20** | 149°36.77' | 74°10.81' | N 21°26.86' | 194°51.03' | 28°56.55' | N 9°55.12' | 216°03.03' | 7°44.55' | N 1°54.64' | 256°34.47' | 327°13.11' | S 14°30.17' | **20** |
| **21** | 164°36.05' | 74°14.00' | N 21°27.29' | 209°51.83' | 28°58.22' | N 9°55.73' | 231°05.32' | 7°44.72' | N 1°54.70' | 271°37.04' | 327°13.00' | S 14°30.22' | **21** |
| **22** | 179°35.33' | 74°17.18' | N 21°27.71' | 224°52.63' | 28°59.88' | N 9°56.34' | 246°07.62' | 7°44.89' | N 1°54.76' | 286°39.62' | 327°12.89' | S 14°30.26' | **22** |
| **23** | 194°34.60' | 74°20.37' | N 21°28.13' | 239°53.43' | 29°01.54' | N 9°56.96' | 261°09.91' | 7°45.06' | N 1°54.82' | 301°42.20' | 327°12.78' | S 14°30.31' | **23** |
| **24** | 209°33.88' | 74°23.56' | N 21°28.55' | 254°54.24' | 29°03.20' | N 9°57.57' | 276°12.20' | 7°45.23' | N 1°54.88' | 316°44.77' | 327°12.67' | S 14°30.35' | **24** |
| | δ 14.9881° | | *d* 0.4417' | δ 15.0133° | | *d* 0.6173' | δ 15.0381° | | *d* 0.0629' | δ 15.0429° | | *d* 0.0449' | |

## *Wednesday, July 6th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°49.01' | 14.9982° | 105°08.43' | N 22°42.50' | 0.2473' | 101°37.10' | 14.5661° | 182°20.34' | N 3°16.24' | 14.3352' | 56.2769' | 283°57.44' | **00** |
| **01** | 193°48.90' | 14.9982° | 105°11.00' | N 22°42.25' | 0.2480' | 116°11.05' | 14.5658° | 182°48.85' | N 3°01.87' | 14.3639' | 56.3077' | 298°59.90' | **01** |
| **02** | 208°48.80' | 14.9982° | 105°13.57' | N 22°42.00' | 0.2487' | 130°44.98' | 14.5655° | 183°17.39' | N 2°47.48' | 14.3918' | 56.3387' | 314°02.37' | **02** |
| **03** | 223°48.69' | 14.9982° | 105°16.14' | N 22°41.75' | 0.2494' | 145°18.89' | 14.5652° | 183°45.94' | N 2°33.06' | 14.4188' | 56.3699' | 329°04.83' | **03** |
| **04** | 238°48.59' | 14.9982° | 105°18.71' | N 22°41.50' | 0.2501' | 159°52.78' | 14.5648° | 184°14.52' | N 2°18.62' | 14.4450' | 56.4013' | 344°07.29' | **04** |
| **05** | 253°48.48' | 14.9982° | 105°21.28' | N 22°41.25' | 0.2508' | 174°26.65' | 14.5645° | 184°43.11' | N 2°04.15' | 14.4704' | 56.4329' | 359°09.76' | **05** |
| **06** | 268°48.38' | 14.9983° | 105°23.85' | N 22°41.00' | 0.2514' | 189°00.49' | 14.5641° | 185°11.73' | N 1°49.65' | 14.4949' | 56.4646' | 14°12.22' | **06** |
| **07** | 283°48.27' | 14.9983° | 105°26.42' | N 22°40.75' | 0.2521' | 203°34.31' | 14.5637° | 185°40.37' | N 1°35.13' | 14.5185' | 56.4966' | 29°14.69' | **07** |
| **08** | 298°48.17' | 14.9983° | 105°28.98' | N 22°40.50' | 0.2528' | 218°08.11' | 14.5633° | 186°09.04' | N 1°20.59' | 14.5412' | 56.5287' | 44°17.15' | **08** |
| **09** | 313°48.06' | 14.9983° | 105°31.55' | N 22°40.24' | 0.2535' | 232°41.88' | 14.5628° | 186°37.73' | N 1°06.03' | 14.5631' | 56.5610' | 59°19.61' | **09** |
| **10** | 328°47.96' | 14.9983° | 105°34.12' | N 22°39.99' | 0.2542' | 247°15.63' | 14.5624° | 187°06.45' | N 0°51.44' | 14.5841' | 56.5935' | 74°22.08' | **10** |
| **11** | 343°47.85' | 14.9983° | 105°36.69' | N 22°39.73' | 0.2549' | 261°49.34' | 14.5619° | 187°35.20' | N 0°36.84' | 14.6042' | 56.6262' | 89°24.54' | **11** |
| **12** | 358°47.75' | 14.9983° | 105°39.26' | N 22°39.48' | 0.2555' | 276°23.02' | 14.5614° | 188°03.98' | N 0°22.22' | 14.6235' | 56.6591' | 104°27.01' | **12** |
| **13** | 13°47.65' | 14.9983° | 105°41.83' | N 22°39.22' | 0.2562' | 290°56.68' | 14.5609° | 188°32.79' | N 0°07.57' | 14.6418' | 56.6921' | 119°29.47' | **13** |
| **14** | 28°47.54' | 14.9983° | 105°44.39' | N 22°38.96' | 0.2569' | 305°30.30' | 14.5603° | 189°01.64' | S 0°07.08' | 14.6592' | 56.7253' | 134°31.94' | **14** |
| **15** | 43°47.44' | 14.9983° | 105°46.96' | N 22°38.71' | 0.2576' | 320°03.88' | 14.5598° | 189°30.51' | S 0°21.76' | 14.6757' | 56.7587' | 149°34.40' | **15** |
| **16** | 58°47.34' | 14.9983° | 105°49.53' | N 22°38.45' | 0.2583' | 334°37.44' | 14.5592° | 189°59.43' | S 0°36.45' | 14.6912' | 56.7922' | 164°36.86' | **16** |
| **17** | 73°47.23' | 14.9983° | 105°52.09' | N 22°38.19' | 0.2589' | 349°10.95' | 14.5586° | 190°28.38' | S 0°51.16' | 14.7058' | 56.8259' | 179°39.33' | **17** |
| **18** | 88°47.13' | 14.9983° | 105°54.66' | N 22°37.93' | 0.2596' | 3°44.43' | 14.5580° | 190°57.36' | S 1°05.88' | 14.7195' | 56.8598' | 194°41.79' | **18** |
| **19** | 103°47.03' | 14.9983° | 105°57.23' | N 22°37.67' | 0.2603' | 18°17.87' | 14.5573° | 191°26.39' | S 1°20.61' | 14.7323' | 56.8938' | 209°44.26' | **19** |
| **20** | 118°46.92' | 14.9983° | 105°59.80' | N 22°37.41' | 0.2610' | 32°51.26' | 14.5566° | 191°55.46' | S 1°35.35' | 14.7440' | 56.9280' | 224°46.72' | **20** |
| **21** | 133°46.82' | 14.9983° | 106°02.36' | N 22°37.15' | 0.2617' | 47°24.62' | 14.5559° | 192°24.56' | S 1°50.11' | 14.7548' | 56.9624' | 239°49.18' | **21** |
| **22** | 148°46.72' | 14.9983° | 106°04.93' | N 22°36.89' | 0.2623' | 61°57.93' | 14.5552° | 192°53.72' | S 2°04.87' | 14.7647' | 56.9969' | 254°51.65' | **22** |
| **23** | 163°46.62' | 14.9983° | 106°07.49' | N 22°36.62' | 0.2630' | 76°31.20' | 14.5545° | 193°22.91' | S 2°19.65' | 14.7735' | 57.0316' | 269°54.11' | **23** |
| **24** | 178°46.52' | 14.9983° | 106°10.06' | N 22°36.36' | 0.2637' | 91°04.42' | 14.5537° | 193°52.15' | S 2°34.43' | 14.7814' | 57.0664' | 284°56.58' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.7311' | hp (π) 0.1442' | ½Ø 15.4386' | 43.9081627507043<br>85% +cre | |
| EoT at 12:00 UTC : -4m 49s (δ -0.42 s/h) | | Phase at 12:00 UTC : 82.84° | | |
| Meridian Pass. Time : 12:04:49.002 | | Age : 6.4 day(s) | | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.12') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 209°33.88' | 74°23.56' | N 21°28.55' | 254°54.24' | 29°03.20' | N 9°57.57' | 276°12.20' | 7°45.23' | N 1°54.88' | 316°44.77' | 327°12.67' | S 14°30.35' | **00** |
| **01** | 224°33.15' | 74°26.75' | N 21°28.96' | 269°55.04' | 29°04.87' | N 9°58.18' | 291°14.50' | 7°45.40' | N 1°54.94' | 331°47.35' | 327°12.55' | S 14°30.40' | **01** |
| **02** | 239°32.43' | 74°29.94' | N 21°29.38' | 284°55.84' | 29°06.53' | N 9°58.79' | 306°16.79' | 7°45.57' | N 1°55.00' | 346°49.92' | 327°12.44' | S 14°30.44' | **02** |
| **03** | 254°31.70' | 74°33.13' | N 21°29.80' | 299°56.64' | 29°08.19' | N 9°59.40' | 321°19.09' | 7°45.74' | N 1°55.06' | 1°52.50' | 327°12.33' | S 14°30.49' | **03** |
| **04** | 269°30.98' | 74°36.32' | N 21°30.21' | 314°57.44' | 29°09.85' | N 10°00.02' | 336°21.38' | 7°45.91' | N 1°55.12' | 16°55.08' | 327°12.22' | S 14°30.54' | **04** |
| **05** | 284°30.25' | 74°39.51' | N 21°30.63' | 329°58.25' | 29°11.51' | N 10°00.63' | 351°23.68' | 7°46.08' | N 1°55.18' | 31°57.65' | 327°12.10' | S 14°30.58' | **05** |
| **06** | 299°29.52' | 74°42.70' | N 21°31.04' | 344°59.05' | 29°13.17' | N 10°01.24' | 6°25.97' | 7°46.25' | N 1°55.24' | 47°00.23' | 327°11.99' | S 14°30.63' | **06** |
| **07** | 314°28.80' | 74°45.89' | N 21°31.45' | 359°59.85' | 29°14.84' | N 10°01.85' | 21°28.27' | 7°46.42' | N 1°55.30' | 62°02.81' | 327°11.88' | S 14°30.67' | **07** |
| **08** | 329°28.07' | 74°49.08' | N 21°31.86' | 15°00.65' | 29°16.50' | N 10°02.46' | 36°30.56' | 7°46.59' | N 1°55.36' | 77°05.39' | 327°11.76' | S 14°30.72' | **08** |
| **09** | 344°27.34' | 74°52.27' | N 21°32.27' | 30°01.45' | 29°18.16' | N 10°03.07' | 51°32.86' | 7°46.76' | N 1°55.42' | 92°07.96' | 327°11.65' | S 14°30.77' | **09** |
| **10** | 359°26.61' | 74°55.47' | N 21°32.68' | 45°02.26' | 29°19.82' | N 10°03.68' | 66°35.16' | 7°46.92' | N 1°55.47' | 107°10.54' | 327°11.54' | S 14°30.81' | **10** |
| **11** | 14°25.88' | 74°58.66' | N 21°33.09' | 60°03.06' | 29°21.48' | N 10°04.29' | 81°37.45' | 7°47.09' | N 1°55.53' | 122°13.12' | 327°11.42' | S 14°30.86' | **11** |
| **12** | 29°25.16' | 75°01.85' | N 21°33.50' | 75°03.86' | 29°23.14' | N 10°04.90' | 96°39.75' | 7°47.26' | N 1°55.59' | 137°15.70' | 327°11.31' | S 14°30.91' | **12** |
| **13** | 44°24.43' | 75°05.04' | N 21°33.90' | 90°04.67' | 29°24.81' | N 10°05.51' | 111°42.05' | 7°47.42' | N 1°55.65' | 152°18.27' | 327°11.20' | S 14°30.95' | **13** |
| **14** | 59°23.70' | 75°08.24' | N 21°34.31' | 105°05.47' | 29°26.47' | N 10°06.12' | 126°44.35' | 7°47.59' | N 1°55.71' | 167°20.85' | 327°11.08' | S 14°31.00' | **14** |
| **15** | 74°22.97' | 75°11.43' | N 21°34.71' | 120°06.27' | 29°28.13' | N 10°06.73' | 141°46.64' | 7°47.76' | N 1°55.77' | 182°23.43' | 327°10.97' | S 14°31.05' | **15** |
| **16** | 89°22.24' | 75°14.63' | N 21°35.11' | 135°07.07' | 29°29.79' | N 10°07.34' | 156°48.94' | 7°47.92' | N 1°55.82' | 197°26.01' | 327°10.85' | S 14°31.09' | **16** |
| **17** | 104°21.51' | 75°17.82' | N 21°35.52' | 150°07.88' | 29°31.45' | N 10°07.95' | 171°51.24' | 7°48.09' | N 1°55.88' | 212°28.59' | 327°10.74' | S 14°31.14' | **17** |
| **18** | 119°20.77' | 75°21.02' | N 21°35.92' | 165°08.68' | 29°33.11' | N 10°08.56' | 186°53.54' | 7°48.25' | N 1°55.94' | 227°31.17' | 327°10.63' | S 14°31.18' | **18** |
| **19** | 134°20.04' | 75°24.21' | N 21°36.32' | 180°09.48' | 29°34.77' | N 10°09.17' | 201°55.84' | 7°48.42' | N 1°56.00' | 242°33.74' | 327°10.51' | S 14°31.23' | **19** |
| **20** | 149°19.31' | 75°27.41' | N 21°36.72' | 195°10.29' | 29°36.43' | N 10°09.78' | 216°58.14' | 7°48.58' | N 1°56.06' | 257°36.32' | 327°10.40' | S 14°31.28' | **20** |
| **21** | 164°18.58' | 75°30.60' | N 21°37.11' | 210°11.09' | 29°38.10' | N 10°10.39' | 232°00.44' | 7°48.75' | N 1°56.11' | 272°38.90' | 327°10.28' | S 14°31.32' | **21** |
| **22** | 179°17.85' | 75°33.80' | N 21°37.51' | 225°11.89' | 29°39.76' | N 10°11.00' | 247°02.74' | 7°48.91' | N 1°56.17' | 287°41.48' | 327°10.17' | S 14°31.37' | **22** |
| **23** | 194°17.11' | 75°37.00' | N 21°37.91' | 240°12.70' | 29°41.42' | N 10°11.60' | 262°05.04' | 7°49.08' | N 1°56.23' | 302°44.06' | 327°10.05' | S 14°31.42' | **23** |
| **24** | 209°16.38' | 75°40.20' | N 21°38.30' | 255°13.50' | 29°43.08' | N 10°12.21' | 277°07.34' | 7°49.24' | N 1°56.29' | 317°46.64' | 327°09.94' | S 14°31.46' | **24** |
| | δ 14.9879° | | *d* 0.4180' | δ 15.0134° | | *d* 0.6125' | δ 15.0382° | | *d* 0.0599' | δ 15.0429° | | *d* 0.0459' | |

## *Thursday, July 7th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°46.52' | 14.9983° | 106°10.06' | N 22°36.36' | 0.2637' | 91°04.42' | 14.5537° | 193°52.15' | S 2°34.43' | 14.7814' | 57.0664' | 284°56.58' | **00** |
| **01** | 193°46.41' | 14.9983° | 106°12.63' | N 22°36.09' | 0.2644' | 105°37.60' | 14.5529° | 194°21.44' | S 2°49.22' | 14.7882' | 57.1014' | 299°59.04' | **01** |
| **02** | 208°46.31' | 14.9983° | 106°15.19' | N 22°35.83' | 0.2651' | 120°10.73' | 14.5521° | 194°50.78' | S 3°04.01' | 14.7940' | 57.1365' | 315°01.50' | **02** |
| **03** | 223°46.21' | 14.9983° | 106°17.76' | N 22°35.56' | 0.2657' | 134°43.81' | 14.5513° | 195°20.16' | S 3°18.81' | 14.7988' | 57.1717' | 330°03.97' | **03** |
| **04** | 238°46.11' | 14.9983° | 106°20.32' | N 22°35.30' | 0.2664' | 149°16.83' | 14.5504° | 195°49.60' | S 3°33.61' | 14.8026' | 57.2071' | 345°06.43' | **04** |
| **05** | 253°46.01' | 14.9983° | 106°22.89' | N 22°35.03' | 0.2671' | 163°49.81' | 14.5496° | 196°19.09' | S 3°48.42' | 14.8053' | 57.2427' | 0°08.90' | **05** |
| **06** | 268°45.91' | 14.9983° | 106°25.45' | N 22°34.76' | 0.2678' | 178°22.73' | 14.5487° | 196°48.63' | S 4°03.22' | 14.8069' | 57.2783' | 15°11.36' | **06** |
| **07** | 283°45.81' | 14.9983° | 106°28.02' | N 22°34.49' | 0.2685' | 192°55.59' | 14.5478° | 197°18.23' | S 4°18.03' | 14.8075' | 57.3141' | 30°13.82' | **07** |
| **08** | 298°45.71' | 14.9983° | 106°30.58' | N 22°34.22' | 0.2691' | 207°28.40' | 14.5468° | 197°47.89' | S 4°32.84' | 14.8070' | 57.3501' | 45°16.29' | **08** |
| **09** | 313°45.61' | 14.9983° | 106°33.15' | N 22°33.95' | 0.2698' | 222°01.15' | 14.5459° | 198°17.60' | S 4°47.64' | 14.8054' | 57.3861' | 60°18.75' | **09** |
| **10** | 328°45.51' | 14.9983° | 106°35.71' | N 22°33.68' | 0.2705' | 236°33.85' | 14.5449° | 198°47.37' | S 5°02.45' | 14.8027' | 57.4223' | 75°21.22' | **10** |
| **11** | 343°45.41' | 14.9983° | 106°38.27' | N 22°33.41' | 0.2712' | 251°06.48' | 14.5439° | 199°17.20' | S 5°17.24' | 14.7989' | 57.4586' | 90°23.68' | **11** |
| **12** | 358°45.31' | 14.9983° | 106°40.84' | N 22°33.14' | 0.2719' | 265°39.05' | 14.5428° | 199°47.10' | S 5°32.04' | 14.7939' | 57.4950' | 105°26.14' | **12** |
| **13** | 13°45.21' | 14.9983° | 106°43.40' | N 22°32.87' | 0.2725' | 280°11.55' | 14.5418° | 200°17.05' | S 5°46.83' | 14.7878' | 57.5315' | 120°28.61' | **13** |
| **14** | 28°45.11' | 14.9983° | 106°45.97' | N 22°32.60' | 0.2732' | 294°44.00' | 14.5407° | 200°47.08' | S 6°01.61' | 14.7805' | 57.5682' | 135°31.07' | **14** |
| **15** | 43°45.01' | 14.9983° | 106°48.53' | N 22°32.32' | 0.2739' | 309°16.37' | 14.5396° | 201°17.16' | S 6°16.38' | 14.7721' | 57.6049' | 150°33.54' | **15** |
| **16** | 58°44.91' | 14.9983° | 106°51.09' | N 22°32.05' | 0.2746' | 323°48.68' | 14.5385° | 201°47.32' | S 6°31.14' | 14.7625' | 57.6418' | 165°36.00' | **16** |
| **17** | 73°44.81' | 14.9984° | 106°53.66' | N 22°31.77' | 0.2752' | 338°20.92' | 14.5373° | 202°17.54' | S 6°45.89' | 14.7517' | 57.6787' | 180°38.47' | **17** |
| **18** | 88°44.71' | 14.9984° | 106°56.22' | N 22°31.50' | 0.2759' | 352°53.09' | 14.5362° | 202°47.84' | S 7°00.63' | 14.7397' | 57.7157' | 195°40.93' | **18** |
| **19** | 103°44.61' | 14.9984° | 106°58.78' | N 22°31.22' | 0.2766' | 7°25.19' | 14.5350° | 203°18.21' | S 7°15.36' | 14.7265' | 57.7529' | 210°43.39' | **19** |
| **20** | 118°44.51' | 14.9984° | 107°01.34' | N 22°30.94' | 0.2773' | 21°57.21' | 14.5337° | 203°48.64' | S 7°30.07' | 14.7120' | 57.7901' | 225°45.86' | **20** |
| **21** | 133°44.42' | 14.9984° | 107°03.91' | N 22°30.66' | 0.2779' | 36°29.16' | 14.5325° | 204°19.16' | S 7°44.77' | 14.6962' | 57.8274' | 240°48.32' | **21** |
| **22** | 148°44.32' | 14.9984° | 107°06.47' | N 22°30.38' | 0.2786' | 51°01.04' | 14.5312° | 204°49.75' | S 7°59.45' | 14.6793' | 57.8648' | 255°50.79' | **22** |
| **23** | 163°44.22' | 14.9984° | 107°09.03' | N 22°30.11' | 0.2793' | 65°32.84' | 14.5300° | 205°20.41' | S 8°14.11' | 14.6610' | 57.9023' | 270°53.25' | **23** |
| **24** | 178°44.12' | 14.9984° | 107°11.59' | N 22°29.83' | 0.2800' | 80°04.56' | 14.5287° | 205°51.16' | S 8°28.75' | 14.6414' | 57.9398' | 285°55.71' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 15.7313' | hp (π) 0.1442' | ½Ø 15.6663' | 54.4626624469788<br>6% +gib | |
| | EoT at 12:00 UTC : -4m 58s (δ -0.40 s/h) | | Phase at 12:00 UTC : 94.98° | | |
| | Meridian Pass. Time : 12:04:58.775 | | Age : 7.4 day(s) | | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.12') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 209°16.38' | 75°40.20' | N 21°38.30' | 255°13.50' | 29°43.08' | N 10°12.21' | 277°07.34' | 7°49.24' | N 1°56.29' | 317°46.64' | 327°09.94' | S 14°31.46' | **00** |
| **01** | 224°15.65' | 75°43.39' | N 21°38.70' | 270°14.30' | 29°44.74' | N 10°12.82' | 292°09.64' | 7°49.40' | N 1°56.34' | 332°49.22' | 327°09.82' | S 14°31.51' | **01** |
| **02** | 239°14.91' | 75°46.59' | N 21°39.09' | 285°15.11' | 29°46.40' | N 10°13.43' | 307°11.94' | 7°49.57' | N 1°56.40' | 347°51.80' | 327°09.70' | S 14°31.56' | **02** |
| **03** | 254°14.18' | 75°49.79' | N 21°39.48' | 300°15.91' | 29°48.06' | N 10°14.03' | 322°14.24' | 7°49.73' | N 1°56.46' | 2°54.38' | 327°09.59' | S 14°31.61' | **03** |
| **04** | 269°13.44' | 75°52.99' | N 21°39.87' | 315°16.71' | 29°49.72' | N 10°14.64' | 337°16.54' | 7°49.89' | N 1°56.51' | 17°56.96' | 327°09.47' | S 14°31.65' | **04** |
| **05** | 284°12.71' | 75°56.19' | N 21°40.26' | 330°17.52' | 29°51.38' | N 10°15.25' | 352°18.84' | 7°50.05' | N 1°56.57' | 32°59.54' | 327°09.36' | S 14°31.70' | **05** |
| **06** | 299°11.97' | 75°59.39' | N 21°40.65' | 345°18.32' | 29°53.04' | N 10°15.85' | 7°21.15' | 7°50.21' | N 1°56.63' | 48°02.12' | 327°09.24' | S 14°31.75' | **06** |
| **07** | 314°11.24' | 76°02.59' | N 21°41.04' | 0°19.12' | 29°54.70' | N 10°16.46' | 22°23.45' | 7°50.38' | N 1°56.68' | 63°04.70' | 327°09.13' | S 14°31.79' | **07** |
| **08** | 329°10.50' | 76°05.79' | N 21°41.42' | 15°19.93' | 29°56.36' | N 10°17.07' | 37°25.75' | 7°50.54' | N 1°56.74' | 78°07.28' | 327°09.01' | S 14°31.84' | **08** |
| **09** | 344°09.76' | 76°08.99' | N 21°41.81' | 30°20.73' | 29°58.02' | N 10°17.67' | 52°28.05' | 7°50.70' | N 1°56.79' | 93°09.86' | 327°08.89' | S 14°31.89' | **09** |
| **10** | 359°09.03' | 76°12.19' | N 21°42.20' | 45°21.53' | 29°59.68' | N 10°18.28' | 67°30.36' | 7°50.86' | N 1°56.85' | 108°12.44' | 327°08.78' | S 14°31.94' | **10** |
| **11** | 14°08.29' | 76°15.39' | N 21°42.58' | 60°22.34' | 30°01.34' | N 10°18.88' | 82°32.66' | 7°51.02' | N 1°56.90' | 123°15.02' | 327°08.66' | S 14°31.98' | **11** |
| **12** | 29°07.55' | 76°18.59' | N 21°42.96' | 75°23.14' | 30°03.00' | N 10°19.49' | 97°34.96' | 7°51.18' | N 1°56.96' | 138°17.60' | 327°08.54' | S 14°32.03' | **12** |
| **13** | 44°06.81' | 76°21.79' | N 21°43.34' | 90°23.95' | 30°04.66' | N 10°20.09' | 112°37.27' | 7°51.34' | N 1°57.02' | 153°20.18' | 327°08.43' | S 14°32.08' | **13** |
| **14** | 59°06.08' | 76°25.00' | N 21°43.72' | 105°24.75' | 30°06.32' | N 10°20.70' | 127°39.57' | 7°51.50' | N 1°57.07' | 168°22.76' | 327°08.31' | S 14°32.12' | **14** |
| **15** | 74°05.34' | 76°28.20' | N 21°44.10' | 120°25.56' | 30°07.98' | N 10°21.30' | 142°41.88' | 7°51.66' | N 1°57.13' | 183°25.35' | 327°08.19' | S 14°32.17' | **15** |
| **16** | 89°04.60' | 76°31.40' | N 21°44.48' | 135°26.36' | 30°09.64' | N 10°21.91' | 157°44.18' | 7°51.82' | N 1°57.18' | 198°27.93' | 327°08.07' | S 14°32.22' | **16** |
| **17** | 104°03.86' | 76°34.61' | N 21°44.86' | 150°27.16' | 30°11.30' | N 10°22.51' | 172°46.49' | 7°51.98' | N 1°57.24' | 213°30.51' | 327°07.96' | S 14°32.27' | **17** |
| **18** | 119°03.12' | 76°37.81' | N 21°45.24' | 165°27.97' | 30°12.96' | N 10°23.12' | 187°48.79' | 7°52.14' | N 1°57.29' | 228°33.09' | 327°07.84' | S 14°32.31' | **18** |
| **19** | 134°02.38' | 76°41.01' | N 21°45.61' | 180°28.77' | 30°14.62' | N 10°23.72' | 202°51.10' | 7°52.29' | N 1°57.35' | 243°35.67' | 327°07.72' | S 14°32.36' | **19** |
| **20** | 149°01.64' | 76°44.22' | N 21°45.99' | 195°29.58' | 30°16.28' | N 10°24.32' | 217°53.41' | 7°52.45' | N 1°57.40' | 258°38.25' | 327°07.60' | S 14°32.41' | **20** |
| **21** | 164°00.90' | 76°47.42' | N 21°46.36' | 210°30.38' | 30°17.94' | N 10°24.93' | 232°55.71' | 7°52.61' | N 1°57.46' | 273°40.84' | 327°07.49' | S 14°32.46' | **21** |
| **22** | 179°00.16' | 76°50.63' | N 21°46.73' | 225°31.19' | 30°19.60' | N 10°25.53' | 247°58.02' | 7°52.77' | N 1°57.51' | 288°43.42' | 327°07.37' | S 14°32.50' | **22** |
| **23** | 193°59.42' | 76°53.83' | N 21°47.11' | 240°31.99' | 30°21.26' | N 10°26.13' | 263°00.33' | 7°52.92' | N 1°57.56' | 303°46.00' | 327°07.25' | S 14°32.55' | **23** |
| **24** | 208°58.67' | 76°57.04' | N 21°47.48' | 255°32.80' | 30°22.92' | N 10°26.74' | 278°02.63' | 7°53.08' | N 1°57.62' | 318°48.58' | 327°07.13' | S 14°32.60' | **24** |
| | δ 14.9878° | | *d* 0.3940' | δ 15.0134° | | *d* 0.6076' | δ 15.0383° | | *d* 0.0570' | δ 15.0430° | | *d* 0.0469' | |

## *Friday, July 8th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°44.12' | 14.9984° | 107°11.59' | N 22°29.83' | 0.2800' | 80°04.56' | 14.5287° | 205°51.16' | S 8°28.75' | 14.6414' | 57.9398' | 285°55.71' | **00** |
| **01** | 193°44.02' | 14.9984° | 107°14.15' | N 22°29.55' | 0.2806' | 94°36.20' | 14.5273° | 206°21.98' | S 8°43.37' | 14.6205' | 57.9774' | 300°58.18' | **01** |
| **02** | 208°43.93' | 14.9984° | 107°16.71' | N 22°29.26' | 0.2813' | 109°07.75' | 14.5260° | 206°52.89' | S 8°57.97' | 14.5983' | 58.0151' | 316°00.64' | **02** |
| **03** | 223°43.83' | 14.9984° | 107°19.28' | N 22°28.98' | 0.2820' | 123°39.23' | 14.5246° | 207°23.88' | S 9°12.54' | 14.5748' | 58.0528' | 331°03.11' | **03** |
| **04** | 238°43.73' | 14.9984° | 107°21.84' | N 22°28.70' | 0.2827' | 138°10.62' | 14.5232° | 207°54.95' | S 9°27.09' | 14.5498' | 58.0906' | 346°05.57' | **04** |
| **05** | 253°43.64' | 14.9984° | 107°24.40' | N 22°28.42' | 0.2833' | 152°41.93' | 14.5218° | 208°26.11' | S 9°41.62' | 14.5236' | 58.1285' | 1°08.03' | **05** |
| **06** | 268°43.54' | 14.9984° | 107°26.96' | N 22°28.13' | 0.2840' | 167°13.15' | 14.5203° | 208°57.35' | S 9°56.11' | 14.4959' | 58.1664' | 16°10.50' | **06** |
| **07** | 283°43.44' | 14.9984° | 107°29.52' | N 22°27.85' | 0.2847' | 181°44.28' | 14.5189° | 209°28.68' | S 10°10.58' | 14.4668' | 58.2043' | 31°12.96' | **07** |
| **08** | 298°43.35' | 14.9984° | 107°32.08' | N 22°27.56' | 0.2854' | 196°15.32' | 14.5174° | 210°00.11' | S 10°25.02' | 14.4363' | 58.2423' | 46°15.43' | **08** |
| **09** | 313°43.25' | 14.9984° | 107°34.64' | N 22°27.28' | 0.2860' | 210°46.27' | 14.5159° | 210°31.62' | S 10°39.42' | 14.4043' | 58.2803' | 61°17.89' | **09** |
| **10** | 328°43.16' | 14.9984° | 107°37.20' | N 22°26.99' | 0.2867' | 225°17.13' | 14.5143° | 211°03.22' | S 10°53.79' | 14.3709' | 58.3183' | 76°20.36' | **10** |
| **11** | 343°43.06' | 14.9984° | 107°39.76' | N 22°26.70' | 0.2874' | 239°47.90' | 14.5128° | 211°34.92' | S 11°08.13' | 14.3361' | 58.3564' | 91°22.82' | **11** |
| **12** | 358°42.96' | 14.9984° | 107°42.32' | N 22°26.41' | 0.2881' | 254°18.57' | 14.5112° | 212°06.72' | S 11°22.43' | 14.2997' | 58.3945' | 106°25.28' | **12** |
| **13** | 13°42.87' | 14.9984° | 107°44.88' | N 22°26.12' | 0.2887' | 268°49.14' | 14.5096° | 212°38.60' | S 11°36.69' | 14.2618' | 58.4325' | 121°27.75' | **13** |
| **14** | 28°42.77' | 14.9984° | 107°47.44' | N 22°25.84' | 0.2894' | 283°19.62' | 14.5080° | 213°10.59' | S 11°50.91' | 14.2224' | 58.4707' | 136°30.21' | **14** |
| **15** | 43°42.68' | 14.9984° | 107°50.00' | N 22°25.55' | 0.2901' | 297°50.00' | 14.5063° | 213°42.68' | S 12°05.09' | 14.1815' | 58.5088' | 151°32.68' | **15** |
| **16** | 58°42.58' | 14.9984° | 107°52.56' | N 22°25.25' | 0.2908' | 312°20.28' | 14.5046° | 214°14.86' | S 12°19.23' | 14.1390' | 58.5469' | 166°35.14' | **16** |
| **17** | 73°42.49' | 14.9984° | 107°55.11' | N 22°24.96' | 0.2914' | 326°50.46' | 14.5030° | 214°47.15' | S 12°33.33' | 14.0949' | 58.5850' | 181°37.60' | **17** |
| **18** | 88°42.40' | 14.9984° | 107°57.67' | N 22°24.67' | 0.2921' | 341°20.53' | 14.5012° | 215°19.54' | S 12°47.37' | 14.0492' | 58.6231' | 196°40.07' | **18** |
| **19** | 103°42.30' | 14.9984° | 108°00.23' | N 22°24.38' | 0.2928' | 355°50.50' | 14.4995° | 215°52.03' | S 13°01.38' | 14.0019' | 58.6612' | 211°42.53' | **19** |
| **20** | 118°42.21' | 14.9984° | 108°02.79' | N 22°24.08' | 0.2934' | 10°20.37' | 14.4978° | 216°24.63' | S 13°15.33' | 13.9530' | 58.6992' | 226°45.00' | **20** |
| **21** | 133°42.11' | 14.9984° | 108°05.35' | N 22°23.79' | 0.2941' | 24°50.13' | 14.4960° | 216°57.33' | S 13°29.23' | 13.9025' | 58.7373' | 241°47.46' | **21** |
| **22** | 148°42.02' | 14.9984° | 108°07.91' | N 22°23.50' | 0.2948' | 39°19.78' | 14.4942° | 217°30.15' | S 13°43.08' | 13.8502' | 58.7753' | 256°49.92' | **22** |
| **23** | 163°41.93' | 14.9984° | 108°10.46' | N 22°23.20' | 0.2954' | 53°49.32' | 14.4924° | 218°03.07' | S 13°56.88' | 13.7963' | 58.8132' | 271°52.39' | **23** |
| **24** | 178°41.83' | 14.9984° | 108°13.02' | N 22°22.90' | 0.2961' | 68°18.76' | 14.4906° | 218°36.10' | S 14°10.62' | 13.7407' | 58.8511' | 286°54.85' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7316' | hp (π) 0.1442' | ½Ø 15.9114' | 65.1483633012869 5% +gib |
| | EoT at 12:00 UTC : -5m 8s (δ -0.38 s/h) | | Phase at 12:00 UTC : 107.51° | |
| | Meridian Pass. Time : 12:05:08.143 | | Age : 8.4 day(s) | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.12') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 208°58.67' | 76°57.04' | N 21°47.48' | 255°32.80' | 30°22.92' | N 10°26.74' | 278°02.63' | 7°53.08' | N 1°57.62' | 318°48.58' | 327°07.13' | S 14°32.60' | **00** |
| **01** | 223°57.93' | 77°00.25' | N 21°47.85' | 270°33.60' | 30°24.58' | N 10°27.34' | 293°04.94' | 7°53.24' | N 1°57.67' | 333°51.17' | 327°07.01' | S 14°32.65' | **01** |
| **02** | 238°57.19' | 77°03.45' | N 21°48.22' | 285°34.41' | 30°26.24' | N 10°27.94' | 308°07.25' | 7°53.39' | N 1°57.73' | 348°53.75' | 327°06.89' | S 14°32.70' | **02** |
| **03** | 253°56.45' | 77°06.66' | N 21°48.58' | 300°35.21' | 30°27.90' | N 10°28.54' | 323°09.56' | 7°53.55' | N 1°57.78' | 3°56.33' | 327°06.77' | S 14°32.74' | **03** |
| **04** | 268°55.70' | 77°09.87' | N 21°48.95' | 315°36.02' | 30°29.55' | N 10°29.14' | 338°11.87' | 7°53.70' | N 1°57.83' | 18°58.91' | 327°06.66' | S 14°32.79' | **04** |
| **05** | 283°54.96' | 77°13.07' | N 21°49.32' | 330°36.82' | 30°31.21' | N 10°29.75' | 353°14.17' | 7°53.86' | N 1°57.89' | 34°01.50' | 327°06.54' | S 14°32.84' | **05** |
| **06** | 298°54.22' | 77°16.28' | N 21°49.68' | 345°37.63' | 30°32.87' | N 10°30.35' | 8°16.48' | 7°54.02' | N 1°57.94' | 49°04.08' | 327°06.42' | S 14°32.89' | **06** |
| **07** | 313°53.47' | 77°19.49' | N 21°50.04' | 0°38.43' | 30°34.53' | N 10°30.95' | 23°18.79' | 7°54.17' | N 1°57.99' | 64°06.66' | 327°06.30' | S 14°32.94' | **07** |
| **08** | 328°52.73' | 77°22.70' | N 21°50.41' | 15°39.24' | 30°36.19' | N 10°31.55' | 38°21.10' | 7°54.32' | N 1°58.05' | 79°09.25' | 327°06.18' | S 14°32.98' | **08** |
| **09** | 343°51.98' | 77°25.91' | N 21°50.77' | 30°40.04' | 30°37.85' | N 10°32.15' | 53°23.41' | 7°54.48' | N 1°58.10' | 94°11.83' | 327°06.06' | S 14°33.03' | **09** |
| **10** | 358°51.24' | 77°29.12' | N 21°51.13' | 45°40.85' | 30°39.51' | N 10°32.75' | 68°25.72' | 7°54.63' | N 1°58.15' | 109°14.41' | 327°05.94' | S 14°33.08' | **10** |
| **11** | 13°50.49' | 77°32.33' | N 21°51.49' | 60°41.65' | 30°41.17' | N 10°33.35' | 83°28.03' | 7°54.79' | N 1°58.21' | 124°17.00' | 327°05.82' | S 14°33.13' | **11** |
| **12** | 28°49.75' | 77°35.54' | N 21°51.85' | 75°42.46' | 30°42.83' | N 10°33.95' | 98°30.34' | 7°54.94' | N 1°58.26' | 139°19.58' | 327°05.70' | S 14°33.18' | **12** |
| **13** | 43°49.00' | 77°38.75' | N 21°52.20' | 90°43.26' | 30°44.48' | N 10°34.55' | 113°32.65' | 7°55.09' | N 1°58.31' | 154°22.17' | 327°05.58' | S 14°33.22' | **13** |
| **14** | 58°48.25' | 77°41.96' | N 21°52.56' | 105°44.07' | 30°46.14' | N 10°35.15' | 128°34.97' | 7°55.25' | N 1°58.36' | 169°24.75' | 327°05.46' | S 14°33.27' | **14** |
| **15** | 73°47.51' | 77°45.17' | N 21°52.91' | 120°44.87' | 30°47.80' | N 10°35.75' | 143°37.28' | 7°55.40' | N 1°58.42' | 184°27.34' | 327°05.34' | S 14°33.32' | **15** |
| **16** | 88°46.76' | 77°48.38' | N 21°53.27' | 135°45.68' | 30°49.46' | N 10°36.35' | 158°39.59' | 7°55.55' | N 1°58.47' | 199°29.92' | 327°05.22' | S 14°33.37' | **16** |
| **17** | 103°46.01' | 77°51.59' | N 21°53.62' | 150°46.49' | 30°51.12' | N 10°36.95' | 173°41.90' | 7°55.70' | N 1°58.52' | 214°32.50' | 327°05.10' | S 14°33.42' | **17** |
| **18** | 118°45.26' | 77°54.80' | N 21°53.97' | 165°47.29' | 30°52.78' | N 10°37.55' | 188°44.21' | 7°55.85' | N 1°58.57' | 229°35.09' | 327°04.98' | S 14°33.47' | **18** |
| **19** | 133°44.52' | 77°58.02' | N 21°54.32' | 180°48.10' | 30°54.43' | N 10°38.15' | 203°46.53' | 7°56.01' | N 1°58.62' | 244°37.67' | 327°04.86' | S 14°33.51' | **19** |
| **20** | 148°43.77' | 78°01.23' | N 21°54.67' | 195°48.90' | 30°56.09' | N 10°38.75' | 218°48.84' | 7°56.16' | N 1°58.67' | 259°40.26' | 327°04.74' | S 14°33.56' | **20** |
| **21** | 163°43.02' | 78°04.44' | N 21°55.02' | 210°49.71' | 30°57.75' | N 10°39.35' | 233°51.15' | 7°56.31' | N 1°58.73' | 274°42.84' | 327°04.62' | S 14°33.61' | **21** |
| **22** | 178°42.27' | 78°07.66' | N 21°55.37' | 225°50.52' | 30°59.41' | N 10°39.94' | 248°53.47' | 7°56.46' | N 1°58.78' | 289°45.43' | 327°04.50' | S 14°33.66' | **22** |
| **23** | 193°41.52' | 78°10.87' | N 21°55.72' | 240°51.32' | 31°01.07' | N 10°40.54' | 263°55.78' | 7°56.61' | N 1°58.83' | 304°48.01' | 327°04.37' | S 14°33.71' | **23** |
| **24** | 208°40.77' | 78°14.08' | N 21°56.07' | 255°52.13' | 31°02.72' | N 10°41.14' | 278°58.09' | 7°56.76' | N 1°58.88' | 319°50.60' | 327°04.25' | S 14°33.76' | **24** |
| | δ 14.9876° | | *d* 0.3696' | δ 15.0134° | | *d* 0.6026' | δ 15.0385° | | *d* 0.0540' | δ 15.0430° | | *d* 0.0478' | |

## *Saturday, July 9th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°41.83' | 14.9984° | 108°13.02' | N 22°22.90' | 0.2961' | 68°18.76' | 14.4906° | 218°36.10' | S 14°10.62' | 13.7407' | 58.8511' | 286°54.85' | **00** |
| **01** | 193°41.74' | 14.9984° | 108°15.58' | N 22°22.61' | 0.2968' | 82°48.08' | 14.4887° | 219°09.24' | S 14°24.30' | 13.6834' | 58.8890' | 301°57.32' | **01** |
| **02** | 208°41.65' | 14.9985° | 108°18.13' | N 22°22.31' | 0.2975' | 97°17.29' | 14.4868° | 219°42.49' | S 14°37.93' | 13.6243' | 58.9268' | 316°59.78' | **02** |
| **03** | 223°41.55' | 14.9985° | 108°20.69' | N 22°22.01' | 0.2981' | 111°46.38' | 14.4849° | 220°15.86' | S 14°51.49' | 13.5635' | 58.9646' | 332°02.25' | **03** |
| **04** | 238°41.46' | 14.9985° | 108°23.25' | N 22°21.71' | 0.2988' | 126°15.37' | 14.4830° | 220°49.34' | S 15°04.99' | 13.5009' | 59.0023' | 347°04.71' | **04** |
| **05** | 253°41.37' | 14.9985° | 108°25.80' | N 22°21.41' | 0.2995' | 140°44.23' | 14.4811° | 221°22.94' | S 15°18.43' | 13.4366' | 59.0399' | 2°07.17' | **05** |
| **06** | 268°41.28' | 14.9985° | 108°28.36' | N 22°21.11' | 0.3001' | 155°12.98' | 14.4792° | 221°56.66' | S 15°31.80' | 13.3704' | 59.0775' | 17°09.64' | **06** |
| **07** | 283°41.18' | 14.9985° | 108°30.92' | N 22°20.81' | 0.3008' | 169°41.61' | 14.4772° | 222°30.49' | S 15°45.10' | 13.3024' | 59.1150' | 32°12.10' | **07** |
| **08** | 298°41.09' | 14.9985° | 108°33.47' | N 22°20.51' | 0.3015' | 184°10.13' | 14.4752° | 223°04.44' | S 15°58.33' | 13.2326' | 59.1523' | 47°14.57' | **08** |
| **09** | 313°41.00' | 14.9985° | 108°36.03' | N 22°20.21' | 0.3021' | 198°38.52' | 14.4732° | 223°38.51' | S 16°11.49' | 13.1609' | 59.1896' | 62°17.03' | **09** |
| **10** | 328°40.91' | 14.9985° | 108°38.58' | N 22°19.91' | 0.3028' | 213°06.79' | 14.4712° | 224°12.70' | S 16°24.58' | 13.0873' | 59.2268' | 77°19.49' | **10** |
| **11** | 343°40.82' | 14.9985° | 108°41.14' | N 22°19.60' | 0.3035' | 227°34.94' | 14.4692° | 224°47.01' | S 16°37.59' | 13.0118' | 59.2639' | 92°21.96' | **11** |
| **12** | 358°40.73' | 14.9985° | 108°43.69' | N 22°19.30' | 0.3041' | 242°02.97' | 14.4671° | 225°21.45' | S 16°50.53' | 12.9345' | 59.3009' | 107°24.42' | **12** |
| **13** | 13°40.64' | 14.9985° | 108°46.25' | N 22°18.99' | 0.3048' | 256°30.88' | 14.4651° | 225°56.01' | S 17°03.38' | 12.8552' | 59.3377' | 122°26.89' | **13** |
| **14** | 28°40.55' | 14.9985° | 108°48.80' | N 22°18.69' | 0.3055' | 270°58.66' | 14.4630° | 226°30.69' | S 17°16.16' | 12.7740' | 59.3744' | 137°29.35' | **14** |
| **15** | 43°40.46' | 14.9985° | 108°51.36' | N 22°18.38' | 0.3061' | 285°26.31' | 14.4609° | 227°05.50' | S 17°28.85' | 12.6908' | 59.4110' | 152°31.81' | **15** |
| **16** | 58°40.37' | 14.9985° | 108°53.91' | N 22°18.08' | 0.3068' | 299°53.84' | 14.4588° | 227°40.44' | S 17°41.45' | 12.6057' | 59.4475' | 167°34.28' | **16** |
| **17** | 73°40.28' | 14.9985° | 108°56.47' | N 22°17.77' | 0.3075' | 314°21.24' | 14.4567° | 228°15.50' | S 17°53.97' | 12.5185' | 59.4838' | 182°36.74' | **17** |
| **18** | 88°40.19' | 14.9985° | 108°59.02' | N 22°17.46' | 0.3081' | 328°48.52' | 14.4546° | 228°50.69' | S 18°06.40' | 12.4294' | 59.5199' | 197°39.21' | **18** |
| **19** | 103°40.10' | 14.9985° | 109°01.58' | N 22°17.15' | 0.3088' | 343°15.67' | 14.4524° | 229°26.01' | S 18°18.74' | 12.3383' | 59.5560' | 212°41.67' | **19** |
| **20** | 118°40.01' | 14.9985° | 109°04.13' | N 22°16.84' | 0.3095' | 357°42.68' | 14.4503° | 230°01.45' | S 18°30.99' | 12.2451' | 59.5918' | 227°44.14' | **20** |
| **21** | 133°39.92' | 14.9985° | 109°06.68' | N 22°16.53' | 0.3101' | 12°09.57' | 14.4481° | 230°37.03' | S 18°43.14' | 12.1499' | 59.6275' | 242°46.60' | **21** |
| **22** | 148°39.83' | 14.9985° | 109°09.24' | N 22°16.22' | 0.3108' | 26°36.33' | 14.4460° | 231°12.73' | S 18°55.19' | 12.0527' | 59.6630' | 257°49.06' | **22** |
| **23** | 163°39.74' | 14.9985° | 109°11.79' | N 22°15.91' | 0.3115' | 41°02.96' | 14.4438° | 231°48.57' | S 19°07.14' | 11.9534' | 59.6983' | 272°51.53' | **23** |
| **24** | 178°39.65' | 14.9985° | 109°14.34' | N 22°15.60' | 0.3121' | 55°29.45' | 14.4416° | 232°24.54' | S 19°18.99' | 11.8520' | 59.7334' | 287°53.99' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7319' | hp (π) 0.1442' | ½Ø 16.1583' | 75.4345464854018 8% +gib |
| | EoT at 12:00 UTC : -5m 17s (δ -0.36 s/h) | | Phase at 12:00 UTC : 120.46° | |
| | Meridian Pass. Time : 12:05:17.089 | | Age : 9.4 day(s) | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.12') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 208°40.77' | 78°14.08' | N 21°56.07' | 255°52.13' | 31°02.72' | N 10°41.14' | 278°58.09' | 7°56.76' | N 1°58.88' | 319°50.60' | 327°04.25' | S 14°33.76' | **00** |
| **01** | 223°40.02' | 78°17.30' | N 21°56.41' | 270°52.93' | 31°04.38' | N 10°41.74' | 294°00.41' | 7°56.91' | N 1°58.93' | 334°53.19' | 327°04.13' | S 14°33.81' | **01** |
| **02** | 238°39.27' | 78°20.51' | N 21°56.75' | 285°53.74' | 31°06.04' | N 10°42.33' | 309°02.72' | 7°57.06' | N 1°58.98' | 349°55.77' | 327°04.01' | S 14°33.86' | **02** |
| **03** | 253°38.52' | 78°23.73' | N 21°57.10' | 300°54.55' | 31°07.70' | N 10°42.93' | 324°05.04' | 7°57.21' | N 1°59.03' | 4°58.36' | 327°03.89' | S 14°33.90' | **03** |
| **04** | 268°37.77' | 78°26.94' | N 21°57.44' | 315°55.35' | 31°09.36' | N 10°43.53' | 339°07.35' | 7°57.36' | N 1°59.08' | 20°00.94' | 327°03.77' | S 14°33.95' | **04** |
| **05** | 283°37.01' | 78°30.16' | N 21°57.78' | 330°56.16' | 31°11.01' | N 10°44.13' | 354°09.67' | 7°57.50' | N 1°59.13' | 35°03.53' | 327°03.64' | S 14°34.00' | **05** |
| **06** | 298°36.26' | 78°33.37' | N 21°58.12' | 345°56.97' | 31°12.67' | N 10°44.72' | 9°11.98' | 7°57.65' | N 1°59.18' | 50°06.12' | 327°03.52' | S 14°34.05' | **06** |
| **07** | 313°35.51' | 78°36.59' | N 21°58.46' | 0°57.77' | 31°14.33' | N 10°45.32' | 24°14.30' | 7°57.80' | N 1°59.23' | 65°08.70' | 327°03.40' | S 14°34.10' | **07** |
| **08** | 328°34.76' | 78°39.81' | N 21°58.80' | 15°58.58' | 31°15.99' | N 10°45.91' | 39°16.62' | 7°57.95' | N 1°59.28' | 80°11.29' | 327°03.28' | S 14°34.15' | **08** |
| **09** | 343°34.00' | 78°43.03' | N 21°59.13' | 30°59.39' | 31°17.64' | N 10°46.51' | 54°18.93' | 7°58.10' | N 1°59.33' | 95°13.87' | 327°03.16' | S 14°34.20' | **09** |
| **10** | 358°33.25' | 78°46.24' | N 21°59.47' | 46°00.19' | 31°19.30' | N 10°47.11' | 69°21.25' | 7°58.24' | N 1°59.38' | 110°16.46' | 327°03.03' | S 14°34.25' | **10** |
| **11** | 13°32.50' | 78°49.46' | N 21°59.80' | 61°01.00' | 31°20.96' | N 10°47.70' | 84°23.57' | 7°58.39' | N 1°59.43' | 125°19.05' | 327°02.91' | S 14°34.30' | **11** |
| **12** | 28°31.74' | 78°52.68' | N 22°00.14' | 76°01.81' | 31°22.62' | N 10°48.30' | 99°25.89' | 7°58.54' | N 1°59.48' | 140°21.63' | 327°02.79' | S 14°34.35' | **12** |
| **13** | 43°30.99' | 78°55.90' | N 22°00.47' | 91°02.61' | 31°24.27' | N 10°48.89' | 114°28.20' | 7°58.68' | N 1°59.53' | 155°24.22' | 327°02.66' | S 14°34.39' | **13** |
| **14** | 58°30.24' | 78°59.12' | N 22°00.80' | 106°03.42' | 31°25.93' | N 10°49.49' | 129°30.52' | 7°58.83' | N 1°59.58' | 170°26.81' | 327°02.54' | S 14°34.44' | **14** |
| **15** | 73°29.48' | 79°02.33' | N 22°01.13' | 121°04.23' | 31°27.59' | N 10°50.08' | 144°32.84' | 7°58.97' | N 1°59.63' | 185°29.40' | 327°02.42' | S 14°34.49' | **15** |
| **16** | 88°28.73' | 79°05.55' | N 22°01.46' | 136°05.04' | 31°29.24' | N 10°50.67' | 159°35.16' | 7°59.12' | N 1°59.68' | 200°31.98' | 327°02.30' | S 14°34.54' | **16** |
| **17** | 103°27.97' | 79°08.77' | N 22°01.79' | 151°05.84' | 31°30.90' | N 10°51.27' | 174°37.48' | 7°59.27' | N 1°59.73' | 215°34.57' | 327°02.17' | S 14°34.59' | **17** |
| **18** | 118°27.21' | 79°11.99' | N 22°02.12' | 166°06.65' | 31°32.56' | N 10°51.86' | 189°39.80' | 7°59.41' | N 1°59.78' | 230°37.16' | 327°02.05' | S 14°34.64' | **18** |
| **19** | 133°26.46' | 79°15.21' | N 22°02.44' | 181°07.46' | 31°34.21' | N 10°52.46' | 204°42.12' | 7°59.55' | N 1°59.83' | 245°39.75' | 327°01.92' | S 14°34.69' | **19** |
| **20** | 148°25.70' | 79°18.43' | N 22°02.77' | 196°08.26' | 31°35.87' | N 10°53.05' | 219°44.44' | 7°59.70' | N 1°59.88' | 260°42.33' | 327°01.80' | S 14°34.74' | **20** |
| **21** | 163°24.94' | 79°21.66' | N 22°03.09' | 211°09.07' | 31°37.53' | N 10°53.64' | 234°46.76' | 7°59.84' | N 1°59.93' | 275°44.92' | 327°01.68' | S 14°34.79' | **21** |
| **22** | 178°24.19' | 79°24.88' | N 22°03.42' | 226°09.88' | 31°39.18' | N 10°54.24' | 249°49.08' | 7°59.99' | N 1°59.97' | 290°47.51' | 327°01.55' | S 14°34.84' | **22** |
| **23** | 193°23.43' | 79°28.10' | N 22°03.74' | 241°10.69' | 31°40.84' | N 10°54.83' | 264°51.40' | 8°00.13' | N 2°00.02' | 305°50.10' | 327°01.43' | S 14°34.89' | **23** |
| **24** | 208°22.67' | 79°31.32' | N 22°04.06' | 256°11.50' | 31°42.50' | N 10°55.42' | 279°53.72' | 8°00.27' | N 2°00.07' | 320°52.69' | 327°01.30' | S 14°34.94' | **24** |
| | δ 14.9875° | | *d* 0.3450' | δ 15.0134° | | *d* 0.5976' | δ 15.0386° | | *d* 0.0510' | δ 15.0431° | | *d* 0.0487' | |

## *Sunday, July 10th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°39.65' | 14.9985° | 109°14.34' | N 22°15.60' | 0.3121' | 55°29.45' | 14.4416° | 232°24.54' | S 19°18.99' | 11.8520' | 59.7334' | 287°53.99' | **00** |
| **01** | 193°39.56' | 14.9985° | 109°16.89' | N 22°15.28' | 0.3128' | 69°55.82' | 14.4394° | 233°00.64' | S 19°30.74' | 11.7486' | 59.7683' | 302°56.46' | **01** |
| **02** | 208°39.47' | 14.9985° | 109°19.45' | N 22°14.97' | 0.3135' | 84°22.05' | 14.4372° | 233°36.87' | S 19°42.39' | 11.6430' | 59.8030' | 317°58.92' | **02** |
| **03** | 223°39.39' | 14.9985° | 109°22.00' | N 22°14.66' | 0.3141' | 98°48.15' | 14.4350° | 234°13.23' | S 19°53.92' | 11.5354' | 59.8376' | 333°01.38' | **03** |
| **04** | 238°39.30' | 14.9985° | 109°24.55' | N 22°14.34' | 0.3148' | 113°14.12' | 14.4328° | 234°49.73' | S 20°05.35' | 11.4256' | 59.8719' | 348°03.85' | **04** |
| **05** | 253°39.21' | 14.9985° | 109°27.10' | N 22°14.03' | 0.3154' | 127°39.96' | 14.4306° | 235°26.36' | S 20°16.66' | 11.3137' | 59.9059' | 3°06.31' | **05** |
| **06** | 268°39.12' | 14.9985° | 109°29.66' | N 22°13.71' | 0.3161' | 142°05.66' | 14.4284° | 236°03.12' | S 20°27.86' | 11.1997' | 59.9398' | 18°08.78' | **06** |
| **07** | 283°39.03' | 14.9985° | 109°32.21' | N 22°13.39' | 0.3168' | 156°31.23' | 14.4262° | 236°40.01' | S 20°38.94' | 11.0836' | 59.9734' | 33°11.24' | **07** |
| **08** | 298°38.95' | 14.9985° | 109°34.76' | N 22°13.08' | 0.3174' | 170°56.66' | 14.4239° | 237°17.04' | S 20°49.91' | 10.9653' | 60.0068' | 48°13.71' | **08** |
| **09** | 313°38.86' | 14.9986° | 109°37.31' | N 22°12.76' | 0.3181' | 185°21.97' | 14.4217° | 237°54.20' | S 21°00.75' | 10.8449' | 60.0399' | 63°16.17' | **09** |
| **10** | 328°38.77' | 14.9986° | 109°39.86' | N 22°12.44' | 0.3188' | 199°47.13' | 14.4195° | 238°31.50' | S 21°11.48' | 10.7223' | 60.0728' | 78°18.63' | **10** |
| **11** | 343°38.69' | 14.9986° | 109°42.41' | N 22°12.12' | 0.3194' | 214°12.17' | 14.4173° | 239°08.93' | S 21°22.07' | 10.5975' | 60.1054' | 93°21.10' | **11** |
| **12** | 358°38.60' | 14.9986° | 109°44.96' | N 22°11.80' | 0.3201' | 228°37.07' | 14.4150° | 239°46.49' | S 21°32.54' | 10.4707' | 60.1377' | 108°23.56' | **12** |
| **13** | 13°38.51' | 14.9986° | 109°47.51' | N 22°11.48' | 0.3207' | 243°01.84' | 14.4128° | 240°24.18' | S 21°42.89' | 10.3416' | 60.1698' | 123°26.03' | **13** |
| **14** | 28°38.43' | 14.9986° | 109°50.06' | N 22°11.16' | 0.3214' | 257°26.48' | 14.4106° | 241°02.01' | S 21°53.10' | 10.2104' | 60.2015' | 138°28.49' | **14** |
| **15** | 43°38.34' | 14.9986° | 109°52.61' | N 22°10.84' | 0.3221' | 271°50.99' | 14.4084° | 241°39.97' | S 22°03.17' | 10.0770' | 60.2330' | 153°30.96' | **15** |
| **16** | 58°38.26' | 14.9986° | 109°55.16' | N 22°10.51' | 0.3227' | 286°15.36' | 14.4062° | 242°18.06' | S 22°13.11' | 9.9415' | 60.2642' | 168°33.42' | **16** |
| **17** | 73°38.17' | 14.9986° | 109°57.71' | N 22°10.19' | 0.3234' | 300°39.60' | 14.4040° | 242°56.28' | S 22°22.92' | 9.8038' | 60.2951' | 183°35.88' | **17** |
| **18** | 88°38.09' | 14.9986° | 110°00.26' | N 22°09.87' | 0.3240' | 315°03.71' | 14.4018° | 243°34.64' | S 22°32.58' | 9.6640' | 60.3257' | 198°38.35' | **18** |
| **19** | 103°38.00' | 14.9986° | 110°02.81' | N 22°09.54' | 0.3247' | 329°27.69' | 14.3997° | 244°13.12' | S 22°42.10' | 9.5220' | 60.3560' | 213°40.81' | **19** |
| **20** | 118°37.92' | 14.9986° | 110°05.36' | N 22°09.22' | 0.3254' | 343°51.54' | 14.3975° | 244°51.74' | S 22°51.48' | 9.3779' | 60.3859' | 228°43.28' | **20** |
| **21** | 133°37.83' | 14.9986° | 110°07.91' | N 22°08.89' | 0.3260' | 358°15.26' | 14.3953° | 245°30.48' | S 23°00.71' | 9.2316' | 60.4155' | 243°45.74' | **21** |
| **22** | 148°37.75' | 14.9986° | 110°10.46' | N 22°08.56' | 0.3267' | 12°38.85' | 14.3932° | 246°09.35' | S 23°09.80' | 9.0833' | 60.4448' | 258°48.20' | **22** |
| **23** | 163°37.66' | 14.9986° | 110°13.01' | N 22°08.24' | 0.3273' | 27°02.32' | 14.3911° | 246°48.35' | S 23°18.73' | 8.9328' | 60.4737' | 273°50.67' | **23** |
| **24** | 178°37.58' | 14.9986° | 110°15.55' | N 22°07.91' | 0.3280' | 41°25.65' | 14.3890° | 247°27.48' | S 23°27.51' | 8.7802' | 60.5023' | 288°53.13' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7324' | hp (π) 0.1442' | ½Ø 16.3863' | 84.6917671302868<br>8% +gib |
| | EoT at 12:00 UTC : -5m 25s (δ -0.35 s/h) | | Phase at 12:00 UTC : 133.84° | |
| | Meridian Pass. Time : 12:05:25.597 | | Age : 10.4 day(s) | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.12') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 208°22.67' | 79°31.32' | N 22°04.06' | 256°11.50' | 31°42.50' | N 10°55.42' | 279°53.72' | 8°00.27' | N 2°00.07' | 320°52.69' | 327°01.30' | S 14°34.94' | **00** |
| **01** | 223°21.91' | 79°34.54' | N 22°04.38' | 271°12.30' | 31°44.15' | N 10°56.01' | 294°56.04' | 8°00.42' | N 2°00.12' | 335°55.28' | 327°01.18' | S 14°34.99' | **01** |
| **02** | 238°21.16' | 79°37.76' | N 22°04.70' | 286°13.11' | 31°45.81' | N 10°56.61' | 309°58.36' | 8°00.56' | N 2°00.17' | 350°57.86' | 327°01.06' | S 14°35.04' | **02** |
| **03** | 253°20.40' | 79°40.99' | N 22°05.02' | 301°13.92' | 31°47.47' | N 10°57.20' | 325°00.68' | 8°00.70' | N 2°00.21' | 6°00.45' | 327°00.93' | S 14°35.09' | **03** |
| **04** | 268°19.64' | 79°44.21' | N 22°05.33' | 316°14.73' | 31°49.12' | N 10°57.79' | 340°03.01' | 8°00.84' | N 2°00.26' | 21°03.04' | 327°00.81' | S 14°35.14' | **04** |
| **05** | 283°18.88' | 79°47.43' | N 22°05.65' | 331°15.53' | 31°50.78' | N 10°58.38' | 355°05.33' | 8°00.99' | N 2°00.31' | 36°05.63' | 327°00.68' | S 14°35.19' | **05** |
| **06** | 298°18.12' | 79°50.66' | N 22°05.96' | 346°16.34' | 31°52.44' | N 10°58.97' | 10°07.65' | 8°01.13' | N 2°00.36' | 51°08.22' | 327°00.56' | S 14°35.24' | **06** |
| **07** | 313°17.36' | 79°53.88' | N 22°06.28' | 1°17.15' | 31°54.09' | N 10°59.57' | 25°09.97' | 8°01.27' | N 2°00.40' | 66°10.81' | 327°00.43' | S 14°35.29' | **07** |
| **08** | 328°16.60' | 79°57.11' | N 22°06.59' | 16°17.96' | 31°55.75' | N 11°00.16' | 40°12.30' | 8°01.41' | N 2°00.45' | 81°13.40' | 327°00.31' | S 14°35.34' | **08** |
| **09** | 343°15.84' | 80°00.33' | N 22°06.90' | 31°18.77' | 31°57.40' | N 11°00.75' | 55°14.62' | 8°01.55' | N 2°00.50' | 96°15.99' | 327°00.18' | S 14°35.39' | **09** |
| **10** | 358°15.08' | 80°03.56' | N 22°07.21' | 46°19.58' | 31°59.06' | N 11°01.34' | 70°16.94' | 8°01.69' | N 2°00.54' | 111°18.58' | 327°00.06' | S 14°35.44' | **10** |
| **11** | 13°14.32' | 80°06.78' | N 22°07.52' | 61°20.38' | 32°00.72' | N 11°01.93' | 85°19.27' | 8°01.83' | N 2°00.59' | 126°21.17' | 326°59.93' | S 14°35.49' | **11** |
| **12** | 28°13.56' | 80°10.01' | N 22°07.83' | 76°21.19' | 32°02.37' | N 11°02.52' | 100°21.59' | 8°01.97' | N 2°00.64' | 141°23.76' | 326°59.80' | S 14°35.54' | **12** |
| **13** | 43°12.79' | 80°13.23' | N 22°08.14' | 91°22.00' | 32°04.03' | N 11°03.11' | 115°23.92' | 8°02.11' | N 2°00.68' | 156°26.35' | 326°59.68' | S 14°35.59' | **13** |
| **14** | 58°12.03' | 80°16.46' | N 22°08.44' | 106°22.81' | 32°05.68' | N 11°03.70' | 130°26.24' | 8°02.25' | N 2°00.73' | 171°28.94' | 326°59.55' | S 14°35.64' | **14** |
| **15** | 73°11.27' | 80°19.69' | N 22°08.75' | 121°23.62' | 32°07.34' | N 11°04.29' | 145°28.57' | 8°02.39' | N 2°00.78' | 186°31.53' | 326°59.43' | S 14°35.69' | **15** |
| **16** | 88°10.51' | 80°22.91' | N 22°09.05' | 136°24.43' | 32°08.99' | N 11°04.88' | 160°30.89' | 8°02.53' | N 2°00.82' | 201°34.12' | 326°59.30' | S 14°35.74' | **16** |
| **17** | 103°09.74' | 80°26.14' | N 22°09.36' | 151°25.23' | 32°10.65' | N 11°05.47' | 175°33.22' | 8°02.66' | N 2°00.87' | 216°36.71' | 326°59.17' | S 14°35.79' | **17** |
| **18** | 118°08.98' | 80°29.37' | N 22°09.66' | 166°26.04' | 32°12.30' | N 11°06.05' | 190°35.55' | 8°02.80' | N 2°00.92' | 231°39.30' | 326°59.05' | S 14°35.84' | **18** |
| **19** | 133°08.22' | 80°32.60' | N 22°09.96' | 181°26.85' | 32°13.96' | N 11°06.64' | 205°37.87' | 8°02.94' | N 2°00.96' | 246°41.89' | 326°58.92' | S 14°35.89' | **19** |
| **20** | 148°07.45' | 80°35.82' | N 22°10.26' | 196°27.66' | 32°15.62' | N 11°07.23' | 220°40.20' | 8°03.08' | N 2°01.01' | 261°44.48' | 326°58.80' | S 14°35.94' | **20** |
| **21** | 163°06.69' | 80°39.05' | N 22°10.56' | 211°28.47' | 32°17.27' | N 11°07.82' | 235°42.53' | 8°03.21' | N 2°01.05' | 276°47.07' | 326°58.67' | S 14°35.99' | **21** |
| **22** | 178°05.92' | 80°42.28' | N 22°10.86' | 226°29.28' | 32°18.93' | N 11°08.41' | 250°44.85' | 8°03.35' | N 2°01.10' | 291°49.66' | 326°58.54' | S 14°36.04' | **22** |
| **23** | 193°05.16' | 80°45.51' | N 22°11.15' | 241°30.09' | 32°20.58' | N 11°09.00' | 265°47.18' | 8°03.49' | N 2°01.14' | 306°52.25' | 326°58.41' | S 14°36.09' | **23** |
| **24** | 208°04.39' | 80°48.74' | N 22°11.45' | 256°30.90' | 32°22.24' | N 11°09.58' | 280°49.51' | 8°03.62' | N 2°01.19' | 321°54.85' | 326°58.29' | S 14°36.14' | **24** |
| | δ 14.9874° | | *d* 0.3200' | δ 15.0135° | | *d* 0.5925' | δ 15.0387° | | *d* 0.0480' | δ 15.0431° | | *d* 0.0496' | |

## *Monday, July 11th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°37.58' | 14.9986° | 110°15.55' | N 22°07.91' | 0.3280' | 41°25.65' | 14.3890° | 247°27.48' | S 23°27.51' | 8.7802' | 60.5023' | 288°53.13' | **00** |
| **01** | 193°37.50' | 14.9986° | 110°18.10' | N 22°07.58' | 0.3287' | 55°48.87' | 14.3869° | 248°06.73' | S 23°36.14' | 8.6255' | 60.5306' | 303°55.60' | **01** |
| **02** | 208°37.41' | 14.9986° | 110°20.65' | N 22°07.25' | 0.3293' | 70°11.95' | 14.3848° | 248°46.11' | S 23°44.60' | 8.4687' | 60.5584' | 318°58.06' | **02** |
| **03** | 223°37.33' | 14.9986° | 110°23.20' | N 22°06.92' | 0.3300' | 84°34.92' | 14.3827° | 249°25.61' | S 23°52.91' | 8.3098' | 60.5859' | 334°00.53' | **03** |
| **04** | 238°37.25' | 14.9986° | 110°25.74' | N 22°06.59' | 0.3306' | 98°57.76' | 14.3807° | 250°05.23' | S 24°01.06' | 8.1489' | 60.6131' | 349°02.99' | **04** |
| **05** | 253°37.16' | 14.9986° | 110°28.29' | N 22°06.26' | 0.3313' | 113°20.48' | 14.3787° | 250°44.97' | S 24°09.05' | 7.9860' | 60.6398' | 4°05.45' | **05** |
| **06** | 268°37.08' | 14.9986° | 110°30.84' | N 22°05.93' | 0.3320' | 127°43.08' | 14.3767° | 251°24.83' | S 24°16.87' | 7.8211' | 60.6662' | 19°07.92' | **06** |
| **07** | 283°37.00' | 14.9986° | 110°33.39' | N 22°05.59' | 0.3326' | 142°05.57' | 14.3747° | 252°04.81' | S 24°24.52' | 7.6541' | 60.6922' | 34°10.38' | **07** |
| **08** | 298°36.91' | 14.9986° | 110°35.93' | N 22°05.26' | 0.3333' | 156°27.94' | 14.3728° | 252°44.91' | S 24°32.01' | 7.4852' | 60.7177' | 49°12.85' | **08** |
| **09** | 313°36.83' | 14.9986° | 110°38.48' | N 22°04.93' | 0.3339' | 170°50.19' | 14.3709° | 253°25.12' | S 24°39.32' | 7.3144' | 60.7429' | 64°15.31' | **09** |
| **10** | 328°36.75' | 14.9986° | 110°41.03' | N 22°04.59' | 0.3346' | 185°12.33' | 14.3690° | 254°05.45' | S 24°46.47' | 7.1416' | 60.7677' | 79°17.78' | **10** |
| **11** | 343°36.67' | 14.9986° | 110°43.57' | N 22°04.26' | 0.3352' | 199°34.35' | 14.3671° | 254°45.89' | S 24°53.43' | 6.9669' | 60.7920' | 94°20.24' | **11** |
| **12** | 358°36.59' | 14.9986° | 110°46.12' | N 22°03.92' | 0.3359' | 213°56.27' | 14.3653° | 255°26.43' | S 25°00.22' | 6.7903' | 60.8159' | 109°22.70' | **12** |
| **13** | 13°36.50' | 14.9986° | 110°48.66' | N 22°03.58' | 0.3365' | 228°18.08' | 14.3635° | 256°07.09' | S 25°06.83' | 6.6119' | 60.8394' | 124°25.17' | **13** |
| **14** | 28°36.42' | 14.9986° | 110°51.21' | N 22°03.25' | 0.3372' | 242°39.78' | 14.3617° | 256°47.85' | S 25°13.27' | 6.4317' | 60.8625' | 139°27.63' | **14** |
| **15** | 43°36.34' | 14.9986° | 110°53.75' | N 22°02.91' | 0.3379' | 257°01.38' | 14.3600° | 257°28.72' | S 25°19.52' | 6.2497' | 60.8851' | 154°30.10' | **15** |
| **16** | 58°36.26' | 14.9987° | 110°56.30' | N 22°02.57' | 0.3385' | 271°22.88' | 14.3583° | 258°09.68' | S 25°25.58' | 6.0659' | 60.9073' | 169°32.56' | **16** |
| **17** | 73°36.18' | 14.9987° | 110°58.84' | N 22°02.23' | 0.3392' | 285°44.28' | 14.3566° | 258°50.75' | S 25°31.46' | 5.8804' | 60.9290' | 184°35.03' | **17** |
| **18** | 88°36.10' | 14.9987° | 111°01.39' | N 22°01.89' | 0.3398' | 300°05.58' | 14.3550° | 259°31.91' | S 25°37.15' | 5.6932' | 60.9502' | 199°37.49' | **18** |
| **19** | 103°36.02' | 14.9987° | 111°03.93' | N 22°01.55' | 0.3405' | 314°26.78' | 14.3534° | 260°13.17' | S 25°42.66' | 5.5044' | 60.9710' | 214°39.95' | **19** |
| **20** | 118°35.94' | 14.9987° | 111°06.48' | N 22°01.21' | 0.3411' | 328°47.89' | 14.3519° | 260°54.53' | S 25°47.97' | 5.3140' | 60.9914' | 229°42.42' | **20** |
| **21** | 133°35.86' | 14.9987° | 111°09.02' | N 22°00.87' | 0.3418' | 343°08.91' | 14.3504° | 261°35.97' | S 25°53.10' | 5.1220' | 61.0112' | 244°44.88' | **21** |
| **22** | 148°35.78' | 14.9987° | 111°11.57' | N 22°00.52' | 0.3424' | 357°29.85' | 14.3489° | 262°17.50' | S 25°58.02' | 4.9285' | 61.0306' | 259°47.35' | **22** |
| **23** | 163°35.70' | 14.9987° | 111°14.11' | N 22°00.18' | 0.3431' | 11°50.70' | 14.3475° | 262°59.11' | S 26°02.76' | 4.7335' | 61.0495' | 274°49.81' | **23** |
| **24** | 178°35.62' | 14.9987° | 111°16.65' | N 21°59.84' | 0.3437' | 26°11.46' | 14.3461° | 263°40.81' | S 26°07.29' | 4.5370' | 61.0679' | 289°52.27' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7328' | hp (π) 0.1442' | ½Ø 16.5711' | 92.2350594604636 % +gib |
| | EoT at 12:00 UTC : -5m 33s (δ -0.33 s/h) | | Phase at 12:00 UTC : 147.64° | |
| | Meridian Pass. Time : 12:05:33.655 | | Age : 11.5 day(s) | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.12') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 208°04.39' | 80°48.74' | N 22°11.45' | 256°30.90' | 32°22.24' | N 11°09.58' | 280°49.51' | 8°03.62' | N 2°01.19' | 321°54.85' | 326°58.29' | S 14°36.14' | **00** |
| **01** | 223°03.63' | 80°51.97' | N 22°11.75' | 271°31.71' | 32°23.89' | N 11°10.17' | 295°51.84' | 8°03.76' | N 2°01.23' | 336°57.44' | 326°58.16' | S 14°36.19' | **01** |
| **02** | 238°02.86' | 80°55.20' | N 22°12.04' | 286°32.52' | 32°25.55' | N 11°10.76' | 310°54.17' | 8°03.90' | N 2°01.28' | 352°00.03' | 326°58.03' | S 14°36.24' | **02** |
| **03** | 253°02.10' | 80°58.43' | N 22°12.33' | 301°33.33' | 32°27.20' | N 11°11.34' | 325°56.50' | 8°04.03' | N 2°01.32' | 7°02.62' | 326°57.91' | S 14°36.29' | **03** |
| **04** | 268°01.33' | 81°01.66' | N 22°12.62' | 316°34.13' | 32°28.86' | N 11°11.93' | 340°58.82' | 8°04.17' | N 2°01.37' | 22°05.21' | 326°57.78' | S 14°36.34' | **04** |
| **05** | 283°00.56' | 81°04.89' | N 22°12.91' | 331°34.94' | 32°30.51' | N 11°12.52' | 356°01.15' | 8°04.30' | N 2°01.41' | 37°07.80' | 326°57.65' | S 14°36.39' | **05** |
| **06** | 297°59.80' | 81°08.12' | N 22°13.20' | 346°35.75' | 32°32.16' | N 11°13.10' | 11°03.48' | 8°04.44' | N 2°01.46' | 52°10.40' | 326°57.52' | S 14°36.44' | **06** |
| **07** | 312°59.03' | 81°11.35' | N 22°13.49' | 1°36.56' | 32°33.82' | N 11°13.69' | 26°05.81' | 8°04.57' | N 2°01.50' | 67°12.99' | 326°57.39' | S 14°36.49' | **07** |
| **08** | 327°58.26' | 81°14.59' | N 22°13.78' | 16°37.37' | 32°35.47' | N 11°14.28' | 41°08.14' | 8°04.70' | N 2°01.55' | 82°15.58' | 326°57.27' | S 14°36.54' | **08** |
| **09** | 342°57.49' | 81°17.82' | N 22°14.07' | 31°38.18' | 32°37.13' | N 11°14.86' | 56°10.47' | 8°04.84' | N 2°01.59' | 97°18.17' | 326°57.14' | S 14°36.59' | **09** |
| **10** | 357°56.73' | 81°21.05' | N 22°14.35' | 46°38.99' | 32°38.78' | N 11°15.45' | 71°12.80' | 8°04.97' | N 2°01.63' | 112°20.77' | 326°57.01' | S 14°36.64' | **10** |
| **11** | 12°55.96' | 81°24.28' | N 22°14.64' | 61°39.80' | 32°40.44' | N 11°16.03' | 86°15.14' | 8°05.10' | N 2°01.68' | 127°23.36' | 326°56.88' | S 14°36.70' | **11** |
| **12** | 27°55.19' | 81°27.52' | N 22°14.92' | 76°40.61' | 32°42.09' | N 11°16.62' | 101°17.47' | 8°05.24' | N 2°01.72' | 142°25.95' | 326°56.75' | S 14°36.75' | **12** |
| **13** | 42°54.42' | 81°30.75' | N 22°15.20' | 91°41.42' | 32°43.75' | N 11°17.20' | 116°19.80' | 8°05.37' | N 2°01.76' | 157°28.54' | 326°56.62' | S 14°36.80' | **13** |
| **14** | 57°53.65' | 81°33.98' | N 22°15.48' | 106°42.23' | 32°45.40' | N 11°17.79' | 131°22.13' | 8°05.50' | N 2°01.81' | 172°31.14' | 326°56.50' | S 14°36.85' | **14** |
| **15** | 72°52.88' | 81°37.22' | N 22°15.76' | 121°43.04' | 32°47.05' | N 11°18.37' | 146°24.46' | 8°05.63' | N 2°01.85' | 187°33.73' | 326°56.37' | S 14°36.90' | **15** |
| **16** | 87°52.11' | 81°40.45' | N 22°16.04' | 136°43.85' | 32°48.71' | N 11°18.95' | 161°26.80' | 8°05.76' | N 2°01.89' | 202°36.32' | 326°56.24' | S 14°36.95' | **16** |
| **17** | 102°51.34' | 81°43.68' | N 22°16.32' | 151°44.66' | 32°50.36' | N 11°19.54' | 176°29.13' | 8°05.90' | N 2°01.94' | 217°38.92' | 326°56.11' | S 14°37.00' | **17** |
| **18** | 117°50.57' | 81°46.92' | N 22°16.60' | 166°45.47' | 32°52.02' | N 11°20.12' | 191°31.46' | 8°06.03' | N 2°01.98' | 232°41.51' | 326°55.98' | S 14°37.05' | **18** |
| **19** | 132°49.80' | 81°50.15' | N 22°16.87' | 181°46.28' | 32°53.67' | N 11°20.71' | 206°33.80' | 8°06.16' | N 2°02.02' | 247°44.10' | 326°55.85' | S 14°37.10' | **19** |
| **20** | 147°49.03' | 81°53.39' | N 22°17.15' | 196°47.09' | 32°55.32' | N 11°21.29' | 221°36.13' | 8°06.29' | N 2°02.07' | 262°46.70' | 326°55.72' | S 14°37.15' | **20** |
| **21** | 162°48.26' | 81°56.63' | N 22°17.42' | 211°47.90' | 32°56.98' | N 11°21.87' | 236°38.46' | 8°06.42' | N 2°02.11' | 277°49.29' | 326°55.59' | S 14°37.21' | **21** |
| **22** | 177°47.48' | 81°59.86' | N 22°17.69' | 226°48.71' | 32°58.63' | N 11°22.45' | 251°40.80' | 8°06.55' | N 2°02.15' | 292°51.88' | 326°55.46' | S 14°37.26' | **22** |
| **23** | 192°46.71' | 82°03.10' | N 22°17.96' | 241°49.52' | 33°00.29' | N 11°23.04' | 266°43.13' | 8°06.68' | N 2°02.19' | 307°54.48' | 326°55.33' | S 14°37.31' | **23** |
| **24** | 207°45.94' | 82°06.33' | N 22°18.23' | 256°50.34' | 33°01.94' | N 11°23.62' | 281°45.47' | 8°06.81' | N 2°02.23' | 322°57.07' | 326°55.20' | S 14°37.36' | **24** |
| | δ 14.9872° | | *d* 0.2949' | δ 15.0135° | | *d* 0.5873' | δ 15.0388° | | *d* 0.0450' | δ 15.0432° | | *d* 0.0505' | |

## *Tuesday, July 12th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°35.62' | 14.9987° | 111°16.65' | N 21°59.84' | 0.3437' | 26°11.46' | 14.3461° | 263°40.81' | S 26°07.29' | 4.5370' | 61.0679' | 289°52.27' | **00** |
| **01** | 193°35.54' | 14.9987° | 111°19.20' | N 21°59.49' | 0.3444' | 40°32.15' | 14.3448° | 264°22.59' | S 26°11.63' | 4.3392' | 61.0859' | 304°54.74' | **01** |
| **02** | 208°35.46' | 14.9987° | 111°21.74' | N 21°59.15' | 0.3450' | 54°52.76' | 14.3435° | 265°04.44' | S 26°15.77' | 4.1400' | 61.1033' | 319°57.20' | **02** |
| **03** | 223°35.39' | 14.9987° | 111°24.28' | N 21°58.80' | 0.3457' | 69°13.29' | 14.3423° | 265°46.37' | S 26°19.71' | 3.9395' | 61.1202' | 334°59.67' | **03** |
| **04** | 238°35.31' | 14.9987° | 111°26.82' | N 21°58.46' | 0.3463' | 83°33.76' | 14.3411° | 266°28.37' | S 26°23.45' | 3.7378' | 61.1366' | 350°02.13' | **04** |
| **05** | 253°35.23' | 14.9987° | 111°29.37' | N 21°58.11' | 0.3470' | 97°54.15' | 14.3399° | 267°10.44' | S 26°26.99' | 3.5349' | 61.1525' | 5°04.60' | **05** |
| **06** | 268°35.15' | 14.9987° | 111°31.91' | N 21°57.76' | 0.3476' | 112°14.49' | 14.3388° | 267°52.57' | S 26°30.32' | 3.3308' | 61.1679' | 20°07.06' | **06** |
| **07** | 283°35.07' | 14.9987° | 111°34.45' | N 21°57.41' | 0.3483' | 126°34.75' | 14.3378° | 268°34.77' | S 26°33.44' | 3.1256' | 61.1828' | 35°09.52' | **07** |
| **08** | 298°35.00' | 14.9987° | 111°36.99' | N 21°57.06' | 0.3490' | 140°54.96' | 14.3368° | 269°17.03' | S 26°36.36' | 2.9194' | 61.1971' | 50°11.99' | **08** |
| **09** | 313°34.92' | 14.9987° | 111°39.53' | N 21°56.72' | 0.3496' | 155°15.12' | 14.3359° | 269°59.34' | S 26°39.07' | 2.7121' | 61.2110' | 65°14.45' | **09** |
| **10** | 328°34.84' | 14.9987° | 111°42.08' | N 21°56.36' | 0.3503' | 169°35.22' | 14.3350° | 270°41.70' | S 26°41.58' | 2.5040' | 61.2242' | 80°16.92' | **10** |
| **11** | 343°34.76' | 14.9987° | 111°44.62' | N 21°56.01' | 0.3509' | 183°55.27' | 14.3342° | 271°24.11' | S 26°43.87' | 2.2949' | 61.2370' | 95°19.38' | **11** |
| **12** | 358°34.69' | 14.9987° | 111°47.16' | N 21°55.66' | 0.3516' | 198°15.27' | 14.3334° | 272°06.57' | S 26°45.96' | 2.0851' | 61.2492' | 110°21.85' | **12** |
| **13** | 13°34.61' | 14.9987° | 111°49.70' | N 21°55.31' | 0.3522' | 212°35.24' | 14.3327° | 272°49.07' | S 26°47.83' | 1.8745' | 61.2609' | 125°24.31' | **13** |
| **14** | 28°34.53' | 14.9987° | 111°52.24' | N 21°54.96' | 0.3529' | 226°55.16' | 14.3320° | 273°31.62' | S 26°49.50' | 1.6632' | 61.2720' | 140°26.77' | **14** |
| **15** | 43°34.46' | 14.9987° | 111°54.78' | N 21°54.60' | 0.3535' | 241°15.05' | 14.3314° | 274°14.19' | S 26°50.95' | 1.4512' | 61.2826' | 155°29.24' | **15** |
| **16** | 58°34.38' | 14.9987° | 111°57.32' | N 21°54.25' | 0.3541' | 255°34.90' | 14.3309° | 274°56.80' | S 26°52.19' | 1.2387' | 61.2926' | 170°31.70' | **16** |
| **17** | 73°34.31' | 14.9987° | 111°59.86' | N 21°53.89' | 0.3548' | 269°54.72' | 14.3304° | 275°39.44' | S 26°53.21' | 1.0256' | 61.3021' | 185°34.17' | **17** |
| **18** | 88°34.23' | 14.9987° | 112°02.40' | N 21°53.54' | 0.3554' | 284°14.52' | 14.3300° | 276°22.11' | S 26°54.02' | 0.8121' | 61.3110' | 200°36.63' | **18** |
| **19** | 103°34.16' | 14.9987° | 112°04.94' | N 21°53.18' | 0.3561' | 298°34.30' | 14.3296° | 277°04.79' | S 26°54.62' | 0.5982' | 61.3194' | 215°39.10' | **19** |
| **20** | 118°34.08' | 14.9987° | 112°07.48' | N 21°52.83' | 0.3567' | 312°54.06' | 14.3293° | 277°47.50' | S 26°55.00' | 0.3839' | 61.3272' | 230°41.56' | **20** |
| **21** | 133°34.01' | 14.9988° | 112°10.02' | N 21°52.47' | 0.3574' | 327°13.80' | 14.3291° | 278°30.22' | S 26°55.17' | 0.1694' | 61.3344' | 245°44.02' | **21** |
| **22** | 148°33.93' | 14.9988° | 112°12.56' | N 21°52.11' | 0.3580' | 341°33.54' | 14.3289° | 279°12.95' | S 26°55.13' | 0.0454' | 61.3411' | 260°46.49' | **22** |
| **23** | 163°33.86' | 14.9988° | 112°15.10' | N 21°51.75' | 0.3587' | 355°53.26' | 14.3287° | 279°55.69' | S 26°54.87' | 0.2602' | 61.3472' | 275°48.95' | **23** |
| **24** | 178°33.78' | 14.9988° | 112°17.63' | N 21°51.39' | 0.3593' | 10°12.98' | 14.3287° | 280°38.44' | S 26°54.39' | 0.4752' | 61.3527' | 290°51.42' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7334' | hp (π) 0.1442' | ½Ø 16.6892' | 97.4155622278353<br>4% +gib |
| | EoT at 12:00 UTC : -5m 41s (δ -0.31 s/h) | | Phase at 12:00 UTC : 161.75° | |
| | Meridian Pass. Time : 12:05:41.249 | | Age : 12.6 day(s) | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.12') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 207°45.94' | 82°06.33' | N 22°18.23' | 256°50.34' | 33°01.94' | N 11°23.62' | 281°45.47' | 8°06.81' | N 2°02.23' | 322°57.07' | 326°55.20' | S 14°37.36' | **00** |
| **01** | 222°45.17' | 82°09.57' | N 22°18.50' | 271°51.15' | 33°03.59' | N 11°24.20' | 296°47.80' | 8°06.94' | N 2°02.28' | 337°59.67' | 326°55.07' | S 14°37.41' | **01** |
| **02** | 237°44.40' | 82°12.81' | N 22°18.77' | 286°51.96' | 33°05.25' | N 11°24.78' | 311°50.14' | 8°07.07' | N 2°02.32' | 353°02.26' | 326°54.94' | S 14°37.46' | **02** |
| **03** | 252°43.62' | 82°16.04' | N 22°19.04' | 301°52.77' | 33°06.90' | N 11°25.37' | 326°52.47' | 8°07.19' | N 2°02.36' | 8°04.86' | 326°54.81' | S 14°37.51' | **03** |
| **04** | 267°42.85' | 82°19.28' | N 22°19.31' | 316°53.58' | 33°08.55' | N 11°25.95' | 341°54.81' | 8°07.32' | N 2°02.40' | 23°07.45' | 326°54.68' | S 14°37.57' | **04** |
| **05** | 282°42.08' | 82°22.52' | N 22°19.57' | 331°54.39' | 33°10.21' | N 11°26.53' | 356°57.15' | 8°07.45' | N 2°02.44' | 38°10.04' | 326°54.55' | S 14°37.62' | **05** |
| **06** | 297°41.30' | 82°25.76' | N 22°19.84' | 346°55.20' | 33°11.86' | N 11°27.11' | 11°59.48' | 8°07.58' | N 2°02.48' | 53°12.64' | 326°54.42' | S 14°37.67' | **06** |
| **07** | 312°40.53' | 82°29.00' | N 22°20.10' | 1°56.01' | 33°13.51' | N 11°27.69' | 27°01.82' | 8°07.70' | N 2°02.53' | 68°15.23' | 326°54.29' | S 14°37.72' | **07** |
| **08** | 327°39.75' | 82°32.24' | N 22°20.36' | 16°56.82' | 33°15.17' | N 11°28.27' | 42°04.16' | 8°07.83' | N 2°02.57' | 83°17.83' | 326°54.16' | S 14°37.77' | **08** |
| **09** | 342°38.98' | 82°35.47' | N 22°20.62' | 31°57.63' | 33°16.82' | N 11°28.85' | 57°06.49' | 8°07.96' | N 2°02.61' | 98°20.42' | 326°54.03' | S 14°37.82' | **09** |
| **10** | 357°38.20' | 82°38.71' | N 22°20.88' | 46°58.45' | 33°18.47' | N 11°29.43' | 72°08.83' | 8°08.08' | N 2°02.65' | 113°23.02' | 326°53.90' | S 14°37.88' | **10** |
| **11** | 12°37.43' | 82°41.95' | N 22°21.14' | 61°59.26' | 33°20.13' | N 11°30.01' | 87°11.17' | 8°08.21' | N 2°02.69' | 128°25.62' | 326°53.77' | S 14°37.93' | **11** |
| **12** | 27°36.65' | 82°45.19' | N 22°21.40' | 77°00.07' | 33°21.78' | N 11°30.59' | 102°13.51' | 8°08.34' | N 2°02.73' | 143°28.21' | 326°53.63' | S 14°37.98' | **12** |
| **13** | 42°35.88' | 82°48.43' | N 22°21.65' | 92°00.88' | 33°23.43' | N 11°31.17' | 117°15.85' | 8°08.46' | N 2°02.77' | 158°30.81' | 326°53.50' | S 14°38.03' | **13** |
| **14** | 57°35.10' | 82°51.67' | N 22°21.91' | 107°01.69' | 33°25.08' | N 11°31.75' | 132°18.19' | 8°08.59' | N 2°02.81' | 173°33.40' | 326°53.37' | S 14°38.08' | **14** |
| **15** | 72°34.32' | 82°54.91' | N 22°22.16' | 122°02.50' | 33°26.74' | N 11°32.33' | 147°20.53' | 8°08.71' | N 2°02.85' | 188°36.00' | 326°53.24' | S 14°38.13' | **15** |
| **16** | 87°33.55' | 82°58.16' | N 22°22.42' | 137°03.31' | 33°28.39' | N 11°32.91' | 162°22.87' | 8°08.84' | N 2°02.89' | 203°38.59' | 326°53.11' | S 14°38.19' | **16** |
| **17** | 102°32.77' | 83°01.40' | N 22°22.67' | 152°04.13' | 33°30.04' | N 11°33.49' | 177°25.21' | 8°08.96' | N 2°02.93' | 218°41.19' | 326°52.98' | S 14°38.24' | **17** |
| **18** | 117°31.99' | 83°04.64' | N 22°22.92' | 167°04.94' | 33°31.69' | N 11°34.06' | 192°27.55' | 8°09.09' | N 2°02.97' | 233°43.79' | 326°52.84' | S 14°38.29' | **18** |
| **19** | 132°31.22' | 83°07.88' | N 22°23.17' | 182°05.75' | 33°33.35' | N 11°34.64' | 207°29.89' | 8°09.21' | N 2°03.01' | 248°46.38' | 326°52.71' | S 14°38.34' | **19** |
| **20** | 147°30.44' | 83°11.12' | N 22°23.42' | 197°06.56' | 33°35.00' | N 11°35.22' | 222°32.23' | 8°09.33' | N 2°03.05' | 263°48.98' | 326°52.58' | S 14°38.39' | **20** |
| **21** | 162°29.66' | 83°14.36' | N 22°23.67' | 212°07.37' | 33°36.65' | N 11°35.80' | 237°34.57' | 8°09.46' | N 2°03.09' | 278°51.58' | 326°52.45' | S 14°38.45' | **21** |
| **22** | 177°28.88' | 83°17.61' | N 22°23.92' | 227°08.19' | 33°38.30' | N 11°36.38' | 252°36.91' | 8°09.58' | N 2°03.13' | 293°54.17' | 326°52.32' | S 14°38.50' | **22** |
| **23** | 192°28.10' | 83°20.85' | N 22°24.16' | 242°09.00' | 33°39.96' | N 11°36.95' | 267°39.25' | 8°09.70' | N 2°03.17' | 308°56.77' | 326°52.18' | S 14°38.55' | **23** |
| **24** | 207°27.32' | 83°24.09' | N 22°24.41' | 257°09.81' | 33°41.61' | N 11°37.53' | 282°41.59' | 8°09.82' | N 2°03.21' | 323°59.37' | 326°52.05' | S 14°38.60' | **24** |
| | δ 14.9871° | | *d* 0.2694' | δ 15.0135° | | *d* 0.5821' | δ 15.0389° | | *d* 0.0420' | δ 15.0432° | | *d* 0.0514' | |

## *Wednesday, July 13th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°33.78' | 14.9988° | 112°17.63' | N 21°51.39' | 0.3593' | 10°12.98' | 14.3287° | 280°38.44' | S 26°54.39' | 0.4752' | 61.3527' | 290°51.42' | **00** |
| **01** | 193°33.71' | 14.9988° | 112°20.17' | N 21°51.03' | 0.3600' | 24°32.70' | 14.3286° | 281°21.18' | S 26°53.70' | 0.6902' | 61.3577' | 305°53.88' | **01** |
| **02** | 208°33.63' | 14.9988° | 112°22.71' | N 21°50.67' | 0.3606' | 38°52.42' | 14.3287° | 282°03.93' | S 26°52.80' | 0.9051' | 61.3621' | 320°56.35' | **02** |
| **03** | 223°33.56' | 14.9988° | 112°25.25' | N 21°50.31' | 0.3613' | 53°12.15' | 14.3288° | 282°46.66' | S 26°51.68' | 1.1199' | 61.3659' | 335°58.81' | **03** |
| **04** | 238°33.49' | 14.9988° | 112°27.79' | N 21°49.95' | 0.3619' | 67°31.88' | 14.3290° | 283°29.39' | S 26°50.34' | 1.3345' | 61.3691' | 351°01.27' | **04** |
| **05** | 253°33.41' | 14.9988° | 112°30.32' | N 21°49.59' | 0.3626' | 81°51.63' | 14.3292° | 284°12.10' | S 26°48.79' | 1.5490' | 61.3718' | 6°03.74' | **05** |
| **06** | 268°33.34' | 14.9988° | 112°32.86' | N 21°49.22' | 0.3632' | 96°11.40' | 14.3295° | 284°54.80' | S 26°47.03' | 1.7631' | 61.3738' | 21°06.20' | **06** |
| **07** | 283°33.27' | 14.9988° | 112°35.40' | N 21°48.86' | 0.3639' | 110°31.19' | 14.3298° | 285°37.48' | S 26°45.06' | 1.9768' | 61.3753' | 36°08.67' | **07** |
| **08** | 298°33.20' | 14.9988° | 112°37.93' | N 21°48.50' | 0.3645' | 124°51.00' | 14.3302° | 286°20.13' | S 26°42.86' | 2.1901' | 61.3763' | 51°11.13' | **08** |
| **09** | 313°33.12' | 14.9988° | 112°40.47' | N 21°48.13' | 0.3651' | 139°10.84' | 14.3307° | 287°02.76' | S 26°40.46' | 2.4029' | 61.3766' | 66°13.60' | **09** |
| **10** | 328°33.05' | 14.9988° | 112°43.01' | N 21°47.76' | 0.3658' | 153°30.71' | 14.3312° | 287°45.35' | S 26°37.85' | 2.6152' | 61.3763' | 81°16.06' | **10** |
| **11** | 343°32.98' | 14.9988° | 112°45.54' | N 21°47.40' | 0.3664' | 167°50.61' | 14.3317° | 288°27.91' | S 26°35.02' | 2.8268' | 61.3755' | 96°18.52' | **11** |
| **12** | 358°32.91' | 14.9988° | 112°48.08' | N 21°47.03' | 0.3671' | 182°10.56' | 14.3324° | 289°10.43' | S 26°31.98' | 3.0378' | 61.3741' | 111°20.99' | **12** |
| **13** | 13°32.84' | 14.9988° | 112°50.62' | N 21°46.66' | 0.3677' | 196°30.54' | 14.3330° | 289°52.91' | S 26°28.73' | 3.2480' | 61.3721' | 126°23.45' | **13** |
| **14** | 28°32.76' | 14.9988° | 112°53.15' | N 21°46.29' | 0.3684' | 210°50.56' | 14.3338° | 290°35.35' | S 26°25.28' | 3.4574' | 61.3695' | 141°25.92' | **14** |
| **15** | 43°32.69' | 14.9988° | 112°55.69' | N 21°45.93' | 0.3690' | 225°10.64' | 14.3346° | 291°17.74' | S 26°21.61' | 3.6660' | 61.3664' | 156°28.38' | **15** |
| **16** | 58°32.62' | 14.9988° | 112°58.22' | N 21°45.56' | 0.3696' | 239°30.76' | 14.3354° | 292°00.08' | S 26°17.74' | 3.8736' | 61.3626' | 171°30.84' | **16** |
| **17** | 73°32.55' | 14.9988° | 113°00.76' | N 21°45.19' | 0.3703' | 253°50.94' | 14.3363° | 292°42.37' | S 26°13.66' | 4.0803' | 61.3583' | 186°33.31' | **17** |
| **18** | 88°32.48' | 14.9988° | 113°03.29' | N 21°44.81' | 0.3709' | 268°11.18' | 14.3373° | 293°24.60' | S 26°09.37' | 4.2860' | 61.3534' | 201°35.77' | **18** |
| **19** | 103°32.41' | 14.9988° | 113°05.83' | N 21°44.44' | 0.3716' | 282°31.47' | 14.3383° | 294°06.76' | S 26°04.88' | 4.4906' | 61.3479' | 216°38.24' | **19** |
| **20** | 118°32.34' | 14.9988° | 113°08.36' | N 21°44.07' | 0.3722' | 296°51.83' | 14.3393° | 294°48.87' | S 26°00.19' | 4.6940' | 61.3419' | 231°40.70' | **20** |
| **21** | 133°32.27' | 14.9988° | 113°10.90' | N 21°43.70' | 0.3729' | 311°12.26' | 14.3404° | 295°30.91' | S 25°55.29' | 4.8962' | 61.3352' | 246°43.17' | **21** |
| **22** | 148°32.20' | 14.9988° | 113°13.43' | N 21°43.32' | 0.3735' | 325°32.75' | 14.3416° | 296°12.88' | S 25°50.19' | 5.0972' | 61.3280' | 261°45.63' | **22** |
| **23** | 163°32.13' | 14.9988° | 113°15.96' | N 21°42.95' | 0.3741' | 339°53.32' | 14.3428° | 296°54.78' | S 25°44.90' | 5.2969' | 61.3202' | 276°48.09' | **23** |
| **24** | 178°32.06' | 14.9988° | 113°18.50' | N 21°42.58' | 0.3748' | 354°13.96' | 14.3440° | 297°36.60' | S 25°39.40' | 5.4953' | 61.3119' | 291°50.56' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.7339' | hp (π) 0.1442' | ½Ø 16.7232' | 99.7463005016989<br>4% +gib | |
| EoT at 12:00 UTC : -5m 48s (δ -0.29 s/h) | | Phase at 12:00 UTC : 176.04° | | |
| Meridian Pass. Time : 12:05:48.370 | | Age : 13.7 day(s) | | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.12') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 207°27.32' | 83°24.09' | N 22°24.41' | 257°09.81' | 33°41.61' | N 11°37.53' | 282°41.59' | 8°09.82' | N 2°03.21' | 323°59.37' | 326°52.05' | S 14°38.60' | **00** |
| **01** | 222°26.55' | 83°27.34' | N 22°24.65' | 272°10.62' | 33°43.26' | N 11°38.11' | 297°43.94' | 8°09.95' | N 2°03.25' | 339°01.96' | 326°51.92' | S 14°38.65' | **01** |
| **02** | 237°25.77' | 83°30.58' | N 22°24.89' | 287°11.43' | 33°44.91' | N 11°38.68' | 312°46.28' | 8°10.07' | N 2°03.29' | 354°04.56' | 326°51.78' | S 14°38.71' | **02** |
| **03** | 252°24.99' | 83°33.82' | N 22°25.13' | 302°12.25' | 33°46.56' | N 11°39.26' | 327°48.62' | 8°10.19' | N 2°03.32' | 9°07.16' | 326°51.65' | S 14°38.76' | **03** |
| **04** | 267°24.21' | 83°37.07' | N 22°25.37' | 317°13.06' | 33°48.22' | N 11°39.84' | 342°50.96' | 8°10.31' | N 2°03.36' | 24°09.76' | 326°51.52' | S 14°38.81' | **04** |
| **05** | 282°23.43' | 83°40.31' | N 22°25.61' | 332°13.87' | 33°49.87' | N 11°40.41' | 357°53.31' | 8°10.43' | N 2°03.40' | 39°12.35' | 326°51.39' | S 14°38.86' | **05** |
| **06** | 297°22.65' | 83°43.56' | N 22°25.85' | 347°14.68' | 33°51.52' | N 11°40.99' | 12°55.65' | 8°10.55' | N 2°03.44' | 54°14.95' | 326°51.25' | S 14°38.92' | **06** |
| **07** | 312°21.86' | 83°46.80' | N 22°26.09' | 2°15.50' | 33°53.17' | N 11°41.56' | 27°57.99' | 8°10.67' | N 2°03.48' | 69°17.55' | 326°51.12' | S 14°38.97' | **07** |
| **08** | 327°21.08' | 83°50.05' | N 22°26.33' | 17°16.31' | 33°54.82' | N 11°42.14' | 43°00.34' | 8°10.79' | N 2°03.52' | 84°20.15' | 326°50.99' | S 14°39.02' | **08** |
| **09** | 342°20.30' | 83°53.29' | N 22°26.56' | 32°17.12' | 33°56.47' | N 11°42.71' | 58°02.68' | 8°10.91' | N 2°03.55' | 99°22.74' | 326°50.85' | S 14°39.07' | **09** |
| **10** | 357°19.52' | 83°56.54' | N 22°26.79' | 47°17.93' | 33°58.12' | N 11°43.29' | 73°05.03' | 8°11.03' | N 2°03.59' | 114°25.34' | 326°50.72' | S 14°39.13' | **10** |
| **11** | 12°18.74' | 83°59.78' | N 22°27.03' | 62°18.75' | 33°59.78' | N 11°43.86' | 88°07.37' | 8°11.15' | N 2°03.63' | 129°27.94' | 326°50.58' | S 14°39.18' | **11** |
| **12** | 27°17.96' | 84°03.03' | N 22°27.26' | 77°19.56' | 34°01.43' | N 11°44.44' | 103°09.72' | 8°11.27' | N 2°03.67' | 144°30.54' | 326°50.45' | S 14°39.23' | **12** |
| **13** | 42°17.18' | 84°06.28' | N 22°27.49' | 92°20.37' | 34°03.08' | N 11°45.01' | 118°12.06' | 8°11.39' | N 2°03.70' | 159°33.14' | 326°50.32' | S 14°39.28' | **13** |
| **14** | 57°16.39' | 84°09.52' | N 22°27.72' | 107°21.19' | 34°04.73' | N 11°45.59' | 133°14.41' | 8°11.51' | N 2°03.74' | 174°35.73' | 326°50.18' | S 14°39.34' | **14** |
| **15** | 72°15.61' | 84°12.77' | N 22°27.95' | 122°22.00' | 34°06.38' | N 11°46.16' | 148°16.76' | 8°11.62' | N 2°03.78' | 189°38.33' | 326°50.05' | S 14°39.39' | **15** |
| **16** | 87°14.83' | 84°16.02' | N 22°28.18' | 137°22.81' | 34°08.03' | N 11°46.73' | 163°19.10' | 8°11.74' | N 2°03.82' | 204°40.93' | 326°49.91' | S 14°39.44' | **16** |
| **17** | 102°14.04' | 84°19.27' | N 22°28.40' | 152°23.63' | 34°09.68' | N 11°47.31' | 178°21.45' | 8°11.86' | N 2°03.85' | 219°43.53' | 326°49.78' | S 14°39.49' | **17** |
| **18** | 117°13.26' | 84°22.51' | N 22°28.63' | 167°24.44' | 34°11.33' | N 11°47.88' | 193°23.80' | 8°11.98' | N 2°03.89' | 234°46.13' | 326°49.64' | S 14°39.55' | **18** |
| **19** | 132°12.48' | 84°25.76' | N 22°28.85' | 182°25.25' | 34°12.98' | N 11°48.45' | 208°26.15' | 8°12.09' | N 2°03.93' | 249°48.73' | 326°49.51' | S 14°39.60' | **19** |
| **20** | 147°11.69' | 84°29.01' | N 22°29.08' | 197°26.07' | 34°14.64' | N 11°49.03' | 223°28.49' | 8°12.21' | N 2°03.96' | 264°51.33' | 326°49.37' | S 14°39.65' | **20** |
| **21** | 162°10.91' | 84°32.26' | N 22°29.30' | 212°26.88' | 34°16.29' | N 11°49.60' | 238°30.84' | 8°12.32' | N 2°04.00' | 279°53.93' | 326°49.24' | S 14°39.71' | **21** |
| **22** | 177°10.12' | 84°35.51' | N 22°29.52' | 227°27.69' | 34°17.94' | N 11°50.17' | 253°33.19' | 8°12.44' | N 2°04.04' | 294°56.53' | 326°49.10' | S 14°39.76' | **22** |
| **23** | 192°09.34' | 84°38.76' | N 22°29.74' | 242°28.51' | 34°19.59' | N 11°50.74' | 268°35.54' | 8°12.56' | N 2°04.07' | 309°59.13' | 326°48.97' | S 14°39.81' | **23** |
| **24** | 207°08.55' | 84°42.01' | N 22°29.96' | 257°29.32' | 34°21.24' | N 11°51.31' | 283°37.89' | 8°12.67' | N 2°04.11' | 325°01.73' | 326°48.83' | S 14°39.86' | **24** |
| | δ 14.9870° | | *d* 0.2437' | δ 15.0135° | | *d* 0.5769' | δ 15.0390° | | *d* 0.0390' | δ 15.0433° | | *d* 0.0522' | |

## *Thursday, July 14th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°32.06' | 14.9988° | 113°18.50' | N 21°42.58' | 0.3748' | 354°13.96' | 14.3440° | 297°36.60' | S 25°39.40' | 5.4953' | 61.3119' | 291°50.56' | **00** |
| **01** | 193°31.99' | 14.9988° | 113°21.03' | N 21°42.20' | 0.3754' | 8°34.68' | 14.3453° | 298°18.34' | S 25°33.71' | 5.6922' | 61.3030' | 306°53.02' | **01** |
| **02** | 208°31.92' | 14.9989° | 113°23.56' | N 21°41.82' | 0.3761' | 22°55.48' | 14.3466° | 299°00.01' | S 25°27.82' | 5.8877' | 61.2935' | 321°55.49' | **02** |
| **03** | 223°31.86' | 14.9989° | 113°26.10' | N 21°41.45' | 0.3767' | 37°16.36' | 14.3480° | 299°41.59' | S 25°21.74' | 6.0817' | 61.2834' | 336°57.95' | **03** |
| **04** | 238°31.79' | 14.9989° | 113°28.63' | N 21°41.07' | 0.3774' | 51°37.33' | 14.3494° | 300°23.09' | S 25°15.47' | 6.2742' | 61.2728' | 352°00.42' | **04** |
| **05** | 253°31.72' | 14.9989° | 113°31.16' | N 21°40.69' | 0.3780' | 65°58.38' | 14.3509° | 301°04.50' | S 25°09.00' | 6.4651' | 61.2616' | 7°02.88' | **05** |
| **06** | 268°31.65' | 14.9989° | 113°33.69' | N 21°40.31' | 0.3786' | 80°19.53' | 14.3524° | 301°45.82' | S 25°02.35' | 6.6544' | 61.2499' | 22°05.34' | **06** |
| **07** | 283°31.58' | 14.9989° | 113°36.22' | N 21°39.93' | 0.3793' | 94°40.76' | 14.3540° | 302°27.05' | S 24°55.50' | 6.8420' | 61.2376' | 37°07.81' | **07** |
| **08** | 298°31.52' | 14.9989° | 113°38.76' | N 21°39.55' | 0.3799' | 109°02.10' | 14.3555° | 303°08.18' | S 24°48.48' | 7.0279' | 61.2247' | 52°10.27' | **08** |
| **09** | 313°31.45' | 14.9989° | 113°41.29' | N 21°39.17' | 0.3805' | 123°23.53' | 14.3572° | 303°49.21' | S 24°41.26' | 7.2120' | 61.2113' | 67°12.74' | **09** |
| **10** | 328°31.38' | 14.9989° | 113°43.82' | N 21°38.79' | 0.3812' | 137°45.05' | 14.3588° | 304°30.15' | S 24°33.87' | 7.3944' | 61.1973' | 82°15.20' | **10** |
| **11** | 343°31.31' | 14.9989° | 113°46.35' | N 21°38.41' | 0.3818' | 152°06.68' | 14.3605° | 305°10.98' | S 24°26.29' | 7.5750' | 61.1828' | 97°17.67' | **11** |
| **12** | 358°31.25' | 14.9989° | 113°48.88' | N 21°38.03' | 0.3825' | 166°28.42' | 14.3622° | 305°51.71' | S 24°18.54' | 7.7537' | 61.1678' | 112°20.13' | **12** |
| **13** | 13°31.18' | 14.9989° | 113°51.41' | N 21°37.65' | 0.3831' | 180°50.26' | 14.3640° | 306°32.34' | S 24°10.61' | 7.9305' | 61.1522' | 127°22.59' | **13** |
| **14** | 28°31.11' | 14.9989° | 113°53.94' | N 21°37.26' | 0.3837' | 195°12.20' | 14.3658° | 307°12.86' | S 24°02.50' | 8.1054' | 61.1361' | 142°25.06' | **14** |
| **15** | 43°31.05' | 14.9989° | 113°56.47' | N 21°36.88' | 0.3844' | 209°34.26' | 14.3676° | 307°53.27' | S 23°54.23' | 8.2784' | 61.1195' | 157°27.52' | **15** |
| **16** | 58°30.98' | 14.9989° | 113°59.00' | N 21°36.49' | 0.3850' | 223°56.42' | 14.3694° | 308°33.57' | S 23°45.78' | 8.4494' | 61.1023' | 172°29.99' | **16** |
| **17** | 73°30.92' | 14.9989° | 114°01.53' | N 21°36.11' | 0.3857' | 238°18.70' | 14.3713° | 309°13.75' | S 23°37.16' | 8.6184' | 61.0846' | 187°32.45' | **17** |
| **18** | 88°30.85' | 14.9989° | 114°04.06' | N 21°35.72' | 0.3863' | 252°41.09' | 14.3732° | 309°53.83' | S 23°28.37' | 8.7853' | 61.0664' | 202°34.91' | **18** |
| **19** | 103°30.79' | 14.9989° | 114°06.59' | N 21°35.33' | 0.3869' | 267°03.59' | 14.3751° | 310°33.78' | S 23°19.42' | 8.9502' | 61.0477' | 217°37.38' | **19** |
| **20** | 118°30.72' | 14.9989° | 114°09.12' | N 21°34.95' | 0.3876' | 281°26.22' | 14.3770° | 311°13.63' | S 23°10.31' | 9.1130' | 61.0285' | 232°39.84' | **20** |
| **21** | 133°30.66' | 14.9989° | 114°11.65' | N 21°34.56' | 0.3882' | 295°48.96' | 14.3790° | 311°53.35' | S 23°01.04' | 9.2738' | 61.0088' | 247°42.31' | **21** |
| **22** | 148°30.59' | 14.9989° | 114°14.18' | N 21°34.17' | 0.3888' | 310°11.82' | 14.3810° | 312°32.96' | S 22°51.60' | 9.4324' | 60.9885' | 262°44.77' | **22** |
| **23** | 163°30.53' | 14.9989° | 114°16.71' | N 21°33.78' | 0.3895' | 324°34.79' | 14.3830° | 313°12.44' | S 22°42.01' | 9.5889' | 60.9678' | 277°47.24' | **23** |
| **24** | 178°30.46' | 14.9989° | 114°19.24' | N 21°33.39' | 0.3901' | 338°57.90' | 14.3850° | 313°51.80' | S 22°32.27' | 9.7432' | 60.9466' | 292°49.70' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7346' | hp (π) 0.1442' | ½Ø 16.6670' | 99.0172317020483<br>2% -gib |
| | EoT at 12:00 UTC : -5m 55s (δ -0.27 s/h) | | Phase at 12:00 UTC : 190.35° | |
| | Meridian Pass. Time : 12:05:55.009 | | Age : 14.8 day(s) | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.12') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 207°08.55' | 84°42.01' | N 22°29.96' | 257°29.32' | 34°21.24' | N 11°51.31' | 283°37.89' | 8°12.67' | N 2°04.11' | 325°01.73' | 326°48.83' | S 14°39.86' | **00** |
| **01** | 222°07.77' | 84°45.25' | N 22°30.18' | 272°30.13' | 34°22.89' | N 11°51.89' | 298°40.24' | 8°12.79' | N 2°04.14' | 340°04.33' | 326°48.70' | S 14°39.92' | **01** |
| **02** | 237°06.98' | 84°48.50' | N 22°30.39' | 287°30.95' | 34°24.54' | N 11°52.46' | 313°42.59' | 8°12.90' | N 2°04.18' | 355°06.93' | 326°48.56' | S 14°39.97' | **02** |
| **03** | 252°06.20' | 84°51.75' | N 22°30.61' | 302°31.76' | 34°26.19' | N 11°53.03' | 328°44.94' | 8°13.01' | N 2°04.22' | 10°09.53' | 326°48.43' | S 14°40.02' | **03** |
| **04** | 267°05.41' | 84°55.00' | N 22°30.82' | 317°32.58' | 34°27.84' | N 11°53.60' | 343°47.29' | 8°13.13' | N 2°04.25' | 25°12.13' | 326°48.29' | S 14°40.08' | **04** |
| **05** | 282°04.62' | 84°58.26' | N 22°31.04' | 332°33.39' | 34°29.49' | N 11°54.17' | 358°49.64' | 8°13.24' | N 2°04.29' | 40°14.73' | 326°48.15' | S 14°40.13' | **05** |
| **06** | 297°03.84' | 85°01.51' | N 22°31.25' | 347°34.20' | 34°31.14' | N 11°54.74' | 13°51.99' | 8°13.36' | N 2°04.32' | 55°17.33' | 326°48.02' | S 14°40.18' | **06** |
| **07** | 312°03.05' | 85°04.76' | N 22°31.46' | 2°35.02' | 34°32.79' | N 11°55.31' | 28°54.34' | 8°13.47' | N 2°04.36' | 70°19.93' | 326°47.88' | S 14°40.24' | **07** |
| **08** | 327°02.26' | 85°08.01' | N 22°31.67' | 17°35.83' | 34°34.44' | N 11°55.88' | 43°56.69' | 8°13.58' | N 2°04.39' | 85°22.53' | 326°47.75' | S 14°40.29' | **08** |
| **09** | 342°01.48' | 85°11.26' | N 22°31.88' | 32°36.65' | 34°36.09' | N 11°56.45' | 58°59.04' | 8°13.69' | N 2°04.43' | 100°25.13' | 326°47.61' | S 14°40.34' | **09** |
| **10** | 357°00.69' | 85°14.51' | N 22°32.09' | 47°37.46' | 34°37.74' | N 11°57.02' | 74°01.39' | 8°13.81' | N 2°04.46' | 115°27.73' | 326°47.47' | S 14°40.40' | **10** |
| **11** | 11°59.90' | 85°17.76' | N 22°32.29' | 62°38.28' | 34°39.39' | N 11°57.59' | 89°03.75' | 8°13.92' | N 2°04.50' | 130°30.33' | 326°47.34' | S 14°40.45' | **11** |
| **12** | 26°59.11' | 85°21.02' | N 22°32.50' | 77°39.09' | 34°41.04' | N 11°58.16' | 104°06.10' | 8°14.03' | N 2°04.53' | 145°32.93' | 326°47.20' | S 14°40.50' | **12** |
| **13** | 41°58.33' | 85°24.27' | N 22°32.70' | 92°39.90' | 34°42.69' | N 11°58.73' | 119°08.45' | 8°14.14' | N 2°04.56' | 160°35.53' | 326°47.06' | S 14°40.56' | **13** |
| **14** | 56°57.54' | 85°27.52' | N 22°32.91' | 107°40.72' | 34°44.34' | N 11°59.30' | 134°10.80' | 8°14.25' | N 2°04.60' | 175°38.13' | 326°46.92' | S 14°40.61' | **14** |
| **15** | 71°56.75' | 85°30.77' | N 22°33.11' | 122°41.53' | 34°45.99' | N 11°59.86' | 149°13.16' | 8°14.36' | N 2°04.63' | 190°40.73' | 326°46.79' | S 14°40.66' | **15** |
| **16** | 86°55.96' | 85°34.03' | N 22°33.31' | 137°42.35' | 34°47.64' | N 12°00.43' | 164°15.51' | 8°14.47' | N 2°04.67' | 205°43.34' | 326°46.65' | S 14°40.72' | **16** |
| **17** | 101°55.17' | 85°37.28' | N 22°33.51' | 152°43.16' | 34°49.29' | N 12°01.00' | 179°17.87' | 8°14.58' | N 2°04.70' | 220°45.94' | 326°46.51' | S 14°40.77' | **17** |
| **18** | 116°54.38' | 85°40.53' | N 22°33.71' | 167°43.98' | 34°50.94' | N 12°01.57' | 194°20.22' | 8°14.69' | N 2°04.73' | 235°48.54' | 326°46.38' | S 14°40.82' | **18** |
| **19** | 131°53.59' | 85°43.79' | N 22°33.91' | 182°44.79' | 34°52.59' | N 12°02.14' | 209°22.58' | 8°14.80' | N 2°04.77' | 250°51.14' | 326°46.24' | S 14°40.88' | **19** |
| **20** | 146°52.80' | 85°47.04' | N 22°34.11' | 197°45.61' | 34°54.23' | N 12°02.70' | 224°24.93' | 8°14.91' | N 2°04.80' | 265°53.74' | 326°46.10' | S 14°40.93' | **20** |
| **21** | 161°52.01' | 85°50.30' | N 22°34.30' | 212°46.42' | 34°55.88' | N 12°03.27' | 239°27.29' | 8°15.02' | N 2°04.83' | 280°56.34' | 326°45.96' | S 14°40.99' | **21** |
| **22** | 176°51.22' | 85°53.55' | N 22°34.50' | 227°47.24' | 34°57.53' | N 12°03.84' | 254°29.64' | 8°15.13' | N 2°04.87' | 295°58.95' | 326°45.82' | S 14°41.04' | **22** |
| **23** | 191°50.43' | 85°56.81' | N 22°34.69' | 242°48.05' | 34°59.18' | N 12°04.40' | 269°32.00' | 8°15.24' | N 2°04.90' | 311°01.55' | 326°45.69' | S 14°41.09' | **23** |
| **24** | 206°49.64' | 86°00.06' | N 22°34.88' | 257°48.87' | 35°00.83' | N 12°04.97' | 284°34.35' | 8°15.35' | N 2°04.93' | 326°04.15' | 326°45.55' | S 14°41.15' | **24** |
| | δ 14.9869° | | *d* 0.2178' | δ 15.0136° | | *d* 0.5716' | δ 15.0392° | | *d* 0.0359' | δ 15.0433° | | *d* 0.0530' | |

## *Friday, July 15th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°30.46' | 14.9989° | 114°19.24' | N 21°33.39' | 0.3901' | 338°57.90' | 14.3850° | 313°51.80' | S 22°32.27' | 9.7432' | 60.9466' | 292°49.70' | **00** |
| **01** | 193°30.40' | 14.9989° | 114°21.76' | N 21°33.00' | 0.3907' | 353°21.12' | 14.3871° | 314°31.04' | S 22°22.38' | 9.8953' | 60.9249' | 307°52.16' | **01** |
| **02** | 208°30.34' | 14.9989° | 114°24.29' | N 21°32.61' | 0.3914' | 7°44.47' | 14.3891° | 315°10.16' | S 22°12.33' | 10.0453' | 60.9027' | 322°54.63' | **02** |
| **03** | 223°30.27' | 14.9989° | 114°26.82' | N 21°32.21' | 0.3920' | 22°07.94' | 14.3912° | 315°49.16' | S 22°02.14' | 10.1930' | 60.8801' | 337°57.09' | **03** |
| **04** | 238°30.21' | 14.9989° | 114°29.35' | N 21°31.82' | 0.3927' | 36°31.53' | 14.3933° | 316°28.02' | S 21°51.80' | 10.3386' | 60.8569' | 352°59.56' | **04** |
| **05** | 253°30.15' | 14.9989° | 114°31.87' | N 21°31.43' | 0.3933' | 50°55.25' | 14.3954° | 317°06.77' | S 21°41.32' | 10.4819' | 60.8333' | 8°02.02' | **05** |
| **06** | 268°30.08' | 14.9990° | 114°34.40' | N 21°31.04' | 0.3939' | 65°19.10' | 14.3975° | 317°45.38' | S 21°30.69' | 10.6230' | 60.8093' | 23°04.48' | **06** |
| **07** | 283°30.02' | 14.9990° | 114°36.93' | N 21°30.64' | 0.3946' | 79°43.08' | 14.3996° | 318°23.87' | S 21°19.93' | 10.7619' | 60.7848' | 38°06.95' | **07** |
| **08** | 298°29.96' | 14.9990° | 114°39.45' | N 21°30.25' | 0.3952' | 94°07.18' | 14.4017° | 319°02.23' | S 21°09.03' | 10.8984' | 60.7598' | 53°09.41' | **08** |
| **09** | 313°29.90' | 14.9990° | 114°41.98' | N 21°29.85' | 0.3958' | 108°31.41' | 14.4038° | 319°40.47' | S 20°58.00' | 11.0328' | 60.7344' | 68°11.88' | **09** |
| **10** | 328°29.83' | 14.9990° | 114°44.51' | N 21°29.45' | 0.3965' | 122°55.77' | 14.4060° | 320°18.57' | S 20°46.84' | 11.1649' | 60.7086' | 83°14.34' | **10** |
| **11** | 343°29.77' | 14.9990° | 114°47.03' | N 21°29.06' | 0.3971' | 137°20.26' | 14.4081° | 320°56.55' | S 20°35.54' | 11.2947' | 60.6823' | 98°16.81' | **11** |
| **12** | 358°29.71' | 14.9990° | 114°49.56' | N 21°28.66' | 0.3977' | 151°44.87' | 14.4103° | 321°34.40' | S 20°24.12' | 11.4222' | 60.6556' | 113°19.27' | **12** |
| **13** | 13°29.65' | 14.9990° | 114°52.08' | N 21°28.26' | 0.3984' | 166°09.62' | 14.4124° | 322°12.11' | S 20°12.57' | 11.5475' | 60.6285' | 128°21.73' | **13** |
| **14** | 28°29.59' | 14.9990° | 114°54.61' | N 21°27.86' | 0.3990' | 180°34.49' | 14.4146° | 322°49.70' | S 20°00.90' | 11.6705' | 60.6010' | 143°24.20' | **14** |
| **15** | 43°29.53' | 14.9990° | 114°57.14' | N 21°27.46' | 0.3996' | 194°59.50' | 14.4168° | 323°27.16' | S 19°49.11' | 11.7913' | 60.5731' | 158°26.66' | **15** |
| **16** | 58°29.47' | 14.9990° | 114°59.66' | N 21°27.06' | 0.4003' | 209°24.64' | 14.4189° | 324°04.49' | S 19°37.20' | 11.9097' | 60.5447' | 173°29.13' | **16** |
| **17** | 73°29.41' | 14.9990° | 115°02.18' | N 21°26.66' | 0.4009' | 223°49.90' | 14.4211° | 324°41.69' | S 19°25.17' | 12.0259' | 60.5160' | 188°31.59' | **17** |
| **18** | 88°29.35' | 14.9990° | 115°04.71' | N 21°26.26' | 0.4015' | 238°15.29' | 14.4232° | 325°18.76' | S 19°13.03' | 12.1398' | 60.4869' | 203°34.05' | **18** |
| **19** | 103°29.29' | 14.9990° | 115°07.23' | N 21°25.86' | 0.4022' | 252°40.82' | 14.4254° | 325°55.70' | S 19°00.78' | 12.2515' | 60.4574' | 218°36.52' | **19** |
| **20** | 118°29.23' | 14.9990° | 115°09.76' | N 21°25.45' | 0.4028' | 267°06.47' | 14.4276° | 326°32.51' | S 18°48.42' | 12.3609' | 60.4275' | 233°38.98' | **20** |
| **21** | 133°29.17' | 14.9990° | 115°12.28' | N 21°25.05' | 0.4034' | 281°32.25' | 14.4297° | 327°09.19' | S 18°35.95' | 12.4681' | 60.3973' | 248°41.45' | **21** |
| **22** | 148°29.11' | 14.9990° | 115°14.80' | N 21°24.65' | 0.4040' | 295°58.16' | 14.4318° | 327°45.75' | S 18°23.38' | 12.5730' | 60.3667' | 263°43.91' | **22** |
| **23** | 163°29.05' | 14.9990° | 115°17.33' | N 21°24.24' | 0.4047' | 310°24.20' | 14.4340° | 328°22.17' | S 18°10.71' | 12.6757' | 60.3357' | 278°46.38' | **23** |
| **24** | 178°28.99' | 14.9990° | 115°19.85' | N 21°23.84' | 0.4053' | 324°50.37' | 14.4361° | 328°58.47' | S 17°57.93' | 12.7762' | 60.3044' | 293°48.84' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.7352' | hp (π) 0.1442' | ½Ø 16.5275' | 95.3461224368745 % -gib | |
| EoT at 12:00 UTC : -6m 1s (δ -0.25 s/h) | | Phase at 12:00 UTC : 204.49° | | |
| Meridian Pass. Time : 12:06:01.158 | | Age : 15.9 day(s) | | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.12') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 206°49.64' | 86°00.06' | N 22°34.88' | 257°48.87' | 35°00.83' | N 12°04.97' | 284°34.35' | 8°15.35' | N 2°04.93' | 326°04.15' | 326°45.55' | S 14°41.15' | **00** |
| **01** | 221°48.85' | 86°03.32' | N 22°35.08' | 272°49.69' | 35°02.48' | N 12°05.54' | 299°36.71' | 8°15.45' | N 2°04.97' | 341°06.75' | 326°45.41' | S 14°41.20' | **01** |
| **02** | 236°48.06' | 86°06.57' | N 22°35.27' | 287°50.50' | 35°04.13' | N 12°06.10' | 314°39.07' | 8°15.56' | N 2°05.00' | 356°09.36' | 326°45.27' | S 14°41.26' | **02** |
| **03** | 251°47.26' | 86°09.83' | N 22°35.46' | 302°51.32' | 35°05.78' | N 12°06.67' | 329°41.42' | 8°15.67' | N 2°05.03' | 11°11.96' | 326°45.13' | S 14°41.31' | **03** |
| **04** | 266°46.47' | 86°13.08' | N 22°35.64' | 317°52.13' | 35°07.42' | N 12°07.23' | 344°43.78' | 8°15.78' | N 2°05.06' | 26°14.56' | 326°44.99' | S 14°41.36' | **04** |
| **05** | 281°45.68' | 86°16.34' | N 22°35.83' | 332°52.95' | 35°09.07' | N 12°07.80' | 359°46.14' | 8°15.88' | N 2°05.10' | 41°17.16' | 326°44.86' | S 14°41.42' | **05** |
| **06** | 296°44.89' | 86°19.60' | N 22°36.02' | 347°53.76' | 35°10.72' | N 12°08.36' | 14°48.50' | 8°15.99' | N 2°05.13' | 56°19.77' | 326°44.72' | S 14°41.47' | **06** |
| **07** | 311°44.10' | 86°22.85' | N 22°36.20' | 2°54.58' | 35°12.37' | N 12°08.93' | 29°50.85' | 8°16.10' | N 2°05.16' | 71°22.37' | 326°44.58' | S 14°41.52' | **07** |
| **08** | 326°43.30' | 86°26.11' | N 22°36.39' | 17°55.39' | 35°14.02' | N 12°09.49' | 44°53.21' | 8°16.20' | N 2°05.19' | 86°24.97' | 326°44.44' | S 14°41.58' | **08** |
| **09** | 341°42.51' | 86°29.37' | N 22°36.57' | 32°56.21' | 35°15.67' | N 12°10.06' | 59°55.57' | 8°16.31' | N 2°05.22' | 101°27.58' | 326°44.30' | S 14°41.63' | **09** |
| **10** | 356°41.72' | 86°32.62' | N 22°36.75' | 47°57.03' | 35°17.31' | N 12°10.62' | 74°57.93' | 8°16.41' | N 2°05.26' | 116°30.18' | 326°44.16' | S 14°41.69' | **10** |
| **11** | 11°40.92' | 86°35.88' | N 22°36.93' | 62°57.84' | 35°18.96' | N 12°11.19' | 90°00.29' | 8°16.52' | N 2°05.29' | 131°32.78' | 326°44.02' | S 14°41.74' | **11** |
| **12** | 26°40.13' | 86°39.14' | N 22°37.11' | 77°58.66' | 35°20.61' | N 12°11.75' | 105°02.65' | 8°16.62' | N 2°05.32' | 146°35.39' | 326°43.88' | S 14°41.80' | **12** |
| **13** | 41°39.34' | 86°42.40' | N 22°37.29' | 92°59.48' | 35°22.26' | N 12°12.31' | 120°05.01' | 8°16.72' | N 2°05.35' | 161°37.99' | 326°43.74' | S 14°41.85' | **13** |
| **14** | 56°38.54' | 86°45.66' | N 22°37.47' | 108°00.29' | 35°23.91' | N 12°12.88' | 135°07.37' | 8°16.83' | N 2°05.38' | 176°40.59' | 326°43.60' | S 14°41.90' | **14** |
| **15** | 71°37.75' | 86°48.91' | N 22°37.64' | 123°01.11' | 35°25.55' | N 12°13.44' | 150°09.73' | 8°16.93' | N 2°05.41' | 191°43.20' | 326°43.46' | S 14°41.96' | **15** |
| **16** | 86°36.95' | 86°52.17' | N 22°37.82' | 138°01.92' | 35°27.20' | N 12°14.00' | 165°12.09' | 8°17.04' | N 2°05.44' | 206°45.80' | 326°43.32' | S 14°42.01' | **16** |
| **17** | 101°36.16' | 86°55.43' | N 22°37.99' | 153°02.74' | 35°28.85' | N 12°14.56' | 180°14.45' | 8°17.14' | N 2°05.47' | 221°48.41' | 326°43.18' | S 14°42.07' | **17** |
| **18** | 116°35.36' | 86°58.69' | N 22°38.17' | 168°03.56' | 35°30.50' | N 12°15.13' | 195°16.81' | 8°17.24' | N 2°05.50' | 236°51.01' | 326°43.04' | S 14°42.12' | **18** |
| **19** | 131°34.57' | 87°01.95' | N 22°38.34' | 183°04.37' | 35°32.14' | N 12°15.69' | 210°19.18' | 8°17.34' | N 2°05.53' | 251°53.62' | 326°42.90' | S 14°42.18' | **19** |
| **20** | 146°33.77' | 87°05.21' | N 22°38.51' | 198°05.19' | 35°33.79' | N 12°16.25' | 225°21.54' | 8°17.45' | N 2°05.57' | 266°56.22' | 326°42.76' | S 14°42.23' | **20** |
| **21** | 161°32.98' | 87°08.47' | N 22°38.68' | 213°06.01' | 35°35.44' | N 12°16.81' | 240°23.90' | 8°17.55' | N 2°05.60' | 281°58.82' | 326°42.62' | S 14°42.29' | **21** |
| **22** | 176°32.18' | 87°11.73' | N 22°38.85' | 228°06.82' | 35°37.09' | N 12°17.37' | 255°26.26' | 8°17.65' | N 2°05.63' | 297°01.43' | 326°42.48' | S 14°42.34' | **22** |
| **23** | 191°31.39' | 87°14.99' | N 22°39.01' | 243°07.64' | 35°38.73' | N 12°17.93' | 270°28.63' | 8°17.75' | N 2°05.66' | 312°04.03' | 326°42.34' | S 14°42.39' | **23** |
| **24** | 206°30.59' | 87°18.25' | N 22°39.18' | 258°08.46' | 35°40.38' | N 12°18.49' | 285°30.99' | 8°17.85' | N 2°05.69' | 327°06.64' | 326°42.20' | S 14°42.45' | **24** |
| | δ 14.9868° | | *d* 0.1916' | δ 15.0136° | | *d* 0.5661' | δ 15.0393° | | *d* 0.0328' | δ 15.0434° | | *d* 0.0539' | |

## *Saturday, July 16th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°28.99' | 14.9990° | 115°19.85' | N 21°23.84' | 0.4053' | 324°50.37' | 14.4361° | 328°58.47' | S 17°57.93' | 12.7762' | 60.3044' | 293°48.84' | **00** |
| **01** | 193°28.93' | 14.9990° | 115°22.37' | N 21°23.43' | 0.4059' | 339°16.67' | 14.4383° | 329°34.64' | S 17°45.06' | 12.8744' | 60.2728' | 308°51.30' | **01** |
| **02** | 208°28.87' | 14.9990° | 115°24.90' | N 21°23.02' | 0.4066' | 353°43.09' | 14.4404° | 330°10.68' | S 17°32.08' | 12.9704' | 60.2408' | 323°53.77' | **02** |
| **03** | 223°28.81' | 14.9990° | 115°27.42' | N 21°22.62' | 0.4072' | 8°09.64' | 14.4425° | 330°46.59' | S 17°19.02' | 13.0643' | 60.2085' | 338°56.23' | **03** |
| **04** | 238°28.75' | 14.9990° | 115°29.94' | N 21°22.21' | 0.4078' | 22°36.31' | 14.4446° | 331°22.38' | S 17°05.86' | 13.1559' | 60.1758' | 353°58.70' | **04** |
| **05** | 253°28.70' | 14.9990° | 115°32.46' | N 21°21.80' | 0.4085' | 37°03.12' | 14.4467° | 331°58.04' | S 16°52.62' | 13.2454' | 60.1429' | 9°01.16' | **05** |
| **06** | 268°28.64' | 14.9990° | 115°34.99' | N 21°21.39' | 0.4091' | 51°30.04' | 14.4488° | 332°33.58' | S 16°39.29' | 13.3326' | 60.1096' | 24°03.62' | **06** |
| **07** | 283°28.58' | 14.9990° | 115°37.51' | N 21°20.98' | 0.4097' | 65°57.09' | 14.4508° | 333°09.00' | S 16°25.87' | 13.4178' | 60.0760' | 39°06.09' | **07** |
| **08** | 298°28.52' | 14.9990° | 115°40.03' | N 21°20.57' | 0.4103' | 80°24.27' | 14.4529° | 333°44.29' | S 16°12.37' | 13.5008' | 60.0422' | 54°08.55' | **08** |
| **09** | 313°28.47' | 14.9990° | 115°42.55' | N 21°20.16' | 0.4110' | 94°51.56' | 14.4550° | 334°19.45' | S 15°58.79' | 13.5816' | 60.0080' | 69°11.02' | **09** |
| **10** | 328°28.41' | 14.9991° | 115°45.07' | N 21°19.75' | 0.4116' | 109°18.98' | 14.4570° | 334°54.50' | S 15°45.13' | 13.6604' | 59.9736' | 84°13.48' | **10** |
| **11** | 343°28.35' | 14.9991° | 115°47.59' | N 21°19.34' | 0.4122' | 123°46.52' | 14.4590° | 335°29.42' | S 15°31.39' | 13.7371' | 59.9389' | 99°15.94' | **11** |
| **12** | 358°28.30' | 14.9991° | 115°50.11' | N 21°18.92' | 0.4129' | 138°14.18' | 14.4610° | 336°04.22' | S 15°17.58' | 13.8116' | 59.9039' | 114°18.41' | **12** |
| **13** | 13°28.24' | 14.9991° | 115°52.63' | N 21°18.51' | 0.4135' | 152°41.97' | 14.4630° | 336°38.91' | S 15°03.69' | 13.8841' | 59.8687' | 129°20.87' | **13** |
| **14** | 28°28.19' | 14.9991° | 115°55.15' | N 21°18.10' | 0.4141' | 167°09.86' | 14.4650° | 337°13.47' | S 14°49.74' | 13.9546' | 59.8332' | 144°23.34' | **14** |
| **15** | 43°28.13' | 14.9991° | 115°57.67' | N 21°17.68' | 0.4147' | 181°37.88' | 14.4670° | 337°47.92' | S 14°35.72' | 14.0230' | 59.7975' | 159°25.80' | **15** |
| **16** | 58°28.07' | 14.9991° | 116°00.19' | N 21°17.27' | 0.4154' | 196°06.02' | 14.4689° | 338°22.25' | S 14°21.63' | 14.0894' | 59.7615' | 174°28.27' | **16** |
| **17** | 73°28.02' | 14.9991° | 116°02.71' | N 21°16.85' | 0.4160' | 210°34.27' | 14.4708° | 338°56.46' | S 14°07.47' | 14.1538' | 59.7253' | 189°30.73' | **17** |
| **18** | 88°27.96' | 14.9991° | 116°05.23' | N 21°16.43' | 0.4166' | 225°02.63' | 14.4728° | 339°30.56' | S 13°53.26' | 14.2161' | 59.6888' | 204°33.19' | **18** |
| **19** | 103°27.91' | 14.9991° | 116°07.75' | N 21°16.02' | 0.4173' | 239°31.11' | 14.4746° | 340°04.55' | S 13°38.98' | 14.2766' | 59.6522' | 219°35.66' | **19** |
| **20** | 118°27.85' | 14.9991° | 116°10.27' | N 21°15.60' | 0.4179' | 253°59.70' | 14.4765° | 340°38.42' | S 13°24.64' | 14.3350' | 59.6153' | 234°38.12' | **20** |
| **21** | 133°27.80' | 14.9991° | 116°12.79' | N 21°15.18' | 0.4185' | 268°28.41' | 14.4784° | 341°12.18' | S 13°10.25' | 14.3916' | 59.5783' | 249°40.59' | **21** |
| **22** | 148°27.75' | 14.9991° | 116°15.30' | N 21°14.76' | 0.4191' | 282°57.22' | 14.4802° | 341°45.83' | S 12°55.81' | 14.4462' | 59.5410' | 264°43.05' | **22** |
| **23** | 163°27.69' | 14.9991° | 116°17.82' | N 21°14.34' | 0.4198' | 297°26.14' | 14.4821° | 342°19.37' | S 12°41.31' | 14.4989' | 59.5035' | 279°45.51' | **23** |
| **24** | 178°27.64' | 14.9991° | 116°20.34' | N 21°13.92' | 0.4204' | 311°55.18' | 14.4839° | 342°52.80' | S 12°26.76' | 14.5497' | 59.4659' | 294°47.98' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.7360' | hp (π) 0.1442' | ½Ø 16.3226' | 89.1401523753228 4% -gib | |
| EoT at 12:00 UTC : -6m 6s (δ -0.23 s/h) | | Phase at 12:00 UTC : 218.30° | | |
| Meridian Pass. Time : 12:06:06.810 | | Age : 17.0 day(s) | | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.12') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 206°30.59' | 87°18.25' | N 22°39.18' | 258°08.46' | 35°40.38' | N 12°18.49' | 285°30.99' | 8°17.85' | N 2°05.69' | 327°06.64' | 326°42.20' | S 14°42.45' | **00** |
| **01** | 221°29.79' | 87°21.51' | N 22°39.35' | 273°09.28' | 35°42.03' | N 12°19.06' | 300°33.35' | 8°17.95' | N 2°05.71' | 342°09.24' | 326°42.06' | S 14°42.50' | **01** |
| **02** | 236°29.00' | 87°24.77' | N 22°39.51' | 288°10.09' | 35°43.67' | N 12°19.62' | 315°35.72' | 8°18.05' | N 2°05.74' | 357°11.85' | 326°41.92' | S 14°42.56' | **02** |
| **03** | 251°28.20' | 87°28.03' | N 22°39.67' | 303°10.91' | 35°45.32' | N 12°20.18' | 330°38.08' | 8°18.15' | N 2°05.77' | 12°14.45' | 326°41.78' | S 14°42.61' | **03** |
| **04** | 266°27.40' | 87°31.29' | N 22°39.83' | 318°11.73' | 35°46.97' | N 12°20.74' | 345°40.45' | 8°18.25' | N 2°05.80' | 27°17.06' | 326°41.64' | S 14°42.67' | **04** |
| **05** | 281°26.61' | 87°34.55' | N 22°40.00' | 333°12.54' | 35°48.62' | N 12°21.30' | 0°42.81' | 8°18.35' | N 2°05.83' | 42°19.67' | 326°41.49' | S 14°42.72' | **05** |
| **06** | 296°25.81' | 87°37.82' | N 22°40.16' | 348°13.36' | 35°50.26' | N 12°21.86' | 15°45.17' | 8°18.45' | N 2°05.86' | 57°22.27' | 326°41.35' | S 14°42.78' | **06** |
| **07** | 311°25.01' | 87°41.08' | N 22°40.31' | 3°14.18' | 35°51.91' | N 12°22.41' | 30°47.54' | 8°18.55' | N 2°05.89' | 72°24.88' | 326°41.21' | S 14°42.83' | **07** |
| **08** | 326°24.21' | 87°44.34' | N 22°40.47' | 18°15.00' | 35°53.56' | N 12°22.97' | 45°49.91' | 8°18.65' | N 2°05.92' | 87°27.48' | 326°41.07' | S 14°42.89' | **08** |
| **09** | 341°23.41' | 87°47.60' | N 22°40.63' | 33°15.81' | 35°55.20' | N 12°23.53' | 60°52.27' | 8°18.74' | N 2°05.95' | 102°30.09' | 326°40.93' | S 14°42.94' | **09** |
| **10** | 356°22.62' | 87°50.86' | N 22°40.78' | 48°16.63' | 35°56.85' | N 12°24.09' | 75°54.64' | 8°18.84' | N 2°05.98' | 117°32.69' | 326°40.79' | S 14°43.00' | **10** |
| **11** | 11°21.82' | 87°54.13' | N 22°40.94' | 63°17.45' | 35°58.49' | N 12°24.65' | 90°57.00' | 8°18.94' | N 2°06.00' | 132°35.30' | 326°40.64' | S 14°43.05' | **11** |
| **12** | 26°21.02' | 87°57.39' | N 22°41.09' | 78°18.27' | 36°00.14' | N 12°25.21' | 105°59.37' | 8°19.04' | N 2°06.03' | 147°37.91' | 326°40.50' | S 14°43.11' | **12** |
| **13** | 41°20.22' | 88°00.65' | N 22°41.24' | 93°19.09' | 36°01.79' | N 12°25.77' | 121°01.74' | 8°19.13' | N 2°06.06' | 162°40.51' | 326°40.36' | S 14°43.16' | **13** |
| **14** | 56°19.42' | 88°03.92' | N 22°41.39' | 108°19.90' | 36°03.43' | N 12°26.32' | 136°04.11' | 8°19.23' | N 2°06.09' | 177°43.12' | 326°40.22' | S 14°43.22' | **14** |
| **15** | 71°18.62' | 88°07.18' | N 22°41.54' | 123°20.72' | 36°05.08' | N 12°26.88' | 151°06.47' | 8°19.33' | N 2°06.12' | 192°45.73' | 326°40.08' | S 14°43.27' | **15** |
| **16** | 86°17.82' | 88°10.44' | N 22°41.69' | 138°21.54' | 36°06.72' | N 12°27.44' | 166°08.84' | 8°19.42' | N 2°06.14' | 207°48.33' | 326°39.93' | S 14°43.33' | **16** |
| **17** | 101°17.02' | 88°13.71' | N 22°41.84' | 153°22.36' | 36°08.37' | N 12°27.99' | 181°11.21' | 8°19.52' | N 2°06.17' | 222°50.94' | 326°39.79' | S 14°43.38' | **17** |
| **18** | 116°16.22' | 88°16.97' | N 22°41.99' | 168°23.18' | 36°10.02' | N 12°28.55' | 196°13.58' | 8°19.61' | N 2°06.20' | 237°53.55' | 326°39.65' | S 14°43.44' | **18** |
| **19** | 131°15.42' | 88°20.23' | N 22°42.13' | 183°24.00' | 36°11.66' | N 12°29.11' | 211°15.95' | 8°19.71' | N 2°06.23' | 252°56.15' | 326°39.50' | S 14°43.49' | **19** |
| **20** | 146°14.62' | 88°23.50' | N 22°42.28' | 198°24.81' | 36°13.31' | N 12°29.66' | 226°18.32' | 8°19.80' | N 2°06.25' | 267°58.76' | 326°39.36' | S 14°43.55' | **20** |
| **21** | 161°13.82' | 88°26.76' | N 22°42.42' | 213°25.63' | 36°14.95' | N 12°30.22' | 241°20.69' | 8°19.90' | N 2°06.28' | 283°01.37' | 326°39.22' | S 14°43.60' | **21** |
| **22** | 176°13.02' | 88°30.03' | N 22°42.56' | 228°26.45' | 36°16.60' | N 12°30.78' | 256°23.06' | 8°19.99' | N 2°06.31' | 298°03.97' | 326°39.08' | S 14°43.66' | **22** |
| **23** | 191°12.22' | 88°33.29' | N 22°42.70' | 243°27.27' | 36°18.24' | N 12°31.33' | 271°25.43' | 8°20.09' | N 2°06.34' | 313°06.58' | 326°38.93' | S 14°43.71' | **23** |
| **24** | 206°11.42' | 88°36.56' | N 22°42.84' | 258°28.09' | 36°19.89' | N 12°31.89' | 286°27.80' | 8°20.18' | N 2°06.36' | 328°09.19' | 326°38.79' | S 14°43.77' | **24** |
| | δ 14.9867° | | *d* 0.1653' | δ 15.0136° | | *d* 0.5607' | δ 15.0394° | | *d* 0.0297' | δ 15.0434° | | *d* 0.0546' | |

## *Sunday, July 17th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°27.64' | 14.9991° | 116°20.34' | N 21°13.92' | 0.4204' | 311°55.18' | 14.4839° | 342°52.80' | S 12°26.76' | 14.5497' | 59.4659' | 294°47.98' | **00** |
| **01** | 193°27.59' | 14.9991° | 116°22.86' | N 21°13.50' | 0.4210' | 326°24.31' | 14.4857° | 343°26.13' | S 12°12.16' | 14.5987' | 59.4281' | 309°50.44' | **01** |
| **02** | 208°27.53' | 14.9991° | 116°25.37' | N 21°13.08' | 0.4216' | 340°53.56' | 14.4874° | 343°59.35' | S 11°57.51' | 14.6458' | 59.3901' | 324°52.91' | **02** |
| **03** | 223°27.48' | 14.9991° | 116°27.89' | N 21°12.66' | 0.4223' | 355°22.91' | 14.4892° | 344°32.46' | S 11°42.82' | 14.6911' | 59.3519' | 339°55.37' | **03** |
| **04** | 238°27.43' | 14.9991° | 116°30.41' | N 21°12.23' | 0.4229' | 9°52.36' | 14.4909° | 345°05.47' | S 11°28.09' | 14.7346' | 59.3136' | 354°57.83' | **04** |
| **05** | 253°27.37' | 14.9991° | 116°32.93' | N 21°11.81' | 0.4235' | 24°21.92' | 14.4926° | 345°38.38' | S 11°13.31' | 14.7763' | 59.2751' | 10°00.30' | **05** |
| **06** | 268°27.32' | 14.9991° | 116°35.44' | N 21°11.38' | 0.4241' | 38°51.58' | 14.4943° | 346°11.18' | S 10°58.50' | 14.8162' | 59.2365' | 25°02.76' | **06** |
| **07** | 283°27.27' | 14.9991° | 116°37.96' | N 21°10.96' | 0.4247' | 53°21.34' | 14.4960° | 346°43.89' | S 10°43.64' | 14.8544' | 59.1978' | 40°05.23' | **07** |
| **08** | 298°27.22' | 14.9991° | 116°40.47' | N 21°10.53' | 0.4254' | 67°51.19' | 14.4976° | 347°16.50' | S 10°28.75' | 14.8908' | 59.1589' | 55°07.69' | **08** |
| **09** | 313°27.17' | 14.9991° | 116°42.99' | N 21°10.11' | 0.4260' | 82°21.15' | 14.4992° | 347°49.01' | S 10°13.82' | 14.9255' | 59.1199' | 70°10.15' | **09** |
| **10** | 328°27.11' | 14.9991° | 116°45.51' | N 21°09.68' | 0.4266' | 96°51.20' | 14.5008° | 348°21.42' | S 9°58.87' | 14.9585' | 59.0808' | 85°12.62' | **10** |
| **11** | 343°27.06' | 14.9991° | 116°48.02' | N 21°09.25' | 0.4272' | 111°21.34' | 14.5024° | 348°53.74' | S 9°43.88' | 14.9899' | 59.0416' | 100°15.08' | **11** |
| **12** | 358°27.01' | 14.9991° | 116°50.54' | N 21°08.83' | 0.4279' | 125°51.58' | 14.5040° | 349°25.97' | S 9°28.86' | 15.0196' | 59.0022' | 115°17.55' | **12** |
| **13** | 13°26.96' | 14.9992° | 116°53.05' | N 21°08.40' | 0.4285' | 140°21.91' | 14.5055° | 349°58.10' | S 9°13.81' | 15.0476' | 58.9628' | 130°20.01' | **13** |
| **14** | 28°26.91' | 14.9992° | 116°55.57' | N 21°07.97' | 0.4291' | 154°52.33' | 14.5070° | 350°30.14' | S 8°58.74' | 15.0740' | 58.9233' | 145°22.48' | **14** |
| **15** | 43°26.86' | 14.9992° | 116°58.08' | N 21°07.54' | 0.4297' | 169°22.85' | 14.5085° | 351°02.09' | S 8°43.64' | 15.0989' | 58.8837' | 160°24.94' | **15** |
| **16** | 58°26.81' | 14.9992° | 117°00.59' | N 21°07.11' | 0.4303' | 183°53.45' | 14.5100° | 351°33.96' | S 8°28.51' | 15.1221' | 58.8440' | 175°27.40' | **16** |
| **17** | 73°26.76' | 14.9992° | 117°03.11' | N 21°06.68' | 0.4310' | 198°24.13' | 14.5115° | 352°05.73' | S 8°13.37' | 15.1438' | 58.8042' | 190°29.87' | **17** |
| **18** | 88°26.71' | 14.9992° | 117°05.62' | N 21°06.25' | 0.4316' | 212°54.91' | 14.5129° | 352°37.43' | S 7°58.21' | 15.1639' | 58.7644' | 205°32.33' | **18** |
| **19** | 103°26.66' | 14.9992° | 117°08.14' | N 21°05.81' | 0.4322' | 227°25.76' | 14.5143° | 353°09.03' | S 7°43.02' | 15.1825' | 58.7245' | 220°34.80' | **19** |
| **20** | 118°26.61' | 14.9992° | 117°10.65' | N 21°05.38' | 0.4328' | 241°56.70' | 14.5157° | 353°40.56' | S 7°27.82' | 15.1996' | 58.6846' | 235°37.26' | **20** |
| **21** | 133°26.56' | 14.9992° | 117°13.16' | N 21°04.95' | 0.4335' | 256°27.73' | 14.5170° | 354°12.00' | S 7°12.61' | 15.2152' | 58.6446' | 250°39.72' | **21** |
| **22** | 148°26.51' | 14.9992° | 117°15.67' | N 21°04.51' | 0.4341' | 270°58.83' | 14.5184° | 354°43.36' | S 6°57.38' | 15.2293' | 58.6046' | 265°42.19' | **22** |
| **23** | 163°26.46' | 14.9992° | 117°18.19' | N 21°04.08' | 0.4347' | 285°30.01' | 14.5197° | 355°14.64' | S 6°42.14' | 15.2419' | 58.5645' | 280°44.65' | **23** |
| **24** | 178°26.42' | 14.9992° | 117°20.70' | N 21°03.64' | 0.4353' | 300°01.27' | 14.5210° | 355°45.85' | S 6°26.89' | 15.2531' | 58.5245' | 295°47.12' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.7368' | hp (π) 0.1442' | ½Ø 16.0770' | 80.9894106924700<br>7% -gib | |
| EoT at 12:00 UTC : -6m 12s (δ -0.20 s/h) | | Phase at 12:00 UTC : 231.67° | | |
| Meridian Pass. Time : 12:06:11.955 | | Age : 18.0 day(s) | | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.12') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 206°11.42' | 88°36.56' | N 22°42.84' | 258°28.09' | 36°19.89' | N 12°31.89' | 286°27.80' | 8°20.18' | N 2°06.36' | 328°09.19' | 326°38.79' | S 14°43.77' | **00** |
| **01** | 221°10.62' | 88°39.82' | N 22°42.98' | 273°28.91' | 36°21.53' | N 12°32.44' | 301°30.17' | 8°20.27' | N 2°06.39' | 343°11.80' | 326°38.64' | S 14°43.82' | **01** |
| **02** | 236°09.82' | 88°43.09' | N 22°43.12' | 288°29.73' | 36°23.18' | N 12°33.00' | 316°32.54' | 8°20.37' | N 2°06.41' | 358°14.40' | 326°38.50' | S 14°43.88' | **02** |
| **03** | 251°09.01' | 88°46.36' | N 22°43.25' | 303°30.55' | 36°24.82' | N 12°33.55' | 331°34.91' | 8°20.46' | N 2°06.44' | 13°17.01' | 326°38.36' | S 14°43.94' | **03** |
| **04** | 266°08.21' | 88°49.62' | N 22°43.39' | 318°31.36' | 36°26.47' | N 12°34.11' | 346°37.28' | 8°20.55' | N 2°06.47' | 28°19.62' | 326°38.21' | S 14°43.99' | **04** |
| **05** | 281°07.41' | 88°52.89' | N 22°43.52' | 333°32.18' | 36°28.11' | N 12°34.66' | 1°39.65' | 8°20.64' | N 2°06.49' | 43°22.23' | 326°38.07' | S 14°44.05' | **05** |
| **06** | 296°06.61' | 88°56.15' | N 22°43.66' | 348°33.00' | 36°29.76' | N 12°35.21' | 16°42.03' | 8°20.74' | N 2°06.52' | 58°24.84' | 326°37.93' | S 14°44.10' | **06** |
| **07** | 311°05.81' | 88°59.42' | N 22°43.79' | 3°33.82' | 36°31.40' | N 12°35.77' | 31°44.40' | 8°20.83' | N 2°06.54' | 73°27.44' | 326°37.78' | S 14°44.16' | **07** |
| **08** | 326°05.00' | 89°02.69' | N 22°43.92' | 18°34.64' | 36°33.05' | N 12°36.32' | 46°46.77' | 8°20.92' | N 2°06.57' | 88°30.05' | 326°37.64' | S 14°44.21' | **08** |
| **09** | 341°04.20' | 89°05.95' | N 22°44.05' | 33°35.46' | 36°34.69' | N 12°36.87' | 61°49.15' | 8°21.01' | N 2°06.60' | 103°32.66' | 326°37.49' | S 14°44.27' | **09** |
| **10** | 356°03.40' | 89°09.22' | N 22°44.18' | 48°36.28' | 36°36.34' | N 12°37.43' | 76°51.52' | 8°21.10' | N 2°06.62' | 118°35.27' | 326°37.35' | S 14°44.32' | **10** |
| **11** | 11°02.59' | 89°12.49' | N 22°44.31' | 63°37.10' | 36°37.98' | N 12°37.98' | 91°53.89' | 8°21.19' | N 2°06.65' | 133°37.88' | 326°37.20' | S 14°44.38' | **11** |
| **12** | 26°01.79' | 89°15.76' | N 22°44.43' | 78°37.92' | 36°39.63' | N 12°38.53' | 106°56.27' | 8°21.28' | N 2°06.67' | 148°40.49' | 326°37.06' | S 14°44.44' | **12** |
| **13** | 41°00.99' | 89°19.02' | N 22°44.56' | 93°38.74' | 36°41.27' | N 12°39.08' | 121°58.64' | 8°21.37' | N 2°06.70' | 163°43.10' | 326°36.91' | S 14°44.49' | **13** |
| **14** | 56°00.18' | 89°22.29' | N 22°44.68' | 108°39.56' | 36°42.92' | N 12°39.64' | 137°01.02' | 8°21.46' | N 2°06.72' | 178°45.71' | 326°36.77' | S 14°44.55' | **14** |
| **15** | 70°59.38' | 89°25.56' | N 22°44.81' | 123°40.38' | 36°44.56' | N 12°40.19' | 152°03.39' | 8°21.55' | N 2°06.75' | 193°48.31' | 326°36.62' | S 14°44.60' | **15** |
| **16** | 85°58.58' | 89°28.83' | N 22°44.93' | 138°41.20' | 36°46.20' | N 12°40.74' | 167°05.77' | 8°21.64' | N 2°06.77' | 208°50.92' | 326°36.48' | S 14°44.66' | **16** |
| **17** | 100°57.77' | 89°32.10' | N 22°45.05' | 153°42.02' | 36°47.85' | N 12°41.29' | 182°08.14' | 8°21.72' | N 2°06.80' | 223°53.53' | 326°36.33' | S 14°44.72' | **17** |
| **18** | 115°56.97' | 89°35.36' | N 22°45.17' | 168°42.84' | 36°49.49' | N 12°41.84' | 197°10.52' | 8°21.81' | N 2°06.82' | 238°56.14' | 326°36.19' | S 14°44.77' | **18** |
| **19** | 130°56.16' | 89°38.63' | N 22°45.29' | 183°43.66' | 36°51.14' | N 12°42.39' | 212°12.89' | 8°21.90' | N 2°06.84' | 253°58.75' | 326°36.04' | S 14°44.83' | **19** |
| **20** | 145°55.36' | 89°41.90' | N 22°45.40' | 198°44.48' | 36°52.78' | N 12°42.94' | 227°15.27' | 8°21.99' | N 2°06.87' | 269°01.36' | 326°35.90' | S 14°44.88' | **20** |
| **21** | 160°54.55' | 89°45.17' | N 22°45.52' | 213°45.30' | 36°54.42' | N 12°43.49' | 242°17.65' | 8°22.08' | N 2°06.89' | 284°03.97' | 326°35.75' | S 14°44.94' | **21** |
| **22** | 175°53.75' | 89°48.44' | N 22°45.64' | 228°46.12' | 36°56.07' | N 12°44.04' | 257°20.03' | 8°22.16' | N 2°06.92' | 299°06.58' | 326°35.61' | S 14°44.99' | **22** |
| **23** | 190°52.94' | 89°51.71' | N 22°45.75' | 243°46.94' | 36°57.71' | N 12°44.59' | 272°22.40' | 8°22.25' | N 2°06.94' | 314°09.19' | 326°35.46' | S 14°45.05' | **23** |
| **24** | 205°52.14' | 89°54.98' | N 22°45.86' | 258°47.76' | 36°59.35' | N 12°45.14' | 287°24.78' | 8°22.34' | N 2°06.96' | 329°11.80' | 326°35.32' | S 14°45.11' | **24** |
| | δ 14.9866° | | *d* 0.1387' | δ 15.0136° | | *d* 0.5551' | δ 15.0395° | | *d* 0.0266' | δ 15.0435° | | *d* 0.0554' | |

## *Monday, July 18th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°26.42' | 14.9992° | 117°20.70' | N 21°03.64' | 0.4353' | 300°01.27' | 14.5210° | 355°45.85' | S 6°26.89' | 15.2531' | 58.5245' | 295°47.12' | **00** |
| **01** | 193°26.37' | 14.9992° | 117°23.21' | N 21°03.21' | 0.4359' | 314°32.60' | 14.5222° | 356°16.98' | S 6°11.62' | 15.2629' | 58.4843' | 310°49.58' | **01** |
| **02** | 208°26.32' | 14.9992° | 117°25.72' | N 21°02.77' | 0.4365' | 329°04.01' | 14.5235° | 356°48.03' | S 5°56.35' | 15.2713' | 58.4442' | 325°52.04' | **02** |
| **03** | 223°26.27' | 14.9992° | 117°28.24' | N 21°02.33' | 0.4372' | 343°35.49' | 14.5247° | 357°19.02' | S 5°41.07' | 15.2783' | 58.4041' | 340°54.51' | **03** |
| **04** | 238°26.22' | 14.9992° | 117°30.75' | N 21°01.90' | 0.4378' | 358°07.05' | 14.5259° | 357°49.93' | S 5°25.79' | 15.2839' | 58.3639' | 355°56.97' | **04** |
| **05** | 253°26.18' | 14.9992° | 117°33.26' | N 21°01.46' | 0.4384' | 12°38.67' | 14.5271° | 358°20.76' | S 5°10.50' | 15.2882' | 58.3238' | 10°59.44' | **05** |
| **06** | 268°26.13' | 14.9992° | 117°35.77' | N 21°01.02' | 0.4390' | 27°10.37' | 14.5282° | 358°51.53' | S 4°55.21' | 15.2911' | 58.2836' | 26°01.90' | **06** |
| **07** | 283°26.08' | 14.9992° | 117°38.28' | N 21°00.58' | 0.4396' | 41°42.13' | 14.5294° | 359°22.23' | S 4°39.92' | 15.2928' | 58.2435' | 41°04.36' | **07** |
| **08** | 298°26.04' | 14.9992° | 117°40.79' | N 21°00.14' | 0.4403' | 56°13.96' | 14.5305° | 359°52.87' | S 4°24.62' | 15.2931' | 58.2034' | 56°06.83' | **08** |
| **09** | 313°25.99' | 14.9992° | 117°43.30' | N 20°59.70' | 0.4409' | 70°45.85' | 14.5316° | 0°23.44' | S 4°09.33' | 15.2921' | 58.1633' | 71°09.29' | **09** |
| **10** | 328°25.94' | 14.9992° | 117°45.81' | N 20°59.26' | 0.4415' | 85°17.81' | 14.5326° | 0°53.95' | S 3°54.04' | 15.2898' | 58.1232' | 86°11.76' | **10** |
| **11** | 343°25.90' | 14.9992° | 117°48.32' | N 20°58.81' | 0.4421' | 99°49.83' | 14.5337° | 1°24.39' | S 3°38.76' | 15.2863' | 58.0832' | 101°14.22' | **11** |
| **12** | 358°25.85' | 14.9992° | 117°50.83' | N 20°58.37' | 0.4427' | 114°21.91' | 14.5347° | 1°54.77' | S 3°23.47' | 15.2815' | 58.0432' | 116°16.68' | **12** |
| **13** | 13°25.81' | 14.9992° | 117°53.34' | N 20°57.93' | 0.4433' | 128°54.05' | 14.5357° | 2°25.10' | S 3°08.20' | 15.2756' | 58.0032' | 131°19.15' | **13** |
| **14** | 28°25.76' | 14.9992° | 117°55.85' | N 20°57.48' | 0.4440' | 143°26.25' | 14.5367° | 2°55.36' | S 2°52.93' | 15.2684' | 57.9633' | 146°21.61' | **14** |
| **15** | 43°25.72' | 14.9993° | 117°58.36' | N 20°57.04' | 0.4446' | 157°58.51' | 14.5376° | 3°25.57' | S 2°37.67' | 15.2600' | 57.9235' | 161°24.08' | **15** |
| **16** | 58°25.67' | 14.9993° | 118°00.87' | N 20°56.60' | 0.4452' | 172°30.82' | 14.5385° | 3°55.72' | S 2°22.42' | 15.2504' | 57.8837' | 176°26.54' | **16** |
| **17** | 73°25.63' | 14.9993° | 118°03.38' | N 20°56.15' | 0.4458' | 187°03.19' | 14.5394° | 4°25.82' | S 2°07.18' | 15.2396' | 57.8440' | 191°29.01' | **17** |
| **18** | 88°25.58' | 14.9993° | 118°05.88' | N 20°55.70' | 0.4464' | 201°35.61' | 14.5403° | 4°55.86' | S 1°51.95' | 15.2277' | 57.8043' | 206°31.47' | **18** |
| **19** | 103°25.54' | 14.9993° | 118°08.39' | N 20°55.26' | 0.4470' | 216°08.08' | 14.5412° | 5°25.86' | S 1°36.74' | 15.2147' | 57.7647' | 221°33.93' | **19** |
| **20** | 118°25.50' | 14.9993° | 118°10.90' | N 20°54.81' | 0.4476' | 230°40.60' | 14.5420° | 5°55.80' | S 1°21.54' | 15.2005' | 57.7252' | 236°36.40' | **20** |
| **21** | 133°25.45' | 14.9993° | 118°13.41' | N 20°54.36' | 0.4483' | 245°13.17' | 14.5428° | 6°25.69' | S 1°06.35' | 15.1852' | 57.6857' | 251°38.86' | **21** |
| **22** | 148°25.41' | 14.9993° | 118°15.92' | N 20°53.91' | 0.4489' | 259°45.78' | 14.5436° | 6°55.54' | S 0°51.18' | 15.1688' | 57.6464' | 266°41.33' | **22** |
| **23** | 163°25.37' | 14.9993° | 118°18.42' | N 20°53.46' | 0.4495' | 274°18.45' | 14.5444° | 7°25.34' | S 0°36.03' | 15.1513' | 57.6071' | 281°43.79' | **23** |
| **24** | 178°25.32' | 14.9993° | 118°20.93' | N 20°53.01' | 0.4501' | 288°51.16' | 14.5451° | 7°55.10' | S 0°20.90' | 15.1328' | 57.5680' | 296°46.25' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 15.7376' | hp (π) 0.1442' | ½Ø 15.8157' | 71.5424413615499 % -gib | |
| | EoT at 12:00 UTC : -6m 16s (δ -0.18 s/h) | | Phase at 12:00 UTC : 244.54° | | |
| | Meridian Pass. Time : 12:06:16.586 | | Age : 19.0 day(s) | | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.12') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 205°52.14' | 89°54.98' | N 22°45.86' | 258°47.76' | 36°59.35' | N 12°45.14' | 287°24.78' | 8°22.34' | N 2°06.96' | 329°11.80' | 326°35.32' | S 14°45.11' | **00** |
| **01** | 220°51.33' | 89°58.25' | N 22°45.98' | 273°48.58' | 37°01.00' | N 12°45.69' | 302°27.16' | 8°22.42' | N 2°06.99' | 344°14.41' | 326°35.17' | S 14°45.16' | **01** |
| **02** | 235°50.53' | 90°01.52' | N 22°46.09' | 288°49.40' | 37°02.64' | N 12°46.24' | 317°29.54' | 8°22.51' | N 2°07.01' | 359°17.02' | 326°35.02' | S 14°45.22' | **02** |
| **03** | 250°49.72' | 90°04.79' | N 22°46.20' | 303°50.23' | 37°04.28' | N 12°46.79' | 332°31.92' | 8°22.59' | N 2°07.03' | 14°19.63' | 326°34.88' | S 14°45.28' | **03** |
| **04** | 265°48.91' | 90°08.06' | N 22°46.30' | 318°51.05' | 37°05.93' | N 12°47.34' | 347°34.29' | 8°22.68' | N 2°07.06' | 29°22.24' | 326°34.73' | S 14°45.33' | **04** |
| **05** | 280°48.11' | 90°11.33' | N 22°46.41' | 333°51.87' | 37°07.57' | N 12°47.89' | 2°36.67' | 8°22.76' | N 2°07.08' | 44°24.85' | 326°34.58' | S 14°45.39' | **05** |
| **06** | 295°47.30' | 90°14.60' | N 22°46.52' | 348°52.69' | 37°09.21' | N 12°48.44' | 17°39.05' | 8°22.85' | N 2°07.10' | 59°27.46' | 326°34.44' | S 14°45.44' | **06** |
| **07** | 310°46.49' | 90°17.87' | N 22°46.62' | 3°53.51' | 37°10.85' | N 12°48.99' | 32°41.43' | 8°22.93' | N 2°07.12' | 74°30.07' | 326°34.29' | S 14°45.50' | **07** |
| **08** | 325°45.69' | 90°21.14' | N 22°46.73' | 18°54.33' | 37°12.50' | N 12°49.53' | 47°43.81' | 8°23.01' | N 2°07.15' | 89°32.68' | 326°34.14' | S 14°45.56' | **08** |
| **09** | 340°44.88' | 90°24.41' | N 22°46.83' | 33°55.15' | 37°14.14' | N 12°50.08' | 62°46.19' | 8°23.10' | N 2°07.17' | 104°35.30' | 326°34.00' | S 14°45.61' | **09** |
| **10** | 355°44.07' | 90°27.68' | N 22°46.93' | 48°55.97' | 37°15.78' | N 12°50.63' | 77°48.58' | 8°23.18' | N 2°07.19' | 119°37.91' | 326°33.85' | S 14°45.67' | **10** |
| **11** | 10°43.27' | 90°30.95' | N 22°47.03' | 63°56.80' | 37°17.43' | N 12°51.18' | 92°50.96' | 8°23.26' | N 2°07.21' | 134°40.52' | 326°33.70' | S 14°45.73' | **11** |
| **12** | 25°42.46' | 90°34.23' | N 22°47.13' | 78°57.62' | 37°19.07' | N 12°51.72' | 107°53.34' | 8°23.35' | N 2°07.24' | 149°43.13' | 326°33.56' | S 14°45.78' | **12** |
| **13** | 40°41.65' | 90°37.50' | N 22°47.23' | 93°58.44' | 37°20.71' | N 12°52.27' | 122°55.72' | 8°23.43' | N 2°07.26' | 164°45.74' | 326°33.41' | S 14°45.84' | **13** |
| **14** | 55°40.84' | 90°40.77' | N 22°47.33' | 108°59.26' | 37°22.35' | N 12°52.81' | 137°58.10' | 8°23.51' | N 2°07.28' | 179°48.35' | 326°33.26' | S 14°45.90' | **14** |
| **15** | 70°40.04' | 90°44.04' | N 22°47.42' | 124°00.08' | 37°23.99' | N 12°53.36' | 153°00.48' | 8°23.59' | N 2°07.30' | 194°50.96' | 326°33.11' | S 14°45.95' | **15** |
| **16** | 85°39.23' | 90°47.31' | N 22°47.52' | 139°00.90' | 37°25.64' | N 12°53.91' | 168°02.87' | 8°23.67' | N 2°07.32' | 209°53.57' | 326°32.97' | S 14°46.01' | **16** |
| **17** | 100°38.42' | 90°50.59' | N 22°47.61' | 154°01.73' | 37°27.28' | N 12°54.45' | 183°05.25' | 8°23.76' | N 2°07.34' | 224°56.19' | 326°32.82' | S 14°46.06' | **17** |
| **18** | 115°37.61' | 90°53.86' | N 22°47.71' | 169°02.55' | 37°28.92' | N 12°55.00' | 198°07.63' | 8°23.84' | N 2°07.36' | 239°58.80' | 326°32.67' | S 14°46.12' | **18** |
| **19** | 130°36.80' | 90°57.13' | N 22°47.80' | 184°03.37' | 37°30.56' | N 12°55.54' | 213°10.02' | 8°23.92' | N 2°07.39' | 255°01.41' | 326°32.52' | S 14°46.18' | **19** |
| **20** | 145°35.99' | 91°00.40' | N 22°47.89' | 199°04.19' | 37°32.20' | N 12°56.09' | 228°12.40' | 8°24.00' | N 2°07.41' | 270°04.02' | 326°32.38' | S 14°46.23' | **20** |
| **21** | 160°35.18' | 91°03.68' | N 22°47.98' | 214°05.02' | 37°33.85' | N 12°56.63' | 243°14.78' | 8°24.08' | N 2°07.43' | 285°06.63' | 326°32.23' | S 14°46.29' | **21** |
| **22** | 175°34.38' | 91°06.95' | N 22°48.07' | 229°05.84' | 37°35.49' | N 12°57.18' | 258°17.17' | 8°24.16' | N 2°07.45' | 300°09.25' | 326°32.08' | S 14°46.35' | **22** |
| **23** | 190°33.57' | 91°10.22' | N 22°48.15' | 244°06.66' | 37°37.13' | N 12°57.72' | 273°19.55' | 8°24.24' | N 2°07.47' | 315°11.86' | 326°31.93' | S 14°46.40' | **23** |
| **24** | 205°32.76' | 91°13.50' | N 22°48.24' | 259°07.48' | 37°38.77' | N 12°58.27' | 288°21.94' | 8°24.32' | N 2°07.49' | 330°14.47' | 326°31.78' | S 14°46.46' | **24** |
| | δ 14.9866° | | *d* 0.1119' | δ 15.0137° | | *d* 0.5495' | δ 15.0396° | | *d* 0.0234' | δ 15.0435° | | *d* 0.0561' | |

## *Tuesday, July 19th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°25.32' | 14.9993° | 118°20.93' | N 20°53.01' | 0.4501' | 288°51.16' | 14.5451° | 7°55.10' | S 0°20.90' | 15.1328' | 57.5680' | 296°46.25' | **00** |
| **01** | 193°25.28' | 14.9993° | 118°23.44' | N 20°52.56' | 0.4507' | 303°23.91' | 14.5459° | 8°24.81' | S 0°05.79' | 15.1131' | 57.5289' | 311°48.72' | **01** |
| **02** | 208°25.24' | 14.9993° | 118°25.94' | N 20°52.11' | 0.4513' | 317°56.70' | 14.5466° | 8°54.48' | N 0°09.31' | 15.0925' | 57.4899' | 326°51.18' | **02** |
| **03** | 223°25.20' | 14.9993° | 118°28.45' | N 20°51.66' | 0.4519' | 332°29.54' | 14.5472° | 9°24.11' | N 0°24.38' | 15.0708' | 57.4511' | 341°53.65' | **03** |
| **04** | 238°25.15' | 14.9993° | 118°30.96' | N 20°51.20' | 0.4525' | 347°02.41' | 14.5479° | 9°53.70' | N 0°39.43' | 15.0480' | 57.4123' | 356°56.11' | **04** |
| **05** | 253°25.11' | 14.9993° | 118°33.46' | N 20°50.75' | 0.4532' | 1°35.32' | 14.5485° | 10°23.25' | N 0°54.45' | 15.0243' | 57.3737' | 11°58.57' | **05** |
| **06** | 268°25.07' | 14.9993° | 118°35.97' | N 20°50.30' | 0.4538' | 16°08.27' | 14.5492° | 10°52.77' | N 1°09.45' | 14.9995' | 57.3352' | 27°01.04' | **06** |
| **07** | 283°25.03' | 14.9993° | 118°38.47' | N 20°49.84' | 0.4544' | 30°41.26' | 14.5498° | 11°22.25' | N 1°24.42' | 14.9737' | 57.2968' | 42°03.50' | **07** |
| **08** | 298°24.99' | 14.9993° | 118°40.98' | N 20°49.39' | 0.4550' | 45°14.28' | 14.5503° | 11°51.69' | N 1°39.37' | 14.9470' | 57.2586' | 57°05.97' | **08** |
| **09** | 313°24.95' | 14.9993° | 118°43.48' | N 20°48.93' | 0.4556' | 59°47.33' | 14.5509° | 12°21.10' | N 1°54.29' | 14.9193' | 57.2204' | 72°08.43' | **09** |
| **10** | 328°24.91' | 14.9993° | 118°45.99' | N 20°48.48' | 0.4562' | 74°20.41' | 14.5514° | 12°50.48' | N 2°09.18' | 14.8906' | 57.1825' | 87°10.89' | **10** |
| **11** | 343°24.87' | 14.9993° | 118°48.49' | N 20°48.02' | 0.4568' | 88°53.53' | 14.5519° | 13°19.83' | N 2°24.04' | 14.8610' | 57.1446' | 102°13.36' | **11** |
| **12** | 358°24.83' | 14.9993° | 118°51.00' | N 20°47.56' | 0.4574' | 103°26.67' | 14.5524° | 13°49.15' | N 2°38.87' | 14.8304' | 57.1069' | 117°15.82' | **12** |
| **13** | 13°24.79' | 14.9993° | 118°53.50' | N 20°47.10' | 0.4580' | 117°59.84' | 14.5529° | 14°18.44' | N 2°53.67' | 14.7989' | 57.0694' | 132°18.29' | **13** |
| **14** | 28°24.75' | 14.9993° | 118°56.00' | N 20°46.65' | 0.4587' | 132°33.04' | 14.5533° | 14°47.71' | N 3°08.44' | 14.7665' | 57.0319' | 147°20.75' | **14** |
| **15** | 43°24.71' | 14.9993° | 118°58.51' | N 20°46.19' | 0.4593' | 147°06.27' | 14.5537° | 15°16.95' | N 3°23.17' | 14.7331' | 56.9947' | 162°23.21' | **15** |
| **16** | 58°24.67' | 14.9993° | 119°01.01' | N 20°45.73' | 0.4599' | 161°39.52' | 14.5541° | 15°46.16' | N 3°37.87' | 14.6989' | 56.9576' | 177°25.68' | **16** |
| **17** | 73°24.63' | 14.9994° | 119°03.51' | N 20°45.27' | 0.4605' | 176°12.79' | 14.5545° | 16°15.35' | N 3°52.53' | 14.6638' | 56.9207' | 192°28.14' | **17** |
| **18** | 88°24.59' | 14.9994° | 119°06.02' | N 20°44.81' | 0.4611' | 190°46.08' | 14.5549° | 16°44.52' | N 4°07.16' | 14.6277' | 56.8839' | 207°30.61' | **18** |
| **19** | 103°24.55' | 14.9994° | 119°08.52' | N 20°44.34' | 0.4617' | 205°19.40' | 14.5552° | 17°13.67' | N 4°21.75' | 14.5908' | 56.8473' | 222°33.07' | **19** |
| **20** | 118°24.51' | 14.9994° | 119°11.02' | N 20°43.88' | 0.4623' | 219°52.73' | 14.5556° | 17°42.81' | N 4°36.30' | 14.5530' | 56.8108' | 237°35.53' | **20** |
| **21** | 133°24.48' | 14.9994° | 119°13.52' | N 20°43.42' | 0.4629' | 234°26.08' | 14.5559° | 18°11.92' | N 4°50.82' | 14.5144' | 56.7746' | 252°38.00' | **21** |
| **22** | 148°24.44' | 14.9994° | 119°16.03' | N 20°42.95' | 0.4635' | 248°59.45' | 14.5561° | 18°41.01' | N 5°05.29' | 14.4749' | 56.7385' | 267°40.46' | **22** |
| **23** | 163°24.40' | 14.9994° | 119°18.53' | N 20°42.49' | 0.4641' | 263°32.84' | 14.5564° | 19°10.09' | N 5°19.73' | 14.4345' | 56.7026' | 282°42.93' | **23** |
| **24** | 178°24.36' | 14.9994° | 119°21.03' | N 20°42.03' | 0.4647' | 278°06.23' | 14.5567° | 19°39.16' | N 5°34.12' | 14.3933' | 56.6669' | 297°45.39' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7385' | hp (π) 0.1442' | ½Ø 15.5606' | 61.4091874046609<br>6% -gib |
| | EoT at 12:00 UTC : -6m 20s (δ -0.16 s/h) | | Phase at 12:00 UTC : 256.93° | |
| | Meridian Pass. Time : 12:06:20.695 | | Age : 20.0 day(s) | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.12') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 205°32.76' | 91°13.50' | N 22°48.24' | 259°07.48' | 37°38.77' | N 12°58.27' | 288°21.94' | 8°24.32' | N 2°07.49' | 330°14.47' | 326°31.78' | S 14°46.46' | **00** |
| **01** | 220°31.95' | 91°16.77' | N 22°48.33' | 274°08.31' | 37°40.41' | N 12°58.81' | 303°24.32' | 8°24.39' | N 2°07.51' | 345°17.08' | 326°31.63' | S 14°46.52' | **01** |
| **02** | 235°31.14' | 91°20.04' | N 22°48.41' | 289°09.13' | 37°42.05' | N 12°59.35' | 318°26.71' | 8°24.47' | N 2°07.53' | 0°19.70' | 326°31.49' | S 14°46.58' | **02** |
| **03** | 250°30.33' | 91°23.32' | N 22°48.49' | 304°09.95' | 37°43.69' | N 12°59.90' | 333°29.10' | 8°24.55' | N 2°07.55' | 15°22.31' | 326°31.34' | S 14°46.63' | **03** |
| **04** | 265°29.52' | 91°26.59' | N 22°48.57' | 319°10.77' | 37°45.34' | N 13°00.44' | 348°31.48' | 8°24.63' | N 2°07.57' | 30°24.92' | 326°31.19' | S 14°46.69' | **04** |
| **05** | 280°28.71' | 91°29.87' | N 22°48.65' | 334°11.60' | 37°46.98' | N 13°00.98' | 3°33.87' | 8°24.71' | N 2°07.59' | 45°27.53' | 326°31.04' | S 14°46.75' | **05** |
| **06** | 295°27.90' | 91°33.14' | N 22°48.73' | 349°12.42' | 37°48.62' | N 13°01.52' | 18°36.26' | 8°24.78' | N 2°07.61' | 60°30.15' | 326°30.89' | S 14°46.80' | **06** |
| **07** | 310°27.09' | 91°36.41' | N 22°48.81' | 4°13.24' | 37°50.26' | N 13°02.07' | 33°38.64' | 8°24.86' | N 2°07.63' | 75°32.76' | 326°30.74' | S 14°46.86' | **07** |
| **08** | 325°26.28' | 91°39.69' | N 22°48.89' | 19°14.07' | 37°51.90' | N 13°02.61' | 48°41.03' | 8°24.94' | N 2°07.65' | 90°35.37' | 326°30.59' | S 14°46.92' | **08** |
| **09** | 340°25.47' | 91°42.96' | N 22°48.97' | 34°14.89' | 37°53.54' | N 13°03.15' | 63°43.42' | 8°25.01' | N 2°07.67' | 105°37.99' | 326°30.44' | S 14°46.97' | **09** |
| **10** | 355°24.66' | 91°46.24' | N 22°49.04' | 49°15.71' | 37°55.18' | N 13°03.69' | 78°45.81' | 8°25.09' | N 2°07.69' | 120°40.60' | 326°30.29' | S 14°47.03' | **10** |
| **11** | 10°23.84' | 91°49.51' | N 22°49.11' | 64°16.54' | 37°56.82' | N 13°04.23' | 93°48.19' | 8°25.16' | N 2°07.70' | 135°43.21' | 326°30.14' | S 14°47.09' | **11** |
| **12** | 25°23.03' | 91°52.79' | N 22°49.19' | 79°17.36' | 37°58.46' | N 13°04.77' | 108°50.58' | 8°25.24' | N 2°07.72' | 150°45.83' | 326°29.99' | S 14°47.15' | **12** |
| **13** | 40°22.22' | 91°56.06' | N 22°49.26' | 94°18.19' | 38°00.10' | N 13°05.32' | 123°52.97' | 8°25.31' | N 2°07.74' | 165°48.44' | 326°29.85' | S 14°47.20' | **13** |
| **14** | 55°21.41' | 91°59.34' | N 22°49.33' | 109°19.01' | 38°01.74' | N 13°05.86' | 138°55.36' | 8°25.39' | N 2°07.76' | 180°51.06' | 326°29.70' | S 14°47.26' | **14** |
| **15** | 70°20.60' | 92°02.62' | N 22°49.40' | 124°19.83' | 38°03.38' | N 13°06.40' | 153°57.75' | 8°25.46' | N 2°07.78' | 195°53.67' | 326°29.55' | S 14°47.32' | **15** |
| **16** | 85°19.79' | 92°05.89' | N 22°49.47' | 139°20.66' | 38°05.02' | N 13°06.94' | 169°00.14' | 8°25.54' | N 2°07.80' | 210°56.28' | 326°29.40' | S 14°47.37' | **16** |
| **17** | 100°18.98' | 92°09.17' | N 22°49.53' | 154°21.48' | 38°06.66' | N 13°07.48' | 184°02.53' | 8°25.61' | N 2°07.81' | 225°58.90' | 326°29.25' | S 14°47.43' | **17** |
| **18** | 115°18.16' | 92°12.44' | N 22°49.60' | 169°22.31' | 38°08.30' | N 13°08.02' | 199°04.92' | 8°25.68' | N 2°07.83' | 241°01.51' | 326°29.10' | S 14°47.49' | **18** |
| **19** | 130°17.35' | 92°15.72' | N 22°49.66' | 184°23.13' | 38°09.94' | N 13°08.56' | 214°07.31' | 8°25.76' | N 2°07.85' | 256°04.13' | 326°28.95' | S 14°47.55' | **19** |
| **20** | 145°16.54' | 92°19.00' | N 22°49.73' | 199°23.95' | 38°11.58' | N 13°09.09' | 229°09.70' | 8°25.83' | N 2°07.87' | 271°06.74' | 326°28.79' | S 14°47.60' | **20** |
| **21** | 160°15.73' | 92°22.27' | N 22°49.79' | 214°24.78' | 38°13.22' | N 13°09.63' | 244°12.10' | 8°25.90' | N 2°07.89' | 286°09.35' | 326°28.64' | S 14°47.66' | **21** |
| **22** | 175°14.92' | 92°25.55' | N 22°49.85' | 229°25.60' | 38°14.86' | N 13°10.17' | 259°14.49' | 8°25.98' | N 2°07.90' | 301°11.97' | 326°28.49' | S 14°47.72' | **22** |
| **23** | 190°14.10' | 92°28.82' | N 22°49.91' | 244°26.43' | 38°16.50' | N 13°10.71' | 274°16.88' | 8°26.05' | N 2°07.92' | 316°14.58' | 326°28.34' | S 14°47.78' | **23** |
| **24** | 205°13.29' | 92°32.10' | N 22°49.97' | 259°27.25' | 38°18.14' | N 13°11.25' | 289°19.27' | 8°26.12' | N 2°07.94' | 331°17.20' | 326°28.19' | S 14°47.83' | **24** |
| | δ 14.9865° | | *d* 0.0850' | δ 15.0137° | | *d* 0.5437' | δ 15.0398° | | *d* 0.0203' | δ 15.0435° | | *d* 0.0568' | |

## *Wednesday, July 20th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°24.36' | 14.9994° | 119°21.03' | N 20°42.03' | 0.4647' | 278°06.23' | 14.5567° | 19°39.16' | N 5°34.12' | 14.3933' | 56.6669' | 297°45.39' | **00** |
| **01** | 193°24.33' | 14.9994° | 119°23.53' | N 20°41.56' | 0.4653' | 292°39.65' | 14.5569° | 20°08.21' | N 5°48.47' | 14.3512' | 56.6313' | 312°47.86' | **01** |
| **02** | 208°24.29' | 14.9994° | 119°26.03' | N 20°41.09' | 0.4659' | 307°13.07' | 14.5571° | 20°37.25' | N 6°02.78' | 14.3084' | 56.5960' | 327°50.32' | **02** |
| **03** | 223°24.25' | 14.9994° | 119°28.53' | N 20°40.63' | 0.4665' | 321°46.51' | 14.5573° | 21°06.28' | N 6°17.05' | 14.2647' | 56.5608' | 342°52.78' | **03** |
| **04** | 238°24.22' | 14.9994° | 119°31.03' | N 20°40.16' | 0.4672' | 336°19.95' | 14.5574° | 21°35.29' | N 6°31.27' | 14.2202' | 56.5258' | 357°55.25' | **04** |
| **05** | 253°24.18' | 14.9994° | 119°33.53' | N 20°39.69' | 0.4678' | 350°53.41' | 14.5576° | 22°04.30' | N 6°45.44' | 14.1749' | 56.4910' | 12°57.71' | **05** |
| **06** | 268°24.14' | 14.9994° | 119°36.03' | N 20°39.22' | 0.4684' | 5°26.87' | 14.5577° | 22°33.30' | N 6°59.57' | 14.1287' | 56.4565' | 28°00.18' | **06** |
| **07** | 283°24.11' | 14.9994° | 119°38.53' | N 20°38.76' | 0.4690' | 20°00.34' | 14.5578° | 23°02.30' | N 7°13.65' | 14.0818' | 56.4221' | 43°02.64' | **07** |
| **08** | 298°24.07' | 14.9994° | 119°41.03' | N 20°38.29' | 0.4696' | 34°33.82' | 14.5579° | 23°31.29' | N 7°27.69' | 14.0341' | 56.3879' | 58°05.10' | **08** |
| **09** | 313°24.04' | 14.9994° | 119°43.53' | N 20°37.82' | 0.4702' | 49°07.30' | 14.5580° | 24°00.27' | N 7°41.67' | 13.9856' | 56.3539' | 73°07.57' | **09** |
| **10** | 328°24.00' | 14.9994° | 119°46.03' | N 20°37.35' | 0.4708' | 63°40.78' | 14.5580° | 24°29.25' | N 7°55.61' | 13.9363' | 56.3201' | 88°10.03' | **10** |
| **11** | 343°23.97' | 14.9994° | 119°48.53' | N 20°36.87' | 0.4714' | 78°14.26' | 14.5581° | 24°58.23' | N 8°09.49' | 13.8862' | 56.2866' | 103°12.50' | **11** |
| **12** | 358°23.93' | 14.9994° | 119°51.03' | N 20°36.40' | 0.4720' | 92°47.75' | 14.5581° | 25°27.21' | N 8°23.33' | 13.8354' | 56.2532' | 118°14.96' | **12** |
| **13** | 13°23.90' | 14.9994° | 119°53.53' | N 20°35.93' | 0.4726' | 107°21.23' | 14.5581° | 25°56.19' | N 8°37.11' | 13.7838' | 56.2201' | 133°17.42' | **13** |
| **14** | 28°23.86' | 14.9994° | 119°56.02' | N 20°35.46' | 0.4732' | 121°54.72' | 14.5581° | 26°25.17' | N 8°50.84' | 13.7314' | 56.1872' | 148°19.89' | **14** |
| **15** | 43°23.83' | 14.9994° | 119°58.52' | N 20°34.98' | 0.4738' | 136°28.20' | 14.5580° | 26°54.15' | N 9°04.52' | 13.6783' | 56.1545' | 163°22.35' | **15** |
| **16** | 58°23.80' | 14.9994° | 120°01.02' | N 20°34.51' | 0.4744' | 151°01.68' | 14.5580° | 27°23.14' | N 9°18.15' | 13.6244' | 56.1220' | 178°24.82' | **16** |
| **17** | 73°23.76' | 14.9994° | 120°03.52' | N 20°34.03' | 0.4750' | 165°35.16' | 14.5579° | 27°52.12' | N 9°31.72' | 13.5698' | 56.0897' | 193°27.28' | **17** |
| **18** | 88°23.73' | 14.9994° | 120°06.02' | N 20°33.56' | 0.4756' | 180°08.63' | 14.5578° | 28°21.12' | N 9°45.23' | 13.5144' | 56.0577' | 208°29.74' | **18** |
| **19** | 103°23.70' | 14.9995° | 120°08.51' | N 20°33.08' | 0.4762' | 194°42.09' | 14.5577° | 28°50.12' | N 9°58.69' | 13.4582' | 56.0259' | 223°32.21' | **19** |
| **20** | 118°23.66' | 14.9995° | 120°11.01' | N 20°32.60' | 0.4768' | 209°15.55' | 14.5576° | 29°19.13' | N 10°12.09' | 13.4014' | 55.9943' | 238°34.67' | **20** |
| **21** | 133°23.63' | 14.9995° | 120°13.51' | N 20°32.13' | 0.4774' | 223°49.00' | 14.5575° | 29°48.14' | N 10°25.43' | 13.3438' | 55.9629' | 253°37.14' | **21** |
| **22** | 148°23.60' | 14.9995° | 120°16.00' | N 20°31.65' | 0.4780' | 238°22.43' | 14.5573° | 30°17.17' | N 10°38.72' | 13.2854' | 55.9318' | 268°39.60' | **22** |
| **23** | 163°23.57' | 14.9995° | 120°18.50' | N 20°31.17' | 0.4786' | 252°55.86' | 14.5572° | 30°46.20' | N 10°51.95' | 13.2263' | 55.9009' | 283°42.07' | **23** |
| **24** | 178°23.54' | 14.9995° | 120°20.99' | N 20°30.69' | 0.4792' | 267°29.28' | 14.5570° | 31°15.25' | N 11°05.11' | 13.1665' | 55.8702' | 298°44.53' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7395' | hp (π) 0.1442' | ½Ø 15.3280' | 51.1104871126813 8% -gib |
| | EoT at 12:00 UTC : -6m 24s (δ -0.14 s/h) | | Phase at 12:00 UTC : 268.87° | |
| | Meridian Pass. Time : 12:06:24.271 | | Age : 20.9 day(s) | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.12') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 205°13.29' | 92°32.10' | N 22°49.97' | 259°27.25' | 38°18.14' | N 13°11.25' | 289°19.27' | 8°26.12' | N 2°07.94' | 331°17.20' | 326°28.19' | S 14°47.83' | **00** |
| **01** | 220°12.48' | 92°35.38' | N 22°50.03' | 274°28.08' | 38°19.78' | N 13°11.79' | 304°21.67' | 8°26.19' | N 2°07.96' | 346°19.81' | 326°28.04' | S 14°47.89' | **01** |
| **02** | 235°11.66' | 92°38.66' | N 22°50.09' | 289°28.90' | 38°21.42' | N 13°12.32' | 319°24.06' | 8°26.26' | N 2°07.97' | 1°22.43' | 326°27.89' | S 14°47.95' | **02** |
| **03** | 250°10.85' | 92°41.93' | N 22°50.14' | 304°29.73' | 38°23.06' | N 13°12.86' | 334°26.45' | 8°26.33' | N 2°07.99' | 16°25.04' | 326°27.74' | S 14°48.01' | **03** |
| **04** | 265°10.04' | 92°45.21' | N 22°50.20' | 319°30.55' | 38°24.69' | N 13°13.40' | 349°28.85' | 8°26.40' | N 2°08.01' | 31°27.66' | 326°27.59' | S 14°48.06' | **04** |
| **05** | 280°09.22' | 92°48.49' | N 22°50.25' | 334°31.38' | 38°26.33' | N 13°13.94' | 4°31.24' | 8°26.47' | N 2°08.02' | 46°30.27' | 326°27.44' | S 14°48.12' | **05** |
| **06** | 295°08.41' | 92°51.76' | N 22°50.30' | 349°32.20' | 38°27.97' | N 13°14.47' | 19°33.63' | 8°26.54' | N 2°08.04' | 61°32.89' | 326°27.29' | S 14°48.18' | **06** |
| **07** | 310°07.60' | 92°55.04' | N 22°50.35' | 4°33.03' | 38°29.61' | N 13°15.01' | 34°36.03' | 8°26.61' | N 2°08.06' | 76°35.50' | 326°27.13' | S 14°48.24' | **07** |
| **08** | 325°06.78' | 92°58.32' | N 22°50.40' | 19°33.85' | 38°31.25' | N 13°15.55' | 49°38.42' | 8°26.68' | N 2°08.07' | 91°38.12' | 326°26.98' | S 14°48.29' | **08** |
| **09** | 340°05.97' | 93°01.60' | N 22°50.45' | 34°34.68' | 38°32.89' | N 13°16.08' | 64°40.82' | 8°26.75' | N 2°08.09' | 106°40.74' | 326°26.83' | S 14°48.35' | **09** |
| **10** | 355°05.16' | 93°04.88' | N 22°50.50' | 49°35.51' | 38°34.53' | N 13°16.62' | 79°43.21' | 8°26.82' | N 2°08.10' | 121°43.35' | 326°26.68' | S 14°48.41' | **10** |
| **11** | 10°04.34' | 93°08.15' | N 22°50.55' | 64°36.33' | 38°36.17' | N 13°17.15' | 94°45.61' | 8°26.89' | N 2°08.12' | 136°45.97' | 326°26.53' | S 14°48.47' | **11** |
| **12** | 25°03.53' | 93°11.43' | N 22°50.59' | 79°37.16' | 38°37.80' | N 13°17.69' | 109°48.01' | 8°26.95' | N 2°08.13' | 151°48.58' | 326°26.38' | S 14°48.52' | **12** |
| **13** | 40°02.71' | 93°14.71' | N 22°50.64' | 94°37.98' | 38°39.44' | N 13°18.22' | 124°50.40' | 8°27.02' | N 2°08.15' | 166°51.20' | 326°26.22' | S 14°48.58' | **13** |
| **14** | 55°01.90' | 93°17.99' | N 22°50.68' | 109°38.81' | 38°41.08' | N 13°18.76' | 139°52.80' | 8°27.09' | N 2°08.17' | 181°53.82' | 326°26.07' | S 14°48.64' | **14** |
| **15** | 70°01.08' | 93°21.27' | N 22°50.72' | 124°39.63' | 38°42.72' | N 13°19.29' | 154°55.20' | 8°27.16' | N 2°08.18' | 196°56.43' | 326°25.92' | S 14°48.70' | **15** |
| **16** | 85°00.27' | 93°24.55' | N 22°50.76' | 139°40.46' | 38°44.36' | N 13°19.83' | 169°57.59' | 8°27.22' | N 2°08.20' | 211°59.05' | 326°25.77' | S 14°48.76' | **16** |
| **17** | 99°59.46' | 93°27.83' | N 22°50.80' | 154°41.29' | 38°45.99' | N 13°20.36' | 184°59.99' | 8°27.29' | N 2°08.21' | 227°01.66' | 326°25.62' | S 14°48.81' | **17** |
| **18** | 114°58.64' | 93°31.10' | N 22°50.84' | 169°42.11' | 38°47.63' | N 13°20.90' | 200°02.39' | 8°27.36' | N 2°08.23' | 242°04.28' | 326°25.46' | S 14°48.87' | **18** |
| **19** | 129°57.83' | 93°34.38' | N 22°50.88' | 184°42.94' | 38°49.27' | N 13°21.43' | 215°04.79' | 8°27.42' | N 2°08.24' | 257°06.90' | 326°25.31' | S 14°48.93' | **19** |
| **20** | 144°57.01' | 93°37.66' | N 22°50.92' | 199°43.77' | 38°50.91' | N 13°21.96' | 230°07.19' | 8°27.49' | N 2°08.26' | 272°09.51' | 326°25.16' | S 14°48.99' | **20** |
| **21** | 159°56.20' | 93°40.94' | N 22°50.95' | 214°44.59' | 38°52.54' | N 13°22.50' | 245°09.59' | 8°27.55' | N 2°08.27' | 287°12.13' | 326°25.01' | S 14°49.04' | **21** |
| **22** | 174°55.38' | 93°44.22' | N 22°50.99' | 229°45.42' | 38°54.18' | N 13°23.03' | 260°11.98' | 8°27.62' | N 2°08.28' | 302°14.75' | 326°24.85' | S 14°49.10' | **22** |
| **23** | 189°54.56' | 93°47.50' | N 22°51.02' | 244°46.25' | 38°55.82' | N 13°23.56' | 275°14.38' | 8°27.68' | N 2°08.30' | 317°17.37' | 326°24.70' | S 14°49.16' | **23** |
| **24** | 204°53.75' | 93°50.78' | N 22°51.05' | 259°47.07' | 38°57.46' | N 13°24.09' | 290°16.78' | 8°27.75' | N 2°08.31' | 332°19.98' | 326°24.55' | S 14°49.22' | **24** |
| | δ 14.9865° | | *d* 0.0580' | δ 15.0137° | | *d* 0.5380' | δ 15.0399° | | *d* 0.0171' | δ 15.0436° | | *d* 0.0575' | |

## *Thursday, July 21st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°23.54' | 14.9995° | 120°20.99' | N 20°30.69' | 0.4792' | 267°29.28' | 14.5570° | 31°15.25' | N 11°05.11' | 13.1665' | 55.8702' | 298°44.53' | **00** |
| **01** | 193°23.50' | 14.9995° | 120°23.49' | N 20°30.21' | 0.4798' | 282°02.69' | 14.5568° | 31°44.31' | N 11°18.22' | 13.1060' | 55.8398' | 313°46.99' | **01** |
| **02** | 208°23.47' | 14.9995° | 120°25.98' | N 20°29.73' | 0.4804' | 296°36.08' | 14.5565° | 32°13.38' | N 11°31.26' | 13.0447' | 55.8096' | 328°49.46' | **02** |
| **03** | 223°23.44' | 14.9995° | 120°28.48' | N 20°29.25' | 0.4810' | 311°09.46' | 14.5563° | 32°42.46' | N 11°44.25' | 12.9828' | 55.7796' | 343°51.92' | **03** |
| **04** | 238°23.41' | 14.9995° | 120°30.97' | N 20°28.77' | 0.4816' | 325°42.82' | 14.5561° | 33°11.56' | N 11°57.17' | 12.9201' | 55.7499' | 358°54.39' | **04** |
| **05** | 253°23.38' | 14.9995° | 120°33.47' | N 20°28.29' | 0.4822' | 340°16.17' | 14.5558° | 33°40.68' | N 12°10.02' | 12.8566' | 55.7204' | 13°56.85' | **05** |
| **06** | 268°23.35' | 14.9995° | 120°35.96' | N 20°27.80' | 0.4828' | 354°49.50' | 14.5555° | 34°09.81' | N 12°22.81' | 12.7925' | 55.6912' | 28°59.31' | **06** |
| **07** | 283°23.32' | 14.9995° | 120°38.46' | N 20°27.32' | 0.4834' | 9°22.81' | 14.5552° | 34°38.96' | N 12°35.54' | 12.7277' | 55.6622' | 44°01.78' | **07** |
| **08** | 298°23.29' | 14.9995° | 120°40.95' | N 20°26.84' | 0.4840' | 23°56.11' | 14.5549° | 35°08.13' | N 12°48.20' | 12.6621' | 55.6334' | 59°04.24' | **08** |
| **09** | 313°23.26' | 14.9995° | 120°43.45' | N 20°26.35' | 0.4846' | 38°29.39' | 14.5546° | 35°37.32' | N 13°00.80' | 12.5959' | 55.6049' | 74°06.71' | **09** |
| **10** | 328°23.23' | 14.9995° | 120°45.94' | N 20°25.87' | 0.4852' | 53°02.64' | 14.5543° | 36°06.53' | N 13°13.33' | 12.5289' | 55.5766' | 89°09.17' | **10** |
| **11** | 343°23.20' | 14.9995° | 120°48.43' | N 20°25.38' | 0.4858' | 67°35.87' | 14.5539° | 36°35.76' | N 13°25.79' | 12.4612' | 55.5486' | 104°11.63' | **11** |
| **12** | 358°23.17' | 14.9995° | 120°50.93' | N 20°24.89' | 0.4864' | 82°09.09' | 14.5535° | 37°05.01' | N 13°38.18' | 12.3929' | 55.5208' | 119°14.10' | **12** |
| **13** | 13°23.14' | 14.9995° | 120°53.42' | N 20°24.41' | 0.4870' | 96°42.28' | 14.5532° | 37°34.29' | N 13°50.51' | 12.3238' | 55.4933' | 134°16.56' | **13** |
| **14** | 28°23.12' | 14.9995° | 120°55.91' | N 20°23.92' | 0.4876' | 111°15.44' | 14.5528° | 38°03.58' | N 14°02.76' | 12.2540' | 55.4660' | 149°19.03' | **14** |
| **15** | 43°23.09' | 14.9995° | 120°58.40' | N 20°23.43' | 0.4882' | 125°48.58' | 14.5524° | 38°32.91' | N 14°14.94' | 12.1835' | 55.4390' | 164°21.49' | **15** |
| **16** | 58°23.06' | 14.9995° | 121°00.89' | N 20°22.94' | 0.4888' | 140°21.70' | 14.5519° | 39°02.26' | N 14°27.06' | 12.1124' | 55.4122' | 179°23.96' | **16** |
| **17** | 73°23.03' | 14.9995° | 121°03.39' | N 20°22.45' | 0.4893' | 154°54.79' | 14.5515° | 39°31.63' | N 14°39.10' | 12.0405' | 55.3856' | 194°26.42' | **17** |
| **18** | 88°23.00' | 14.9995° | 121°05.88' | N 20°21.96' | 0.4899' | 169°27.85' | 14.5511° | 40°01.03' | N 14°51.07' | 11.9679' | 55.3594' | 209°28.88' | **18** |
| **19** | 103°22.98' | 14.9995° | 121°08.37' | N 20°21.47' | 0.4905' | 184°00.89' | 14.5506° | 40°30.46' | N 15°02.96' | 11.8947' | 55.3333' | 224°31.35' | **19** |
| **20** | 118°22.95' | 14.9996° | 121°10.86' | N 20°20.98' | 0.4911' | 198°33.90' | 14.5501° | 40°59.91' | N 15°14.78' | 11.8207' | 55.3076' | 239°33.81' | **20** |
| **21** | 133°22.92' | 14.9996° | 121°13.35' | N 20°20.49' | 0.4917' | 213°06.88' | 14.5496° | 41°29.40' | N 15°26.53' | 11.7461' | 55.2820' | 254°36.28' | **21** |
| **22** | 148°22.90' | 14.9996° | 121°15.84' | N 20°20.00' | 0.4923' | 227°39.83' | 14.5492° | 41°58.91' | N 15°38.20' | 11.6707' | 55.2568' | 269°38.74' | **22** |
| **23** | 163°22.87' | 14.9996° | 121°18.33' | N 20°19.50' | 0.4929' | 242°12.74' | 14.5486° | 42°28.46' | N 15°49.79' | 11.5947' | 55.2317' | 284°41.20' | **23** |
| **24** | 178°22.85' | 14.9996° | 121°20.82' | N 20°19.01' | 0.4935' | 256°45.63' | 14.5481° | 42°58.04' | N 16°01.31' | 11.5180' | 55.2070' | 299°43.67' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7405' | hp (π) 0.1442' | ½Ø 15.1284' | 41.0682815212911 7% -cre |
| | EoT at 12:00 UTC : -6m 27s (δ -0.12 s/h) | | Phase at 12:00 UTC : 280.44° | |
| | Meridian Pass. Time : 12:06:27.307 | | Age : 21.8 day(s) | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.12') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 204°53.75' | 93°50.78' | N 22°51.05' | 259°47.07' | 38°57.46' | N 13°24.09' | 290°16.78' | 8°27.75' | N 2°08.31' | 332°19.98' | 326°24.55' | S 14°49.22' | **00** |
| **01** | 219°52.93' | 93°54.06' | N 22°51.08' | 274°47.90' | 38°59.09' | N 13°24.63' | 305°19.18' | 8°27.81' | N 2°08.33' | 347°22.60' | 326°24.39' | S 14°49.28' | **01** |
| **02** | 234°52.12' | 93°57.34' | N 22°51.11' | 289°48.73' | 39°00.73' | N 13°25.16' | 320°21.58' | 8°27.87' | N 2°08.34' | 2°25.22' | 326°24.24' | S 14°49.34' | **02** |
| **03** | 249°51.30' | 94°00.62' | N 22°51.14' | 304°49.56' | 39°02.37' | N 13°25.69' | 335°23.99' | 8°27.94' | N 2°08.35' | 17°27.83' | 326°24.09' | S 14°49.39' | **03** |
| **04** | 264°50.49' | 94°03.90' | N 22°51.17' | 319°50.38' | 39°04.00' | N 13°26.22' | 350°26.39' | 8°28.00' | N 2°08.37' | 32°30.45' | 326°23.93' | S 14°49.45' | **04** |
| **05** | 279°49.67' | 94°07.18' | N 22°51.19' | 334°51.21' | 39°05.64' | N 13°26.75' | 5°28.79' | 8°28.06' | N 2°08.38' | 47°33.07' | 326°23.78' | S 14°49.51' | **05** |
| **06** | 294°48.85' | 94°10.46' | N 22°51.22' | 349°52.04' | 39°07.28' | N 13°27.28' | 20°31.19' | 8°28.12' | N 2°08.39' | 62°35.69' | 326°23.63' | S 14°49.57' | **06** |
| **07** | 309°48.04' | 94°13.74' | N 22°51.24' | 4°52.87' | 39°08.91' | N 13°27.81' | 35°33.59' | 8°28.19' | N 2°08.41' | 77°38.30' | 326°23.47' | S 14°49.63' | **07** |
| **08** | 324°47.22' | 94°17.02' | N 22°51.27' | 19°53.69' | 39°10.55' | N 13°28.34' | 50°35.99' | 8°28.25' | N 2°08.42' | 92°40.92' | 326°23.32' | S 14°49.68' | **08** |
| **09** | 339°46.41' | 94°20.30' | N 22°51.29' | 34°54.52' | 39°12.19' | N 13°28.87' | 65°38.40' | 8°28.31' | N 2°08.43' | 107°43.54' | 326°23.17' | S 14°49.74' | **09** |
| **10** | 354°45.59' | 94°23.58' | N 22°51.31' | 49°55.35' | 39°13.82' | N 13°29.40' | 80°40.80' | 8°28.37' | N 2°08.45' | 122°46.16' | 326°23.01' | S 14°49.80' | **10** |
| **11** | 9°44.77' | 94°26.86' | N 22°51.33' | 64°56.18' | 39°15.46' | N 13°29.93' | 95°43.20' | 8°28.43' | N 2°08.46' | 137°48.78' | 326°22.86' | S 14°49.86' | **11** |
| **12** | 24°43.96' | 94°30.14' | N 22°51.35' | 79°57.01' | 39°17.09' | N 13°30.46' | 110°45.61' | 8°28.49' | N 2°08.47' | 152°51.39' | 326°22.70' | S 14°49.92' | **12** |
| **13** | 39°43.14' | 94°33.42' | N 22°51.36' | 94°57.83' | 39°18.73' | N 13°30.99' | 125°48.01' | 8°28.55' | N 2°08.48' | 167°54.01' | 326°22.55' | S 14°49.98' | **13** |
| **14** | 54°42.32' | 94°36.71' | N 22°51.38' | 109°58.66' | 39°20.37' | N 13°31.52' | 140°50.41' | 8°28.61' | N 2°08.50' | 182°56.63' | 326°22.40' | S 14°50.03' | **14** |
| **15** | 69°41.50' | 94°39.99' | N 22°51.39' | 124°59.49' | 39°22.00' | N 13°32.05' | 155°52.82' | 8°28.67' | N 2°08.51' | 197°59.25' | 326°22.24' | S 14°50.09' | **15** |
| **16** | 84°40.69' | 94°43.27' | N 22°51.41' | 140°00.32' | 39°23.64' | N 13°32.58' | 170°55.22' | 8°28.73' | N 2°08.52' | 213°01.87' | 326°22.09' | S 14°50.15' | **16** |
| **17** | 99°39.87' | 94°46.55' | N 22°51.42' | 155°01.15' | 39°25.27' | N 13°33.11' | 185°57.63' | 8°28.79' | N 2°08.53' | 228°04.49' | 326°21.93' | S 14°50.21' | **17** |
| **18** | 114°39.05' | 94°49.83' | N 22°51.43' | 170°01.98' | 39°26.91' | N 13°33.63' | 201°00.03' | 8°28.85' | N 2°08.54' | 243°07.11' | 326°21.78' | S 14°50.27' | **18** |
| **19** | 129°38.24' | 94°53.11' | N 22°51.44' | 185°02.80' | 39°28.54' | N 13°34.16' | 216°02.44' | 8°28.91' | N 2°08.55' | 258°09.72' | 326°21.62' | S 14°50.33' | **19** |
| **20** | 144°37.42' | 94°56.39' | N 22°51.45' | 200°03.63' | 39°30.18' | N 13°34.69' | 231°04.85' | 8°28.97' | N 2°08.57' | 273°12.34' | 326°21.47' | S 14°50.39' | **20** |
| **21** | 159°36.60' | 94°59.67' | N 22°51.46' | 215°04.46' | 39°31.81' | N 13°35.22' | 246°07.25' | 8°29.02' | N 2°08.58' | 288°14.96' | 326°21.31' | S 14°50.44' | **21** |
| **22** | 174°35.78' | 95°02.96' | N 22°51.47' | 230°05.29' | 39°33.45' | N 13°35.74' | 261°09.66' | 8°29.08' | N 2°08.59' | 303°17.58' | 326°21.16' | S 14°50.50' | **22** |
| **23** | 189°34.97' | 95°06.24' | N 22°51.47' | 245°06.12' | 39°35.08' | N 13°36.27' | 276°12.07' | 8°29.14' | N 2°08.60' | 318°20.20' | 326°21.00' | S 14°50.56' | **23** |
| **24** | 204°34.15' | 95°09.52' | N 22°51.48' | 260°06.95' | 39°36.72' | N 13°36.80' | 291°14.47' | 8°29.19' | N 2°08.61' | 333°22.82' | 326°20.85' | S 14°50.62' | **24** |
| | δ 14.9864° | | *d* 0.0309' | δ 15.0138° | | *d* 0.5321' | δ 15.0400° | | *d* 0.0139' | δ 15.0436° | | *d* 0.0581' | |

## *Friday, July 22nd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°22.85' | 14.9996° | 121°20.82' | N 20°19.01' | 0.4935' | 256°45.63' | 14.5481° | 42°58.04' | N 16°01.31' | 11.5180' | 55.2070' | 299°43.67' | **00** |
| **01** | 193°22.82' | 14.9996° | 121°23.31' | N 20°18.52' | 0.4941' | 271°18.49' | 14.5476° | 43°27.64' | N 16°12.75' | 11.4406' | 55.1825' | 314°46.13' | **01** |
| **02** | 208°22.79' | 14.9996° | 121°25.80' | N 20°18.02' | 0.4947' | 285°51.31' | 14.5471° | 43°57.28' | N 16°24.11' | 11.3625' | 55.1582' | 329°48.60' | **02** |
| **03** | 223°22.77' | 14.9996° | 121°28.29' | N 20°17.53' | 0.4953' | 300°24.10' | 14.5465° | 44°26.96' | N 16°35.40' | 11.2837' | 55.1342' | 344°51.06' | **03** |
| **04** | 238°22.74' | 14.9996° | 121°30.78' | N 20°17.03' | 0.4959' | 314°56.86' | 14.5460° | 44°56.66' | N 16°46.60' | 11.2042' | 55.1105' | 359°53.52' | **04** |
| **05** | 253°22.72' | 14.9996° | 121°33.27' | N 20°16.53' | 0.4965' | 329°29.58' | 14.5454° | 45°26.41' | N 16°57.73' | 11.1241' | 55.0870' | 14°55.99' | **05** |
| **06** | 268°22.69' | 14.9996° | 121°35.76' | N 20°16.04' | 0.4971' | 344°02.27' | 14.5448° | 45°56.18' | N 17°08.77' | 11.0432' | 55.0638' | 29°58.45' | **06** |
| **07** | 283°22.67' | 14.9996° | 121°38.25' | N 20°15.54' | 0.4976' | 358°34.92' | 14.5442° | 46°25.99' | N 17°19.73' | 10.9617' | 55.0408' | 45°00.92' | **07** |
| **08** | 298°22.65' | 14.9996° | 121°40.74' | N 20°15.04' | 0.4982' | 13°07.54' | 14.5436° | 46°55.84' | N 17°30.61' | 10.8795' | 55.0181' | 60°03.38' | **08** |
| **09** | 313°22.62' | 14.9996° | 121°43.22' | N 20°14.54' | 0.4988' | 27°40.12' | 14.5430° | 47°25.73' | N 17°41.41' | 10.7966' | 54.9957' | 75°05.85' | **09** |
| **10** | 328°22.60' | 14.9996° | 121°45.71' | N 20°14.04' | 0.4994' | 42°12.66' | 14.5424° | 47°55.65' | N 17°52.12' | 10.7130' | 54.9735' | 90°08.31' | **10** |
| **11** | 343°22.58' | 14.9996° | 121°48.20' | N 20°13.54' | 0.5000' | 56°45.17' | 14.5418° | 48°25.61' | N 18°02.75' | 10.6288' | 54.9516' | 105°10.77' | **11** |
| **12** | 358°22.55' | 14.9996° | 121°50.69' | N 20°13.04' | 0.5006' | 71°17.64' | 14.5411° | 48°55.60' | N 18°13.29' | 10.5438' | 54.9299' | 120°13.24' | **12** |
| **13** | 13°22.53' | 14.9996° | 121°53.17' | N 20°12.54' | 0.5012' | 85°50.06' | 14.5405° | 49°25.64' | N 18°23.75' | 10.4582' | 54.9085' | 135°15.70' | **13** |
| **14** | 28°22.51' | 14.9996° | 121°55.66' | N 20°12.04' | 0.5018' | 100°22.45' | 14.5398° | 49°55.71' | N 18°34.12' | 10.3719' | 54.8873' | 150°18.17' | **14** |
| **15** | 43°22.48' | 14.9996° | 121°58.15' | N 20°11.54' | 0.5024' | 114°54.80' | 14.5392° | 50°25.83' | N 18°44.41' | 10.2849' | 54.8664' | 165°20.63' | **15** |
| **16** | 58°22.46' | 14.9996° | 122°00.63' | N 20°11.03' | 0.5029' | 129°27.11' | 14.5385° | 50°55.98' | N 18°54.60' | 10.1972' | 54.8457' | 180°23.09' | **16** |
| **17** | 73°22.44' | 14.9996° | 122°03.12' | N 20°10.53' | 0.5035' | 143°59.38' | 14.5378° | 51°26.17' | N 19°04.71' | 10.1089' | 54.8253' | 195°25.56' | **17** |
| **18** | 88°22.42' | 14.9996° | 122°05.60' | N 20°10.03' | 0.5041' | 158°31.61' | 14.5371° | 51°56.41' | N 19°14.73' | 10.0199' | 54.8052' | 210°28.02' | **18** |
| **19** | 103°22.40' | 14.9996° | 122°08.09' | N 20°09.52' | 0.5047' | 173°03.80' | 14.5365° | 52°26.69' | N 19°24.66' | 9.9302' | 54.7853' | 225°30.49' | **19** |
| **20** | 118°22.38' | 14.9996° | 122°10.57' | N 20°09.02' | 0.5053' | 187°35.95' | 14.5358° | 52°57.00' | N 19°34.50' | 9.8399' | 54.7657' | 240°32.95' | **20** |
| **21** | 133°22.35' | 14.9997° | 122°13.06' | N 20°08.51' | 0.5059' | 202°08.05' | 14.5351° | 53°27.36' | N 19°44.25' | 9.7488' | 54.7464' | 255°35.41' | **21** |
| **22** | 148°22.33' | 14.9997° | 122°15.54' | N 20°08.00' | 0.5065' | 216°40.11' | 14.5344° | 53°57.77' | N 19°53.91' | 9.6571' | 54.7272' | 270°37.88' | **22** |
| **23** | 163°22.31' | 14.9997° | 122°18.03' | N 20°07.50' | 0.5070' | 231°12.13' | 14.5337° | 54°28.21' | N 20°03.47' | 9.5647' | 54.7084' | 285°40.34' | **23** |
| **24** | 178°22.29' | 14.9997° | 122°20.51' | N 20°06.99' | 0.5076' | 245°44.11' | 14.5329° | 54°58.70' | N 20°12.95' | 9.4717' | 54.6898' | 300°42.81' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7416' | hp (π) 0.1443' | ½Ø 14.9674' | 31.6195104982074<br>15% -cre |
| | EoT at 12:00 UTC : -6m 29s (δ -0.09 s/h) | | Phase at 12:00 UTC : 291.71° | |
| | Meridian Pass. Time : 12:06:29.792 | | Age : 22.7 day(s) | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.12') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 204°34.15' | 95°09.52' | N 22°51.48' | 260°06.95' | 39°36.72' | N 13°36.80' | 291°14.47' | 8°29.19' | N 2°08.61' | 333°22.82' | 326°20.85' | S 14°50.62' | **00** |
| **01** | 219°33.33' | 95°12.80' | N 22°51.48' | 275°07.78' | 39°38.35' | N 13°37.32' | 306°16.88' | 8°29.25' | N 2°08.62' | 348°25.44' | 326°20.69' | S 14°50.68' | **01** |
| **02** | 234°32.51' | 95°16.08' | N 22°51.48' | 290°08.61' | 39°39.99' | N 13°37.85' | 321°19.29' | 8°29.31' | N 2°08.63' | 3°28.06' | 326°20.54' | S 14°50.74' | **02** |
| **03** | 249°31.69' | 95°19.37' | N 22°51.49' | 305°09.44' | 39°41.62' | N 13°38.37' | 336°21.70' | 8°29.36' | N 2°08.64' | 18°30.68' | 326°20.38' | S 14°50.80' | **03** |
| **04** | 264°30.88' | 95°22.65' | N 22°51.49' | 320°10.27' | 39°43.26' | N 13°38.90' | 351°24.11' | 8°29.42' | N 2°08.65' | 33°33.30' | 326°20.23' | S 14°50.85' | **04** |
| **05** | 279°30.06' | 95°25.93' | N 22°51.49' | 335°11.10' | 39°44.89' | N 13°39.42' | 6°26.51' | 8°29.47' | N 2°08.66' | 48°35.92' | 326°20.07' | S 14°50.91' | **05** |
| **06** | 294°29.24' | 95°29.21' | N 22°51.48' | 350°11.93' | 39°46.52' | N 13°39.95' | 21°28.92' | 8°29.53' | N 2°08.67' | 63°38.54' | 326°19.91' | S 14°50.97' | **06** |
| **07** | 309°28.42' | 95°32.50' | N 22°51.48' | 5°12.76' | 39°48.16' | N 13°40.47' | 36°31.33' | 8°29.58' | N 2°08.68' | 78°41.16' | 326°19.76' | S 14°51.03' | **07** |
| **08** | 324°27.60' | 95°35.78' | N 22°51.48' | 20°13.59' | 39°49.79' | N 13°41.00' | 51°33.74' | 8°29.64' | N 2°08.69' | 93°43.78' | 326°19.60' | S 14°51.09' | **08** |
| **09** | 339°26.78' | 95°39.06' | N 22°51.47' | 35°14.42' | 39°51.43' | N 13°41.52' | 66°36.15' | 8°29.69' | N 2°08.70' | 108°46.40' | 326°19.45' | S 14°51.15' | **09** |
| **10** | 354°25.97' | 95°42.34' | N 22°51.46' | 50°15.25' | 39°53.06' | N 13°42.05' | 81°38.56' | 8°29.75' | N 2°08.71' | 123°49.02' | 326°19.29' | S 14°51.21' | **10** |
| **11** | 9°25.15' | 95°45.63' | N 22°51.46' | 65°16.08' | 39°54.69' | N 13°42.57' | 96°40.97' | 8°29.80' | N 2°08.72' | 138°51.64' | 326°19.14' | S 14°51.27' | **11** |
| **12** | 24°24.33' | 95°48.91' | N 22°51.45' | 80°16.91' | 39°56.33' | N 13°43.09' | 111°43.39' | 8°29.85' | N 2°08.73' | 153°54.26' | 326°18.98' | S 14°51.33' | **12** |
| **13** | 39°23.51' | 95°52.19' | N 22°51.44' | 95°17.74' | 39°57.96' | N 13°43.62' | 126°45.80' | 8°29.90' | N 2°08.74' | 168°56.88' | 326°18.82' | S 14°51.38' | **13** |
| **14** | 54°22.69' | 95°55.47' | N 22°51.43' | 110°18.57' | 39°59.59' | N 13°44.14' | 141°48.21' | 8°29.96' | N 2°08.75' | 183°59.50' | 326°18.67' | S 14°51.44' | **14** |
| **15** | 69°21.87' | 95°58.76' | N 22°51.41' | 125°19.40' | 40°01.23' | N 13°44.66' | 156°50.62' | 8°30.01' | N 2°08.76' | 199°02.12' | 326°18.51' | S 14°51.50' | **15** |
| **16** | 84°21.05' | 96°02.04' | N 22°51.40' | 140°20.23' | 40°02.86' | N 13°45.19' | 171°53.03' | 8°30.06' | N 2°08.77' | 214°04.74' | 326°18.35' | S 14°51.56' | **16** |
| **17** | 99°20.23' | 96°05.32' | N 22°51.39' | 155°21.06' | 40°04.49' | N 13°45.71' | 186°55.45' | 8°30.11' | N 2°08.77' | 229°07.36' | 326°18.20' | S 14°51.62' | **17** |
| **18** | 114°19.42' | 96°08.61' | N 22°51.37' | 170°21.90' | 40°06.13' | N 13°46.23' | 201°57.86' | 8°30.16' | N 2°08.78' | 244°09.98' | 326°18.04' | S 14°51.68' | **18** |
| **19** | 129°18.60' | 96°11.89' | N 22°51.35' | 185°22.73' | 40°07.76' | N 13°46.75' | 217°00.27' | 8°30.21' | N 2°08.79' | 259°12.60' | 326°17.88' | S 14°51.74' | **19** |
| **20** | 144°17.78' | 96°15.17' | N 22°51.33' | 200°23.56' | 40°09.39' | N 13°47.27' | 232°02.69' | 8°30.27' | N 2°08.80' | 274°15.23' | 326°17.73' | S 14°51.80' | **20** |
| **21** | 159°16.96' | 96°18.46' | N 22°51.32' | 215°24.39' | 40°11.03' | N 13°47.79' | 247°05.10' | 8°30.32' | N 2°08.81' | 289°17.85' | 326°17.57' | S 14°51.86' | **21** |
| **22** | 174°16.14' | 96°21.74' | N 22°51.30' | 230°25.22' | 40°12.66' | N 13°48.31' | 262°07.51' | 8°30.37' | N 2°08.82' | 304°20.47' | 326°17.41' | S 14°51.92' | **22** |
| **23** | 189°15.32' | 96°25.02' | N 22°51.27' | 245°26.05' | 40°14.29' | N 13°48.84' | 277°09.93' | 8°30.42' | N 2°08.82' | 319°23.09' | 326°17.25' | S 14°51.98' | **23** |
| **24** | 204°14.50' | 96°28.31' | N 22°51.25' | 260°26.88' | 40°15.92' | N 13°49.36' | 292°12.34' | 8°30.46' | N 2°08.83' | 334°25.71' | 326°17.10' | S 14°52.04' | **24** |
| | δ 14.9864° | | *d* 0.0036' | δ 15.0138° | | *d* 0.5262' | δ 15.0401° | | *d* 0.0107' | δ 15.0437° | | *d* 0.0587' | |

## *Saturday, July 23rd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°22.29' | 14.9997° | 122°20.51' | N 20°06.99' | 0.5076' | 245°44.11' | 14.5329° | 54°58.70' | N 20°12.95' | 9.4717' | 54.6898' | 300°42.81' | **00** |
| **01** | 193°22.27' | 14.9997° | 122°23.00' | N 20°06.48' | 0.5082' | 260°16.04' | 14.5322° | 55°29.23' | N 20°22.32' | 9.3780' | 54.6715' | 315°45.27' | **01** |
| **02** | 208°22.25' | 14.9997° | 122°25.48' | N 20°05.97' | 0.5088' | 274°47.93' | 14.5315° | 55°59.80' | N 20°31.61' | 9.2836' | 54.6534' | 330°47.74' | **02** |
| **03** | 223°22.23' | 14.9997° | 122°27.97' | N 20°05.46' | 0.5094' | 289°19.78' | 14.5308° | 56°30.42' | N 20°40.80' | 9.1886' | 54.6356' | 345°50.20' | **03** |
| **04** | 238°22.22' | 14.9997° | 122°30.45' | N 20°04.95' | 0.5100' | 303°51.58' | 14.5300° | 57°01.08' | N 20°49.89' | 9.0929' | 54.6180' | 0°52.66' | **04** |
| **05** | 253°22.20' | 14.9997° | 122°32.93' | N 20°04.44' | 0.5106' | 318°23.34' | 14.5293° | 57°31.79' | N 20°58.89' | 8.9965' | 54.6007' | 15°55.13' | **05** |
| **06** | 268°22.18' | 14.9997° | 122°35.41' | N 20°03.93' | 0.5111' | 332°55.05' | 14.5286° | 58°02.54' | N 21°07.78' | 8.8995' | 54.5836' | 30°57.59' | **06** |
| **07** | 283°22.16' | 14.9997° | 122°37.90' | N 20°03.42' | 0.5117' | 347°26.72' | 14.5278° | 58°33.34' | N 21°16.59' | 8.8018' | 54.5668' | 46°00.06' | **07** |
| **08** | 298°22.14' | 14.9997° | 122°40.38' | N 20°02.91' | 0.5123' | 1°58.35' | 14.5271° | 59°04.17' | N 21°25.29' | 8.7035' | 54.5502' | 61°02.52' | **08** |
| **09** | 313°22.12' | 14.9997° | 122°42.86' | N 20°02.40' | 0.5129' | 16°29.93' | 14.5263° | 59°35.06' | N 21°33.89' | 8.6045' | 54.5339' | 76°04.98' | **09** |
| **10** | 328°22.11' | 14.9997° | 122°45.34' | N 20°01.88' | 0.5135' | 31°01.46' | 14.5256° | 60°05.99' | N 21°42.40' | 8.5048' | 54.5179' | 91°07.45' | **10** |
| **11** | 343°22.09' | 14.9997° | 122°47.83' | N 20°01.37' | 0.5140' | 45°32.95' | 14.5248° | 60°36.96' | N 21°50.80' | 8.4046' | 54.5020' | 106°09.91' | **11** |
| **12** | 358°22.07' | 14.9997° | 122°50.31' | N 20°00.85' | 0.5146' | 60°04.40' | 14.5241° | 61°07.98' | N 21°59.11' | 8.3036' | 54.4865' | 121°12.38' | **12** |
| **13** | 13°22.05' | 14.9997° | 122°52.79' | N 20°00.34' | 0.5152' | 74°35.80' | 14.5233° | 61°39.04' | N 22°07.31' | 8.2021' | 54.4712' | 136°14.84' | **13** |
| **14** | 28°22.04' | 14.9997° | 122°55.27' | N 19°59.82' | 0.5158' | 89°07.15' | 14.5226° | 62°10.15' | N 22°15.41' | 8.0999' | 54.4561' | 151°17.31' | **14** |
| **15** | 43°22.02' | 14.9997° | 122°57.75' | N 19°59.31' | 0.5164' | 103°38.46' | 14.5218° | 62°41.31' | N 22°23.41' | 7.9970' | 54.4413' | 166°19.77' | **15** |
| **16** | 58°22.00' | 14.9997° | 123°00.23' | N 19°58.79' | 0.5169' | 118°09.73' | 14.5211° | 63°12.51' | N 22°31.30' | 7.8935' | 54.4268' | 181°22.23' | **16** |
| **17** | 73°21.99' | 14.9997° | 123°02.71' | N 19°58.27' | 0.5175' | 132°40.95' | 14.5203° | 63°43.75' | N 22°39.09' | 7.7894' | 54.4125' | 196°24.70' | **17** |
| **18** | 88°21.97' | 14.9997° | 123°05.19' | N 19°57.75' | 0.5181' | 147°12.12' | 14.5196° | 64°15.04' | N 22°46.77' | 7.6847' | 54.3984' | 211°27.16' | **18** |
| **19** | 103°21.96' | 14.9997° | 123°07.67' | N 19°57.23' | 0.5187' | 161°43.25' | 14.5188° | 64°46.37' | N 22°54.35' | 7.5793' | 54.3846' | 226°29.63' | **19** |
| **20** | 118°21.94' | 14.9997° | 123°10.15' | N 19°56.72' | 0.5193' | 176°14.34' | 14.5181° | 65°17.75' | N 23°01.83' | 7.4733' | 54.3710' | 241°32.09' | **20** |
| **21** | 133°21.93' | 14.9997° | 123°12.63' | N 19°56.20' | 0.5198' | 190°45.38' | 14.5173° | 65°49.18' | N 23°09.19' | 7.3668' | 54.3577' | 256°34.55' | **21** |
| **22** | 148°21.91' | 14.9998° | 123°15.11' | N 19°55.67' | 0.5204' | 205°16.37' | 14.5166° | 66°20.64' | N 23°16.45' | 7.2595' | 54.3446' | 271°37.02' | **22** |
| **23** | 163°21.90' | 14.9998° | 123°17.59' | N 19°55.15' | 0.5210' | 219°47.33' | 14.5159° | 66°52.16' | N 23°23.60' | 7.1517' | 54.3318' | 286°39.48' | **23** |
| **24** | 178°21.88' | 14.9998° | 123°20.06' | N 19°54.63' | 0.5216' | 234°18.23' | 14.5151° | 67°23.71' | N 23°30.65' | 7.0433' | 54.3192' | 301°41.95' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7428' | hp (π) 0.1443' | ½Ø 14.8466' | 23.0378858756057<br>17% -cre |
| | EoT at 12:00 UTC : -6m 31s (δ -0.07 s/h) | | Phase at 12:00 UTC : 302.77° | |
| | Meridian Pass. Time : 12:06:31.718 | | Age : 23.5 day(s) | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.12') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 204°14.50' | 96°28.31' | N 22°51.25' | 260°26.88' | 40°15.92' | N 13°49.36' | 292°12.34' | 8°30.46' | N 2°08.83' | 334°25.71' | 326°17.10' | S 14°52.04' | **00** |
| **01** | 219°13.68' | 96°31.59' | N 22°51.23' | 275°27.72' | 40°17.55' | N 13°49.88' | 307°14.76' | 8°30.51' | N 2°08.84' | 349°28.33' | 326°16.94' | S 14°52.09' | **01** |
| **02** | 234°12.86' | 96°34.88' | N 22°51.20' | 290°28.55' | 40°19.19' | N 13°50.40' | 322°17.17' | 8°30.56' | N 2°08.85' | 4°30.95' | 326°16.78' | S 14°52.15' | **02** |
| **03** | 249°12.04' | 96°38.16' | N 22°51.18' | 305°29.38' | 40°20.82' | N 13°50.92' | 337°19.59' | 8°30.61' | N 2°08.85' | 19°33.58' | 326°16.62' | S 14°52.21' | **03** |
| **04** | 264°11.22' | 96°41.44' | N 22°51.15' | 320°30.21' | 40°22.45' | N 13°51.44' | 352°22.00' | 8°30.66' | N 2°08.86' | 34°36.20' | 326°16.47' | S 14°52.27' | **04** |
| **05** | 279°10.40' | 96°44.73' | N 22°51.12' | 335°31.05' | 40°24.08' | N 13°51.95' | 7°24.42' | 8°30.71' | N 2°08.87' | 49°38.82' | 326°16.31' | S 14°52.33' | **05** |
| **06** | 294°09.58' | 96°48.01' | N 22°51.09' | 350°31.88' | 40°25.71' | N 13°52.47' | 22°26.84' | 8°30.75' | N 2°08.87' | 64°41.44' | 326°16.15' | S 14°52.39' | **06** |
| **07** | 309°08.76' | 96°51.29' | N 22°51.06' | 5°32.71' | 40°27.35' | N 13°52.99' | 37°29.25' | 8°30.80' | N 2°08.88' | 79°44.06' | 326°15.99' | S 14°52.45' | **07** |
| **08** | 324°07.94' | 96°54.58' | N 22°51.03' | 20°33.54' | 40°28.98' | N 13°53.51' | 52°31.67' | 8°30.85' | N 2°08.89' | 94°46.68' | 326°15.84' | S 14°52.51' | **08** |
| **09** | 339°07.12' | 96°57.86' | N 22°51.00' | 35°34.38' | 40°30.61' | N 13°54.03' | 67°34.09' | 8°30.89' | N 2°08.89' | 109°49.31' | 326°15.68' | S 14°52.57' | **09** |
| **10** | 354°06.30' | 97°01.15' | N 22°50.96' | 50°35.21' | 40°32.24' | N 13°54.55' | 82°36.51' | 8°30.94' | N 2°08.90' | 124°51.93' | 326°15.52' | S 14°52.63' | **10** |
| **11** | 9°05.48' | 97°04.43' | N 22°50.93' | 65°36.04' | 40°33.87' | N 13°55.06' | 97°38.93' | 8°30.99' | N 2°08.91' | 139°54.55' | 326°15.36' | S 14°52.69' | **11** |
| **12** | 24°04.66' | 97°07.72' | N 22°50.89' | 80°36.87' | 40°35.50' | N 13°55.58' | 112°41.34' | 8°31.03' | N 2°08.91' | 154°57.17' | 326°15.20' | S 14°52.75' | **12** |
| **13** | 39°03.84' | 97°11.00' | N 22°50.85' | 95°37.71' | 40°37.13' | N 13°56.10' | 127°43.76' | 8°31.08' | N 2°08.92' | 169°59.80' | 326°15.04' | S 14°52.81' | **13** |
| **14** | 54°03.02' | 97°14.28' | N 22°50.82' | 110°38.54' | 40°38.76' | N 13°56.62' | 142°46.18' | 8°31.12' | N 2°08.92' | 185°02.42' | 326°14.89' | S 14°52.87' | **14** |
| **15** | 69°02.20' | 97°17.57' | N 22°50.78' | 125°39.37' | 40°40.40' | N 13°57.13' | 157°48.60' | 8°31.17' | N 2°08.93' | 200°05.04' | 326°14.73' | S 14°52.93' | **15** |
| **16** | 84°01.38' | 97°20.85' | N 22°50.73' | 140°40.21' | 40°42.03' | N 13°57.65' | 172°51.02' | 8°31.21' | N 2°08.94' | 215°07.67' | 326°14.57' | S 14°52.99' | **16** |
| **17** | 99°00.56' | 97°24.14' | N 22°50.69' | 155°41.04' | 40°43.66' | N 13°58.17' | 187°53.44' | 8°31.26' | N 2°08.94' | 230°10.29' | 326°14.41' | S 14°53.05' | **17** |
| **18** | 113°59.74' | 97°27.42' | N 22°50.65' | 170°41.88' | 40°45.29' | N 13°58.68' | 202°55.86' | 8°31.30' | N 2°08.95' | 245°12.91' | 326°14.25' | S 14°53.11' | **18** |
| **19** | 128°58.92' | 97°30.71' | N 22°50.61' | 185°42.71' | 40°46.92' | N 13°59.20' | 217°58.28' | 8°31.34' | N 2°08.95' | 260°15.53' | 326°14.09' | S 14°53.17' | **19** |
| **20** | 143°58.10' | 97°33.99' | N 22°50.56' | 200°43.54' | 40°48.55' | N 13°59.71' | 233°00.70' | 8°31.39' | N 2°08.96' | 275°18.16' | 326°13.93' | S 14°53.22' | **20** |
| **21** | 158°57.28' | 97°37.28' | N 22°50.51' | 215°44.38' | 40°50.18' | N 14°00.23' | 248°03.13' | 8°31.43' | N 2°08.96' | 290°20.78' | 326°13.77' | S 14°53.28' | **21** |
| **22** | 173°56.46' | 97°40.56' | N 22°50.47' | 230°45.21' | 40°51.81' | N 14°00.74' | 263°05.55' | 8°31.47' | N 2°08.97' | 305°23.40' | 326°13.61' | S 14°53.34' | **22** |
| **23** | 188°55.64' | 97°43.85' | N 22°50.42' | 245°46.05' | 40°53.44' | N 14°01.26' | 278°07.97' | 8°31.51' | N 2°08.97' | 320°26.03' | 326°13.46' | S 14°53.40' | **23** |
| **24** | 203°54.82' | 97°47.13' | N 22°50.37' | 260°46.88' | 40°55.07' | N 14°01.77' | 293°10.39' | 8°31.56' | N 2°08.98' | 335°28.65' | 326°13.30' | S 14°53.46' | **24** |
| | δ 14.9863° | | *d* 0.0237' | δ 15.0139° | | *d* 0.5202' | δ 15.0403° | | *d* 0.0075' | δ 15.0437° | | *d* 0.0593' | |

## *Sunday, July 24th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°21.88' | 14.9998° | 123°20.06' | N 19°54.63' | 0.5216' | 234°18.23' | 14.5151° | 67°23.71' | N 23°30.65' | 7.0433' | 54.3192' | 301°41.95' | **00** |
| **01** | 193°21.87' | 14.9998° | 123°22.54' | N 19°54.11' | 0.5222' | 248°49.10' | 14.5144° | 67°55.31' | N 23°37.58' | 6.9343' | 54.3068' | 316°44.41' | **01** |
| **02** | 208°21.85' | 14.9998° | 123°25.02' | N 19°53.59' | 0.5227' | 263°19.92' | 14.5137° | 68°26.96' | N 23°44.41' | 6.8247' | 54.2947' | 331°46.88' | **02** |
| **03** | 223°21.84' | 14.9998° | 123°27.50' | N 19°53.06' | 0.5233' | 277°50.69' | 14.5129° | 68°58.65' | N 23°51.12' | 6.7145' | 54.2828' | 346°49.34' | **03** |
| **04** | 238°21.83' | 14.9998° | 123°29.98' | N 19°52.54' | 0.5239' | 292°21.43' | 14.5122° | 69°30.38' | N 23°57.73' | 6.6037' | 54.2712' | 1°51.80' | **04** |
| **05** | 253°21.82' | 14.9998° | 123°32.45' | N 19°52.02' | 0.5245' | 306°52.12' | 14.5115° | 70°02.15' | N 24°04.22' | 6.4924' | 54.2598' | 16°54.27' | **05** |
| **06** | 268°21.80' | 14.9998° | 123°34.93' | N 19°51.49' | 0.5250' | 321°22.76' | 14.5108° | 70°33.97' | N 24°10.60' | 6.3805' | 54.2486' | 31°56.73' | **06** |
| **07** | 283°21.79' | 14.9998° | 123°37.41' | N 19°50.97' | 0.5256' | 335°53.37' | 14.5101° | 71°05.83' | N 24°16.87' | 6.2680' | 54.2377' | 46°59.20' | **07** |
| **08** | 298°21.78' | 14.9998° | 123°39.88' | N 19°50.44' | 0.5262' | 350°23.93' | 14.5094° | 71°37.73' | N 24°23.02' | 6.1549' | 54.2270' | 62°01.66' | **08** |
| **09** | 313°21.77' | 14.9998° | 123°42.36' | N 19°49.91' | 0.5268' | 4°54.45' | 14.5087° | 72°09.67' | N 24°29.06' | 6.0413' | 54.2166' | 77°04.12' | **09** |
| **10** | 328°21.75' | 14.9998° | 123°44.84' | N 19°49.38' | 0.5273' | 19°24.93' | 14.5080° | 72°41.66' | N 24°34.99' | 5.9272' | 54.2064' | 92°06.59' | **10** |
| **11** | 343°21.74' | 14.9998° | 123°47.31' | N 19°48.86' | 0.5279' | 33°55.37' | 14.5073° | 73°13.68' | N 24°40.80' | 5.8125' | 54.1964' | 107°09.05' | **11** |
| **12** | 358°21.73' | 14.9998° | 123°49.79' | N 19°48.33' | 0.5285' | 48°25.77' | 14.5066° | 73°45.75' | N 24°46.50' | 5.6972' | 54.1866' | 122°11.52' | **12** |
| **13** | 13°21.72' | 14.9998° | 123°52.26' | N 19°47.80' | 0.5291' | 62°56.13' | 14.5060° | 74°17.86' | N 24°52.08' | 5.5815' | 54.1771' | 137°13.98' | **13** |
| **14** | 28°21.71' | 14.9998° | 123°54.74' | N 19°47.27' | 0.5296' | 77°26.45' | 14.5053° | 74°50.00' | N 24°57.55' | 5.4652' | 54.1678' | 152°16.45' | **14** |
| **15** | 43°21.70' | 14.9998° | 123°57.21' | N 19°46.74' | 0.5302' | 91°56.73' | 14.5047° | 75°22.18' | N 25°02.89' | 5.3484' | 54.1587' | 167°18.91' | **15** |
| **16** | 58°21.69' | 14.9998° | 123°59.69' | N 19°46.21' | 0.5308' | 106°26.97' | 14.5040° | 75°54.41' | N 25°08.13' | 5.2311' | 54.1499' | 182°21.37' | **16** |
| **17** | 73°21.68' | 14.9998° | 124°02.16' | N 19°45.68' | 0.5313' | 120°57.17' | 14.5034° | 76°26.67' | N 25°13.24' | 5.1133' | 54.1413' | 197°23.84' | **17** |
| **18** | 88°21.67' | 14.9998° | 124°04.63' | N 19°45.15' | 0.5319' | 135°27.34' | 14.5028° | 76°58.97' | N 25°18.23' | 4.9950' | 54.1329' | 212°26.30' | **18** |
| **19** | 103°21.66' | 14.9998° | 124°07.11' | N 19°44.61' | 0.5325' | 149°57.47' | 14.5022° | 77°31.30' | N 25°23.11' | 4.8762' | 54.1248' | 227°28.77' | **19** |
| **20** | 118°21.65' | 14.9998° | 124°09.58' | N 19°44.08' | 0.5331' | 164°27.56' | 14.5016° | 78°03.67' | N 25°27.87' | 4.7570' | 54.1169' | 242°31.23' | **20** |
| **21** | 133°21.64' | 14.9998° | 124°12.05' | N 19°43.55' | 0.5336' | 178°57.62' | 14.5010° | 78°36.08' | N 25°32.50' | 4.6373' | 54.1092' | 257°33.69' | **21** |
| **22** | 148°21.63' | 14.9999° | 124°14.53' | N 19°43.01' | 0.5342' | 193°27.64' | 14.5004° | 79°08.52' | N 25°37.02' | 4.5171' | 54.1017' | 272°36.16' | **22** |
| **23** | 163°21.62' | 14.9999° | 124°17.00' | N 19°42.48' | 0.5348' | 207°57.63' | 14.4998° | 79°40.99' | N 25°41.42' | 4.3965' | 54.0944' | 287°38.62' | **23** |
| **24** | 178°21.62' | 14.9999° | 124°19.47' | N 19°41.94' | 0.5353' | 222°27.58' | 14.4992° | 80°13.50' | N 25°45.69' | 4.2754' | 54.0874' | 302°41.09' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7441' | hp (π) 0.1443' | ½Ø 14.7649' | 15.5537701235317<br>79% -cre |
| | EoT at 12:00 UTC : -6m 33s (δ -0.05 s/h) | | Phase at 12:00 UTC : 313.69° | |
| | Meridian Pass. Time : 12:06:33.076 | | Age : 24.4 day(s) | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.12') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 203°54.82' | 97°47.13' | N 22°50.37' | 260°46.88' | 40°55.07' | N 14°01.77' | 293°10.39' | 8°31.56' | N 2°08.98' | 335°28.65' | 326°13.30' | S 14°53.46' | **00** |
| **01** | 218°54.00' | 97°50.42' | N 22°50.32' | 275°47.71' | 40°56.70' | N 14°02.29' | 308°12.81' | 8°31.60' | N 2°08.98' | 350°31.27' | 326°13.14' | S 14°53.52' | **01** |
| **02** | 233°53.18' | 97°53.70' | N 22°50.26' | 290°48.55' | 40°58.33' | N 14°02.80' | 323°15.24' | 8°31.64' | N 2°08.98' | 5°33.90' | 326°12.98' | S 14°53.58' | **02** |
| **03** | 248°52.35' | 97°56.99' | N 22°50.21' | 305°49.38' | 40°59.96' | N 14°03.31' | 338°17.66' | 8°31.68' | N 2°08.99' | 20°36.52' | 326°12.82' | S 14°53.64' | **03** |
| **04** | 263°51.53' | 98°00.27' | N 22°50.16' | 320°50.22' | 41°01.59' | N 14°03.83' | 353°20.08' | 8°31.72' | N 2°08.99' | 35°39.15' | 326°12.66' | S 14°53.70' | **04** |
| **05** | 278°50.71' | 98°03.56' | N 22°50.10' | 335°51.05' | 41°03.21' | N 14°04.34' | 8°22.51' | 8°31.76' | N 2°09.00' | 50°41.77' | 326°12.50' | S 14°53.76' | **05** |
| **06** | 293°49.89' | 98°06.84' | N 22°50.04' | 350°51.89' | 41°04.84' | N 14°04.85' | 23°24.93' | 8°31.80' | N 2°09.00' | 65°44.39' | 326°12.34' | S 14°53.82' | **06** |
| **07** | 308°49.07' | 98°10.13' | N 22°49.99' | 5°52.72' | 41°06.47' | N 14°05.37' | 38°27.36' | 8°31.84' | N 2°09.00' | 80°47.02' | 326°12.18' | S 14°53.88' | **07** |
| **08** | 323°48.25' | 98°13.41' | N 22°49.93' | 20°53.56' | 41°08.10' | N 14°05.88' | 53°29.78' | 8°31.88' | N 2°09.01' | 95°49.64' | 326°12.02' | S 14°53.94' | **08** |
| **09** | 338°47.43' | 98°16.70' | N 22°49.87' | 35°54.39' | 41°09.73' | N 14°06.39' | 68°32.21' | 8°31.92' | N 2°09.01' | 110°52.27' | 326°11.86' | S 14°54.00' | **09** |
| **10** | 353°46.61' | 98°19.98' | N 22°49.81' | 50°55.23' | 41°11.36' | N 14°06.90' | 83°34.63' | 8°31.96' | N 2°09.01' | 125°54.89' | 326°11.70' | S 14°54.06' | **10** |
| **11** | 8°45.79' | 98°23.27' | N 22°49.74' | 65°56.07' | 41°12.99' | N 14°07.41' | 98°37.06' | 8°32.00' | N 2°09.02' | 140°57.52' | 326°11.54' | S 14°54.12' | **11** |
| **12** | 23°44.97' | 98°26.55' | N 22°49.68' | 80°56.90' | 41°14.62' | N 14°07.93' | 113°39.48' | 8°32.03' | N 2°09.02' | 156°00.14' | 326°11.38' | S 14°54.18' | **12** |
| **13** | 38°44.15' | 98°29.84' | N 22°49.61' | 95°57.74' | 41°16.24' | N 14°08.44' | 128°41.91' | 8°32.07' | N 2°09.02' | 171°02.76' | 326°11.22' | S 14°54.24' | **13** |
| **14** | 53°43.32' | 98°33.12' | N 22°49.55' | 110°58.57' | 41°17.87' | N 14°08.95' | 143°44.34' | 8°32.11' | N 2°09.02' | 186°05.39' | 326°11.06' | S 14°54.30' | **14** |
| **15** | 68°42.50' | 98°36.41' | N 22°49.48' | 125°59.41' | 41°19.50' | N 14°09.46' | 158°46.76' | 8°32.15' | N 2°09.03' | 201°08.01' | 326°10.90' | S 14°54.36' | **15** |
| **16** | 83°41.68' | 98°39.69' | N 22°49.41' | 141°00.25' | 41°21.13' | N 14°09.97' | 173°49.19' | 8°32.18' | N 2°09.03' | 216°10.64' | 326°10.74' | S 14°54.42' | **16** |
| **17** | 98°40.86' | 98°42.98' | N 22°49.34' | 156°01.08' | 41°22.76' | N 14°10.48' | 188°51.62' | 8°32.22' | N 2°09.03' | 231°13.26' | 326°10.57' | S 14°54.48' | **17** |
| **18** | 113°40.04' | 98°46.26' | N 22°49.27' | 171°01.92' | 41°24.38' | N 14°10.99' | 203°54.05' | 8°32.26' | N 2°09.03' | 246°15.89' | 326°10.41' | S 14°54.54' | **18** |
| **19** | 128°39.22' | 98°49.55' | N 22°49.20' | 186°02.76' | 41°26.01' | N 14°11.50' | 218°56.48' | 8°32.29' | N 2°09.03' | 261°18.51' | 326°10.25' | S 14°54.60' | **19** |
| **20** | 143°38.40' | 98°52.83' | N 22°49.13' | 201°03.59' | 41°27.64' | N 14°12.01' | 233°58.90' | 8°32.33' | N 2°09.04' | 276°21.14' | 326°10.09' | S 14°54.66' | **20** |
| **21** | 158°37.58' | 98°56.12' | N 22°49.05' | 216°04.43' | 41°29.27' | N 14°12.52' | 249°01.33' | 8°32.36' | N 2°09.04' | 291°23.76' | 326°09.93' | S 14°54.72' | **21** |
| **22** | 173°36.76' | 98°59.40' | N 22°48.98' | 231°05.27' | 41°30.89' | N 14°13.03' | 264°03.76' | 8°32.40' | N 2°09.04' | 306°26.39' | 326°09.77' | S 14°54.78' | **22** |
| **23** | 188°35.93' | 99°02.69' | N 22°48.90' | 246°06.10' | 41°32.52' | N 14°13.53' | 279°06.19' | 8°32.43' | N 2°09.04' | 321°29.01' | 326°09.61' | S 14°54.85' | **23** |
| **24** | 203°35.11' | 99°05.97' | N 22°48.83' | 261°06.94' | 41°34.15' | N 14°14.04' | 294°08.62' | 8°32.47' | N 2°09.04' | 336°31.64' | 326°09.45' | S 14°54.91' | **24** |
| | δ 14.9863° | | *d* 0.0511' | δ 15.0139° | | *d* 0.5142' | δ 15.0404° | | *d* 0.0043' | δ 15.0437° | | *d* 0.0598' | |

## *Monday, July 25th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°21.62' | 14.9999° | 124°19.47' | N 19°41.94' | 0.5353' | 222°27.58' | 14.4992° | 80°13.50' | N 25°45.69' | 4.2754' | 54.0874' | 302°41.09' | **00** |
| **01** | 193°21.61' | 14.9999° | 124°21.94' | N 19°41.41' | 0.5359' | 236°57.51' | 14.4987° | 80°46.05' | N 25°49.85' | 4.1539' | 54.0806' | 317°43.55' | **01** |
| **02** | 208°21.60' | 14.9999° | 124°24.42' | N 19°40.87' | 0.5365' | 251°27.39' | 14.4982° | 81°18.62' | N 25°53.88' | 4.0320' | 54.0740' | 332°46.02' | **02** |
| **03** | 223°21.59' | 14.9999° | 124°26.89' | N 19°40.33' | 0.5371' | 265°57.25' | 14.4976° | 81°51.23' | N 25°57.79' | 3.9097' | 54.0676' | 347°48.48' | **03** |
| **04** | 238°21.58' | 14.9999° | 124°29.36' | N 19°39.79' | 0.5376' | 280°27.08' | 14.4971° | 82°23.86' | N 26°01.58' | 3.7869' | 54.0614' | 2°50.94' | **04** |
| **05** | 253°21.58' | 14.9999° | 124°31.83' | N 19°39.26' | 0.5382' | 294°56.88' | 14.4966° | 82°56.53' | N 26°05.24' | 3.6638' | 54.0555' | 17°53.41' | **05** |
| **06** | 268°21.57' | 14.9999° | 124°34.30' | N 19°38.72' | 0.5388' | 309°26.65' | 14.4961° | 83°29.23' | N 26°08.78' | 3.5403' | 54.0497' | 32°55.87' | **06** |
| **07** | 283°21.56' | 14.9999° | 124°36.77' | N 19°38.18' | 0.5393' | 323°56.39' | 14.4957° | 84°01.95' | N 26°12.20' | 3.4164' | 54.0442' | 47°58.34' | **07** |
| **08** | 298°21.56' | 14.9999° | 124°39.24' | N 19°37.64' | 0.5399' | 338°26.10' | 14.4952° | 84°34.70' | N 26°15.49' | 3.2922' | 54.0389' | 63°00.80' | **08** |
| **09** | 313°21.55' | 14.9999° | 124°41.71' | N 19°37.10' | 0.5405' | 352°55.78' | 14.4948° | 85°07.48' | N 26°18.66' | 3.1676' | 54.0338' | 78°03.27' | **09** |
| **10** | 328°21.55' | 14.9999° | 124°44.18' | N 19°36.56' | 0.5410' | 7°25.44' | 14.4943° | 85°40.29' | N 26°21.70' | 3.0427' | 54.0289' | 93°05.73' | **10** |
| **11** | 343°21.54' | 14.9999° | 124°46.65' | N 19°36.02' | 0.5416' | 21°55.08' | 14.4939° | 86°13.12' | N 26°24.62' | 2.9174' | 54.0242' | 108°08.19' | **11** |
| **12** | 358°21.54' | 14.9999° | 124°49.12' | N 19°35.47' | 0.5422' | 36°24.69' | 14.4935° | 86°45.97' | N 26°27.41' | 2.7918' | 54.0198' | 123°10.66' | **12** |
| **13** | 13°21.53' | 14.9999° | 124°51.59' | N 19°34.93' | 0.5427' | 50°54.27' | 14.4931° | 87°18.85' | N 26°30.07' | 2.6660' | 54.0155' | 138°13.12' | **13** |
| **14** | 28°21.53' | 14.9999° | 124°54.06' | N 19°34.39' | 0.5433' | 65°23.84' | 14.4927° | 87°51.75' | N 26°32.61' | 2.5398' | 54.0114' | 153°15.59' | **14** |
| **15** | 43°21.52' | 14.9999° | 124°56.53' | N 19°33.84' | 0.5439' | 79°53.38' | 14.4924° | 88°24.67' | N 26°35.03' | 2.4133' | 54.0076' | 168°18.05' | **15** |
| **16** | 58°21.52' | 14.9999° | 124°59.00' | N 19°33.30' | 0.5444' | 94°22.90' | 14.4920° | 88°57.61' | N 26°37.31' | 2.2866' | 54.0039' | 183°20.51' | **16** |
| **17** | 73°21.51' | 14.9999° | 125°01.47' | N 19°32.75' | 0.5450' | 108°52.41' | 14.4917° | 89°30.57' | N 26°39.47' | 2.1596' | 54.0005' | 198°22.98' | **17** |
| **18** | 88°21.51' | 14.9999° | 125°03.93' | N 19°32.21' | 0.5455' | 123°21.89' | 14.4914° | 90°03.55' | N 26°41.51' | 2.0324' | 53.9972' | 213°25.44' | **18** |
| **19** | 103°21.51' | 14.9999° | 125°06.40' | N 19°31.66' | 0.5461' | 137°51.36' | 14.4911° | 90°36.55' | N 26°43.41' | 1.9049' | 53.9942' | 228°27.91' | **19** |
| **20** | 118°21.50' | 14.9999° | 125°08.87' | N 19°31.12' | 0.5467' | 152°20.80' | 14.4908° | 91°09.57' | N 26°45.19' | 1.7772' | 53.9913' | 243°30.37' | **20** |
| **21** | 133°21.50' | 15.0000° | 125°11.34' | N 19°30.57' | 0.5472' | 166°50.24' | 14.4906° | 91°42.60' | N 26°46.84' | 1.6493' | 53.9887' | 258°32.84' | **21** |
| **22** | 148°21.50' | 15.0000° | 125°13.80' | N 19°30.02' | 0.5478' | 181°19.66' | 14.4903° | 92°15.64' | N 26°48.36' | 1.5213' | 53.9863' | 273°35.30' | **22** |
| **23** | 163°21.49' | 15.0000° | 125°16.27' | N 19°29.47' | 0.5484' | 195°49.06' | 14.4901° | 92°48.70' | N 26°49.75' | 1.3930' | 53.9840' | 288°37.76' | **23** |
| **24** | 178°21.49' | 15.0000° | 125°18.74' | N 19°28.92' | 0.5489' | 210°18.45' | 14.4899° | 93°21.77' | N 26°51.02' | 1.2645' | 53.9819' | 303°40.23' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7455' | hp (π) 0.1443' | ½Ø 14.7195' | 9.36768916110296 6% -cre |
| | EoT at 12:00 UTC : -6m 33s (δ -0.02 s/h) | | Phase at 12:00 UTC : 324.56° | |
| | Meridian Pass. Time : 12:06:33.858 | | Age : 25.2 day(s) | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.13') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 203°35.11' | 99°05.97' | N 22°48.83' | 261°06.94' | 41°34.15' | N 14°14.04' | 294°08.62' | 8°32.47' | N 2°09.04' | 336°31.64' | 326°09.45' | S 14°54.91' | **00** |
| **01** | 218°34.29' | 99°09.26' | N 22°48.75' | 276°07.78' | 41°35.77' | N 14°14.55' | 309°11.05' | 8°32.50' | N 2°09.04' | 351°34.27' | 326°09.29' | S 14°54.97' | **01** |
| **02** | 233°33.47' | 99°12.54' | N 22°48.67' | 291°08.61' | 41°37.40' | N 14°15.06' | 324°13.48' | 8°32.53' | N 2°09.04' | 6°36.89' | 326°09.12' | S 14°55.03' | **02** |
| **03** | 248°32.65' | 99°15.83' | N 22°48.59' | 306°09.45' | 41°39.03' | N 14°15.57' | 339°15.91' | 8°32.57' | N 2°09.05' | 21°39.52' | 326°08.96' | S 14°55.09' | **03** |
| **04** | 263°31.83' | 99°19.12' | N 22°48.51' | 321°10.29' | 41°40.65' | N 14°16.07' | 354°18.34' | 8°32.60' | N 2°09.05' | 36°42.14' | 326°08.80' | S 14°55.15' | **04** |
| **05** | 278°31.01' | 99°22.40' | N 22°48.42' | 336°11.13' | 41°42.28' | N 14°16.58' | 9°20.78' | 8°32.63' | N 2°09.05' | 51°44.77' | 326°08.64' | S 14°55.21' | **05** |
| **06** | 293°30.19' | 99°25.69' | N 22°48.34' | 351°11.97' | 41°43.91' | N 14°17.09' | 24°23.21' | 8°32.67' | N 2°09.05' | 66°47.39' | 326°08.48' | S 14°55.27' | **06** |
| **07** | 308°29.36' | 99°28.97' | N 22°48.25' | 6°12.80' | 41°45.53' | N 14°17.59' | 39°25.64' | 8°32.70' | N 2°09.05' | 81°50.02' | 326°08.32' | S 14°55.33' | **07** |
| **08** | 323°28.54' | 99°32.26' | N 22°48.17' | 21°13.64' | 41°47.16' | N 14°18.10' | 54°28.07' | 8°32.73' | N 2°09.05' | 96°52.65' | 326°08.15' | S 14°55.39' | **08** |
| **09** | 338°27.72' | 99°35.54' | N 22°48.08' | 36°14.48' | 41°48.79' | N 14°18.61' | 69°30.50' | 8°32.76' | N 2°09.05' | 111°55.27' | 326°07.99' | S 14°55.45' | **09** |
| **10** | 353°26.90' | 99°38.83' | N 22°47.99' | 51°15.32' | 41°50.41' | N 14°19.11' | 84°32.94' | 8°32.79' | N 2°09.05' | 126°57.90' | 326°07.83' | S 14°55.51' | **10** |
| **11** | 8°26.08' | 99°42.11' | N 22°47.90' | 66°16.16' | 41°52.04' | N 14°19.62' | 99°35.37' | 8°32.82' | N 2°09.05' | 142°00.53' | 326°07.67' | S 14°55.57' | **11** |
| **12** | 23°25.26' | 99°45.40' | N 22°47.81' | 81°16.99' | 41°53.66' | N 14°20.12' | 114°37.80' | 8°32.85' | N 2°09.05' | 157°03.15' | 326°07.51' | S 14°55.63' | **12** |
| **13** | 38°24.44' | 99°48.68' | N 22°47.72' | 96°17.83' | 41°55.29' | N 14°20.63' | 129°40.24' | 8°32.88' | N 2°09.05' | 172°05.78' | 326°07.34' | S 14°55.69' | **13** |
| **14** | 53°23.62' | 99°51.97' | N 22°47.62' | 111°18.67' | 41°56.91' | N 14°21.13' | 144°42.67' | 8°32.91' | N 2°09.05' | 187°08.41' | 326°07.18' | S 14°55.75' | **14** |
| **15** | 68°22.79' | 99°55.26' | N 22°47.53' | 126°19.51' | 41°58.54' | N 14°21.64' | 159°45.11' | 8°32.94' | N 2°09.05' | 202°11.03' | 326°07.02' | S 14°55.81' | **15** |
| **16** | 83°21.97' | 99°58.54' | N 22°47.43' | 141°20.35' | 42°00.16' | N 14°22.14' | 174°47.54' | 8°32.97' | N 2°09.04' | 217°13.66' | 326°06.86' | S 14°55.87' | **16** |
| **17** | 98°21.15' | 100°01.83' | N 22°47.34' | 156°21.19' | 42°01.79' | N 14°22.65' | 189°49.98' | 8°33.00' | N 2°09.04' | 232°16.29' | 326°06.69' | S 14°55.93' | **17** |
| **18** | 113°20.33' | 100°05.11' | N 22°47.24' | 171°22.03' | 42°03.41' | N 14°23.15' | 204°52.41' | 8°33.03' | N 2°09.04' | 247°18.91' | 326°06.53' | S 14°55.99' | **18** |
| **19** | 128°19.51' | 100°08.40' | N 22°47.14' | 186°22.87' | 42°05.04' | N 14°23.65' | 219°54.85' | 8°33.06' | N 2°09.04' | 262°21.54' | 326°06.37' | S 14°56.06' | **19** |
| **20** | 143°18.69' | 100°11.68' | N 22°47.04' | 201°23.71' | 42°06.66' | N 14°24.16' | 234°57.28' | 8°33.09' | N 2°09.04' | 277°24.17' | 326°06.20' | S 14°56.12' | **20** |
| **21** | 158°17.87' | 100°14.97' | N 22°46.94' | 216°24.55' | 42°08.29' | N 14°24.66' | 249°59.72' | 8°33.11' | N 2°09.04' | 292°26.79' | 326°06.04' | S 14°56.18' | **21** |
| **22** | 173°17.05' | 100°18.25' | N 22°46.84' | 231°25.39' | 42°09.91' | N 14°25.16' | 265°02.16' | 8°33.14' | N 2°09.04' | 307°29.42' | 326°05.88' | S 14°56.24' | **22** |
| **23** | 188°16.22' | 100°21.54' | N 22°46.73' | 246°26.23' | 42°11.54' | N 14°25.66' | 280°04.59' | 8°33.17' | N 2°09.03' | 322°32.05' | 326°05.71' | S 14°56.30' | **23** |
| **24** | 203°15.40' | 100°24.82' | N 22°46.63' | 261°27.07' | 42°13.16' | N 14°26.17' | 295°07.03' | 8°33.20' | N 2°09.03' | 337°34.68' | 326°05.55' | S 14°56.36' | **24** |
| | δ 14.9863° | | *d* 0.0785' | δ 15.0140° | | *d* 0.5081' | δ 15.0405° | | *d* 0.0011' | δ 15.0438° | | *d* 0.0603' | |

## *Tuesday, July 26th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°21.49' | 15.0000° | 125°18.74' | N 19°28.92' | 0.5489' | 210°18.45' | 14.4899° | 93°21.77' | N 26°51.02' | 1.2645' | 53.9819' | 303°40.23' | **00** |
| **01** | 193°21.49' | 15.0000° | 125°21.20' | N 19°28.37' | 0.5495' | 224°47.83' | 14.4897° | 93°54.86' | N 26°52.15' | 1.1359' | 53.9801' | 318°42.69' | **01** |
| **02** | 208°21.49' | 15.0000° | 125°23.67' | N 19°27.82' | 0.5500' | 239°17.20' | 14.4895° | 94°27.95' | N 26°53.16' | 1.0072' | 53.9784' | 333°45.16' | **02** |
| **03** | 223°21.49' | 15.0000° | 125°26.13' | N 19°27.27' | 0.5506' | 253°46.56' | 14.4893° | 95°01.06' | N 26°54.04' | 0.8783' | 53.9769' | 348°47.62' | **03** |
| **04** | 238°21.49' | 15.0000° | 125°28.60' | N 19°26.72' | 0.5512' | 268°15.92' | 14.4892° | 95°34.17' | N 26°54.79' | 0.7493' | 53.9757' | 3°50.08' | **04** |
| **05** | 253°21.49' | 15.0000° | 125°31.06' | N 19°26.17' | 0.5517' | 282°45.26' | 14.4891° | 96°07.29' | N 26°55.41' | 0.6202' | 53.9746' | 18°52.55' | **05** |
| **06** | 268°21.48' | 15.0000° | 125°33.53' | N 19°25.62' | 0.5523' | 297°14.60' | 14.4890° | 96°40.42' | N 26°55.90' | 0.4910' | 53.9737' | 33°55.01' | **06** |
| **07** | 283°21.48' | 15.0000° | 125°35.99' | N 19°25.07' | 0.5528' | 311°43.93' | 14.4889° | 97°13.55' | N 26°56.26' | 0.3617' | 53.9729' | 48°57.48' | **07** |
| **08** | 298°21.48' | 15.0000° | 125°38.46' | N 19°24.51' | 0.5534' | 326°13.26' | 14.4888° | 97°46.69' | N 26°56.49' | 0.2324' | 53.9724' | 63°59.94' | **08** |
| **09** | 313°21.48' | 15.0000° | 125°40.92' | N 19°23.96' | 0.5540' | 340°42.58' | 14.4887° | 98°19.83' | N 26°56.59' | 0.1030' | 53.9721' | 79°02.41' | **09** |
| **10** | 328°21.48' | 15.0000° | 125°43.38' | N 19°23.40' | 0.5545' | 355°11.90' | 14.4887° | 98°52.97' | N 26°56.57' | 0.0264' | 53.9719' | 94°04.87' | **10** |
| **11** | 343°21.49' | 15.0000° | 125°45.85' | N 19°22.85' | 0.5551' | 9°41.22' | 14.4887° | 99°26.11' | N 26°56.41' | 0.1558' | 53.9719' | 109°07.33' | **11** |
| **12** | 358°21.49' | 15.0000° | 125°48.31' | N 19°22.29' | 0.5556' | 24°10.54' | 14.4887° | 99°59.26' | N 26°56.13' | 0.2853' | 53.9721' | 124°09.80' | **12** |
| **13** | 13°21.49' | 15.0000° | 125°50.77' | N 19°21.74' | 0.5562' | 38°39.86' | 14.4887° | 100°32.40' | N 26°55.71' | 0.4147' | 53.9725' | 139°12.26' | **13** |
| **14** | 28°21.49' | 15.0000° | 125°53.24' | N 19°21.18' | 0.5568' | 53°09.19' | 14.4887° | 101°05.54' | N 26°55.17' | 0.5442' | 53.9731' | 154°14.73' | **14** |
| **15** | 43°21.49' | 15.0000° | 125°55.70' | N 19°20.62' | 0.5573' | 67°38.51' | 14.4888° | 101°38.68' | N 26°54.49' | 0.6736' | 53.9739' | 169°17.19' | **15** |
| **16** | 58°21.49' | 15.0000° | 125°58.16' | N 19°20.06' | 0.5579' | 82°07.84' | 14.4888° | 102°11.81' | N 26°53.69' | 0.8029' | 53.9748' | 184°19.65' | **16** |
| **17** | 73°21.49' | 15.0000° | 126°00.62' | N 19°19.51' | 0.5584' | 96°37.18' | 14.4889° | 102°44.94' | N 26°52.76' | 0.9322' | 53.9759' | 199°22.12' | **17** |
| **18** | 88°21.50' | 15.0000° | 126°03.09' | N 19°18.95' | 0.5590' | 111°06.52' | 14.4890° | 103°18.06' | N 26°51.70' | 1.0614' | 53.9772' | 214°24.58' | **18** |
| **19** | 103°21.50' | 15.0000° | 126°05.55' | N 19°18.39' | 0.5595' | 125°35.87' | 14.4892° | 103°51.18' | N 26°50.51' | 1.1905' | 53.9787' | 229°27.05' | **19** |
| **20** | 118°21.50' | 15.0000° | 126°08.01' | N 19°17.83' | 0.5601' | 140°05.23' | 14.4893° | 104°24.28' | N 26°49.19' | 1.3195' | 53.9803' | 244°29.51' | **20** |
| **21** | 133°21.51' | 15.0001° | 126°10.47' | N 19°17.27' | 0.5606' | 154°34.60' | 14.4895° | 104°57.38' | N 26°47.74' | 1.4484' | 53.9821' | 259°31.98' | **21** |
| **22** | 148°21.51' | 15.0001° | 126°12.93' | N 19°16.71' | 0.5612' | 169°03.97' | 14.4896° | 105°30.47' | N 26°46.16' | 1.5772' | 53.9841' | 274°34.44' | **22** |
| **23** | 163°21.51' | 15.0001° | 126°15.39' | N 19°16.14' | 0.5618' | 183°33.36' | 14.4898° | 106°03.54' | N 26°44.46' | 1.7058' | 53.9862' | 289°36.90' | **23** |
| **24** | 178°21.52' | 15.0001° | 126°17.85' | N 19°15.58' | 0.5623' | 198°02.77' | 14.4900° | 106°36.60' | N 26°42.62' | 1.8342' | 53.9886' | 304°39.37' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7469' | hp (π) 0.1443' | ½Ø 14.7065' | 4.65623150799993 % -cre |
| | EoT at 12:00 UTC : -6m 34s (δ 0.00 s/h) | | Phase at 12:00 UTC : 335.42° | |
| | Meridian Pass. Time : 12:06:34.054 | | Age : 26.1 day(s) | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.13') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 203°15.40' | 100°24.82' | N 22°46.63' | 261°27.07' | 42°13.16' | N 14°26.17' | 295°07.03' | 8°33.20' | N 2°09.03' | 337°34.68' | 326°05.55' | S 14°56.36' | **00** |
| **01** | 218°14.58' | 100°28.11' | N 22°46.52' | 276°27.91' | 42°14.78' | N 14°26.67' | 310°09.47' | 8°33.22' | N 2°09.03' | 352°37.30' | 326°05.39' | S 14°56.42' | **01** |
| **02** | 233°13.76' | 100°31.40' | N 22°46.41' | 291°28.75' | 42°16.41' | N 14°27.17' | 325°11.91' | 8°33.25' | N 2°09.03' | 7°39.93' | 326°05.23' | S 14°56.48' | **02** |
| **03** | 248°12.94' | 100°34.68' | N 22°46.31' | 306°29.59' | 42°18.03' | N 14°27.67' | 340°14.35' | 8°33.27' | N 2°09.03' | 22°42.56' | 326°05.06' | S 14°56.54' | **03** |
| **04** | 263°12.12' | 100°37.97' | N 22°46.20' | 321°30.43' | 42°19.66' | N 14°28.17' | 355°16.79' | 8°33.30' | N 2°09.02' | 37°45.19' | 326°04.90' | S 14°56.60' | **04** |
| **05** | 278°11.30' | 100°41.25' | N 22°46.09' | 336°31.27' | 42°21.28' | N 14°28.67' | 10°19.22' | 8°33.32' | N 2°09.02' | 52°47.81' | 326°04.73' | S 14°56.66' | **05** |
| **06** | 293°10.48' | 100°44.54' | N 22°45.97' | 351°32.11' | 42°22.90' | N 14°29.17' | 25°21.66' | 8°33.35' | N 2°09.02' | 67°50.44' | 326°04.57' | S 14°56.72' | **06** |
| **07** | 308°09.65' | 100°47.82' | N 22°45.86' | 6°32.95' | 42°24.53' | N 14°29.67' | 40°24.10' | 8°33.37' | N 2°09.02' | 82°53.07' | 326°04.41' | S 14°56.79' | **07** |
| **08** | 323°08.83' | 100°51.11' | N 22°45.75' | 21°33.79' | 42°26.15' | N 14°30.17' | 55°26.54' | 8°33.40' | N 2°09.01' | 97°55.70' | 326°04.24' | S 14°56.85' | **08** |
| **09** | 338°08.01' | 100°54.39' | N 22°45.63' | 36°34.63' | 42°27.77' | N 14°30.67' | 70°28.98' | 8°33.42' | N 2°09.01' | 112°58.33' | 326°04.08' | S 14°56.91' | **09** |
| **10** | 353°07.19' | 100°57.68' | N 22°45.52' | 51°35.47' | 42°29.40' | N 14°31.17' | 85°31.42' | 8°33.45' | N 2°09.01' | 128°00.95' | 326°03.92' | S 14°56.97' | **10** |
| **11** | 8°06.37' | 101°00.96' | N 22°45.40' | 66°36.32' | 42°31.02' | N 14°31.67' | 100°33.86' | 8°33.47' | N 2°09.00' | 143°03.58' | 326°03.75' | S 14°57.03' | **11** |
| **12** | 23°05.55' | 101°04.25' | N 22°45.28' | 81°37.16' | 42°32.64' | N 14°32.17' | 115°36.31' | 8°33.49' | N 2°09.00' | 158°06.21' | 326°03.59' | S 14°57.09' | **12** |
| **13** | 38°04.73' | 101°07.53' | N 22°45.16' | 96°38.00' | 42°34.26' | N 14°32.67' | 130°38.75' | 8°33.51' | N 2°09.00' | 173°08.84' | 326°03.42' | S 14°57.15' | **13** |
| **14** | 53°03.91' | 101°10.82' | N 22°45.04' | 111°38.84' | 42°35.89' | N 14°33.17' | 145°41.19' | 8°33.54' | N 2°08.99' | 188°11.47' | 326°03.26' | S 14°57.21' | **14** |
| **15** | 68°03.09' | 101°14.10' | N 22°44.92' | 126°39.68' | 42°37.51' | N 14°33.67' | 160°43.63' | 8°33.56' | N 2°08.99' | 203°14.10' | 326°03.09' | S 14°57.27' | **15** |
| **16** | 83°02.27' | 101°17.39' | N 22°44.80' | 141°40.52' | 42°39.13' | N 14°34.17' | 175°46.07' | 8°33.58' | N 2°08.98' | 218°16.73' | 326°02.93' | S 14°57.34' | **16** |
| **17** | 98°01.44' | 101°20.67' | N 22°44.67' | 156°41.37' | 42°40.75' | N 14°34.66' | 190°48.52' | 8°33.60' | N 2°08.98' | 233°19.35' | 326°02.77' | S 14°57.40' | **17** |
| **18** | 113°00.62' | 101°23.96' | N 22°44.55' | 171°42.21' | 42°42.37' | N 14°35.16' | 205°50.96' | 8°33.62' | N 2°08.97' | 248°21.98' | 326°02.60' | S 14°57.46' | **18** |
| **19** | 127°59.80' | 101°27.24' | N 22°44.42' | 186°43.05' | 42°44.00' | N 14°35.66' | 220°53.40' | 8°33.64' | N 2°08.97' | 263°24.61' | 326°02.44' | S 14°57.52' | **19** |
| **20** | 142°58.98' | 101°30.53' | N 22°44.29' | 201°43.89' | 42°45.62' | N 14°36.16' | 235°55.85' | 8°33.66' | N 2°08.97' | 278°27.24' | 326°02.27' | S 14°57.58' | **20** |
| **21** | 157°58.16' | 101°33.81' | N 22°44.16' | 216°44.74' | 42°47.24' | N 14°36.65' | 250°58.29' | 8°33.68' | N 2°08.96' | 293°29.87' | 326°02.11' | S 14°57.64' | **21** |
| **22** | 172°57.34' | 101°37.10' | N 22°44.03' | 231°45.58' | 42°48.86' | N 14°37.15' | 266°00.74' | 8°33.70' | N 2°08.96' | 308°32.50' | 326°01.94' | S 14°57.70' | **22** |
| **23** | 187°56.52' | 101°40.38' | N 22°43.90' | 246°46.42' | 42°50.48' | N 14°37.65' | 281°03.18' | 8°33.72' | N 2°08.95' | 323°35.13' | 326°01.78' | S 14°57.76' | **23** |
| **24** | 202°55.70' | 101°43.67' | N 22°43.77' | 261°47.27' | 42°52.10' | N 14°38.14' | 296°05.63' | 8°33.74' | N 2°08.95' | 338°37.76' | 326°01.61' | S 14°57.83' | **24** |
| | δ 14.9863° | | *d* 0.1059' | δ 15.0140° | | *d* 0.5019' | δ 15.0406° | | *d* 0.0021' | δ 15.0438° | | *d* 0.0608' | |

## *Wednesday, July 27th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°21.52' | 15.0001° | 126°17.85' | N 19°15.58' | 0.5623' | 198°02.77' | 14.4900° | 106°36.60' | N 26°42.62' | 1.8342' | 53.9886' | 304°39.37' | **00** |
| **01** | 193°21.52' | 15.0001° | 126°20.31' | N 19°15.02' | 0.5629' | 212°32.18' | 14.4903° | 107°09.65' | N 26°40.66' | 1.9625' | 53.9911' | 319°41.83' | **01** |
| **02** | 208°21.53' | 15.0001° | 126°22.77' | N 19°14.46' | 0.5634' | 227°01.61' | 14.4905° | 107°42.68' | N 26°38.57' | 2.0906' | 53.9937' | 334°44.30' | **02** |
| **03** | 223°21.53' | 15.0001° | 126°25.23' | N 19°13.89' | 0.5640' | 241°31.06' | 14.4908° | 108°15.70' | N 26°36.35' | 2.2185' | 53.9966' | 349°46.76' | **03** |
| **04** | 238°21.54' | 15.0001° | 126°27.69' | N 19°13.33' | 0.5645' | 256°00.52' | 14.4911° | 108°48.70' | N 26°34.01' | 2.3462' | 53.9996' | 4°49.23' | **04** |
| **05** | 253°21.54' | 15.0001° | 126°30.15' | N 19°12.76' | 0.5651' | 270°30.00' | 14.4913° | 109°21.69' | N 26°31.53' | 2.4736' | 54.0028' | 19°51.69' | **05** |
| **06** | 268°21.55' | 15.0001° | 126°32.61' | N 19°12.20' | 0.5656' | 284°59.50' | 14.4917° | 109°54.65' | N 26°28.93' | 2.6009' | 54.0061' | 34°54.15' | **06** |
| **07** | 283°21.55' | 15.0001° | 126°35.07' | N 19°11.63' | 0.5662' | 299°29.02' | 14.4920° | 110°27.60' | N 26°26.20' | 2.7278' | 54.0096' | 49°56.62' | **07** |
| **08** | 298°21.56' | 15.0001° | 126°37.52' | N 19°11.06' | 0.5667' | 313°58.56' | 14.4923° | 111°00.52' | N 26°23.35' | 2.8545' | 54.0133' | 64°59.08' | **08** |
| **09** | 313°21.56' | 15.0001° | 126°39.98' | N 19°10.50' | 0.5673' | 328°28.12' | 14.4927° | 111°33.42' | N 26°20.37' | 2.9809' | 54.0171' | 80°01.55' | **09** |
| **10** | 328°21.57' | 15.0001° | 126°42.44' | N 19°09.93' | 0.5678' | 342°57.71' | 14.4931° | 112°06.30' | N 26°17.26' | 3.1070' | 54.0211' | 95°04.01' | **10** |
| **11** | 343°21.58' | 15.0001° | 126°44.90' | N 19°09.36' | 0.5684' | 357°27.32' | 14.4935° | 112°39.16' | N 26°14.03' | 3.2328' | 54.0252' | 110°06.47' | **11** |
| **12** | 358°21.59' | 15.0001° | 126°47.35' | N 19°08.79' | 0.5689' | 11°56.95' | 14.4939° | 113°11.99' | N 26°10.67' | 3.3583' | 54.0296' | 125°08.94' | **12** |
| **13** | 13°21.59' | 15.0001° | 126°49.81' | N 19°08.22' | 0.5695' | 26°26.61' | 14.4943° | 113°44.79' | N 26°07.19' | 3.4834' | 54.0340' | 140°11.40' | **13** |
| **14** | 28°21.60' | 15.0001° | 126°52.27' | N 19°07.65' | 0.5700' | 40°56.29' | 14.4948° | 114°17.57' | N 26°03.58' | 3.6082' | 54.0387' | 155°13.87' | **14** |
| **15** | 43°21.61' | 15.0001° | 126°54.72' | N 19°07.08' | 0.5706' | 55°26.01' | 14.4952° | 114°50.32' | N 25°59.84' | 3.7327' | 54.0435' | 170°16.33' | **15** |
| **16** | 58°21.62' | 15.0001° | 126°57.18' | N 19°06.51' | 0.5711' | 69°55.75' | 14.4957° | 115°23.05' | N 25°55.99' | 3.8567' | 54.0484' | 185°18.80' | **16** |
| **17** | 73°21.62' | 15.0001° | 126°59.63' | N 19°05.94' | 0.5717' | 84°25.52' | 14.4962° | 115°55.74' | N 25°52.01' | 3.9804' | 54.0535' | 200°21.26' | **17** |
| **18** | 88°21.63' | 15.0001° | 127°02.09' | N 19°05.37' | 0.5722' | 98°55.32' | 14.4967° | 116°28.41' | N 25°47.90' | 4.1037' | 54.0588' | 215°23.72' | **18** |
| **19** | 103°21.64' | 15.0001° | 127°04.55' | N 19°04.79' | 0.5728' | 113°25.15' | 14.4972° | 117°01.04' | N 25°43.68' | 4.2266' | 54.0642' | 230°26.19' | **19** |
| **20** | 118°21.65' | 15.0002° | 127°07.00' | N 19°04.22' | 0.5733' | 127°55.01' | 14.4977° | 117°33.64' | N 25°39.33' | 4.3490' | 54.0698' | 245°28.65' | **20** |
| **21** | 133°21.66' | 15.0002° | 127°09.46' | N 19°03.65' | 0.5739' | 142°24.90' | 14.4982° | 118°06.21' | N 25°34.86' | 4.4710' | 54.0755' | 260°31.12' | **21** |
| **22** | 148°21.67' | 15.0002° | 127°11.91' | N 19°03.07' | 0.5744' | 156°54.83' | 14.4988° | 118°38.75' | N 25°30.26' | 4.5926' | 54.0814' | 275°33.58' | **22** |
| **23** | 163°21.68' | 15.0002° | 127°14.36' | N 19°02.50' | 0.5750' | 171°24.79' | 14.4994° | 119°11.25' | N 25°25.55' | 4.7137' | 54.0874' | 290°36.04' | **23** |
| **24** | 178°21.69' | 15.0002° | 127°16.82' | N 19°01.92' | 0.5755' | 185°54.79' | 14.4999° | 119°43.72' | N 25°20.72' | 4.8344' | 54.0936' | 305°38.51' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.7484' | hp (π) 0.1443' | ½Ø 14.7221' | 1.57099425052533<br>71% -cre | |
| EoT at 12:00 UTC : -6m 33s (δ 0.03 s/h) | | Phase at 12:00 UTC : 346.31° | | |
| Meridian Pass. Time : 12:06:33.659 | | Age : 26.9 day(s) | | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.13') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 202°55.70' | 101°43.67' | N 22°43.77' | 261°47.27' | 42°52.10' | N 14°38.14' | 296°05.63' | 8°33.74' | N 2°08.95' | 338°37.76' | 326°01.61' | S 14°57.83' | **00** |
| **01** | 217°54.88' | 101°46.95' | N 22°43.64' | 276°48.11' | 42°53.72' | N 14°38.64' | 311°08.07' | 8°33.76' | N 2°08.94' | 353°40.39' | 326°01.45' | S 14°57.89' | **01** |
| **02** | 232°54.06' | 101°50.24' | N 22°43.50' | 291°48.95' | 42°55.35' | N 14°39.13' | 326°10.52' | 8°33.78' | N 2°08.93' | 8°43.02' | 326°01.28' | S 14°57.95' | **02** |
| **03** | 247°53.24' | 101°53.52' | N 22°43.37' | 306°49.79' | 42°56.97' | N 14°39.63' | 341°12.96' | 8°33.80' | N 2°08.93' | 23°45.64' | 326°01.12' | S 14°58.01' | **03** |
| **04** | 262°52.42' | 101°56.81' | N 22°43.23' | 321°50.64' | 42°58.59' | N 14°40.12' | 356°15.41' | 8°33.82' | N 2°08.92' | 38°48.27' | 326°00.95' | S 14°58.07' | **04** |
| **05** | 277°51.60' | 102°00.09' | N 22°43.09' | 336°51.48' | 43°00.21' | N 14°40.62' | 11°17.86' | 8°33.83' | N 2°08.92' | 53°50.90' | 326°00.79' | S 14°58.13' | **05** |
| **06** | 292°50.78' | 102°03.38' | N 22°42.95' | 351°52.33' | 43°01.83' | N 14°41.11' | 26°20.30' | 8°33.85' | N 2°08.91' | 68°53.53' | 326°00.62' | S 14°58.19' | **06** |
| **07** | 307°49.96' | 102°06.66' | N 22°42.81' | 6°53.17' | 43°03.45' | N 14°41.61' | 41°22.75' | 8°33.87' | N 2°08.91' | 83°56.16' | 326°00.45' | S 14°58.25' | **07** |
| **08** | 322°49.13' | 102°09.95' | N 22°42.67' | 21°54.01' | 43°05.07' | N 14°42.10' | 56°25.20' | 8°33.88' | N 2°08.90' | 98°58.79' | 326°00.29' | S 14°58.32' | **08** |
| **09** | 337°48.31' | 102°13.23' | N 22°42.53' | 36°54.86' | 43°06.69' | N 14°42.59' | 71°27.64' | 8°33.90' | N 2°08.89' | 114°01.42' | 326°00.12' | S 14°58.38' | **09** |
| **10** | 352°47.49' | 102°16.52' | N 22°42.39' | 51°55.70' | 43°08.31' | N 14°43.09' | 86°30.09' | 8°33.92' | N 2°08.89' | 129°04.05' | 325°59.96' | S 14°58.44' | **10** |
| **11** | 7°46.67' | 102°19.80' | N 22°42.24' | 66°56.55' | 43°09.93' | N 14°43.58' | 101°32.54' | 8°33.93' | N 2°08.88' | 144°06.68' | 325°59.79' | S 14°58.50' | **11** |
| **12** | 22°45.85' | 102°23.08' | N 22°42.09' | 81°57.39' | 43°11.55' | N 14°44.07' | 116°34.99' | 8°33.95' | N 2°08.87' | 159°09.31' | 325°59.63' | S 14°58.56' | **12** |
| **13** | 37°45.03' | 102°26.37' | N 22°41.95' | 96°58.24' | 43°13.17' | N 14°44.57' | 131°37.44' | 8°33.96' | N 2°08.87' | 174°11.94' | 325°59.46' | S 14°58.62' | **13** |
| **14** | 52°44.21' | 102°29.65' | N 22°41.80' | 111°59.08' | 43°14.79' | N 14°45.06' | 146°39.89' | 8°33.98' | N 2°08.86' | 189°14.57' | 325°59.29' | S 14°58.69' | **14** |
| **15** | 67°43.39' | 102°32.94' | N 22°41.65' | 126°59.93' | 43°16.40' | N 14°45.55' | 161°42.34' | 8°33.99' | N 2°08.85' | 204°17.20' | 325°59.13' | S 14°58.75' | **15** |
| **16** | 82°42.57' | 102°36.22' | N 22°41.50' | 142°00.77' | 43°18.02' | N 14°46.04' | 176°44.79' | 8°34.01' | N 2°08.84' | 219°19.83' | 325°58.96' | S 14°58.81' | **16** |
| **17** | 97°41.75' | 102°39.51' | N 22°41.35' | 157°01.62' | 43°19.64' | N 14°46.53' | 191°47.24' | 8°34.02' | N 2°08.84' | 234°22.46' | 325°58.79' | S 14°58.87' | **17** |
| **18** | 112°40.93' | 102°42.79' | N 22°41.20' | 172°02.46' | 43°21.26' | N 14°47.02' | 206°49.69' | 8°34.03' | N 2°08.83' | 249°25.10' | 325°58.63' | S 14°58.93' | **18** |
| **19** | 127°40.11' | 102°46.07' | N 22°41.04' | 187°03.31' | 43°22.88' | N 14°47.52' | 221°52.14' | 8°34.05' | N 2°08.82' | 264°27.73' | 325°58.46' | S 14°58.99' | **19** |
| **20** | 142°39.29' | 102°49.36' | N 22°40.89' | 202°04.15' | 43°24.50' | N 14°48.01' | 236°54.59' | 8°34.06' | N 2°08.81' | 279°30.36' | 325°58.30' | S 14°59.06' | **20** |
| **21** | 157°38.47' | 102°52.64' | N 22°40.73' | 217°05.00' | 43°26.12' | N 14°48.50' | 251°57.04' | 8°34.07' | N 2°08.81' | 294°32.99' | 325°58.13' | S 14°59.12' | **21** |
| **22** | 172°37.65' | 102°55.93' | N 22°40.57' | 232°05.84' | 43°27.74' | N 14°48.99' | 266°59.50' | 8°34.08' | N 2°08.80' | 309°35.62' | 325°57.96' | S 14°59.18' | **22** |
| **23** | 187°36.83' | 102°59.21' | N 22°40.41' | 247°06.69' | 43°29.35' | N 14°49.48' | 282°01.95' | 8°34.10' | N 2°08.79' | 324°38.25' | 325°57.80' | S 14°59.24' | **23** |
| **24** | 202°36.01' | 103°02.49' | N 22°40.25' | 262°07.54' | 43°30.97' | N 14°49.97' | 297°04.40' | 8°34.11' | N 2°08.78' | 339°40.88' | 325°57.63' | S 14°59.30' | **24** |
| | δ 14.9863° | | *d* 0.1333' | δ 15.0141° | | *d* 0.4957' | δ 15.0408° | | *d* 0.0053' | δ 15.0438° | | *d* 0.0613' | |

## *Thursday, July 28th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°21.69' | 15.0002° | 127°16.82' | N 19°01.92' | 0.5755' | 185°54.79' | 14.4999° | 119°43.72' | N 25°20.72' | 4.8344' | 54.0936' | 305°38.51' | **00** |
| **01** | 193°21.70' | 15.0002° | 127°19.27' | N 19°01.35' | 0.5760' | 200°24.82' | 14.5005° | 120°16.15' | N 25°15.76' | 4.9546' | 54.1000' | 320°40.97' | **01** |
| **02** | 208°21.71' | 15.0002° | 127°21.72' | N 19°00.77' | 0.5766' | 214°54.89' | 14.5011° | 120°48.54' | N 25°10.69' | 5.0743' | 54.1064' | 335°43.44' | **02** |
| **03** | 223°21.72' | 15.0002° | 127°24.18' | N 19°00.19' | 0.5771' | 229°25.00' | 14.5018° | 121°20.90' | N 25°05.49' | 5.1934' | 54.1131' | 350°45.90' | **03** |
| **04** | 238°21.73' | 15.0002° | 127°26.63' | N 18°59.61' | 0.5777' | 243°55.14' | 14.5024° | 121°53.22' | N 25°00.18' | 5.3121' | 54.1199' | 5°48.37' | **04** |
| **05** | 253°21.75' | 15.0002° | 127°29.08' | N 18°59.04' | 0.5782' | 258°25.32' | 14.5030° | 122°25.51' | N 24°54.75' | 5.4303' | 54.1268' | 20°50.83' | **05** |
| **06** | 268°21.76' | 15.0002° | 127°31.54' | N 18°58.46' | 0.5788' | 272°55.54' | 14.5037° | 122°57.75' | N 24°49.20' | 5.5479' | 54.1339' | 35°53.29' | **06** |
| **07** | 283°21.77' | 15.0002° | 127°33.99' | N 18°57.88' | 0.5793' | 287°25.80' | 14.5043° | 123°29.95' | N 24°43.54' | 5.6650' | 54.1411' | 50°55.76' | **07** |
| **08** | 298°21.78' | 15.0002° | 127°36.44' | N 18°57.30' | 0.5799' | 301°56.11' | 14.5050° | 124°02.12' | N 24°37.76' | 5.7815' | 54.1485' | 65°58.22' | **08** |
| **09** | 313°21.79' | 15.0002° | 127°38.89' | N 18°56.72' | 0.5804' | 316°26.45' | 14.5057° | 124°34.24' | N 24°31.86' | 5.8975' | 54.1560' | 81°00.69' | **09** |
| **10** | 328°21.81' | 15.0002° | 127°41.34' | N 18°56.14' | 0.5809' | 330°56.83' | 14.5064° | 125°06.32' | N 24°25.85' | 6.0129' | 54.1637' | 96°03.15' | **10** |
| **11** | 343°21.82' | 15.0002° | 127°43.79' | N 18°55.55' | 0.5815' | 345°27.25' | 14.5071° | 125°38.36' | N 24°19.72' | 6.1277' | 54.1715' | 111°05.61' | **11** |
| **12** | 358°21.83' | 15.0002° | 127°46.24' | N 18°54.97' | 0.5820' | 359°57.72' | 14.5078° | 126°10.36' | N 24°13.48' | 6.2419' | 54.1795' | 126°08.08' | **12** |
| **13** | 13°21.85' | 15.0002° | 127°48.69' | N 18°54.39' | 0.5826' | 14°28.23' | 14.5085° | 126°42.31' | N 24°07.12' | 6.3555' | 54.1876' | 141°10.54' | **13** |
| **14** | 28°21.86' | 15.0002° | 127°51.15' | N 18°53.81' | 0.5831' | 28°58.79' | 14.5092° | 127°14.22' | N 24°00.65' | 6.4686' | 54.1958' | 156°13.01' | **14** |
| **15** | 43°21.88' | 15.0002° | 127°53.60' | N 18°53.22' | 0.5836' | 43°29.39' | 14.5100° | 127°46.08' | N 23°54.07' | 6.5810' | 54.2042' | 171°15.47' | **15** |
| **16** | 58°21.89' | 15.0002° | 127°56.04' | N 18°52.64' | 0.5842' | 58°00.03' | 14.5107° | 128°17.91' | N 23°47.38' | 6.6928' | 54.2127' | 186°17.93' | **16** |
| **17** | 73°21.90' | 15.0002° | 127°58.49' | N 18°52.05' | 0.5847' | 72°30.72' | 14.5115° | 128°49.68' | N 23°40.58' | 6.8039' | 54.2214' | 201°20.40' | **17** |
| **18** | 88°21.92' | 15.0002° | 128°00.94' | N 18°51.47' | 0.5853' | 87°01.45' | 14.5122° | 129°21.41' | N 23°33.66' | 6.9144' | 54.2302' | 216°22.86' | **18** |
| **19** | 103°21.93' | 15.0003° | 128°03.39' | N 18°50.88' | 0.5858' | 101°32.23' | 14.5130° | 129°53.10' | N 23°26.64' | 7.0243' | 54.2392' | 231°25.33' | **19** |
| **20** | 118°21.95' | 15.0003° | 128°05.84' | N 18°50.30' | 0.5863' | 116°03.06' | 14.5138° | 130°24.74' | N 23°19.50' | 7.1335' | 54.2483' | 246°27.79' | **20** |
| **21** | 133°21.97' | 15.0003° | 128°08.29' | N 18°49.71' | 0.5869' | 130°33.93' | 14.5145° | 130°56.33' | N 23°12.26' | 7.2420' | 54.2575' | 261°30.26' | **21** |
| **22** | 148°21.98' | 15.0003° | 128°10.74' | N 18°49.12' | 0.5874' | 145°04.85' | 14.5153° | 131°27.87' | N 23°04.91' | 7.3499' | 54.2669' | 276°32.72' | **22** |
| **23** | 163°22.00' | 15.0003° | 128°13.19' | N 18°48.53' | 0.5880' | 159°35.81' | 14.5161° | 131°59.37' | N 22°57.45' | 7.4571' | 54.2764' | 291°35.18' | **23** |
| **24** | 178°22.01' | 15.0003° | 128°15.63' | N 18°47.95' | 0.5885' | 174°06.83' | 14.5169° | 132°30.82' | N 22°49.89' | 7.5636' | 54.2861' | 306°37.65' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7501' | hp (π) 0.1443' | ½Ø 14.7630' | 0.23245655150873 068% -cre |
| | EoT at 12:00 UTC : -6m 32s (δ 0.05 s/h) | | Phase at 12:00 UTC : 357.28° | |
| | Meridian Pass. Time : 12:06:32.664 | | Age : 27.8 day(s) | |

| UT | Venus ♀ (π 0.10') | | | Mars ♂ (π 0.13') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 202°36.01' | 103°02.49' | N 22°40.25' | 262°07.54' | 43°30.97' | N 14°49.97' | 297°04.40' | 8°34.11' | N 2°08.78' | 339°40.88' | 325°57.63' | S 14°59.30' | **00** |
| **01** | 217°35.20' | 103°05.78' | N 22°40.09' | 277°08.38' | 43°32.59' | N 14°50.46' | 312°06.85' | 8°34.12' | N 2°08.77' | 354°43.51' | 325°57.46' | S 14°59.36' | **01** |
| **02** | 232°34.38' | 103°09.06' | N 22°39.93' | 292°09.23' | 43°34.21' | N 14°50.95' | 327°09.31' | 8°34.13' | N 2°08.76' | 9°46.14' | 325°57.29' | S 14°59.43' | **02** |
| **03** | 247°33.56' | 103°12.34' | N 22°39.77' | 307°10.08' | 43°35.82' | N 14°51.43' | 342°11.76' | 8°34.14' | N 2°08.75' | 24°48.77' | 325°57.13' | S 14°59.49' | **03** |
| **04** | 262°32.74' | 103°15.63' | N 22°39.61' | 322°10.92' | 43°37.44' | N 14°51.92' | 357°14.21' | 8°34.15' | N 2°08.75' | 39°51.40' | 325°56.96' | S 14°59.55' | **04** |
| **05** | 277°31.92' | 103°18.91' | N 22°39.44' | 337°11.77' | 43°39.06' | N 14°52.41' | 12°16.67' | 8°34.16' | N 2°08.74' | 54°54.04' | 325°56.79' | S 14°59.61' | **05** |
| **06** | 292°31.10' | 103°22.20' | N 22°39.27' | 352°12.62' | 43°40.68' | N 14°52.90' | 27°19.12' | 8°34.17' | N 2°08.73' | 69°56.67' | 325°56.63' | S 14°59.67' | **06** |
| **07** | 307°30.28' | 103°25.48' | N 22°39.11' | 7°13.46' | 43°42.29' | N 14°53.39' | 42°21.58' | 8°34.18' | N 2°08.72' | 84°59.30' | 325°56.46' | S 14°59.73' | **07** |
| **08** | 322°29.46' | 103°28.76' | N 22°38.94' | 22°14.31' | 43°43.91' | N 14°53.87' | 57°24.03' | 8°34.19' | N 2°08.71' | 100°01.93' | 325°56.29' | S 14°59.80' | **08** |
| **09** | 337°28.64' | 103°32.05' | N 22°38.77' | 37°15.16' | 43°45.53' | N 14°54.36' | 72°26.49' | 8°34.20' | N 2°08.70' | 115°04.56' | 325°56.12' | S 14°59.86' | **09** |
| **10** | 352°27.82' | 103°35.33' | N 22°38.60' | 52°16.01' | 43°47.14' | N 14°54.85' | 87°28.94' | 8°34.21' | N 2°08.69' | 130°07.19' | 325°55.96' | S 14°59.92' | **10** |
| **11** | 7°27.00' | 103°38.61' | N 22°38.42' | 67°16.85' | 43°48.76' | N 14°55.34' | 102°31.40' | 8°34.21' | N 2°08.68' | 145°09.83' | 325°55.79' | S 14°59.98' | **11** |
| **12** | 22°26.18' | 103°41.89' | N 22°38.25' | 82°17.70' | 43°50.38' | N 14°55.82' | 117°33.86' | 8°34.22' | N 2°08.67' | 160°12.46' | 325°55.62' | S 15°00.04' | **12** |
| **13** | 37°25.37' | 103°45.18' | N 22°38.08' | 97°18.55' | 43°51.99' | N 14°56.31' | 132°36.31' | 8°34.23' | N 2°08.66' | 175°15.09' | 325°55.45' | S 15°00.11' | **13** |
| **14** | 52°24.55' | 103°48.46' | N 22°37.90' | 112°19.40' | 43°53.61' | N 14°56.80' | 147°38.77' | 8°34.24' | N 2°08.65' | 190°17.72' | 325°55.29' | S 15°00.17' | **14** |
| **15** | 67°23.73' | 103°51.74' | N 22°37.72' | 127°20.25' | 43°55.22' | N 14°57.28' | 162°41.23' | 8°34.24' | N 2°08.64' | 205°20.35' | 325°55.12' | S 15°00.23' | **15** |
| **16** | 82°22.91' | 103°55.03' | N 22°37.55' | 142°21.09' | 43°56.84' | N 14°57.77' | 177°43.69' | 8°34.25' | N 2°08.63' | 220°22.98' | 325°54.95' | S 15°00.29' | **16** |
| **17** | 97°22.09' | 103°58.31' | N 22°37.37' | 157°21.94' | 43°58.46' | N 14°58.25' | 192°46.14' | 8°34.26' | N 2°08.62' | 235°25.62' | 325°54.78' | S 15°00.35' | **17** |
| **18** | 112°21.27' | 104°01.59' | N 22°37.19' | 172°22.79' | 44°00.07' | N 14°58.74' | 207°48.60' | 8°34.26' | N 2°08.61' | 250°28.25' | 325°54.61' | S 15°00.42' | **18** |
| **19** | 127°20.45' | 104°04.87' | N 22°37.01' | 187°23.64' | 44°01.69' | N 14°59.22' | 222°51.06' | 8°34.27' | N 2°08.59' | 265°30.88' | 325°54.45' | S 15°00.48' | **19** |
| **20** | 142°19.64' | 104°08.16' | N 22°36.82' | 202°24.49' | 44°03.30' | N 14°59.71' | 237°53.52' | 8°34.27' | N 2°08.58' | 280°33.51' | 325°54.28' | S 15°00.54' | **20** |
| **21** | 157°18.82' | 104°11.44' | N 22°36.64' | 217°25.34' | 44°04.92' | N 15°00.19' | 252°55.98' | 8°34.28' | N 2°08.57' | 295°36.15' | 325°54.11' | S 15°00.60' | **21** |
| **22** | 172°18.00' | 104°14.72' | N 22°36.46' | 232°26.19' | 44°06.53' | N 15°00.67' | 267°58.44' | 8°34.28' | N 2°08.56' | 310°38.78' | 325°53.94' | S 15°00.66' | **22** |
| **23** | 187°17.18' | 104°18.00' | N 22°36.27' | 247°27.04' | 44°08.15' | N 15°01.16' | 283°00.90' | 8°34.29' | N 2°08.55' | 325°41.41' | 325°53.77' | S 15°00.73' | **23** |
| **24** | 202°16.36' | 104°21.28' | N 22°36.08' | 262°27.89' | 44°09.76' | N 15°01.64' | 298°03.36' | 8°34.29' | N 2°08.54' | 340°44.04' | 325°53.60' | S 15°00.79' | **24** |
| | δ 14.9863° | | *d* 0.1607' | δ 15.0141° | | *d* 0.4895' | δ 15.0409° | | *d* 0.0086' | δ 15.0439° | | *d* 0.0618' | |

## *Friday, July 29th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°22.01' | 15.0003° | 128°15.63' | N 18°47.95' | 0.5885' | 174°06.83' | 14.5169° | 132°30.82' | N 22°49.89' | 7.5636' | 54.2861' | 306°37.65' | **00** |
| **01** | 193°22.03' | 15.0003° | 128°18.08' | N 18°47.36' | 0.5890' | 188°37.89' | 14.5177° | 133°02.23' | N 22°42.22' | 7.6695' | 54.2959' | 321°40.11' | **01** |
| **02** | 208°22.05' | 15.0003° | 128°20.53' | N 18°46.77' | 0.5896' | 203°09.00' | 14.5185° | 133°33.58' | N 22°34.45' | 7.7746' | 54.3058' | 336°42.58' | **02** |
| **03** | 223°22.07' | 15.0003° | 128°22.97' | N 18°46.18' | 0.5901' | 217°40.15' | 14.5193° | 134°04.89' | N 22°26.57' | 7.8790' | 54.3159' | 351°45.04' | **03** |
| **04** | 238°22.08' | 15.0003° | 128°25.42' | N 18°45.59' | 0.5906' | 232°11.36' | 14.5201° | 134°36.14' | N 22°18.59' | 7.9827' | 54.3261' | 6°47.50' | **04** |
| **05** | 253°22.10' | 15.0003° | 128°27.87' | N 18°45.00' | 0.5912' | 246°42.61' | 14.5209° | 135°07.35' | N 22°10.50' | 8.0858' | 54.3364' | 21°49.97' | **05** |
| **06** | 268°22.12' | 15.0003° | 128°30.31' | N 18°44.40' | 0.5917' | 261°13.92' | 14.5217° | 135°38.51' | N 22°02.31' | 8.1880' | 54.3469' | 36°52.43' | **06** |
| **07** | 283°22.14' | 15.0003° | 128°32.76' | N 18°43.81' | 0.5922' | 275°45.27' | 14.5225° | 136°09.63' | N 21°54.02' | 8.2896' | 54.3575' | 51°54.90' | **07** |
| **08** | 298°22.16' | 15.0003° | 128°35.20' | N 18°43.22' | 0.5928' | 290°16.67' | 14.5234° | 136°40.69' | N 21°45.63' | 8.3904' | 54.3683' | 66°57.36' | **08** |
| **09** | 313°22.18' | 15.0003° | 128°37.65' | N 18°42.63' | 0.5933' | 304°48.12' | 14.5242° | 137°11.70' | N 21°37.14' | 8.4905' | 54.3791' | 81°59.83' | **09** |
| **10** | 328°22.19' | 15.0003° | 128°40.09' | N 18°42.03' | 0.5938' | 319°19.62' | 14.5250° | 137°42.67' | N 21°28.55' | 8.5899' | 54.3902' | 97°02.29' | **10** |
| **11** | 343°22.21' | 15.0003° | 128°42.54' | N 18°41.44' | 0.5944' | 333°51.17' | 14.5258° | 138°13.58' | N 21°19.86' | 8.6885' | 54.4013' | 112°04.75' | **11** |
| **12** | 358°22.23' | 15.0003° | 128°44.98' | N 18°40.84' | 0.5949' | 348°22.77' | 14.5267° | 138°44.45' | N 21°11.08' | 8.7864' | 54.4126' | 127°07.22' | **12** |
| **13** | 13°22.25' | 15.0003° | 128°47.43' | N 18°40.25' | 0.5954' | 2°54.42' | 14.5275° | 139°15.26' | N 21°02.19' | 8.8835' | 54.4241' | 142°09.68' | **13** |
| **14** | 28°22.27' | 15.0003° | 128°49.87' | N 18°39.65' | 0.5960' | 17°26.12' | 14.5283° | 139°46.03' | N 20°53.21' | 8.9798' | 54.4356' | 157°12.15' | **14** |
| **15** | 43°22.29' | 15.0003° | 128°52.32' | N 18°39.05' | 0.5965' | 31°57.87' | 14.5291° | 140°16.74' | N 20°44.14' | 9.0754' | 54.4473' | 172°14.61' | **15** |
| **16** | 58°22.32' | 15.0003° | 128°54.76' | N 18°38.46' | 0.5970' | 46°29.66' | 14.5299° | 140°47.41' | N 20°34.97' | 9.1702' | 54.4592' | 187°17.07' | **16** |
| **17** | 73°22.34' | 15.0004° | 128°57.20' | N 18°37.86' | 0.5976' | 61°01.51' | 14.5308° | 141°18.03' | N 20°25.70' | 9.2643' | 54.4711' | 202°19.54' | **17** |
| **18** | 88°22.36' | 15.0004° | 128°59.64' | N 18°37.26' | 0.5981' | 75°33.40' | 14.5316° | 141°48.60' | N 20°16.35' | 9.3575' | 54.4832' | 217°22.00' | **18** |
| **19** | 103°22.38' | 15.0004° | 129°02.09' | N 18°36.66' | 0.5986' | 90°05.35' | 14.5324° | 142°19.12' | N 20°06.90' | 9.4500' | 54.4955' | 232°24.47' | **19** |
| **20** | 118°22.40' | 15.0004° | 129°04.53' | N 18°36.06' | 0.5992' | 104°37.34' | 14.5332° | 142°49.59' | N 19°57.35' | 9.5418' | 54.5078' | 247°26.93' | **20** |
| **21** | 133°22.42' | 15.0004° | 129°06.97' | N 18°35.46' | 0.5997' | 119°09.39' | 14.5340° | 143°20.01' | N 19°47.72' | 9.6327' | 54.5203' | 262°29.39' | **21** |
| **22** | 148°22.45' | 15.0004° | 129°09.41' | N 18°34.86' | 0.6002' | 133°41.48' | 14.5349° | 143°50.38' | N 19°38.00' | 9.7228' | 54.5330' | 277°31.86' | **22** |
| **23** | 163°22.47' | 15.0004° | 129°11.86' | N 18°34.26' | 0.6008' | 148°13.62' | 14.5357° | 144°20.71' | N 19°28.19' | 9.8122' | 54.5457' | 292°34.32' | **23** |
| **24** | 178°22.49' | 15.0004° | 129°14.30' | N 18°33.66' | 0.6013' | 162°45.81' | 14.5365° | 144°50.98' | N 19°18.29' | 9.9008' | 54.5587' | 307°36.79' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7518' | hp (π) 0.1443' | ½Ø 14.8265' | 0.72129676380839<br>89% +cre |
| | EoT at 12:00 UTC : -6m 31s (δ 0.08 s/h) | | Phase at 12:00 UTC : 8.35° | |
| | Meridian Pass. Time : 12:06:31.065 | | Age : 0.6 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.13') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 202°16.36' | 104°21.28' | N 22°36.08' | 262°27.89' | 44°09.76' | N 15°01.64' | 298°03.36' | 8°34.29' | N 2°08.54' | 340°44.04' | 325°53.60' | S 15°00.79' | **00** |
| **01** | 217°15.55' | 104°24.57' | N 22°35.89' | 277°28.74' | 44°11.38' | N 15°02.12' | 313°05.82' | 8°34.29' | N 2°08.53' | 355°46.68' | 325°53.44' | S 15°00.85' | **01** |
| **02** | 232°14.73' | 104°27.85' | N 22°35.71' | 292°29.59' | 44°12.99' | N 15°02.61' | 328°08.28' | 8°34.30' | N 2°08.51' | 10°49.31' | 325°53.27' | S 15°00.91' | **02** |
| **03** | 247°13.91' | 104°31.13' | N 22°35.52' | 307°30.44' | 44°14.60' | N 15°03.09' | 343°10.74' | 8°34.30' | N 2°08.50' | 25°51.94' | 325°53.10' | S 15°00.98' | **03** |
| **04** | 262°13.09' | 104°34.41' | N 22°35.32' | 322°31.29' | 44°16.22' | N 15°03.57' | 358°13.20' | 8°34.30' | N 2°08.49' | 40°54.58' | 325°52.93' | S 15°01.04' | **04** |
| **05** | 277°12.27' | 104°37.69' | N 22°35.13' | 337°32.14' | 44°17.83' | N 15°04.05' | 13°15.66' | 8°34.30' | N 2°08.48' | 55°57.21' | 325°52.76' | S 15°01.10' | **05** |
| **06** | 292°11.46' | 104°40.98' | N 22°34.94' | 352°32.99' | 44°19.45' | N 15°04.54' | 28°18.13' | 8°34.31' | N 2°08.47' | 70°59.84' | 325°52.59' | S 15°01.16' | **06** |
| **07** | 307°10.64' | 104°44.26' | N 22°34.74' | 7°33.84' | 44°21.06' | N 15°05.02' | 43°20.59' | 8°34.31' | N 2°08.45' | 86°02.47' | 325°52.42' | S 15°01.22' | **07** |
| **08** | 322°09.82' | 104°47.54' | N 22°34.55' | 22°34.69' | 44°22.67' | N 15°05.50' | 58°23.05' | 8°34.31' | N 2°08.44' | 101°05.11' | 325°52.25' | S 15°01.29' | **08** |
| **09** | 337°09.01' | 104°50.82' | N 22°34.35' | 37°35.54' | 44°24.29' | N 15°05.98' | 73°25.52' | 8°34.31' | N 2°08.43' | 116°07.74' | 325°52.08' | S 15°01.35' | **09** |
| **10** | 352°08.19' | 104°54.10' | N 22°34.15' | 52°36.39' | 44°25.90' | N 15°06.46' | 88°27.98' | 8°34.31' | N 2°08.41' | 131°10.37' | 325°51.92' | S 15°01.41' | **10** |
| **11** | 7°07.37' | 104°57.38' | N 22°33.95' | 67°37.24' | 44°27.51' | N 15°06.94' | 103°30.44' | 8°34.31' | N 2°08.40' | 146°13.01' | 325°51.75' | S 15°01.47' | **11** |
| **12** | 22°06.55' | 105°00.66' | N 22°33.75' | 82°38.09' | 44°29.13' | N 15°07.42' | 118°32.91' | 8°34.31' | N 2°08.39' | 161°15.64' | 325°51.58' | S 15°01.54' | **12** |
| **13** | 37°05.74' | 105°03.94' | N 22°33.55' | 97°38.94' | 44°30.74' | N 15°07.90' | 133°35.37' | 8°34.31' | N 2°08.37' | 176°18.27' | 325°51.41' | S 15°01.60' | **13** |
| **14** | 52°04.92' | 105°07.23' | N 22°33.35' | 112°39.79' | 44°32.35' | N 15°08.38' | 148°37.84' | 8°34.31' | N 2°08.36' | 191°20.91' | 325°51.24' | S 15°01.66' | **14** |
| **15** | 67°04.10' | 105°10.51' | N 22°33.14' | 127°40.65' | 44°33.96' | N 15°08.86' | 163°40.30' | 8°34.31' | N 2°08.35' | 206°23.54' | 325°51.07' | S 15°01.72' | **15** |
| **16** | 82°03.29' | 105°13.79' | N 22°32.94' | 142°41.50' | 44°35.58' | N 15°09.34' | 178°42.77' | 8°34.31' | N 2°08.33' | 221°26.17' | 325°50.90' | S 15°01.79' | **16** |
| **17** | 97°02.47' | 105°17.07' | N 22°32.73' | 157°42.35' | 44°37.19' | N 15°09.82' | 193°45.23' | 8°34.31' | N 2°08.32' | 236°28.81' | 325°50.73' | S 15°01.85' | **17** |
| **18** | 112°01.65' | 105°20.35' | N 22°32.52' | 172°43.20' | 44°38.80' | N 15°10.30' | 208°47.70' | 8°34.31' | N 2°08.30' | 251°31.44' | 325°50.56' | S 15°01.91' | **18** |
| **19** | 127°00.84' | 105°23.63' | N 22°32.31' | 187°44.05' | 44°40.41' | N 15°10.78' | 223°50.16' | 8°34.30' | N 2°08.29' | 266°34.08' | 325°50.39' | S 15°01.97' | **19** |
| **20** | 142°00.02' | 105°26.91' | N 22°32.11' | 202°44.91' | 44°42.02' | N 15°11.25' | 238°52.63' | 8°34.30' | N 2°08.28' | 281°36.71' | 325°50.22' | S 15°02.04' | **20** |
| **21** | 156°59.21' | 105°30.19' | N 22°31.89' | 217°45.76' | 44°43.64' | N 15°11.73' | 253°55.10' | 8°34.30' | N 2°08.26' | 296°39.34' | 325°50.05' | S 15°02.10' | **21** |
| **22** | 171°58.39' | 105°33.47' | N 22°31.68' | 232°46.61' | 44°45.25' | N 15°12.21' | 268°57.56' | 8°34.29' | N 2°08.25' | 311°41.98' | 325°49.88' | S 15°02.16' | **22** |
| **23** | 186°57.57' | 105°36.75' | N 22°31.47' | 247°47.46' | 44°46.86' | N 15°12.69' | 284°00.03' | 8°34.29' | N 2°08.23' | 326°44.61' | 325°49.71' | S 15°02.22' | **23** |
| **24** | 201°56.76' | 105°40.03' | N 22°31.26' | 262°48.32' | 44°48.47' | N 15°13.16' | 299°02.50' | 8°34.29' | N 2°08.22' | 341°47.25' | 325°49.54' | S 15°02.29' | **24** |
| | δ 14.9864° | | *d* 0.1881' | δ 15.0142° | | *d* 0.4832' | δ 15.0410° | | *d* 0.0118' | δ 15.0439° | | *d* 0.0622' | |

## *Saturday, July 30th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°22.49' | 15.0004° | 129°14.30' | N 18°33.66' | 0.6013' | 162°45.81' | 14.5365° | 144°50.98' | N 19°18.29' | 9.9008' | 54.5587' | 307°36.79' | **00** |
| **01** | 193°22.51' | 15.0004° | 129°16.74' | N 18°33.06' | 0.6018' | 177°18.04' | 14.5373° | 145°21.21' | N 19°08.30' | 9.9886' | 54.5717' | 322°39.25' | **01** |
| **02** | 208°22.54' | 15.0004° | 129°19.18' | N 18°32.46' | 0.6023' | 191°50.33' | 14.5381° | 145°51.39' | N 18°58.22' | 10.0755' | 54.5849' | 337°41.72' | **02** |
| **03** | 223°22.56' | 15.0004° | 129°21.62' | N 18°31.86' | 0.6029' | 206°22.66' | 14.5389° | 146°21.52' | N 18°48.06' | 10.1617' | 54.5982' | 352°44.18' | **03** |
| **04** | 238°22.59' | 15.0004° | 129°24.06' | N 18°31.25' | 0.6034' | 220°55.04' | 14.5397° | 146°51.60' | N 18°37.81' | 10.2471' | 54.6116' | 7°46.64' | **04** |
| **05** | 253°22.61' | 15.0004° | 129°26.50' | N 18°30.65' | 0.6039' | 235°27.47' | 14.5405° | 147°21.64' | N 18°27.48' | 10.3317' | 54.6252' | 22°49.11' | **05** |
| **06** | 268°22.63' | 15.0004° | 129°28.94' | N 18°30.04' | 0.6045' | 249°59.95' | 14.5412° | 147°51.63' | N 18°17.07' | 10.4155' | 54.6389' | 37°51.57' | **06** |
| **07** | 283°22.66' | 15.0004° | 129°31.38' | N 18°29.44' | 0.6050' | 264°32.47' | 14.5420° | 148°21.57' | N 18°06.57' | 10.4984' | 54.6527' | 52°54.04' | **07** |
| **08** | 298°22.68' | 15.0004° | 129°33.82' | N 18°28.83' | 0.6055' | 279°05.04' | 14.5428° | 148°51.46' | N 17°55.99' | 10.5806' | 54.6667' | 67°56.50' | **08** |
| **09** | 313°22.71' | 15.0004° | 129°36.26' | N 18°28.23' | 0.6060' | 293°37.65' | 14.5436° | 149°21.31' | N 17°45.32' | 10.6619' | 54.6808' | 82°58.96' | **09** |
| **10** | 328°22.73' | 15.0004° | 129°38.69' | N 18°27.62' | 0.6066' | 308°10.31' | 14.5443° | 149°51.12' | N 17°34.58' | 10.7425' | 54.6950' | 98°01.43' | **10** |
| **11** | 343°22.76' | 15.0004° | 129°41.13' | N 18°27.01' | 0.6071' | 322°43.01' | 14.5451° | 150°20.88' | N 17°23.76' | 10.8222' | 54.7094' | 113°03.89' | **11** |
| **12** | 358°22.79' | 15.0004° | 129°43.57' | N 18°26.41' | 0.6076' | 337°15.76' | 14.5458° | 150°50.59' | N 17°12.86' | 10.9011' | 54.7239' | 128°06.36' | **12** |
| **13** | 13°22.81' | 15.0004° | 129°46.01' | N 18°25.80' | 0.6081' | 351°48.56' | 14.5466° | 151°20.26' | N 17°01.88' | 10.9792' | 54.7385' | 143°08.82' | **13** |
| **14** | 28°22.84' | 15.0004° | 129°48.45' | N 18°25.19' | 0.6087' | 6°21.40' | 14.5473° | 151°49.89' | N 16°50.82' | 11.0565' | 54.7533' | 158°11.28' | **14** |
| **15** | 43°22.87' | 15.0004° | 129°50.88' | N 18°24.58' | 0.6092' | 20°54.28' | 14.5480° | 152°19.47' | N 16°39.69' | 11.1330' | 54.7682' | 173°13.75' | **15** |
| **16** | 58°22.89' | 15.0005° | 129°53.32' | N 18°23.97' | 0.6097' | 35°27.20' | 14.5488° | 152°49.01' | N 16°28.48' | 11.2087' | 54.7832' | 188°16.21' | **16** |
| **17** | 73°22.92' | 15.0005° | 129°55.76' | N 18°23.36' | 0.6102' | 50°00.17' | 14.5495° | 153°18.51' | N 16°17.20' | 11.2835' | 54.7983' | 203°18.68' | **17** |
| **18** | 88°22.95' | 15.0005° | 129°58.19' | N 18°22.75' | 0.6108' | 64°33.18' | 14.5502° | 153°47.96' | N 16°05.84' | 11.3575' | 54.8136' | 218°21.14' | **18** |
| **19** | 103°22.98' | 15.0005° | 130°00.63' | N 18°22.14' | 0.6113' | 79°06.23' | 14.5509° | 154°17.37' | N 15°54.41' | 11.4307' | 54.8291' | 233°23.61' | **19** |
| **20** | 118°23.00' | 15.0005° | 130°03.06' | N 18°21.53' | 0.6118' | 93°39.33' | 14.5516° | 154°46.74' | N 15°42.91' | 11.5031' | 54.8446' | 248°26.07' | **20** |
| **21** | 133°23.03' | 15.0005° | 130°05.50' | N 18°20.91' | 0.6123' | 108°12.46' | 14.5522° | 155°16.07' | N 15°31.33' | 11.5747' | 54.8603' | 263°28.53' | **21** |
| **22** | 148°23.06' | 15.0005° | 130°07.94' | N 18°20.30' | 0.6128' | 122°45.63' | 14.5529° | 155°45.36' | N 15°19.69' | 11.6454' | 54.8762' | 278°31.00' | **22** |
| **23** | 163°23.09' | 15.0005° | 130°10.37' | N 18°19.69' | 0.6134' | 137°18.85' | 14.5536° | 156°14.61' | N 15°07.97' | 11.7154' | 54.8921' | 293°33.46' | **23** |
| **24** | 178°23.12' | 15.0005° | 130°12.81' | N 18°19.07' | 0.6139' | 151°52.10' | 14.5542° | 156°43.83' | N 14°56.19' | 11.7845' | 54.9082' | 308°35.93' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.7536' | hp (π) 0.1444' | ½Ø 14.9113' | 3.06971436241932 9% +cre | |
| EoT at 12:00 UTC : -6m 28s (δ 0.10 s/h) | | Phase at 12:00 UTC : 19.53° | | |
| Meridian Pass. Time : 12:06:28.855 | | Age : 1.5 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.13') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 201°56.76' | 105°40.03' | N 22°31.26' | 262°48.32' | 44°48.47' | N 15°13.16' | 299°02.50' | 8°34.29' | N 2°08.22' | 341°47.25' | 325°49.54' | S 15°02.29' | **00** |
| **01** | 216°55.94' | 105°43.31' | N 22°31.04' | 277°49.17' | 44°50.08' | N 15°13.64' | 314°04.97' | 8°34.28' | N 2°08.20' | 356°49.88' | 325°49.37' | S 15°02.35' | **01** |
| **02** | 231°55.13' | 105°46.59' | N 22°30.82' | 292°50.02' | 44°51.69' | N 15°14.12' | 329°07.44' | 8°34.28' | N 2°08.19' | 11°52.52' | 325°49.20' | S 15°02.41' | **02** |
| **03** | 246°54.31' | 105°49.87' | N 22°30.61' | 307°50.88' | 44°53.30' | N 15°14.59' | 344°09.90' | 8°34.27' | N 2°08.17' | 26°55.15' | 325°49.03' | S 15°02.47' | **03** |
| **04** | 261°53.50' | 105°53.15' | N 22°30.39' | 322°51.73' | 44°54.91' | N 15°15.07' | 359°12.37' | 8°34.27' | N 2°08.16' | 41°57.78' | 325°48.86' | S 15°02.54' | **04** |
| **05** | 276°52.68' | 105°56.43' | N 22°30.17' | 337°52.58' | 44°56.52' | N 15°15.55' | 14°14.84' | 8°34.26' | N 2°08.14' | 57°00.42' | 325°48.69' | S 15°02.60' | **05** |
| **06** | 291°51.87' | 105°59.71' | N 22°29.95' | 352°53.44' | 44°58.13' | N 15°16.02' | 29°17.31' | 8°34.26' | N 2°08.13' | 72°03.05' | 325°48.52' | S 15°02.66' | **06** |
| **07** | 306°51.05' | 106°02.99' | N 22°29.72' | 7°54.29' | 44°59.74' | N 15°16.50' | 44°19.78' | 8°34.25' | N 2°08.11' | 87°05.69' | 325°48.35' | S 15°02.72' | **07** |
| **08** | 321°50.24' | 106°06.26' | N 22°29.50' | 22°55.15' | 45°01.35' | N 15°16.97' | 59°22.25' | 8°34.25' | N 2°08.09' | 102°08.32' | 325°48.18' | S 15°02.79' | **08** |
| **09** | 336°49.42' | 106°09.54' | N 22°29.28' | 37°56.00' | 45°02.96' | N 15°17.45' | 74°24.72' | 8°34.24' | N 2°08.08' | 117°10.96' | 325°48.01' | S 15°02.85' | **09** |
| **10** | 351°48.61' | 106°12.82' | N 22°29.05' | 52°56.85' | 45°04.57' | N 15°17.92' | 89°27.20' | 8°34.23' | N 2°08.06' | 132°13.59' | 325°47.84' | S 15°02.91' | **10** |
| **11** | 6°47.79' | 106°16.10' | N 22°28.82' | 67°57.71' | 45°06.18' | N 15°18.39' | 104°29.67' | 8°34.23' | N 2°08.04' | 147°16.23' | 325°47.67' | S 15°02.97' | **11** |
| **12** | 21°46.98' | 106°19.38' | N 22°28.60' | 82°58.56' | 45°07.79' | N 15°18.87' | 119°32.14' | 8°34.22' | N 2°08.03' | 162°18.86' | 325°47.49' | S 15°03.04' | **12** |
| **13** | 36°46.16' | 106°22.66' | N 22°28.37' | 97°59.42' | 45°09.40' | N 15°19.34' | 134°34.61' | 8°34.21' | N 2°08.01' | 177°21.50' | 325°47.32' | S 15°03.10' | **13** |
| **14** | 51°45.35' | 106°25.94' | N 22°28.14' | 113°00.27' | 45°11.01' | N 15°19.81' | 149°37.08' | 8°34.20' | N 2°07.99' | 192°24.13' | 325°47.15' | S 15°03.16' | **14** |
| **15** | 66°44.53' | 106°29.21' | N 22°27.91' | 128°01.13' | 45°12.62' | N 15°20.29' | 164°39.56' | 8°34.19' | N 2°07.98' | 207°26.77' | 325°46.98' | S 15°03.22' | **15** |
| **16** | 81°43.72' | 106°32.49' | N 22°27.67' | 143°01.98' | 45°14.23' | N 15°20.76' | 179°42.03' | 8°34.18' | N 2°07.96' | 222°29.40' | 325°46.81' | S 15°03.29' | **16** |
| **17** | 96°42.91' | 106°35.77' | N 22°27.44' | 158°02.84' | 45°15.84' | N 15°21.23' | 194°44.50' | 8°34.18' | N 2°07.94' | 237°32.04' | 325°46.64' | S 15°03.35' | **17** |
| **18** | 111°42.09' | 106°39.05' | N 22°27.21' | 173°03.69' | 45°17.45' | N 15°21.71' | 209°46.98' | 8°34.17' | N 2°07.93' | 252°34.67' | 325°46.47' | S 15°03.41' | **18** |
| **19** | 126°41.28' | 106°42.33' | N 22°26.97' | 188°04.55' | 45°19.06' | N 15°22.18' | 224°49.45' | 8°34.16' | N 2°07.91' | 267°37.31' | 325°46.30' | S 15°03.48' | **19** |
| **20** | 141°40.47' | 106°45.60' | N 22°26.73' | 203°05.41' | 45°20.66' | N 15°22.65' | 239°51.92' | 8°34.15' | N 2°07.89' | 282°39.94' | 325°46.13' | S 15°03.54' | **20** |
| **21** | 156°39.65' | 106°48.88' | N 22°26.49' | 218°06.26' | 45°22.27' | N 15°23.12' | 254°54.40' | 8°34.14' | N 2°07.87' | 297°42.58' | 325°45.95' | S 15°03.60' | **21** |
| **22** | 171°38.84' | 106°52.16' | N 22°26.26' | 233°07.12' | 45°23.88' | N 15°23.59' | 269°56.87' | 8°34.13' | N 2°07.86' | 312°45.21' | 325°45.78' | S 15°03.66' | **22** |
| **23** | 186°38.03' | 106°55.44' | N 22°26.01' | 248°07.97' | 45°25.49' | N 15°24.06' | 284°59.35' | 8°34.11' | N 2°07.84' | 327°47.85' | 325°45.61' | S 15°03.73' | **23** |
| **24** | 201°37.21' | 106°58.71' | N 22°25.77' | 263°08.83' | 45°27.09' | N 15°24.53' | 300°01.82' | 8°34.10' | N 2°07.82' | 342°50.49' | 325°45.44' | S 15°03.79' | **24** |
| | δ 14.9864° | | *d* 0.2154' | δ 15.0142° | | *d* 0.4768' | δ 15.0411° | | *d* 0.0150' | δ 15.0439° | | *d* 0.0625' | |

## *Sunday, July 31st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°23.12' | 15.0005° | 130°12.81' | N 18°19.07' | 0.6139' | 151°52.10' | 14.5542° | 156°43.83' | N 14°56.19' | 11.7845' | 54.9082' | 308°35.93' | **00** |
| **01** | 193°23.15' | 15.0005° | 130°15.24' | N 18°18.46' | 0.6144' | 166°25.39' | 14.5548° | 157°13.00' | N 14°44.33' | 11.8527' | 54.9244' | 323°38.39' | **01** |
| **02** | 208°23.18' | 15.0005° | 130°17.67' | N 18°17.84' | 0.6149' | 180°58.72' | 14.5555° | 157°42.13' | N 14°32.41' | 11.9202' | 54.9408' | 338°40.85' | **02** |
| **03** | 223°23.21' | 15.0005° | 130°20.11' | N 18°17.23' | 0.6154' | 195°32.08' | 14.5561° | 158°11.23' | N 14°20.43' | 11.9868' | 54.9573' | 353°43.32' | **03** |
| **04** | 238°23.24' | 15.0005° | 130°22.54' | N 18°16.61' | 0.6160' | 210°05.49' | 14.5567° | 158°40.29' | N 14°08.37' | 12.0527' | 54.9739' | 8°45.78' | **04** |
| **05** | 253°23.27' | 15.0005° | 130°24.98' | N 18°16.00' | 0.6165' | 224°38.93' | 14.5573° | 159°09.32' | N 13°56.26' | 12.1177' | 54.9907' | 23°48.25' | **05** |
| **06** | 268°23.30' | 15.0005° | 130°27.41' | N 18°15.38' | 0.6170' | 239°12.40' | 14.5579° | 159°38.31' | N 13°44.07' | 12.1818' | 55.0076' | 38°50.71' | **06** |
| **07** | 283°23.33' | 15.0005° | 130°29.84' | N 18°14.76' | 0.6175' | 253°45.91' | 14.5585° | 160°07.27' | N 13°31.83' | 12.2452' | 55.0246' | 53°53.17' | **07** |
| **08** | 298°23.36' | 15.0005° | 130°32.27' | N 18°14.14' | 0.6180' | 268°19.45' | 14.5590° | 160°36.19' | N 13°19.52' | 12.3077' | 55.0418' | 68°55.64' | **08** |
| **09** | 313°23.40' | 15.0005° | 130°34.71' | N 18°13.53' | 0.6185' | 282°53.02' | 14.5596° | 161°05.08' | N 13°07.15' | 12.3694' | 55.0591' | 83°58.10' | **09** |
| **10** | 328°23.43' | 15.0005° | 130°37.14' | N 18°12.91' | 0.6191' | 297°26.63' | 14.5601° | 161°33.93' | N 12°54.72' | 12.4303' | 55.0765' | 99°00.57' | **10** |
| **11** | 343°23.46' | 15.0005° | 130°39.57' | N 18°12.29' | 0.6196' | 312°00.27' | 14.5607° | 162°02.76' | N 12°42.23' | 12.4904' | 55.0941' | 114°03.03' | **11** |
| **12** | 358°23.49' | 15.0005° | 130°42.00' | N 18°11.67' | 0.6201' | 326°33.94' | 14.5612° | 162°31.55' | N 12°29.68' | 12.5496' | 55.1118' | 129°05.49' | **12** |
| **13** | 13°23.53' | 15.0005° | 130°44.43' | N 18°11.05' | 0.6206' | 341°07.64' | 14.5617° | 163°00.32' | N 12°17.07' | 12.6080' | 55.1297' | 144°07.96' | **13** |
| **14** | 28°23.56' | 15.0006° | 130°46.86' | N 18°10.42' | 0.6211' | 355°41.37' | 14.5622° | 163°29.05' | N 12°04.41' | 12.6656' | 55.1476' | 159°10.42' | **14** |
| **15** | 43°23.59' | 15.0006° | 130°49.30' | N 18°09.80' | 0.6216' | 10°15.13' | 14.5627° | 163°57.75' | N 11°51.69' | 12.7224' | 55.1658' | 174°12.89' | **15** |
| **16** | 58°23.63' | 15.0006° | 130°51.73' | N 18°09.18' | 0.6222' | 24°48.92' | 14.5631° | 164°26.43' | N 11°38.91' | 12.7783' | 55.1840' | 189°15.35' | **16** |
| **17** | 73°23.66' | 15.0006° | 130°54.16' | N 18°08.56' | 0.6227' | 39°22.73' | 14.5636° | 164°55.08' | N 11°26.07' | 12.8335' | 55.2024' | 204°17.82' | **17** |
| **18** | 88°23.69' | 15.0006° | 130°56.59' | N 18°07.94' | 0.6232' | 53°56.58' | 14.5640° | 165°23.70' | N 11°13.19' | 12.8878' | 55.2209' | 219°20.28' | **18** |
| **19** | 103°23.73' | 15.0006° | 130°59.02' | N 18°07.31' | 0.6237' | 68°30.44' | 14.5644° | 165°52.30' | N 11°00.24' | 12.9413' | 55.2396' | 234°22.74' | **19** |
| **20** | 118°23.76' | 15.0006° | 131°01.44' | N 18°06.69' | 0.6242' | 83°04.33' | 14.5649° | 166°20.87' | N 10°47.25' | 12.9939' | 55.2584' | 249°25.21' | **20** |
| **21** | 133°23.80' | 15.0006° | 131°03.87' | N 18°06.06' | 0.6247' | 97°38.25' | 14.5653° | 166°49.42' | N 10°34.21' | 13.0457' | 55.2773' | 264°27.67' | **21** |
| **22** | 148°23.83' | 15.0006° | 131°06.30' | N 18°05.44' | 0.6252' | 112°12.19' | 14.5657° | 167°17.95' | N 10°21.11' | 13.0968' | 55.2964' | 279°30.14' | **22** |
| **23** | 163°23.87' | 15.0006° | 131°08.73' | N 18°04.81' | 0.6258' | 126°46.15' | 14.5660° | 167°46.45' | N 10°07.96' | 13.1470' | 55.3156' | 294°32.60' | **23** |
| **24** | 178°23.90' | 15.0006° | 131°11.16' | N 18°04.19' | 0.6263' | 141°20.13' | 14.5664° | 168°14.93' | N 9°54.77' | 13.1963' | 55.3349' | 309°35.06' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7555' | hp (π) 0.1444' | ½Ø 15.0170' | 7.25469092711731<br>3% +cre |
| | EoT at 12:00 UTC : -6m 26s (δ 0.13 s/h) | | Phase at 12:00 UTC : 30.85° | |
| | Meridian Pass. Time : 12:06:26.029 | | Age : 2.4 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.13') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 201°37.21' | 106°58.71' | N 22°25.77' | 263°08.83' | 45°27.09' | N 15°24.53' | 300°01.82' | 8°34.10' | N 2°07.82' | 342°50.49' | 325°45.44' | S 15°03.79' | **00** |
| **01** | 216°36.40' | 107°01.99' | N 22°25.53' | 278°09.69' | 45°28.70' | N 15°25.00' | 315°04.30' | 8°34.09' | N 2°07.80' | 357°53.12' | 325°45.27' | S 15°03.85' | **01** |
| **02** | 231°35.59' | 107°05.27' | N 22°25.29' | 293°10.54' | 45°30.31' | N 15°25.47' | 330°06.78' | 8°34.08' | N 2°07.78' | 12°55.76' | 325°45.10' | S 15°03.92' | **02** |
| **03** | 246°34.77' | 107°08.54' | N 22°25.04' | 308°11.40' | 45°31.92' | N 15°25.94' | 345°09.25' | 8°34.07' | N 2°07.76' | 27°58.39' | 325°44.93' | S 15°03.98' | **03** |
| **04** | 261°33.96' | 107°11.82' | N 22°24.80' | 323°12.26' | 45°33.52' | N 15°26.41' | 0°11.73' | 8°34.05' | N 2°07.75' | 43°01.03' | 325°44.75' | S 15°04.04' | **04** |
| **05** | 276°33.15' | 107°15.10' | N 22°24.55' | 338°13.12' | 45°35.13' | N 15°26.88' | 15°14.21' | 8°34.04' | N 2°07.73' | 58°03.66' | 325°44.58' | S 15°04.10' | **05** |
| **06** | 291°32.34' | 107°18.37' | N 22°24.30' | 353°13.97' | 45°36.74' | N 15°27.35' | 30°16.68' | 8°34.03' | N 2°07.71' | 73°06.30' | 325°44.41' | S 15°04.17' | **06** |
| **07** | 306°31.52' | 107°21.65' | N 22°24.05' | 8°14.83' | 45°38.34' | N 15°27.82' | 45°19.16' | 8°34.01' | N 2°07.69' | 88°08.94' | 325°44.24' | S 15°04.23' | **07** |
| **08** | 321°30.71' | 107°24.93' | N 22°23.80' | 23°15.69' | 45°39.95' | N 15°28.29' | 60°21.64' | 8°34.00' | N 2°07.67' | 103°11.57' | 325°44.07' | S 15°04.29' | **08** |
| **09** | 336°29.90' | 107°28.20' | N 22°23.55' | 38°16.55' | 45°41.56' | N 15°28.76' | 75°24.12' | 8°33.99' | N 2°07.65' | 118°14.21' | 325°43.89' | S 15°04.36' | **09** |
| **10** | 351°29.09' | 107°31.48' | N 22°23.30' | 53°17.40' | 45°43.16' | N 15°29.23' | 90°26.60' | 8°33.97' | N 2°07.63' | 133°16.85' | 325°43.72' | S 15°04.42' | **10** |
| **11** | 6°28.28' | 107°34.75' | N 22°23.04' | 68°18.26' | 45°44.77' | N 15°29.69' | 105°29.07' | 8°33.96' | N 2°07.61' | 148°19.48' | 325°43.55' | S 15°04.48' | **11** |
| **12** | 21°27.47' | 107°38.03' | N 22°22.79' | 83°19.12' | 45°46.37' | N 15°30.16' | 120°31.55' | 8°33.94' | N 2°07.59' | 163°22.12' | 325°43.38' | S 15°04.55' | **12** |
| **13** | 36°26.65' | 107°41.31' | N 22°22.53' | 98°19.98' | 45°47.98' | N 15°30.63' | 135°34.03' | 8°33.93' | N 2°07.57' | 178°24.75' | 325°43.20' | S 15°04.61' | **13** |
| **14** | 51°25.84' | 107°44.58' | N 22°22.27' | 113°20.84' | 45°49.59' | N 15°31.10' | 150°36.51' | 8°33.91' | N 2°07.55' | 193°27.39' | 325°43.03' | S 15°04.67' | **14** |
| **15** | 66°25.03' | 107°47.86' | N 22°22.02' | 128°21.70' | 45°51.19' | N 15°31.56' | 165°38.99' | 8°33.89' | N 2°07.53' | 208°30.03' | 325°42.86' | S 15°04.73' | **15** |
| **16** | 81°24.22' | 107°51.13' | N 22°21.76' | 143°22.56' | 45°52.80' | N 15°32.03' | 180°41.47' | 8°33.88' | N 2°07.51' | 223°32.66' | 325°42.69' | S 15°04.80' | **16** |
| **17** | 96°23.41' | 107°54.41' | N 22°21.50' | 158°23.41' | 45°54.40' | N 15°32.49' | 195°43.95' | 8°33.86' | N 2°07.49' | 238°35.30' | 325°42.51' | S 15°04.86' | **17** |
| **18** | 111°22.60' | 107°57.68' | N 22°21.23' | 173°24.27' | 45°56.01' | N 15°32.96' | 210°46.44' | 8°33.84' | N 2°07.47' | 253°37.94' | 325°42.34' | S 15°04.92' | **18** |
| **19** | 126°21.79' | 108°00.95' | N 22°20.97' | 188°25.13' | 45°57.61' | N 15°33.43' | 225°48.92' | 8°33.83' | N 2°07.45' | 268°40.57' | 325°42.17' | S 15°04.99' | **19** |
| **20** | 141°20.98' | 108°04.23' | N 22°20.71' | 203°25.99' | 45°59.21' | N 15°33.89' | 240°51.40' | 8°33.81' | N 2°07.43' | 283°43.21' | 325°42.00' | S 15°05.05' | **20** |
| **21** | 156°20.17' | 108°07.50' | N 22°20.44' | 218°26.85' | 46°00.82' | N 15°34.36' | 255°53.88' | 8°33.79' | N 2°07.41' | 298°45.85' | 325°41.82' | S 15°05.11' | **21** |
| **22** | 171°19.36' | 108°10.78' | N 22°20.18' | 233°27.71' | 46°02.42' | N 15°34.82' | 270°56.36' | 8°33.77' | N 2°07.39' | 313°48.48' | 325°41.65' | S 15°05.18' | **22** |
| **23** | 186°18.55' | 108°14.05' | N 22°19.91' | 248°28.57' | 46°04.03' | N 15°35.29' | 285°58.85' | 8°33.75' | N 2°07.37' | 328°51.12' | 325°41.48' | S 15°05.24' | **23** |
| **24** | 201°17.74' | 108°17.33' | N 22°19.64' | 263°29.43' | 46°05.63' | N 15°35.75' | 301°01.33' | 8°33.73' | N 2°07.34' | 343°53.76' | 325°41.30' | S 15°05.30' | **24** |
| | δ 14.9865° | | *d* 0.2426' | δ 15.0143° | | *d* 0.4704' | δ 15.0413° | | *d* 0.0183' | δ 15.0439° | | *d* 0.0629' | |

## *Monday, August 1st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°23.90' | 15.0006° | 131°11.16' | N 18°04.19' | 0.6263' | 141°20.13' | 14.5664° | 168°14.93' | N 9°54.77' | 13.1963' | 55.3349' | 309°35.06' | **00** |
| **01** | 193°23.94' | 15.0006° | 131°13.59' | N 18°03.56' | 0.6268' | 155°54.14' | 14.5667° | 168°43.39' | N 9°41.52' | 13.2449' | 55.3544' | 324°37.53' | **01** |
| **02** | 208°23.98' | 15.0006° | 131°16.02' | N 18°02.93' | 0.6273' | 170°28.16' | 14.5671° | 169°11.83' | N 9°28.23' | 13.2926' | 55.3740' | 339°39.99' | **02** |
| **03** | 223°24.01' | 15.0006° | 131°18.44' | N 18°02.30' | 0.6278' | 185°02.20' | 14.5674° | 169°40.25' | N 9°14.89' | 13.3395' | 55.3938' | 354°42.46' | **03** |
| **04** | 238°24.05' | 15.0006° | 131°20.87' | N 18°01.68' | 0.6283' | 199°36.26' | 14.5677° | 170°08.66' | N 9°01.50' | 13.3855' | 55.4137' | 9°44.92' | **04** |
| **05** | 253°24.09' | 15.0006° | 131°23.30' | N 18°01.05' | 0.6288' | 214°10.34' | 14.5680° | 170°37.04' | N 8°48.07' | 13.4308' | 55.4337' | 24°47.38' | **05** |
| **06** | 268°24.12' | 15.0006° | 131°25.72' | N 18°00.42' | 0.6293' | 228°44.44' | 14.5682° | 171°05.41' | N 8°34.60' | 13.4752' | 55.4539' | 39°49.85' | **06** |
| **07** | 283°24.16' | 15.0006° | 131°28.15' | N 17°59.79' | 0.6298' | 243°18.54' | 14.5685° | 171°33.77' | N 8°21.08' | 13.5188' | 55.4742' | 54°52.31' | **07** |
| **08** | 298°24.20' | 15.0006° | 131°30.58' | N 17°59.16' | 0.6304' | 257°52.67' | 14.5687° | 172°02.11' | N 8°07.52' | 13.5616' | 55.4946' | 69°54.78' | **08** |
| **09** | 313°24.24' | 15.0006° | 131°33.00' | N 17°58.53' | 0.6309' | 272°26.80' | 14.5689° | 172°30.44' | N 7°53.91' | 13.6035' | 55.5152' | 84°57.24' | **09** |
| **10** | 328°24.28' | 15.0006° | 131°35.43' | N 17°57.89' | 0.6314' | 287°00.95' | 14.5692° | 172°58.75' | N 7°40.27' | 13.6446' | 55.5359' | 99°59.70' | **10** |
| **11** | 343°24.31' | 15.0006° | 131°37.85' | N 17°57.26' | 0.6319' | 301°35.11' | 14.5693° | 173°27.05' | N 7°26.58' | 13.6849' | 55.5568' | 115°02.17' | **11** |
| **12** | 358°24.35' | 15.0006° | 131°40.28' | N 17°56.63' | 0.6324' | 316°09.29' | 14.5695° | 173°55.35' | N 7°12.86' | 13.7243' | 55.5778' | 130°04.63' | **12** |
| **13** | 13°24.39' | 15.0007° | 131°42.70' | N 17°56.00' | 0.6329' | 330°43.47' | 14.5697° | 174°23.63' | N 6°59.10' | 13.7629' | 55.5989' | 145°07.10' | **13** |
| **14** | 28°24.43' | 15.0007° | 131°45.13' | N 17°55.36' | 0.6334' | 345°17.66' | 14.5698° | 174°51.90' | N 6°45.30' | 13.8007' | 55.6202' | 160°09.56' | **14** |
| **15** | 43°24.47' | 15.0007° | 131°47.55' | N 17°54.73' | 0.6339' | 359°51.85' | 14.5700° | 175°20.17' | N 6°31.46' | 13.8377' | 55.6416' | 175°12.02' | **15** |
| **16** | 58°24.51' | 15.0007° | 131°49.98' | N 17°54.10' | 0.6344' | 14°26.06' | 14.5701° | 175°48.43' | N 6°17.58' | 13.8738' | 55.6632' | 190°14.49' | **16** |
| **17** | 73°24.55' | 15.0007° | 131°52.40' | N 17°53.46' | 0.6349' | 29°00.27' | 14.5702° | 176°16.69' | N 6°03.67' | 13.9091' | 55.6849' | 205°16.95' | **17** |
| **18** | 88°24.59' | 15.0007° | 131°54.82' | N 17°52.83' | 0.6354' | 43°34.48' | 14.5702° | 176°44.94' | N 5°49.73' | 13.9435' | 55.7067' | 220°19.42' | **18** |
| **19** | 103°24.63' | 15.0007° | 131°57.25' | N 17°52.19' | 0.6359' | 58°08.70' | 14.5703° | 177°13.18' | N 5°35.75' | 13.9771' | 55.7287' | 235°21.88' | **19** |
| **20** | 118°24.68' | 15.0007° | 131°59.67' | N 17°51.55' | 0.6364' | 72°42.92' | 14.5703° | 177°41.43' | N 5°21.74' | 14.0098' | 55.7508' | 250°24.34' | **20** |
| **21** | 133°24.72' | 15.0007° | 132°02.09' | N 17°50.92' | 0.6369' | 87°17.14' | 14.5704° | 178°09.67' | N 5°07.70' | 14.0418' | 55.7730' | 265°26.81' | **21** |
| **22** | 148°24.76' | 15.0007° | 132°04.51' | N 17°50.28' | 0.6374' | 101°51.36' | 14.5704° | 178°37.91' | N 4°53.63' | 14.0728' | 55.7954' | 280°29.27' | **22** |
| **23** | 163°24.80' | 15.0007° | 132°06.94' | N 17°49.64' | 0.6379' | 116°25.58' | 14.5704° | 179°06.15' | N 4°39.53' | 14.1030' | 55.8180' | 295°31.74' | **23** |
| **24** | 178°24.84' | 15.0007° | 132°09.36' | N 17°49.00' | 0.6384' | 130°59.80' | 14.5703° | 179°34.40' | N 4°25.39' | 14.1324' | 55.8406' | 310°34.20' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7574' | hp (π) 0.1444' | ½Ø 15.1440' | 13.1937040167531<br>77% +cre |
| | EoT at 12:00 UTC : -6m 22s (δ 0.16 s/h) | | Phase at 12:00 UTC : 42.33° | |
| | Meridian Pass. Time : 12:06:22.585 | | Age : 3.3 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.13') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 201°17.74' | 108°17.33' | N 22°19.64' | 263°29.43' | 46°05.63' | N 15°35.75' | 301°01.33' | 8°33.73' | N 2°07.34' | 343°53.76' | 325°41.30' | S 15°05.30' | **00** |
| **01** | 216°16.93' | 108°20.60' | N 22°19.37' | 278°30.29' | 46°07.24' | N 15°36.21' | 316°03.81' | 8°33.71' | N 2°07.32' | 358°56.40' | 325°41.13' | S 15°05.37' | **01** |
| **02** | 231°16.12' | 108°23.87' | N 22°19.10' | 293°31.15' | 46°08.84' | N 15°36.68' | 331°06.30' | 8°33.70' | N 2°07.30' | 13°59.03' | 325°40.96' | S 15°05.43' | **02** |
| **03** | 246°15.31' | 108°27.15' | N 22°18.83' | 308°32.01' | 46°10.44' | N 15°37.14' | 346°08.78' | 8°33.68' | N 2°07.28' | 29°01.67' | 325°40.79' | S 15°05.49' | **03** |
| **04** | 261°14.50' | 108°30.42' | N 22°18.55' | 323°32.87' | 46°12.05' | N 15°37.60' | 1°11.26' | 8°33.65' | N 2°07.26' | 44°04.31' | 325°40.61' | S 15°05.56' | **04** |
| **05** | 276°13.69' | 108°33.69' | N 22°18.28' | 338°33.74' | 46°13.65' | N 15°38.07' | 16°13.75' | 8°33.63' | N 2°07.24' | 59°06.95' | 325°40.44' | S 15°05.62' | **05** |
| **06** | 291°12.88' | 108°36.97' | N 22°18.01' | 353°34.60' | 46°15.25' | N 15°38.53' | 31°16.23' | 8°33.61' | N 2°07.21' | 74°09.58' | 325°40.27' | S 15°05.68' | **06** |
| **07** | 306°12.07' | 108°40.24' | N 22°17.73' | 8°35.46' | 46°16.85' | N 15°38.99' | 46°18.72' | 8°33.59' | N 2°07.19' | 89°12.22' | 325°40.09' | S 15°05.75' | **07** |
| **08** | 321°11.26' | 108°43.51' | N 22°17.45' | 23°36.32' | 46°18.46' | N 15°39.45' | 61°21.21' | 8°33.57' | N 2°07.17' | 104°14.86' | 325°39.92' | S 15°05.81' | **08** |
| **09** | 336°10.46' | 108°46.78' | N 22°17.17' | 38°37.18' | 46°20.06' | N 15°39.92' | 76°23.69' | 8°33.55' | N 2°07.15' | 119°17.49' | 325°39.75' | S 15°05.87' | **09** |
| **10** | 351°09.65' | 108°50.06' | N 22°16.89' | 53°38.04' | 46°21.66' | N 15°40.38' | 91°26.18' | 8°33.53' | N 2°07.12' | 134°20.13' | 325°39.57' | S 15°05.94' | **10** |
| **11** | 6°08.84' | 108°53.33' | N 22°16.61' | 68°38.90' | 46°23.26' | N 15°40.84' | 106°28.66' | 8°33.50' | N 2°07.10' | 149°22.77' | 325°39.40' | S 15°06.00' | **11** |
| **12** | 21°08.03' | 108°56.60' | N 22°16.33' | 83°39.77' | 46°24.87' | N 15°41.30' | 121°31.15' | 8°33.48' | N 2°07.08' | 164°25.41' | 325°39.22' | S 15°06.06' | **12** |
| **13** | 36°07.22' | 108°59.87' | N 22°16.05' | 98°40.63' | 46°26.47' | N 15°41.76' | 136°33.64' | 8°33.46' | N 2°07.05' | 179°28.05' | 325°39.05' | S 15°06.13' | **13** |
| **14** | 51°06.42' | 109°03.15' | N 22°15.76' | 113°41.49' | 46°28.07' | N 15°42.22' | 151°36.13' | 8°33.43' | N 2°07.03' | 194°30.68' | 325°38.88' | S 15°06.19' | **14** |
| **15** | 66°05.61' | 109°06.42' | N 22°15.48' | 128°42.35' | 46°29.67' | N 15°42.68' | 166°38.61' | 8°33.41' | N 2°07.01' | 209°33.32' | 325°38.70' | S 15°06.25' | **15** |
| **16** | 81°04.80' | 109°09.69' | N 22°15.19' | 143°43.22' | 46°31.27' | N 15°43.14' | 181°41.10' | 8°33.39' | N 2°06.98' | 224°35.96' | 325°38.53' | S 15°06.32' | **16** |
| **17** | 96°03.99' | 109°12.96' | N 22°14.90' | 158°44.08' | 46°32.87' | N 15°43.60' | 196°43.59' | 8°33.36' | N 2°06.96' | 239°38.60' | 325°38.36' | S 15°06.38' | **17** |
| **18** | 111°03.19' | 109°16.23' | N 22°14.61' | 173°44.94' | 46°34.47' | N 15°44.06' | 211°46.08' | 8°33.34' | N 2°06.94' | 254°41.24' | 325°38.18' | S 15°06.44' | **18** |
| **19** | 126°02.38' | 109°19.50' | N 22°14.32' | 188°45.81' | 46°36.08' | N 15°44.52' | 226°48.57' | 8°33.31' | N 2°06.91' | 269°43.87' | 325°38.01' | S 15°06.51' | **19** |
| **20** | 141°01.57' | 109°22.77' | N 22°14.03' | 203°46.67' | 46°37.68' | N 15°44.98' | 241°51.06' | 8°33.29' | N 2°06.89' | 284°46.51' | 325°37.83' | S 15°06.57' | **20** |
| **21** | 156°00.77' | 109°26.04' | N 22°13.74' | 218°47.53' | 46°39.28' | N 15°45.44' | 256°53.55' | 8°33.26' | N 2°06.86' | 299°49.15' | 325°37.66' | S 15°06.63' | **21** |
| **22** | 170°59.96' | 109°29.31' | N 22°13.45' | 233°48.40' | 46°40.88' | N 15°45.90' | 271°56.04' | 8°33.24' | N 2°06.84' | 314°51.79' | 325°37.49' | S 15°06.70' | **22** |
| **23** | 185°59.15' | 109°32.58' | N 22°13.15' | 248°49.26' | 46°42.48' | N 15°46.35' | 286°58.53' | 8°33.21' | N 2°06.82' | 329°54.43' | 325°37.31' | S 15°06.76' | **23** |
| **24** | 200°58.35' | 109°35.85' | N 22°12.86' | 263°50.12' | 46°44.08' | N 15°46.81' | 302°01.02' | 8°33.18' | N 2°06.79' | 344°57.06' | 325°37.14' | S 15°06.82' | **24** |
| | δ 14.9865° | | *d* 0.2697' | δ 15.0143° | | *d* 0.4640' | δ 15.0414° | | *d* 0.0215' | δ 15.0440° | | *d* 0.0632' | |

## *Tuesday, August 2nd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°24.84' | 15.0007° | 132°09.36' | N 17°49.00' | 0.6384' | 130°59.80' | 14.5703° | 179°34.40' | N 4°25.39' | 14.1324' | 55.8406' | 310°34.20' | **00** |
| **01** | 193°24.89' | 15.0007° | 132°11.78' | N 17°48.36' | 0.6390' | 145°34.02' | 14.5703° | 180°02.65' | N 4°11.23' | 14.1609' | 55.8634' | 325°36.67' | **01** |
| **02** | 208°24.93' | 15.0007° | 132°14.20' | N 17°47.72' | 0.6395' | 160°08.23' | 14.5702° | 180°30.90' | N 3°57.04' | 14.1886' | 55.8864' | 340°39.13' | **02** |
| **03** | 223°24.97' | 15.0007° | 132°16.62' | N 17°47.08' | 0.6400' | 174°42.44' | 14.5701° | 180°59.15' | N 3°42.83' | 14.2154' | 55.9095' | 355°41.59' | **03** |
| **04** | 238°25.01' | 15.0007° | 132°19.04' | N 17°46.44' | 0.6405' | 189°16.64' | 14.5700° | 181°27.41' | N 3°28.59' | 14.2414' | 55.9327' | 10°44.06' | **04** |
| **05** | 253°25.06' | 15.0007° | 132°21.46' | N 17°45.80' | 0.6410' | 203°50.84' | 14.5699° | 181°55.68' | N 3°14.32' | 14.2664' | 55.9561' | 25°46.52' | **05** |
| **06** | 268°25.10' | 15.0007° | 132°23.88' | N 17°45.16' | 0.6415' | 218°25.03' | 14.5698° | 182°23.96' | N 3°00.03' | 14.2907' | 55.9796' | 40°48.99' | **06** |
| **07** | 283°25.15' | 15.0007° | 132°26.30' | N 17°44.52' | 0.6420' | 232°59.21' | 14.5696° | 182°52.24' | N 2°45.72' | 14.3140' | 56.0032' | 55°51.45' | **07** |
| **08** | 298°25.19' | 15.0007° | 132°28.72' | N 17°43.88' | 0.6425' | 247°33.38' | 14.5695° | 183°20.54' | N 2°31.38' | 14.3365' | 56.0270' | 70°53.91' | **08** |
| **09** | 313°25.23' | 15.0007° | 132°31.14' | N 17°43.23' | 0.6430' | 262°07.53' | 14.5693° | 183°48.84' | N 2°17.02' | 14.3581' | 56.0509' | 85°56.38' | **09** |
| **10** | 328°25.28' | 15.0007° | 132°33.56' | N 17°42.59' | 0.6435' | 276°41.68' | 14.5691° | 184°17.16' | N 2°02.64' | 14.3789' | 56.0749' | 100°58.84' | **10** |
| **11** | 343°25.32' | 15.0008° | 132°35.98' | N 17°41.95' | 0.6440' | 291°15.81' | 14.5688° | 184°45.50' | N 1°48.24' | 14.3987' | 56.0991' | 116°01.31' | **11** |
| **12** | 358°25.37' | 15.0008° | 132°38.40' | N 17°41.30' | 0.6445' | 305°49.92' | 14.5686° | 185°13.85' | N 1°33.83' | 14.4177' | 56.1235' | 131°03.77' | **12** |
| **13** | 13°25.42' | 15.0008° | 132°40.82' | N 17°40.66' | 0.6450' | 320°24.02' | 14.5683° | 185°42.21' | N 1°19.39' | 14.4358' | 56.1479' | 146°06.23' | **13** |
| **14** | 28°25.46' | 15.0008° | 132°43.24' | N 17°40.01' | 0.6455' | 334°58.11' | 14.5680° | 186°10.59' | N 1°04.94' | 14.4530' | 56.1725' | 161°08.70' | **14** |
| **15** | 43°25.51' | 15.0008° | 132°45.65' | N 17°39.37' | 0.6460' | 349°32.17' | 14.5677° | 186°38.99' | N 0°50.47' | 14.4693' | 56.1973' | 176°11.16' | **15** |
| **16** | 58°25.55' | 15.0008° | 132°48.07' | N 17°38.72' | 0.6465' | 4°06.22' | 14.5674° | 187°07.41' | N 0°35.98' | 14.4847' | 56.2221' | 191°13.63' | **16** |
| **17** | 73°25.60' | 15.0008° | 132°50.49' | N 17°38.07' | 0.6470' | 18°40.24' | 14.5671° | 187°35.85' | N 0°21.49' | 14.4992' | 56.2472' | 206°16.09' | **17** |
| **18** | 88°25.65' | 15.0008° | 132°52.91' | N 17°37.42' | 0.6474' | 33°14.24' | 14.5667° | 188°04.31' | N 0°06.97' | 14.5128' | 56.2723' | 221°18.55' | **18** |
| **19** | 103°25.70' | 15.0008° | 132°55.32' | N 17°36.78' | 0.6479' | 47°48.23' | 14.5663° | 188°32.79' | S 0°07.55' | 14.5255' | 56.2976' | 236°21.02' | **19** |
| **20** | 118°25.74' | 15.0008° | 132°57.74' | N 17°36.13' | 0.6484' | 62°22.18' | 14.5659° | 189°01.30' | S 0°22.09' | 14.5372' | 56.3230' | 251°23.48' | **20** |
| **21** | 133°25.79' | 15.0008° | 133°00.15' | N 17°35.48' | 0.6489' | 76°56.11' | 14.5655° | 189°29.83' | S 0°36.64' | 14.5480' | 56.3485' | 266°25.95' | **21** |
| **22** | 148°25.84' | 15.0008° | 133°02.57' | N 17°34.83' | 0.6494' | 91°30.02' | 14.5651° | 189°58.39' | S 0°51.20' | 14.5580' | 56.3742' | 281°28.41' | **22** |
| **23** | 163°25.89' | 15.0008° | 133°04.99' | N 17°34.18' | 0.6499' | 106°03.89' | 14.5646° | 190°26.98' | S 1°05.76' | 14.5669' | 56.4001' | 296°30.87' | **23** |
| **24** | 178°25.94' | 15.0008° | 133°07.40' | N 17°33.53' | 0.6504' | 120°37.74' | 14.5641° | 190°55.60' | S 1°20.34' | 14.5750' | 56.4260' | 311°33.34' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 15.7595' | hp (π) 0.1444' | ½Ø 15.2926' | 20.7415936862071<br>7% +cre | |
| | EoT at 12:00 UTC : -6m 18s (δ 0.18 s/h) | | Phase at 12:00 UTC : 53.99° | | |
| | Meridian Pass. Time : 12:06:18.519 | | Age : 4.2 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.13') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 200°58.35' | 109°35.85' | N 22°12.86' | 263°50.12' | 46°44.08' | N 15°46.81' | 302°01.02' | 8°33.18' | N 2°06.79' | 344°57.06' | 325°37.14' | S 15°06.82' | **00** |
| **01** | 215°57.54' | 109°39.12' | N 22°12.56' | 278°50.99' | 46°45.68' | N 15°47.27' | 317°03.51' | 8°33.16' | N 2°06.77' | 359°59.70' | 325°36.96' | S 15°06.89' | **01** |
| **02** | 230°56.74' | 109°42.39' | N 22°12.26' | 293°51.85' | 46°47.28' | N 15°47.73' | 332°06.00' | 8°33.13' | N 2°06.74' | 15°02.34' | 325°36.79' | S 15°06.95' | **02** |
| **03** | 245°55.93' | 109°45.66' | N 22°11.96' | 308°52.72' | 46°48.88' | N 15°48.18' | 347°08.49' | 8°33.10' | N 2°06.72' | 30°04.98' | 325°36.61' | S 15°07.01' | **03** |
| **04** | 260°55.12' | 109°48.93' | N 22°11.66' | 323°53.58' | 46°50.48' | N 15°48.64' | 2°10.98' | 8°33.07' | N 2°06.69' | 45°07.62' | 325°36.44' | S 15°07.08' | **04** |
| **05** | 275°54.32' | 109°52.20' | N 22°11.36' | 338°54.45' | 46°52.08' | N 15°49.10' | 17°13.48' | 8°33.04' | N 2°06.67' | 60°10.26' | 325°36.26' | S 15°07.14' | **05** |
| **06** | 290°53.51' | 109°55.47' | N 22°11.06' | 353°55.31' | 46°53.67' | N 15°49.55' | 32°15.97' | 8°33.02' | N 2°06.64' | 75°12.90' | 325°36.09' | S 15°07.20' | **06** |
| **07** | 305°52.71' | 109°58.74' | N 22°10.76' | 8°56.18' | 46°55.27' | N 15°50.01' | 47°18.46' | 8°32.99' | N 2°06.62' | 90°15.53' | 325°35.92' | S 15°07.27' | **07** |
| **08** | 320°51.90' | 110°02.01' | N 22°10.45' | 23°57.04' | 46°56.87' | N 15°50.46' | 62°20.96' | 8°32.96' | N 2°06.59' | 105°18.17' | 325°35.74' | S 15°07.33' | **08** |
| **09** | 335°51.10' | 110°05.28' | N 22°10.15' | 38°57.91' | 46°58.47' | N 15°50.92' | 77°23.45' | 8°32.93' | N 2°06.56' | 120°20.81' | 325°35.57' | S 15°07.39' | **09** |
| **10** | 350°50.30' | 110°08.55' | N 22°09.84' | 53°58.77' | 47°00.07' | N 15°51.38' | 92°25.94' | 8°32.90' | N 2°06.54' | 135°23.45' | 325°35.39' | S 15°07.46' | **10** |
| **11** | 5°49.49' | 110°11.81' | N 22°09.53' | 68°59.64' | 47°01.67' | N 15°51.83' | 107°28.44' | 8°32.87' | N 2°06.51' | 150°26.09' | 325°35.22' | S 15°07.52' | **11** |
| **12** | 20°48.69' | 110°15.08' | N 22°09.22' | 84°00.50' | 47°03.27' | N 15°52.28' | 122°30.93' | 8°32.84' | N 2°06.49' | 165°28.73' | 325°35.04' | S 15°07.58' | **12** |
| **13** | 35°47.88' | 110°18.35' | N 22°08.91' | 99°01.37' | 47°04.86' | N 15°52.74' | 137°33.43' | 8°32.81' | N 2°06.46' | 180°31.37' | 325°34.87' | S 15°07.65' | **13** |
| **14** | 50°47.08' | 110°21.62' | N 22°08.60' | 114°02.24' | 47°06.46' | N 15°53.19' | 152°35.92' | 8°32.78' | N 2°06.43' | 195°34.01' | 325°34.69' | S 15°07.71' | **14** |
| **15** | 65°46.28' | 110°24.89' | N 22°08.29' | 129°03.10' | 47°08.06' | N 15°53.65' | 167°38.42' | 8°32.75' | N 2°06.41' | 210°36.65' | 325°34.52' | S 15°07.78' | **15** |
| **16** | 80°45.47' | 110°28.15' | N 22°07.98' | 144°03.97' | 47°09.66' | N 15°54.10' | 182°40.91' | 8°32.71' | N 2°06.38' | 225°39.28' | 325°34.34' | S 15°07.84' | **16** |
| **17** | 95°44.67' | 110°31.42' | N 22°07.66' | 159°04.84' | 47°11.25' | N 15°54.55' | 197°43.41' | 8°32.68' | N 2°06.35' | 240°41.92' | 325°34.17' | S 15°07.90' | **17** |
| **18** | 110°43.87' | 110°34.69' | N 22°07.35' | 174°05.70' | 47°12.85' | N 15°55.01' | 212°45.90' | 8°32.65' | N 2°06.33' | 255°44.56' | 325°33.99' | S 15°07.97' | **18** |
| **19** | 125°43.06' | 110°37.95' | N 22°07.03' | 189°06.57' | 47°14.45' | N 15°55.46' | 227°48.40' | 8°32.62' | N 2°06.30' | 270°47.20' | 325°33.82' | S 15°08.03' | **19** |
| **20** | 140°42.26' | 110°41.22' | N 22°06.71' | 204°07.44' | 47°16.04' | N 15°55.91' | 242°50.90' | 8°32.58' | N 2°06.27' | 285°49.84' | 325°33.64' | S 15°08.09' | **20** |
| **21** | 155°41.46' | 110°44.49' | N 22°06.39' | 219°08.30' | 47°17.64' | N 15°56.36' | 257°53.40' | 8°32.55' | N 2°06.24' | 300°52.48' | 325°33.46' | S 15°08.16' | **21** |
| **22** | 170°40.66' | 110°47.75' | N 22°06.07' | 234°09.17' | 47°19.24' | N 15°56.82' | 272°55.89' | 8°32.52' | N 2°06.22' | 315°55.12' | 325°33.29' | S 15°08.22' | **22** |
| **23** | 185°39.85' | 110°51.02' | N 22°05.75' | 249°10.04' | 47°20.83' | N 15°57.27' | 287°58.39' | 8°32.48' | N 2°06.19' | 330°57.76' | 325°33.11' | S 15°08.28' | **23** |
| **24** | 200°39.05' | 110°54.29' | N 22°05.43' | 264°10.91' | 47°22.43' | N 15°57.72' | 303°00.89' | 8°32.45' | N 2°06.16' | 346°00.40' | 325°32.94' | S 15°08.35' | **24** |
| | δ 14.9866° | | *d* 0.2967' | δ 15.0144° | | *d* 0.4576' | δ 15.0415° | | *d* 0.0247' | δ 15.0440° | | *d* 0.0634' | |

## *Wednesday, August 3rd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°25.94' | 15.0008° | 133°07.40' | N 17°33.53' | 0.6504' | 120°37.74' | 14.5641° | 190°55.60' | S 1°20.34' | 14.5750' | 56.4260' | 311°33.34' | **00** |
| **01** | 193°25.99' | 15.0008° | 133°09.82' | N 17°32.88' | 0.6509' | 135°11.56' | 14.5636° | 191°24.24' | S 1°34.92' | 14.5821' | 56.4521' | 326°35.80' | **01** |
| **02** | 208°26.04' | 15.0008° | 133°12.23' | N 17°32.23' | 0.6514' | 149°45.35' | 14.5631° | 191°52.92' | S 1°49.51' | 14.5882' | 56.4783' | 341°38.27' | **02** |
| **03** | 223°26.08' | 15.0008° | 133°14.65' | N 17°31.58' | 0.6519' | 164°19.10' | 14.5626° | 192°21.63' | S 2°04.10' | 14.5934' | 56.5046' | 356°40.73' | **03** |
| **04** | 238°26.13' | 15.0008° | 133°17.06' | N 17°30.92' | 0.6524' | 178°52.82' | 14.5620° | 192°50.37' | S 2°18.70' | 14.5976' | 56.5311' | 11°43.19' | **04** |
| **05** | 253°26.18' | 15.0008° | 133°19.47' | N 17°30.27' | 0.6529' | 193°26.51' | 14.5614° | 193°19.15' | S 2°33.30' | 14.6009' | 56.5577' | 26°45.66' | **05** |
| **06** | 268°26.23' | 15.0008° | 133°21.89' | N 17°29.62' | 0.6534' | 208°00.16' | 14.5608° | 193°47.97' | S 2°47.90' | 14.6032' | 56.5845' | 41°48.12' | **06** |
| **07** | 283°26.29' | 15.0008° | 133°24.30' | N 17°28.96' | 0.6539' | 222°33.77' | 14.5602° | 194°16.82' | S 3°02.51' | 14.6045' | 56.6113' | 56°50.59' | **07** |
| **08** | 298°26.34' | 15.0008° | 133°26.71' | N 17°28.31' | 0.6544' | 237°07.34' | 14.5596° | 194°45.71' | S 3°17.11' | 14.6048' | 56.6383' | 71°53.05' | **08** |
| **09** | 313°26.39' | 15.0009° | 133°29.13' | N 17°27.65' | 0.6549' | 251°40.88' | 14.5589° | 195°14.64' | S 3°31.72' | 14.6042' | 56.6654' | 86°55.51' | **09** |
| **10** | 328°26.44' | 15.0009° | 133°31.54' | N 17°27.00' | 0.6553' | 266°14.37' | 14.5582° | 195°43.61' | S 3°46.32' | 14.6025' | 56.6927' | 101°57.98' | **10** |
| **11** | 343°26.49' | 15.0009° | 133°33.95' | N 17°26.34' | 0.6558' | 280°47.82' | 14.5575° | 196°12.63' | S 4°00.92' | 14.5998' | 56.7201' | 117°00.44' | **11** |
| **12** | 358°26.54' | 15.0009° | 133°36.36' | N 17°25.69' | 0.6563' | 295°21.22' | 14.5568° | 196°41.68' | S 4°15.52' | 14.5961' | 56.7476' | 132°02.91' | **12** |
| **13** | 13°26.59' | 15.0009° | 133°38.78' | N 17°25.03' | 0.6568' | 309°54.59' | 14.5560° | 197°10.78' | S 4°30.11' | 14.5914' | 56.7752' | 147°05.37' | **13** |
| **14** | 28°26.65' | 15.0009° | 133°41.19' | N 17°24.37' | 0.6573' | 324°27.90' | 14.5553° | 197°39.93' | S 4°44.69' | 14.5856' | 56.8029' | 162°07.84' | **14** |
| **15** | 43°26.70' | 15.0009° | 133°43.60' | N 17°23.71' | 0.6578' | 339°01.17' | 14.5545° | 198°09.13' | S 4°59.27' | 14.5789' | 56.8308' | 177°10.30' | **15** |
| **16** | 58°26.75' | 15.0009° | 133°46.01' | N 17°23.06' | 0.6583' | 353°34.39' | 14.5537° | 198°38.37' | S 5°13.84' | 14.5710' | 56.8588' | 192°12.76' | **16** |
| **17** | 73°26.81' | 15.0009° | 133°48.42' | N 17°22.40' | 0.6588' | 8°07.56' | 14.5528° | 199°07.67' | S 5°28.40' | 14.5621' | 56.8869' | 207°15.23' | **17** |
| **18** | 88°26.86' | 15.0009° | 133°50.83' | N 17°21.74' | 0.6593' | 22°40.68' | 14.5520° | 199°37.01' | S 5°42.96' | 14.5522' | 56.9151' | 222°17.69' | **18** |
| **19** | 103°26.91' | 15.0009° | 133°53.24' | N 17°21.08' | 0.6597' | 37°13.74' | 14.5511° | 200°06.41' | S 5°57.50' | 14.5412' | 56.9434' | 237°20.16' | **19** |
| **20** | 118°26.97' | 15.0009° | 133°55.65' | N 17°20.42' | 0.6602' | 51°46.76' | 14.5502° | 200°35.86' | S 6°12.03' | 14.5291' | 56.9719' | 252°22.62' | **20** |
| **21** | 133°27.02' | 15.0009° | 133°58.06' | N 17°19.76' | 0.6607' | 66°19.71' | 14.5493° | 201°05.37' | S 6°26.54' | 14.5159' | 57.0005' | 267°25.08' | **21** |
| **22** | 148°27.08' | 15.0009° | 134°00.47' | N 17°19.10' | 0.6612' | 80°52.61' | 14.5483° | 201°34.93' | S 6°41.04' | 14.5016' | 57.0292' | 282°27.55' | **22** |
| **23** | 163°27.13' | 15.0009° | 134°02.88' | N 17°18.43' | 0.6617' | 95°25.46' | 14.5474° | 202°04.55' | S 6°55.53' | 14.4862' | 57.0579' | 297°30.01' | **23** |
| **24** | 178°27.19' | 15.0009° | 134°05.29' | N 17°17.77' | 0.6622' | 109°58.24' | 14.5464° | 202°34.23' | S 7°10.00' | 14.4697' | 57.0869' | 312°32.48' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7616' | hp (π) 0.1444' | ½Ø 15.4627' | 29.6861790490856<br>52% +cre |
| | EoT at 12:00 UTC : -6m 13s (δ 0.21 s/h) | | Phase at 12:00 UTC : 65.87° | |
| | Meridian Pass. Time : 12:06:13.830 | | Age : 5.1 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.13') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 200°39.05' | 110°54.29' | N 22°05.43' | 264°10.91' | 47°22.43' | N 15°57.72' | 303°00.89' | 8°32.45' | N 2°06.16' | 346°00.40' | 325°32.94' | S 15°08.35' | **00** |
| **01** | 215°38.25' | 110°57.55' | N 22°05.11' | 279°11.78' | 47°24.03' | N 15°58.17' | 318°03.39' | 8°32.41' | N 2°06.13' | 1°03.04' | 325°32.76' | S 15°08.41' | **01** |
| **02** | 230°37.45' | 111°00.82' | N 22°04.78' | 294°12.64' | 47°25.62' | N 15°58.62' | 333°05.89' | 8°32.38' | N 2°06.11' | 16°05.68' | 325°32.59' | S 15°08.48' | **02** |
| **03** | 245°36.65' | 111°04.08' | N 22°04.45' | 309°13.51' | 47°27.22' | N 15°59.07' | 348°08.39' | 8°32.34' | N 2°06.08' | 31°08.32' | 325°32.41' | S 15°08.54' | **03** |
| **04** | 260°35.85' | 111°07.35' | N 22°04.13' | 324°14.38' | 47°28.81' | N 15°59.52' | 3°10.89' | 8°32.31' | N 2°06.05' | 46°10.96' | 325°32.24' | S 15°08.60' | **04** |
| **05** | 275°35.05' | 111°10.61' | N 22°03.80' | 339°15.25' | 47°30.41' | N 15°59.97' | 18°13.39' | 8°32.27' | N 2°06.02' | 61°13.60' | 325°32.06' | S 15°08.67' | **05** |
| **06** | 290°34.25' | 111°13.88' | N 22°03.47' | 354°16.12' | 47°32.00' | N 16°00.42' | 33°15.89' | 8°32.24' | N 2°05.99' | 76°16.24' | 325°31.88' | S 15°08.73' | **06** |
| **07** | 305°33.44' | 111°17.14' | N 22°03.14' | 9°16.99' | 47°33.60' | N 16°00.87' | 48°18.39' | 8°32.20' | N 2°05.96' | 91°18.88' | 325°31.71' | S 15°08.79' | **07** |
| **08** | 320°32.64' | 111°20.41' | N 22°02.81' | 24°17.86' | 47°35.19' | N 16°01.32' | 63°20.89' | 8°32.16' | N 2°05.93' | 106°21.52' | 325°31.53' | S 15°08.86' | **08** |
| **09** | 335°31.84' | 111°23.67' | N 22°02.48' | 39°18.73' | 47°36.79' | N 16°01.77' | 78°23.39' | 8°32.13' | N 2°05.91' | 121°24.16' | 325°31.36' | S 15°08.92' | **09** |
| **10** | 350°31.04' | 111°26.93' | N 22°02.14' | 54°19.60' | 47°38.38' | N 16°02.22' | 93°25.89' | 8°32.09' | N 2°05.88' | 136°26.80' | 325°31.18' | S 15°08.98' | **10** |
| **11** | 5°30.24' | 111°30.20' | N 22°01.81' | 69°20.47' | 47°39.98' | N 16°02.67' | 108°28.39' | 8°32.05' | N 2°05.85' | 151°29.44' | 325°31.01' | S 15°09.05' | **11** |
| **12** | 20°29.44' | 111°33.46' | N 22°01.47' | 84°21.34' | 47°41.57' | N 16°03.11' | 123°30.89' | 8°32.01' | N 2°05.82' | 166°32.08' | 325°30.83' | S 15°09.11' | **12** |
| **13** | 35°28.65' | 111°36.73' | N 22°01.14' | 99°22.21' | 47°43.16' | N 16°03.56' | 138°33.40' | 8°31.98' | N 2°05.79' | 181°34.72' | 325°30.65' | S 15°09.18' | **13** |
| **14** | 50°27.85' | 111°39.99' | N 22°00.80' | 114°23.08' | 47°44.76' | N 16°04.01' | 153°35.90' | 8°31.94' | N 2°05.76' | 196°37.36' | 325°30.48' | S 15°09.24' | **14** |
| **15** | 65°27.05' | 111°43.25' | N 22°00.46' | 129°23.95' | 47°46.35' | N 16°04.46' | 168°38.40' | 8°31.90' | N 2°05.73' | 211°40.00' | 325°30.30' | S 15°09.30' | **15** |
| **16** | 80°26.25' | 111°46.51' | N 22°00.12' | 144°24.82' | 47°47.95' | N 16°04.90' | 183°40.91' | 8°31.86' | N 2°05.70' | 226°42.64' | 325°30.12' | S 15°09.37' | **16** |
| **17** | 95°25.45' | 111°49.78' | N 21°59.78' | 159°25.69' | 47°49.54' | N 16°05.35' | 198°43.41' | 8°31.82' | N 2°05.67' | 241°45.28' | 325°29.95' | S 15°09.43' | **17** |
| **18** | 110°24.65' | 111°53.04' | N 21°59.44' | 174°26.56' | 47°51.13' | N 16°05.80' | 213°45.91' | 8°31.78' | N 2°05.64' | 256°47.92' | 325°29.77' | S 15°09.49' | **18** |
| **19** | 125°23.85' | 111°56.30' | N 21°59.09' | 189°27.43' | 47°52.72' | N 16°06.24' | 228°48.42' | 8°31.74' | N 2°05.61' | 271°50.56' | 325°29.60' | S 15°09.56' | **19** |
| **20** | 140°23.06' | 111°59.56' | N 21°58.75' | 204°28.30' | 47°54.32' | N 16°06.69' | 243°50.92' | 8°31.70' | N 2°05.58' | 286°53.20' | 325°29.42' | S 15°09.62' | **20** |
| **21** | 155°22.26' | 112°02.83' | N 21°58.40' | 219°29.17' | 47°55.91' | N 16°07.14' | 258°53.43' | 8°31.66' | N 2°05.55' | 301°55.84' | 325°29.24' | S 15°09.69' | **21** |
| **22** | 170°21.46' | 112°06.09' | N 21°58.05' | 234°30.05' | 47°57.50' | N 16°07.58' | 273°55.93' | 8°31.62' | N 2°05.52' | 316°58.48' | 325°29.07' | S 15°09.75' | **22** |
| **23** | 185°20.66' | 112°09.35' | N 21°57.71' | 249°30.92' | 47°59.09' | N 16°08.03' | 288°58.44' | 8°31.57' | N 2°05.49' | 332°01.12' | 325°28.89' | S 15°09.81' | **23** |
| **24** | 200°19.87' | 112°12.61' | N 21°57.36' | 264°31.79' | 48°00.69' | N 16°08.47' | 304°00.94' | 8°31.53' | N 2°05.46' | 347°03.76' | 325°28.71' | S 15°09.88' | **24** |
| | δ 14.9866° | | *d* 0.3235' | δ 15.0145° | | *d* 0.4511' | δ 15.0416° | | *d* 0.0279' | δ 15.0440° | | *d* 0.0637' | |

## *Thursday, August 4th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°27.19' | 15.0009° | 134°05.29' | N 17°17.77' | 0.6622' | 109°58.24' | 14.5464° | 202°34.23' | S 7°10.00' | 14.4697' | 57.0869' | 312°32.48' | **00** |
| **01** | 193°27.24' | 15.0009° | 134°07.70' | N 17°17.11' | 0.6627' | 124°30.97' | 14.5454° | 203°03.97' | S 7°24.45' | 14.4520' | 57.1159' | 327°34.94' | **01** |
| **02** | 208°27.30' | 15.0009° | 134°10.11' | N 17°16.45' | 0.6631' | 139°03.63' | 14.5444° | 203°33.78' | S 7°38.89' | 14.4333' | 57.1450' | 342°37.40' | **02** |
| **03** | 223°27.35' | 15.0009° | 134°12.51' | N 17°15.78' | 0.6636' | 153°36.23' | 14.5433° | 204°03.64' | S 7°53.30' | 14.4133' | 57.1742' | 357°39.87' | **03** |
| **04** | 238°27.41' | 15.0009° | 134°14.92' | N 17°15.12' | 0.6641' | 168°08.76' | 14.5423° | 204°33.57' | S 8°07.69' | 14.3923' | 57.2036' | 12°42.33' | **04** |
| **05** | 253°27.47' | 15.0009° | 134°17.33' | N 17°14.45' | 0.6646' | 182°41.24' | 14.5412° | 205°03.56' | S 8°22.06' | 14.3700' | 57.2330' | 27°44.80' | **05** |
| **06** | 268°27.52' | 15.0009° | 134°19.74' | N 17°13.79' | 0.6651' | 197°13.64' | 14.5401° | 205°33.62' | S 8°36.41' | 14.3466' | 57.2626' | 42°47.26' | **06** |
| **07** | 283°27.58' | 15.0010° | 134°22.14' | N 17°13.12' | 0.6656' | 211°45.98' | 14.5389° | 206°03.75' | S 8°50.73' | 14.3220' | 57.2922' | 57°49.72' | **07** |
| **08** | 298°27.64' | 15.0010° | 134°24.55' | N 17°12.46' | 0.6661' | 226°18.24' | 14.5378° | 206°33.95' | S 9°05.03' | 14.2962' | 57.3219' | 72°52.19' | **08** |
| **09** | 313°27.70' | 15.0010° | 134°26.96' | N 17°11.79' | 0.6665' | 240°50.44' | 14.5366° | 207°04.21' | S 9°19.30' | 14.2692' | 57.3518' | 87°54.65' | **09** |
| **10** | 328°27.75' | 15.0010° | 134°29.36' | N 17°11.12' | 0.6670' | 255°22.56' | 14.5354° | 207°34.55' | S 9°33.54' | 14.2409' | 57.3817' | 102°57.12' | **10** |
| **11** | 343°27.81' | 15.0010° | 134°31.77' | N 17°10.46' | 0.6675' | 269°54.62' | 14.5342° | 208°04.96' | S 9°47.75' | 14.2115' | 57.4118' | 117°59.58' | **11** |
| **12** | 358°27.87' | 15.0010° | 134°34.17' | N 17°09.79' | 0.6680' | 284°26.59' | 14.5330° | 208°35.45' | S 10°01.93' | 14.1807' | 57.4419' | 133°02.04' | **12** |
| **13** | 13°27.93' | 15.0010° | 134°36.58' | N 17°09.12' | 0.6685' | 298°58.50' | 14.5317° | 209°06.01' | S 10°16.08' | 14.1488' | 57.4721' | 148°04.51' | **13** |
| **14** | 28°27.99' | 15.0010° | 134°38.98' | N 17°08.45' | 0.6689' | 313°30.32' | 14.5304° | 209°36.65' | S 10°30.19' | 14.1155' | 57.5024' | 163°06.97' | **14** |
| **15** | 43°28.05' | 15.0010° | 134°41.39' | N 17°07.78' | 0.6694' | 328°02.07' | 14.5291° | 210°07.37' | S 10°44.27' | 14.0810' | 57.5328' | 178°09.44' | **15** |
| **16** | 58°28.11' | 15.0010° | 134°43.79' | N 17°07.11' | 0.6699' | 342°33.74' | 14.5278° | 210°38.16' | S 10°58.32' | 14.0452' | 57.5633' | 193°11.90' | **16** |
| **17** | 73°28.17' | 15.0010° | 134°46.20' | N 17°06.44' | 0.6704' | 357°05.32' | 14.5265° | 211°09.04' | S 11°12.33' | 14.0081' | 57.5938' | 208°14.37' | **17** |
| **18** | 88°28.23' | 15.0010° | 134°48.60' | N 17°05.77' | 0.6709' | 11°36.83' | 14.5251° | 211°40.00' | S 11°26.30' | 13.9697' | 57.6244' | 223°16.83' | **18** |
| **19** | 103°28.29' | 15.0010° | 134°51.01' | N 17°05.10' | 0.6713' | 26°08.25' | 14.5237° | 212°11.04' | S 11°40.23' | 13.9299' | 57.6551' | 238°19.29' | **19** |
| **20** | 118°28.35' | 15.0010° | 134°53.41' | N 17°04.43' | 0.6718' | 40°39.59' | 14.5223° | 212°42.17' | S 11°54.12' | 13.8888' | 57.6859' | 253°21.76' | **20** |
| **21** | 133°28.41' | 15.0010° | 134°55.81' | N 17°03.75' | 0.6723' | 55°10.84' | 14.5209° | 213°13.38' | S 12°07.96' | 13.8464' | 57.7168' | 268°24.22' | **21** |
| **22** | 148°28.47' | 15.0010° | 134°58.22' | N 17°03.08' | 0.6728' | 69°42.01' | 14.5194° | 213°44.68' | S 12°21.76' | 13.8026' | 57.7477' | 283°26.69' | **22** |
| **23** | 163°28.53' | 15.0010° | 135°00.62' | N 17°02.41' | 0.6732' | 84°13.09' | 14.5180° | 214°16.06' | S 12°35.52' | 13.7574' | 57.7787' | 298°29.15' | **23** |
| **24** | 178°28.59' | 15.0010° | 135°03.02' | N 17°01.73' | 0.6737' | 98°44.07' | 14.5165° | 214°47.54' | S 12°49.23' | 13.7108' | 57.8098' | 313°31.61' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.7638' | hp (π) 0.1445' | ½Ø 15.6518' | 39.7406808797302 7% +cre | |
| EoT at 12:00 UTC : -6m 8s (δ 0.23 s/h) | | Phase at 12:00 UTC : 78.01° | | |
| Meridian Pass. Time : 12:06:08.518 | | Age : 6.1 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.13') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 200°19.87' | 112°12.61' | N 21°57.36' | 264°31.79' | 48°00.69' | N 16°08.47' | 304°00.94' | 8°31.53' | N 2°05.46' | 347°03.76' | 325°28.71' | S 15°09.88' | **00** |
| **01** | 215°19.07' | 112°15.87' | N 21°57.01' | 279°32.66' | 48°02.28' | N 16°08.92' | 319°03.45' | 8°31.49' | N 2°05.42' | 2°06.40' | 325°28.54' | S 15°09.94' | **01** |
| **02** | 230°18.27' | 112°19.13' | N 21°56.66' | 294°33.53' | 48°03.87' | N 16°09.36' | 334°05.96' | 8°31.45' | N 2°05.39' | 17°09.04' | 325°28.36' | S 15°10.01' | **02** |
| **03** | 245°17.47' | 112°22.39' | N 21°56.30' | 309°34.41' | 48°05.46' | N 16°09.80' | 349°08.46' | 8°31.41' | N 2°05.36' | 32°11.69' | 325°28.18' | S 15°10.07' | **03** |
| **04** | 260°16.68' | 112°25.65' | N 21°55.95' | 324°35.28' | 48°07.05' | N 16°10.25' | 4°10.97' | 8°31.36' | N 2°05.33' | 47°14.33' | 325°28.01' | S 15°10.13' | **04** |
| **05** | 275°15.88' | 112°28.91' | N 21°55.60' | 339°36.15' | 48°08.64' | N 16°10.69' | 19°13.48' | 8°31.32' | N 2°05.30' | 62°16.97' | 325°27.83' | S 15°10.20' | **05** |
| **06** | 290°15.09' | 112°32.17' | N 21°55.24' | 354°37.02' | 48°10.24' | N 16°11.13' | 34°15.98' | 8°31.28' | N 2°05.27' | 77°19.61' | 325°27.65' | S 15°10.26' | **06** |
| **07** | 305°14.29' | 112°35.43' | N 21°54.88' | 9°37.90' | 48°11.83' | N 16°11.58' | 49°18.49' | 8°31.23' | N 2°05.23' | 92°22.25' | 325°27.48' | S 15°10.33' | **07** |
| **08** | 320°13.50' | 112°38.69' | N 21°54.53' | 24°38.77' | 48°13.42' | N 16°12.02' | 64°21.00' | 8°31.19' | N 2°05.20' | 107°24.89' | 325°27.30' | S 15°10.39' | **08** |
| **09** | 335°12.70' | 112°41.95' | N 21°54.17' | 39°39.64' | 48°15.01' | N 16°12.46' | 79°23.51' | 8°31.14' | N 2°05.17' | 122°27.53' | 325°27.12' | S 15°10.45' | **09** |
| **10** | 350°11.90' | 112°45.21' | N 21°53.81' | 54°40.52' | 48°16.60' | N 16°12.91' | 94°26.02' | 8°31.10' | N 2°05.14' | 137°30.17' | 325°26.94' | S 15°10.52' | **10** |
| **11** | 5°11.11' | 112°48.47' | N 21°53.44' | 69°41.39' | 48°18.19' | N 16°13.35' | 109°28.53' | 8°31.05' | N 2°05.11' | 152°32.81' | 325°26.77' | S 15°10.58' | **11** |
| **12** | 20°10.32' | 112°51.73' | N 21°53.08' | 84°42.27' | 48°19.78' | N 16°13.79' | 124°31.04' | 8°31.01' | N 2°05.07' | 167°35.45' | 325°26.59' | S 15°10.64' | **12** |
| **13** | 35°09.52' | 112°54.99' | N 21°52.72' | 99°43.14' | 48°21.37' | N 16°14.23' | 139°33.55' | 8°30.96' | N 2°05.04' | 182°38.10' | 325°26.41' | S 15°10.71' | **13** |
| **14** | 50°08.73' | 112°58.25' | N 21°52.35' | 114°44.02' | 48°22.96' | N 16°14.67' | 154°36.06' | 8°30.92' | N 2°05.01' | 197°40.74' | 325°26.24' | S 15°10.77' | **14** |
| **15** | 65°07.93' | 113°01.50' | N 21°51.99' | 129°44.89' | 48°24.55' | N 16°15.11' | 169°38.57' | 8°30.87' | N 2°04.98' | 212°43.38' | 325°26.06' | S 15°10.84' | **15** |
| **16** | 80°07.14' | 113°04.76' | N 21°51.62' | 144°45.76' | 48°26.14' | N 16°15.55' | 184°41.08' | 8°30.82' | N 2°04.94' | 227°46.02' | 325°25.88' | S 15°10.90' | **16** |
| **17** | 95°06.35' | 113°08.02' | N 21°51.25' | 159°46.64' | 48°27.73' | N 16°15.99' | 199°43.59' | 8°30.77' | N 2°04.91' | 242°48.66' | 325°25.70' | S 15°10.96' | **17** |
| **18** | 110°05.55' | 113°11.28' | N 21°50.89' | 174°47.51' | 48°29.31' | N 16°16.43' | 214°46.10' | 8°30.73' | N 2°04.88' | 257°51.30' | 325°25.53' | S 15°11.03' | **18** |
| **19** | 125°04.76' | 113°14.53' | N 21°50.51' | 189°48.39' | 48°30.90' | N 16°16.87' | 229°48.61' | 8°30.68' | N 2°04.84' | 272°53.94' | 325°25.35' | S 15°11.09' | **19** |
| **20** | 140°03.97' | 113°17.79' | N 21°50.14' | 204°49.27' | 48°32.49' | N 16°17.31' | 244°51.13' | 8°30.63' | N 2°04.81' | 287°56.58' | 325°25.17' | S 15°11.16' | **20** |
| **21** | 155°03.17' | 113°21.05' | N 21°49.77' | 219°50.14' | 48°34.08' | N 16°17.75' | 259°53.64' | 8°30.58' | N 2°04.78' | 302°59.23' | 325°24.99' | S 15°11.22' | **21** |
| **22** | 170°02.38' | 113°24.30' | N 21°49.40' | 234°51.02' | 48°35.67' | N 16°18.19' | 274°56.15' | 8°30.53' | N 2°04.74' | 318°01.87' | 325°24.82' | S 15°11.28' | **22** |
| **23** | 185°01.59' | 113°27.56' | N 21°49.02' | 249°51.89' | 48°37.26' | N 16°18.63' | 289°58.66' | 8°30.49' | N 2°04.71' | 333°04.51' | 325°24.64' | S 15°11.35' | **23** |
| **24** | 200°00.80' | 113°30.82' | N 21°48.65' | 264°52.77' | 48°38.84' | N 16°19.07' | 305°01.18' | 8°30.44' | N 2°04.67' | 348°07.15' | 325°24.46' | S 15°11.41' | **24** |
| | δ 14.9867° | | *d* 0.3502' | δ 15.0145° | | *d* 0.4446' | δ 15.0418° | | *d* 0.0311' | δ 15.0440° | | *d* 0.0639' | |

## *Friday, August 5th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°28.59' | 15.0010° | 135°03.02' | N 17°01.73' | 0.6737' | 98°44.07' | 14.5165° | 214°47.54' | S 12°49.23' | 13.7108' | 57.8098' | 313°31.61' | **00** |
| **01** | 193°28.65' | 15.0010° | 135°05.42' | N 17°01.06' | 0.6742' | 113°14.97' | 14.5150° | 215°19.11' | S 13°02.90' | 13.6629' | 57.8409' | 328°34.08' | **01** |
| **02** | 208°28.72' | 15.0010° | 135°07.82' | N 17°00.39' | 0.6747' | 127°45.78' | 14.5134° | 215°50.76' | S 13°16.51' | 13.6135' | 57.8721' | 343°36.54' | **02** |
| **03** | 223°28.78' | 15.0010° | 135°10.23' | N 16°59.71' | 0.6751' | 142°16.49' | 14.5119° | 216°22.52' | S 13°30.07' | 13.5626' | 57.9033' | 358°39.01' | **03** |
| **04** | 238°28.84' | 15.0010° | 135°12.63' | N 16°59.04' | 0.6756' | 156°47.11' | 14.5103° | 216°54.36' | S 13°43.58' | 13.5104' | 57.9346' | 13°41.47' | **04** |
| **05** | 253°28.91' | 15.0011° | 135°15.03' | N 16°58.36' | 0.6761' | 171°17.63' | 14.5087° | 217°26.30' | S 13°57.04' | 13.4566' | 57.9660' | 28°43.93' | **05** |
| **06** | 268°28.97' | 15.0011° | 135°17.43' | N 16°57.68' | 0.6766' | 185°48.06' | 14.5071° | 217°58.34' | S 14°10.44' | 13.4014' | 57.9974' | 43°46.40' | **06** |
| **07** | 283°29.03' | 15.0011° | 135°19.83' | N 16°57.01' | 0.6770' | 200°18.39' | 14.5055° | 218°30.47' | S 14°23.78' | 13.3448' | 58.0289' | 58°48.86' | **07** |
| **08** | 298°29.10' | 15.0011° | 135°22.23' | N 16°56.33' | 0.6775' | 214°48.62' | 14.5038° | 219°02.71' | S 14°37.07' | 13.2866' | 58.0604' | 73°51.33' | **08** |
| **09** | 313°29.16' | 15.0011° | 135°24.63' | N 16°55.65' | 0.6780' | 229°18.75' | 14.5022° | 219°35.04' | S 14°50.30' | 13.2269' | 58.0919' | 88°53.79' | **09** |
| **10** | 328°29.22' | 15.0011° | 135°27.03' | N 16°54.97' | 0.6785' | 243°48.78' | 14.5005° | 220°07.47' | S 15°03.46' | 13.1657' | 58.1235' | 103°56.25' | **10** |
| **11** | 343°29.29' | 15.0011° | 135°29.43' | N 16°54.29' | 0.6789' | 258°18.71' | 14.4988° | 220°40.01' | S 15°16.57' | 13.1030' | 58.1551' | 118°58.72' | **11** |
| **12** | 358°29.35' | 15.0011° | 135°31.83' | N 16°53.61' | 0.6794' | 272°48.53' | 14.4971° | 221°12.65' | S 15°29.61' | 13.0387' | 58.1867' | 134°01.18' | **12** |
| **13** | 13°29.42' | 15.0011° | 135°34.23' | N 16°52.93' | 0.6799' | 287°18.26' | 14.4953° | 221°45.39' | S 15°42.58' | 12.9728' | 58.2184' | 149°03.65' | **13** |
| **14** | 28°29.48' | 15.0011° | 135°36.63' | N 16°52.25' | 0.6804' | 301°47.87' | 14.4936° | 222°18.24' | S 15°55.48' | 12.9054' | 58.2501' | 164°06.11' | **14** |
| **15** | 43°29.55' | 15.0011° | 135°39.02' | N 16°51.57' | 0.6808' | 316°17.38' | 14.4918° | 222°51.19' | S 16°08.32' | 12.8364' | 58.2818' | 179°08.58' | **15** |
| **16** | 58°29.62' | 15.0011° | 135°41.42' | N 16°50.89' | 0.6813' | 330°46.78' | 14.4900° | 223°24.26' | S 16°21.09' | 12.7657' | 58.3136' | 194°11.04' | **16** |
| **17** | 73°29.68' | 15.0011° | 135°43.82' | N 16°50.21' | 0.6818' | 345°16.08' | 14.4882° | 223°57.43' | S 16°33.78' | 12.6935' | 58.3453' | 209°13.50' | **17** |
| **18** | 88°29.75' | 15.0011° | 135°46.22' | N 16°49.53' | 0.6822' | 359°45.26' | 14.4864° | 224°30.71' | S 16°46.40' | 12.6196' | 58.3771' | 224°15.97' | **18** |
| **19** | 103°29.82' | 15.0011° | 135°48.62' | N 16°48.84' | 0.6827' | 14°14.34' | 14.4846° | 225°04.10' | S 16°58.94' | 12.5441' | 58.4089' | 239°18.43' | **19** |
| **20** | 118°29.88' | 15.0011° | 135°51.01' | N 16°48.16' | 0.6832' | 28°43.30' | 14.4827° | 225°37.60' | S 17°11.41' | 12.4669' | 58.4407' | 254°20.90' | **20** |
| **21** | 133°29.95' | 15.0011° | 135°53.41' | N 16°47.48' | 0.6836' | 43°12.15' | 14.4809° | 226°11.21' | S 17°23.80' | 12.3881' | 58.4725' | 269°23.36' | **21** |
| **22** | 148°30.02' | 15.0011° | 135°55.81' | N 16°46.79' | 0.6841' | 57°40.89' | 14.4790° | 226°44.93' | S 17°36.11' | 12.3076' | 58.5043' | 284°25.82' | **22** |
| **23** | 163°30.09' | 15.0011° | 135°58.20' | N 16°46.11' | 0.6846' | 72°09.52' | 14.4771° | 227°18.77' | S 17°48.33' | 12.2254' | 58.5360' | 299°28.29' | **23** |
| **24** | 178°30.15' | 15.0011° | 136°00.60' | N 16°45.42' | 0.6850' | 86°38.03' | 14.4752° | 227°52.73' | S 18°00.47' | 12.1414' | 58.5678' | 314°30.75' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7661' | hp (π) 0.1445' | ½Ø 15.8548' | 50.5328485378969<br>8% FQ |
| | EoT at 12:00 UTC : -6m 2s (δ 0.26 s/h) | | Phase at 12:00 UTC : 90.47° | |
| | Meridian Pass. Time : 12:06:02.583 | | Age : 7.0 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.13') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 200°00.80' | 113°30.82' | N 21°48.65' | 264°52.77' | 48°38.84' | N 16°19.07' | 305°01.18' | 8°30.44' | N 2°04.67' | 348°07.15' | 325°24.46' | S 15°11.41' | **00** |
| **01** | 215°00.00' | 113°34.07' | N 21°48.27' | 279°53.65' | 48°40.43' | N 16°19.51' | 320°03.69' | 8°30.39' | N 2°04.64' | 3°09.79' | 325°24.28' | S 15°11.48' | **01** |
| **02** | 229°59.21' | 113°37.33' | N 21°47.89' | 294°54.52' | 48°42.02' | N 16°19.94' | 335°06.21' | 8°30.34' | N 2°04.60' | 18°12.43' | 325°24.11' | S 15°11.54' | **02** |
| **03** | 244°58.42' | 113°40.58' | N 21°47.51' | 309°55.40' | 48°43.61' | N 16°20.38' | 350°08.72' | 8°30.29' | N 2°04.57' | 33°15.08' | 325°23.93' | S 15°11.60' | **03** |
| **04** | 259°57.63' | 113°43.84' | N 21°47.13' | 324°56.28' | 48°45.19' | N 16°20.82' | 5°11.23' | 8°30.24' | N 2°04.54' | 48°17.72' | 325°23.75' | S 15°11.67' | **04** |
| **05** | 274°56.84' | 113°47.09' | N 21°46.75' | 339°57.15' | 48°46.78' | N 16°21.26' | 20°13.75' | 8°30.19' | N 2°04.50' | 63°20.36' | 325°23.57' | S 15°11.73' | **05** |
| **06** | 289°56.05' | 113°50.35' | N 21°46.37' | 354°58.03' | 48°48.37' | N 16°21.69' | 35°16.26' | 8°30.13' | N 2°04.47' | 78°23.00' | 325°23.40' | S 15°11.80' | **06** |
| **07** | 304°55.26' | 113°53.60' | N 21°45.99' | 9°58.91' | 48°49.96' | N 16°22.13' | 50°18.78' | 8°30.08' | N 2°04.43' | 93°25.64' | 325°23.22' | S 15°11.86' | **07** |
| **08** | 319°54.47' | 113°56.86' | N 21°45.60' | 24°59.78' | 48°51.54' | N 16°22.57' | 65°21.30' | 8°30.03' | N 2°04.40' | 108°28.29' | 325°23.04' | S 15°11.92' | **08** |
| **09** | 334°53.68' | 114°00.11' | N 21°45.22' | 40°00.66' | 48°53.13' | N 16°23.00' | 80°23.81' | 8°29.98' | N 2°04.36' | 123°30.93' | 325°22.86' | S 15°11.99' | **09** |
| **10** | 349°52.89' | 114°03.37' | N 21°44.83' | 55°01.54' | 48°54.71' | N 16°23.44' | 95°26.33' | 8°29.93' | N 2°04.32' | 138°33.57' | 325°22.68' | S 15°12.05' | **10** |
| **11** | 4°52.10' | 114°06.62' | N 21°44.44' | 70°02.42' | 48°56.30' | N 16°23.87' | 110°28.85' | 8°29.87' | N 2°04.29' | 153°36.21' | 325°22.51' | S 15°12.12' | **11** |
| **12** | 19°51.31' | 114°09.87' | N 21°44.06' | 85°03.30' | 48°57.89' | N 16°24.31' | 125°31.36' | 8°29.82' | N 2°04.25' | 168°38.85' | 325°22.33' | S 15°12.18' | **12** |
| **13** | 34°50.52' | 114°13.13' | N 21°43.67' | 100°04.18' | 48°59.47' | N 16°24.74' | 140°33.88' | 8°29.77' | N 2°04.22' | 183°41.50' | 325°22.15' | S 15°12.24' | **13** |
| **14** | 49°49.73' | 114°16.38' | N 21°43.27' | 115°05.05' | 49°01.06' | N 16°25.18' | 155°36.40' | 8°29.71' | N 2°04.18' | 198°44.14' | 325°21.97' | S 15°12.31' | **14** |
| **15** | 64°48.94' | 114°19.63' | N 21°42.88' | 130°05.93' | 49°02.64' | N 16°25.61' | 170°38.92' | 8°29.66' | N 2°04.15' | 213°46.78' | 325°21.79' | S 15°12.37' | **15** |
| **16** | 79°48.16' | 114°22.88' | N 21°42.49' | 145°06.81' | 49°04.23' | N 16°26.05' | 185°41.43' | 8°29.61' | N 2°04.11' | 228°49.42' | 325°21.62' | S 15°12.44' | **16** |
| **17** | 94°47.37' | 114°26.14' | N 21°42.10' | 160°07.69' | 49°05.81' | N 16°26.48' | 200°43.95' | 8°29.55' | N 2°04.07' | 243°52.07' | 325°21.44' | S 15°12.50' | **17** |
| **18** | 109°46.58' | 114°29.39' | N 21°41.70' | 175°08.57' | 49°07.40' | N 16°26.91' | 215°46.47' | 8°29.50' | N 2°04.04' | 258°54.71' | 325°21.26' | S 15°12.56' | **18** |
| **19** | 124°45.79' | 114°32.64' | N 21°41.30' | 190°09.45' | 49°08.98' | N 16°27.35' | 230°48.99' | 8°29.44' | N 2°04.00' | 273°57.35' | 325°21.08' | S 15°12.63' | **19** |
| **20** | 139°45.00' | 114°35.89' | N 21°40.91' | 205°10.33' | 49°10.57' | N 16°27.78' | 245°51.51' | 8°29.39' | N 2°03.96' | 288°59.99' | 325°20.90' | S 15°12.69' | **20** |
| **21** | 154°44.22' | 114°39.14' | N 21°40.51' | 220°11.21' | 49°12.15' | N 16°28.21' | 260°54.03' | 8°29.33' | N 2°03.93' | 304°02.64' | 325°20.72' | S 15°12.76' | **21** |
| **22** | 169°43.43' | 114°42.39' | N 21°40.11' | 235°12.09' | 49°13.73' | N 16°28.65' | 275°56.55' | 8°29.27' | N 2°03.89' | 319°05.28' | 325°20.55' | S 15°12.82' | **22** |
| **23** | 184°42.64' | 114°45.65' | N 21°39.71' | 250°12.97' | 49°15.32' | N 16°29.08' | 290°59.07' | 8°29.22' | N 2°03.85' | 334°07.92' | 325°20.37' | S 15°12.89' | **23** |
| **24** | 199°41.86' | 114°48.90' | N 21°39.30' | 265°13.85' | 49°16.90' | N 16°29.51' | 306°01.59' | 8°29.16' | N 2°03.82' | 349°10.56' | 325°20.19' | S 15°12.95' | **24** |
| | δ 14.9868° | | *d* 0.3767' | δ 15.0146° | | *d* 0.4382' | δ 15.0419° | | *d* 0.0342' | δ 15.0440° | | *d* 0.0640' | |

## *Saturday, August 6th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°30.15' | 15.0011° | 136°00.60' | N 16°45.42' | 0.6850' | 86°38.03' | 14.4752° | 227°52.73' | S 18°00.47' | 12.1414' | 58.5678' | 314°30.75' | **00** |
| **01** | 193°30.22' | 15.0011° | 136°02.99' | N 16°44.74' | 0.6855' | 101°06.42' | 14.4733° | 228°26.80' | S 18°12.53' | 12.0558' | 58.5996' | 329°33.22' | **01** |
| **02** | 208°30.29' | 15.0011° | 136°05.39' | N 16°44.05' | 0.6860' | 115°34.70' | 14.4713° | 229°00.98' | S 18°24.50' | 11.9684' | 58.6313' | 344°35.68' | **02** |
| **03** | 223°30.36' | 15.0011° | 136°07.78' | N 16°43.37' | 0.6864' | 130°02.86' | 14.4694° | 229°35.28' | S 18°36.38' | 11.8793' | 58.6631' | 359°38.15' | **03** |
| **04** | 238°30.43' | 15.0012° | 136°10.18' | N 16°42.68' | 0.6869' | 144°30.91' | 14.4674° | 230°09.70' | S 18°48.16' | 11.7885' | 58.6948' | 14°40.61' | **04** |
| **05** | 253°30.50' | 15.0012° | 136°12.57' | N 16°41.99' | 0.6874' | 158°58.83' | 14.4654° | 230°44.24' | S 18°59.86' | 11.6959' | 58.7264' | 29°43.07' | **05** |
| **06** | 268°30.57' | 15.0012° | 136°14.97' | N 16°41.30' | 0.6878' | 173°26.64' | 14.4635° | 231°18.90' | S 19°11.46' | 11.6015' | 58.7581' | 44°45.54' | **06** |
| **07** | 283°30.64' | 15.0012° | 136°17.36' | N 16°40.62' | 0.6883' | 187°54.33' | 14.4615° | 231°53.67' | S 19°22.97' | 11.5053' | 58.7897' | 59°48.00' | **07** |
| **08** | 298°30.71' | 15.0012° | 136°19.76' | N 16°39.93' | 0.6888' | 202°21.90' | 14.4595° | 232°28.57' | S 19°34.37' | 11.4073' | 58.8213' | 74°50.47' | **08** |
| **09** | 313°30.78' | 15.0012° | 136°22.15' | N 16°39.24' | 0.6892' | 216°49.34' | 14.4575° | 233°03.59' | S 19°45.68' | 11.3076' | 58.8528' | 89°52.93' | **09** |
| **10** | 328°30.85' | 15.0012° | 136°24.54' | N 16°38.55' | 0.6897' | 231°16.67' | 14.4554° | 233°38.72' | S 19°56.89' | 11.2060' | 58.8843' | 104°55.39' | **10** |
| **11** | 343°30.92' | 15.0012° | 136°26.94' | N 16°37.86' | 0.6902' | 245°43.87' | 14.4534° | 234°13.98' | S 20°07.99' | 11.1026' | 58.9157' | 119°57.86' | **11** |
| **12** | 358°30.99' | 15.0012° | 136°29.33' | N 16°37.17' | 0.6906' | 260°10.96' | 14.4514° | 234°49.37' | S 20°18.99' | 10.9973' | 58.9470' | 135°00.32' | **12** |
| **13** | 13°31.06' | 15.0012° | 136°31.72' | N 16°36.48' | 0.6911' | 274°37.92' | 14.4493° | 235°24.87' | S 20°29.88' | 10.8903' | 58.9783' | 150°02.79' | **13** |
| **14** | 28°31.14' | 15.0012° | 136°34.11' | N 16°35.78' | 0.6916' | 289°04.75' | 14.4473° | 236°00.50' | S 20°40.66' | 10.7813' | 59.0096' | 165°05.25' | **14** |
| **15** | 43°31.21' | 15.0012° | 136°36.51' | N 16°35.09' | 0.6920' | 303°31.47' | 14.4452° | 236°36.25' | S 20°51.33' | 10.6706' | 59.0408' | 180°07.71' | **15** |
| **16** | 58°31.28' | 15.0012° | 136°38.90' | N 16°34.40' | 0.6925' | 317°58.06' | 14.4432° | 237°12.12' | S 21°01.89' | 10.5579' | 59.0718' | 195°10.18' | **16** |
| **17** | 73°31.35' | 15.0012° | 136°41.29' | N 16°33.71' | 0.6929' | 332°24.53' | 14.4411° | 237°48.12' | S 21°12.33' | 10.4434' | 59.1029' | 210°12.64' | **17** |
| **18** | 88°31.43' | 15.0012° | 136°43.68' | N 16°33.01' | 0.6934' | 346°50.87' | 14.4391° | 238°24.24' | S 21°22.66' | 10.3270' | 59.1338' | 225°15.11' | **18** |
| **19** | 103°31.50' | 15.0012° | 136°46.07' | N 16°32.32' | 0.6939' | 1°17.09' | 14.4370° | 239°00.48' | S 21°32.87' | 10.2088' | 59.1646' | 240°17.57' | **19** |
| **20** | 118°31.57' | 15.0012° | 136°48.46' | N 16°31.63' | 0.6943' | 15°43.18' | 14.4349° | 239°36.85' | S 21°42.96' | 10.0887' | 59.1954' | 255°20.04' | **20** |
| **21** | 133°31.65' | 15.0012° | 136°50.85' | N 16°30.93' | 0.6948' | 30°09.16' | 14.4329° | 240°13.34' | S 21°52.92' | 9.9667' | 59.2260' | 270°22.50' | **21** |
| **22** | 148°31.72' | 15.0012° | 136°53.24' | N 16°30.24' | 0.6952' | 44°35.00' | 14.4308° | 240°49.96' | S 22°02.77' | 9.8428' | 59.2566' | 285°24.96' | **22** |
| **23** | 163°31.79' | 15.0012° | 136°55.63' | N 16°29.54' | 0.6957' | 59°00.73' | 14.4287° | 241°26.70' | S 22°12.48' | 9.7170' | 59.2870' | 300°27.43' | **23** |
| **24** | 178°31.87' | 15.0012° | 136°58.02' | N 16°28.84' | 0.6961' | 73°26.33' | 14.4267° | 242°03.57' | S 22°22.07' | 9.5893' | 59.3173' | 315°29.89' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7685' | hp (π) 0.1445' | ½Ø 16.0619' | 61.5936411816104 5% +gib |
| | EoT at 12:00 UTC : -5m 56s (δ 0.29 s/h) | | Phase at 12:00 UTC : 103.27° | |
| | Meridian Pass. Time : 12:05:56.030 | | Age : 8.0 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.13') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 199°41.86' | 114°48.90' | N 21°39.30' | 265°13.85' | 49°16.90' | N 16°29.51' | 306°01.59' | 8°29.16' | N 2°03.82' | 349°10.56' | 325°20.19' | S 15°12.95' | **00** |
| **01** | 214°41.07' | 114°52.15' | N 21°38.90' | 280°14.73' | 49°18.49' | N 16°29.94' | 321°04.11' | 8°29.10' | N 2°03.78' | 4°13.21' | 325°20.01' | S 15°13.01' | **01** |
| **02** | 229°40.28' | 114°55.40' | N 21°38.50' | 295°15.61' | 49°20.07' | N 16°30.37' | 336°06.64' | 8°29.05' | N 2°03.74' | 19°15.85' | 325°19.83' | S 15°13.08' | **02** |
| **03** | 244°39.50' | 114°58.65' | N 21°38.09' | 310°16.49' | 49°21.65' | N 16°30.80' | 351°09.16' | 8°28.99' | N 2°03.70' | 34°18.49' | 325°19.65' | S 15°13.14' | **03** |
| **04** | 259°38.71' | 115°01.90' | N 21°37.69' | 325°17.37' | 49°23.23' | N 16°31.23' | 6°11.68' | 8°28.93' | N 2°03.67' | 49°21.13' | 325°19.48' | S 15°13.21' | **04** |
| **05** | 274°37.93' | 115°05.15' | N 21°37.28' | 340°18.26' | 49°24.82' | N 16°31.67' | 21°14.20' | 8°28.87' | N 2°03.63' | 64°23.78' | 325°19.30' | S 15°13.27' | **05** |
| **06** | 289°37.14' | 115°08.39' | N 21°36.87' | 355°19.14' | 49°26.40' | N 16°32.10' | 36°16.72' | 8°28.81' | N 2°03.59' | 79°26.42' | 325°19.12' | S 15°13.33' | **06** |
| **07** | 304°36.36' | 115°11.64' | N 21°36.46' | 10°20.02' | 49°27.98' | N 16°32.53' | 51°19.25' | 8°28.75' | N 2°03.55' | 94°29.06' | 325°18.94' | S 15°13.40' | **07** |
| **08** | 319°35.57' | 115°14.89' | N 21°36.05' | 25°20.90' | 49°29.56' | N 16°32.96' | 66°21.77' | 8°28.69' | N 2°03.51' | 109°31.71' | 325°18.76' | S 15°13.46' | **08** |
| **09** | 334°34.79' | 115°18.14' | N 21°35.64' | 40°21.78' | 49°31.15' | N 16°33.39' | 81°24.29' | 8°28.63' | N 2°03.47' | 124°34.35' | 325°18.58' | S 15°13.53' | **09** |
| **10** | 349°34.01' | 115°21.39' | N 21°35.23' | 55°22.67' | 49°32.73' | N 16°33.81' | 96°26.82' | 8°28.58' | N 2°03.44' | 139°36.99' | 325°18.40' | S 15°13.59' | **10** |
| **11** | 4°33.22' | 115°24.64' | N 21°34.81' | 70°23.55' | 49°34.31' | N 16°34.24' | 111°29.34' | 8°28.51' | N 2°03.40' | 154°39.63' | 325°18.22' | S 15°13.65' | **11** |
| **12** | 19°32.44' | 115°27.88' | N 21°34.40' | 85°24.43' | 49°35.89' | N 16°34.67' | 126°31.87' | 8°28.45' | N 2°03.36' | 169°42.28' | 325°18.05' | S 15°13.72' | **12** |
| **13** | 34°31.66' | 115°31.13' | N 21°33.98' | 100°25.31' | 49°37.47' | N 16°35.10' | 141°34.39' | 8°28.39' | N 2°03.32' | 184°44.92' | 325°17.87' | S 15°13.78' | **13** |
| **14** | 49°30.87' | 115°34.38' | N 21°33.56' | 115°26.20' | 49°39.05' | N 16°35.53' | 156°36.92' | 8°28.33' | N 2°03.28' | 199°47.56' | 325°17.69' | S 15°13.85' | **14** |
| **15** | 64°30.09' | 115°37.63' | N 21°33.15' | 130°27.08' | 49°40.63' | N 16°35.96' | 171°39.44' | 8°28.27' | N 2°03.24' | 214°50.21' | 325°17.51' | S 15°13.91' | **15** |
| **16** | 79°29.31' | 115°40.87' | N 21°32.73' | 145°27.96' | 49°42.22' | N 16°36.38' | 186°41.97' | 8°28.21' | N 2°03.20' | 229°52.85' | 325°17.33' | S 15°13.98' | **16** |
| **17** | 94°28.52' | 115°44.12' | N 21°32.31' | 160°28.85' | 49°43.80' | N 16°36.81' | 201°44.50' | 8°28.15' | N 2°03.16' | 244°55.49' | 325°17.15' | S 15°14.04' | **17** |
| **18** | 109°27.74' | 115°47.36' | N 21°31.88' | 175°29.73' | 49°45.38' | N 16°37.24' | 216°47.02' | 8°28.08' | N 2°03.12' | 259°58.14' | 325°16.97' | S 15°14.10' | **18** |
| **19** | 124°26.96' | 115°50.61' | N 21°31.46' | 190°30.62' | 49°46.96' | N 16°37.67' | 231°49.55' | 8°28.02' | N 2°03.08' | 275°00.78' | 325°16.79' | S 15°14.17' | **19** |
| **20** | 139°26.18' | 115°53.86' | N 21°31.04' | 205°31.50' | 49°48.54' | N 16°38.09' | 246°52.08' | 8°27.96' | N 2°03.04' | 290°03.42' | 325°16.61' | S 15°14.23' | **20** |
| **21** | 154°25.40' | 115°57.10' | N 21°30.61' | 220°32.38' | 49°50.12' | N 16°38.52' | 261°54.60' | 8°27.90' | N 2°03.00' | 305°06.07' | 325°16.43' | S 15°14.30' | **21** |
| **22** | 169°24.62' | 116°00.35' | N 21°30.19' | 235°33.27' | 49°51.70' | N 16°38.94' | 276°57.13' | 8°27.83' | N 2°02.96' | 320°08.71' | 325°16.26' | S 15°14.36' | **22** |
| **23** | 184°23.84' | 116°03.59' | N 21°29.76' | 250°34.15' | 49°53.28' | N 16°39.37' | 291°59.66' | 8°27.77' | N 2°02.92' | 335°11.35' | 325°16.08' | S 15°14.43' | **23** |
| **24** | 199°23.06' | 116°06.84' | N 21°29.33' | 265°35.04' | 49°54.85' | N 16°39.80' | 307°02.19' | 8°27.70' | N 2°02.88' | 350°14.00' | 325°15.90' | S 15°14.49' | **24** |
| | δ 14.9869° | | *d* 0.4030' | δ 15.0147° | | *d* 0.4317' | δ 15.0420° | | *d* 0.0374' | δ 15.0440° | | *d* 0.0641' | |

## *Sunday, August 7th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°31.87' | 15.0012° | 136°58.02' | N 16°28.84' | 0.6961' | 73°26.33' | 14.4267° | 242°03.57' | S 22°22.07' | 9.5893' | 59.3173' | 315°29.89' | **00** |
| **01** | 193°31.94' | 15.0012° | 137°00.41' | N 16°28.15' | 0.6966' | 87°51.80' | 14.4246° | 242°40.56' | S 22°31.53' | 9.4597' | 59.3475' | 330°32.36' | **01** |
| **02** | 208°32.02' | 15.0013° | 137°02.80' | N 16°27.45' | 0.6971' | 102°17.15' | 14.4225° | 243°17.67' | S 22°40.86' | 9.3283' | 59.3776' | 345°34.82' | **02** |
| **03** | 223°32.09' | 15.0013° | 137°05.19' | N 16°26.75' | 0.6975' | 116°42.38' | 14.4205° | 243°54.90' | S 22°50.05' | 9.1949' | 59.4076' | 0°37.28' | **03** |
| **04** | 238°32.17' | 15.0013° | 137°07.58' | N 16°26.05' | 0.6980' | 131°07.49' | 14.4184° | 244°32.26' | S 22°59.11' | 9.0597' | 59.4374' | 15°39.75' | **04** |
| **05** | 253°32.25' | 15.0013° | 137°09.97' | N 16°25.36' | 0.6984' | 145°32.47' | 14.4164° | 245°09.74' | S 23°08.04' | 8.9225' | 59.4671' | 30°42.21' | **05** |
| **06** | 268°32.32' | 15.0013° | 137°12.36' | N 16°24.66' | 0.6989' | 159°57.34' | 14.4144° | 245°47.34' | S 23°16.82' | 8.7835' | 59.4966' | 45°44.68' | **06** |
| **07** | 283°32.40' | 15.0013° | 137°14.74' | N 16°23.96' | 0.6993' | 174°22.08' | 14.4123° | 246°25.07' | S 23°25.46' | 8.6426' | 59.5260' | 60°47.14' | **07** |
| **08** | 298°32.48' | 15.0013° | 137°17.13' | N 16°23.26' | 0.6998' | 188°46.70' | 14.4103° | 247°02.91' | S 23°33.96' | 8.4999' | 59.5553' | 75°49.61' | **08** |
| **09** | 313°32.55' | 15.0013° | 137°19.52' | N 16°22.56' | 0.7003' | 203°11.19' | 14.4083° | 247°40.88' | S 23°42.32' | 8.3552' | 59.5843' | 90°52.07' | **09** |
| **10** | 328°32.63' | 15.0013° | 137°21.90' | N 16°21.86' | 0.7007' | 217°35.57' | 14.4063° | 248°18.96' | S 23°50.53' | 8.2087' | 59.6133' | 105°54.53' | **10** |
| **11** | 343°32.71' | 15.0013° | 137°24.29' | N 16°21.16' | 0.7012' | 231°59.84' | 14.4043° | 248°57.16' | S 23°58.59' | 8.0604' | 59.6420' | 120°57.00' | **11** |
| **12** | 358°32.78' | 15.0013° | 137°26.68' | N 16°20.45' | 0.7016' | 246°23.98' | 14.4024° | 249°35.48' | S 24°06.50' | 7.9102' | 59.6706' | 135°59.46' | **12** |
| **13** | 13°32.86' | 15.0013° | 137°29.06' | N 16°19.75' | 0.7021' | 260°48.00' | 14.4004° | 250°13.92' | S 24°14.26' | 7.7582' | 59.6990' | 151°01.93' | **13** |
| **14** | 28°32.94' | 15.0013° | 137°31.45' | N 16°19.05' | 0.7025' | 275°11.91' | 14.3985° | 250°52.48' | S 24°21.86' | 7.6043' | 59.7272' | 166°04.39' | **14** |
| **15** | 43°33.02' | 15.0013° | 137°33.84' | N 16°18.35' | 0.7030' | 289°35.71' | 14.3966° | 251°31.15' | S 24°29.31' | 7.4487' | 59.7552' | 181°06.86' | **15** |
| **16** | 58°33.10' | 15.0013° | 137°36.22' | N 16°17.64' | 0.7034' | 303°59.39' | 14.3947° | 252°09.93' | S 24°36.60' | 7.2912' | 59.7831' | 196°09.32' | **16** |
| **17** | 73°33.18' | 15.0013° | 137°38.61' | N 16°16.94' | 0.7039' | 318°22.95' | 14.3928° | 252°48.83' | S 24°43.73' | 7.1319' | 59.8107' | 211°11.78' | **17** |
| **18** | 88°33.26' | 15.0013° | 137°40.99' | N 16°16.23' | 0.7043' | 332°46.41' | 14.3909° | 253°27.84' | S 24°50.70' | 6.9709' | 59.8381' | 226°14.25' | **18** |
| **19** | 103°33.34' | 15.0013° | 137°43.38' | N 16°15.53' | 0.7048' | 347°09.75' | 14.3891° | 254°06.96' | S 24°57.51' | 6.8081' | 59.8653' | 241°16.71' | **19** |
| **20** | 118°33.42' | 15.0013° | 137°45.76' | N 16°14.82' | 0.7052' | 1°32.99' | 14.3872° | 254°46.19' | S 25°04.15' | 6.6436' | 59.8923' | 256°19.18' | **20** |
| **21** | 133°33.50' | 15.0013° | 137°48.14' | N 16°14.12' | 0.7057' | 15°56.11' | 14.3854° | 255°25.53' | S 25°10.63' | 6.4774' | 59.9191' | 271°21.64' | **21** |
| **22** | 148°33.58' | 15.0013° | 137°50.53' | N 16°13.41' | 0.7061' | 30°19.13' | 14.3837° | 256°04.97' | S 25°16.94' | 6.3095' | 59.9456' | 286°24.10' | **22** |
| **23** | 163°33.66' | 15.0013° | 137°52.91' | N 16°12.71' | 0.7066' | 44°42.05' | 14.3819° | 256°44.52' | S 25°23.08' | 6.1399' | 59.9719' | 301°26.57' | **23** |
| **24** | 178°33.74' | 15.0013° | 137°55.30' | N 16°12.00' | 0.7070' | 59°04.86' | 14.3802° | 257°24.17' | S 25°29.05' | 5.9686' | 59.9980' | 316°29.03' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.7709' | hp (π) 0.1445' | ½Ø 16.2591' | 72.3529625904377<br>7% +gib | |
| EoT at 12:00 UTC : -5m 48s (δ 0.31 s/h) | | Phase at 12:00 UTC : 116.45° | | |
| Meridian Pass. Time : 12:05:48.862 | | Age : 9.1 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.13') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 199°23.06' | 116°06.84' | N 21°29.33' | 265°35.04' | 49°54.85' | N 16°39.80' | 307°02.19' | 8°27.70' | N 2°02.88' | 350°14.00' | 325°15.90' | S 15°14.49' | **00** |
| **01** | 214°22.28' | 116°10.08' | N 21°28.90' | 280°35.92' | 49°56.43' | N 16°40.22' | 322°04.72' | 8°27.64' | N 2°02.84' | 5°16.64' | 325°15.72' | S 15°14.55' | **01** |
| **02** | 229°21.50' | 116°13.32' | N 21°28.47' | 295°36.81' | 49°58.01' | N 16°40.65' | 337°07.25' | 8°27.57' | N 2°02.80' | 20°19.28' | 325°15.54' | S 15°14.62' | **02** |
| **03** | 244°20.72' | 116°16.57' | N 21°28.04' | 310°37.69' | 49°59.59' | N 16°41.07' | 352°09.78' | 8°27.51' | N 2°02.76' | 35°21.93' | 325°15.36' | S 15°14.68' | **03** |
| **04** | 259°19.94' | 116°19.81' | N 21°27.61' | 325°38.58' | 50°01.17' | N 16°41.50' | 7°12.30' | 8°27.44' | N 2°02.72' | 50°24.57' | 325°15.18' | S 15°14.75' | **04** |
| **05** | 274°19.16' | 116°23.06' | N 21°27.18' | 340°39.47' | 50°02.75' | N 16°41.92' | 22°14.83' | 8°27.38' | N 2°02.68' | 65°27.21' | 325°15.00' | S 15°14.81' | **05** |
| **06** | 289°18.38' | 116°26.30' | N 21°26.74' | 355°40.35' | 50°04.33' | N 16°42.34' | 37°17.37' | 8°27.31' | N 2°02.64' | 80°29.86' | 325°14.82' | S 15°14.87' | **06** |
| **07** | 304°17.60' | 116°29.54' | N 21°26.31' | 10°41.24' | 50°05.90' | N 16°42.77' | 52°19.90' | 8°27.25' | N 2°02.60' | 95°32.50' | 325°14.64' | S 15°14.94' | **07** |
| **08** | 319°16.82' | 116°32.78' | N 21°25.87' | 25°42.12' | 50°07.48' | N 16°43.19' | 67°22.43' | 8°27.18' | N 2°02.56' | 110°35.14' | 325°14.46' | S 15°15.00' | **08** |
| **09** | 334°16.04' | 116°36.03' | N 21°25.43' | 40°43.01' | 50°09.06' | N 16°43.61' | 82°24.96' | 8°27.11' | N 2°02.51' | 125°37.79' | 325°14.28' | S 15°15.07' | **09** |
| **10** | 349°15.27' | 116°39.27' | N 21°24.99' | 55°43.90' | 50°10.64' | N 16°44.04' | 97°27.49' | 8°27.05' | N 2°02.47' | 140°40.43' | 325°14.10' | S 15°15.13' | **10** |
| **11** | 4°14.49' | 116°42.51' | N 21°24.55' | 70°44.78' | 50°12.21' | N 16°44.46' | 112°30.02' | 8°26.98' | N 2°02.43' | 155°43.08' | 325°13.92' | S 15°15.20' | **11** |
| **12** | 19°13.71' | 116°45.75' | N 21°24.11' | 85°45.67' | 50°13.79' | N 16°44.88' | 127°32.55' | 8°26.91' | N 2°02.39' | 170°45.72' | 325°13.74' | S 15°15.26' | **12** |
| **13** | 34°12.93' | 116°48.99' | N 21°23.67' | 100°46.56' | 50°15.37' | N 16°45.30' | 142°35.09' | 8°26.84' | N 2°02.35' | 185°48.36' | 325°13.56' | S 15°15.32' | **13** |
| **14** | 49°12.16' | 116°52.23' | N 21°23.23' | 115°47.45' | 50°16.94' | N 16°45.73' | 157°37.62' | 8°26.77' | N 2°02.31' | 200°51.01' | 325°13.38' | S 15°15.39' | **14** |
| **15** | 64°11.38' | 116°55.47' | N 21°22.78' | 130°48.33' | 50°18.52' | N 16°46.15' | 172°40.15' | 8°26.70' | N 2°02.26' | 215°53.65' | 325°13.20' | S 15°15.45' | **15** |
| **16** | 79°10.60' | 116°58.71' | N 21°22.34' | 145°49.22' | 50°20.10' | N 16°46.57' | 187°42.68' | 8°26.63' | N 2°02.22' | 230°56.29' | 325°13.03' | S 15°15.52' | **16** |
| **17** | 94°09.83' | 117°01.96' | N 21°21.89' | 160°50.11' | 50°21.67' | N 16°46.99' | 202°45.22' | 8°26.57' | N 2°02.18' | 245°58.94' | 325°12.85' | S 15°15.58' | **17** |
| **18** | 109°09.05' | 117°05.19' | N 21°21.44' | 175°51.00' | 50°23.25' | N 16°47.41' | 217°47.75' | 8°26.50' | N 2°02.14' | 261°01.58' | 325°12.67' | S 15°15.65' | **18** |
| **19** | 124°08.28' | 117°08.43' | N 21°21.00' | 190°51.89' | 50°24.82' | N 16°47.83' | 232°50.29' | 8°26.43' | N 2°02.09' | 276°04.23' | 325°12.49' | S 15°15.71' | **19** |
| **20** | 139°07.50' | 117°11.67' | N 21°20.55' | 205°52.78' | 50°26.40' | N 16°48.25' | 247°52.82' | 8°26.35' | N 2°02.05' | 291°06.87' | 325°12.31' | S 15°15.77' | **20** |
| **21** | 154°06.73' | 117°14.91' | N 21°20.10' | 220°53.67' | 50°27.98' | N 16°48.67' | 262°55.36' | 8°26.28' | N 2°02.01' | 306°09.51' | 325°12.13' | S 15°15.84' | **21** |
| **22** | 169°05.95' | 117°18.15' | N 21°19.64' | 235°54.55' | 50°29.55' | N 16°49.09' | 277°57.89' | 8°26.21' | N 2°01.96' | 321°12.16' | 325°11.95' | S 15°15.90' | **22** |
| **23** | 184°05.18' | 117°21.39' | N 21°19.19' | 250°55.44' | 50°31.13' | N 16°49.51' | 293°00.43' | 8°26.14' | N 2°01.92' | 336°14.80' | 325°11.77' | S 15°15.97' | **23** |
| **24** | 199°04.40' | 117°24.63' | N 21°18.74' | 265°56.33' | 50°32.70' | N 16°49.93' | 308°02.96' | 8°26.07' | N 2°01.88' | 351°17.45' | 325°11.59' | S 15°16.03' | **24** |
| | δ 14.9870° | | *d* 0.4291' | δ 15.0148° | | *d* 0.4252' | δ 15.0421° | | *d* 0.0405' | δ 15.0441° | | *d* 0.0642' | |

## *Monday, August 8th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°33.74' | 15.0013° | 137°55.30' | N 16°12.00' | 0.7070' | 59°04.86' | 14.3802° | 257°24.17' | S 25°29.05' | 5.9686' | 59.9980' | 316°29.03' | **00** |
| **01** | 193°33.82' | 15.0014° | 137°57.68' | N 16°11.29' | 0.7075' | 73°27.57' | 14.3785° | 258°03.93' | S 25°34.85' | 5.7957' | 60.0239' | 331°31.50' | **01** |
| **02** | 208°33.90' | 15.0014° | 138°00.06' | N 16°10.58' | 0.7079' | 87°50.18' | 14.3768° | 258°43.78' | S 25°40.47' | 5.6213' | 60.0494' | 346°33.96' | **02** |
| **03** | 223°33.98' | 15.0014° | 138°02.44' | N 16°09.88' | 0.7084' | 102°12.69' | 14.3752° | 259°23.73' | S 25°45.91' | 5.4452' | 60.0748' | 1°36.43' | **03** |
| **04** | 238°34.06' | 15.0014° | 138°04.83' | N 16°09.17' | 0.7088' | 116°35.11' | 14.3736° | 260°03.78' | S 25°51.18' | 5.2675' | 60.0998' | 16°38.89' | **04** |
| **05** | 253°34.15' | 15.0014° | 138°07.21' | N 16°08.46' | 0.7093' | 130°57.43' | 14.3720° | 260°43.92' | S 25°56.27' | 5.0884' | 60.1246' | 31°41.35' | **05** |
| **06** | 268°34.23' | 15.0014° | 138°09.59' | N 16°07.75' | 0.7097' | 145°19.66' | 14.3705° | 261°24.16' | S 26°01.18' | 4.9077' | 60.1492' | 46°43.82' | **06** |
| **07** | 283°34.31' | 15.0014° | 138°11.97' | N 16°07.04' | 0.7102' | 159°41.80' | 14.3690° | 262°04.48' | S 26°05.90' | 4.7256' | 60.1734' | 61°46.28' | **07** |
| **08** | 298°34.39' | 15.0014° | 138°14.35' | N 16°06.33' | 0.7106' | 174°03.85' | 14.3675° | 262°44.90' | S 26°10.44' | 4.5421' | 60.1974' | 76°48.75' | **08** |
| **09** | 313°34.48' | 15.0014° | 138°16.73' | N 16°05.62' | 0.7111' | 188°25.81' | 14.3661° | 263°25.40' | S 26°14.80' | 4.3571' | 60.2211' | 91°51.21' | **09** |
| **10** | 328°34.56' | 15.0014° | 138°19.11' | N 16°04.90' | 0.7115' | 202°47.69' | 14.3647° | 264°05.99' | S 26°18.97' | 4.1708' | 60.2445' | 106°53.68' | **10** |
| **11** | 343°34.64' | 15.0014° | 138°21.49' | N 16°04.19' | 0.7119' | 217°09.49' | 14.3633° | 264°46.65' | S 26°22.95' | 3.9831' | 60.2676' | 121°56.14' | **11** |
| **12** | 358°34.73' | 15.0014° | 138°23.88' | N 16°03.48' | 0.7124' | 231°31.21' | 14.3620° | 265°27.40' | S 26°26.75' | 3.7942' | 60.2903' | 136°58.60' | **12** |
| **13** | 13°34.81' | 15.0014° | 138°26.26' | N 16°02.77' | 0.7128' | 245°52.85' | 14.3607° | 266°08.22' | S 26°30.35' | 3.6040' | 60.3128' | 152°01.07' | **13** |
| **14** | 28°34.90' | 15.0014° | 138°28.63' | N 16°02.05' | 0.7133' | 260°14.41' | 14.3594° | 266°49.12' | S 26°33.77' | 3.4125' | 60.3350' | 167°03.53' | **14** |
| **15** | 43°34.98' | 15.0014° | 138°31.01' | N 16°01.34' | 0.7137' | 274°35.91' | 14.3582° | 267°30.09' | S 26°36.99' | 3.2199' | 60.3568' | 182°06.00' | **15** |
| **16** | 58°35.07' | 15.0014° | 138°33.39' | N 16°00.63' | 0.7142' | 288°57.33' | 14.3571° | 268°11.13' | S 26°40.01' | 3.0261' | 60.3784' | 197°08.46' | **16** |
| **17** | 73°35.15' | 15.0014° | 138°35.77' | N 15°59.91' | 0.7146' | 303°18.69' | 14.3560° | 268°52.24' | S 26°42.84' | 2.8313' | 60.3996' | 212°10.92' | **17** |
| **18** | 88°35.24' | 15.0014° | 138°38.15' | N 15°59.20' | 0.7150' | 317°39.98' | 14.3549° | 269°33.41' | S 26°45.48' | 2.6353' | 60.4204' | 227°13.39' | **18** |
| **19** | 103°35.32' | 15.0014° | 138°40.53' | N 15°58.48' | 0.7155' | 332°01.21' | 14.3539° | 270°14.64' | S 26°47.92' | 2.4384' | 60.4409' | 242°15.85' | **19** |
| **20** | 118°35.41' | 15.0014° | 138°42.91' | N 15°57.76' | 0.7159' | 346°22.39' | 14.3529° | 270°55.93' | S 26°50.16' | 2.2405' | 60.4611' | 257°18.32' | **20** |
| **21** | 133°35.50' | 15.0014° | 138°45.29' | N 15°57.05' | 0.7164' | 0°43.50' | 14.3519° | 271°37.28' | S 26°52.20' | 2.0417' | 60.4809' | 272°20.78' | **21** |
| **22** | 148°35.58' | 15.0014° | 138°47.66' | N 15°56.33' | 0.7168' | 15°04.56' | 14.3510° | 272°18.68' | S 26°54.04' | 1.8420' | 60.5004' | 287°23.25' | **22** |
| **23** | 163°35.67' | 15.0014° | 138°50.04' | N 15°55.61' | 0.7173' | 29°25.58' | 14.3502° | 273°00.13' | S 26°55.68' | 1.6414' | 60.5195' | 302°25.71' | **23** |
| **24** | 178°35.76' | 15.0015° | 138°52.42' | N 15°54.90' | 0.7177' | 43°46.54' | 14.3494° | 273°41.63' | S 26°57.12' | 1.4401' | 60.5383' | 317°28.17' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7733' | hp (π) 0.1445' | ½Ø 16.4279' | 82.1557052248779<br>3% +gib |
| | EoT at 12:00 UTC : -5m 41s (δ 0.34 s/h) | | Phase at 12:00 UTC : 129.99° | |
| | Meridian Pass. Time : 12:05:41.086 | | Age : 10.1 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.13') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 199°04.40' | 117°24.63' | N 21°18.74' | 265°56.33' | 50°32.70' | N 16°49.93' | 308°02.96' | 8°26.07' | N 2°01.88' | 351°17.45' | 325°11.59' | S 15°16.03' | **00** |
| **01** | 214°03.63' | 117°27.87' | N 21°18.28' | 280°57.22' | 50°34.27' | N 16°50.35' | 323°05.50' | 8°26.00' | N 2°01.83' | 6°20.09' | 325°11.41' | S 15°16.10' | **01** |
| **02** | 229°02.86' | 117°31.10' | N 21°17.83' | 295°58.11' | 50°35.85' | N 16°50.77' | 338°08.04' | 8°25.93' | N 2°01.79' | 21°22.74' | 325°11.23' | S 15°16.16' | **02** |
| **03** | 244°02.08' | 117°34.34' | N 21°17.37' | 310°59.00' | 50°37.42' | N 16°51.18' | 353°10.57' | 8°25.85' | N 2°01.75' | 36°25.38' | 325°11.05' | S 15°16.22' | **03** |
| **04** | 259°01.31' | 117°37.58' | N 21°16.91' | 325°59.89' | 50°39.00' | N 16°51.60' | 8°13.11' | 8°25.78' | N 2°01.70' | 51°28.02' | 325°10.87' | S 15°16.29' | **04** |
| **05** | 274°00.54' | 117°40.82' | N 21°16.45' | 341°00.78' | 50°40.57' | N 16°52.02' | 23°15.65' | 8°25.71' | N 2°01.66' | 66°30.67' | 325°10.69' | S 15°16.35' | **05** |
| **06** | 288°59.77' | 117°44.05' | N 21°15.99' | 356°01.67' | 50°42.14' | N 16°52.44' | 38°18.18' | 8°25.63' | N 2°01.61' | 81°33.31' | 325°10.51' | S 15°16.42' | **06** |
| **07** | 303°58.99' | 117°47.29' | N 21°15.53' | 11°02.56' | 50°43.72' | N 16°52.85' | 53°20.72' | 8°25.56' | N 2°01.57' | 96°35.96' | 325°10.33' | S 15°16.48' | **07** |
| **08** | 318°58.22' | 117°50.53' | N 21°15.07' | 26°03.46' | 50°45.29' | N 16°53.27' | 68°23.26' | 8°25.49' | N 2°01.53' | 111°38.60' | 325°10.15' | S 15°16.54' | **08** |
| **09** | 333°57.45' | 117°53.76' | N 21°14.60' | 41°04.35' | 50°46.86' | N 16°53.69' | 83°25.80' | 8°25.41' | N 2°01.48' | 126°41.25' | 325°09.97' | S 15°16.61' | **09** |
| **10** | 348°56.68' | 117°57.00' | N 21°14.14' | 56°05.24' | 50°48.44' | N 16°54.10' | 98°28.34' | 8°25.34' | N 2°01.44' | 141°43.89' | 325°09.79' | S 15°16.67' | **10** |
| **11** | 3°55.91' | 118°00.23' | N 21°13.67' | 71°06.13' | 50°50.01' | N 16°54.52' | 113°30.88' | 8°25.26' | N 2°01.39' | 156°46.53' | 325°09.61' | S 15°16.74' | **11** |
| **12** | 18°55.14' | 118°03.47' | N 21°13.21' | 86°07.02' | 50°51.58' | N 16°54.94' | 128°33.42' | 8°25.19' | N 2°01.35' | 171°49.18' | 325°09.43' | S 15°16.80' | **12** |
| **13** | 33°54.37' | 118°06.70' | N 21°12.74' | 101°07.91' | 50°53.15' | N 16°55.35' | 143°35.96' | 8°25.11' | N 2°01.30' | 186°51.82' | 325°09.24' | S 15°16.87' | **13** |
| **14** | 48°53.60' | 118°09.94' | N 21°12.27' | 116°08.81' | 50°54.73' | N 16°55.77' | 158°38.50' | 8°25.03' | N 2°01.26' | 201°54.47' | 325°09.06' | S 15°16.93' | **14** |
| **15** | 63°52.83' | 118°13.17' | N 21°11.80' | 131°09.70' | 50°56.30' | N 16°56.18' | 173°41.04' | 8°24.96' | N 2°01.21' | 216°57.11' | 325°08.88' | S 15°16.99' | **15** |
| **16** | 78°52.06' | 118°16.40' | N 21°11.33' | 146°10.59' | 50°57.87' | N 16°56.60' | 188°43.58' | 8°24.88' | N 2°01.17' | 231°59.76' | 325°08.70' | S 15°17.06' | **16** |
| **17** | 93°51.29' | 118°19.64' | N 21°10.86' | 161°11.48' | 50°59.44' | N 16°57.01' | 203°46.12' | 8°24.81' | N 2°01.12' | 247°02.40' | 325°08.52' | S 15°17.12' | **17** |
| **18** | 108°50.52' | 118°22.87' | N 21°10.38' | 176°12.38' | 51°01.01' | N 16°57.43' | 218°48.66' | 8°24.73' | N 2°01.07' | 262°05.05' | 325°08.34' | S 15°17.19' | **18** |
| **19** | 123°49.75' | 118°26.10' | N 21°09.91' | 191°13.27' | 51°02.58' | N 16°57.84' | 233°51.20' | 8°24.65' | N 2°01.03' | 277°07.69' | 325°08.16' | S 15°17.25' | **19** |
| **20** | 138°48.98' | 118°29.34' | N 21°09.44' | 206°14.16' | 51°04.15' | N 16°58.25' | 248°53.74' | 8°24.57' | N 2°00.98' | 292°10.34' | 325°07.98' | S 15°17.32' | **20** |
| **21** | 153°48.21' | 118°32.57' | N 21°08.96' | 221°15.06' | 51°05.73' | N 16°58.67' | 263°56.29' | 8°24.49' | N 2°00.94' | 307°12.98' | 325°07.80' | S 15°17.38' | **21** |
| **22** | 168°47.44' | 118°35.80' | N 21°08.48' | 236°15.95' | 51°07.30' | N 16°59.08' | 278°58.83' | 8°24.42' | N 2°00.89' | 322°15.62' | 325°07.62' | S 15°17.44' | **22** |
| **23** | 183°46.68' | 118°39.03' | N 21°08.00' | 251°16.84' | 51°08.87' | N 16°59.49' | 294°01.37' | 8°24.34' | N 2°00.84' | 337°18.27' | 325°07.44' | S 15°17.51' | **23** |
| **24** | 198°45.91' | 118°42.26' | N 21°07.52' | 266°17.74' | 51°10.44' | N 16°59.91' | 309°03.92' | 8°24.26' | N 2°00.80' | 352°20.91' | 325°07.26' | S 15°17.57' | **24** |
| | δ 14.9871° | | *d* 0.4549' | δ 15.0148° | | *d* 0.4188' | δ 15.0423° | | *d* 0.0435' | δ 15.0441° | | *d* 0.0643' | |

## *Tuesday, August 9th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°35.76' | 15.0015° | 138°52.42' | N 15°54.90' | 0.7177' | 43°46.54' | 14.3494° | 273°41.63' | S 26°57.12' | 1.4401' | 60.5383' | 317°28.17' | **00** |
| **01** | 193°35.84' | 15.0015° | 138°54.79' | N 15°54.18' | 0.7181' | 58°07.46' | 14.3487° | 274°23.18' | S 26°58.36' | 1.2381' | 60.5566' | 332°30.64' | **01** |
| **02** | 208°35.93' | 15.0015° | 138°57.17' | N 15°53.46' | 0.7186' | 72°28.34' | 14.3480° | 275°04.76' | S 26°59.40' | 1.0353' | 60.5746' | 347°33.10' | **02** |
| **03** | 223°36.02' | 15.0015° | 138°59.55' | N 15°52.74' | 0.7190' | 86°49.18' | 14.3473° | 275°46.39' | S 27°00.23' | 0.8320' | 60.5922' | 2°35.57' | **03** |
| **04** | 238°36.11' | 15.0015° | 139°01.92' | N 15°52.02' | 0.7194' | 101°09.98' | 14.3467° | 276°28.05' | S 27°00.86' | 0.6280' | 60.6095' | 17°38.03' | **04** |
| **05** | 253°36.20' | 15.0015° | 139°04.30' | N 15°51.30' | 0.7199' | 115°30.75' | 14.3462° | 277°09.74' | S 27°01.28' | 0.4236' | 60.6263' | 32°40.50' | **05** |
| **06** | 268°36.29' | 15.0015° | 139°06.67' | N 15°50.58' | 0.7203' | 129°51.49' | 14.3457° | 277°51.46' | S 27°01.50' | 0.2186' | 60.6428' | 47°42.96' | **06** |
| **07** | 283°36.37' | 15.0015° | 139°09.05' | N 15°49.86' | 0.7208' | 144°12.21' | 14.3452° | 278°33.21' | S 27°01.51' | 0.0132' | 60.6588' | 62°45.42' | **07** |
| **08** | 298°36.46' | 15.0015° | 139°11.42' | N 15°49.14' | 0.7212' | 158°32.90' | 14.3449° | 279°14.99' | S 27°01.32' | 0.1925' | 60.6745' | 77°47.89' | **08** |
| **09** | 313°36.55' | 15.0015° | 139°13.80' | N 15°48.42' | 0.7216' | 172°53.57' | 14.3445° | 279°56.78' | S 27°00.92' | 0.3986' | 60.6897' | 92°50.35' | **09** |
| **10** | 328°36.64' | 15.0015° | 139°16.17' | N 15°47.70' | 0.7221' | 187°14.23' | 14.3442° | 280°38.59' | S 27°00.31' | 0.6049' | 60.7045' | 107°52.82' | **10** |
| **11** | 343°36.73' | 15.0015° | 139°18.55' | N 15°46.97' | 0.7225' | 201°34.87' | 14.3440° | 281°20.41' | S 26°59.50' | 0.8114' | 60.7189' | 122°55.28' | **11** |
| **12** | 358°36.82' | 15.0015° | 139°20.92' | N 15°46.25' | 0.7229' | 215°55.50' | 14.3438° | 282°02.25' | S 26°58.49' | 1.0181' | 60.7329' | 137°57.75' | **12** |
| **13** | 13°36.91' | 15.0015° | 139°23.30' | N 15°45.53' | 0.7234' | 230°16.12' | 14.3437° | 282°44.09' | S 26°57.26' | 1.2249' | 60.7465' | 153°00.21' | **13** |
| **14** | 28°37.00' | 15.0015° | 139°25.67' | N 15°44.80' | 0.7238' | 244°36.73' | 14.3436° | 283°25.94' | S 26°55.83' | 1.4317' | 60.7596' | 168°02.67' | **14** |
| **15** | 43°37.09' | 15.0015° | 139°28.04' | N 15°44.08' | 0.7242' | 258°57.35' | 14.3436° | 284°07.79' | S 26°54.19' | 1.6386' | 60.7723' | 183°05.14' | **15** |
| **16** | 58°37.19' | 15.0015° | 139°30.42' | N 15°43.35' | 0.7247' | 273°17.97' | 14.3436° | 284°49.63' | S 26°52.34' | 1.8453' | 60.7846' | 198°07.60' | **16** |
| **17** | 73°37.28' | 15.0015° | 139°32.79' | N 15°42.63' | 0.7251' | 287°38.59' | 14.3437° | 285°31.48' | S 26°50.29' | 2.0519' | 60.7964' | 213°10.07' | **17** |
| **18** | 88°37.37' | 15.0015° | 139°35.16' | N 15°41.90' | 0.7255' | 301°59.22' | 14.3438° | 286°13.31' | S 26°48.03' | 2.2583' | 60.8078' | 228°12.53' | **18** |
| **19** | 103°37.46' | 15.0015° | 139°37.53' | N 15°41.18' | 0.7260' | 316°19.86' | 14.3440° | 286°55.13' | S 26°45.57' | 2.4645' | 60.8187' | 243°14.99' | **19** |
| **20** | 118°37.55' | 15.0015° | 139°39.91' | N 15°40.45' | 0.7264' | 330°40.52' | 14.3443° | 287°36.94' | S 26°42.90' | 2.6704' | 60.8292' | 258°17.46' | **20** |
| **21** | 133°37.65' | 15.0015° | 139°42.28' | N 15°39.72' | 0.7268' | 345°01.19' | 14.3446° | 288°18.73' | S 26°40.02' | 2.8760' | 60.8392' | 273°19.92' | **21** |
| **22** | 148°37.74' | 15.0015° | 139°44.65' | N 15°39.00' | 0.7273' | 359°21.89' | 14.3449° | 289°00.50' | S 26°36.94' | 3.0812' | 60.8488' | 288°22.39' | **22** |
| **23** | 163°37.83' | 15.0016° | 139°47.02' | N 15°38.27' | 0.7277' | 13°42.60' | 14.3453° | 289°42.25' | S 26°33.66' | 3.2858' | 60.8579' | 303°24.85' | **23** |
| **24** | 178°37.93' | 15.0016° | 139°49.39' | N 15°37.54' | 0.7281' | 28°03.35' | 14.3457° | 290°23.97' | S 26°30.17' | 3.4900' | 60.8665' | 318°27.32' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.7758' | hp (π) 0.1446' | ½Ø 16.5485' | 90.3130066761174<br>1% +gib | |
| EoT at 12:00 UTC : -5m 32s (δ 0.36 s/h) | | Phase at 12:00 UTC : 143.84° | | |
| Meridian Pass. Time : 12:05:32.709 | | Age : 11.2 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.13') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 198°45.91' | 118°42.26' | N 21°07.52' | 266°17.74' | 51°10.44' | N 16°59.91' | 309°03.92' | 8°24.26' | N 2°00.80' | 352°20.91' | 325°07.26' | S 15°17.57' | **00** |
| **01** | 213°45.14' | 118°45.50' | N 21°07.04' | 281°18.63' | 51°12.01' | N 17°00.32' | 324°06.46' | 8°24.18' | N 2°00.75' | 7°23.56' | 325°07.08' | S 15°17.64' | **01** |
| **02** | 228°44.38' | 118°48.73' | N 21°06.56' | 296°19.53' | 51°13.58' | N 17°00.73' | 339°09.00' | 8°24.10' | N 2°00.70' | 22°26.20' | 325°06.90' | S 15°17.70' | **02** |
| **03** | 243°43.61' | 118°51.96' | N 21°06.08' | 311°20.42' | 51°15.14' | N 17°01.14' | 354°11.55' | 8°24.02' | N 2°00.66' | 37°28.85' | 325°06.72' | S 15°17.77' | **03** |
| **04** | 258°42.84' | 118°55.19' | N 21°05.60' | 326°21.32' | 51°16.71' | N 17°01.55' | 9°14.09' | 8°23.94' | N 2°00.61' | 52°31.49' | 325°06.54' | S 15°17.83' | **04** |
| **05** | 273°42.08' | 118°58.42' | N 21°05.11' | 341°22.21' | 51°18.28' | N 17°01.96' | 24°16.64' | 8°23.86' | N 2°00.56' | 67°34.14' | 325°06.36' | S 15°17.89' | **05** |
| **06** | 288°41.31' | 119°01.65' | N 21°04.63' | 356°23.11' | 51°19.85' | N 17°02.38' | 39°19.18' | 8°23.78' | N 2°00.52' | 82°36.78' | 325°06.18' | S 15°17.96' | **06** |
| **07** | 303°40.55' | 119°04.88' | N 21°04.14' | 11°24.00' | 51°21.42' | N 17°02.79' | 54°21.73' | 8°23.70' | N 2°00.47' | 97°39.43' | 325°06.00' | S 15°18.02' | **07** |
| **08** | 318°39.78' | 119°08.11' | N 21°03.65' | 26°24.90' | 51°22.99' | N 17°03.20' | 69°24.27' | 8°23.62' | N 2°00.42' | 112°42.07' | 325°05.81' | S 15°18.09' | **08** |
| **09** | 333°39.02' | 119°11.34' | N 21°03.16' | 41°25.79' | 51°24.56' | N 17°03.61' | 84°26.82' | 8°23.53' | N 2°00.37' | 127°44.72' | 325°05.63' | S 15°18.15' | **09** |
| **10** | 348°38.25' | 119°14.56' | N 21°02.67' | 56°26.69' | 51°26.13' | N 17°04.02' | 99°29.37' | 8°23.45' | N 2°00.32' | 142°47.36' | 325°05.45' | S 15°18.22' | **10** |
| **11** | 3°37.49' | 119°17.79' | N 21°02.18' | 71°27.59' | 51°27.69' | N 17°04.43' | 114°31.91' | 8°23.37' | N 2°00.28' | 157°50.01' | 325°05.27' | S 15°18.28' | **11** |
| **12** | 18°36.72' | 119°21.02' | N 21°01.69' | 86°28.48' | 51°29.26' | N 17°04.84' | 129°34.46' | 8°23.29' | N 2°00.23' | 172°52.65' | 325°05.09' | S 15°18.35' | **12** |
| **13** | 33°35.96' | 119°24.25' | N 21°01.19' | 101°29.38' | 51°30.83' | N 17°05.24' | 144°37.01' | 8°23.20' | N 2°00.18' | 187°55.30' | 325°04.91' | S 15°18.41' | **13** |
| **14** | 48°35.20' | 119°27.48' | N 21°00.70' | 116°30.28' | 51°32.40' | N 17°05.65' | 159°39.55' | 8°23.12' | N 2°00.13' | 202°57.94' | 325°04.73' | S 15°18.47' | **14** |
| **15** | 63°34.43' | 119°30.70' | N 21°00.21' | 131°31.17' | 51°33.96' | N 17°06.06' | 174°42.10' | 8°23.04' | N 2°00.08' | 218°00.59' | 325°04.55' | S 15°18.54' | **15** |
| **16** | 78°33.67' | 119°33.93' | N 20°59.71' | 146°32.07' | 51°35.53' | N 17°06.47' | 189°44.65' | 8°22.95' | N 2°00.04' | 233°03.23' | 325°04.37' | S 15°18.60' | **16** |
| **17** | 93°32.91' | 119°37.16' | N 20°59.21' | 161°32.97' | 51°37.10' | N 17°06.88' | 204°47.20' | 8°22.87' | N 1°59.99' | 248°05.88' | 325°04.19' | S 15°18.67' | **17** |
| **18** | 108°32.15' | 119°40.38' | N 20°58.71' | 176°33.87' | 51°38.66' | N 17°07.29' | 219°49.75' | 8°22.78' | N 1°59.94' | 263°08.52' | 325°04.01' | S 15°18.73' | **18** |
| **19** | 123°31.39' | 119°43.61' | N 20°58.21' | 191°34.77' | 51°40.23' | N 17°07.69' | 234°52.30' | 8°22.70' | N 1°59.89' | 278°11.17' | 325°03.82' | S 15°18.80' | **19** |
| **20** | 138°30.62' | 119°46.83' | N 20°57.71' | 206°35.66' | 51°41.80' | N 17°08.10' | 249°54.85' | 8°22.61' | N 1°59.84' | 293°13.82' | 325°03.64' | S 15°18.86' | **20** |
| **21** | 153°29.86' | 119°50.06' | N 20°57.21' | 221°36.56' | 51°43.36' | N 17°08.51' | 264°57.40' | 8°22.53' | N 1°59.79' | 308°16.46' | 325°03.46' | S 15°18.92' | **21** |
| **22** | 168°29.10' | 119°53.29' | N 20°56.71' | 236°37.46' | 51°44.93' | N 17°08.92' | 279°59.95' | 8°22.44' | N 1°59.74' | 323°19.11' | 325°03.28' | S 15°18.99' | **22** |
| **23** | 183°28.34' | 119°56.51' | N 20°56.20' | 251°38.36' | 51°46.49' | N 17°09.32' | 295°02.50' | 8°22.36' | N 1°59.69' | 338°21.75' | 325°03.10' | S 15°19.05' | **23** |
| **24** | 198°27.58' | 119°59.73' | N 20°55.70' | 266°39.26' | 51°48.06' | N 17°09.73' | 310°05.05' | 8°22.27' | N 1°59.64' | 353°24.40' | 325°02.92' | S 15°19.12' | **24** |
| | δ 14.9872° | | *d* 0.4805' | δ 15.0149° | | *d* 0.4124' | δ 15.0424° | | *d* 0.0466' | δ 15.0441° | | *d* 0.0643' | |

## *Wednesday, August 10th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°37.93' | 15.0016° | 139°49.39' | N 15°37.54' | 0.7281' | 28°03.35' | 14.3457° | 290°23.97' | S 26°30.17' | 3.4900' | 60.8665' | 318°27.32' | **00** |
| **01** | 193°38.02' | 15.0016° | 139°51.76' | N 15°36.81' | 0.7286' | 42°24.12' | 14.3462° | 291°05.66' | S 26°26.47' | 3.6936' | 60.8747' | 333°29.78' | **01** |
| **02** | 208°38.11' | 15.0016° | 139°54.13' | N 15°36.08' | 0.7290' | 56°44.93' | 14.3468° | 291°47.32' | S 26°22.58' | 3.8966' | 60.8824' | 348°32.24' | **02** |
| **03** | 223°38.21' | 15.0016° | 139°56.50' | N 15°35.35' | 0.7294' | 71°05.77' | 14.3474° | 292°28.94' | S 26°18.48' | 4.0989' | 60.8896' | 3°34.71' | **03** |
| **04** | 238°38.30' | 15.0016° | 139°58.87' | N 15°34.62' | 0.7299' | 85°26.65' | 14.3480° | 293°10.52' | S 26°14.18' | 4.3005' | 60.8963' | 18°37.17' | **04** |
| **05** | 253°38.40' | 15.0016° | 140°01.24' | N 15°33.89' | 0.7303' | 99°47.57' | 14.3487° | 293°52.06' | S 26°09.68' | 4.5013' | 60.9026' | 33°39.64' | **05** |
| **06** | 268°38.49' | 15.0016° | 140°03.61' | N 15°33.16' | 0.7307' | 114°08.54' | 14.3494° | 294°33.56' | S 26°04.97' | 4.7013' | 60.9084' | 48°42.10' | **06** |
| **07** | 283°38.59' | 15.0016° | 140°05.98' | N 15°32.43' | 0.7311' | 128°29.56' | 14.3502° | 295°15.01' | S 26°00.07' | 4.9003' | 60.9137' | 63°44.57' | **07** |
| **08** | 298°38.68' | 15.0016° | 140°08.35' | N 15°31.70' | 0.7316' | 142°50.62' | 14.3511° | 295°56.41' | S 25°54.98' | 5.0985' | 60.9185' | 78°47.03' | **08** |
| **09** | 313°38.78' | 15.0016° | 140°10.72' | N 15°30.97' | 0.7320' | 157°11.74' | 14.3519° | 296°37.76' | S 25°49.68' | 5.2956' | 60.9228' | 93°49.49' | **09** |
| **10** | 328°38.87' | 15.0016° | 140°13.09' | N 15°30.24' | 0.7324' | 171°32.91' | 14.3529° | 297°19.05' | S 25°44.19' | 5.4917' | 60.9266' | 108°51.96' | **10** |
| **11** | 343°38.97' | 15.0016° | 140°15.45' | N 15°29.50' | 0.7329' | 185°54.14' | 14.3538° | 298°00.28' | S 25°38.50' | 5.6868' | 60.9299' | 123°54.42' | **11** |
| **12** | 358°39.06' | 15.0016° | 140°17.82' | N 15°28.77' | 0.7333' | 200°15.43' | 14.3548° | 298°41.46' | S 25°32.62' | 5.8806' | 60.9328' | 138°56.89' | **12** |
| **13** | 13°39.16' | 15.0016° | 140°20.19' | N 15°28.04' | 0.7337' | 214°36.78' | 14.3559° | 299°22.57' | S 25°26.55' | 6.0734' | 60.9351' | 153°59.35' | **13** |
| **14** | 28°39.26' | 15.0016° | 140°22.56' | N 15°27.30' | 0.7341' | 228°58.20' | 14.3570° | 300°03.61' | S 25°20.28' | 6.2648' | 60.9369' | 169°01.81' | **14** |
| **15** | 43°39.35' | 15.0016° | 140°24.92' | N 15°26.57' | 0.7346' | 243°19.69' | 14.3581° | 300°44.59' | S 25°13.83' | 6.4551' | 60.9383' | 184°04.28' | **15** |
| **16** | 58°39.45' | 15.0016° | 140°27.29' | N 15°25.83' | 0.7350' | 257°41.25' | 14.3593° | 301°25.50' | S 25°07.18' | 6.6440' | 60.9391' | 199°06.74' | **16** |
| **17** | 73°39.55' | 15.0016° | 140°29.66' | N 15°25.10' | 0.7354' | 272°02.88' | 14.3605° | 302°06.33' | S 25°00.35' | 6.8315' | 60.9394' | 214°09.21' | **17** |
| **18** | 88°39.65' | 15.0016° | 140°32.02' | N 15°24.36' | 0.7358' | 286°24.58' | 14.3618° | 302°47.09' | S 24°53.33' | 7.0176' | 60.9392' | 229°11.67' | **18** |
| **19** | 103°39.75' | 15.0016° | 140°34.39' | N 15°23.63' | 0.7363' | 300°46.37' | 14.3630° | 303°27.77' | S 24°46.13' | 7.2023' | 60.9386' | 244°14.14' | **19** |
| **20** | 118°39.84' | 15.0016° | 140°36.76' | N 15°22.89' | 0.7367' | 315°08.23' | 14.3644° | 304°08.37' | S 24°38.75' | 7.3855' | 60.9374' | 259°16.60' | **20** |
| **21** | 133°39.94' | 15.0016° | 140°39.12' | N 15°22.15' | 0.7371' | 329°30.17' | 14.3657° | 304°48.89' | S 24°31.18' | 7.5672' | 60.9357' | 274°19.06' | **21** |
| **22** | 148°40.04' | 15.0016° | 140°41.49' | N 15°21.41' | 0.7375' | 343°52.20' | 14.3671° | 305°29.33' | S 24°23.43' | 7.7473' | 60.9334' | 289°21.53' | **22** |
| **23** | 163°40.14' | 15.0017° | 140°43.85' | N 15°20.68' | 0.7380' | 358°14.31' | 14.3685° | 306°09.68' | S 24°15.51' | 7.9259' | 60.9307' | 304°23.99' | **23** |
| **24** | 178°40.24' | 15.0017° | 140°46.22' | N 15°19.94' | 0.7384' | 12°36.51' | 14.3700° | 306°49.94' | S 24°07.40' | 8.1028' | 60.9275' | 319°26.46' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.7784' | hp (π) 0.1446' | ½Ø 16.6030' | 96.1932670925636 7% +gib | |
| EoT at 12:00 UTC : -5m 23s (δ 0.39 s/h) | | Phase at 12:00 UTC : 157.90° | | |
| Meridian Pass. Time : 12:05:23.742 | | Age : 12.3 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.14') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 198°27.58' | 119°59.73' | N 20°55.70' | 266°39.26' | 51°48.06' | N 17°09.73' | 310°05.05' | 8°22.27' | N 1°59.64' | 353°24.40' | 325°02.92' | S 15°19.12' | **00** |
| **01** | 213°26.82' | 120°02.96' | N 20°55.19' | 281°40.16' | 51°49.62' | N 17°10.13' | 325°07.60' | 8°22.18' | N 1°59.59' | 8°27.04' | 325°02.74' | S 15°19.18' | **01** |
| **02** | 228°26.06' | 120°06.18' | N 20°54.69' | 296°41.06' | 51°51.19' | N 17°10.54' | 340°10.15' | 8°22.10' | N 1°59.54' | 23°29.69' | 325°02.56' | S 15°19.25' | **02** |
| **03** | 243°25.30' | 120°09.41' | N 20°54.18' | 311°41.96' | 51°52.75' | N 17°10.94' | 355°12.70' | 8°22.01' | N 1°59.49' | 38°32.33' | 325°02.38' | S 15°19.31' | **03** |
| **04** | 258°24.54' | 120°12.63' | N 20°53.67' | 326°42.86' | 51°54.32' | N 17°11.35' | 10°15.25' | 8°21.92' | N 1°59.44' | 53°34.98' | 325°02.19' | S 15°19.37' | **04** |
| **05** | 273°23.78' | 120°15.85' | N 20°53.16' | 341°43.76' | 51°55.88' | N 17°11.75' | 25°17.80' | 8°21.83' | N 1°59.39' | 68°37.62' | 325°02.01' | S 15°19.44' | **05** |
| **06** | 288°23.03' | 120°19.08' | N 20°52.65' | 356°44.66' | 51°57.45' | N 17°12.16' | 40°20.36' | 8°21.74' | N 1°59.34' | 83°40.27' | 325°01.83' | S 15°19.50' | **06** |
| **07** | 303°22.27' | 120°22.30' | N 20°52.14' | 11°45.56' | 51°59.01' | N 17°12.56' | 55°22.91' | 8°21.66' | N 1°59.29' | 98°42.91' | 325°01.65' | S 15°19.57' | **07** |
| **08** | 318°21.51' | 120°25.52' | N 20°51.62' | 26°46.46' | 52°00.57' | N 17°12.97' | 70°25.46' | 8°21.57' | N 1°59.24' | 113°45.56' | 325°01.47' | S 15°19.63' | **08** |
| **09** | 333°20.75' | 120°28.74' | N 20°51.11' | 41°47.36' | 52°02.14' | N 17°13.37' | 85°28.02' | 8°21.48' | N 1°59.19' | 128°48.21' | 325°01.29' | S 15°19.70' | **09** |
| **10** | 348°20.00' | 120°31.96' | N 20°50.59' | 56°48.26' | 52°03.70' | N 17°13.77' | 100°30.57' | 8°21.39' | N 1°59.14' | 143°50.85' | 325°01.11' | S 15°19.76' | **10** |
| **11** | 3°19.24' | 120°35.18' | N 20°50.08' | 71°49.16' | 52°05.26' | N 17°14.18' | 115°33.12' | 8°21.30' | N 1°59.09' | 158°53.50' | 325°00.93' | S 15°19.82' | **11** |
| **12** | 18°18.48' | 120°38.40' | N 20°49.56' | 86°50.06' | 52°06.82' | N 17°14.58' | 130°35.68' | 8°21.21' | N 1°59.04' | 173°56.14' | 325°00.74' | S 15°19.89' | **12** |
| **13** | 33°17.73' | 120°41.63' | N 20°49.04' | 101°50.96' | 52°08.39' | N 17°14.98' | 145°38.23' | 8°21.12' | N 1°58.99' | 188°58.79' | 325°00.56' | S 15°19.95' | **13** |
| **14** | 48°16.97' | 120°44.85' | N 20°48.52' | 116°51.86' | 52°09.95' | N 17°15.39' | 160°40.79' | 8°21.03' | N 1°58.94' | 204°01.43' | 325°00.38' | S 15°20.02' | **14** |
| **15** | 63°16.21' | 120°48.07' | N 20°48.00' | 131°52.77' | 52°11.51' | N 17°15.79' | 175°43.34' | 8°20.94' | N 1°58.88' | 219°04.08' | 325°00.20' | S 15°20.08' | **15** |
| **16** | 78°15.46' | 120°51.28' | N 20°47.48' | 146°53.67' | 52°13.07' | N 17°16.19' | 190°45.90' | 8°20.84' | N 1°58.83' | 234°06.72' | 325°00.02' | S 15°20.15' | **16** |
| **17** | 93°14.70' | 120°54.50' | N 20°46.96' | 161°54.57' | 52°14.64' | N 17°16.59' | 205°48.45' | 8°20.75' | N 1°58.78' | 249°09.37' | 324°59.84' | S 15°20.21' | **17** |
| **18** | 108°13.95' | 120°57.72' | N 20°46.43' | 176°55.47' | 52°16.20' | N 17°16.99' | 220°51.01' | 8°20.66' | N 1°58.73' | 264°12.02' | 324°59.66' | S 15°20.27' | **18** |
| **19** | 123°13.19' | 121°00.94' | N 20°45.91' | 191°56.38' | 52°17.76' | N 17°17.39' | 235°53.57' | 8°20.57' | N 1°58.68' | 279°14.66' | 324°59.47' | S 15°20.34' | **19** |
| **20** | 138°12.44' | 121°04.16' | N 20°45.38' | 206°57.28' | 52°19.32' | N 17°17.80' | 250°56.12' | 8°20.48' | N 1°58.62' | 294°17.31' | 324°59.29' | S 15°20.40' | **20** |
| **21** | 153°11.69' | 121°07.38' | N 20°44.86' | 221°58.18' | 52°20.88' | N 17°18.20' | 265°58.68' | 8°20.38' | N 1°58.57' | 309°19.95' | 324°59.11' | S 15°20.47' | **21** |
| **22** | 168°10.93' | 121°10.60' | N 20°44.33' | 236°59.09' | 52°22.44' | N 17°18.60' | 281°01.24' | 8°20.29' | N 1°58.52' | 324°22.60' | 324°58.93' | S 15°20.53' | **22** |
| **23** | 183°10.18' | 121°13.81' | N 20°43.80' | 251°59.99' | 52°24.00' | N 17°19.00' | 296°03.80' | 8°20.20' | N 1°58.47' | 339°25.24' | 324°58.75' | S 15°20.60' | **23** |
| **24** | 198°09.43' | 121°17.03' | N 20°43.27' | 267°00.89' | 52°25.56' | N 17°19.40' | 311°06.35' | 8°20.10' | N 1°58.42' | 354°27.89' | 324°58.57' | S 15°20.66' | **24** |
| | δ 14.9873° | | *d* 0.5059' | δ 15.0150° | | *d* 0.4059' | δ 15.0425° | | *d* 0.0497' | δ 15.0441° | | *d* 0.0643' | |

## *Thursday, August 11th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°40.24' | 15.0017° | 140°46.22' | N 15°19.94' | 0.7384' | 12°36.51' | 14.3700° | 306°49.94' | S 24°07.40' | 8.1028' | 60.9275' | 319°26.46' | **00** |
| **01** | 193°40.34' | 15.0017° | 140°48.58' | N 15°19.20' | 0.7388' | 26°58.80' | 14.3715° | 307°30.12' | S 23°59.13' | 8.2780' | 60.9237' | 334°28.92' | **01** |
| **02** | 208°40.44' | 15.0017° | 140°50.95' | N 15°18.46' | 0.7392' | 41°21.18' | 14.3730° | 308°10.20' | S 23°50.67' | 8.4515' | 60.9195' | 349°31.38' | **02** |
| **03** | 223°40.54' | 15.0017° | 140°53.31' | N 15°17.72' | 0.7396' | 55°43.66' | 14.3746° | 308°50.19' | S 23°42.05' | 8.6233' | 60.9147' | 4°33.85' | **03** |
| **04** | 238°40.64' | 15.0017° | 140°55.67' | N 15°16.98' | 0.7401' | 70°06.22' | 14.3761° | 309°30.09' | S 23°33.26' | 8.7933' | 60.9094' | 19°36.31' | **04** |
| **05** | 253°40.74' | 15.0017° | 140°58.04' | N 15°16.24' | 0.7405' | 84°28.89' | 14.3777° | 310°09.89' | S 23°24.30' | 8.9616' | 60.9037' | 34°38.78' | **05** |
| **06** | 268°40.84' | 15.0017° | 141°00.40' | N 15°15.50' | 0.7409' | 98°51.65' | 14.3794° | 310°49.59' | S 23°15.17' | 9.1279' | 60.8974' | 49°41.24' | **06** |
| **07** | 283°40.94' | 15.0017° | 141°02.76' | N 15°14.76' | 0.7413' | 113°14.51' | 14.3810° | 311°29.20' | S 23°05.88' | 9.2925' | 60.8906' | 64°43.71' | **07** |
| **08** | 298°41.04' | 15.0017° | 141°05.13' | N 15°14.02' | 0.7417' | 127°37.47' | 14.3827° | 312°08.70' | S 22°56.42' | 9.4552' | 60.8832' | 79°46.17' | **08** |
| **09** | 313°41.14' | 15.0017° | 141°07.49' | N 15°13.27' | 0.7422' | 142°00.53' | 14.3844° | 312°48.10' | S 22°46.80' | 9.6159' | 60.8754' | 94°48.63' | **09** |
| **10** | 328°41.25' | 15.0017° | 141°09.85' | N 15°12.53' | 0.7426' | 156°23.70' | 14.3861° | 313°27.40' | S 22°37.03' | 9.7747' | 60.8671' | 109°51.10' | **10** |
| **11** | 343°41.35' | 15.0017° | 141°12.21' | N 15°11.79' | 0.7430' | 170°46.96' | 14.3878° | 314°06.60' | S 22°27.10' | 9.9316' | 60.8582' | 124°53.56' | **11** |
| **12** | 358°41.45' | 15.0017° | 141°14.58' | N 15°11.04' | 0.7434' | 185°10.34' | 14.3896° | 314°45.69' | S 22°17.01' | 10.0865' | 60.8489' | 139°56.03' | **12** |
| **13** | 13°41.55' | 15.0017° | 141°16.94' | N 15°10.30' | 0.7438' | 199°33.82' | 14.3913° | 315°24.67' | S 22°06.77' | 10.2394' | 60.8390' | 154°58.49' | **13** |
| **14** | 28°41.66' | 15.0017° | 141°19.30' | N 15°09.56' | 0.7443' | 213°57.41' | 14.3931° | 316°03.55' | S 21°56.38' | 10.3903' | 60.8287' | 170°00.95' | **14** |
| **15** | 43°41.76' | 15.0017° | 141°21.66' | N 15°08.81' | 0.7447' | 228°21.10' | 14.3949° | 316°42.32' | S 21°45.84' | 10.5391' | 60.8178' | 185°03.42' | **15** |
| **16** | 58°41.86' | 15.0017° | 141°24.02' | N 15°08.07' | 0.7451' | 242°44.91' | 14.3968° | 317°20.97' | S 21°35.16' | 10.6859' | 60.8064' | 200°05.88' | **16** |
| **17** | 73°41.97' | 15.0017° | 141°26.38' | N 15°07.32' | 0.7455' | 257°08.82' | 14.3986° | 317°59.52' | S 21°24.33' | 10.8307' | 60.7946' | 215°08.35' | **17** |
| **18** | 88°42.07' | 15.0017° | 141°28.74' | N 15°06.57' | 0.7459' | 271°32.85' | 14.4004° | 318°37.96' | S 21°13.35' | 10.9733' | 60.7822' | 230°10.81' | **18** |
| **19** | 103°42.17' | 15.0017° | 141°31.10' | N 15°05.83' | 0.7463' | 285°56.99' | 14.4023° | 319°16.29' | S 21°02.24' | 11.1138' | 60.7694' | 245°13.28' | **19** |
| **20** | 118°42.28' | 15.0017° | 141°33.46' | N 15°05.08' | 0.7468' | 300°21.24' | 14.4042° | 319°54.50' | S 20°50.99' | 11.2523' | 60.7560' | 260°15.74' | **20** |
| **21** | 133°42.38' | 15.0017° | 141°35.82' | N 15°04.33' | 0.7472' | 314°45.60' | 14.4060° | 320°32.60' | S 20°39.60' | 11.3886' | 60.7422' | 275°18.20' | **21** |
| **22** | 148°42.49' | 15.0017° | 141°38.18' | N 15°03.59' | 0.7476' | 329°10.08' | 14.4079° | 321°10.59' | S 20°28.08' | 11.5227' | 60.7278' | 290°20.67' | **22** |
| **23** | 163°42.59' | 15.0017° | 141°40.54' | N 15°02.84' | 0.7480' | 343°34.66' | 14.4098° | 321°48.47' | S 20°16.42' | 11.6548' | 60.7130' | 305°23.13' | **23** |
| **24** | 178°42.70' | 15.0018° | 141°42.90' | N 15°02.09' | 0.7484' | 357°59.37' | 14.4117° | 322°26.23' | S 20°04.64' | 11.7846' | 60.6977' | 320°25.60' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.7810' | hp (π) 0.1446' | ½Ø 16.5801' | 99.3344140674871<br>6% +gib | |
| EoT at 12:00 UTC : -5m 14s (δ 0.41 s/h) | | Phase at 12:00 UTC : 172.03° | | |
| Meridian Pass. Time : 12:05:14.196 | | Age : 13.4 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.14') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 198°09.43' | 121°17.03' | N 20°43.27' | 267°00.89' | 52°25.56' | N 17°19.40' | 311°06.35' | 8°20.10' | N 1°58.42' | 354°27.89' | 324°58.57' | S 15°20.66' | **00** |
| **01** | 213°08.67' | 121°20.25' | N 20°42.74' | 282°01.80' | 52°27.12' | N 17°19.80' | 326°08.91' | 8°20.01' | N 1°58.36' | 9°30.54' | 324°58.38' | S 15°20.72' | **01** |
| **02** | 228°07.92' | 121°23.46' | N 20°42.21' | 297°02.70' | 52°28.68' | N 17°20.19' | 341°11.47' | 8°19.91' | N 1°58.31' | 24°33.18' | 324°58.20' | S 15°20.79' | **02** |
| **03** | 243°07.17' | 121°26.68' | N 20°41.67' | 312°03.61' | 52°30.24' | N 17°20.59' | 356°14.03' | 8°19.82' | N 1°58.26' | 39°35.83' | 324°58.02' | S 15°20.85' | **03** |
| **04** | 258°06.42' | 121°29.90' | N 20°41.14' | 327°04.51' | 52°31.80' | N 17°20.99' | 11°16.59' | 8°19.72' | N 1°58.20' | 54°38.47' | 324°57.84' | S 15°20.92' | **04** |
| **05** | 273°05.67' | 121°33.11' | N 20°40.61' | 342°05.42' | 52°33.36' | N 17°21.39' | 26°19.15' | 8°19.63' | N 1°58.15' | 69°41.12' | 324°57.66' | S 15°20.98' | **05** |
| **06** | 288°04.92' | 121°36.33' | N 20°40.07' | 357°06.32' | 52°34.92' | N 17°21.79' | 41°21.71' | 8°19.53' | N 1°58.10' | 84°43.77' | 324°57.48' | S 15°21.05' | **06** |
| **07** | 303°04.16' | 121°39.54' | N 20°39.53' | 12°07.23' | 52°36.48' | N 17°22.19' | 56°24.27' | 8°19.44' | N 1°58.04' | 99°46.41' | 324°57.29' | S 15°21.11' | **07** |
| **08** | 318°03.41' | 121°42.76' | N 20°38.99' | 27°08.13' | 52°38.04' | N 17°22.58' | 71°26.83' | 8°19.34' | N 1°57.99' | 114°49.06' | 324°57.11' | S 15°21.17' | **08** |
| **09** | 333°02.66' | 121°45.97' | N 20°38.45' | 42°09.04' | 52°39.59' | N 17°22.98' | 86°29.39' | 8°19.24' | N 1°57.94' | 129°51.70' | 324°56.93' | S 15°21.24' | **09** |
| **10** | 348°01.91' | 121°49.18' | N 20°37.91' | 57°09.95' | 52°41.15' | N 17°23.38' | 101°31.95' | 8°19.15' | N 1°57.88' | 144°54.35' | 324°56.75' | S 15°21.30' | **10** |
| **11** | 3°01.17' | 121°52.40' | N 20°37.37' | 72°10.85' | 52°42.71' | N 17°23.78' | 116°34.51' | 8°19.05' | N 1°57.83' | 159°57.00' | 324°56.57' | S 15°21.37' | **11** |
| **12** | 18°00.42' | 121°55.61' | N 20°36.83' | 87°11.76' | 52°44.27' | N 17°24.17' | 131°37.07' | 8°18.95' | N 1°57.77' | 174°59.64' | 324°56.38' | S 15°21.43' | **12** |
| **13** | 32°59.67' | 121°58.82' | N 20°36.29' | 102°12.66' | 52°45.83' | N 17°24.57' | 146°39.64' | 8°18.85' | N 1°57.72' | 190°02.29' | 324°56.20' | S 15°21.50' | **13** |
| **14** | 47°58.92' | 122°02.04' | N 20°35.74' | 117°13.57' | 52°47.38' | N 17°24.96' | 161°42.20' | 8°18.76' | N 1°57.67' | 205°04.93' | 324°56.02' | S 15°21.56' | **14** |
| **15** | 62°58.17' | 122°05.25' | N 20°35.20' | 132°14.48' | 52°48.94' | N 17°25.36' | 176°44.76' | 8°18.66' | N 1°57.61' | 220°07.58' | 324°55.84' | S 15°21.62' | **15** |
| **16** | 77°57.42' | 122°08.46' | N 20°34.65' | 147°15.39' | 52°50.50' | N 17°25.76' | 191°47.32' | 8°18.56' | N 1°57.56' | 235°10.23' | 324°55.66' | S 15°21.69' | **16** |
| **17** | 92°56.68' | 122°11.67' | N 20°34.10' | 162°16.29' | 52°52.05' | N 17°26.15' | 206°49.89' | 8°18.46' | N 1°57.50' | 250°12.87' | 324°55.48' | S 15°21.75' | **17** |
| **18** | 107°55.93' | 122°14.88' | N 20°33.56' | 177°17.20' | 52°53.61' | N 17°26.55' | 221°52.45' | 8°18.36' | N 1°57.45' | 265°15.52' | 324°55.29' | S 15°21.82' | **18** |
| **19** | 122°55.18' | 122°18.09' | N 20°33.01' | 192°18.11' | 52°55.17' | N 17°26.94' | 236°55.01' | 8°18.26' | N 1°57.39' | 280°18.16' | 324°55.11' | S 15°21.88' | **19** |
| **20** | 137°54.44' | 122°21.30' | N 20°32.46' | 207°19.02' | 52°56.72' | N 17°27.33' | 251°57.58' | 8°18.16' | N 1°57.34' | 295°20.81' | 324°54.93' | S 15°21.95' | **20** |
| **21** | 152°53.69' | 122°24.52' | N 20°31.90' | 222°19.93' | 52°58.28' | N 17°27.73' | 267°00.14' | 8°18.06' | N 1°57.28' | 310°23.46' | 324°54.75' | S 15°22.01' | **21** |
| **22** | 167°52.94' | 122°27.73' | N 20°31.35' | 237°20.83' | 52°59.83' | N 17°28.12' | 282°02.71' | 8°17.96' | N 1°57.23' | 325°26.10' | 324°54.57' | S 15°22.07' | **22** |
| **23** | 182°52.20' | 122°30.93' | N 20°30.80' | 252°21.74' | 53°01.39' | N 17°28.52' | 297°05.27' | 8°17.86' | N 1°57.17' | 340°28.75' | 324°54.38' | S 15°22.14' | **23** |
| **24** | 197°51.45' | 122°34.14' | N 20°30.24' | 267°22.65' | 53°02.94' | N 17°28.91' | 312°07.84' | 8°17.76' | N 1°57.11' | 355°31.40' | 324°54.20' | S 15°22.20' | **24** |
| | δ 14.9875° | | *d* 0.5309' | δ 15.0151° | | *d* 0.3995' | δ 15.0426° | | *d* 0.0527' | δ 15.0441° | | *d* 0.0643' | |

## *Friday, August 12th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°42.70' | 15.0018° | 141°42.90' | N 15°02.09' | 0.7484' | 357°59.37' | 14.4117° | 322°26.23' | S 20°04.64' | 11.7846' | 60.6977' | 320°25.60' | **00** |
| **01** | 193°42.80' | 15.0018° | 141°45.26' | N 15°01.34' | 0.7488' | 12°24.18' | 14.4136° | 323°03.88' | S 19°52.72' | 11.9123' | 60.6819' | 335°28.06' | **01** |
| **02** | 208°42.91' | 15.0018° | 141°47.62' | N 15°00.59' | 0.7492' | 26°49.12' | 14.4155° | 323°41.41' | S 19°40.69' | 12.0379' | 60.6657' | 350°30.52' | **02** |
| **03** | 223°43.01' | 15.0018° | 141°49.97' | N 14°59.84' | 0.7497' | 41°14.16' | 14.4174° | 324°18.83' | S 19°28.52' | 12.1612' | 60.6490' | 5°32.99' | **03** |
| **04** | 238°43.12' | 15.0018° | 141°52.33' | N 14°59.09' | 0.7501' | 55°39.32' | 14.4194° | 324°56.13' | S 19°16.24' | 12.2824' | 60.6317' | 20°35.45' | **04** |
| **05** | 253°43.23' | 15.0018° | 141°54.69' | N 14°58.34' | 0.7505' | 70°04.60' | 14.4213° | 325°33.32' | S 19°03.84' | 12.4014' | 60.6141' | 35°37.92' | **05** |
| **06** | 268°43.33' | 15.0018° | 141°57.05' | N 14°57.59' | 0.7509' | 84°29.99' | 14.4232° | 326°10.39' | S 18°51.32' | 12.5182' | 60.5959' | 50°40.38' | **06** |
| **07** | 283°43.44' | 15.0018° | 141°59.40' | N 14°56.84' | 0.7513' | 98°55.50' | 14.4251° | 326°47.34' | S 18°38.69' | 12.6328' | 60.5773' | 65°42.85' | **07** |
| **08** | 298°43.55' | 15.0018° | 142°01.76' | N 14°56.09' | 0.7517' | 113°21.12' | 14.4270° | 327°24.19' | S 18°25.94' | 12.7452' | 60.5583' | 80°45.31' | **08** |
| **09** | 313°43.66' | 15.0018° | 142°04.12' | N 14°55.34' | 0.7521' | 127°46.86' | 14.4290° | 328°00.91' | S 18°13.09' | 12.8554' | 60.5387' | 95°47.77' | **09** |
| **10** | 328°43.76' | 15.0018° | 142°06.47' | N 14°54.58' | 0.7525' | 142°12.71' | 14.4309° | 328°37.52' | S 18°00.13' | 12.9634' | 60.5188' | 110°50.24' | **10** |
| **11** | 343°43.87' | 15.0018° | 142°08.83' | N 14°53.83' | 0.7530' | 156°38.68' | 14.4328° | 329°14.02' | S 17°47.06' | 13.0693' | 60.4983' | 125°52.70' | **11** |
| **12** | 358°43.98' | 15.0018° | 142°11.19' | N 14°53.08' | 0.7534' | 171°04.76' | 14.4347° | 329°50.40' | S 17°33.88' | 13.1729' | 60.4775' | 140°55.17' | **12** |
| **13** | 13°44.09' | 15.0018° | 142°13.54' | N 14°52.32' | 0.7538' | 185°30.96' | 14.4366° | 330°26.67' | S 17°20.61' | 13.2743' | 60.4562' | 155°57.63' | **13** |
| **14** | 28°44.20' | 15.0018° | 142°15.90' | N 14°51.57' | 0.7542' | 199°57.27' | 14.4385° | 331°02.82' | S 17°07.24' | 13.3736' | 60.4344' | 171°00.09' | **14** |
| **15** | 43°44.31' | 15.0018° | 142°18.25' | N 14°50.81' | 0.7546' | 214°23.70' | 14.4404° | 331°38.86' | S 16°53.76' | 13.4707' | 60.4122' | 186°02.56' | **15** |
| **16** | 58°44.41' | 15.0018° | 142°20.61' | N 14°50.06' | 0.7550' | 228°50.24' | 14.4423° | 332°14.79' | S 16°40.20' | 13.5656' | 60.3896' | 201°05.02' | **16** |
| **17** | 73°44.52' | 15.0018° | 142°22.96' | N 14°49.30' | 0.7554' | 243°16.89' | 14.4442° | 332°50.60' | S 16°26.54' | 13.6583' | 60.3666' | 216°07.49' | **17** |
| **18** | 88°44.63' | 15.0018° | 142°25.32' | N 14°48.55' | 0.7558' | 257°43.65' | 14.4461° | 333°26.30' | S 16°12.79' | 13.7489' | 60.3431' | 231°09.95' | **18** |
| **19** | 103°44.74' | 15.0018° | 142°27.67' | N 14°47.79' | 0.7562' | 272°10.53' | 14.4479° | 334°01.89' | S 15°58.95' | 13.8373' | 60.3193' | 246°12.41' | **19** |
| **20** | 118°44.85' | 15.0018° | 142°30.03' | N 14°47.04' | 0.7566' | 286°37.51' | 14.4498° | 334°37.37' | S 15°45.03' | 13.9235' | 60.2950' | 261°14.88' | **20** |
| **21** | 133°44.96' | 15.0018° | 142°32.38' | N 14°46.28' | 0.7570' | 301°04.61' | 14.4516° | 335°12.73' | S 15°31.02' | 14.0076' | 60.2703' | 276°17.34' | **21** |
| **22** | 148°45.07' | 15.0018° | 142°34.73' | N 14°45.52' | 0.7575' | 315°31.82' | 14.4535° | 335°47.99' | S 15°16.93' | 14.0896' | 60.2452' | 291°19.81' | **22** |
| **23** | 163°45.18' | 15.0018° | 142°37.09' | N 14°44.76' | 0.7579' | 329°59.14' | 14.4553° | 336°23.13' | S 15°02.76' | 14.1694' | 60.2198' | 306°22.27' | **23** |
| **24** | 178°45.30' | 15.0018° | 142°39.44' | N 14°44.01' | 0.7583' | 344°26.56' | 14.4571° | 336°58.17' | S 14°48.52' | 14.2472' | 60.1939' | 321°24.73' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7836' | hp (π) 0.1446' | ½Ø 16.4789' | 99.5371038026296 7% -gib |
| | EoT at 12:00 UTC : -5m 4s (δ 0.43 s/h) | | Phase at 12:00 UTC : 186.06° | |
| | Meridian Pass. Time : 12:05:04.082 | | Age : 14.5 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.14') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 197°51.45' | 122°34.14' | N 20°30.24' | 267°22.65' | 53°02.94' | N 17°28.91' | 312°07.84' | 8°17.76' | N 1°57.11' | 355°31.40' | 324°54.20' | S 15°22.20' | **00** |
| **01** | 212°50.71' | 122°37.35' | N 20°29.69' | 282°23.56' | 53°04.50' | N 17°29.30' | 327°10.40' | 8°17.66' | N 1°57.06' | 10°34.04' | 324°54.02' | S 15°22.27' | **01** |
| **02** | 227°49.96' | 122°40.56' | N 20°29.13' | 297°24.47' | 53°06.05' | N 17°29.69' | 342°12.97' | 8°17.56' | N 1°57.00' | 25°36.69' | 324°53.84' | S 15°22.33' | **02** |
| **03** | 242°49.22' | 122°43.77' | N 20°28.57' | 312°25.38' | 53°07.61' | N 17°30.09' | 357°15.54' | 8°17.45' | N 1°56.95' | 40°39.33' | 324°53.65' | S 15°22.40' | **03** |
| **04** | 257°48.47' | 122°46.98' | N 20°28.01' | 327°26.29' | 53°09.16' | N 17°30.48' | 12°18.10' | 8°17.35' | N 1°56.89' | 55°41.98' | 324°53.47' | S 15°22.46' | **04** |
| **05** | 272°47.73' | 122°50.19' | N 20°27.45' | 342°27.20' | 53°10.72' | N 17°30.87' | 27°20.67' | 8°17.25' | N 1°56.83' | 70°44.63' | 324°53.29' | S 15°22.52' | **05** |
| **06** | 287°46.99' | 122°53.39' | N 20°26.89' | 357°28.11' | 53°12.27' | N 17°31.26' | 42°23.24' | 8°17.14' | N 1°56.78' | 85°47.27' | 324°53.11' | S 15°22.59' | **06** |
| **07** | 302°46.24' | 122°56.60' | N 20°26.33' | 12°29.02' | 53°13.82' | N 17°31.65' | 57°25.80' | 8°17.04' | N 1°56.72' | 100°49.92' | 324°52.93' | S 15°22.65' | **07** |
| **08** | 317°45.50' | 122°59.81' | N 20°25.77' | 27°29.93' | 53°15.38' | N 17°32.05' | 72°28.37' | 8°16.94' | N 1°56.67' | 115°52.57' | 324°52.74' | S 15°22.72' | **08** |
| **09** | 332°44.76' | 123°03.01' | N 20°25.20' | 42°30.84' | 53°16.93' | N 17°32.44' | 87°30.94' | 8°16.83' | N 1°56.61' | 130°55.21' | 324°52.56' | S 15°22.78' | **09** |
| **10** | 347°44.02' | 123°06.22' | N 20°24.64' | 57°31.75' | 53°18.48' | N 17°32.83' | 102°33.51' | 8°16.73' | N 1°56.55' | 145°57.86' | 324°52.38' | S 15°22.85' | **10** |
| **11** | 2°43.28' | 123°09.43' | N 20°24.07' | 72°32.67' | 53°20.04' | N 17°33.22' | 117°36.08' | 8°16.63' | N 1°56.49' | 161°00.50' | 324°52.20' | S 15°22.91' | **11** |
| **12** | 17°42.54' | 123°12.63' | N 20°23.51' | 87°33.58' | 53°21.59' | N 17°33.61' | 132°38.65' | 8°16.52' | N 1°56.44' | 176°03.15' | 324°52.02' | S 15°22.97' | **12** |
| **13** | 32°41.79' | 123°15.84' | N 20°22.94' | 102°34.49' | 53°23.14' | N 17°34.00' | 147°41.21' | 8°16.42' | N 1°56.38' | 191°05.80' | 324°51.83' | S 15°23.04' | **13** |
| **14** | 47°41.05' | 123°19.04' | N 20°22.37' | 117°35.40' | 53°24.69' | N 17°34.39' | 162°43.78' | 8°16.31' | N 1°56.32' | 206°08.44' | 324°51.65' | S 15°23.10' | **14** |
| **15** | 62°40.31' | 123°22.24' | N 20°21.80' | 132°36.31' | 53°26.24' | N 17°34.78' | 177°46.35' | 8°16.20' | N 1°56.27' | 221°11.09' | 324°51.47' | S 15°23.17' | **15** |
| **16** | 77°39.57' | 123°25.45' | N 20°21.23' | 147°37.23' | 53°27.80' | N 17°35.17' | 192°48.92' | 8°16.10' | N 1°56.21' | 236°13.74' | 324°51.29' | S 15°23.23' | **16** |
| **17** | 92°38.83' | 123°28.65' | N 20°20.66' | 162°38.14' | 53°29.35' | N 17°35.55' | 207°51.49' | 8°15.99' | N 1°56.15' | 251°16.38' | 324°51.10' | S 15°23.30' | **17** |
| **18** | 107°38.09' | 123°31.86' | N 20°20.08' | 177°39.05' | 53°30.90' | N 17°35.94' | 222°54.07' | 8°15.89' | N 1°56.09' | 266°19.03' | 324°50.92' | S 15°23.36' | **18** |
| **19** | 122°37.36' | 123°35.06' | N 20°19.51' | 192°39.96' | 53°32.45' | N 17°36.33' | 237°56.64' | 8°15.78' | N 1°56.03' | 281°21.68' | 324°50.74' | S 15°23.42' | **19** |
| **20** | 137°36.62' | 123°38.26' | N 20°18.93' | 207°40.88' | 53°34.00' | N 17°36.72' | 252°59.21' | 8°15.67' | N 1°55.98' | 296°24.32' | 324°50.56' | S 15°23.49' | **20** |
| **21** | 152°35.88' | 123°41.46' | N 20°18.36' | 222°41.79' | 53°35.55' | N 17°37.11' | 268°01.78' | 8°15.56' | N 1°55.92' | 311°26.97' | 324°50.37' | S 15°23.55' | **21** |
| **22** | 167°35.14' | 123°44.67' | N 20°17.78' | 237°42.71' | 53°37.10' | N 17°37.49' | 283°04.35' | 8°15.46' | N 1°55.86' | 326°29.62' | 324°50.19' | S 15°23.62' | **22** |
| **23** | 182°34.40' | 123°47.87' | N 20°17.20' | 252°43.62' | 53°38.65' | N 17°37.88' | 298°06.92' | 8°15.35' | N 1°55.80' | 341°32.26' | 324°50.01' | S 15°23.68' | **23** |
| **24** | 197°33.67' | 123°51.07' | N 20°16.62' | 267°44.53' | 53°40.20' | N 17°38.27' | 313°09.50' | 8°15.24' | N 1°55.74' | 356°34.91' | 324°49.83' | S 15°23.75' | **24** |
| | δ 14.9876° | | *d* 0.5557' | δ 15.0152° | | *d* 0.3930' | δ 15.0428° | | *d* 0.0558' | δ 15.0441° | | *d* 0.0643' | |

## *Saturday, August 13th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°45.30' | 15.0018° | 142°39.44' | N 14°44.01' | 0.7583' | 344°26.56' | 14.4571° | 336°58.17' | S 14°48.52' | 14.2472' | 60.1939' | 321°24.73' | **00** |
| **01** | 193°45.41' | 15.0019° | 142°41.79' | N 14°43.25' | 0.7587' | 358°54.10' | 14.4589° | 337°33.10' | S 14°34.19' | 14.3228' | 60.1676' | 336°27.20' | **01** |
| **02** | 208°45.52' | 15.0019° | 142°44.14' | N 14°42.49' | 0.7591' | 13°21.74' | 14.4607° | 338°07.92' | S 14°19.80' | 14.3963' | 60.1410' | 351°29.66' | **02** |
| **03** | 223°45.63' | 15.0019° | 142°46.50' | N 14°41.73' | 0.7595' | 27°49.49' | 14.4625° | 338°42.64' | S 14°05.33' | 14.4677' | 60.1140' | 6°32.13' | **03** |
| **04** | 238°45.74' | 15.0019° | 142°48.85' | N 14°40.97' | 0.7599' | 42°17.35' | 14.4643° | 339°17.24' | S 13°50.79' | 14.5370' | 60.0866' | 21°34.59' | **04** |
| **05** | 253°45.85' | 15.0019° | 142°51.20' | N 14°40.21' | 0.7603' | 56°45.31' | 14.4660° | 339°51.75' | S 13°36.19' | 14.6043' | 60.0589' | 36°37.06' | **05** |
| **06** | 268°45.97' | 15.0019° | 142°53.55' | N 14°39.45' | 0.7607' | 71°13.37' | 14.4678° | 340°26.15' | S 13°21.52' | 14.6695' | 60.0308' | 51°39.52' | **06** |
| **07** | 283°46.08' | 15.0019° | 142°55.90' | N 14°38.69' | 0.7611' | 85°41.54' | 14.4695° | 341°00.44' | S 13°06.79' | 14.7327' | 60.0023' | 66°41.98' | **07** |
| **08** | 298°46.19' | 15.0019° | 142°58.26' | N 14°37.92' | 0.7615' | 100°09.81' | 14.4712° | 341°34.63' | S 12°51.99' | 14.7938' | 59.9735' | 81°44.45' | **08** |
| **09** | 313°46.31' | 15.0019° | 143°00.61' | N 14°37.16' | 0.7619' | 114°38.19' | 14.4729° | 342°08.72' | S 12°37.14' | 14.8530' | 59.9444' | 96°46.91' | **09** |
| **10** | 328°46.42' | 15.0019° | 143°02.96' | N 14°36.40' | 0.7623' | 129°06.66' | 14.4746° | 342°42.71' | S 12°22.23' | 14.9101' | 59.9149' | 111°49.38' | **10** |
| **11** | 343°46.53' | 15.0019° | 143°05.31' | N 14°35.64' | 0.7627' | 143°35.24' | 14.4762° | 343°16.60' | S 12°07.27' | 14.9652' | 59.8850' | 126°51.84' | **11** |
| **12** | 358°46.65' | 15.0019° | 143°07.66' | N 14°34.87' | 0.7631' | 158°03.91' | 14.4779° | 343°50.40' | S 11°52.25' | 15.0184' | 59.8549' | 141°54.30' | **12** |
| **13** | 13°46.76' | 15.0019° | 143°10.01' | N 14°34.11' | 0.7635' | 172°32.68' | 14.4795° | 344°24.09' | S 11°37.18' | 15.0696' | 59.8244' | 156°56.77' | **13** |
| **14** | 28°46.87' | 15.0019° | 143°12.36' | N 14°33.35' | 0.7639' | 187°01.55' | 14.4811° | 344°57.69' | S 11°22.06' | 15.1188' | 59.7937' | 171°59.23' | **14** |
| **15** | 43°46.99' | 15.0019° | 143°14.71' | N 14°32.58' | 0.7643' | 201°30.51' | 14.4827° | 345°31.19' | S 11°06.89' | 15.1661' | 59.7626' | 187°01.70' | **15** |
| **16** | 58°47.10' | 15.0019° | 143°17.06' | N 14°31.82' | 0.7647' | 215°59.57' | 14.4843° | 346°04.59' | S 10°51.68' | 15.2115' | 59.7312' | 202°04.16' | **16** |
| **17** | 73°47.22' | 15.0019° | 143°19.41' | N 14°31.05' | 0.7651' | 230°28.72' | 14.4859° | 346°37.91' | S 10°36.43' | 15.2550' | 59.6995' | 217°06.62' | **17** |
| **18** | 88°47.33' | 15.0019° | 143°21.75' | N 14°30.29' | 0.7655' | 244°57.96' | 14.4874° | 347°11.13' | S 10°21.13' | 15.2966' | 59.6675' | 232°09.09' | **18** |
| **19** | 103°47.45' | 15.0019° | 143°24.10' | N 14°29.52' | 0.7659' | 259°27.30' | 14.4889° | 347°44.25' | S 10°05.79' | 15.3364' | 59.6352' | 247°11.55' | **19** |
| **20** | 118°47.57' | 15.0019° | 143°26.45' | N 14°28.75' | 0.7663' | 273°56.72' | 14.4904° | 348°17.29' | S 9°50.42' | 15.3742' | 59.6027' | 262°14.02' | **20** |
| **21** | 133°47.68' | 15.0019° | 143°28.80' | N 14°27.99' | 0.7667' | 288°26.24' | 14.4919° | 348°50.24' | S 9°35.01' | 15.4103' | 59.5699' | 277°16.48' | **21** |
| **22** | 148°47.80' | 15.0019° | 143°31.15' | N 14°27.22' | 0.7671' | 302°55.84' | 14.4934° | 349°23.10' | S 9°19.56' | 15.4445' | 59.5368' | 292°18.94' | **22** |
| **23** | 163°47.91' | 15.0019° | 143°33.49' | N 14°26.45' | 0.7675' | 317°25.53' | 14.4948° | 349°55.87' | S 9°04.09' | 15.4769' | 59.5035' | 307°21.41' | **23** |
| **24** | 178°48.03' | 15.0019° | 143°35.84' | N 14°25.69' | 0.7679' | 331°55.31' | 14.4963° | 350°28.56' | S 8°48.58' | 15.5075' | 59.4699' | 322°23.87' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7863' | hp (π) 0.1447' | ½Ø 16.3093' | 96.8979832503755 % -gib |
| | EoT at 12:00 UTC : -4m 53s (δ 0.46 s/h) | | Phase at 12:00 UTC : 199.83° | |
| | Meridian Pass. Time : 12:04:53.415 | | Age : 15.5 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.14') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 197°33.67' | 123°51.07' | N 20°16.62' | 267°44.53' | 53°40.20' | N 17°38.27' | 313°09.50' | 8°15.24' | N 1°55.74' | 356°34.91' | 324°49.83' | S 15°23.75' | **00** |
| **01** | 212°32.93' | 123°54.27' | N 20°16.04' | 282°45.45' | 53°41.75' | N 17°38.65' | 328°12.07' | 8°15.13' | N 1°55.68' | 11°37.55' | 324°49.64' | S 15°23.81' | **01** |
| **02** | 227°32.19' | 123°57.47' | N 20°15.46' | 297°46.36' | 53°43.30' | N 17°39.04' | 343°14.64' | 8°15.02' | N 1°55.62' | 26°40.20' | 324°49.46' | S 15°23.87' | **02** |
| **03** | 242°31.46' | 124°00.67' | N 20°14.88' | 312°47.28' | 53°44.85' | N 17°39.43' | 358°17.22' | 8°14.91' | N 1°55.56' | 41°42.85' | 324°49.28' | S 15°23.94' | **03** |
| **04** | 257°30.72' | 124°03.87' | N 20°14.30' | 327°48.19' | 53°46.40' | N 17°39.81' | 13°19.79' | 8°14.80' | N 1°55.51' | 56°45.49' | 324°49.10' | S 15°24.00' | **04** |
| **05** | 272°29.98' | 124°07.07' | N 20°13.71' | 342°49.11' | 53°47.95' | N 17°40.20' | 28°22.36' | 8°14.69' | N 1°55.45' | 71°48.14' | 324°48.91' | S 15°24.07' | **05** |
| **06** | 287°29.25' | 124°10.27' | N 20°13.13' | 357°50.02' | 53°49.49' | N 17°40.58' | 43°24.94' | 8°14.58' | N 1°55.39' | 86°50.79' | 324°48.73' | S 15°24.13' | **06** |
| **07** | 302°28.51' | 124°13.47' | N 20°12.54' | 12°50.94' | 53°51.04' | N 17°40.97' | 58°27.51' | 8°14.47' | N 1°55.33' | 101°53.43' | 324°48.55' | S 15°24.19' | **07** |
| **08** | 317°27.78' | 124°16.67' | N 20°11.95' | 27°51.86' | 53°52.59' | N 17°41.35' | 73°30.09' | 8°14.36' | N 1°55.27' | 116°56.08' | 324°48.37' | S 15°24.26' | **08** |
| **09** | 332°27.05' | 124°19.87' | N 20°11.36' | 42°52.77' | 53°54.14' | N 17°41.74' | 88°32.66' | 8°14.25' | N 1°55.21' | 131°58.73' | 324°48.18' | S 15°24.32' | **09** |
| **10** | 347°26.31' | 124°23.06' | N 20°10.77' | 57°53.69' | 53°55.69' | N 17°42.12' | 103°35.24' | 8°14.14' | N 1°55.15' | 147°01.37' | 324°48.00' | S 15°24.39' | **10** |
| **11** | 2°25.58' | 124°26.26' | N 20°10.18' | 72°54.61' | 53°57.23' | N 17°42.50' | 118°37.81' | 8°14.03' | N 1°55.09' | 162°04.02' | 324°47.82' | S 15°24.45' | **11** |
| **12** | 17°24.85' | 124°29.46' | N 20°09.59' | 87°55.52' | 53°58.78' | N 17°42.89' | 133°40.39' | 8°13.91' | N 1°55.03' | 177°06.67' | 324°47.64' | S 15°24.52' | **12** |
| **13** | 32°24.11' | 124°32.66' | N 20°09.00' | 102°56.44' | 54°00.33' | N 17°43.27' | 148°42.97' | 8°13.80' | N 1°54.97' | 192°09.31' | 324°47.45' | S 15°24.58' | **13** |
| **14** | 47°23.38' | 124°35.85' | N 20°08.41' | 117°57.36' | 54°01.87' | N 17°43.65' | 163°45.54' | 8°13.69' | N 1°54.91' | 207°11.96' | 324°47.27' | S 15°24.64' | **14** |
| **15** | 62°22.65' | 124°39.05' | N 20°07.81' | 132°58.28' | 54°03.42' | N 17°44.04' | 178°48.12' | 8°13.57' | N 1°54.85' | 222°14.61' | 324°47.09' | S 15°24.71' | **15** |
| **16** | 77°21.92' | 124°42.24' | N 20°07.22' | 147°59.19' | 54°04.97' | N 17°44.42' | 193°50.70' | 8°13.46' | N 1°54.79' | 237°17.25' | 324°46.91' | S 15°24.77' | **16** |
| **17** | 92°21.18' | 124°45.44' | N 20°06.62' | 163°00.11' | 54°06.51' | N 17°44.80' | 208°53.28' | 8°13.35' | N 1°54.73' | 252°19.90' | 324°46.72' | S 15°24.84' | **17** |
| **18** | 107°20.45' | 124°48.64' | N 20°06.02' | 178°01.03' | 54°08.06' | N 17°45.18' | 223°55.85' | 8°13.23' | N 1°54.66' | 267°22.55' | 324°46.54' | S 15°24.90' | **18** |
| **19** | 122°19.72' | 124°51.83' | N 20°05.43' | 193°01.95' | 54°09.60' | N 17°45.57' | 238°58.43' | 8°13.12' | N 1°54.60' | 282°25.19' | 324°46.36' | S 15°24.96' | **19** |
| **20** | 137°18.99' | 124°55.02' | N 20°04.83' | 208°02.87' | 54°11.15' | N 17°45.95' | 254°01.01' | 8°13.00' | N 1°54.54' | 297°27.84' | 324°46.18' | S 15°25.03' | **20** |
| **21** | 152°18.26' | 124°58.22' | N 20°04.23' | 223°03.79' | 54°12.69' | N 17°46.33' | 269°03.59' | 8°12.89' | N 1°54.48' | 312°30.49' | 324°45.99' | S 15°25.09' | **21** |
| **22** | 167°17.53' | 125°01.41' | N 20°03.62' | 238°04.71' | 54°14.24' | N 17°46.71' | 284°06.17' | 8°12.77' | N 1°54.42' | 327°33.13' | 324°45.81' | S 15°25.16' | **22** |
| **23** | 182°16.80' | 125°04.61' | N 20°03.02' | 253°05.63' | 54°15.78' | N 17°47.09' | 299°08.75' | 8°12.66' | N 1°54.36' | 342°35.78' | 324°45.63' | S 15°25.22' | **23** |
| **24** | 197°16.07' | 125°07.80' | N 20°02.42' | 268°06.55' | 54°17.33' | N 17°47.47' | 314°11.33' | 8°12.54' | N 1°54.30' | 357°38.43' | 324°45.45' | S 15°25.28' | **24** |
| | δ 14.9877° | | *d* 0.5802' | δ 15.0152° | | *d* 0.3866' | δ 15.0429° | | *d* 0.0588' | δ 15.0441° | | *d* 0.0642' | |

## *Sunday, August 14th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°48.03' | 15.0019° | 143°35.84' | N 14°25.69' | 0.7679' | 331°55.31' | 14.4963° | 350°28.56' | S 8°48.58' | 15.5075' | 59.4699' | 322°23.87' | **00** |
| **01** | 193°48.15' | 15.0019° | 143°38.19' | N 14°24.92' | 0.7683' | 346°25.17' | 14.4977° | 351°01.16' | S 8°33.04' | 15.5364' | 59.4360' | 337°26.34' | **01** |
| **02** | 208°48.26' | 15.0020° | 143°40.54' | N 14°24.15' | 0.7687' | 0°55.12' | 14.4991° | 351°33.68' | S 8°17.48' | 15.5634' | 59.4020' | 352°28.80' | **02** |
| **03** | 223°48.38' | 15.0020° | 143°42.88' | N 14°23.38' | 0.7691' | 15°25.14' | 14.5005° | 352°06.12' | S 8°01.89' | 15.5888' | 59.3676' | 7°31.26' | **03** |
| **04** | 238°48.50' | 15.0020° | 143°45.23' | N 14°22.61' | 0.7695' | 29°55.25' | 14.5018° | 352°38.48' | S 7°46.28' | 15.6124' | 59.3331' | 22°33.73' | **04** |
| **05** | 253°48.62' | 15.0020° | 143°47.58' | N 14°21.84' | 0.7699' | 44°25.44' | 14.5031° | 353°10.75' | S 7°30.64' | 15.6343' | 59.2983' | 37°36.19' | **05** |
| **06** | 268°48.74' | 15.0020° | 143°49.92' | N 14°21.07' | 0.7703' | 58°55.71' | 14.5044° | 353°42.95' | S 7°14.99' | 15.6545' | 59.2633' | 52°38.66' | **06** |
| **07** | 283°48.85' | 15.0020° | 143°52.27' | N 14°20.30' | 0.7707' | 73°26.05' | 14.5057° | 354°15.07' | S 6°59.32' | 15.6730' | 59.2281' | 67°41.12' | **07** |
| **08** | 298°48.97' | 15.0020° | 143°54.61' | N 14°19.53' | 0.7711' | 87°56.47' | 14.5070° | 354°47.11' | S 6°43.63' | 15.6898' | 59.1928' | 82°43.58' | **08** |
| **09** | 313°49.09' | 15.0020° | 143°56.96' | N 14°18.76' | 0.7715' | 102°26.97' | 14.5083° | 355°19.08' | S 6°27.92' | 15.7051' | 59.1572' | 97°46.05' | **09** |
| **10** | 328°49.21' | 15.0020° | 143°59.30' | N 14°17.98' | 0.7719' | 116°57.54' | 14.5095° | 355°50.98' | S 6°12.20' | 15.7186' | 59.1214' | 112°48.51' | **10** |
| **11** | 343°49.33' | 15.0020° | 144°01.65' | N 14°17.21' | 0.7723' | 131°28.18' | 14.5107° | 356°22.80' | S 5°56.47' | 15.7306' | 59.0854' | 127°50.98' | **11** |
| **12** | 358°49.45' | 15.0020° | 144°03.99' | N 14°16.44' | 0.7727' | 145°58.89' | 14.5119° | 356°54.55' | S 5°40.73' | 15.7410' | 59.0493' | 142°53.44' | **12** |
| **13** | 13°49.57' | 15.0020° | 144°06.34' | N 14°15.67' | 0.7731' | 160°29.68' | 14.5131° | 357°26.23' | S 5°24.98' | 15.7498' | 59.0129' | 157°55.91' | **13** |
| **14** | 28°49.69' | 15.0020° | 144°08.68' | N 14°14.89' | 0.7735' | 175°00.53' | 14.5142° | 357°57.84' | S 5°09.22' | 15.7570' | 58.9764' | 172°58.37' | **14** |
| **15** | 43°49.81' | 15.0020° | 144°11.03' | N 14°14.12' | 0.7739' | 189°31.45' | 14.5153° | 358°29.38' | S 4°53.46' | 15.7627' | 58.9398' | 188°00.83' | **15** |
| **16** | 58°49.93' | 15.0020° | 144°13.37' | N 14°13.34' | 0.7743' | 204°02.43' | 14.5164° | 359°00.86' | S 4°37.69' | 15.7669' | 58.9030' | 203°03.30' | **16** |
| **17** | 73°50.05' | 15.0020° | 144°15.71' | N 14°12.57' | 0.7747' | 218°33.49' | 14.5175° | 359°32.28' | S 4°21.93' | 15.7696' | 58.8661' | 218°05.76' | **17** |
| **18** | 88°50.17' | 15.0020° | 144°18.06' | N 14°11.79' | 0.7751' | 233°04.60' | 14.5186° | 0°03.63' | S 4°06.15' | 15.7707' | 58.8290' | 233°08.23' | **18** |
| **19** | 103°50.29' | 15.0020° | 144°20.40' | N 14°11.02' | 0.7755' | 247°35.78' | 14.5196° | 0°34.91' | S 3°50.38' | 15.7704' | 58.7917' | 248°10.69' | **19** |
| **20** | 118°50.41' | 15.0020° | 144°22.74' | N 14°10.24' | 0.7758' | 262°07.02' | 14.5206° | 1°06.14' | S 3°34.62' | 15.7686' | 58.7544' | 263°13.15' | **20** |
| **21** | 133°50.53' | 15.0020° | 144°25.08' | N 14°09.47' | 0.7762' | 276°38.31' | 14.5216° | 1°37.30' | S 3°18.85' | 15.7654' | 58.7169' | 278°15.62' | **21** |
| **22** | 148°50.65' | 15.0020° | 144°27.43' | N 14°08.69' | 0.7766' | 291°09.67' | 14.5226° | 2°08.41' | S 3°03.09' | 15.7607' | 58.6793' | 293°18.08' | **22** |
| **23** | 163°50.78' | 15.0020° | 144°29.77' | N 14°07.91' | 0.7770' | 305°41.09' | 14.5236° | 2°39.46' | S 2°47.34' | 15.7546' | 58.6416' | 308°20.55' | **23** |
| **24** | 178°50.90' | 15.0020° | 144°32.11' | N 14°07.14' | 0.7774' | 320°12.56' | 14.5245° | 3°10.45' | S 2°31.59' | 15.7471' | 58.6038' | 323°23.01' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.7890' | hp (π) 0.1447' | ½Ø 16.0898' | 91.7684390953374<br>6% -gib | |
| EoT at 12:00 UTC : -4m 42s (δ 0.48 s/h) | | Phase at 12:00 UTC : 213.21° | | |
| Meridian Pass. Time : 12:04:42.208 | | Age : 16.6 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.14') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 197°16.07' | 125°07.80' | N 20°02.42' | 268°06.55' | 54°17.33' | N 17°47.47' | 314°11.33' | 8°12.54' | N 1°54.30' | 357°38.43' | 324°45.45' | S 15°25.28' | **00** |
| **01** | 212°15.34' | 125°10.99' | N 20°01.81' | 283°07.47' | 54°18.87' | N 17°47.85' | 329°13.91' | 8°12.43' | N 1°54.23' | 12°41.07' | 324°45.26' | S 15°25.35' | **01** |
| **02** | 227°14.62' | 125°14.18' | N 20°01.21' | 298°08.39' | 54°20.41' | N 17°48.23' | 344°16.49' | 8°12.31' | N 1°54.17' | 27°43.72' | 324°45.08' | S 15°25.41' | **02** |
| **03** | 242°13.89' | 125°17.38' | N 20°00.60' | 313°09.31' | 54°21.96' | N 17°48.61' | 359°19.07' | 8°12.19' | N 1°54.11' | 42°46.37' | 324°44.90' | S 15°25.48' | **03** |
| **04** | 257°13.16' | 125°20.57' | N 19°59.99' | 328°10.23' | 54°23.50' | N 17°48.99' | 14°21.65' | 8°12.08' | N 1°54.05' | 57°49.01' | 324°44.71' | S 15°25.54' | **04** |
| **05** | 272°12.43' | 125°23.76' | N 19°59.39' | 343°11.15' | 54°25.04' | N 17°49.37' | 29°24.23' | 8°11.96' | N 1°53.99' | 72°51.66' | 324°44.53' | S 15°25.61' | **05** |
| **06** | 287°11.71' | 125°26.95' | N 19°58.78' | 358°12.07' | 54°26.59' | N 17°49.75' | 44°26.81' | 8°11.84' | N 1°53.92' | 87°54.31' | 324°44.35' | S 15°25.67' | **06** |
| **07** | 302°10.98' | 125°30.14' | N 19°58.17' | 13°12.99' | 54°28.13' | N 17°50.13' | 59°29.40' | 8°11.72' | N 1°53.86' | 102°56.95' | 324°44.17' | S 15°25.73' | **07** |
| **08** | 317°10.25' | 125°33.33' | N 19°57.55' | 28°13.91' | 54°29.67' | N 17°50.50' | 74°31.98' | 8°11.61' | N 1°53.80' | 117°59.60' | 324°43.98' | S 15°25.80' | **08** |
| **09** | 332°09.53' | 125°36.52' | N 19°56.94' | 43°14.83' | 54°31.21' | N 17°50.88' | 89°34.56' | 8°11.49' | N 1°53.74' | 133°02.25' | 324°43.80' | S 15°25.86' | **09** |
| **10** | 347°08.80' | 125°39.71' | N 19°56.33' | 58°15.76' | 54°32.76' | N 17°51.26' | 104°37.14' | 8°11.37' | N 1°53.67' | 148°04.89' | 324°43.62' | S 15°25.93' | **10** |
| **11** | 2°08.08' | 125°42.90' | N 19°55.71' | 73°16.68' | 54°34.30' | N 17°51.64' | 119°39.73' | 8°11.25' | N 1°53.61' | 163°07.54' | 324°43.44' | S 15°25.99' | **11** |
| **12** | 17°07.35' | 125°46.09' | N 19°55.10' | 88°17.60' | 54°35.84' | N 17°52.01' | 134°42.31' | 8°11.13' | N 1°53.55' | 178°10.19' | 324°43.25' | S 15°26.05' | **12** |
| **13** | 32°06.63' | 125°49.28' | N 19°54.48' | 103°18.53' | 54°37.38' | N 17°52.39' | 149°44.89' | 8°11.01' | N 1°53.48' | 193°12.84' | 324°43.07' | S 15°26.12' | **13** |
| **14** | 47°05.90' | 125°52.47' | N 19°53.86' | 118°19.45' | 54°38.92' | N 17°52.77' | 164°47.48' | 8°10.89' | N 1°53.42' | 208°15.48' | 324°42.89' | S 15°26.18' | **14** |
| **15** | 62°05.18' | 125°55.65' | N 19°53.25' | 133°20.37' | 54°40.46' | N 17°53.14' | 179°50.06' | 8°10.77' | N 1°53.36' | 223°18.13' | 324°42.70' | S 15°26.25' | **15** |
| **16** | 77°04.46' | 125°58.84' | N 19°52.63' | 148°21.30' | 54°42.00' | N 17°53.52' | 194°52.65' | 8°10.65' | N 1°53.29' | 238°20.78' | 324°42.52' | S 15°26.31' | **16** |
| **17** | 92°03.73' | 126°02.03' | N 19°52.01' | 163°22.22' | 54°43.54' | N 17°53.89' | 209°55.23' | 8°10.53' | N 1°53.23' | 253°23.42' | 324°42.34' | S 15°26.37' | **17** |
| **18** | 107°03.01' | 126°05.21' | N 19°51.38' | 178°23.14' | 54°45.08' | N 17°54.27' | 224°57.82' | 8°10.41' | N 1°53.17' | 268°26.07' | 324°42.16' | S 15°26.44' | **18** |
| **19** | 122°02.29' | 126°08.40' | N 19°50.76' | 193°24.07' | 54°46.62' | N 17°54.65' | 240°00.40' | 8°10.29' | N 1°53.10' | 283°28.72' | 324°41.97' | S 15°26.50' | **19** |
| **20** | 137°01.57' | 126°11.59' | N 19°50.14' | 208°24.99' | 54°48.16' | N 17°55.02' | 255°02.99' | 8°10.17' | N 1°53.04' | 298°31.36' | 324°41.79' | S 15°26.57' | **20** |
| **21** | 152°00.84' | 126°14.77' | N 19°49.51' | 223°25.92' | 54°49.70' | N 17°55.40' | 270°05.57' | 8°10.04' | N 1°52.97' | 313°34.01' | 324°41.61' | S 15°26.63' | **21** |
| **22** | 167°00.12' | 126°17.96' | N 19°48.89' | 238°26.84' | 54°51.24' | N 17°55.77' | 285°08.16' | 8°09.92' | N 1°52.91' | 328°36.66' | 324°41.42' | S 15°26.69' | **22** |
| **23** | 181°59.40' | 126°21.14' | N 19°48.26' | 253°27.77' | 54°52.78' | N 17°56.14' | 300°10.75' | 8°09.80' | N 1°52.84' | 343°39.30' | 324°41.24' | S 15°26.76' | **23** |
| **24** | 196°58.68' | 126°24.33' | N 19°47.64' | 268°28.69' | 54°54.32' | N 17°56.52' | 315°13.33' | 8°09.68' | N 1°52.78' | 358°41.95' | 324°41.06' | S 15°26.82' | **24** |
| | δ 14.9879° | | *d* 0.6045' | δ 15.0153° | | *d* 0.3801' | δ 15.0430° | | *d* 0.0618' | δ 15.0441° | | *d* 0.0641' | |

## *Monday, August 15th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°50.90' | 15.0020° | 144°32.11' | N 14°07.14' | 0.7774' | 320°12.56' | 14.5245° | 3°10.45' | S 2°31.59' | 15.7471' | 58.6038' | 323°23.01' | **00** |
| **01** | 193°51.02' | 15.0020° | 144°34.45' | N 14°06.36' | 0.7778' | 334°44.08' | 14.5254° | 3°41.39' | S 2°15.85' | 15.7382' | 58.5660' | 338°25.47' | **01** |
| **02** | 208°51.14' | 15.0020° | 144°36.79' | N 14°05.58' | 0.7782' | 349°15.66' | 14.5263° | 4°12.28' | S 2°00.12' | 15.7280' | 58.5280' | 353°27.94' | **02** |
| **03** | 223°51.27' | 15.0020° | 144°39.14' | N 14°04.80' | 0.7786' | 3°47.29' | 14.5272° | 4°43.11' | S 1°44.41' | 15.7164' | 58.4899' | 8°30.40' | **03** |
| **04** | 238°51.39' | 15.0021° | 144°41.48' | N 14°04.02' | 0.7790' | 18°18.98' | 14.5280° | 5°13.89' | S 1°28.70' | 15.7034' | 58.4517' | 23°32.87' | **04** |
| **05** | 253°51.51' | 15.0021° | 144°43.82' | N 14°03.24' | 0.7794' | 32°50.71' | 14.5289° | 5°44.62' | S 1°13.01' | 15.6891' | 58.4135' | 38°35.33' | **05** |
| **06** | 268°51.64' | 15.0021° | 144°46.16' | N 14°02.46' | 0.7797' | 47°22.49' | 14.5297° | 6°15.30' | S 0°57.34' | 15.6736' | 58.3752' | 53°37.79' | **06** |
| **07** | 283°51.76' | 15.0021° | 144°48.50' | N 14°01.68' | 0.7801' | 61°54.32' | 14.5305° | 6°45.94' | S 0°41.68' | 15.6567' | 58.3369' | 68°40.26' | **07** |
| **08** | 298°51.88' | 15.0021° | 144°50.84' | N 14°00.90' | 0.7805' | 76°26.19' | 14.5312° | 7°16.53' | S 0°26.04' | 15.6385' | 58.2985' | 83°42.72' | **08** |
| **09** | 313°52.01' | 15.0021° | 144°53.18' | N 14°00.12' | 0.7809' | 90°58.11' | 14.5320° | 7°47.07' | S 0°10.42' | 15.6191' | 58.2600' | 98°45.19' | **09** |
| **10** | 328°52.13' | 15.0021° | 144°55.52' | N 13°59.34' | 0.7813' | 105°30.07' | 14.5327° | 8°17.58' | N 0°05.17' | 15.5984' | 58.2215' | 113°47.65' | **10** |
| **11** | 343°52.26' | 15.0021° | 144°57.86' | N 13°58.56' | 0.7817' | 120°02.08' | 14.5334° | 8°48.03' | N 0°20.75' | 15.5765' | 58.1830' | 128°50.11' | **11** |
| **12** | 358°52.38' | 15.0021° | 145°00.20' | N 13°57.78' | 0.7821' | 134°34.13' | 14.5341° | 9°18.45' | N 0°36.30' | 15.5533' | 58.1444' | 143°52.58' | **12** |
| **13** | 13°52.51' | 15.0021° | 145°02.54' | N 13°56.99' | 0.7825' | 149°06.21' | 14.5348° | 9°48.83' | N 0°51.83' | 15.5290' | 58.1058' | 158°55.04' | **13** |
| **14** | 28°52.63' | 15.0021° | 145°04.87' | N 13°56.21' | 0.7828' | 163°38.34' | 14.5354° | 10°19.17' | N 1°07.34' | 15.5034' | 58.0672' | 173°57.51' | **14** |
| **15** | 43°52.76' | 15.0021° | 145°07.21' | N 13°55.43' | 0.7832' | 178°10.50' | 14.5360° | 10°49.47' | N 1°22.81' | 15.4767' | 58.0286' | 188°59.97' | **15** |
| **16** | 58°52.88' | 15.0021° | 145°09.55' | N 13°54.64' | 0.7836' | 192°42.70' | 14.5366° | 11°19.74' | N 1°38.26' | 15.4488' | 57.9900' | 204°02.43' | **16** |
| **17** | 73°53.01' | 15.0021° | 145°11.89' | N 13°53.86' | 0.7840' | 207°14.93' | 14.5372° | 11°49.97' | N 1°53.68' | 15.4197' | 57.9513' | 219°04.90' | **17** |
| **18** | 88°53.14' | 15.0021° | 145°14.23' | N 13°53.08' | 0.7844' | 221°47.20' | 14.5378° | 12°20.16' | N 2°09.07' | 15.3895' | 57.9127' | 234°07.36' | **18** |
| **19** | 103°53.26' | 15.0021° | 145°16.56' | N 13°52.29' | 0.7848' | 236°19.50' | 14.5383° | 12°50.33' | N 2°24.43' | 15.3581' | 57.8741' | 249°09.83' | **19** |
| **20** | 118°53.39' | 15.0021° | 145°18.90' | N 13°51.51' | 0.7852' | 250°51.83' | 14.5388° | 13°20.46' | N 2°39.75' | 15.3256' | 57.8355' | 264°12.29' | **20** |
| **21** | 133°53.52' | 15.0021° | 145°21.24' | N 13°50.72' | 0.7855' | 265°24.19' | 14.5393° | 13°50.56' | N 2°55.05' | 15.2920' | 57.7969' | 279°14.75' | **21** |
| **22** | 148°53.64' | 15.0021° | 145°23.58' | N 13°49.94' | 0.7859' | 279°56.58' | 14.5398° | 14°20.64' | N 3°10.30' | 15.2574' | 57.7583' | 294°17.22' | **22** |
| **23** | 163°53.77' | 15.0021° | 145°25.91' | N 13°49.15' | 0.7863' | 294°29.00' | 14.5403° | 14°50.69' | N 3°25.52' | 15.2216' | 57.7197' | 309°19.68' | **23** |
| **24** | 178°53.90' | 15.0021° | 145°28.25' | N 13°48.36' | 0.7867' | 309°01.44' | 14.5407° | 15°20.71' | N 3°40.71' | 15.1848' | 57.6812' | 324°22.15' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7917' | hp (π) 0.1447' | ½Ø 15.8433' | 84.6601190495722 6% -gib |
| | EoT at 12:00 UTC : -4m 30s (δ 0.50 s/h) | | Phase at 12:00 UTC : 226.14° | |
| | Meridian Pass. Time : 12:04:30.473 | | Age : 17.6 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.14') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 196°58.68' | 126°24.33' | N 19°47.64' | 268°28.69' | 54°54.32' | N 17°56.52' | 315°13.33' | 8°09.68' | N 1°52.78' | 358°41.95' | 324°41.06' | S 15°26.82' | **00** |
| **01** | 211°57.96' | 126°27.51' | N 19°47.01' | 283°29.62' | 54°55.86' | N 17°56.89' | 330°15.92' | 8°09.55' | N 1°52.71' | 13°44.60' | 324°40.88' | S 15°26.88' | **01** |
| **02** | 226°57.24' | 126°30.70' | N 19°46.38' | 298°30.54' | 54°57.39' | N 17°57.26' | 345°18.51' | 8°09.43' | N 1°52.65' | 28°47.24' | 324°40.69' | S 15°26.95' | **02** |
| **03** | 241°56.52' | 126°33.88' | N 19°45.75' | 313°31.47' | 54°58.93' | N 17°57.64' | 0°21.10' | 8°09.30' | N 1°52.58' | 43°49.89' | 324°40.51' | S 15°27.01' | **03** |
| **04** | 256°55.80' | 126°37.06' | N 19°45.12' | 328°32.40' | 55°00.47' | N 17°58.01' | 15°23.69' | 8°09.18' | N 1°52.52' | 58°52.54' | 324°40.33' | S 15°27.08' | **04** |
| **05** | 271°55.08' | 126°40.25' | N 19°44.48' | 343°33.32' | 55°02.01' | N 17°58.38' | 30°26.27' | 8°09.06' | N 1°52.45' | 73°55.18' | 324°40.14' | S 15°27.14' | **05** |
| **06** | 286°54.37' | 126°43.43' | N 19°43.85' | 358°34.25' | 55°03.54' | N 17°58.76' | 45°28.86' | 8°08.93' | N 1°52.39' | 88°57.83' | 324°39.96' | S 15°27.20' | **06** |
| **07** | 301°53.65' | 126°46.61' | N 19°43.22' | 13°35.18' | 55°05.08' | N 17°59.13' | 60°31.45' | 8°08.81' | N 1°52.32' | 104°00.48' | 324°39.78' | S 15°27.27' | **07** |
| **08** | 316°52.93' | 126°49.79' | N 19°42.58' | 28°36.11' | 55°06.62' | N 17°59.50' | 75°34.04' | 8°08.68' | N 1°52.26' | 119°03.13' | 324°39.60' | S 15°27.33' | **08** |
| **09** | 331°52.21' | 126°52.97' | N 19°41.94' | 43°37.03' | 55°08.15' | N 17°59.87' | 90°36.63' | 8°08.55' | N 1°52.19' | 134°05.77' | 324°39.41' | S 15°27.40' | **09** |
| **10** | 346°51.50' | 126°56.15' | N 19°41.31' | 58°37.96' | 55°09.69' | N 18°00.24' | 105°39.22' | 8°08.43' | N 1°52.13' | 149°08.42' | 324°39.23' | S 15°27.46' | **10** |
| **11** | 1°50.78' | 126°59.34' | N 19°40.67' | 73°38.89' | 55°11.22' | N 18°00.61' | 120°41.81' | 8°08.30' | N 1°52.06' | 164°11.07' | 324°39.05' | S 15°27.52' | **11** |
| **12** | 16°50.06' | 127°02.52' | N 19°40.03' | 88°39.82' | 55°12.76' | N 18°00.98' | 135°44.40' | 8°08.18' | N 1°51.99' | 179°13.71' | 324°38.87' | S 15°27.59' | **12** |
| **13** | 31°49.35' | 127°05.70' | N 19°39.39' | 103°40.75' | 55°14.30' | N 18°01.35' | 150°46.99' | 8°08.05' | N 1°51.93' | 194°16.36' | 324°38.68' | S 15°27.65' | **13** |
| **14** | 46°48.63' | 127°08.88' | N 19°38.75' | 118°41.68' | 55°15.83' | N 18°01.72' | 165°49.58' | 8°07.92' | N 1°51.86' | 209°19.01' | 324°38.50' | S 15°27.72' | **14** |
| **15** | 61°47.92' | 127°12.05' | N 19°38.11' | 133°42.60' | 55°17.37' | N 18°02.09' | 180°52.18' | 8°07.79' | N 1°51.80' | 224°21.65' | 324°38.32' | S 15°27.78' | **15** |
| **16** | 76°47.20' | 127°15.23' | N 19°37.46' | 148°43.53' | 55°18.90' | N 18°02.46' | 195°54.77' | 8°07.67' | N 1°51.73' | 239°24.30' | 324°38.13' | S 15°27.84' | **16** |
| **17** | 91°46.49' | 127°18.41' | N 19°36.82' | 163°44.46' | 55°20.43' | N 18°02.83' | 210°57.36' | 8°07.54' | N 1°51.66' | 254°26.95' | 324°37.95' | S 15°27.91' | **17** |
| **18** | 106°45.77' | 127°21.59' | N 19°36.17' | 178°45.39' | 55°21.97' | N 18°03.20' | 225°59.95' | 8°07.41' | N 1°51.60' | 269°29.59' | 324°37.77' | S 15°27.97' | **18** |
| **19** | 121°45.06' | 127°24.77' | N 19°35.53' | 193°46.32' | 55°23.50' | N 18°03.57' | 241°02.54' | 8°07.28' | N 1°51.53' | 284°32.24' | 324°37.59' | S 15°28.03' | **19** |
| **20** | 136°44.34' | 127°27.95' | N 19°34.88' | 208°47.25' | 55°25.04' | N 18°03.94' | 256°05.14' | 8°07.15' | N 1°51.46' | 299°34.89' | 324°37.40' | S 15°28.10' | **20** |
| **21** | 151°43.63' | 127°31.12' | N 19°34.23' | 223°48.19' | 55°26.57' | N 18°04.31' | 271°07.73' | 8°07.02' | N 1°51.39' | 314°37.54' | 324°37.22' | S 15°28.16' | **21** |
| **22** | 166°42.92' | 127°34.30' | N 19°33.58' | 238°49.12' | 55°28.10' | N 18°04.67' | 286°10.32' | 8°06.89' | N 1°51.33' | 329°40.18' | 324°37.04' | S 15°28.23' | **22** |
| **23** | 181°42.21' | 127°37.48' | N 19°32.93' | 253°50.05' | 55°29.64' | N 18°05.04' | 301°12.92' | 8°06.76' | N 1°51.26' | 344°42.83' | 324°36.85' | S 15°28.29' | **23** |
| **24** | 196°41.50' | 127°40.65' | N 19°32.28' | 268°50.98' | 55°31.17' | N 18°05.41' | 316°15.51' | 8°06.63' | N 1°51.19' | 359°45.48' | 324°36.67' | S 15°28.35' | **24** |
| | δ 14.9880° | | *d* 0.6284' | δ 15.0154° | | *d* 0.3736' | δ 15.0431° | | *d* 0.0647' | δ 15.0441° | | *d* 0.0639' | |

## *Tuesday, August 16th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°53.90' | 15.0021° | 145°28.25' | N 13°48.36' | 0.7867' | 309°01.44' | 14.5407° | 15°20.71' | N 3°40.71' | 15.1848' | 57.6812' | 324°22.15' | **00** |
| **01** | 193°54.02' | 15.0021° | 145°30.59' | N 13°47.58' | 0.7871' | 323°33.91' | 14.5412° | 15°50.70' | N 3°55.86' | 15.1469' | 57.6428' | 339°24.61' | **01** |
| **02** | 208°54.15' | 15.0021° | 145°32.92' | N 13°46.79' | 0.7875' | 338°06.40' | 14.5416° | 16°20.67' | N 4°10.96' | 15.1079' | 57.6043' | 354°27.07' | **02** |
| **03** | 223°54.28' | 15.0021° | 145°35.26' | N 13°46.00' | 0.7878' | 352°38.92' | 14.5419° | 16°50.62' | N 4°26.03' | 15.0679' | 57.5660' | 9°29.54' | **03** |
| **04** | 238°54.41' | 15.0021° | 145°37.59' | N 13°45.21' | 0.7882' | 7°11.46' | 14.5423° | 17°20.54' | N 4°41.06' | 15.0269' | 57.5277' | 24°32.00' | **04** |
| **05** | 253°54.54' | 15.0021° | 145°39.93' | N 13°44.42' | 0.7886' | 21°44.02' | 14.5427° | 17°50.45' | N 4°56.04' | 14.9849' | 57.4894' | 39°34.47' | **05** |
| **06** | 268°54.67' | 15.0021° | 145°42.26' | N 13°43.63' | 0.7890' | 36°16.60' | 14.5430° | 18°20.33' | N 5°10.99' | 14.9418' | 57.4512' | 54°36.93' | **06** |
| **07** | 283°54.80' | 15.0022° | 145°44.60' | N 13°42.84' | 0.7894' | 50°49.19' | 14.5433° | 18°50.20' | N 5°25.88' | 14.8978' | 57.4131' | 69°39.39' | **07** |
| **08** | 298°54.92' | 15.0022° | 145°46.93' | N 13°42.05' | 0.7897' | 65°21.81' | 14.5436° | 19°20.05' | N 5°40.74' | 14.8528' | 57.3750' | 84°41.86' | **08** |
| **09** | 313°55.05' | 15.0022° | 145°49.27' | N 13°41.26' | 0.7901' | 79°54.44' | 14.5438° | 19°49.88' | N 5°55.54' | 14.8068' | 57.3371' | 99°44.32' | **09** |
| **10** | 328°55.18' | 15.0022° | 145°51.60' | N 13°40.47' | 0.7905' | 94°27.09' | 14.5441° | 20°19.70' | N 6°10.30' | 14.7598' | 57.2992' | 114°46.79' | **10** |
| **11** | 343°55.31' | 15.0022° | 145°53.94' | N 13°39.68' | 0.7909' | 108°59.74' | 14.5443° | 20°49.51' | N 6°25.02' | 14.7119' | 57.2614' | 129°49.25' | **11** |
| **12** | 358°55.44' | 15.0022° | 145°56.27' | N 13°38.89' | 0.7913' | 123°32.42' | 14.5445° | 21°19.30' | N 6°39.68' | 14.6630' | 57.2237' | 144°51.72' | **12** |
| **13** | 13°55.57' | 15.0022° | 145°58.60' | N 13°38.10' | 0.7916' | 138°05.10' | 14.5447° | 21°49.08' | N 6°54.29' | 14.6132' | 57.1861' | 159°54.18' | **13** |
| **14** | 28°55.71' | 15.0022° | 146°00.94' | N 13°37.31' | 0.7920' | 152°37.80' | 14.5449° | 22°18.85' | N 7°08.85' | 14.5625' | 57.1486' | 174°56.64' | **14** |
| **15** | 43°55.84' | 15.0022° | 146°03.27' | N 13°36.52' | 0.7924' | 167°10.50' | 14.5451° | 22°48.61' | N 7°23.36' | 14.5108' | 57.1112' | 189°59.11' | **15** |
| **16** | 58°55.97' | 15.0022° | 146°05.60' | N 13°35.72' | 0.7928' | 181°43.21' | 14.5452° | 23°18.36' | N 7°37.82' | 14.4582' | 57.0739' | 205°01.57' | **16** |
| **17** | 73°56.10' | 15.0022° | 146°07.94' | N 13°34.93' | 0.7931' | 196°15.93' | 14.5453° | 23°48.10' | N 7°52.23' | 14.4047' | 57.0367' | 220°04.04' | **17** |
| **18** | 88°56.23' | 15.0022° | 146°10.27' | N 13°34.14' | 0.7935' | 210°48.66' | 14.5454° | 24°17.84' | N 8°06.58' | 14.3504' | 56.9997' | 235°06.50' | **18** |
| **19** | 103°56.36' | 15.0022° | 146°12.60' | N 13°33.34' | 0.7939' | 225°21.39' | 14.5455° | 24°47.57' | N 8°20.87' | 14.2951' | 56.9627' | 250°08.96' | **19** |
| **20** | 118°56.49' | 15.0022° | 146°14.93' | N 13°32.55' | 0.7943' | 239°54.13' | 14.5456° | 25°17.30' | N 8°35.11' | 14.2390' | 56.9259' | 265°11.43' | **20** |
| **21** | 133°56.63' | 15.0022° | 146°17.27' | N 13°31.75' | 0.7946' | 254°26.87' | 14.5457° | 25°47.02' | N 8°49.29' | 14.1820' | 56.8893' | 280°13.89' | **21** |
| **22** | 148°56.76' | 15.0022° | 146°19.60' | N 13°30.96' | 0.7950' | 268°59.61' | 14.5457° | 26°16.75' | N 9°03.42' | 14.1241' | 56.8527' | 295°16.36' | **22** |
| **23** | 163°56.89' | 15.0022° | 146°21.93' | N 13°30.16' | 0.7954' | 283°32.35' | 14.5457° | 26°46.47' | N 9°17.48' | 14.0654' | 56.8163' | 310°18.82' | **23** |
| **24** | 178°57.02' | 15.0022° | 146°24.26' | N 13°29.37' | 0.7958' | 298°05.10' | 14.5457° | 27°16.19' | N 9°31.49' | 14.0058' | 56.7801' | 325°21.28' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.7945' | hp (π) 0.1447' | ½Ø 15.5924' | 76.1388670887160 8% -gib | |
| EoT at 12:00 UTC : -4m 18s (δ 0.52 s/h) | | Phase at 12:00 UTC : 238.58° | | |
| Meridian Pass. Time : 12:04:18.223 | | Age : 18.6 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.14') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 196°41.50' | 127°40.65' | N 19°32.28' | 268°50.98' | 55°31.17' | N 18°05.41' | 316°15.51' | 8°06.63' | N 1°51.19' | 359°45.48' | 324°36.67' | S 15°28.35' | **00** |
| **01** | 211°40.78' | 127°43.83' | N 19°31.63' | 283°51.91' | 55°32.70' | N 18°05.78' | 331°18.11' | 8°06.50' | N 1°51.12' | 14°48.12' | 324°36.49' | S 15°28.42' | **01** |
| **02** | 226°40.07' | 127°47.00' | N 19°30.98' | 298°52.84' | 55°34.23' | N 18°06.14' | 346°20.70' | 8°06.37' | N 1°51.06' | 29°50.77' | 324°36.31' | S 15°28.48' | **02** |
| **03** | 241°39.36' | 127°50.18' | N 19°30.32' | 313°53.77' | 55°35.76' | N 18°06.51' | 1°23.30' | 8°06.24' | N 1°50.99' | 44°53.42' | 324°36.12' | S 15°28.54' | **03** |
| **04** | 256°38.65' | 127°53.35' | N 19°29.67' | 328°54.71' | 55°37.30' | N 18°06.88' | 16°25.89' | 8°06.11' | N 1°50.92' | 59°56.06' | 324°35.94' | S 15°28.61' | **04** |
| **05** | 271°37.94' | 127°56.53' | N 19°29.01' | 343°55.64' | 55°38.83' | N 18°07.24' | 31°28.49' | 8°05.98' | N 1°50.85' | 74°58.71' | 324°35.76' | S 15°28.67' | **05** |
| **06** | 286°37.23' | 127°59.70' | N 19°28.36' | 358°56.57' | 55°40.36' | N 18°07.61' | 46°31.08' | 8°05.85' | N 1°50.78' | 90°01.36' | 324°35.57' | S 15°28.74' | **06** |
| **07** | 301°36.52' | 128°02.87' | N 19°27.70' | 13°57.51' | 55°41.89' | N 18°07.97' | 61°33.68' | 8°05.72' | N 1°50.72' | 105°04.00' | 324°35.39' | S 15°28.80' | **07** |
| **08** | 316°35.81' | 128°06.05' | N 19°27.04' | 28°58.44' | 55°43.42' | N 18°08.34' | 76°36.28' | 8°05.58' | N 1°50.65' | 120°06.65' | 324°35.21' | S 15°28.86' | **08** |
| **09** | 331°35.10' | 128°09.22' | N 19°26.38' | 43°59.37' | 55°44.95' | N 18°08.70' | 91°38.87' | 8°05.45' | N 1°50.58' | 135°09.30' | 324°35.03' | S 15°28.93' | **09** |
| **10** | 346°34.40' | 128°12.39' | N 19°25.72' | 59°00.31' | 55°46.48' | N 18°09.07' | 106°41.47' | 8°05.32' | N 1°50.51' | 150°11.94' | 324°34.84' | S 15°28.99' | **10** |
| **11** | 1°33.69' | 128°15.56' | N 19°25.06' | 74°01.24' | 55°48.01' | N 18°09.43' | 121°44.07' | 8°05.18' | N 1°50.44' | 165°14.59' | 324°34.66' | S 15°29.05' | **11** |
| **12** | 16°32.98' | 128°18.73' | N 19°24.40' | 89°02.18' | 55°49.54' | N 18°09.80' | 136°46.67' | 8°05.05' | N 1°50.37' | 180°17.24' | 324°34.48' | S 15°29.12' | **12** |
| **13** | 31°32.27' | 128°21.91' | N 19°23.73' | 104°03.11' | 55°51.07' | N 18°10.16' | 151°49.26' | 8°04.92' | N 1°50.30' | 195°19.89' | 324°34.29' | S 15°29.18' | **13** |
| **14** | 46°31.57' | 128°25.08' | N 19°23.07' | 119°04.05' | 55°52.60' | N 18°10.53' | 166°51.86' | 8°04.78' | N 1°50.23' | 210°22.53' | 324°34.11' | S 15°29.24' | **14** |
| **15** | 61°30.86' | 128°28.25' | N 19°22.40' | 134°04.98' | 55°54.13' | N 18°10.89' | 181°54.46' | 8°04.65' | N 1°50.16' | 225°25.18' | 324°33.93' | S 15°29.31' | **15** |
| **16** | 76°30.15' | 128°31.42' | N 19°21.74' | 149°05.92' | 55°55.65' | N 18°11.25' | 196°57.06' | 8°04.51' | N 1°50.10' | 240°27.83' | 324°33.75' | S 15°29.37' | **16** |
| **17** | 91°29.45' | 128°34.59' | N 19°21.07' | 164°06.85' | 55°57.18' | N 18°11.61' | 211°59.66' | 8°04.38' | N 1°50.03' | 255°30.47' | 324°33.56' | S 15°29.44' | **17** |
| **18** | 106°28.74' | 128°37.76' | N 19°20.40' | 179°07.79' | 55°58.71' | N 18°11.98' | 227°02.26' | 8°04.24' | N 1°49.96' | 270°33.12' | 324°33.38' | S 15°29.50' | **18** |
| **19** | 121°28.04' | 128°40.93' | N 19°19.73' | 194°08.73' | 56°00.24' | N 18°12.34' | 242°04.86' | 8°04.11' | N 1°49.89' | 285°35.77' | 324°33.20' | S 15°29.56' | **19** |
| **20** | 136°27.33' | 128°44.09' | N 19°19.06' | 209°09.66' | 56°01.77' | N 18°12.70' | 257°07.46' | 8°03.97' | N 1°49.82' | 300°38.41' | 324°33.01' | S 15°29.63' | **20** |
| **21** | 151°26.63' | 128°47.26' | N 19°18.39' | 224°10.60' | 56°03.29' | N 18°13.06' | 272°10.06' | 8°03.83' | N 1°49.75' | 315°41.06' | 324°32.83' | S 15°29.69' | **21** |
| **22** | 166°25.93' | 128°50.43' | N 19°17.72' | 239°11.54' | 56°04.82' | N 18°13.42' | 287°12.66' | 8°03.70' | N 1°49.68' | 330°43.71' | 324°32.65' | S 15°29.75' | **22** |
| **23** | 181°25.22' | 128°53.60' | N 19°17.04' | 254°12.47' | 56°06.35' | N 18°13.79' | 302°15.26' | 8°03.56' | N 1°49.61' | 345°46.35' | 324°32.47' | S 15°29.82' | **23** |
| **24** | 196°24.52' | 128°56.76' | N 19°16.37' | 269°13.41' | 56°07.87' | N 18°14.15' | 317°17.86' | 8°03.42' | N 1°49.53' | 0°49.00' | 324°32.28' | S 15°29.88' | **24** |
| | δ 14.9881° | | *d* 0.6519' | δ 15.0155° | | *d* 0.3671' | δ 15.0432° | | *d* 0.0677' | δ 15.0441° | | *d* 0.0637' | |

## *Wednesday, August 17th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 178°57.02' | 15.0022° | 146°24.26' | N 13°29.37' | 0.7958' | 298°05.10' | 14.5457° | 27°16.19' | N 9°31.49' | 14.0058' | 56.7801' | 325°21.28' | **00** |
| **01** | 193°57.16' | 15.0022° | 146°26.59' | N 13°28.57' | 0.7961' | 312°37.84' | 14.5457° | 27°45.91' | N 9°45.43' | 13.9454' | 56.7440' | 340°23.75' | **01** |
| **02** | 208°57.29' | 15.0022° | 146°28.92' | N 13°27.78' | 0.7965' | 327°10.58' | 14.5457° | 28°15.63' | N 9°59.32' | 13.8841' | 56.7080' | 355°26.21' | **02** |
| **03** | 223°57.42' | 15.0022° | 146°31.25' | N 13°26.98' | 0.7969' | 341°43.32' | 14.5456° | 28°45.36' | N 10°13.14' | 13.8220' | 56.6723' | 10°28.68' | **03** |
| **04** | 238°57.56' | 15.0022° | 146°33.58' | N 13°26.18' | 0.7973' | 356°16.05' | 14.5456° | 29°15.09' | N 10°26.90' | 13.7591' | 56.6366' | 25°31.14' | **04** |
| **05** | 253°57.69' | 15.0022° | 146°35.91' | N 13°25.38' | 0.7976' | 10°48.78' | 14.5455° | 29°44.83' | N 10°40.60' | 13.6954' | 56.6011' | 40°33.60' | **05** |
| **06** | 268°57.82' | 15.0022° | 146°38.24' | N 13°24.59' | 0.7980' | 25°21.50' | 14.5454° | 30°14.57' | N 10°54.23' | 13.6309' | 56.5658' | 55°36.07' | **06** |
| **07** | 283°57.96' | 15.0022° | 146°40.57' | N 13°23.79' | 0.7984' | 39°54.22' | 14.5453° | 30°44.31' | N 11°07.79' | 13.5656' | 56.5307' | 70°38.53' | **07** |
| **08** | 298°58.09' | 15.0022° | 146°42.90' | N 13°22.99' | 0.7987' | 54°26.93' | 14.5452° | 31°14.07' | N 11°21.29' | 13.4994' | 56.4957' | 85°41.00' | **08** |
| **09** | 313°58.23' | 15.0022° | 146°45.23' | N 13°22.19' | 0.7991' | 68°59.63' | 14.5450° | 31°43.83' | N 11°34.72' | 13.4325' | 56.4610' | 100°43.46' | **09** |
| **10** | 328°58.36' | 15.0022° | 146°47.56' | N 13°21.39' | 0.7995' | 83°32.32' | 14.5449° | 32°13.60' | N 11°48.09' | 13.3648' | 56.4264' | 115°45.92' | **10** |
| **11** | 343°58.50' | 15.0023° | 146°49.89' | N 13°20.59' | 0.7999' | 98°05.00' | 14.5447° | 32°43.39' | N 12°01.38' | 13.2963' | 56.3919' | 130°48.39' | **11** |
| **12** | 358°58.63' | 15.0023° | 146°52.22' | N 13°19.79' | 0.8002' | 112°37.67' | 14.5445° | 33°13.18' | N 12°14.61' | 13.2271' | 56.3577' | 145°50.85' | **12** |
| **13** | 13°58.77' | 15.0023° | 146°54.55' | N 13°18.99' | 0.8006' | 127°10.33' | 14.5443° | 33°42.99' | N 12°27.77' | 13.1571' | 56.3236' | 160°53.32' | **13** |
| **14** | 28°58.90' | 15.0023° | 146°56.88' | N 13°18.19' | 0.8010' | 141°42.98' | 14.5441° | 34°12.80' | N 12°40.86' | 13.0863' | 56.2898' | 175°55.78' | **14** |
| **15** | 43°59.04' | 15.0023° | 146°59.21' | N 13°17.39' | 0.8013' | 156°15.61' | 14.5439° | 34°42.64' | N 12°53.87' | 13.0147' | 56.2561' | 190°58.25' | **15** |
| **16** | 58°59.18' | 15.0023° | 147°01.53' | N 13°16.58' | 0.8017' | 170°48.23' | 14.5436° | 35°12.48' | N 13°06.81' | 12.9424' | 56.2227' | 206°00.71' | **16** |
| **17** | 73°59.31' | 15.0023° | 147°03.86' | N 13°15.78' | 0.8021' | 185°20.83' | 14.5434° | 35°42.34' | N 13°19.68' | 12.8694' | 56.1894' | 221°03.17' | **17** |
| **18** | 88°59.45' | 15.0023° | 147°06.19' | N 13°14.98' | 0.8024' | 199°53.41' | 14.5431° | 36°12.22' | N 13°32.48' | 12.7956' | 56.1563' | 236°05.64' | **18** |
| **19** | 103°59.59' | 15.0023° | 147°08.52' | N 13°14.18' | 0.8028' | 214°25.98' | 14.5428° | 36°42.12' | N 13°45.20' | 12.7210' | 56.1235' | 251°08.10' | **19** |
| **20** | 118°59.72' | 15.0023° | 147°10.84' | N 13°13.37' | 0.8032' | 228°58.53' | 14.5425° | 37°12.03' | N 13°57.84' | 12.6457' | 56.0908' | 266°10.57' | **20** |
| **21** | 133°59.86' | 15.0023° | 147°13.17' | N 13°12.57' | 0.8035' | 243°31.07' | 14.5422° | 37°41.96' | N 14°10.41' | 12.5697' | 56.0584' | 281°13.03' | **21** |
| **22** | 148°60.00' | 15.0023° | 147°15.50' | N 13°11.77' | 0.8039' | 258°03.58' | 14.5419° | 38°11.91' | N 14°22.91' | 12.4930' | 56.0262' | 296°15.49' | **22** |
| **23** | 164°00.13' | 15.0023° | 147°17.82' | N 13°10.96' | 0.8043' | 272°36.07' | 14.5415° | 38°41.89' | N 14°35.32' | 12.4155' | 55.9942' | 311°17.96' | **23** |
| **24** | 179°00.27' | 15.0023° | 147°20.15' | N 13°10.16' | 0.8046' | 287°08.54' | 14.5412° | 39°11.88' | N 14°47.66' | 12.3374' | 55.9624' | 326°20.42' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.7973' | hp (π) 0.1448' | ½Ø 15.3565' | 66.7430851477681<br>8% -gib |
| | EoT at 12:00 UTC : -4m 5s (δ 0.54 s/h) | | Phase at 12:00 UTC : 250.57° | |
| | Meridian Pass. Time : 12:04:05.471 | | Age : 19.5 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.14') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 196°24.52' | 128°56.76' | N 19°16.37' | 269°13.41' | 56°07.87' | N 18°14.15' | 317°17.86' | 8°03.42' | N 1°49.53' | 0°49.00' | 324°32.28' | S 15°29.88' | **00** |
| **01** | 211°23.82' | 128°59.93' | N 19°15.69' | 284°14.35' | 56°09.40' | N 18°14.51' | 332°20.46' | 8°03.29' | N 1°49.46' | 15°51.65' | 324°32.10' | S 15°29.94' | **01** |
| **02** | 226°23.11' | 129°03.10' | N 19°15.02' | 299°15.29' | 56°10.93' | N 18°14.87' | 347°23.06' | 8°03.15' | N 1°49.39' | 30°54.29' | 324°31.92' | S 15°30.01' | **02** |
| **03** | 241°22.41' | 129°06.26' | N 19°14.34' | 314°16.23' | 56°12.45' | N 18°15.23' | 2°25.67' | 8°03.01' | N 1°49.32' | 45°56.94' | 324°31.73' | S 15°30.07' | **03** |
| **04** | 256°21.71' | 129°09.43' | N 19°13.66' | 329°17.16' | 56°13.98' | N 18°15.59' | 17°28.27' | 8°02.87' | N 1°49.25' | 60°59.59' | 324°31.55' | S 15°30.13' | **04** |
| **05** | 271°21.01' | 129°12.59' | N 19°12.98' | 344°18.10' | 56°15.50' | N 18°15.95' | 32°30.87' | 8°02.73' | N 1°49.18' | 76°02.23' | 324°31.37' | S 15°30.20' | **05** |
| **06** | 286°20.31' | 129°15.76' | N 19°12.30' | 359°19.04' | 56°17.03' | N 18°16.31' | 47°33.47' | 8°02.59' | N 1°49.11' | 91°04.88' | 324°31.19' | S 15°30.26' | **06** |
| **07** | 301°19.61' | 129°18.92' | N 19°11.62' | 14°19.98' | 56°18.55' | N 18°16.67' | 62°36.08' | 8°02.46' | N 1°49.04' | 106°07.53' | 324°31.00' | S 15°30.32' | **07** |
| **08** | 316°18.91' | 129°22.09' | N 19°10.94' | 29°20.92' | 56°20.07' | N 18°17.02' | 77°38.68' | 8°02.32' | N 1°48.97' | 121°10.18' | 324°30.82' | S 15°30.39' | **08** |
| **09** | 331°18.21' | 129°25.25' | N 19°10.26' | 44°21.86' | 56°21.60' | N 18°17.38' | 92°41.28' | 8°02.18' | N 1°48.90' | 136°12.82' | 324°30.64' | S 15°30.45' | **09** |
| **10** | 346°17.51' | 129°28.41' | N 19°09.57' | 59°22.80' | 56°23.12' | N 18°17.74' | 107°43.89' | 8°02.04' | N 1°48.82' | 151°15.47' | 324°30.46' | S 15°30.51' | **10** |
| **11** | 1°16.81' | 129°31.58' | N 19°08.89' | 74°23.74' | 56°24.65' | N 18°18.10' | 122°46.49' | 8°01.90' | N 1°48.75' | 166°18.12' | 324°30.27' | S 15°30.58' | **11** |
| **12** | 16°16.11' | 129°34.74' | N 19°08.20' | 89°24.68' | 56°26.17' | N 18°18.46' | 137°49.10' | 8°01.75' | N 1°48.68' | 181°20.76' | 324°30.09' | S 15°30.64' | **12** |
| **13** | 31°15.41' | 129°37.90' | N 19°07.52' | 104°25.62' | 56°27.69' | N 18°18.81' | 152°51.70' | 8°01.61' | N 1°48.61' | 196°23.41' | 324°29.91' | S 15°30.70' | **13** |
| **14** | 46°14.72' | 129°41.06' | N 19°06.83' | 119°26.57' | 56°29.22' | N 18°19.17' | 167°54.31' | 8°01.47' | N 1°48.54' | 211°26.06' | 324°29.73' | S 15°30.77' | **14** |
| **15** | 61°14.02' | 129°44.23' | N 19°06.14' | 134°27.51' | 56°30.74' | N 18°19.53' | 182°56.91' | 8°01.33' | N 1°48.46' | 226°28.70' | 324°29.54' | S 15°30.83' | **15** |
| **16** | 76°13.32' | 129°47.39' | N 19°05.45' | 149°28.45' | 56°32.26' | N 18°19.89' | 197°59.52' | 8°01.19' | N 1°48.39' | 241°31.35' | 324°29.36' | S 15°30.89' | **16** |
| **17** | 91°12.63' | 129°50.55' | N 19°04.76' | 164°29.39' | 56°33.78' | N 18°20.24' | 213°02.13' | 8°01.05' | N 1°48.32' | 256°34.00' | 324°29.18' | S 15°30.96' | **17** |
| **18** | 106°11.93' | 129°53.71' | N 19°04.07' | 179°30.33' | 56°35.30' | N 18°20.60' | 228°04.73' | 8°00.90' | N 1°48.25' | 271°36.64' | 324°28.99' | S 15°31.02' | **18** |
| **19** | 121°11.23' | 129°56.87' | N 19°03.38' | 194°31.28' | 56°36.82' | N 18°20.95' | 243°07.34' | 8°00.76' | N 1°48.17' | 286°39.29' | 324°28.81' | S 15°31.09' | **19** |
| **20** | 136°10.54' | 130°00.03' | N 19°02.68' | 209°32.22' | 56°38.35' | N 18°21.31' | 258°09.95' | 8°00.62' | N 1°48.10' | 301°41.94' | 324°28.63' | S 15°31.15' | **20** |
| **21** | 151°09.84' | 130°03.19' | N 19°01.99' | 224°33.16' | 56°39.87' | N 18°21.66' | 273°12.55' | 8°00.48' | N 1°48.03' | 316°44.58' | 324°28.45' | S 15°31.21' | **21** |
| **22** | 166°09.15' | 130°06.35' | N 19°01.29' | 239°34.11' | 56°41.39' | N 18°22.02' | 288°15.16' | 8°00.33' | N 1°47.96' | 331°47.23' | 324°28.26' | S 15°31.27' | **22** |
| **23** | 181°08.45' | 130°09.50' | N 19°00.60' | 254°35.05' | 56°42.91' | N 18°22.37' | 303°17.77' | 8°00.19' | N 1°47.88' | 346°49.88' | 324°28.08' | S 15°31.34' | **23** |
| **24** | 196°07.76' | 130°12.66' | N 18°59.90' | 269°35.99' | 56°44.43' | N 18°22.73' | 318°20.38' | 8°00.04' | N 1°47.81' | 1°52.52' | 324°27.90' | S 15°31.40' | **24** |
| | δ 14.9883° | | *d* 0.6752' | δ 15.0156° | | *d* 0.3607' | δ 15.0434° | | *d* 0.0706' | δ 15.0441° | | *d* 0.0635' | |

## *Thursday, August 18th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°00.27' | 15.0023° | 147°20.15' | N 13°10.16' | 0.8046' | 287°08.54' | 14.5412° | 39°11.88' | N 14°47.66' | 12.3374' | 55.9624' | 326°20.42' | **00** |
| **01** | 194°00.41' | 15.0023° | 147°22.48' | N 13°09.35' | 0.8050' | 301°40.99' | 14.5408° | 39°41.89' | N 14°59.92' | 12.2585' | 55.9309' | 341°22.89' | **01** |
| **02** | 209°00.55' | 15.0023° | 147°24.80' | N 13°08.55' | 0.8054' | 316°13.42' | 14.5405° | 40°11.93' | N 15°12.10' | 12.1789' | 55.8996' | 356°25.35' | **02** |
| **03** | 224°00.69' | 15.0023° | 147°27.13' | N 13°07.74' | 0.8057' | 330°45.83' | 14.5401° | 40°41.99' | N 15°24.20' | 12.0985' | 55.8685' | 11°27.81' | **03** |
| **04** | 239°00.83' | 15.0023° | 147°29.45' | N 13°06.94' | 0.8061' | 345°18.21' | 14.5397° | 41°12.07' | N 15°36.21' | 12.0175' | 55.8376' | 26°30.28' | **04** |
| **05** | 254°00.96' | 15.0023° | 147°31.78' | N 13°06.13' | 0.8065' | 359°50.56' | 14.5393° | 41°42.18' | N 15°48.15' | 11.9358' | 55.8069' | 41°32.74' | **05** |
| **06** | 269°01.10' | 15.0023° | 147°34.10' | N 13°05.32' | 0.8068' | 14°22.90' | 14.5389° | 42°12.31' | N 16°00.00' | 11.8534' | 55.7765' | 56°35.21' | **06** |
| **07** | 284°01.24' | 15.0023° | 147°36.43' | N 13°04.52' | 0.8072' | 28°55.20' | 14.5384° | 42°42.47' | N 16°11.77' | 11.7703' | 55.7464' | 71°37.67' | **07** |
| **08** | 299°01.38' | 15.0023° | 147°38.75' | N 13°03.71' | 0.8075' | 43°27.48' | 14.5380° | 43°12.65' | N 16°23.46' | 11.6865' | 55.7164' | 86°40.13' | **08** |
| **09** | 314°01.52' | 15.0023° | 147°41.08' | N 13°02.90' | 0.8079' | 57°59.73' | 14.5375° | 43°42.86' | N 16°35.06' | 11.6020' | 55.6867' | 101°42.60' | **09** |
| **10** | 329°01.66' | 15.0023° | 147°43.40' | N 13°02.09' | 0.8083' | 72°31.96' | 14.5371° | 44°13.10' | N 16°46.58' | 11.5168' | 55.6573' | 116°45.06' | **10** |
| **11** | 344°01.80' | 15.0023° | 147°45.72' | N 13°01.28' | 0.8086' | 87°04.16' | 14.5366° | 44°43.37' | N 16°58.01' | 11.4309' | 55.6281' | 131°47.53' | **11** |
| **12** | 359°01.94' | 15.0023° | 147°48.05' | N 13°00.47' | 0.8090' | 101°36.32' | 14.5361° | 45°13.67' | N 17°09.35' | 11.3444' | 55.5991' | 146°49.99' | **12** |
| **13** | 14°02.08' | 15.0023° | 147°50.37' | N 12°59.66' | 0.8093' | 116°08.46' | 14.5356° | 45°43.99' | N 17°20.61' | 11.2572' | 55.5704' | 161°52.46' | **13** |
| **14** | 29°02.22' | 15.0023° | 147°52.70' | N 12°58.85' | 0.8097' | 130°40.57' | 14.5351° | 46°14.35' | N 17°31.78' | 11.1693' | 55.5420' | 176°54.92' | **14** |
| **15** | 44°02.37' | 15.0023° | 147°55.02' | N 12°58.04' | 0.8101' | 145°12.65' | 14.5346° | 46°44.74' | N 17°42.86' | 11.0807' | 55.5138' | 191°57.38' | **15** |
| **16** | 59°02.51' | 15.0024° | 147°57.34' | N 12°57.23' | 0.8104' | 159°44.69' | 14.5341° | 47°15.15' | N 17°53.85' | 10.9915' | 55.4858' | 206°59.85' | **16** |
| **17** | 74°02.65' | 15.0024° | 147°59.66' | N 12°56.42' | 0.8108' | 174°16.71' | 14.5336° | 47°45.60' | N 18°04.75' | 10.9016' | 55.4581' | 222°02.31' | **17** |
| **18** | 89°02.79' | 15.0024° | 148°01.99' | N 12°55.61' | 0.8111' | 188°48.69' | 14.5331° | 48°16.08' | N 18°15.56' | 10.8111' | 55.4307' | 237°04.78' | **18** |
| **19** | 104°02.93' | 15.0024° | 148°04.31' | N 12°54.80' | 0.8115' | 203°20.64' | 14.5325° | 48°46.60' | N 18°26.28' | 10.7199' | 55.4035' | 252°07.24' | **19** |
| **20** | 119°03.07' | 15.0024° | 148°06.63' | N 12°53.99' | 0.8119' | 217°52.56' | 14.5320° | 49°17.14' | N 18°36.91' | 10.6280' | 55.3766' | 267°09.70' | **20** |
| **21** | 134°03.22' | 15.0024° | 148°08.95' | N 12°53.18' | 0.8122' | 232°24.45' | 14.5314° | 49°47.72' | N 18°47.45' | 10.5355' | 55.3499' | 282°12.17' | **21** |
| **22** | 149°03.36' | 15.0024° | 148°11.27' | N 12°52.36' | 0.8126' | 246°56.30' | 14.5308° | 50°18.34' | N 18°57.89' | 10.4424' | 55.3235' | 297°14.63' | **22** |
| **23** | 164°03.50' | 15.0024° | 148°13.60' | N 12°51.55' | 0.8129' | 261°28.11' | 14.5303° | 50°48.99' | N 19°08.24' | 10.3486' | 55.2974' | 312°17.10' | **23** |
| **24** | 179°03.64' | 15.0024° | 148°15.92' | N 12°50.74' | 0.8133' | 275°59.89' | 14.5297° | 51°19.67' | N 19°18.49' | 10.2541' | 55.2715' | 327°19.56' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8002' | hp (π) 0.1448' | ½Ø 15.1498' | 56.9410512594016<br>3% -gib |
| | EoT at 12:00 UTC : -3m 52s (δ 0.56 s/h) | | Phase at 12:00 UTC : 262.17° | |
| | Meridian Pass. Time : 12:03:52.228 | | Age : 20.4 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.14') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 196°07.76' | 130°12.66' | N 18°59.90' | 269°35.99' | 56°44.43' | N 18°22.73' | 318°20.38' | 8°00.04' | N 1°47.81' | 1°52.52' | 324°27.90' | S 15°31.40' | **00** |
| **01** | 211°07.07' | 130°15.82' | N 18°59.20' | 284°36.94' | 56°45.95' | N 18°23.08' | 333°22.99' | 7°59.90' | N 1°47.74' | 16°55.17' | 324°27.72' | S 15°31.46' | **01** |
| **02** | 226°06.37' | 130°18.98' | N 18°58.50' | 299°37.88' | 56°47.47' | N 18°23.44' | 348°25.60' | 7°59.75' | N 1°47.66' | 31°57.82' | 324°27.53' | S 15°31.53' | **02** |
| **03** | 241°05.68' | 130°22.13' | N 18°57.80' | 314°38.83' | 56°48.99' | N 18°23.79' | 3°28.20' | 7°59.61' | N 1°47.59' | 47°00.46' | 324°27.35' | S 15°31.59' | **03** |
| **04** | 256°04.99' | 130°25.29' | N 18°57.10' | 329°39.77' | 56°50.50' | N 18°24.14' | 18°30.81' | 7°59.46' | N 1°47.51' | 62°03.11' | 324°27.17' | S 15°31.65' | **04** |
| **05** | 271°04.30' | 130°28.45' | N 18°56.40' | 344°40.72' | 56°52.02' | N 18°24.50' | 33°33.42' | 7°59.32' | N 1°47.44' | 77°05.76' | 324°26.99' | S 15°31.72' | **05** |
| **06** | 286°03.60' | 130°31.60' | N 18°55.70' | 359°41.67' | 56°53.54' | N 18°24.85' | 48°36.03' | 7°59.17' | N 1°47.37' | 92°08.40' | 324°26.80' | S 15°31.78' | **06** |
| **07** | 301°02.91' | 130°34.76' | N 18°54.99' | 14°42.61' | 56°55.06' | N 18°25.20' | 63°38.64' | 7°59.03' | N 1°47.29' | 107°11.05' | 324°26.62' | S 15°31.84' | **07** |
| **08** | 316°02.22' | 130°37.91' | N 18°54.29' | 29°43.56' | 56°56.58' | N 18°25.56' | 78°41.25' | 7°58.88' | N 1°47.22' | 122°13.70' | 324°26.44' | S 15°31.91' | **08** |
| **09** | 331°01.53' | 130°41.07' | N 18°53.58' | 44°44.50' | 56°58.09' | N 18°25.91' | 93°43.87' | 7°58.73' | N 1°47.14' | 137°16.34' | 324°26.26' | S 15°31.97' | **09** |
| **10** | 346°00.84' | 130°44.22' | N 18°52.88' | 59°45.45' | 56°59.61' | N 18°26.26' | 108°46.48' | 7°58.59' | N 1°47.07' | 152°18.99' | 324°26.07' | S 15°32.03' | **10** |
| **11** | 1°00.15' | 130°47.38' | N 18°52.17' | 74°46.40' | 57°01.13' | N 18°26.61' | 123°49.09' | 7°58.44' | N 1°46.99' | 167°21.64' | 324°25.89' | S 15°32.10' | **11** |
| **12** | 15°59.46' | 130°50.53' | N 18°51.46' | 89°47.35' | 57°02.65' | N 18°26.96' | 138°51.70' | 7°58.29' | N 1°46.92' | 182°24.28' | 324°25.71' | S 15°32.16' | **12** |
| **13** | 30°58.77' | 130°53.68' | N 18°50.75' | 104°48.29' | 57°04.16' | N 18°27.31' | 153°54.31' | 7°58.14' | N 1°46.85' | 197°26.93' | 324°25.53' | S 15°32.22' | **13** |
| **14** | 45°58.08' | 130°56.83' | N 18°50.04' | 119°49.24' | 57°05.68' | N 18°27.66' | 168°56.92' | 7°58.00' | N 1°46.77' | 212°29.58' | 324°25.34' | S 15°32.29' | **14** |
| **15** | 60°57.40' | 130°59.99' | N 18°49.33' | 134°50.19' | 57°07.19' | N 18°28.01' | 183°59.54' | 7°57.85' | N 1°46.69' | 227°32.22' | 324°25.16' | S 15°32.35' | **15** |
| **16** | 75°56.71' | 131°03.14' | N 18°48.62' | 149°51.14' | 57°08.71' | N 18°28.36' | 199°02.15' | 7°57.70' | N 1°46.62' | 242°34.87' | 324°24.98' | S 15°32.41' | **16** |
| **17** | 90°56.02' | 131°06.29' | N 18°47.91' | 164°52.09' | 57°10.22' | N 18°28.71' | 214°04.76' | 7°57.55' | N 1°46.54' | 257°37.52' | 324°24.80' | S 15°32.48' | **17** |
| **18** | 105°55.33' | 131°09.44' | N 18°47.19' | 179°53.04' | 57°11.74' | N 18°29.06' | 229°07.38' | 7°57.40' | N 1°46.47' | 272°40.16' | 324°24.61' | S 15°32.54' | **18** |
| **19** | 120°54.65' | 131°12.59' | N 18°46.48' | 194°53.99' | 57°13.25' | N 18°29.41' | 244°09.99' | 7°57.25' | N 1°46.39' | 287°42.81' | 324°24.43' | S 15°32.60' | **19** |
| **20** | 135°53.96' | 131°15.74' | N 18°45.76' | 209°54.94' | 57°14.77' | N 18°29.76' | 259°12.60' | 7°57.10' | N 1°46.32' | 302°45.46' | 324°24.25' | S 15°32.66' | **20** |
| **21** | 150°53.28' | 131°18.89' | N 18°45.04' | 224°55.89' | 57°16.28' | N 18°30.11' | 274°15.22' | 7°56.95' | N 1°46.24' | 317°48.10' | 324°24.07' | S 15°32.73' | **21** |
| **22** | 165°52.59' | 131°22.04' | N 18°44.33' | 239°56.84' | 57°17.80' | N 18°30.46' | 289°17.83' | 7°56.80' | N 1°46.17' | 332°50.75' | 324°23.88' | S 15°32.79' | **22** |
| **23** | 180°51.91' | 131°25.19' | N 18°43.61' | 254°57.79' | 57°19.31' | N 18°30.81' | 304°20.45' | 7°56.65' | N 1°46.09' | 347°53.39' | 324°23.70' | S 15°32.85' | **23** |
| **24** | 195°51.22' | 131°28.34' | N 18°42.89' | 269°58.74' | 57°20.82' | N 18°31.16' | 319°23.06' | 7°56.50' | N 1°46.01' | 2°56.04' | 324°23.52' | S 15°32.92' | **24** |
| | δ 14.9884° | | *d* 0.6980' | δ 15.0157° | | *d* 0.3542' | δ 15.0435° | | *d* 0.0734' | δ 15.0441° | | *d* 0.0633' | |

## *Friday, August 19th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°03.64' | 15.0024° | 148°15.92' | N 12°50.74' | 0.8133' | 275°59.89' | 14.5297° | 51°19.67' | N 19°18.49' | 10.2541' | 55.2715' | 327°19.56' | **00** |
| **01** | 194°03.79' | 15.0024° | 148°18.24' | N 12°49.92' | 0.8136' | 290°31.64' | 14.5291° | 51°50.39' | N 19°28.65' | 10.1590' | 55.2459' | 342°22.02' | **01** |
| **02** | 209°03.93' | 15.0024° | 148°20.56' | N 12°49.11' | 0.8140' | 305°03.35' | 14.5285° | 52°21.14' | N 19°38.72' | 10.0633' | 55.2206' | 357°24.49' | **02** |
| **03** | 224°04.07' | 15.0024° | 148°22.88' | N 12°48.30' | 0.8144' | 319°35.02' | 14.5279° | 52°51.93' | N 19°48.68' | 9.9669' | 55.1955' | 12°26.95' | **03** |
| **04** | 239°04.22' | 15.0024° | 148°25.20' | N 12°47.48' | 0.8147' | 334°06.66' | 14.5273° | 53°22.75' | N 19°58.55' | 9.8700' | 55.1707' | 27°29.42' | **04** |
| **05** | 254°04.36' | 15.0024° | 148°27.52' | N 12°46.67' | 0.8151' | 348°38.26' | 14.5267° | 53°53.62' | N 20°08.32' | 9.7723' | 55.1462' | 42°31.88' | **05** |
| **06** | 269°04.50' | 15.0024° | 148°29.84' | N 12°45.85' | 0.8154' | 3°09.83' | 14.5261° | 54°24.51' | N 20°18.00' | 9.6741' | 55.1219' | 57°34.35' | **06** |
| **07** | 284°04.65' | 15.0024° | 148°32.16' | N 12°45.04' | 0.8158' | 17°41.36' | 14.5255° | 54°55.45' | N 20°27.57' | 9.5752' | 55.0980' | 72°36.81' | **07** |
| **08** | 299°04.79' | 15.0024° | 148°34.48' | N 12°44.22' | 0.8161' | 32°12.85' | 14.5249° | 55°26.42' | N 20°37.05' | 9.4757' | 55.0742' | 87°39.27' | **08** |
| **09** | 314°04.94' | 15.0024° | 148°36.80' | N 12°43.40' | 0.8165' | 46°44.30' | 14.5242° | 55°57.43' | N 20°46.43' | 9.3756' | 55.0508' | 102°41.74' | **09** |
| **10** | 329°05.08' | 15.0024° | 148°39.12' | N 12°42.59' | 0.8168' | 61°15.72' | 14.5236° | 56°28.48' | N 20°55.70' | 9.2749' | 55.0277' | 117°44.20' | **10** |
| **11** | 344°05.23' | 15.0024° | 148°41.44' | N 12°41.77' | 0.8172' | 75°47.10' | 14.5230° | 56°59.57' | N 21°04.87' | 9.1736' | 55.0048' | 132°46.67' | **11** |
| **12** | 359°05.37' | 15.0024° | 148°43.76' | N 12°40.95' | 0.8175' | 90°18.44' | 14.5223° | 57°30.69' | N 21°13.95' | 9.0716' | 54.9822' | 147°49.13' | **12** |
| **13** | 14°05.52' | 15.0024° | 148°46.08' | N 12°40.13' | 0.8179' | 104°49.74' | 14.5217° | 58°01.86' | N 21°22.91' | 8.9691' | 54.9599' | 162°51.59' | **13** |
| **14** | 29°05.66' | 15.0024° | 148°48.39' | N 12°39.31' | 0.8182' | 119°21.00' | 14.5210° | 58°33.06' | N 21°31.78' | 8.8659' | 54.9378' | 177°54.06' | **14** |
| **15** | 44°05.81' | 15.0024° | 148°50.71' | N 12°38.50' | 0.8186' | 133°52.22' | 14.5204° | 59°04.30' | N 21°40.54' | 8.7622' | 54.9161' | 192°56.52' | **15** |
| **16** | 59°05.96' | 15.0024° | 148°53.03' | N 12°37.68' | 0.8189' | 148°23.41' | 14.5197° | 59°35.58' | N 21°49.20' | 8.6579' | 54.8946' | 207°58.99' | **16** |
| **17** | 74°06.10' | 15.0024° | 148°55.35' | N 12°36.86' | 0.8193' | 162°54.55' | 14.5191° | 60°06.90' | N 21°57.75' | 8.5529' | 54.8734' | 223°01.45' | **17** |
| **18** | 89°06.25' | 15.0024° | 148°57.67' | N 12°36.04' | 0.8196' | 177°25.66' | 14.5185° | 60°38.25' | N 22°06.20' | 8.4474' | 54.8525' | 238°03.91' | **18** |
| **19** | 104°06.40' | 15.0024° | 148°59.98' | N 12°35.22' | 0.8200' | 191°56.73' | 14.5178° | 61°09.65' | N 22°14.54' | 8.3413' | 54.8319' | 253°06.38' | **19** |
| **20** | 119°06.54' | 15.0024° | 149°02.30' | N 12°34.40' | 0.8203' | 206°27.76' | 14.5171° | 61°41.09' | N 22°22.78' | 8.2347' | 54.8115' | 268°08.84' | **20** |
| **21** | 134°06.69' | 15.0025° | 149°04.62' | N 12°33.58' | 0.8207' | 220°58.75' | 14.5165° | 62°12.56' | N 22°30.90' | 8.1274' | 54.7915' | 283°11.31' | **21** |
| **22** | 149°06.84' | 15.0025° | 149°06.93' | N 12°32.76' | 0.8210' | 235°29.70' | 14.5158° | 62°44.07' | N 22°38.92' | 8.0196' | 54.7717' | 298°13.77' | **22** |
| **23** | 164°06.99' | 15.0025° | 149°09.25' | N 12°31.94' | 0.8214' | 250°00.61' | 14.5152° | 63°15.63' | N 22°46.84' | 7.9112' | 54.7522' | 313°16.24' | **23** |
| **24** | 179°07.13' | 15.0025° | 149°11.57' | N 12°31.11' | 0.8217' | 264°31.48' | 14.5145° | 63°47.22' | N 22°54.64' | 7.8023' | 54.7330' | 328°18.70' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8032' | hp (π) 0.1448' | ½Ø 14.9817' | 47.1220349741803<br>2% -cre |
| | EoT at 12:00 UTC : -3m 38s (δ 0.58 s/h) | | Phase at 12:00 UTC : 273.45° | |
| | Meridian Pass. Time : 12:03:38.506 | | Age : 21.3 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.14') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 195°51.22' | 131°28.34' | N 18°42.89' | 269°58.74' | 57°20.82' | N 18°31.16' | 319°23.06' | 7°56.50' | N 1°46.01' | 2°56.04' | 324°23.52' | S 15°32.92' | **00** |
| **01** | 210°50.54' | 131°31.49' | N 18°42.17' | 284°59.69' | 57°22.34' | N 18°31.50' | 334°25.68' | 7°56.35' | N 1°45.94' | 17°58.69' | 324°23.34' | S 15°32.98' | **01** |
| **02** | 225°49.85' | 131°34.64' | N 18°41.45' | 300°00.64' | 57°23.85' | N 18°31.85' | 349°28.29' | 7°56.19' | N 1°45.86' | 33°01.33' | 324°23.16' | S 15°33.04' | **02** |
| **03** | 240°49.17' | 131°37.78' | N 18°40.72' | 315°01.59' | 57°25.36' | N 18°32.20' | 4°30.91' | 7°56.04' | N 1°45.79' | 48°03.98' | 324°22.97' | S 15°33.11' | **03** |
| **04** | 255°48.49' | 131°40.93' | N 18°40.00' | 330°02.54' | 57°26.87' | N 18°32.55' | 19°33.53' | 7°55.89' | N 1°45.71' | 63°06.63' | 324°22.79' | S 15°33.17' | **04** |
| **05** | 270°47.80' | 131°44.08' | N 18°39.28' | 345°03.50' | 57°28.39' | N 18°32.89' | 34°36.14' | 7°55.74' | N 1°45.63' | 78°09.27' | 324°22.61' | S 15°33.23' | **05** |
| **06** | 285°47.12' | 131°47.22' | N 18°38.55' | 0°04.45' | 57°29.90' | N 18°33.24' | 49°38.76' | 7°55.58' | N 1°45.55' | 93°11.92' | 324°22.43' | S 15°33.29' | **06** |
| **07** | 300°46.44' | 131°50.37' | N 18°37.83' | 15°05.40' | 57°31.41' | N 18°33.58' | 64°41.38' | 7°55.43' | N 1°45.48' | 108°14.57' | 324°22.24' | S 15°33.36' | **07** |
| **08** | 315°45.76' | 131°53.52' | N 18°37.10' | 30°06.35' | 57°32.92' | N 18°33.93' | 79°44.00' | 7°55.28' | N 1°45.40' | 123°17.21' | 324°22.06' | S 15°33.42' | **08** |
| **09** | 330°45.08' | 131°56.66' | N 18°36.37' | 45°07.31' | 57°34.43' | N 18°34.28' | 94°46.61' | 7°55.12' | N 1°45.32' | 138°19.86' | 324°21.88' | S 15°33.48' | **09** |
| **10** | 345°44.40' | 131°59.81' | N 18°35.64' | 60°08.26' | 57°35.94' | N 18°34.62' | 109°49.23' | 7°54.97' | N 1°45.25' | 153°22.50' | 324°21.70' | S 15°33.55' | **10** |
| **11** | 0°43.71' | 132°02.95' | N 18°34.91' | 75°09.21' | 57°37.45' | N 18°34.97' | 124°51.85' | 7°54.82' | N 1°45.17' | 168°25.15' | 324°21.52' | S 15°33.61' | **11** |
| **12** | 15°43.03' | 132°06.10' | N 18°34.18' | 90°10.17' | 57°38.96' | N 18°35.31' | 139°54.47' | 7°54.66' | N 1°45.09' | 183°27.80' | 324°21.33' | S 15°33.67' | **12** |
| **13** | 30°42.36' | 132°09.24' | N 18°33.45' | 105°11.12' | 57°40.47' | N 18°35.66' | 154°57.09' | 7°54.51' | N 1°45.01' | 198°30.44' | 324°21.15' | S 15°33.73' | **13** |
| **14** | 45°41.68' | 132°12.38' | N 18°32.72' | 120°12.08' | 57°41.98' | N 18°36.00' | 169°59.71' | 7°54.35' | N 1°44.94' | 213°33.09' | 324°20.97' | S 15°33.80' | **14** |
| **15** | 60°41.00' | 132°15.53' | N 18°31.98' | 135°13.03' | 57°43.49' | N 18°36.34' | 185°02.33' | 7°54.20' | N 1°44.86' | 228°35.74' | 324°20.79' | S 15°33.86' | **15** |
| **16** | 75°40.32' | 132°18.67' | N 18°31.25' | 150°13.99' | 57°45.00' | N 18°36.69' | 200°04.95' | 7°54.04' | N 1°44.78' | 243°38.38' | 324°20.60' | S 15°33.92' | **16** |
| **17** | 90°39.64' | 132°21.81' | N 18°30.51' | 165°14.94' | 57°46.51' | N 18°37.03' | 215°07.57' | 7°53.88' | N 1°44.70' | 258°41.03' | 324°20.42' | S 15°33.99' | **17** |
| **18** | 105°38.96' | 132°24.95' | N 18°29.78' | 180°15.90' | 57°48.01' | N 18°37.37' | 230°10.19' | 7°53.73' | N 1°44.62' | 273°43.67' | 324°20.24' | S 15°34.05' | **18** |
| **19** | 120°38.29' | 132°28.09' | N 18°29.04' | 195°16.86' | 57°49.52' | N 18°37.72' | 245°12.81' | 7°53.57' | N 1°44.55' | 288°46.32' | 324°20.06' | S 15°34.11' | **19** |
| **20** | 135°37.61' | 132°31.23' | N 18°28.30' | 210°17.81' | 57°51.03' | N 18°38.06' | 260°15.43' | 7°53.41' | N 1°44.47' | 303°48.97' | 324°19.88' | S 15°34.17' | **20** |
| **21** | 150°36.93' | 132°34.37' | N 18°27.56' | 225°18.77' | 57°52.54' | N 18°38.40' | 275°18.05' | 7°53.26' | N 1°44.39' | 318°51.61' | 324°19.69' | S 15°34.24' | **21** |
| **22** | 165°36.26' | 132°37.51' | N 18°26.82' | 240°19.73' | 57°54.04' | N 18°38.75' | 290°20.67' | 7°53.10' | N 1°44.31' | 333°54.26' | 324°19.51' | S 15°34.30' | **22** |
| **23** | 180°35.58' | 132°40.65' | N 18°26.08' | 255°20.69' | 57°55.55' | N 18°39.09' | 305°23.29' | 7°52.94' | N 1°44.23' | 348°56.91' | 324°19.33' | S 15°34.36' | **23** |
| **24** | 195°34.91' | 132°43.79' | N 18°25.34' | 270°21.64' | 57°57.06' | N 18°39.43' | 320°25.92' | 7°52.78' | N 1°44.15' | 3°59.55' | 324°19.15' | S 15°34.42' | **24** |
| | δ 14.9886° | | *d* 0.7205' | δ 15.0159° | | *d* 0.3478' | δ 15.0436° | | *d* 0.0762' | δ 15.0441° | | *d* 0.0630' | |

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ gha | SHA | Dec | d | GHA | δ gha | SHA | Dec | d | hp (π) | GHA | |
| **00** | 179°07.13' | 15.0025° | 149°11.57' | N 12°31.11' | 0.8217' | 264°31.48' | 14.5145° | 63°47.22' | N 22°54.64' | 7.8023' | 54.7330' | 328°18.70' | **00** |
| **01** | 194°07.28' | 15.0025° | 149°13.88' | N 12°30.29' | 0.8221' | 279°02.32' | 14.5139° | 64°18.85' | N 23°02.33' | 7.6928' | 54.7141' | 343°21.16' | **01** |
| **02** | 209°07.43' | 15.0025° | 149°16.20' | N 12°29.47' | 0.8224' | 293°33.11' | 14.5132° | 64°50.52' | N 23°09.91' | 7.5827' | 54.6954' | 358°23.63' | **02** |
| **03** | 224°07.58' | 15.0025° | 149°18.51' | N 12°28.65' | 0.8228' | 308°03.87' | 14.5126° | 65°22.23' | N 23°17.38' | 7.4721' | 54.6771' | 13°26.09' | **03** |
| **04** | 239°07.73' | 15.0025° | 149°20.83' | N 12°27.82' | 0.8231' | 322°34.58' | 14.5119° | 65°53.97' | N 23°24.75' | 7.3610' | 54.6590' | 28°28.56' | **04** |
| **05** | 254°07.87' | 15.0025° | 149°23.15' | N 12°27.00' | 0.8235' | 337°05.26' | 14.5113° | 66°25.76' | N 23°32.00' | 7.2493' | 54.6412' | 43°31.02' | **05** |
| **06** | 269°08.02' | 15.0025° | 149°25.46' | N 12°26.18' | 0.8238' | 351°35.90' | 14.5107° | 66°57.58' | N 23°39.13' | 7.1370' | 54.6237' | 58°33.48' | **06** |
| **07** | 284°08.17' | 15.0025° | 149°27.78' | N 12°25.35' | 0.8241' | 6°06.50' | 14.5100° | 67°29.45' | N 23°46.16' | 7.0243' | 54.6065' | 73°35.95' | **07** |
| **08** | 299°08.32' | 15.0025° | 149°30.09' | N 12°24.53' | 0.8245' | 20°37.06' | 14.5094° | 68°01.35' | N 23°53.07' | 6.9110' | 54.5896' | 88°38.41' | **08** |
| **09** | 314°08.47' | 15.0025° | 149°32.41' | N 12°23.70' | 0.8248' | 35°07.59' | 14.5088° | 68°33.29' | N 23°59.86' | 6.7972' | 54.5730' | 103°40.88' | **09** |
| **10** | 329°08.62' | 15.0025° | 149°34.72' | N 12°22.88' | 0.8252' | 49°38.08' | 14.5081° | 69°05.26' | N 24°06.55' | 6.6829' | 54.5566' | 118°43.34' | **10** |
| **11** | 344°08.77' | 15.0025° | 149°37.03' | N 12°22.05' | 0.8255' | 64°08.53' | 14.5075° | 69°37.28' | N 24°13.12' | 6.5680' | 54.5406' | 133°45.81' | **11** |
| **12** | 359°08.92' | 15.0025° | 149°39.35' | N 12°21.23' | 0.8259' | 78°38.94' | 14.5069° | 70°09.33' | N 24°19.57' | 6.4527' | 54.5248' | 148°48.27' | **12** |
| **13** | 14°09.07' | 15.0025° | 149°41.66' | N 12°20.40' | 0.8262' | 93°09.32' | 14.5063° | 70°41.42' | N 24°25.91' | 6.3369' | 54.5093' | 163°50.73' | **13** |
| **14** | 29°09.22' | 15.0025° | 149°43.98' | N 12°19.57' | 0.8265' | 107°39.66' | 14.5057° | 71°13.54' | N 24°32.13' | 6.2206' | 54.4941' | 178°53.20' | **14** |
| **15** | 44°09.37' | 15.0025° | 149°46.29' | N 12°18.75' | 0.8269' | 122°09.96' | 14.5051° | 71°45.70' | N 24°38.23' | 6.1038' | 54.4792' | 193°55.66' | **15** |
| **16** | 59°09.52' | 15.0025° | 149°48.60' | N 12°17.92' | 0.8272' | 136°40.23' | 14.5045° | 72°17.90' | N 24°44.22' | 5.9865' | 54.4646' | 208°58.13' | **16** |
| **17** | 74°09.67' | 15.0025° | 149°50.92' | N 12°17.09' | 0.8276' | 151°10.46' | 14.5039° | 72°50.13' | N 24°50.08' | 5.8687' | 54.4502' | 224°00.59' | **17** |
| **18** | 89°09.83' | 15.0025° | 149°53.23' | N 12°16.26' | 0.8279' | 165°40.65' | 14.5033° | 73°22.40' | N 24°55.84' | 5.7505' | 54.4362' | 239°03.05' | **18** |
| **19** | 104°09.98' | 15.0025° | 149°55.54' | N 12°15.44' | 0.8282' | 180°10.82' | 14.5027° | 73°54.70' | N 25°01.47' | 5.6318' | 54.4224' | 254°05.52' | **19** |
| **20** | 119°10.13' | 15.0025° | 149°57.85' | N 12°14.61' | 0.8286' | 194°40.94' | 14.5021° | 74°27.04' | N 25°06.98' | 5.5127' | 54.4089' | 269°07.98' | **20** |
| **21** | 134°10.28' | 15.0025° | 150°00.17' | N 12°13.78' | 0.8289' | 209°11.04' | 14.5016° | 74°59.41' | N 25°12.37' | 5.3931' | 54.3957' | 284°10.45' | **21** |
| **22** | 149°10.43' | 15.0025° | 150°02.48' | N 12°12.95' | 0.8293' | 223°41.10' | 14.5010° | 75°31.81' | N 25°17.65' | 5.2731' | 54.3828' | 299°12.91' | **22** |
| **23** | 164°10.59' | 15.0025° | 150°04.79' | N 12°12.12' | 0.8296' | 238°11.12' | 14.5005° | 76°04.25' | N 25°22.80' | 5.1526' | 54.3702' | 314°15.38' | **23** |
| **24** | 179°10.74' | 15.0025° | 150°07.10' | N 12°11.29' | 0.8299' | 252°41.12' | 14.4999° | 76°36.72' | N 25°27.83' | 5.0317' | 54.3578' | 329°17.84' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8062' | hp (π) 0.1448' | ½Ø 14.8571' | 37.6077731546859<br>6% -cre |
| | EoT at 12:00 UTC : -3m 24s (δ 0.60 s/h) | | Phase at 12:00 UTC : 284.51° | |
| | Meridian Pass. Time : 12:03:24.316 | | Age : 22.1 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.14') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 195°34.91' | 132°43.79' | N 18°25.34' | 270°21.64' | 57°57.06' | N 18°39.43' | 320°25.92' | 7°52.78' | N 1°44.15' | 3°59.55' | 324°19.15' | S 15°34.42' | **00** |
| **01** | 210°34.23' | 132°46.93' | N 18°24.60' | 285°22.60' | 57°58.56' | N 18°39.77' | 335°28.54' | 7°52.63' | N 1°44.07' | 19°02.20' | 324°18.97' | S 15°34.49' | **01** |
| **02** | 225°33.56' | 132°50.07' | N 18°23.85' | 300°23.56' | 58°00.07' | N 18°40.11' | 350°31.16' | 7°52.47' | N 1°43.99' | 34°04.84' | 324°18.78' | S 15°34.55' | **02** |
| **03** | 240°32.88' | 132°53.21' | N 18°23.11' | 315°24.52' | 58°01.57' | N 18°40.45' | 5°33.78' | 7°52.31' | N 1°43.91' | 49°07.49' | 324°18.60' | S 15°34.61' | **03** |
| **04** | 255°32.21' | 132°56.35' | N 18°22.36' | 330°25.48' | 58°03.08' | N 18°40.79' | 20°36.41' | 7°52.15' | N 1°43.84' | 64°10.14' | 324°18.42' | S 15°34.68' | **04** |
| **05** | 270°31.54' | 132°59.49' | N 18°21.62' | 345°26.44' | 58°04.58' | N 18°41.13' | 35°39.03' | 7°51.99' | N 1°43.76' | 79°12.78' | 324°18.24' | S 15°34.74' | **05** |
| **06** | 285°30.86' | 133°02.62' | N 18°20.87' | 0°27.40' | 58°06.09' | N 18°41.47' | 50°41.65' | 7°51.83' | N 1°43.68' | 94°15.43' | 324°18.06' | S 15°34.80' | **06** |
| **07** | 300°30.19' | 133°05.76' | N 18°20.12' | 15°28.36' | 58°07.59' | N 18°41.81' | 65°44.28' | 7°51.67' | N 1°43.60' | 109°18.07' | 324°17.88' | S 15°34.86' | **07** |
| **08** | 315°29.52' | 133°08.89' | N 18°19.37' | 30°29.32' | 58°09.10' | N 18°42.15' | 80°46.90' | 7°51.51' | N 1°43.52' | 124°20.72' | 324°17.69' | S 15°34.93' | **08** |
| **09** | 330°28.85' | 133°12.03' | N 18°18.62' | 45°30.28' | 58°10.60' | N 18°42.49' | 95°49.53' | 7°51.35' | N 1°43.44' | 139°23.37' | 324°17.51' | S 15°34.99' | **09** |
| **10** | 345°28.17' | 133°15.17' | N 18°17.87' | 60°31.24' | 58°12.10' | N 18°42.83' | 110°52.15' | 7°51.19' | N 1°43.36' | 154°26.01' | 324°17.33' | S 15°35.05' | **10** |
| **11** | 0°27.50' | 133°18.30' | N 18°17.12' | 75°32.20' | 58°13.61' | N 18°43.17' | 125°54.78' | 7°51.03' | N 1°43.28' | 169°28.66' | 324°17.15' | S 15°35.11' | **11** |
| **12** | 15°26.83' | 133°21.44' | N 18°16.37' | 90°33.16' | 58°15.11' | N 18°43.51' | 140°57.40' | 7°50.87' | N 1°43.20' | 184°31.30' | 324°16.97' | S 15°35.18' | **12** |
| **13** | 30°26.16' | 133°24.57' | N 18°15.62' | 105°34.12' | 58°16.61' | N 18°43.85' | 156°00.03' | 7°50.71' | N 1°43.12' | 199°33.95' | 324°16.78' | S 15°35.24' | **13** |
| **14** | 45°25.49' | 133°27.70' | N 18°14.86' | 120°35.08' | 58°18.11' | N 18°44.18' | 171°02.65' | 7°50.54' | N 1°43.04' | 214°36.59' | 324°16.60' | S 15°35.30' | **14** |
| **15** | 60°24.82' | 133°30.84' | N 18°14.11' | 135°36.05' | 58°19.62' | N 18°44.52' | 186°05.28' | 7°50.38' | N 1°42.95' | 229°39.24' | 324°16.42' | S 15°35.36' | **15** |
| **16** | 75°24.16' | 133°33.97' | N 18°13.35' | 150°37.01' | 58°21.12' | N 18°44.86' | 201°07.91' | 7°50.22' | N 1°42.87' | 244°41.89' | 324°16.24' | S 15°35.43' | **16** |
| **17** | 90°23.49' | 133°37.10' | N 18°12.59' | 165°37.97' | 58°22.62' | N 18°45.19' | 216°10.53' | 7°50.06' | N 1°42.79' | 259°44.53' | 324°16.06' | S 15°35.49' | **17** |
| **18** | 105°22.82' | 133°40.24' | N 18°11.83' | 180°38.93' | 58°24.12' | N 18°45.53' | 231°13.16' | 7°49.89' | N 1°42.71' | 274°47.18' | 324°15.88' | S 15°35.55' | **18** |
| **19** | 120°22.15' | 133°43.37' | N 18°11.08' | 195°39.90' | 58°25.62' | N 18°45.87' | 246°15.79' | 7°49.73' | N 1°42.63' | 289°49.82' | 324°15.69' | S 15°35.61' | **19** |
| **20** | 135°21.48' | 133°46.50' | N 18°10.32' | 210°40.86' | 58°27.12' | N 18°46.20' | 261°18.42' | 7°49.57' | N 1°42.55' | 304°52.47' | 324°15.51' | S 15°35.68' | **20** |
| **21** | 150°20.82' | 133°49.63' | N 18°09.55' | 225°41.83' | 58°28.62' | N 18°46.54' | 276°21.04' | 7°49.40' | N 1°42.47' | 319°55.12' | 324°15.33' | S 15°35.74' | **21** |
| **22** | 165°20.15' | 133°52.76' | N 18°08.79' | 240°42.79' | 58°30.12' | N 18°46.88' | 291°23.67' | 7°49.24' | N 1°42.39' | 334°57.76' | 324°15.15' | S 15°35.80' | **22** |
| **23** | 180°19.48' | 133°55.89' | N 18°08.03' | 255°43.76' | 58°31.62' | N 18°47.21' | 306°26.30' | 7°49.07' | N 1°42.31' | 350°00.41' | 324°14.97' | S 15°35.86' | **23** |
| **24** | 195°18.82' | 133°59.02' | N 18°07.27' | 270°44.72' | 58°33.12' | N 18°47.55' | 321°28.93' | 7°48.91' | N 1°42.22' | 5°03.05' | 324°14.79' | S 15°35.92' | **24** |
| | δ 14.9888° | | d 0.7426' | δ 15.0160° | | d 0.3413' | δ 15.0437° | | d 0.0790' | δ 15.0441° | | d 0.0627' | |

## *Sunday, August 21st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°10.74' | 15.0025° | 150°07.10' | N 12°11.29' | 0.8299' | 252°41.12' | 14.4999° | 76°36.72' | N 25°27.83' | 5.0317' | 54.3578' | 329°17.84' | **00** |
| **01** | 194°10.89' | 15.0025° | 150°09.41' | N 12°10.46' | 0.8303' | 267°11.08' | 14.4994° | 77°09.22' | N 25°32.74' | 4.9104' | 54.3458' | 344°20.30' | **01** |
| **02** | 209°11.04' | 15.0025° | 150°11.72' | N 12°09.63' | 0.8306' | 281°41.01' | 14.4989° | 77°41.75' | N 25°37.53' | 4.7887' | 54.3340' | 359°22.77' | **02** |
| **03** | 224°11.20' | 15.0026° | 150°14.04' | N 12°08.80' | 0.8309' | 296°10.91' | 14.4983° | 78°14.32' | N 25°42.20' | 4.6666' | 54.3225' | 14°25.23' | **03** |
| **04** | 239°11.35' | 15.0026° | 150°16.35' | N 12°07.97' | 0.8313' | 310°40.78' | 14.4978° | 78°46.91' | N 25°46.74' | 4.5441' | 54.3113' | 29°27.70' | **04** |
| **05** | 254°11.50' | 15.0026° | 150°18.66' | N 12°07.13' | 0.8316' | 325°10.62' | 14.4973° | 79°19.54' | N 25°51.16' | 4.4213' | 54.3004' | 44°30.16' | **05** |
| **06** | 269°11.66' | 15.0026° | 150°20.97' | N 12°06.30' | 0.8320' | 339°40.43' | 14.4969° | 79°52.19' | N 25°55.46' | 4.2980' | 54.2897' | 59°32.62' | **06** |
| **07** | 284°11.81' | 15.0026° | 150°23.28' | N 12°05.47' | 0.8323' | 354°10.22' | 14.4964° | 80°24.87' | N 25°59.63' | 4.1744' | 54.2793' | 74°35.09' | **07** |
| **08** | 299°11.96' | 15.0026° | 150°25.59' | N 12°04.64' | 0.8326' | 8°39.97' | 14.4959° | 80°57.58' | N 26°03.68' | 4.0504' | 54.2693' | 89°37.55' | **08** |
| **09** | 314°12.12' | 15.0026° | 150°27.90' | N 12°03.80' | 0.8330' | 23°09.70' | 14.4955° | 81°30.32' | N 26°07.61' | 3.9260' | 54.2595' | 104°40.02' | **09** |
| **10** | 329°12.27' | 15.0026° | 150°30.21' | N 12°02.97' | 0.8333' | 37°39.40' | 14.4950° | 82°03.08' | N 26°11.41' | 3.8013' | 54.2499' | 119°42.48' | **10** |
| **11** | 344°12.43' | 15.0026° | 150°32.52' | N 12°02.14' | 0.8336' | 52°09.08' | 14.4946° | 82°35.87' | N 26°15.09' | 3.6763' | 54.2407' | 134°44.95' | **11** |
| **12** | 359°12.58' | 15.0026° | 150°34.83' | N 12°01.30' | 0.8340' | 66°38.73' | 14.4942° | 83°08.68' | N 26°18.64' | 3.5510' | 54.2317' | 149°47.41' | **12** |
| **13** | 14°12.74' | 15.0026° | 150°37.14' | N 12°00.47' | 0.8343' | 81°08.35' | 14.4938° | 83°41.52' | N 26°22.06' | 3.4253' | 54.2230' | 164°49.87' | **13** |
| **14** | 29°12.89' | 15.0026° | 150°39.44' | N 11°59.63' | 0.8346' | 95°37.95' | 14.4934° | 84°14.38' | N 26°25.36' | 3.2994' | 54.2146' | 179°52.34' | **14** |
| **15** | 44°13.05' | 15.0026° | 150°41.75' | N 11°58.80' | 0.8350' | 110°07.53' | 14.4930° | 84°47.27' | N 26°28.54' | 3.1731' | 54.2064' | 194°54.80' | **15** |
| **16** | 59°13.20' | 15.0026° | 150°44.06' | N 11°57.96' | 0.8353' | 124°37.09' | 14.4926° | 85°20.18' | N 26°31.58' | 3.0466' | 54.1986' | 209°57.27' | **16** |
| **17** | 74°13.36' | 15.0026° | 150°46.37' | N 11°57.13' | 0.8356' | 139°06.63' | 14.4923° | 85°53.11' | N 26°34.50' | 2.9198' | 54.1910' | 224°59.73' | **17** |
| **18** | 89°13.52' | 15.0026° | 150°48.68' | N 11°56.29' | 0.8359' | 153°36.14' | 14.4919° | 86°26.05' | N 26°37.30' | 2.7927' | 54.1836' | 240°02.19' | **18** |
| **19** | 104°13.67' | 15.0026° | 150°50.99' | N 11°55.46' | 0.8363' | 168°05.63' | 14.4916° | 86°59.02' | N 26°39.96' | 2.6653' | 54.1766' | 255°04.66' | **19** |
| **20** | 119°13.83' | 15.0026° | 150°53.29' | N 11°54.62' | 0.8366' | 182°35.11' | 14.4913° | 87°32.01' | N 26°42.50' | 2.5378' | 54.1698' | 270°07.12' | **20** |
| **21** | 134°13.99' | 15.0026° | 150°55.60' | N 11°53.78' | 0.8369' | 197°04.57' | 14.4910° | 88°05.02' | N 26°44.91' | 2.4099' | 54.1633' | 285°09.59' | **21** |
| **22** | 149°14.14' | 15.0026° | 150°57.91' | N 11°52.95' | 0.8373' | 211°34.01' | 14.4907° | 88°38.04' | N 26°47.19' | 2.2819' | 54.1570' | 300°12.05' | **22** |
| **23** | 164°14.30' | 15.0026° | 151°00.22' | N 11°52.11' | 0.8376' | 226°03.43' | 14.4904° | 89°11.08' | N 26°49.34' | 2.1536' | 54.1511' | 315°14.52' | **23** |
| **24** | 179°14.46' | 15.0026° | 151°02.52' | N 11°51.27' | 0.8379' | 240°32.84' | 14.4901° | 89°44.14' | N 26°51.37' | 2.0252' | 54.1454' | 330°16.98' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.8092' | hp (π) 0.1449' | ½Ø 14.7772' | 28.6720668469071<br>75% -cre | |
| EoT at 12:00 UTC : -3m 9s (δ 0.62 s/h) | | Phase at 12:00 UTC : 295.43° | | |
| Meridian Pass. Time : 12:03:09.668 | | Age : 23.0 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.14') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 195°18.82' | 133°59.02' | N 18°07.27' | 270°44.72' | 58°33.12' | N 18°47.55' | 321°28.93' | 7°48.91' | N 1°42.22' | 5°03.05' | 324°14.79' | S 15°35.92' | **00** |
| **01** | 210°18.15' | 134°02.15' | N 18°06.50' | 285°45.69' | 58°34.62' | N 18°47.88' | 336°31.56' | 7°48.74' | N 1°42.14' | 20°05.70' | 324°14.61' | S 15°35.99' | **01** |
| **02** | 225°17.49' | 134°05.28' | N 18°05.74' | 300°46.65' | 58°36.12' | N 18°48.22' | 351°34.19' | 7°48.58' | N 1°42.06' | 35°08.34' | 324°14.42' | S 15°36.05' | **02** |
| **03** | 240°16.82' | 134°08.41' | N 18°04.97' | 315°47.62' | 58°37.61' | N 18°48.55' | 6°36.82' | 7°48.41' | N 1°41.98' | 50°10.99' | 324°14.24' | S 15°36.11' | **03** |
| **04** | 255°16.16' | 134°11.54' | N 18°04.20' | 330°48.58' | 58°39.11' | N 18°48.89' | 21°39.45' | 7°48.25' | N 1°41.90' | 65°13.63' | 324°14.06' | S 15°36.17' | **04** |
| **05** | 270°15.50' | 134°14.66' | N 18°03.44' | 345°49.55' | 58°40.61' | N 18°49.22' | 36°42.08' | 7°48.08' | N 1°41.81' | 80°16.28' | 324°13.88' | S 15°36.24' | **05** |
| **06** | 285°14.83' | 134°17.79' | N 18°02.67' | 0°50.52' | 58°42.11' | N 18°49.55' | 51°44.71' | 7°47.91' | N 1°41.73' | 95°18.93' | 324°13.70' | S 15°36.30' | **06** |
| **07** | 300°14.17' | 134°20.92' | N 18°01.90' | 15°51.48' | 58°43.60' | N 18°49.89' | 66°47.34' | 7°47.75' | N 1°41.65' | 110°21.57' | 324°13.52' | S 15°36.36' | **07** |
| **08** | 315°13.51' | 134°24.04' | N 18°01.13' | 30°52.45' | 58°45.10' | N 18°50.22' | 81°49.97' | 7°47.58' | N 1°41.57' | 125°24.22' | 324°13.34' | S 15°36.42' | **08** |
| **09** | 330°12.85' | 134°27.17' | N 18°00.36' | 45°53.42' | 58°46.60' | N 18°50.55' | 96°52.60' | 7°47.41' | N 1°41.48' | 140°26.86' | 324°13.15' | S 15°36.49' | **09** |
| **10** | 345°12.18' | 134°30.30' | N 17°59.58' | 60°54.39' | 58°48.09' | N 18°50.88' | 111°55.24' | 7°47.25' | N 1°41.40' | 155°29.51' | 324°12.97' | S 15°36.55' | **10** |
| **11** | 0°11.52' | 134°33.42' | N 17°58.81' | 75°55.36' | 58°49.59' | N 18°51.22' | 126°57.87' | 7°47.08' | N 1°41.32' | 170°32.15' | 324°12.79' | S 15°36.61' | **11** |
| **12** | 15°10.86' | 134°36.55' | N 17°58.04' | 90°56.33' | 58°51.08' | N 18°51.55' | 142°00.50' | 7°46.91' | N 1°41.24' | 185°34.80' | 324°12.61' | S 15°36.67' | **12** |
| **13** | 30°10.20' | 134°39.67' | N 17°57.26' | 105°57.29' | 58°52.58' | N 18°51.88' | 157°03.13' | 7°46.74' | N 1°41.15' | 200°37.44' | 324°12.43' | S 15°36.73' | **13** |
| **14** | 45°09.54' | 134°42.80' | N 17°56.48' | 120°58.26' | 58°54.07' | N 18°52.21' | 172°05.76' | 7°46.57' | N 1°41.07' | 215°40.09' | 324°12.25' | S 15°36.80' | **14** |
| **15** | 60°08.88' | 134°45.92' | N 17°55.71' | 135°59.23' | 58°55.57' | N 18°52.54' | 187°08.40' | 7°46.40' | N 1°40.99' | 230°42.73' | 324°12.07' | S 15°36.86' | **15** |
| **16** | 75°08.22' | 134°49.04' | N 17°54.93' | 151°00.20' | 58°57.06' | N 18°52.87' | 202°11.03' | 7°46.23' | N 1°40.90' | 245°45.38' | 324°11.89' | S 15°36.92' | **16** |
| **17** | 90°07.56' | 134°52.17' | N 17°54.15' | 166°01.17' | 58°58.56' | N 18°53.20' | 217°13.66' | 7°46.07' | N 1°40.82' | 260°48.03' | 324°11.70' | S 15°36.98' | **17** |
| **18** | 105°06.91' | 134°55.29' | N 17°53.37' | 181°02.14' | 59°00.05' | N 18°53.53' | 232°16.30' | 7°45.90' | N 1°40.73' | 275°50.67' | 324°11.52' | S 15°37.04' | **18** |
| **19** | 120°06.25' | 134°58.41' | N 17°52.59' | 196°03.12' | 59°01.54' | N 18°53.86' | 247°18.93' | 7°45.73' | N 1°40.65' | 290°53.32' | 324°11.34' | S 15°37.11' | **19** |
| **20** | 135°05.59' | 135°01.53' | N 17°51.81' | 211°04.09' | 59°03.04' | N 18°54.19' | 262°21.57' | 7°45.56' | N 1°40.57' | 305°55.96' | 324°11.16' | S 15°37.17' | **20** |
| **21** | 150°04.93' | 135°04.65' | N 17°51.03' | 226°05.06' | 59°04.53' | N 18°54.52' | 277°24.20' | 7°45.38' | N 1°40.48' | 320°58.61' | 324°10.98' | S 15°37.23' | **21** |
| **22** | 165°04.28' | 135°07.78' | N 17°50.25' | 241°06.03' | 59°06.02' | N 18°54.85' | 292°26.84' | 7°45.21' | N 1°40.40' | 336°01.25' | 324°10.80' | S 15°37.29' | **22** |
| **23** | 180°03.62' | 135°10.90' | N 17°49.46' | 256°07.00' | 59°07.51' | N 18°55.18' | 307°29.47' | 7°45.04' | N 1°40.31' | 351°03.90' | 324°10.62' | S 15°37.36' | **23** |
| **24** | 195°02.96' | 135°14.02' | N 17°48.68' | 271°07.98' | 59°09.00' | N 18°55.51' | 322°32.11' | 7°44.87' | N 1°40.23' | 6°06.54' | 324°10.44' | S 15°37.42' | **24** |
| | δ 14.9889° | | *d* 0.7643' | δ 15.0161° | | *d* 0.3349' | δ 15.0438° | | *d* 0.0818' | δ 15.0441° | | *d* 0.0623' | |

## *Monday, August 22nd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°14.46' | 15.0026° | 151°02.52' | N 11°51.27' | 0.8379' | 240°32.84' | 14.4901° | 89°44.14' | N 26°51.37' | 2.0252' | 54.1454' | 330°16.98' | **00** |
| **01** | 194°14.61' | 15.0026° | 151°04.83' | N 11°50.43' | 0.8382' | 255°02.23' | 14.4899° | 90°17.21' | N 26°53.27' | 1.8965' | 54.1399' | 345°19.44' | **01** |
| **02** | 209°14.77' | 15.0026° | 151°07.14' | N 11°49.59' | 0.8386' | 269°31.61' | 14.4897° | 90°50.30' | N 26°55.03' | 1.7677' | 54.1347' | 0°21.91' | **02** |
| **03** | 224°14.93' | 15.0026° | 151°09.44' | N 11°48.75' | 0.8389' | 284°00.98' | 14.4894° | 91°23.39' | N 26°56.67' | 1.6387' | 54.1298' | 15°24.37' | **03** |
| **04** | 239°15.09' | 15.0026° | 151°11.75' | N 11°47.92' | 0.8392' | 298°30.33' | 14.4892° | 91°56.50' | N 26°58.18' | 1.5095' | 54.1252' | 30°26.84' | **04** |
| **05** | 254°15.24' | 15.0026° | 151°14.06' | N 11°47.08' | 0.8396' | 312°59.67' | 14.4890° | 92°29.63' | N 26°59.56' | 1.3802' | 54.1208' | 45°29.30' | **05** |
| **06** | 269°15.40' | 15.0026° | 151°16.36' | N 11°46.24' | 0.8399' | 327°29.01' | 14.4889° | 93°02.76' | N 27°00.81' | 1.2508' | 54.1167' | 60°31.76' | **06** |
| **07** | 284°15.56' | 15.0026° | 151°18.67' | N 11°45.40' | 0.8402' | 341°58.33' | 14.4887° | 93°35.90' | N 27°01.93' | 1.1212' | 54.1128' | 75°34.23' | **07** |
| **08** | 299°15.72' | 15.0026° | 151°20.97' | N 11°44.56' | 0.8405' | 356°27.64' | 14.4886° | 94°09.05' | N 27°02.93' | 0.9915' | 54.1092' | 90°36.69' | **08** |
| **09** | 314°15.88' | 15.0026° | 151°23.28' | N 11°43.71' | 0.8409' | 10°56.95' | 14.4885° | 94°42.20' | N 27°03.79' | 0.8617' | 54.1059' | 105°39.16' | **09** |
| **10** | 329°16.04' | 15.0027° | 151°25.58' | N 11°42.87' | 0.8412' | 25°26.25' | 14.4883° | 95°15.37' | N 27°04.52' | 0.7319' | 54.1028' | 120°41.62' | **10** |
| **11** | 344°16.20' | 15.0027° | 151°27.89' | N 11°42.03' | 0.8415' | 39°55.55' | 14.4882° | 95°48.54' | N 27°05.12' | 0.6019' | 54.1000' | 135°44.09' | **11** |
| **12** | 359°16.36' | 15.0027° | 151°30.19' | N 11°41.19' | 0.8418' | 54°24.84' | 14.4882° | 96°21.71' | N 27°05.59' | 0.4719' | 54.0974' | 150°46.55' | **12** |
| **13** | 14°16.52' | 15.0027° | 151°32.50' | N 11°40.35' | 0.8422' | 68°54.12' | 14.4881° | 96°54.89' | N 27°05.93' | 0.3418' | 54.0951' | 165°49.01' | **13** |
| **14** | 29°16.68' | 15.0027° | 151°34.80' | N 11°39.51' | 0.8425' | 83°23.41' | 14.4881° | 97°28.07' | N 27°06.15' | 0.2117' | 54.0930' | 180°51.48' | **14** |
| **15** | 44°16.84' | 15.0027° | 151°37.11' | N 11°38.66' | 0.8428' | 97°52.69' | 14.4880° | 98°01.25' | N 27°06.23' | 0.0815' | 54.0912' | 195°53.94' | **15** |
| **16** | 59°17.00' | 15.0027° | 151°39.41' | N 11°37.82' | 0.8431' | 112°21.97' | 14.4880° | 98°34.44' | N 27°06.18' | 0.0486' | 54.0896' | 210°56.41' | **16** |
| **17** | 74°17.16' | 15.0027° | 151°41.71' | N 11°36.98' | 0.8434' | 126°51.25' | 14.4880° | 99°07.62' | N 27°06.00' | 0.1788' | 54.0883' | 225°58.87' | **17** |
| **18** | 89°17.32' | 15.0027° | 151°44.02' | N 11°36.13' | 0.8438' | 141°20.53' | 14.4880° | 99°40.80' | N 27°05.69' | 0.3089' | 54.0872' | 241°01.33' | **18** |
| **19** | 104°17.48' | 15.0027° | 151°46.32' | N 11°35.29' | 0.8441' | 155°49.82' | 14.4881° | 100°13.98' | N 27°05.25' | 0.4391' | 54.0864' | 256°03.80' | **19** |
| **20** | 119°17.64' | 15.0027° | 151°48.62' | N 11°34.44' | 0.8444' | 170°19.10' | 14.4881° | 100°47.16' | N 27°04.68' | 0.5692' | 54.0858' | 271°06.26' | **20** |
| **21** | 134°17.80' | 15.0027° | 151°50.93' | N 11°33.60' | 0.8447' | 184°48.40' | 14.4882° | 101°20.33' | N 27°03.98' | 0.6993' | 54.0855' | 286°08.73' | **21** |
| **22** | 149°17.96' | 15.0027° | 151°53.23' | N 11°32.75' | 0.8450' | 199°17.69' | 14.4883° | 101°53.50' | N 27°03.15' | 0.8293' | 54.0854' | 301°11.19' | **22** |
| **23** | 164°18.12' | 15.0027° | 151°55.53' | N 11°31.91' | 0.8454' | 213°46.99' | 14.4884° | 102°26.66' | N 27°02.20' | 0.9592' | 54.0855' | 316°13.66' | **23** |
| **24** | 179°18.28' | 15.0027° | 151°57.84' | N 11°31.06' | 0.8457' | 228°16.30' | 14.4885° | 102°59.82' | N 27°01.11' | 1.0891' | 54.0859' | 331°16.12' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8123' | hp (π) 0.1449' | ½Ø 14.7406' | 20.5604481447893<br>4% -cre |
| | EoT at 12:00 UTC : -2m 54s (δ 0.64 s/h) | | Phase at 12:00 UTC : 306.29° | |
| | Meridian Pass. Time : 12:02:54.575 | | Age : 23.8 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.14') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 195°02.96' | 135°14.02' | N 17°48.68' | 271°07.98' | 59°09.00' | N 18°55.51' | 322°32.11' | 7°44.87' | N 1°40.23' | 6°06.54' | 324°10.44' | S 15°37.42' | **00** |
| **01** | 210°02.31' | 135°17.14' | N 17°47.89' | 286°08.95' | 59°10.50' | N 18°55.84' | 337°34.74' | 7°44.70' | N 1°40.15' | 21°09.19' | 324°10.26' | S 15°37.48' | **01** |
| **02** | 225°01.65' | 135°20.26' | N 17°47.10' | 301°09.92' | 59°11.99' | N 18°56.17' | 352°37.38' | 7°44.53' | N 1°40.06' | 36°11.83' | 324°10.08' | S 15°37.54' | **02** |
| **03** | 240°01.00' | 135°23.37' | N 17°46.32' | 316°10.90' | 59°13.48' | N 18°56.50' | 7°40.02' | 7°44.35' | N 1°39.98' | 51°14.48' | 324°09.90' | S 15°37.60' | **03** |
| **04** | 255°00.34' | 135°26.49' | N 17°45.53' | 331°11.87' | 59°14.97' | N 18°56.82' | 22°42.65' | 7°44.18' | N 1°39.89' | 66°17.12' | 324°09.71' | S 15°37.66' | **04** |
| **05** | 269°59.69' | 135°29.61' | N 17°44.74' | 346°12.84' | 59°16.46' | N 18°57.15' | 37°45.29' | 7°44.01' | N 1°39.81' | 81°19.77' | 324°09.53' | S 15°37.73' | **05** |
| **06** | 284°59.04' | 135°32.73' | N 17°43.95' | 1°13.82' | 59°17.95' | N 18°57.48' | 52°47.93' | 7°43.84' | N 1°39.72' | 96°22.41' | 324°09.35' | S 15°37.79' | **06** |
| **07** | 299°58.38' | 135°35.85' | N 17°43.16' | 16°14.79' | 59°19.44' | N 18°57.81' | 67°50.57' | 7°43.66' | N 1°39.64' | 111°25.06' | 324°09.17' | S 15°37.85' | **07** |
| **08** | 314°57.73' | 135°38.96' | N 17°42.37' | 31°15.77' | 59°20.92' | N 18°58.13' | 82°53.20' | 7°43.49' | N 1°39.55' | 126°27.70' | 324°08.99' | S 15°37.91' | **08** |
| **09** | 329°57.08' | 135°42.08' | N 17°41.57' | 46°16.74' | 59°22.41' | N 18°58.46' | 97°55.84' | 7°43.32' | N 1°39.47' | 141°30.35' | 324°08.81' | S 15°37.97' | **09** |
| **10** | 344°56.43' | 135°45.20' | N 17°40.78' | 61°17.72' | 59°23.90' | N 18°58.78' | 112°58.48' | 7°43.14' | N 1°39.38' | 156°32.99' | 324°08.63' | S 15°38.04' | **10** |
| **11** | 359°55.77' | 135°48.31' | N 17°39.99' | 76°18.70' | 59°25.39' | N 18°59.11' | 128°01.12' | 7°42.97' | N 1°39.29' | 171°35.64' | 324°08.45' | S 15°38.10' | **11** |
| **12** | 14°55.12' | 135°51.43' | N 17°39.19' | 91°19.67' | 59°26.88' | N 18°59.44' | 143°03.76' | 7°42.79' | N 1°39.21' | 186°38.28' | 324°08.27' | S 15°38.16' | **12** |
| **13** | 29°54.47' | 135°54.54' | N 17°38.40' | 106°20.65' | 59°28.37' | N 18°59.76' | 158°06.40' | 7°42.62' | N 1°39.12' | 201°40.93' | 324°08.09' | S 15°38.22' | **13** |
| **14** | 44°53.82' | 135°57.66' | N 17°37.60' | 121°21.63' | 59°29.85' | N 19°00.09' | 173°09.04' | 7°42.44' | N 1°39.04' | 216°43.57' | 324°07.91' | S 15°38.28' | **14** |
| **15** | 59°53.17' | 136°00.77' | N 17°36.80' | 136°22.60' | 59°31.34' | N 19°00.41' | 188°11.68' | 7°42.27' | N 1°38.95' | 231°46.22' | 324°07.73' | S 15°38.35' | **15** |
| **16** | 74°52.52' | 136°03.88' | N 17°36.00' | 151°23.58' | 59°32.83' | N 19°00.74' | 203°14.32' | 7°42.09' | N 1°38.87' | 246°48.86' | 324°07.55' | S 15°38.41' | **16** |
| **17** | 89°51.87' | 136°07.00' | N 17°35.20' | 166°24.56' | 59°34.31' | N 19°01.06' | 218°16.96' | 7°41.91' | N 1°38.78' | 261°51.50' | 324°07.37' | S 15°38.47' | **17** |
| **18** | 104°51.22' | 136°10.11' | N 17°34.40' | 181°25.54' | 59°35.80' | N 19°01.38' | 233°19.60' | 7°41.74' | N 1°38.69' | 276°54.15' | 324°07.19' | S 15°38.53' | **18** |
| **19** | 119°50.58' | 136°13.22' | N 17°33.60' | 196°26.52' | 59°37.28' | N 19°01.71' | 248°22.24' | 7°41.56' | N 1°38.61' | 291°56.79' | 324°07.00' | S 15°38.59' | **19** |
| **20** | 134°49.93' | 136°16.33' | N 17°32.80' | 211°27.50' | 59°38.77' | N 19°02.03' | 263°24.88' | 7°41.38' | N 1°38.52' | 306°59.44' | 324°06.82' | S 15°38.65' | **20** |
| **21** | 149°49.28' | 136°19.45' | N 17°31.99' | 226°28.47' | 59°40.25' | N 19°02.35' | 278°27.52' | 7°41.21' | N 1°38.43' | 322°02.08' | 324°06.64' | S 15°38.72' | **21** |
| **22** | 164°48.63' | 136°22.56' | N 17°31.19' | 241°29.45' | 59°41.74' | N 19°02.68' | 293°30.16' | 7°41.03' | N 1°38.35' | 337°04.73' | 324°06.46' | S 15°38.78' | **22** |
| **23** | 179°47.99' | 136°25.67' | N 17°30.39' | 256°30.43' | 59°43.22' | N 19°03.00' | 308°32.80' | 7°40.85' | N 1°38.26' | 352°07.37' | 324°06.28' | S 15°38.84' | **23** |
| **24** | 194°47.34' | 136°28.78' | N 17°29.58' | 271°31.41' | 59°44.70' | N 19°03.32' | 323°35.45' | 7°40.67' | N 1°38.17' | 7°10.02' | 324°06.10' | S 15°38.90' | **24** |
| | δ 14.9891° | | *d* 0.7856' | δ 15.0162° | | *d* 0.3285' | δ 15.0439° | | *d* 0.0845' | δ 15.0441° | | *d* 0.0620' | |

## *Tuesday, August 23rd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°18.28' | 15.0027° | 151°57.84' | N 11°31.06' | 0.8457' | 228°16.30' | 14.4885° | 102°59.82' | N 27°01.11' | 1.0891' | 54.0859' | 331°16.12' | **00** |
| **01** | 194°18.45' | 15.0027° | 152°00.14' | N 11°30.22' | 0.8460' | 242°45.62' | 14.4886° | 103°32.96' | N 26°59.89' | 1.2189' | 54.0865' | 346°18.58' | **01** |
| **02** | 209°18.61' | 15.0027° | 152°02.44' | N 11°29.37' | 0.8463' | 257°14.95' | 14.4888° | 104°06.10' | N 26°58.54' | 1.3485' | 54.0874' | 1°21.05' | **02** |
| **03** | 224°18.77' | 15.0027° | 152°04.74' | N 11°28.52' | 0.8466' | 271°44.28' | 14.4889° | 104°39.23' | N 26°57.06' | 1.4781' | 54.0885' | 16°23.51' | **03** |
| **04** | 239°18.93' | 15.0027° | 152°07.04' | N 11°27.68' | 0.8470' | 286°13.63' | 14.4891° | 105°12.35' | N 26°55.45' | 1.6075' | 54.0898' | 31°25.98' | **04** |
| **05** | 254°19.09' | 15.0027° | 152°09.35' | N 11°26.83' | 0.8473' | 300°42.99' | 14.4893° | 105°45.45' | N 26°53.72' | 1.7368' | 54.0914' | 46°28.44' | **05** |
| **06** | 269°19.26' | 15.0027° | 152°11.65' | N 11°25.98' | 0.8476' | 315°12.36' | 14.4895° | 106°18.55' | N 26°51.85' | 1.8659' | 54.0932' | 61°30.90' | **06** |
| **07** | 284°19.42' | 15.0027° | 152°13.95' | N 11°25.13' | 0.8479' | 329°41.74' | 14.4897° | 106°51.63' | N 26°49.86' | 1.9948' | 54.0952' | 76°33.37' | **07** |
| **08** | 299°19.58' | 15.0027° | 152°16.25' | N 11°24.29' | 0.8482' | 344°11.14' | 14.4900° | 107°24.69' | N 26°47.73' | 2.1236' | 54.0975' | 91°35.83' | **08** |
| **09** | 314°19.75' | 15.0027° | 152°18.55' | N 11°23.44' | 0.8485' | 358°40.56' | 14.4902° | 107°57.74' | N 26°45.48' | 2.2522' | 54.1000' | 106°38.30' | **09** |
| **10** | 329°19.91' | 15.0027° | 152°20.85' | N 11°22.59' | 0.8488' | 13°09.99' | 14.4905° | 108°30.77' | N 26°43.10' | 2.3806' | 54.1027' | 121°40.76' | **10** |
| **11** | 344°20.07' | 15.0027° | 152°23.15' | N 11°21.74' | 0.8492' | 27°39.44' | 14.4908° | 109°03.79' | N 26°40.59' | 2.5087' | 54.1056' | 136°43.22' | **11** |
| **12** | 359°20.24' | 15.0027° | 152°25.45' | N 11°20.89' | 0.8495' | 42°08.90' | 14.4911° | 109°36.79' | N 26°37.95' | 2.6367' | 54.1088' | 151°45.69' | **12** |
| **13** | 14°20.40' | 15.0027° | 152°27.75' | N 11°20.04' | 0.8498' | 56°38.39' | 14.4914° | 110°09.76' | N 26°35.19' | 2.7644' | 54.1122' | 166°48.15' | **13** |
| **14** | 29°20.57' | 15.0027° | 152°30.05' | N 11°19.19' | 0.8501' | 71°07.90' | 14.4918° | 110°42.72' | N 26°32.30' | 2.8918' | 54.1158' | 181°50.62' | **14** |
| **15** | 44°20.73' | 15.0027° | 152°32.35' | N 11°18.34' | 0.8504' | 85°37.42' | 14.4921° | 111°15.66' | N 26°29.28' | 3.0190' | 54.1196' | 196°53.08' | **15** |
| **16** | 59°20.90' | 15.0027° | 152°34.65' | N 11°17.49' | 0.8507' | 100°06.97' | 14.4925° | 111°48.57' | N 26°26.13' | 3.1459' | 54.1236' | 211°55.55' | **16** |
| **17** | 74°21.06' | 15.0027° | 152°36.95' | N 11°16.64' | 0.8510' | 114°36.54' | 14.4929° | 112°21.47' | N 26°22.86' | 3.2725' | 54.1279' | 226°58.01' | **17** |
| **18** | 89°21.23' | 15.0027° | 152°39.25' | N 11°15.79' | 0.8514' | 129°06.14' | 14.4933° | 112°54.34' | N 26°19.46' | 3.3988' | 54.1323' | 242°00.47' | **18** |
| **19** | 104°21.39' | 15.0028° | 152°41.55' | N 11°14.93' | 0.8517' | 143°35.76' | 14.4937° | 113°27.18' | N 26°15.94' | 3.5248' | 54.1370' | 257°02.94' | **19** |
| **20** | 119°21.56' | 15.0028° | 152°43.85' | N 11°14.08' | 0.8520' | 158°05.40' | 14.4941° | 113°60.00' | N 26°12.29' | 3.6505' | 54.1419' | 272°05.40' | **20** |
| **21** | 134°21.72' | 15.0028° | 152°46.15' | N 11°13.23' | 0.8523' | 172°35.07' | 14.4945° | 114°32.79' | N 26°08.51' | 3.7758' | 54.1470' | 287°07.87' | **21** |
| **22** | 149°21.89' | 15.0028° | 152°48.44' | N 11°12.38' | 0.8526' | 187°04.77' | 14.4950° | 115°05.56' | N 26°04.61' | 3.9008' | 54.1523' | 302°10.33' | **22** |
| **23** | 164°22.05' | 15.0028° | 152°50.74' | N 11°11.53' | 0.8529' | 201°34.50' | 14.4954° | 115°38.30' | N 26°00.58' | 4.0255' | 54.1578' | 317°12.79' | **23** |
| **24** | 179°22.22' | 15.0028° | 152°53.04' | N 11°10.67' | 0.8532' | 216°04.25' | 14.4959° | 116°11.01' | N 25°56.43' | 4.1497' | 54.1635' | 332°15.26' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8155' | hp (π) 0.1449' | ½Ø 14.7437' | 13.5050856656961<br>38% -cre |
| | EoT at 12:00 UTC : -2m 39s (δ 0.66 s/h) | | Phase at 12:00 UTC : 317.16° | |
| | Meridian Pass. Time : 12:02:39.048 | | Age : 24.7 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.15') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 194°47.34' | 136°28.78' | N 17°29.58' | 271°31.41' | 59°44.70' | N 19°03.32' | 323°35.45' | 7°40.67' | N 1°38.17' | 7°10.02' | 324°06.10' | S 15°38.90' | **00** |
| **01** | 209°46.69' | 136°31.89' | N 17°28.77' | 286°32.40' | 59°46.19' | N 19°03.65' | 338°38.09' | 7°40.50' | N 1°38.08' | 22°12.66' | 324°05.92' | S 15°38.96' | **01** |
| **02** | 224°46.05' | 136°35.00' | N 17°27.97' | 301°33.38' | 59°47.67' | N 19°03.97' | 353°40.73' | 7°40.32' | N 1°38.00' | 37°15.31' | 324°05.74' | S 15°39.02' | **02** |
| **03** | 239°45.40' | 136°38.11' | N 17°27.16' | 316°34.36' | 59°49.15' | N 19°04.29' | 8°43.37' | 7°40.14' | N 1°37.91' | 52°17.95' | 324°05.56' | S 15°39.09' | **03** |
| **04** | 254°44.76' | 136°41.22' | N 17°26.35' | 331°35.34' | 59°50.64' | N 19°04.61' | 23°46.02' | 7°39.96' | N 1°37.82' | 67°20.59' | 324°05.38' | S 15°39.15' | **04** |
| **05** | 269°44.12' | 136°44.32' | N 17°25.54' | 346°36.32' | 59°52.12' | N 19°04.93' | 38°48.66' | 7°39.78' | N 1°37.73' | 82°23.24' | 324°05.20' | S 15°39.21' | **05** |
| **06** | 284°43.47' | 136°47.43' | N 17°24.73' | 1°37.30' | 59°53.60' | N 19°05.25' | 53°51.30' | 7°39.60' | N 1°37.65' | 97°25.88' | 324°05.02' | S 15°39.27' | **06** |
| **07** | 299°42.83' | 136°50.54' | N 17°23.92' | 16°38.29' | 59°55.08' | N 19°05.57' | 68°53.95' | 7°39.42' | N 1°37.56' | 112°28.53' | 324°04.84' | S 15°39.33' | **07** |
| **08** | 314°42.19' | 136°53.65' | N 17°23.10' | 31°39.27' | 59°56.56' | N 19°05.89' | 83°56.59' | 7°39.24' | N 1°37.47' | 127°31.17' | 324°04.66' | S 15°39.39' | **08** |
| **09** | 329°41.54' | 136°56.75' | N 17°22.29' | 46°40.25' | 59°58.04' | N 19°06.21' | 98°59.24' | 7°39.06' | N 1°37.38' | 142°33.82' | 324°04.48' | S 15°39.45' | **09** |
| **10** | 344°40.90' | 136°59.86' | N 17°21.48' | 61°41.24' | 59°59.52' | N 19°06.53' | 114°01.88' | 7°38.88' | N 1°37.30' | 157°36.46' | 324°04.30' | S 15°39.52' | **10** |
| **11** | 359°40.26' | 137°02.97' | N 17°20.66' | 76°42.22' | 60°01.00' | N 19°06.85' | 129°04.53' | 7°38.70' | N 1°37.21' | 172°39.10' | 324°04.12' | S 15°39.58' | **11** |
| **12** | 14°39.62' | 137°06.07' | N 17°19.85' | 91°43.21' | 60°02.48' | N 19°07.17' | 144°07.17' | 7°38.52' | N 1°37.12' | 187°41.75' | 324°03.94' | S 15°39.64' | **12** |
| **13** | 29°38.98' | 137°09.18' | N 17°19.03' | 106°44.19' | 60°03.96' | N 19°07.49' | 159°09.82' | 7°38.33' | N 1°37.03' | 202°44.39' | 324°03.76' | S 15°39.70' | **13** |
| **14** | 44°38.34' | 137°12.28' | N 17°18.21' | 121°45.18' | 60°05.44' | N 19°07.81' | 174°12.47' | 7°38.15' | N 1°36.94' | 217°47.04' | 324°03.58' | S 15°39.76' | **14** |
| **15** | 59°37.70' | 137°15.39' | N 17°17.39' | 136°46.16' | 60°06.92' | N 19°08.13' | 189°15.11' | 7°37.97' | N 1°36.85' | 232°49.68' | 324°03.40' | S 15°39.82' | **15** |
| **16** | 74°37.06' | 137°18.49' | N 17°16.57' | 151°47.15' | 60°08.40' | N 19°08.45' | 204°17.76' | 7°37.79' | N 1°36.76' | 247°52.32' | 324°03.22' | S 15°39.88' | **16** |
| **17** | 89°36.42' | 137°21.59' | N 17°15.75' | 166°48.13' | 60°09.88' | N 19°08.76' | 219°20.41' | 7°37.60' | N 1°36.68' | 262°54.97' | 324°03.04' | S 15°39.95' | **17** |
| **18** | 104°35.78' | 137°24.70' | N 17°14.93' | 181°49.12' | 60°11.36' | N 19°09.08' | 234°23.05' | 7°37.42' | N 1°36.59' | 277°57.61' | 324°02.86' | S 15°40.01' | **18** |
| **19** | 119°35.14' | 137°27.80' | N 17°14.11' | 196°50.11' | 60°12.83' | N 19°09.40' | 249°25.70' | 7°37.24' | N 1°36.50' | 293°00.26' | 324°02.68' | S 15°40.07' | **19** |
| **20** | 134°34.50' | 137°30.90' | N 17°13.29' | 211°51.09' | 60°14.31' | N 19°09.72' | 264°28.35' | 7°37.05' | N 1°36.41' | 308°02.90' | 324°02.50' | S 15°40.13' | **20** |
| **21** | 149°33.86' | 137°34.00' | N 17°12.46' | 226°52.08' | 60°15.79' | N 19°10.03' | 279°31.00' | 7°36.87' | N 1°36.32' | 323°05.54' | 324°02.32' | S 15°40.19' | **21** |
| **22** | 164°33.23' | 137°37.10' | N 17°11.64' | 241°53.07' | 60°17.26' | N 19°10.35' | 294°33.64' | 7°36.69' | N 1°36.23' | 338°08.19' | 324°02.14' | S 15°40.25' | **22** |
| **23** | 179°32.59' | 137°40.20' | N 17°10.81' | 256°54.06' | 60°18.74' | N 19°10.67' | 309°36.29' | 7°36.50' | N 1°36.14' | 353°10.83' | 324°01.96' | S 15°40.31' | **23** |
| **24** | 194°31.95' | 137°43.30' | N 17°09.99' | 271°55.04' | 60°20.21' | N 19°10.98' | 324°38.94' | 7°36.32' | N 1°36.05' | 8°13.47' | 324°01.78' | S 15°40.37' | **24** |
| | δ 14.9892° | | *d* 0.8065' | δ 15.0163° | | *d* 0.3222' | δ 15.0440° | | *d* 0.0872' | δ 15.0441° | | *d* 0.0616' | |

## *Wednesday, August 24th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°22.22' | 15.0028° | 152°53.04' | N 11°10.67' | 0.8532' | 216°04.25' | 14.4959° | 116°11.01' | N 25°56.43' | 4.1497' | 54.1635' | 332°15.26' | **00** |
| **01** | 194°22.39' | 15.0028° | 152°55.34' | N 11°09.82' | 0.8535' | 230°34.04' | 14.4964° | 116°43.69' | N 25°52.16' | 4.2736' | 54.1695' | 347°17.72' | **01** |
| **02** | 209°22.55' | 15.0028° | 152°57.64' | N 11°08.96' | 0.8538' | 245°03.85' | 14.4969° | 117°16.34' | N 25°47.76' | 4.3971' | 54.1756' | 2°20.19' | **02** |
| **03** | 224°22.72' | 15.0028° | 152°59.93' | N 11°08.11' | 0.8541' | 259°33.70' | 14.4974° | 117°48.96' | N 25°43.24' | 4.5202' | 54.1819' | 17°22.65' | **03** |
| **04** | 239°22.88' | 15.0028° | 153°02.23' | N 11°07.26' | 0.8544' | 274°03.57' | 14.4979° | 118°21.54' | N 25°38.60' | 4.6429' | 54.1884' | 32°25.12' | **04** |
| **05** | 254°23.05' | 15.0028° | 153°04.53' | N 11°06.40' | 0.8548' | 288°33.48' | 14.4985° | 118°54.10' | N 25°33.84' | 4.7652' | 54.1952' | 47°27.58' | **05** |
| **06** | 269°23.22' | 15.0028° | 153°06.82' | N 11°05.55' | 0.8551' | 303°03.42' | 14.4990° | 119°26.62' | N 25°28.95' | 4.8870' | 54.2021' | 62°30.04' | **06** |
| **07** | 284°23.39' | 15.0028° | 153°09.12' | N 11°04.69' | 0.8554' | 317°33.40' | 14.4996° | 119°59.11' | N 25°23.94' | 5.0084' | 54.2092' | 77°32.51' | **07** |
| **08** | 299°23.55' | 15.0028° | 153°11.42' | N 11°03.83' | 0.8557' | 332°03.41' | 14.5002° | 120°31.57' | N 25°18.81' | 5.1293' | 54.2165' | 92°34.97' | **08** |
| **09** | 314°23.72' | 15.0028° | 153°13.71' | N 11°02.98' | 0.8560' | 346°33.45' | 14.5007° | 121°03.99' | N 25°13.56' | 5.2498' | 54.2240' | 107°37.44' | **09** |
| **10** | 329°23.89' | 15.0028° | 153°16.01' | N 11°02.12' | 0.8563' | 1°03.53' | 14.5013° | 121°36.37' | N 25°08.19' | 5.3698' | 54.2317' | 122°39.90' | **10** |
| **11** | 344°24.06' | 15.0028° | 153°18.31' | N 11°01.27' | 0.8566' | 15°33.65' | 14.5019° | 122°08.72' | N 25°02.70' | 5.4893' | 54.2395' | 137°42.36' | **11** |
| **12** | 359°24.23' | 15.0028° | 153°20.60' | N 11°00.41' | 0.8569' | 30°03.80' | 14.5026° | 122°41.03' | N 24°57.09' | 5.6083' | 54.2476' | 152°44.83' | **12** |
| **13** | 14°24.39' | 15.0028° | 153°22.90' | N 10°59.55' | 0.8572' | 44°33.99' | 14.5032° | 123°13.30' | N 24°51.37' | 5.7268' | 54.2558' | 167°47.29' | **13** |
| **14** | 29°24.56' | 15.0028° | 153°25.19' | N 10°58.69' | 0.8575' | 59°04.22' | 14.5038° | 123°45.54' | N 24°45.52' | 5.8448' | 54.2643' | 182°49.76' | **14** |
| **15** | 44°24.73' | 15.0028° | 153°27.49' | N 10°57.84' | 0.8578' | 73°34.49' | 14.5045° | 124°17.74' | N 24°39.56' | 5.9623' | 54.2729' | 197°52.22' | **15** |
| **16** | 59°24.90' | 15.0028° | 153°29.78' | N 10°56.98' | 0.8581' | 88°04.79' | 14.5051° | 124°49.89' | N 24°33.48' | 6.0792' | 54.2817' | 212°54.69' | **16** |
| **17** | 74°25.07' | 15.0028° | 153°32.08' | N 10°56.12' | 0.8584' | 102°35.14' | 14.5058° | 125°22.01' | N 24°27.28' | 6.1956' | 54.2906' | 227°57.15' | **17** |
| **18** | 89°25.24' | 15.0028° | 153°34.37' | N 10°55.26' | 0.8587' | 117°05.52' | 14.5064° | 125°54.09' | N 24°20.97' | 6.3114' | 54.2998' | 242°59.61' | **18** |
| **19** | 104°25.41' | 15.0028° | 153°36.67' | N 10°54.40' | 0.8590' | 131°35.95' | 14.5071° | 126°26.13' | N 24°14.55' | 6.4267' | 54.3091' | 258°02.08' | **19** |
| **20** | 119°25.58' | 15.0028° | 153°38.96' | N 10°53.54' | 0.8593' | 146°06.42' | 14.5078° | 126°58.12' | N 24°08.01' | 6.5414' | 54.3186' | 273°04.54' | **20** |
| **21** | 134°25.75' | 15.0028° | 153°41.26' | N 10°52.68' | 0.8596' | 160°36.93' | 14.5085° | 127°30.08' | N 24°01.35' | 6.6556' | 54.3282' | 288°07.01' | **21** |
| **22** | 149°25.92' | 15.0028° | 153°43.55' | N 10°51.82' | 0.8599' | 175°07.48' | 14.5092° | 128°01.99' | N 23°54.58' | 6.7691' | 54.3381' | 303°09.47' | **22** |
| **23** | 164°26.09' | 15.0028° | 153°45.85' | N 10°50.96' | 0.8602' | 189°38.07' | 14.5099° | 128°33.86' | N 23°47.70' | 6.8821' | 54.3481' | 318°11.93' | **23** |
| **24** | 179°26.26' | 15.0028° | 153°48.14' | N 10°50.10' | 0.8605' | 204°08.71' | 14.5106° | 129°05.69' | N 23°40.70' | 6.9944' | 54.3582' | 333°14.40' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8188' | hp (π) 0.1450' | ½Ø 14.7815' | 7.73210884012219<br>25% -cre |
| | EoT at 12:00 UTC : -2m 23s (δ 0.67 s/h) | | Phase at 12:00 UTC : 328.11° | |
| | Meridian Pass. Time : 12:02:23.097 | | Age : 25.5 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.15') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 194°31.95' | 137°43.30' | N 17°09.99' | 271°55.04' | 60°20.21' | N 19°10.98' | 324°38.94' | 7°36.32' | N 1°36.05' | 8°13.47' | 324°01.78' | S 15°40.37' | **00** |
| **01** | 209°31.32' | 137°46.40' | N 17°09.16' | 286°56.03' | 60°21.69' | N 19°11.30' | 339°41.59' | 7°36.13' | N 1°35.96' | 23°16.12' | 324°01.60' | S 15°40.44' | **01** |
| **02** | 224°30.68' | 137°49.50' | N 17°08.33' | 301°57.02' | 60°23.16' | N 19°11.61' | 354°44.24' | 7°35.95' | N 1°35.87' | 38°18.76' | 324°01.43' | S 15°40.50' | **02** |
| **03** | 239°30.05' | 137°52.60' | N 17°07.50' | 316°58.01' | 60°24.64' | N 19°11.93' | 9°46.89' | 7°35.76' | N 1°35.78' | 53°21.41' | 324°01.25' | S 15°40.56' | **03** |
| **04** | 254°29.41' | 137°55.70' | N 17°06.67' | 331°59.00' | 60°26.11' | N 19°12.24' | 24°49.54' | 7°35.58' | N 1°35.69' | 68°24.05' | 324°01.07' | S 15°40.62' | **04** |
| **05** | 269°28.78' | 137°58.80' | N 17°05.84' | 346°59.99' | 60°27.59' | N 19°12.56' | 39°52.19' | 7°35.39' | N 1°35.60' | 83°26.69' | 324°00.89' | S 15°40.68' | **05** |
| **06** | 284°28.14' | 138°01.90' | N 17°05.01' | 2°00.98' | 60°29.06' | N 19°12.87' | 54°54.84' | 7°35.20' | N 1°35.51' | 98°29.34' | 324°00.71' | S 15°40.74' | **06** |
| **07** | 299°27.51' | 138°05.00' | N 17°04.18' | 17°01.97' | 60°30.53' | N 19°13.19' | 69°57.49' | 7°35.02' | N 1°35.42' | 113°31.98' | 324°00.53' | S 15°40.80' | **07** |
| **08** | 314°26.88' | 138°08.09' | N 17°03.35' | 32°02.96' | 60°32.01' | N 19°13.50' | 85°00.14' | 7°34.83' | N 1°35.33' | 128°34.62' | 324°00.35' | S 15°40.86' | **08** |
| **09** | 329°26.25' | 138°11.19' | N 17°02.51' | 47°03.96' | 60°33.48' | N 19°13.81' | 100°02.79' | 7°34.64' | N 1°35.24' | 143°37.27' | 324°00.17' | S 15°40.92' | **09** |
| **10** | 344°25.61' | 138°14.29' | N 17°01.68' | 62°04.95' | 60°34.95' | N 19°14.13' | 115°05.44' | 7°34.46' | N 1°35.15' | 158°39.91' | 323°59.99' | S 15°40.98' | **10** |
| **11** | 359°24.98' | 138°17.38' | N 17°00.84' | 77°05.94' | 60°36.42' | N 19°14.44' | 130°08.09' | 7°34.27' | N 1°35.06' | 173°42.55' | 323°59.81' | S 15°41.05' | **11** |
| **12** | 14°24.35' | 138°20.48' | N 17°00.01' | 92°06.93' | 60°37.90' | N 19°14.75' | 145°10.75' | 7°34.08' | N 1°34.97' | 188°45.20' | 323°59.63' | S 15°41.11' | **12** |
| **13** | 29°23.72' | 138°23.57' | N 16°59.17' | 107°07.93' | 60°39.37' | N 19°15.07' | 160°13.40' | 7°33.89' | N 1°34.87' | 203°47.84' | 323°59.45' | S 15°41.17' | **13** |
| **14** | 44°23.09' | 138°26.67' | N 16°58.33' | 122°08.92' | 60°40.84' | N 19°15.38' | 175°16.05' | 7°33.71' | N 1°34.78' | 218°50.48' | 323°59.27' | S 15°41.23' | **14** |
| **15** | 59°22.46' | 138°29.76' | N 16°57.49' | 137°09.91' | 60°42.31' | N 19°15.69' | 190°18.70' | 7°33.52' | N 1°34.69' | 233°53.13' | 323°59.09' | S 15°41.29' | **15** |
| **16** | 74°21.83' | 138°32.86' | N 16°56.65' | 152°10.91' | 60°43.78' | N 19°16.00' | 205°21.36' | 7°33.33' | N 1°34.60' | 248°55.77' | 323°58.92' | S 15°41.35' | **16** |
| **17** | 89°21.20' | 138°35.95' | N 16°55.81' | 167°11.90' | 60°45.25' | N 19°16.31' | 220°24.01' | 7°33.14' | N 1°34.51' | 263°58.41' | 323°58.74' | S 15°41.41' | **17** |
| **18** | 104°20.57' | 138°39.04' | N 16°54.97' | 182°12.90' | 60°46.72' | N 19°16.63' | 235°26.66' | 7°32.95' | N 1°34.42' | 279°01.06' | 323°58.56' | S 15°41.47' | **18** |
| **19** | 119°19.94' | 138°42.14' | N 16°54.13' | 197°13.89' | 60°48.19' | N 19°16.94' | 250°29.32' | 7°32.76' | N 1°34.33' | 294°03.70' | 323°58.38' | S 15°41.53' | **19** |
| **20** | 134°19.31' | 138°45.23' | N 16°53.29' | 212°14.89' | 60°49.65' | N 19°17.25' | 265°31.97' | 7°32.57' | N 1°34.23' | 309°06.34' | 323°58.20' | S 15°41.59' | **20** |
| **21** | 149°18.69' | 138°48.32' | N 16°52.44' | 227°15.88' | 60°51.12' | N 19°17.56' | 280°34.63' | 7°32.38' | N 1°34.14' | 324°08.99' | 323°58.02' | S 15°41.65' | **21** |
| **22** | 164°18.06' | 138°51.41' | N 16°51.60' | 242°16.88' | 60°52.59' | N 19°17.87' | 295°37.28' | 7°32.19' | N 1°34.05' | 339°11.63' | 323°57.84' | S 15°41.72' | **22** |
| **23** | 179°17.43' | 138°54.50' | N 16°50.75' | 257°17.88' | 60°54.06' | N 19°18.18' | 310°39.94' | 7°32.00' | N 1°33.96' | 354°14.27' | 323°57.66' | S 15°41.78' | **23** |
| **24** | 194°16.80' | 138°57.59' | N 16°49.91' | 272°18.87' | 60°55.53' | N 19°18.49' | 325°42.59' | 7°31.81' | N 1°33.87' | 9°16.91' | 323°57.48' | S 15°41.84' | **24** |
| | δ 14.9894° | | *d* 0.8270' | δ 15.0165° | | *d* 0.3158' | δ 15.0441° | | *d* 0.0898' | δ 15.0441° | | *d* 0.0612' | |

## *Thursday, August 25th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°26.26' | 15.0028° | 153°48.14' | N 10°50.10' | 0.8605' | 204°08.71' | 14.5106° | 129°05.69' | N 23°40.70' | 6.9944' | 54.3582' | 333°14.40' | **00** |
| **01** | 194°26.43' | 15.0028° | 153°50.43' | N 10°49.24' | 0.8608' | 218°39.39' | 14.5113° | 129°37.47' | N 23°33.60' | 7.1062' | 54.3686' | 348°16.86' | **01** |
| **02** | 209°26.60' | 15.0028° | 153°52.73' | N 10°48.38' | 0.8611' | 233°10.11' | 14.5121° | 130°09.22' | N 23°26.38' | 7.2173' | 54.3791' | 3°19.33' | **02** |
| **03** | 224°26.77' | 15.0028° | 153°55.02' | N 10°47.52' | 0.8614' | 247°40.88' | 14.5128° | 130°40.91' | N 23°19.05' | 7.3278' | 54.3897' | 18°21.79' | **03** |
| **04** | 239°26.94' | 15.0029° | 153°57.31' | N 10°46.66' | 0.8617' | 262°11.69' | 14.5135° | 131°12.57' | N 23°11.62' | 7.4377' | 54.4006' | 33°24.25' | **04** |
| **05** | 254°27.11' | 15.0029° | 153°59.61' | N 10°45.80' | 0.8620' | 276°42.54' | 14.5143° | 131°44.17' | N 23°04.07' | 7.5469' | 54.4116' | 48°26.72' | **05** |
| **06** | 269°27.28' | 15.0029° | 154°01.90' | N 10°44.93' | 0.8623' | 291°13.44' | 14.5150° | 132°15.74' | N 22°56.41' | 7.6555' | 54.4227' | 63°29.18' | **06** |
| **07** | 284°27.46' | 15.0029° | 154°04.19' | N 10°44.07' | 0.8626' | 305°44.39' | 14.5158° | 132°47.26' | N 22°48.65' | 7.7634' | 54.4340' | 78°31.65' | **07** |
| **08** | 299°27.63' | 15.0029° | 154°06.48' | N 10°43.21' | 0.8629' | 320°15.38' | 14.5165° | 133°18.73' | N 22°40.78' | 7.8706' | 54.4454' | 93°34.11' | **08** |
| **09** | 314°27.80' | 15.0029° | 154°08.78' | N 10°42.34' | 0.8632' | 334°46.42' | 14.5173° | 133°50.16' | N 22°32.80' | 7.9772' | 54.4570' | 108°36.58' | **09** |
| **10** | 329°27.97' | 15.0029° | 154°11.07' | N 10°41.48' | 0.8635' | 349°17.50' | 14.5180° | 134°21.54' | N 22°24.72' | 8.0831' | 54.4688' | 123°39.04' | **10** |
| **11** | 344°28.14' | 15.0029° | 154°13.36' | N 10°40.62' | 0.8638' | 3°48.63' | 14.5188° | 134°52.88' | N 22°16.53' | 8.1884' | 54.4807' | 138°41.50' | **11** |
| **12** | 359°28.32' | 15.0029° | 154°15.65' | N 10°39.75' | 0.8641' | 18°19.80' | 14.5196° | 135°24.17' | N 22°08.24' | 8.2929' | 54.4928' | 153°43.97' | **12** |
| **13** | 14°28.49' | 15.0029° | 154°17.94' | N 10°38.89' | 0.8644' | 32°51.02' | 14.5203° | 135°55.41' | N 21°59.84' | 8.3967' | 54.5050' | 168°46.43' | **13** |
| **14** | 29°28.66' | 15.0029° | 154°20.23' | N 10°38.02' | 0.8647' | 47°22.29' | 14.5211° | 136°26.61' | N 21°51.34' | 8.4999' | 54.5173' | 183°48.90' | **14** |
| **15** | 44°28.83' | 15.0029° | 154°22.53' | N 10°37.16' | 0.8650' | 61°53.60' | 14.5219° | 136°57.76' | N 21°42.74' | 8.6023' | 54.5298' | 198°51.36' | **15** |
| **16** | 59°29.01' | 15.0029° | 154°24.82' | N 10°36.29' | 0.8653' | 76°24.96' | 14.5227° | 137°28.87' | N 21°34.03' | 8.7040' | 54.5424' | 213°53.82' | **16** |
| **17** | 74°29.18' | 15.0029° | 154°27.11' | N 10°35.43' | 0.8656' | 90°56.36' | 14.5234° | 137°59.92' | N 21°25.23' | 8.8050' | 54.5552' | 228°56.29' | **17** |
| **18** | 89°29.35' | 15.0029° | 154°29.40' | N 10°34.56' | 0.8658' | 105°27.82' | 14.5242° | 138°30.93' | N 21°16.32' | 8.9053' | 54.5681' | 243°58.75' | **18** |
| **19** | 104°29.53' | 15.0029° | 154°31.69' | N 10°33.70' | 0.8661' | 119°59.32' | 14.5250° | 139°01.90' | N 21°07.32' | 9.0048' | 54.5811' | 259°01.22' | **19** |
| **20** | 119°29.70' | 15.0029° | 154°33.98' | N 10°32.83' | 0.8664' | 134°30.86' | 14.5258° | 139°32.82' | N 20°58.22' | 9.1036' | 54.5943' | 274°03.68' | **20** |
| **21** | 134°29.88' | 15.0029° | 154°36.27' | N 10°31.96' | 0.8667' | 149°02.46' | 14.5265° | 140°03.69' | N 20°49.01' | 9.2017' | 54.6076' | 289°06.14' | **21** |
| **22** | 149°30.05' | 15.0029° | 154°38.56' | N 10°31.10' | 0.8670' | 163°34.10' | 14.5273° | 140°34.51' | N 20°39.71' | 9.2990' | 54.6211' | 304°08.61' | **22** |
| **23** | 164°30.22' | 15.0029° | 154°40.85' | N 10°30.23' | 0.8673' | 178°05.78' | 14.5281° | 141°05.29' | N 20°30.32' | 9.3956' | 54.6347' | 319°11.07' | **23** |
| **24** | 179°30.40' | 15.0029° | 154°43.14' | N 10°29.36' | 0.8676' | 192°37.51' | 14.5289° | 141°36.02' | N 20°20.83' | 9.4914' | 54.6484' | 334°13.54' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8221' | hp (π) 0.1450' | ½Ø 14.8483' | 3.46024789218926<br>63% -cre |
| | EoT at 12:00 UTC : -2m 6s (δ 0.69 s/h) | | Phase at 12:00 UTC : 339.18° | |
| | Meridian Pass. Time : 12:02:06.734 | | Age : 26.4 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.15') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 194°16.80' | 138°57.59' | N 16°49.91' | 272°18.87' | 60°55.53' | N 19°18.49' | 325°42.59' | 7°31.81' | N 1°33.87' | 9°16.91' | 323°57.48' | S 15°41.84' | **00** |
| **01** | 209°16.18' | 139°00.68' | N 16°49.06' | 287°19.87' | 60°56.99' | N 19°18.80' | 340°45.25' | 7°31.62' | N 1°33.77' | 24°19.56' | 323°57.31' | S 15°41.90' | **01** |
| **02** | 224°15.55' | 139°03.77' | N 16°48.21' | 302°20.87' | 60°58.46' | N 19°19.11' | 355°47.90' | 7°31.42' | N 1°33.68' | 39°22.20' | 323°57.13' | S 15°41.96' | **02** |
| **03** | 239°14.93' | 139°06.86' | N 16°47.36' | 317°21.87' | 60°59.93' | N 19°19.42' | 10°50.56' | 7°31.23' | N 1°33.59' | 54°24.84' | 323°56.95' | S 15°42.02' | **03** |
| **04** | 254°14.30' | 139°09.95' | N 16°46.52' | 332°22.86' | 61°01.39' | N 19°19.72' | 25°53.21' | 7°31.04' | N 1°33.50' | 69°27.49' | 323°56.77' | S 15°42.08' | **04** |
| **05** | 269°13.68' | 139°13.04' | N 16°45.66' | 347°23.86' | 61°02.86' | N 19°20.03' | 40°55.87' | 7°30.85' | N 1°33.40' | 84°30.13' | 323°56.59' | S 15°42.14' | **05** |
| **06** | 284°13.05' | 139°16.13' | N 16°44.81' | 2°24.86' | 61°04.32' | N 19°20.34' | 55°58.53' | 7°30.66' | N 1°33.31' | 99°32.77' | 323°56.41' | S 15°42.20' | **06** |
| **07** | 299°12.43' | 139°19.22' | N 16°43.96' | 17°25.86' | 61°05.79' | N 19°20.65' | 71°01.18' | 7°30.46' | N 1°33.22' | 114°35.41' | 323°56.23' | S 15°42.26' | **07** |
| **08** | 314°11.81' | 139°22.30' | N 16°43.11' | 32°26.86' | 61°07.25' | N 19°20.96' | 86°03.84' | 7°30.27' | N 1°33.12' | 129°38.06' | 323°56.05' | S 15°42.32' | **08** |
| **09** | 329°11.19' | 139°25.39' | N 16°42.26' | 47°27.86' | 61°08.72' | N 19°21.26' | 101°06.50' | 7°30.08' | N 1°33.03' | 144°40.70' | 323°55.88' | S 15°42.38' | **09** |
| **10** | 344°10.56' | 139°28.48' | N 16°41.40' | 62°28.86' | 61°10.18' | N 19°21.57' | 116°09.16' | 7°29.88' | N 1°32.94' | 159°43.34' | 323°55.70' | S 15°42.44' | **10** |
| **11** | 359°09.94' | 139°31.56' | N 16°40.55' | 77°29.86' | 61°11.64' | N 19°21.88' | 131°11.81' | 7°29.69' | N 1°32.84' | 174°45.98' | 323°55.52' | S 15°42.50' | **11** |
| **12** | 14°09.32' | 139°34.65' | N 16°39.69' | 92°30.86' | 61°13.11' | N 19°22.19' | 146°14.47' | 7°29.49' | N 1°32.75' | 189°48.63' | 323°55.34' | S 15°42.56' | **12** |
| **13** | 29°08.70' | 139°37.73' | N 16°38.83' | 107°31.86' | 61°14.57' | N 19°22.49' | 161°17.13' | 7°29.30' | N 1°32.66' | 204°51.27' | 323°55.16' | S 15°42.63' | **13** |
| **14** | 44°08.08' | 139°40.82' | N 16°37.97' | 122°32.87' | 61°16.03' | N 19°22.80' | 176°19.79' | 7°29.11' | N 1°32.56' | 219°53.91' | 323°54.98' | S 15°42.69' | **14** |
| **15** | 59°07.46' | 139°43.90' | N 16°37.12' | 137°33.87' | 61°17.49' | N 19°23.10' | 191°22.45' | 7°28.91' | N 1°32.47' | 234°56.55' | 323°54.81' | S 15°42.75' | **15** |
| **16** | 74°06.84' | 139°46.99' | N 16°36.26' | 152°34.87' | 61°18.95' | N 19°23.41' | 206°25.11' | 7°28.72' | N 1°32.38' | 249°59.20' | 323°54.63' | S 15°42.81' | **16** |
| **17** | 89°06.22' | 139°50.07' | N 16°35.40' | 167°35.87' | 61°20.41' | N 19°23.71' | 221°27.77' | 7°28.52' | N 1°32.28' | 265°01.84' | 323°54.45' | S 15°42.87' | **17** |
| **18** | 104°05.60' | 139°53.15' | N 16°34.54' | 182°36.88' | 61°21.88' | N 19°24.02' | 236°30.43' | 7°28.32' | N 1°32.19' | 280°04.48' | 323°54.27' | S 15°42.93' | **18** |
| **19** | 119°04.98' | 139°56.24' | N 16°33.67' | 197°37.88' | 61°23.34' | N 19°24.32' | 251°33.09' | 7°28.13' | N 1°32.09' | 295°07.12' | 323°54.09' | S 15°42.99' | **19** |
| **20** | 134°04.36' | 139°59.32' | N 16°32.81' | 212°38.88' | 61°24.80' | N 19°24.63' | 266°35.75' | 7°27.93' | N 1°32.00' | 310°09.76' | 323°53.92' | S 15°43.05' | **20** |
| **21** | 149°03.74' | 140°02.40' | N 16°31.95' | 227°39.89' | 61°26.26' | N 19°24.93' | 281°38.41' | 7°27.74' | N 1°31.90' | 325°12.41' | 323°53.74' | S 15°43.11' | **21** |
| **22** | 164°03.13' | 140°05.48' | N 16°31.08' | 242°40.89' | 61°27.71' | N 19°25.24' | 296°41.07' | 7°27.54' | N 1°31.81' | 340°15.05' | 323°53.56' | S 15°43.17' | **22** |
| **23** | 179°02.51' | 140°08.56' | N 16°30.22' | 257°41.90' | 61°29.17' | N 19°25.54' | 311°43.73' | 7°27.34' | N 1°31.71' | 355°17.69' | 323°53.38' | S 15°43.23' | **23** |
| **24** | 194°01.89' | 140°11.64' | N 16°29.35' | 272°42.90' | 61°30.63' | N 19°25.84' | 326°46.39' | 7°27.14' | N 1°31.62' | 10°20.33' | 323°53.20' | S 15°43.29' | **24** |
| | δ 14.9896° | | *d* 0.8470' | δ 15.0166° | | *d* 0.3095' | δ 15.0443° | | *d* 0.0923' | δ 15.0440° | | *d* 0.0607' | |

## *Friday, August 26th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°30.40' | 15.0029° | 154°43.14' | N 10°29.36' | 0.8676' | 192°37.51' | 14.5289° | 141°36.02' | N 20°20.83' | 9.4914' | 54.6484' | 334°13.54' | **00** |
| **01** | 194°30.57' | 15.0029° | 154°45.43' | N 10°28.49' | 0.8679' | 207°09.29' | 14.5297° | 142°06.71' | N 20°11.24' | 9.5865' | 54.6622' | 349°16.00' | **01** |
| **02** | 209°30.75' | 15.0029° | 154°47.72' | N 10°27.63' | 0.8682' | 221°41.12' | 14.5304° | 142°37.35' | N 20°01.56' | 9.6808' | 54.6762' | 4°18.47' | **02** |
| **03** | 224°30.92' | 15.0029° | 154°50.01' | N 10°26.76' | 0.8685' | 236°12.99' | 14.5312° | 143°07.94' | N 19°51.79' | 9.7743' | 54.6903' | 19°20.93' | **03** |
| **04** | 239°31.10' | 15.0029° | 154°52.29' | N 10°25.89' | 0.8687' | 250°44.91' | 14.5320° | 143°38.48' | N 19°41.92' | 9.8670' | 54.7045' | 34°23.39' | **04** |
| **05** | 254°31.27' | 15.0029° | 154°54.58' | N 10°25.02' | 0.8690' | 265°16.88' | 14.5327° | 144°08.98' | N 19°31.96' | 9.9590' | 54.7188' | 49°25.86' | **05** |
| **06** | 269°31.45' | 15.0029° | 154°56.87' | N 10°24.15' | 0.8693' | 279°48.89' | 14.5335° | 144°39.44' | N 19°21.91' | 10.0501' | 54.7333' | 64°28.32' | **06** |
| **07** | 284°31.63' | 15.0029° | 154°59.16' | N 10°23.28' | 0.8696' | 294°20.94' | 14.5343° | 145°09.84' | N 19°11.77' | 10.1405' | 54.7479' | 79°30.79' | **07** |
| **08** | 299°31.80' | 15.0029° | 155°01.45' | N 10°22.41' | 0.8699' | 308°53.04' | 14.5350° | 145°40.21' | N 19°01.54' | 10.2301' | 54.7626' | 94°33.25' | **08** |
| **09** | 314°31.98' | 15.0029° | 155°03.74' | N 10°21.54' | 0.8702' | 323°25.19' | 14.5358° | 146°10.52' | N 18°51.22' | 10.3189' | 54.7774' | 109°35.71' | **09** |
| **10** | 329°32.15' | 15.0029° | 155°06.02' | N 10°20.67' | 0.8705' | 337°57.38' | 14.5365° | 146°40.79' | N 18°40.81' | 10.4070' | 54.7923' | 124°38.18' | **10** |
| **11** | 344°32.33' | 15.0029° | 155°08.31' | N 10°19.80' | 0.8708' | 352°29.62' | 14.5373° | 147°11.02' | N 18°30.32' | 10.4942' | 54.8074' | 139°40.64' | **11** |
| **12** | 359°32.51' | 15.0029° | 155°10.60' | N 10°18.93' | 0.8710' | 7°01.90' | 14.5380° | 147°41.20' | N 18°19.74' | 10.5806' | 54.8225' | 154°43.11' | **12** |
| **13** | 14°32.68' | 15.0029° | 155°12.89' | N 10°18.06' | 0.8713' | 21°34.23' | 14.5388° | 148°11.34' | N 18°09.07' | 10.6662' | 54.8378' | 169°45.57' | **13** |
| **14** | 29°32.86' | 15.0029° | 155°15.17' | N 10°17.19' | 0.8716' | 36°06.60' | 14.5395° | 148°41.44' | N 17°58.32' | 10.7509' | 54.8532' | 184°48.03' | **14** |
| **15** | 44°33.04' | 15.0030° | 155°17.46' | N 10°16.31' | 0.8719' | 50°39.01' | 14.5402° | 149°11.49' | N 17°47.49' | 10.8349' | 54.8687' | 199°50.50' | **15** |
| **16** | 59°33.22' | 15.0030° | 155°19.75' | N 10°15.44' | 0.8722' | 65°11.47' | 14.5410° | 149°41.49' | N 17°36.57' | 10.9180' | 54.8843' | 214°52.96' | **16** |
| **17** | 74°33.39' | 15.0030° | 155°22.03' | N 10°14.57' | 0.8725' | 79°43.97' | 14.5417° | 150°11.46' | N 17°25.57' | 11.0004' | 54.9000' | 229°55.43' | **17** |
| **18** | 89°33.57' | 15.0030° | 155°24.32' | N 10°13.70' | 0.8727' | 94°16.51' | 14.5424° | 150°41.38' | N 17°14.49' | 11.0819' | 54.9158' | 244°57.89' | **18** |
| **19** | 104°33.75' | 15.0030° | 155°26.61' | N 10°12.82' | 0.8730' | 108°49.10' | 14.5431° | 151°11.26' | N 17°03.32' | 11.1625' | 54.9317' | 260°00.35' | **19** |
| **20** | 119°33.93' | 15.0030° | 155°28.89' | N 10°11.95' | 0.8733' | 123°21.73' | 14.5438° | 151°41.09' | N 16°52.08' | 11.2424' | 54.9477' | 275°02.82' | **20** |
| **21** | 134°34.10' | 15.0030° | 155°31.18' | N 10°11.08' | 0.8736' | 137°54.40' | 14.5445° | 152°10.89' | N 16°40.76' | 11.3214' | 54.9638' | 290°05.28' | **21** |
| **22** | 149°34.28' | 15.0030° | 155°33.46' | N 10°10.20' | 0.8739' | 152°27.11' | 14.5452° | 152°40.64' | N 16°29.36' | 11.3995' | 54.9800' | 305°07.75' | **22** |
| **23** | 164°34.46' | 15.0030° | 155°35.75' | N 10°09.33' | 0.8741' | 166°59.86' | 14.5459° | 153°10.35' | N 16°17.88' | 11.4769' | 54.9963' | 320°10.21' | **23** |
| **24** | 179°34.64' | 15.0030° | 155°38.04' | N 10°08.45' | 0.8744' | 181°32.65' | 14.5465° | 153°40.03' | N 16°06.33' | 11.5533' | 55.0127' | 335°12.68' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8255' | hp (π) 0.1450' | ½Ø 14.9382' | 0.89132781866328<br>45% -cre |
| | EoT at 12:00 UTC : -1m 50s (δ 0.71 s/h) | | Phase at 12:00 UTC : 350.39° | |
| | Meridian Pass. Time : 12:01:49.972 | | Age : 27.3 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.15') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 194°01.89' | 140°11.64' | N 16°29.35' | 272°42.90' | 61°30.63' | N 19°25.84' | 326°46.39' | 7°27.14' | N 1°31.62' | 10°20.33' | 323°53.20' | S 15°43.29' | **00** |
| **01** | 209°01.28' | 140°14.72' | N 16°28.49' | 287°43.91' | 61°32.09' | N 19°26.15' | 341°49.05' | 7°26.95' | N 1°31.53' | 25°22.97' | 323°53.03' | S 15°43.35' | **01** |
| **02** | 224°00.66' | 140°17.80' | N 16°27.62' | 302°44.92' | 61°33.55' | N 19°26.45' | 356°51.72' | 7°26.75' | N 1°31.43' | 40°25.62' | 323°52.85' | S 15°43.41' | **02** |
| **03** | 239°00.05' | 140°20.88' | N 16°26.75' | 317°45.92' | 61°35.01' | N 19°26.75' | 11°54.38' | 7°26.55' | N 1°31.34' | 55°28.26' | 323°52.67' | S 15°43.47' | **03** |
| **04** | 253°59.43' | 140°23.96' | N 16°25.88' | 332°46.93' | 61°36.46' | N 19°27.06' | 26°57.04' | 7°26.35' | N 1°31.24' | 70°30.90' | 323°52.49' | S 15°43.53' | **04** |
| **05** | 268°58.82' | 140°27.04' | N 16°25.01' | 347°47.94' | 61°37.92' | N 19°27.36' | 41°59.70' | 7°26.15' | N 1°31.14' | 85°33.54' | 323°52.32' | S 15°43.59' | **05** |
| **06** | 283°58.20' | 140°30.12' | N 16°24.14' | 2°48.95' | 61°39.38' | N 19°27.66' | 57°02.37' | 7°25.96' | N 1°31.05' | 100°36.18' | 323°52.14' | S 15°43.65' | **06** |
| **07** | 298°57.59' | 140°33.20' | N 16°23.27' | 17°49.95' | 61°40.83' | N 19°27.96' | 72°05.03' | 7°25.76' | N 1°30.95' | 115°38.83' | 323°51.96' | S 15°43.71' | **07** |
| **08** | 313°56.98' | 140°36.27' | N 16°22.40' | 32°50.96' | 61°42.29' | N 19°28.26' | 87°07.69' | 7°25.56' | N 1°30.86' | 130°41.47' | 323°51.78' | S 15°43.77' | **08** |
| **09** | 328°56.36' | 140°39.35' | N 16°21.52' | 47°51.97' | 61°43.74' | N 19°28.56' | 102°10.36' | 7°25.36' | N 1°30.76' | 145°44.11' | 323°51.61' | S 15°43.83' | **09** |
| **10** | 343°55.75' | 140°42.43' | N 16°20.65' | 62°52.98' | 61°45.20' | N 19°28.86' | 117°13.02' | 7°25.16' | N 1°30.67' | 160°46.75' | 323°51.43' | S 15°43.89' | **10** |
| **11** | 358°55.14' | 140°45.50' | N 16°19.78' | 77°53.99' | 61°46.65' | N 19°29.17' | 132°15.68' | 7°24.96' | N 1°30.57' | 175°49.39' | 323°51.25' | S 15°43.95' | **11** |
| **12** | 13°54.53' | 140°48.58' | N 16°18.90' | 92°55.00' | 61°48.11' | N 19°29.47' | 147°18.35' | 7°24.76' | N 1°30.47' | 190°52.03' | 323°51.07' | S 15°44.01' | **12** |
| **13** | 28°53.92' | 140°51.65' | N 16°18.02' | 107°56.01' | 61°49.56' | N 19°29.77' | 162°21.01' | 7°24.56' | N 1°30.38' | 205°54.67' | 323°50.90' | S 15°44.07' | **13** |
| **14** | 43°53.31' | 140°54.73' | N 16°17.15' | 122°57.02' | 61°51.01' | N 19°30.07' | 177°23.68' | 7°24.35' | N 1°30.28' | 220°57.32' | 323°50.72' | S 15°44.13' | **14** |
| **15** | 58°52.70' | 140°57.80' | N 16°16.27' | 137°58.03' | 61°52.47' | N 19°30.37' | 192°26.34' | 7°24.15' | N 1°30.19' | 235°59.96' | 323°50.54' | S 15°44.19' | **15** |
| **16** | 73°52.09' | 141°00.88' | N 16°15.39' | 152°59.04' | 61°53.92' | N 19°30.66' | 207°29.01' | 7°23.95' | N 1°30.09' | 251°02.60' | 323°50.36' | S 15°44.25' | **16** |
| **17** | 88°51.48' | 141°03.95' | N 16°14.51' | 168°00.06' | 61°55.37' | N 19°30.96' | 222°31.68' | 7°23.75' | N 1°29.99' | 266°05.24' | 323°50.19' | S 15°44.31' | **17** |
| **18** | 103°50.87' | 141°07.02' | N 16°13.63' | 183°01.07' | 61°56.82' | N 19°31.26' | 237°34.34' | 7°23.55' | N 1°29.90' | 281°07.88' | 323°50.01' | S 15°44.37' | **18** |
| **19** | 118°50.26' | 141°10.10' | N 16°12.75' | 198°02.08' | 61°58.27' | N 19°31.56' | 252°37.01' | 7°23.35' | N 1°29.80' | 296°10.52' | 323°49.83' | S 15°44.43' | **19** |
| **20** | 133°49.65' | 141°13.17' | N 16°11.87' | 213°03.09' | 61°59.73' | N 19°31.86' | 267°39.67' | 7°23.14' | N 1°29.70' | 311°13.16' | 323°49.66' | S 15°44.49' | **20** |
| **21** | 148°49.04' | 141°16.24' | N 16°10.99' | 228°04.11' | 62°01.18' | N 19°32.16' | 282°42.34' | 7°22.94' | N 1°29.61' | 326°15.80' | 323°49.48' | S 15°44.55' | **21** |
| **22** | 163°48.44' | 141°19.31' | N 16°10.10' | 243°05.12' | 62°02.63' | N 19°32.45' | 297°45.01' | 7°22.74' | N 1°29.51' | 341°18.45' | 323°49.30' | S 15°44.61' | **22** |
| **23** | 178°47.83' | 141°22.38' | N 16°09.22' | 258°06.13' | 62°04.08' | N 19°32.75' | 312°47.68' | 7°22.54' | N 1°29.41' | 356°21.09' | 323°49.12' | S 15°44.67' | **23** |
| **24** | 193°47.22' | 141°25.45' | N 16°08.33' | 273°07.15' | 62°05.53' | N 19°33.05' | 327°50.34' | 7°22.33' | N 1°29.31' | 11°23.73' | 323°48.95' | S 15°44.73' | **24** |
| | δ 14.9897° | | *d* 0.8666' | δ 15.0168° | | *d* 0.3032' | δ 15.0444° | | *d* 0.0949' | δ 15.0440° | | *d* 0.0603' | |

## *Saturday, August 27th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°34.64' | 15.0030° | 155°38.04' | N 10°08.45' | 0.8744' | 181°32.65' | 14.5465° | 153°40.03' | N 16°06.33' | 11.5533' | 55.0127' | 335°12.68' | **00** |
| **01** | 194°34.82' | 15.0030° | 155°40.32' | N 10°07.58' | 0.8747' | 196°05.48' | 14.5472° | 154°09.66' | N 15°54.70' | 11.6290' | 55.0292' | 350°15.14' | **01** |
| **02** | 209°35.00' | 15.0030° | 155°42.61' | N 10°06.70' | 0.8750' | 210°38.35' | 14.5478° | 154°39.25' | N 15°43.00' | 11.7038' | 55.0458' | 5°17.60' | **02** |
| **03** | 224°35.18' | 15.0030° | 155°44.89' | N 10°05.83' | 0.8753' | 225°11.26' | 14.5485° | 155°08.81' | N 15°31.22' | 11.7777' | 55.0625' | 20°20.07' | **03** |
| **04** | 239°35.36' | 15.0030° | 155°47.18' | N 10°04.95' | 0.8755' | 239°44.21' | 14.5491° | 155°38.32' | N 15°19.37' | 11.8508' | 55.0792' | 35°22.53' | **04** |
| **05** | 254°35.53' | 15.0030° | 155°49.46' | N 10°04.08' | 0.8758' | 254°17.19' | 14.5498° | 156°07.80' | N 15°07.45' | 11.9231' | 55.0961' | 50°25.00' | **05** |
| **06** | 269°35.71' | 15.0030° | 155°51.75' | N 10°03.20' | 0.8761' | 268°50.22' | 14.5504° | 156°37.24' | N 14°55.45' | 11.9944' | 55.1131' | 65°27.46' | **06** |
| **07** | 284°35.89' | 15.0030° | 155°54.03' | N 10°02.32' | 0.8764' | 283°23.28' | 14.5510° | 157°06.65' | N 14°43.39' | 12.0650' | 55.1301' | 80°29.92' | **07** |
| **08** | 299°36.07' | 15.0030° | 155°56.31' | N 10°01.45' | 0.8767' | 297°56.37' | 14.5516° | 157°36.02' | N 14°31.25' | 12.1346' | 55.1472' | 95°32.39' | **08** |
| **09** | 314°36.25' | 15.0030° | 155°58.60' | N 10°00.57' | 0.8769' | 312°29.50' | 14.5522° | 158°05.35' | N 14°19.05' | 12.2035' | 55.1645' | 110°34.85' | **09** |
| **10** | 329°36.43' | 15.0030° | 156°00.88' | N 9°59.69' | 0.8772' | 327°02.67' | 14.5528° | 158°34.65' | N 14°06.78' | 12.2714' | 55.1818' | 125°37.32' | **10** |
| **11** | 344°36.61' | 15.0030° | 156°03.17' | N 9°58.82' | 0.8775' | 341°35.87' | 14.5534° | 159°03.91' | N 13°54.44' | 12.3385' | 55.1991' | 140°39.78' | **11** |
| **12** | 359°36.79' | 15.0030° | 156°05.45' | N 9°57.94' | 0.8778' | 356°09.11' | 14.5539° | 159°33.14' | N 13°42.03' | 12.4047' | 55.2166' | 155°42.24' | **12** |
| **13** | 14°36.98' | 15.0030° | 156°07.73' | N 9°57.06' | 0.8780' | 10°42.38' | 14.5545° | 160°02.33' | N 13°29.56' | 12.4700' | 55.2342' | 170°44.71' | **13** |
| **14** | 29°37.16' | 15.0030° | 156°10.02' | N 9°56.18' | 0.8783' | 25°15.68' | 14.5550° | 160°31.49' | N 13°17.03' | 12.5345' | 55.2518' | 185°47.17' | **14** |
| **15** | 44°37.34' | 15.0030° | 156°12.30' | N 9°55.30' | 0.8786' | 39°49.01' | 14.5556° | 161°00.63' | N 13°04.43' | 12.5981' | 55.2695' | 200°49.64' | **15** |
| **16** | 59°37.52' | 15.0030° | 156°14.58' | N 9°54.42' | 0.8789' | 54°22.38' | 14.5561° | 161°29.72' | N 12°51.77' | 12.6608' | 55.2873' | 215°52.10' | **16** |
| **17** | 74°37.70' | 15.0030° | 156°16.86' | N 9°53.55' | 0.8791' | 68°55.77' | 14.5566° | 161°58.79' | N 12°39.05' | 12.7226' | 55.3051' | 230°54.56' | **17** |
| **18** | 89°37.88' | 15.0030° | 156°19.15' | N 9°52.67' | 0.8794' | 83°29.20' | 14.5571° | 162°27.83' | N 12°26.26' | 12.7836' | 55.3231' | 245°57.03' | **18** |
| **19** | 104°38.06' | 15.0030° | 156°21.43' | N 9°51.79' | 0.8797' | 98°02.65' | 14.5576° | 162°56.84' | N 12°13.42' | 12.8437' | 55.3411' | 260°59.49' | **19** |
| **20** | 119°38.25' | 15.0030° | 156°23.71' | N 9°50.91' | 0.8799' | 112°36.14' | 14.5581° | 163°25.82' | N 12°00.52' | 12.9029' | 55.3592' | 276°01.96' | **20** |
| **21** | 134°38.43' | 15.0030° | 156°25.99' | N 9°50.03' | 0.8802' | 127°09.65' | 14.5585° | 163°54.77' | N 11°47.56' | 12.9612' | 55.3773' | 291°04.42' | **21** |
| **22** | 149°38.61' | 15.0030° | 156°28.27' | N 9°49.15' | 0.8805' | 141°43.19' | 14.5590° | 164°23.70' | N 11°34.54' | 13.0186' | 55.3956' | 306°06.88' | **22** |
| **23** | 164°38.79' | 15.0030° | 156°30.56' | N 9°48.27' | 0.8808' | 156°16.75' | 14.5594° | 164°52.60' | N 11°21.46' | 13.0752' | 55.4139' | 321°09.35' | **23** |
| **24** | 179°38.97' | 15.0030° | 156°32.84' | N 9°47.38' | 0.8810' | 170°50.34' | 14.5599° | 165°21.47' | N 11°08.33' | 13.1308' | 55.4322' | 336°11.81' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | ½Ø 15.8289' | hp (π) 0.1451' | ½Ø 15.0456' | 0.19449956906256 727% +cre | [redacted] | |
| | EoT at 12:00 UTC : -1m 32s (δ 0.72 s/h) | | Phase at 12:00 UTC : 1.77° | | | |
| | Meridian Pass. Time : 12:01:32.820 | | Age : 0.1 day(s) | | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.15') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 193°47.22' | 141°25.45' | N 16°08.33' | 273°07.15' | 62°05.53' | N 19°33.05' | 327°50.34' | 7°22.33' | N 1°29.31' | 11°23.73' | 323°48.95' | S 15°44.73' | **00** |
| **01** | 208°46.62' | 141°28.52' | N 16°07.45' | 288°08.16' | 62°06.98' | N 19°33.35' | 342°53.01' | 7°22.13' | N 1°29.22' | 26°26.37' | 323°48.77' | S 15°44.79' | **01** |
| **02** | 223°46.01' | 141°31.59' | N 16°06.56' | 303°09.18' | 62°08.42' | N 19°33.64' | 357°55.68' | 7°21.92' | N 1°29.12' | 41°29.01' | 323°48.59' | S 15°44.85' | **02** |
| **03** | 238°45.40' | 141°34.66' | N 16°05.67' | 318°10.19' | 62°09.87' | N 19°33.94' | 12°58.35' | 7°21.72' | N 1°29.02' | 56°31.65' | 323°48.42' | S 15°44.91' | **03** |
| **04** | 253°44.80' | 141°37.73' | N 16°04.79' | 333°11.21' | 62°11.32' | N 19°34.24' | 28°01.02' | 7°21.52' | N 1°28.93' | 71°34.29' | 323°48.24' | S 15°44.97' | **04** |
| **05** | 268°44.20' | 141°40.80' | N 16°03.90' | 348°12.23' | 62°12.77' | N 19°34.53' | 43°03.69' | 7°21.31' | N 1°28.83' | 86°36.93' | 323°48.06' | S 15°45.03' | **05** |
| **06** | 283°43.59' | 141°43.87' | N 16°03.01' | 3°13.24' | 62°14.22' | N 19°34.83' | 58°06.35' | 7°21.11' | N 1°28.73' | 101°39.57' | 323°47.89' | S 15°45.09' | **06** |
| **07** | 298°42.99' | 141°46.94' | N 16°02.12' | 18°14.26' | 62°15.66' | N 19°35.12' | 73°09.02' | 7°20.90' | N 1°28.63' | 116°42.21' | 323°47.71' | S 15°45.15' | **07** |
| **08** | 313°42.38' | 141°50.00' | N 16°01.23' | 33°15.28' | 62°17.11' | N 19°35.42' | 88°11.69' | 7°20.69' | N 1°28.53' | 131°44.85' | 323°47.53' | S 15°45.21' | **08** |
| **09** | 328°41.78' | 141°53.07' | N 16°00.33' | 48°16.30' | 62°18.56' | N 19°35.71' | 103°14.36' | 7°20.49' | N 1°28.44' | 146°47.49' | 323°47.36' | S 15°45.27' | **09** |
| **10** | 343°41.18' | 141°56.14' | N 15°59.44' | 63°17.31' | 62°20.00' | N 19°36.01' | 118°17.03' | 7°20.28' | N 1°28.34' | 161°50.13' | 323°47.18' | S 15°45.33' | **10** |
| **11** | 358°40.58' | 141°59.20' | N 15°58.55' | 78°18.33' | 62°21.45' | N 19°36.30' | 133°19.70' | 7°20.08' | N 1°28.24' | 176°52.77' | 323°47.00' | S 15°45.39' | **11** |
| **12** | 13°39.98' | 142°02.27' | N 15°57.65' | 93°19.35' | 62°22.89' | N 19°36.60' | 148°22.37' | 7°19.87' | N 1°28.14' | 191°55.42' | 323°46.83' | S 15°45.45' | **12** |
| **13** | 28°39.37' | 142°05.33' | N 15°56.76' | 108°20.37' | 62°24.34' | N 19°36.89' | 163°25.04' | 7°19.66' | N 1°28.04' | 206°58.06' | 323°46.65' | S 15°45.51' | **13** |
| **14** | 43°38.77' | 142°08.40' | N 15°55.86' | 123°21.39' | 62°25.78' | N 19°37.18' | 178°27.72' | 7°19.46' | N 1°27.94' | 222°00.70' | 323°46.48' | S 15°45.56' | **14** |
| **15** | 58°38.17' | 142°11.46' | N 15°54.96' | 138°22.41' | 62°27.22' | N 19°37.48' | 193°30.39' | 7°19.25' | N 1°27.84' | 237°03.34' | 323°46.30' | S 15°45.62' | **15** |
| **16** | 73°37.57' | 142°14.53' | N 15°54.07' | 153°23.43' | 62°28.67' | N 19°37.77' | 208°33.06' | 7°19.04' | N 1°27.75' | 252°05.98' | 323°46.12' | S 15°45.68' | **16** |
| **17** | 88°36.97' | 142°17.59' | N 15°53.17' | 168°24.45' | 62°30.11' | N 19°38.06' | 223°35.73' | 7°18.83' | N 1°27.65' | 267°08.62' | 323°45.95' | S 15°45.74' | **17** |
| **18** | 103°36.37' | 142°20.65' | N 15°52.27' | 183°25.47' | 62°31.55' | N 19°38.36' | 238°38.40' | 7°18.63' | N 1°27.55' | 282°11.26' | 323°45.77' | S 15°45.80' | **18** |
| **19** | 118°35.78' | 142°23.72' | N 15°51.37' | 198°26.50' | 62°33.00' | N 19°38.65' | 253°41.07' | 7°18.42' | N 1°27.45' | 297°13.90' | 323°45.60' | S 15°45.86' | **19** |
| **20** | 133°35.18' | 142°26.78' | N 15°50.47' | 213°27.52' | 62°34.44' | N 19°38.94' | 268°43.75' | 7°18.21' | N 1°27.35' | 312°16.54' | 323°45.42' | S 15°45.92' | **20** |
| **21** | 148°34.58' | 142°29.84' | N 15°49.57' | 228°28.54' | 62°35.88' | N 19°39.23' | 283°46.42' | 7°18.00' | N 1°27.25' | 327°19.18' | 323°45.24' | S 15°45.98' | **21** |
| **22** | 163°33.98' | 142°32.90' | N 15°48.67' | 243°29.56' | 62°37.32' | N 19°39.52' | 298°49.09' | 7°17.79' | N 1°27.15' | 342°21.82' | 323°45.07' | S 15°46.04' | **22** |
| **23** | 178°33.39' | 142°35.96' | N 15°47.76' | 258°30.59' | 62°38.76' | N 19°39.81' | 313°51.77' | 7°17.58' | N 1°27.05' | 357°24.46' | 323°44.89' | S 15°46.10' | **23** |
| **24** | 193°32.79' | 142°39.02' | N 15°46.86' | 273°31.61' | 62°40.20' | N 19°40.11' | 328°54.44' | 7°17.37' | N 1°26.95' | 12°27.10' | 323°44.72' | S 15°46.16' | **24** |
| | δ 14.9899° | | *d* 0.8858' | δ 15.0169° | | *d* 0.2970' | δ 15.0445° | | *d* 0.0973' | δ 15.0440° | | *d* 0.0597' | |

## *Sunday, August 28th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°38.97' | 15.0030° | 156°32.84' | N 9°47.38' | 0.8810' | 170°50.34' | 14.5599° | 165°21.47' | N 11°08.33' | 13.1308' | 55.4322' | 336°11.81' | **00** |
| **01** | 194°39.16' | 15.0030° | 156°35.12' | N 9°46.50' | 0.8813' | 185°23.96' | 14.5603° | 165°50.32' | N 10°55.15' | 13.1856' | 55.4507' | 351°14.28' | **01** |
| **02** | 209°39.34' | 15.0030° | 156°37.40' | N 9°45.62' | 0.8816' | 199°57.60' | 14.5607° | 166°19.14' | N 10°41.91' | 13.2394' | 55.4692' | 6°16.74' | **02** |
| **03** | 224°39.52' | 15.0030° | 156°39.68' | N 9°44.74' | 0.8818' | 214°31.27' | 14.5611° | 166°47.94' | N 10°28.61' | 13.2924' | 55.4878' | 21°19.20' | **03** |
| **04** | 239°39.71' | 15.0031° | 156°41.96' | N 9°43.86' | 0.8821' | 229°04.95' | 14.5615° | 167°16.71' | N 10°15.27' | 13.3445' | 55.5064' | 36°21.67' | **04** |
| **05** | 254°39.89' | 15.0031° | 156°44.24' | N 9°42.97' | 0.8824' | 243°38.66' | 14.5618° | 167°45.47' | N 10°01.87' | 13.3957' | 55.5251' | 51°24.13' | **05** |
| **06** | 269°40.07' | 15.0031° | 156°46.52' | N 9°42.09' | 0.8826' | 258°12.39' | 14.5622° | 168°14.20' | N 9°48.43' | 13.4460' | 55.5439' | 66°26.60' | **06** |
| **07** | 284°40.26' | 15.0031° | 156°48.80' | N 9°41.21' | 0.8829' | 272°46.15' | 14.5625° | 168°42.92' | N 9°34.93' | 13.4953' | 55.5627' | 81°29.06' | **07** |
| **08** | 299°40.44' | 15.0031° | 156°51.08' | N 9°40.33' | 0.8832' | 287°19.92' | 14.5628° | 169°11.61' | N 9°21.39' | 13.5438' | 55.5816' | 96°31.52' | **08** |
| **09** | 314°40.62' | 15.0031° | 156°53.36' | N 9°39.44' | 0.8835' | 301°53.71' | 14.5632° | 169°40.28' | N 9°07.80' | 13.5914' | 55.6006' | 111°33.99' | **09** |
| **10** | 329°40.81' | 15.0031° | 156°55.64' | N 9°38.56' | 0.8837' | 316°27.51' | 14.5635° | 170°08.94' | N 8°54.16' | 13.6380' | 55.6196' | 126°36.45' | **10** |
| **11** | 344°40.99' | 15.0031° | 156°57.92' | N 9°37.68' | 0.8840' | 331°01.34' | 14.5637° | 170°37.58' | N 8°40.48' | 13.6838' | 55.6387' | 141°38.92' | **11** |
| **12** | 359°41.18' | 15.0031° | 157°00.20' | N 9°36.79' | 0.8842' | 345°35.18' | 14.5640° | 171°06.20' | N 8°26.75' | 13.7286' | 55.6578' | 156°41.38' | **12** |
| **13** | 14°41.36' | 15.0031° | 157°02.48' | N 9°35.91' | 0.8845' | 0°09.04' | 14.5643° | 171°34.81' | N 8°12.98' | 13.7726' | 55.6770' | 171°43.85' | **13** |
| **14** | 29°41.55' | 15.0031° | 157°04.76' | N 9°35.02' | 0.8848' | 14°42.91' | 14.5645° | 172°03.40' | N 7°59.16' | 13.8156' | 55.6963' | 186°46.31' | **14** |
| **15** | 44°41.73' | 15.0031° | 157°07.04' | N 9°34.14' | 0.8850' | 29°16.79' | 14.5648° | 172°31.98' | N 7°45.30' | 13.8577' | 55.7156' | 201°48.77' | **15** |
| **16** | 59°41.92' | 15.0031° | 157°09.32' | N 9°33.25' | 0.8853' | 43°50.69' | 14.5650° | 173°00.55' | N 7°31.40' | 13.8989' | 55.7350' | 216°51.24' | **16** |
| **17** | 74°42.10' | 15.0031° | 157°11.60' | N 9°32.37' | 0.8856' | 58°24.60' | 14.5652° | 173°29.10' | N 7°17.46' | 13.9392' | 55.7544' | 231°53.70' | **17** |
| **18** | 89°42.29' | 15.0031° | 157°13.88' | N 9°31.48' | 0.8858' | 72°58.52' | 14.5654° | 173°57.64' | N 7°03.49' | 13.9785' | 55.7739' | 246°56.17' | **18** |
| **19** | 104°42.47' | 15.0031° | 157°16.16' | N 9°30.59' | 0.8861' | 87°32.45' | 14.5655° | 174°26.18' | N 6°49.47' | 14.0169' | 55.7934' | 261°58.63' | **19** |
| **20** | 119°42.66' | 15.0031° | 157°18.44' | N 9°29.71' | 0.8864' | 102°06.39' | 14.5657° | 174°54.70' | N 6°35.41' | 14.0544' | 55.8130' | 277°01.09' | **20** |
| **21** | 134°42.84' | 15.0031° | 157°20.71' | N 9°28.82' | 0.8866' | 116°40.34' | 14.5658° | 175°23.21' | N 6°21.32' | 14.0910' | 55.8326' | 292°03.56' | **21** |
| **22** | 149°43.03' | 15.0031° | 157°22.99' | N 9°27.93' | 0.8869' | 131°14.30' | 14.5659° | 175°51.72' | N 6°07.20' | 14.1266' | 55.8523' | 307°06.02' | **22** |
| **23** | 164°43.22' | 15.0031° | 157°25.27' | N 9°27.05' | 0.8871' | 145°48.26' | 14.5661° | 176°20.22' | N 5°53.03' | 14.1613' | 55.8721' | 322°08.49' | **23** |
| **24** | 179°43.40' | 15.0031° | 157°27.55' | N 9°26.16' | 0.8874' | 160°22.23' | 14.5661° | 176°48.72' | N 5°38.84' | 14.1951' | 55.8919' | 337°10.95' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.8325' | hp (π) 0.1451' | ½Ø 15.1658' | 1.48713430263298<br>09% +cre | |
| EoT at 12:00 UTC : -1m 15s (δ 0.74 s/h) | | Phase at 12:00 UTC : 13.33° | | |
| Meridian Pass. Time : 12:01:15.292 | | Age : 1.0 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.15') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 193°32.79' | 142°39.02' | N 15°46.86' | 273°31.61' | 62°40.20' | N 19°40.11' | 328°54.44' | 7°17.37' | N 1°26.95' | 12°27.10' | 323°44.72' | S 15°46.16' | **00** |
| **01** | 208°32.19' | 142°42.08' | N 15°45.95' | 288°32.63' | 62°41.64' | N 19°40.40' | 343°57.11' | 7°17.16' | N 1°26.85' | 27°29.74' | 323°44.54' | S 15°46.22' | **01** |
| **02** | 223°31.60' | 142°45.14' | N 15°45.05' | 303°33.66' | 62°43.08' | N 19°40.69' | 358°59.79' | 7°16.95' | N 1°26.75' | 42°32.38' | 323°44.36' | S 15°46.28' | **02** |
| **03** | 238°31.00' | 142°48.20' | N 15°44.14' | 318°34.68' | 62°44.52' | N 19°40.98' | 14°02.46' | 7°16.74' | N 1°26.65' | 57°35.02' | 323°44.19' | S 15°46.34' | **03** |
| **04** | 253°30.41' | 142°51.26' | N 15°43.24' | 333°35.71' | 62°45.96' | N 19°41.27' | 29°05.14' | 7°16.53' | N 1°26.55' | 72°37.66' | 323°44.01' | S 15°46.39' | **04** |
| **05** | 268°29.81' | 142°54.32' | N 15°42.33' | 348°36.74' | 62°47.40' | N 19°41.56' | 44°07.81' | 7°16.32' | N 1°26.45' | 87°40.29' | 323°43.84' | S 15°46.45' | **05** |
| **06** | 283°29.22' | 142°57.38' | N 15°41.42' | 3°37.76' | 62°48.84' | N 19°41.85' | 59°10.49' | 7°16.11' | N 1°26.35' | 102°42.93' | 323°43.66' | S 15°46.51' | **06** |
| **07** | 298°28.62' | 143°00.44' | N 15°40.51' | 18°38.79' | 62°50.27' | N 19°42.14' | 74°13.16' | 7°15.90' | N 1°26.25' | 117°45.57' | 323°43.49' | S 15°46.57' | **07** |
| **08** | 313°28.03' | 143°03.49' | N 15°39.60' | 33°39.81' | 62°51.71' | N 19°42.42' | 89°15.84' | 7°15.69' | N 1°26.15' | 132°48.21' | 323°43.31' | S 15°46.63' | **08** |
| **09** | 328°27.44' | 143°06.55' | N 15°38.69' | 48°40.84' | 62°53.15' | N 19°42.71' | 104°18.51' | 7°15.48' | N 1°26.05' | 147°50.85' | 323°43.14' | S 15°46.69' | **09** |
| **10** | 343°26.85' | 143°09.61' | N 15°37.78' | 63°41.87' | 62°54.58' | N 19°43.00' | 119°21.19' | 7°15.26' | N 1°25.95' | 162°53.49' | 323°42.96' | S 15°46.75' | **10** |
| **11** | 358°26.25' | 143°12.66' | N 15°36.87' | 78°42.90' | 62°56.02' | N 19°43.29' | 134°23.87' | 7°15.05' | N 1°25.85' | 177°56.13' | 323°42.79' | S 15°46.81' | **11** |
| **12** | 13°25.66' | 143°15.72' | N 15°35.95' | 93°43.93' | 62°57.46' | N 19°43.58' | 149°26.54' | 7°14.84' | N 1°25.75' | 192°58.77' | 323°42.61' | S 15°46.87' | **12** |
| **13** | 28°25.07' | 143°18.77' | N 15°35.04' | 108°44.95' | 62°58.89' | N 19°43.87' | 164°29.22' | 7°14.63' | N 1°25.65' | 208°01.41' | 323°42.44' | S 15°46.93' | **13** |
| **14** | 43°24.48' | 143°21.83' | N 15°34.13' | 123°45.98' | 63°00.33' | N 19°44.15' | 179°31.90' | 7°14.41' | N 1°25.55' | 223°04.05' | 323°42.26' | S 15°46.98' | **14** |
| **15** | 58°23.89' | 143°24.88' | N 15°33.21' | 138°47.01' | 63°01.76' | N 19°44.44' | 194°34.57' | 7°14.20' | N 1°25.45' | 238°06.69' | 323°42.09' | S 15°47.04' | **15** |
| **16** | 73°23.30' | 143°27.94' | N 15°32.30' | 153°48.04' | 63°03.19' | N 19°44.73' | 209°37.25' | 7°13.99' | N 1°25.34' | 253°09.33' | 323°41.91' | S 15°47.10' | **16** |
| **17** | 88°22.71' | 143°30.99' | N 15°31.38' | 168°49.07' | 63°04.63' | N 19°45.01' | 224°39.93' | 7°13.77' | N 1°25.24' | 268°11.97' | 323°41.74' | S 15°47.16' | **17** |
| **18** | 103°22.12' | 143°34.04' | N 15°30.46' | 183°50.10' | 63°06.06' | N 19°45.30' | 239°42.61' | 7°13.56' | N 1°25.14' | 283°14.60' | 323°41.56' | S 15°47.22' | **18** |
| **19** | 118°21.53' | 143°37.10' | N 15°29.54' | 198°51.14' | 63°07.49' | N 19°45.59' | 254°45.29' | 7°13.34' | N 1°25.04' | 298°17.24' | 323°41.39' | S 15°47.28' | **19** |
| **20** | 133°20.94' | 143°40.15' | N 15°28.62' | 213°52.17' | 63°08.93' | N 19°45.87' | 269°47.96' | 7°13.13' | N 1°24.94' | 313°19.88' | 323°41.21' | S 15°47.34' | **20** |
| **21** | 148°20.36' | 143°43.20' | N 15°27.70' | 228°53.20' | 63°10.36' | N 19°46.16' | 284°50.64' | 7°12.91' | N 1°24.84' | 328°22.52' | 323°41.04' | S 15°47.40' | **21** |
| **22** | 163°19.77' | 143°46.25' | N 15°26.78' | 243°54.23' | 63°11.79' | N 19°46.44' | 299°53.32' | 7°12.70' | N 1°24.73' | 343°25.16' | 323°40.86' | S 15°47.45' | **22** |
| **23** | 178°19.18' | 143°49.30' | N 15°25.86' | 258°55.26' | 63°13.22' | N 19°46.73' | 314°56.00' | 7°12.48' | N 1°24.63' | 358°27.80' | 323°40.69' | S 15°47.51' | **23** |
| **24** | 193°18.59' | 143°52.35' | N 15°24.94' | 273°56.30' | 63°14.65' | N 19°47.01' | 329°58.68' | 7°12.27' | N 1°24.53' | 13°30.44' | 323°40.51' | S 15°47.57' | **24** |
| | δ 14.9901° | | *d* 0.9045' | δ 15.0171° | | *d* 0.2908' | δ 15.0446° | | *d* 0.0997' | δ 15.0440° | | *d* 0.0592' | |

## *Monday, August 29th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°43.40' | 15.0031° | 157°27.55' | N 9°26.16' | 0.8874' | 160°22.23' | 14.5661° | 176°48.72' | N 5°38.84' | 14.1951' | 55.8919' | 337°10.95' | **00** |
| **01** | 194°43.59' | 15.0031° | 157°29.82' | N 9°25.27' | 0.8877' | 174°56.21' | 14.5662° | 177°17.21' | N 5°24.61' | 14.2280' | 55.9117' | 352°13.41' | **01** |
| **02** | 209°43.78' | 15.0031° | 157°32.10' | N 9°24.38' | 0.8879' | 189°30.18' | 14.5663° | 177°45.69' | N 5°10.35' | 14.2599' | 55.9316' | 7°15.88' | **02** |
| **03** | 224°43.96' | 15.0031° | 157°34.38' | N 9°23.50' | 0.8882' | 204°04.16' | 14.5663° | 178°14.18' | N 4°56.06' | 14.2908' | 55.9515' | 22°18.34' | **03** |
| **04** | 239°44.15' | 15.0031° | 157°36.66' | N 9°22.61' | 0.8884' | 218°38.14' | 14.5664° | 178°42.66' | N 4°41.74' | 14.3208' | 55.9715' | 37°20.81' | **04** |
| **05** | 254°44.34' | 15.0031° | 157°38.93' | N 9°21.72' | 0.8887' | 233°12.13' | 14.5664° | 179°11.14' | N 4°27.39' | 14.3499' | 55.9916' | 52°23.27' | **05** |
| **06** | 269°44.52' | 15.0031° | 157°41.21' | N 9°20.83' | 0.8890' | 247°46.11' | 14.5664° | 179°39.62' | N 4°13.01' | 14.3780' | 56.0117' | 67°25.73' | **06** |
| **07** | 284°44.71' | 15.0031° | 157°43.49' | N 9°19.94' | 0.8892' | 262°20.09' | 14.5664° | 180°08.11' | N 3°58.61' | 14.4052' | 56.0318' | 82°28.20' | **07** |
| **08** | 299°44.90' | 15.0031° | 157°45.76' | N 9°19.05' | 0.8895' | 276°54.07' | 14.5663° | 180°36.59' | N 3°44.18' | 14.4314' | 56.0520' | 97°30.66' | **08** |
| **09** | 314°45.09' | 15.0031° | 157°48.04' | N 9°18.16' | 0.8897' | 291°28.05' | 14.5663° | 181°05.08' | N 3°29.72' | 14.4567' | 56.0722' | 112°33.13' | **09** |
| **10** | 329°45.27' | 15.0031° | 157°50.32' | N 9°17.27' | 0.8900' | 306°02.02' | 14.5662° | 181°33.57' | N 3°15.24' | 14.4810' | 56.0925' | 127°35.59' | **10** |
| **11** | 344°45.46' | 15.0031° | 157°52.59' | N 9°16.38' | 0.8902' | 320°35.98' | 14.5661° | 182°02.07' | N 3°00.73' | 14.5043' | 56.1128' | 142°38.05' | **11** |
| **12** | 359°45.65' | 15.0031° | 157°54.87' | N 9°15.49' | 0.8905' | 335°09.94' | 14.5660° | 182°30.57' | N 2°46.21' | 14.5267' | 56.1332' | 157°40.52' | **12** |
| **13** | 14°45.84' | 15.0031° | 157°57.14' | N 9°14.60' | 0.8908' | 349°43.90' | 14.5659° | 182°59.08' | N 2°31.66' | 14.5481' | 56.1536' | 172°42.98' | **13** |
| **14** | 29°46.03' | 15.0031° | 157°59.42' | N 9°13.71' | 0.8910' | 4°17.84' | 14.5658° | 183°27.60' | N 2°17.09' | 14.5685' | 56.1740' | 187°45.45' | **14** |
| **15** | 44°46.22' | 15.0031° | 158°01.69' | N 9°12.82' | 0.8913' | 18°51.78' | 14.5656° | 183°56.13' | N 2°02.50' | 14.5880' | 56.1945' | 202°47.91' | **15** |
| **16** | 59°46.40' | 15.0031° | 158°03.97' | N 9°11.93' | 0.8915' | 33°25.71' | 14.5654° | 184°24.67' | N 1°47.90' | 14.6064' | 56.2150' | 217°50.37' | **16** |
| **17** | 74°46.59' | 15.0031° | 158°06.24' | N 9°11.03' | 0.8918' | 47°59.62' | 14.5652° | 184°53.22' | N 1°33.27' | 14.6239' | 56.2356' | 232°52.84' | **17** |
| **18** | 89°46.78' | 15.0032° | 158°08.52' | N 9°10.14' | 0.8920' | 62°33.52' | 14.5650° | 185°21.78' | N 1°18.63' | 14.6404' | 56.2562' | 247°55.30' | **18** |
| **19** | 104°46.97' | 15.0032° | 158°10.79' | N 9°09.25' | 0.8923' | 77°07.41' | 14.5648° | 185°50.35' | N 1°03.98' | 14.6560' | 56.2769' | 262°57.77' | **19** |
| **20** | 119°47.16' | 15.0032° | 158°13.07' | N 9°08.36' | 0.8925' | 91°41.29' | 14.5646° | 186°18.94' | N 0°49.31' | 14.6705' | 56.2976' | 278°00.23' | **20** |
| **21** | 134°47.35' | 15.0032° | 158°15.34' | N 9°07.46' | 0.8928' | 106°15.15' | 14.5643° | 186°47.55' | N 0°34.62' | 14.6841' | 56.3183' | 293°02.69' | **21** |
| **22** | 149°47.54' | 15.0032° | 158°17.62' | N 9°06.57' | 0.8930' | 120°48.99' | 14.5640° | 187°16.17' | N 0°19.92' | 14.6966' | 56.3391' | 308°05.16' | **22** |
| **23** | 164°47.73' | 15.0032° | 158°19.89' | N 9°05.68' | 0.8933' | 135°22.81' | 14.5638° | 187°44.81' | N 0°05.22' | 14.7081' | 56.3599' | 323°07.62' | **23** |
| **24** | 179°47.92' | 15.0032° | 158°22.17' | N 9°04.78' | 0.8935' | 149°56.62' | 14.5634° | 188°13.47' | S 0°09.50' | 14.7187' | 56.3808' | 338°10.09' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8361' | hp (π) 0.1451' | ½Ø 15.2953' | 4.81598825318915<br>8% +cre |
| | EoT at 12:00 UTC : -57s (δ 0.75 s/h) | | Phase at 12:00 UTC : 25.06° | |
| | Meridian Pass. Time : 12:00:57.399 | | Age : 1.9 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.15') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 193°18.59' | 143°52.35' | N 15°24.94' | 273°56.30' | 63°14.65' | N 19°47.01' | 329°58.68' | 7°12.27' | N 1°24.53' | 13°30.44' | 323°40.51' | S 15°47.57' | **00** |
| **01** | 208°18.01' | 143°55.40' | N 15°24.02' | 288°57.33' | 63°16.08' | N 19°47.30' | 345°01.36' | 7°12.05' | N 1°24.43' | 28°33.08' | 323°40.34' | S 15°47.63' | **01** |
| **02** | 223°17.42' | 143°58.45' | N 15°23.09' | 303°58.37' | 63°17.51' | N 19°47.58' | 0°04.04' | 7°11.84' | N 1°24.33' | 43°35.71' | 323°40.16' | S 15°47.69' | **02** |
| **03** | 238°16.84' | 144°01.50' | N 15°22.17' | 318°59.40' | 63°18.94' | N 19°47.87' | 15°06.72' | 7°11.62' | N 1°24.22' | 58°38.35' | 323°39.99' | S 15°47.75' | **03** |
| **04** | 253°16.25' | 144°04.55' | N 15°21.25' | 334°00.43' | 63°20.37' | N 19°48.15' | 30°09.40' | 7°11.41' | N 1°24.12' | 73°40.99' | 323°39.81' | S 15°47.81' | **04** |
| **05** | 268°15.67' | 144°07.60' | N 15°20.32' | 349°01.47' | 63°21.80' | N 19°48.43' | 45°12.08' | 7°11.19' | N 1°24.02' | 88°43.63' | 323°39.64' | S 15°47.86' | **05** |
| **06** | 283°15.08' | 144°10.65' | N 15°19.39' | 4°02.51' | 63°23.23' | N 19°48.72' | 60°14.76' | 7°10.97' | N 1°23.92' | 103°46.27' | 323°39.47' | S 15°47.92' | **06** |
| **07** | 298°14.50' | 144°13.70' | N 15°18.47' | 19°03.54' | 63°24.66' | N 19°49.00' | 75°17.44' | 7°10.75' | N 1°23.81' | 118°48.91' | 323°39.29' | S 15°47.98' | **07** |
| **08** | 313°13.92' | 144°16.75' | N 15°17.54' | 34°04.58' | 63°26.08' | N 19°49.28' | 90°20.12' | 7°10.54' | N 1°23.71' | 133°51.54' | 323°39.12' | S 15°48.04' | **08** |
| **09** | 328°13.33' | 144°19.79' | N 15°16.61' | 49°05.61' | 63°27.51' | N 19°49.57' | 105°22.81' | 7°10.32' | N 1°23.61' | 148°54.18' | 323°38.94' | S 15°48.10' | **09** |
| **10** | 343°12.75' | 144°22.84' | N 15°15.68' | 64°06.65' | 63°28.94' | N 19°49.85' | 120°25.49' | 7°10.10' | N 1°23.51' | 163°56.82' | 323°38.77' | S 15°48.16' | **10** |
| **11** | 358°12.17' | 144°25.89' | N 15°14.75' | 79°07.69' | 63°30.36' | N 19°50.13' | 135°28.17' | 7°09.88' | N 1°23.40' | 178°59.46' | 323°38.60' | S 15°48.22' | **11** |
| **12** | 13°11.59' | 144°28.93' | N 15°13.82' | 94°08.73' | 63°31.79' | N 19°50.41' | 150°30.85' | 7°09.67' | N 1°23.30' | 194°02.10' | 323°38.42' | S 15°48.27' | **12** |
| **13** | 28°11.01' | 144°31.98' | N 15°12.89' | 109°09.77' | 63°33.22' | N 19°50.69' | 165°33.54' | 7°09.45' | N 1°23.20' | 209°04.73' | 323°38.25' | S 15°48.33' | **13** |
| **14** | 43°10.42' | 144°35.02' | N 15°11.95' | 124°10.81' | 63°34.64' | N 19°50.98' | 180°36.22' | 7°09.23' | N 1°23.09' | 224°07.37' | 323°38.07' | S 15°48.39' | **14** |
| **15** | 58°09.84' | 144°38.07' | N 15°11.02' | 139°11.84' | 63°36.07' | N 19°51.26' | 195°38.90' | 7°09.01' | N 1°22.99' | 239°10.01' | 323°37.90' | S 15°48.45' | **15** |
| **16** | 73°09.26' | 144°41.11' | N 15°10.09' | 154°12.88' | 63°37.49' | N 19°51.54' | 210°41.58' | 7°08.79' | N 1°22.89' | 254°12.65' | 323°37.73' | S 15°48.51' | **16** |
| **17** | 88°08.68' | 144°44.15' | N 15°09.15' | 169°13.92' | 63°38.91' | N 19°51.82' | 225°44.27' | 7°08.57' | N 1°22.78' | 269°15.29' | 323°37.55' | S 15°48.57' | **17** |
| **18** | 103°08.11' | 144°47.20' | N 15°08.22' | 184°14.96' | 63°40.34' | N 19°52.10' | 240°46.95' | 7°08.35' | N 1°22.68' | 284°17.92' | 323°37.38' | S 15°48.62' | **18** |
| **19** | 118°07.53' | 144°50.24' | N 15°07.28' | 199°16.01' | 63°41.76' | N 19°52.38' | 255°49.64' | 7°08.13' | N 1°22.58' | 299°20.56' | 323°37.21' | S 15°48.68' | **19** |
| **20** | 133°06.95' | 144°53.28' | N 15°06.35' | 214°17.05' | 63°43.18' | N 19°52.66' | 270°52.32' | 7°07.91' | N 1°22.47' | 314°23.20' | 323°37.03' | S 15°48.74' | **20** |
| **21** | 148°06.37' | 144°56.32' | N 15°05.41' | 229°18.09' | 63°44.61' | N 19°52.94' | 285°55.00' | 7°07.69' | N 1°22.37' | 329°25.84' | 323°36.86' | S 15°48.80' | **21** |
| **22** | 163°05.79' | 144°59.37' | N 15°04.47' | 244°19.13' | 63°46.03' | N 19°53.22' | 300°57.69' | 7°07.47' | N 1°22.26' | 344°28.47' | 323°36.69' | S 15°48.86' | **22** |
| **23** | 178°05.22' | 145°02.41' | N 15°03.53' | 259°20.17' | 63°47.45' | N 19°53.50' | 316°00.37' | 7°07.25' | N 1°22.16' | 359°31.11' | 323°36.51' | S 15°48.91' | **23** |
| **24** | 193°04.64' | 145°05.45' | N 15°02.59' | 274°21.22' | 63°48.87' | N 19°53.77' | 331°03.06' | 7°07.03' | N 1°22.06' | 14°33.75' | 323°36.34' | S 15°48.97' | **24** |
| | δ 14.9902° | | *d* 0.9227' | δ 15.0172° | | *d* 0.2846' | δ 15.0447° | | *d* 0.1021' | δ 15.0440° | | *d* 0.0586' | |

## *Tuesday, August 30th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°47.92' | 15.0032° | 158°22.17' | N 9°04.78' | 0.8935' | 149°56.62' | 14.5634° | 188°13.47' | S 0°09.50' | 14.7187' | 56.3808' | 338°10.09' | **00** |
| **01** | 194°48.11' | 15.0032° | 158°24.44' | N 9°03.89' | 0.8938' | 164°30.41' | 14.5631° | 188°42.14' | S 0°24.23' | 14.7282' | 56.4017' | 353°12.55' | **01** |
| **02** | 209°48.30' | 15.0032° | 158°26.71' | N 9°03.00' | 0.8940' | 179°04.17' | 14.5628° | 189°10.84' | S 0°38.97' | 14.7367' | 56.4226' | 8°15.01' | **02** |
| **03** | 224°48.49' | 15.0032° | 158°28.99' | N 9°02.10' | 0.8943' | 193°37.92' | 14.5624° | 189°39.56' | S 0°53.71' | 14.7442' | 56.4436' | 23°17.48' | **03** |
| **04** | 239°48.68' | 15.0032° | 158°31.26' | N 9°01.21' | 0.8945' | 208°11.64' | 14.5620° | 190°08.30' | S 1°08.46' | 14.7507' | 56.4646' | 38°19.94' | **04** |
| **05** | 254°48.87' | 15.0032° | 158°33.53' | N 9°00.31' | 0.8948' | 222°45.33' | 14.5616° | 190°37.07' | S 1°23.22' | 14.7561' | 56.4856' | 53°22.41' | **05** |
| **06** | 269°49.06' | 15.0032° | 158°35.81' | N 8°59.42' | 0.8950' | 237°19.01' | 14.5612° | 191°05.86' | S 1°37.98' | 14.7605' | 56.5067' | 68°24.87' | **06** |
| **07** | 284°49.25' | 15.0032° | 158°38.08' | N 8°58.52' | 0.8953' | 251°52.65' | 14.5608° | 191°34.68' | S 1°52.74' | 14.7639' | 56.5278' | 83°27.33' | **07** |
| **08** | 299°49.45' | 15.0032° | 158°40.35' | N 8°57.63' | 0.8955' | 266°26.27' | 14.5603° | 192°03.53' | S 2°07.51' | 14.7662' | 56.5490' | 98°29.80' | **08** |
| **09** | 314°49.64' | 15.0032° | 158°42.63' | N 8°56.73' | 0.8958' | 280°59.86' | 14.5598° | 192°32.40' | S 2°22.28' | 14.7675' | 56.5702' | 113°32.26' | **09** |
| **10** | 329°49.83' | 15.0032° | 158°44.90' | N 8°55.84' | 0.8960' | 295°33.42' | 14.5593° | 193°01.31' | S 2°37.04' | 14.7678' | 56.5914' | 128°34.73' | **10** |
| **11** | 344°50.02' | 15.0032° | 158°47.17' | N 8°54.94' | 0.8963' | 310°06.95' | 14.5588° | 193°30.24' | S 2°51.81' | 14.7669' | 56.6126' | 143°37.19' | **11** |
| **12** | 359°50.21' | 15.0032° | 158°49.44' | N 8°54.04' | 0.8965' | 324°40.44' | 14.5583° | 193°59.21' | S 3°06.58' | 14.7651' | 56.6339' | 158°39.65' | **12** |
| **13** | 14°50.40' | 15.0032° | 158°51.72' | N 8°53.15' | 0.8968' | 339°13.91' | 14.5577° | 194°28.21' | S 3°21.34' | 14.7621' | 56.6553' | 173°42.12' | **13** |
| **14** | 29°50.60' | 15.0032° | 158°53.99' | N 8°52.25' | 0.8970' | 353°47.34' | 14.5572° | 194°57.24' | S 3°36.10' | 14.7581' | 56.6766' | 188°44.58' | **14** |
| **15** | 44°50.79' | 15.0032° | 158°56.26' | N 8°51.35' | 0.8973' | 8°20.73' | 14.5566° | 195°26.31' | S 3°50.85' | 14.7530' | 56.6980' | 203°47.05' | **15** |
| **16** | 59°50.98' | 15.0032° | 158°58.53' | N 8°50.45' | 0.8975' | 22°54.09' | 14.5560° | 195°55.42' | S 4°05.60' | 14.7469' | 56.7195' | 218°49.51' | **16** |
| **17** | 74°51.17' | 15.0032° | 159°00.80' | N 8°49.56' | 0.8977' | 37°27.41' | 14.5553° | 196°24.56' | S 4°20.34' | 14.7396' | 56.7409' | 233°51.97' | **17** |
| **18** | 89°51.37' | 15.0032° | 159°03.07' | N 8°48.66' | 0.8980' | 52°00.69' | 14.5547° | 196°53.74' | S 4°35.07' | 14.7313' | 56.7624' | 248°54.44' | **18** |
| **19** | 104°51.56' | 15.0032° | 159°05.35' | N 8°47.76' | 0.8982' | 66°33.94' | 14.5540° | 197°22.97' | S 4°49.79' | 14.7218' | 56.7840' | 263°56.90' | **19** |
| **20** | 119°51.75' | 15.0032° | 159°07.62' | N 8°46.86' | 0.8985' | 81°07.14' | 14.5534° | 197°52.23' | S 5°04.50' | 14.7113' | 56.8055' | 278°59.37' | **20** |
| **21** | 134°51.94' | 15.0032° | 159°09.89' | N 8°45.96' | 0.8987' | 95°40.30' | 14.5527° | 198°21.53' | S 5°19.20' | 14.6996' | 56.8271' | 294°01.83' | **21** |
| **22** | 149°52.14' | 15.0032° | 159°12.16' | N 8°45.06' | 0.8990' | 110°13.41' | 14.5519° | 198°50.88' | S 5°33.89' | 14.6868' | 56.8488' | 309°04.29' | **22** |
| **23** | 164°52.33' | 15.0032° | 159°14.43' | N 8°44.16' | 0.8992' | 124°46.49' | 14.5512° | 199°20.27' | S 5°48.56' | 14.6729' | 56.8704' | 324°06.76' | **23** |
| **24** | 179°52.52' | 15.0032° | 159°16.70' | N 8°43.27' | 0.8994' | 139°19.51' | 14.5504° | 199°49.71' | S 6°03.22' | 14.6579' | 56.8921' | 339°09.22' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8397' | hp (π) 0.1452' | ½Ø 15.4317' | 10.1420547847686<br>55% +cre |
| | EoT at 12:00 UTC : -39s (δ 0.77 s/h) | | Phase at 12:00 UTC : 36.97° | |
| | Meridian Pass. Time : 12:00:39.155 | | Age : 2.9 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.15') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 193°04.64' | 145°05.45' | N 15°02.59' | 274°21.22' | 63°48.87' | N 19°53.77' | 331°03.06' | 7°07.03' | N 1°22.06' | 14°33.75' | 323°36.34' | S 15°48.97' | **00** |
| **01** | 208°04.06' | 145°08.49' | N 15°01.65' | 289°22.26' | 63°50.29' | N 19°54.05' | 346°05.74' | 7°06.81' | N 1°21.95' | 29°36.38' | 323°36.17' | S 15°49.03' | **01** |
| **02** | 223°03.49' | 145°11.53' | N 15°00.71' | 304°23.30' | 63°51.71' | N 19°54.33' | 1°08.43' | 7°06.58' | N 1°21.85' | 44°39.02' | 323°35.99' | S 15°49.09' | **02** |
| **03** | 238°02.91' | 145°14.57' | N 14°59.77' | 319°24.35' | 63°53.13' | N 19°54.61' | 16°11.12' | 7°06.36' | N 1°21.74' | 59°41.66' | 323°35.82' | S 15°49.15' | **03** |
| **04** | 253°02.34' | 145°17.61' | N 14°58.82' | 334°25.39' | 63°54.55' | N 19°54.89' | 31°13.80' | 7°06.14' | N 1°21.64' | 74°44.30' | 323°35.65' | S 15°49.20' | **04** |
| **05** | 268°01.76' | 145°20.65' | N 14°57.88' | 349°26.44' | 63°55.97' | N 19°55.17' | 46°16.49' | 7°05.92' | N 1°21.53' | 89°46.93' | 323°35.47' | S 15°49.26' | **05** |
| **06** | 283°01.19' | 145°23.68' | N 14°56.94' | 4°27.48' | 63°57.39' | N 19°55.44' | 61°19.18' | 7°05.70' | N 1°21.43' | 104°49.57' | 323°35.30' | S 15°49.32' | **06** |
| **07** | 298°00.61' | 145°26.72' | N 14°55.99' | 19°28.53' | 63°58.81' | N 19°55.72' | 76°21.86' | 7°05.47' | N 1°21.32' | 119°52.21' | 323°35.13' | S 15°49.38' | **07** |
| **08** | 313°00.04' | 145°29.76' | N 14°55.05' | 34°29.58' | 64°00.22' | N 19°56.00' | 91°24.55' | 7°05.25' | N 1°21.22' | 134°54.84' | 323°34.95' | S 15°49.44' | **08** |
| **09** | 327°59.47' | 145°32.80' | N 14°54.10' | 49°30.62' | 64°01.64' | N 19°56.27' | 106°27.24' | 7°05.03' | N 1°21.11' | 149°57.48' | 323°34.78' | S 15°49.49' | **09** |
| **10** | 342°58.89' | 145°35.83' | N 14°53.15' | 64°31.67' | 64°03.06' | N 19°56.55' | 121°29.92' | 7°04.80' | N 1°21.01' | 165°00.12' | 323°34.61' | S 15°49.55' | **10** |
| **11** | 357°58.32' | 145°38.87' | N 14°52.20' | 79°32.72' | 64°04.47' | N 19°56.83' | 136°32.61' | 7°04.58' | N 1°20.90' | 180°02.75' | 323°34.44' | S 15°49.61' | **11** |
| **12** | 12°57.75' | 145°41.91' | N 14°51.26' | 94°33.76' | 64°05.89' | N 19°57.10' | 151°35.30' | 7°04.35' | N 1°20.80' | 195°05.39' | 323°34.26' | S 15°49.67' | **12** |
| **13** | 27°57.18' | 145°44.94' | N 14°50.31' | 109°34.81' | 64°07.31' | N 19°57.38' | 166°37.99' | 7°04.13' | N 1°20.69' | 210°08.03' | 323°34.09' | S 15°49.72' | **13** |
| **14** | 42°56.61' | 145°47.98' | N 14°49.36' | 124°35.86' | 64°08.72' | N 19°57.65' | 181°40.68' | 7°03.91' | N 1°20.59' | 225°10.66' | 323°33.92' | S 15°49.78' | **14** |
| **15** | 57°56.04' | 145°51.01' | N 14°48.41' | 139°36.91' | 64°10.14' | N 19°57.93' | 196°43.37' | 7°03.68' | N 1°20.48' | 240°13.30' | 323°33.75' | S 15°49.84' | **15** |
| **16** | 72°55.47' | 145°54.05' | N 14°47.46' | 154°37.96' | 64°11.55' | N 19°58.20' | 211°46.05' | 7°03.46' | N 1°20.38' | 255°15.94' | 323°33.57' | S 15°49.90' | **16** |
| **17** | 87°54.90' | 145°57.08' | N 14°46.50' | 169°39.01' | 64°12.96' | N 19°58.48' | 226°48.74' | 7°03.23' | N 1°20.27' | 270°18.57' | 323°33.40' | S 15°49.95' | **17** |
| **18** | 102°54.33' | 146°00.11' | N 14°45.55' | 184°40.06' | 64°14.38' | N 19°58.75' | 241°51.43' | 7°03.01' | N 1°20.16' | 285°21.21' | 323°33.23' | S 15°50.01' | **18** |
| **19** | 117°53.76' | 146°03.15' | N 14°44.60' | 199°41.11' | 64°15.79' | N 19°59.02' | 256°54.12' | 7°02.78' | N 1°20.06' | 300°23.84' | 323°33.06' | S 15°50.07' | **19** |
| **20** | 132°53.19' | 146°06.18' | N 14°43.64' | 214°42.16' | 64°17.20' | N 19°59.30' | 271°56.81' | 7°02.55' | N 1°19.95' | 315°26.48' | 323°32.89' | S 15°50.13' | **20** |
| **21** | 147°52.62' | 146°09.21' | N 14°42.69' | 229°43.22' | 64°18.62' | N 19°59.57' | 286°59.50' | 7°02.33' | N 1°19.85' | 330°29.12' | 323°32.71' | S 15°50.18' | **21** |
| **22** | 162°52.05' | 146°12.24' | N 14°41.73' | 244°44.27' | 64°20.03' | N 19°59.85' | 302°02.19' | 7°02.10' | N 1°19.74' | 345°31.75' | 323°32.54' | S 15°50.24' | **22** |
| **23** | 177°51.48' | 146°15.27' | N 14°40.78' | 259°45.32' | 64°21.44' | N 20°00.12' | 317°04.88' | 7°01.88' | N 1°19.63' | 0°34.39' | 323°32.37' | S 15°50.30' | **23** |
| **24** | 192°50.92' | 146°18.31' | N 14°39.82' | 274°46.37' | 64°22.85' | N 20°00.39' | 332°07.57' | 7°01.65' | N 1°19.53' | 15°37.02' | 323°32.20' | S 15°50.36' | **24** |
| | δ 14.9904° | | *d* 0.9405' | δ 15.0174° | | *d* 0.2786' | δ 15.0448° | | *d* 0.1043' | δ 15.0440° | | *d* 0.0580' | |

## *Wednesday, August 31st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°52.52' | 15.0032° | 159°16.70' | N 8°43.27' | 0.8994' | 139°19.51' | 14.5504° | 199°49.71' | S 6°03.22' | 14.6579' | 56.8921' | 339°09.22' | **00** |
| **01** | 194°52.72' | 15.0032° | 159°18.97' | N 8°42.37' | 0.8997' | 153°52.49' | 14.5497° | 200°19.20' | S 6°17.86' | 14.6418' | 56.9138' | 354°11.69' | **01** |
| **02** | 209°52.91' | 15.0032° | 159°21.24' | N 8°41.47' | 0.8999' | 168°25.42' | 14.5489° | 200°48.73' | S 6°32.48' | 14.6245' | 56.9356' | 9°14.15' | **02** |
| **03** | 224°53.11' | 15.0032° | 159°23.51' | N 8°40.57' | 0.9002' | 182°58.31' | 14.5480° | 201°18.31' | S 6°47.09' | 14.6060' | 56.9573' | 24°16.62' | **03** |
| **04** | 239°53.30' | 15.0032° | 159°25.78' | N 8°39.66' | 0.9004' | 197°31.14' | 14.5472° | 201°47.94' | S 7°01.68' | 14.5864' | 56.9792' | 39°19.08' | **04** |
| **05** | 254°53.49' | 15.0032° | 159°28.05' | N 8°38.76' | 0.9006' | 212°03.92' | 14.5464° | 202°17.62' | S 7°16.24' | 14.5657' | 57.0010' | 54°21.54' | **05** |
| **06** | 269°53.69' | 15.0032° | 159°30.32' | N 8°37.86' | 0.9009' | 226°36.65' | 14.5455° | 202°47.36' | S 7°30.79' | 14.5437' | 57.0229' | 69°24.01' | **06** |
| **07** | 284°53.88' | 15.0032° | 159°32.59' | N 8°36.96' | 0.9011' | 241°09.32' | 14.5446° | 203°17.15' | S 7°45.31' | 14.5206' | 57.0448' | 84°26.47' | **07** |
| **08** | 299°54.08' | 15.0032° | 159°34.86' | N 8°36.06' | 0.9014' | 255°41.94' | 14.5437° | 203°46.99' | S 7°59.80' | 14.4963' | 57.0667' | 99°28.94' | **08** |
| **09** | 314°54.27' | 15.0032° | 159°37.13' | N 8°35.16' | 0.9016' | 270°14.51' | 14.5427° | 204°16.89' | S 8°14.27' | 14.4709' | 57.0886' | 114°31.40' | **09** |
| **10** | 329°54.47' | 15.0032° | 159°39.40' | N 8°34.26' | 0.9018' | 284°47.02' | 14.5418° | 204°46.85' | S 8°28.72' | 14.4442' | 57.1106' | 129°33.86' | **10** |
| **11** | 344°54.66' | 15.0033° | 159°41.67' | N 8°33.36' | 0.9021' | 299°19.47' | 14.5408° | 205°16.86' | S 8°43.13' | 14.4163' | 57.1326' | 144°36.33' | **11** |
| **12** | 359°54.86' | 15.0033° | 159°43.93' | N 8°32.45' | 0.9023' | 313°51.86' | 14.5398° | 205°46.94' | S 8°57.52' | 14.3872' | 57.1546' | 159°38.79' | **12** |
| **13** | 14°55.05' | 15.0033° | 159°46.20' | N 8°31.55' | 0.9025' | 328°24.18' | 14.5388° | 206°17.07' | S 9°11.88' | 14.3569' | 57.1767' | 174°41.26' | **13** |
| **14** | 29°55.25' | 15.0033° | 159°48.47' | N 8°30.65' | 0.9028' | 342°56.45' | 14.5378° | 206°47.27' | S 9°26.20' | 14.3254' | 57.1988' | 189°43.72' | **14** |
| **15** | 44°55.44' | 15.0033° | 159°50.74' | N 8°29.74' | 0.9030' | 357°28.66' | 14.5368° | 207°17.53' | S 9°40.50' | 14.2926' | 57.2209' | 204°46.18' | **15** |
| **16** | 59°55.64' | 15.0033° | 159°53.01' | N 8°28.84' | 0.9032' | 12°00.80' | 14.5357° | 207°47.85' | S 9°54.75' | 14.2586' | 57.2430' | 219°48.65' | **16** |
| **17** | 74°55.84' | 15.0033° | 159°55.28' | N 8°27.94' | 0.9035' | 26°32.88' | 14.5346° | 208°18.24' | S 10°08.98' | 14.2234' | 57.2652' | 234°51.11' | **17** |
| **18** | 89°56.03' | 15.0033° | 159°57.54' | N 8°27.03' | 0.9037' | 41°04.89' | 14.5335° | 208°48.69' | S 10°23.16' | 14.1869' | 57.2874' | 249°53.58' | **18** |
| **19** | 104°56.23' | 15.0033° | 159°59.81' | N 8°26.13' | 0.9040' | 55°36.83' | 14.5324° | 209°19.21' | S 10°37.31' | 14.1491' | 57.3096' | 264°56.04' | **19** |
| **20** | 119°56.42' | 15.0033° | 160°02.08' | N 8°25.23' | 0.9042' | 70°08.70' | 14.5312° | 209°49.80' | S 10°51.42' | 14.1101' | 57.3318' | 279°58.50' | **20** |
| **21** | 134°56.62' | 15.0033° | 160°04.35' | N 8°24.32' | 0.9044' | 84°40.51' | 14.5301° | 210°20.46' | S 11°05.49' | 14.0697' | 57.3541' | 295°00.97' | **21** |
| **22** | 149°56.82' | 15.0033° | 160°06.61' | N 8°23.42' | 0.9046' | 99°12.24' | 14.5289° | 210°51.19' | S 11°19.52' | 14.0281' | 57.3763' | 310°03.43' | **22** |
| **23** | 164°57.01' | 15.0033° | 160°08.88' | N 8°22.51' | 0.9049' | 113°43.91' | 14.5277° | 211°21.99' | S 11°33.51' | 13.9852' | 57.3986' | 325°05.90' | **23** |
| **24** | 179°57.21' | 15.0033° | 160°11.15' | N 8°21.61' | 0.9051' | 128°15.49' | 14.5265° | 211°52.87' | S 11°47.45' | 13.9410' | 57.4210' | 340°08.36' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8435' | hp (π) 0.1452' | ½Ø 15.5736' | 17.3310582834558 3% +cre |
| | EoT at 12:00 UTC : -20s (δ 0.78 s/h) | | Phase at 12:00 UTC : 49.07° | |
| | Meridian Pass. Time : 12:00:20.571 | | Age : 3.8 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.15') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 192°50.92' | 146°18.31' | N 14°39.82' | 274°46.37' | 64°22.85' | N 20°00.39' | 332°07.57' | 7°01.65' | N 1°19.53' | 15°37.02' | 323°32.20' | S 15°50.36' | **00** |
| **01** | 207°50.35' | 146°21.34' | N 14°38.86' | 289°47.43' | 64°24.26' | N 20°00.66' | 347°10.26' | 7°01.42' | N 1°19.42' | 30°39.66' | 323°32.03' | S 15°50.41' | **01** |
| **02** | 222°49.79' | 146°24.37' | N 14°37.90' | 304°48.48' | 64°25.67' | N 20°00.94' | 2°12.96' | 7°01.19' | N 1°19.31' | 45°42.30' | 323°31.85' | S 15°50.47' | **02** |
| **03** | 237°49.22' | 146°27.40' | N 14°36.94' | 319°49.54' | 64°27.08' | N 20°01.21' | 17°15.65' | 7°00.97' | N 1°19.21' | 60°44.93' | 323°31.68' | S 15°50.53' | **03** |
| **04** | 252°48.65' | 146°30.43' | N 14°35.98' | 334°50.59' | 64°28.49' | N 20°01.48' | 32°18.34' | 7°00.74' | N 1°19.10' | 75°47.57' | 323°31.51' | S 15°50.59' | **04** |
| **05** | 267°48.09' | 146°33.45' | N 14°35.02' | 349°51.65' | 64°29.90' | N 20°01.75' | 47°21.03' | 7°00.51' | N 1°18.99' | 90°50.20' | 323°31.34' | S 15°50.64' | **05** |
| **06** | 282°47.52' | 146°36.48' | N 14°34.06' | 4°52.70' | 64°31.31' | N 20°02.02' | 62°23.72' | 7°00.28' | N 1°18.89' | 105°52.84' | 323°31.17' | S 15°50.70' | **06** |
| **07** | 297°46.96' | 146°39.51' | N 14°33.10' | 19°53.76' | 64°32.71' | N 20°02.29' | 77°26.42' | 7°00.06' | N 1°18.78' | 120°55.47' | 323°31.00' | S 15°50.76' | **07** |
| **08** | 312°46.40' | 146°42.54' | N 14°32.14' | 34°54.81' | 64°34.12' | N 20°02.56' | 92°29.11' | 6°59.83' | N 1°18.67' | 135°58.11' | 323°30.83' | S 15°50.81' | **08** |
| **09** | 327°45.83' | 146°45.57' | N 14°31.17' | 49°55.87' | 64°35.53' | N 20°02.84' | 107°31.80' | 6°59.60' | N 1°18.57' | 151°00.74' | 323°30.65' | S 15°50.87' | **09** |
| **10** | 342°45.27' | 146°48.59' | N 14°30.21' | 64°56.93' | 64°36.94' | N 20°03.11' | 122°34.49' | 6°59.37' | N 1°18.46' | 166°03.38' | 323°30.48' | S 15°50.93' | **10** |
| **11** | 357°44.71' | 146°51.62' | N 14°29.24' | 79°57.99' | 64°38.34' | N 20°03.38' | 137°37.19' | 6°59.14' | N 1°18.35' | 181°06.02' | 323°30.31' | S 15°50.99' | **11** |
| **12** | 12°44.15' | 146°54.65' | N 14°28.28' | 94°59.04' | 64°39.75' | N 20°03.65' | 152°39.88' | 6°58.91' | N 1°18.24' | 196°08.65' | 323°30.14' | S 15°51.04' | **12** |
| **13** | 27°43.58' | 146°57.67' | N 14°27.31' | 110°00.10' | 64°41.15' | N 20°03.92' | 167°42.57' | 6°58.68' | N 1°18.14' | 211°11.29' | 323°29.97' | S 15°51.10' | **13** |
| **14** | 42°43.02' | 147°00.70' | N 14°26.34' | 125°01.16' | 64°42.56' | N 20°04.18' | 182°45.27' | 6°58.45' | N 1°18.03' | 226°13.92' | 323°29.80' | S 15°51.16' | **14** |
| **15** | 57°42.46' | 147°03.72' | N 14°25.38' | 140°02.22' | 64°43.96' | N 20°04.45' | 197°47.96' | 6°58.22' | N 1°17.92' | 241°16.56' | 323°29.63' | S 15°51.21' | **15** |
| **16** | 72°41.90' | 147°06.75' | N 14°24.41' | 155°03.28' | 64°45.37' | N 20°04.72' | 212°50.66' | 6°57.99' | N 1°17.81' | 256°19.19' | 323°29.46' | S 15°51.27' | **16** |
| **17** | 87°41.34' | 147°09.77' | N 14°23.44' | 170°04.34' | 64°46.77' | N 20°04.99' | 227°53.35' | 6°57.76' | N 1°17.70' | 271°21.83' | 323°29.29' | S 15°51.33' | **17** |
| **18** | 102°40.78' | 147°12.79' | N 14°22.47' | 185°05.40' | 64°48.17' | N 20°05.26' | 242°56.05' | 6°57.53' | N 1°17.60' | 286°24.46' | 323°29.12' | S 15°51.38' | **18** |
| **19** | 117°40.22' | 147°15.82' | N 14°21.50' | 200°06.46' | 64°49.58' | N 20°05.53' | 257°58.74' | 6°57.30' | N 1°17.49' | 301°27.09' | 323°28.95' | S 15°51.44' | **19** |
| **20** | 132°39.66' | 147°18.84' | N 14°20.53' | 215°07.52' | 64°50.98' | N 20°05.80' | 273°01.44' | 6°57.07' | N 1°17.38' | 316°29.73' | 323°28.77' | S 15°51.50' | **20** |
| **21** | 147°39.10' | 147°21.86' | N 14°19.56' | 230°08.59' | 64°52.38' | N 20°06.06' | 288°04.13' | 6°56.84' | N 1°17.27' | 331°32.36' | 323°28.60' | S 15°51.56' | **21** |
| **22** | 162°38.55' | 147°24.89' | N 14°18.58' | 245°09.65' | 64°53.78' | N 20°06.33' | 303°06.83' | 6°56.60' | N 1°17.16' | 346°35.00' | 323°28.43' | S 15°51.61' | **22** |
| **23** | 177°37.99' | 147°27.91' | N 14°17.61' | 260°10.71' | 64°55.18' | N 20°06.60' | 318°09.52' | 6°56.37' | N 1°17.06' | 1°37.63' | 323°28.26' | S 15°51.67' | **23** |
| **24** | 192°37.43' | 147°30.93' | N 14°16.64' | 275°11.78' | 64°56.58' | N 20°06.86' | 333°12.22' | 6°56.14' | N 1°16.95' | 16°40.27' | 323°28.09' | S 15°51.73' | **24** |
| | δ 14.9906° | | *d* 0.9578' | δ 15.0176° | | *d* 0.2726' | δ 15.0449° | | *d* 0.1065' | δ 15.0439° | | *d* 0.0574' | |

## *Thursday, September 1st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°57.21' | 15.0033° | 160°11.15' | N 8°21.61' | 0.9051' | 128°15.49' | 14.5265° | 211°52.87' | S 11°47.45' | 13.9410' | 57.4210' | 340°08.36' | **00** |
| **01** | 194°57.41' | 15.0033° | 160°13.42' | N 8°20.70' | 0.9053' | 142°47.01' | 14.5253° | 212°23.81' | S 12°01.34' | 13.8954' | 57.4433' | 355°10.82' | **01** |
| **02** | 209°57.61' | 15.0033° | 160°15.68' | N 8°19.80' | 0.9056' | 157°18.45' | 14.5240° | 212°54.84' | S 12°15.19' | 13.8486' | 57.4657' | 10°13.29' | **02** |
| **03** | 224°57.80' | 15.0033° | 160°17.95' | N 8°18.89' | 0.9058' | 171°49.82' | 14.5227° | 213°25.94' | S 12°28.99' | 13.8004' | 57.4880' | 25°15.75' | **03** |
| **04** | 239°58.00' | 15.0033° | 160°20.22' | N 8°17.98' | 0.9060' | 186°21.10' | 14.5215° | 213°57.11' | S 12°42.74' | 13.7508' | 57.5104' | 40°18.22' | **04** |
| **05** | 254°58.20' | 15.0033° | 160°22.48' | N 8°17.08' | 0.9063' | 200°52.31' | 14.5202° | 214°28.37' | S 12°56.44' | 13.7000' | 57.5328' | 55°20.68' | **05** |
| **06** | 269°58.40' | 15.0033° | 160°24.75' | N 8°16.17' | 0.9065' | 215°23.44' | 14.5188° | 214°59.70' | S 13°10.09' | 13.6477' | 57.5553' | 70°23.14' | **06** |
| **07** | 284°58.59' | 15.0033° | 160°27.02' | N 8°15.26' | 0.9067' | 229°54.49' | 14.5175° | 215°31.12' | S 13°23.68' | 13.5941' | 57.5777' | 85°25.61' | **07** |
| **08** | 299°58.79' | 15.0033° | 160°29.28' | N 8°14.36' | 0.9069' | 244°25.46' | 14.5161° | 216°02.61' | S 13°37.22' | 13.5391' | 57.6002' | 100°28.07' | **08** |
| **09** | 314°58.99' | 15.0033° | 160°31.55' | N 8°13.45' | 0.9072' | 258°56.35' | 14.5148° | 216°34.19' | S 13°50.71' | 13.4828' | 57.6227' | 115°30.54' | **09** |
| **10** | 329°59.19' | 15.0033° | 160°33.81' | N 8°12.54' | 0.9074' | 273°27.15' | 14.5134° | 217°05.85' | S 14°04.13' | 13.4250' | 57.6451' | 130°33.00' | **10** |
| **11** | 344°59.39' | 15.0033° | 160°36.08' | N 8°11.64' | 0.9076' | 287°57.87' | 14.5120° | 217°37.60' | S 14°17.50' | 13.3659' | 57.6677' | 145°35.47' | **11** |
| **12** | 359°59.58' | 15.0033° | 160°38.34' | N 8°10.73' | 0.9079' | 302°28.50' | 14.5105° | 218°09.43' | S 14°30.80' | 13.3053' | 57.6902' | 160°37.93' | **12** |
| **13** | 14°59.78' | 15.0033° | 160°40.61' | N 8°09.82' | 0.9081' | 316°59.04' | 14.5091° | 218°41.35' | S 14°44.05' | 13.2433' | 57.7127' | 175°40.39' | **13** |
| **14** | 29°59.98' | 15.0033° | 160°42.88' | N 8°08.91' | 0.9083' | 331°29.50' | 14.5076° | 219°13.36' | S 14°57.23' | 13.1799' | 57.7353' | 190°42.86' | **14** |
| **15** | 45°00.18' | 15.0033° | 160°45.14' | N 8°08.00' | 0.9085' | 345°59.87' | 14.5062° | 219°45.45' | S 15°10.34' | 13.1151' | 57.7578' | 205°45.32' | **15** |
| **16** | 60°00.38' | 15.0033° | 160°47.41' | N 8°07.09' | 0.9088' | 0°30.15' | 14.5047° | 220°17.63' | S 15°23.39' | 13.0488' | 57.7804' | 220°47.79' | **16** |
| **17** | 75°00.58' | 15.0033° | 160°49.67' | N 8°06.19' | 0.9090' | 15°00.34' | 14.5032° | 220°49.91' | S 15°36.37' | 12.9810' | 57.8029' | 235°50.25' | **17** |
| **18** | 90°00.78' | 15.0033° | 160°51.94' | N 8°05.28' | 0.9092' | 29°30.44' | 14.5016° | 221°22.27' | S 15°49.28' | 12.9118' | 57.8255' | 250°52.71' | **18** |
| **19** | 105°00.98' | 15.0033° | 160°54.20' | N 8°04.37' | 0.9094' | 44°00.45' | 14.5001° | 221°54.73' | S 16°02.12' | 12.8412' | 57.8481' | 265°55.18' | **19** |
| **20** | 120°01.18' | 15.0033° | 160°56.46' | N 8°03.46' | 0.9097' | 58°30.36' | 14.4986° | 222°27.28' | S 16°14.89' | 12.7690' | 57.8707' | 280°57.64' | **20** |
| **21** | 135°01.38' | 15.0033° | 160°58.73' | N 8°02.55' | 0.9099' | 73°00.18' | 14.4970° | 222°59.93' | S 16°27.59' | 12.6954' | 57.8933' | 296°00.11' | **21** |
| **22** | 150°01.58' | 15.0033° | 161°00.99' | N 8°01.64' | 0.9101' | 87°29.90' | 14.4954° | 223°32.67' | S 16°40.21' | 12.6203' | 57.9159' | 311°02.57' | **22** |
| **23** | 165°01.78' | 15.0033° | 161°03.26' | N 8°00.73' | 0.9103' | 101°59.53' | 14.4938° | 224°05.50' | S 16°52.75' | 12.5436' | 57.9385' | 326°05.03' | **23** |
| **24** | 180°01.98' | 15.0033° | 161°05.52' | N 7°59.82' | 0.9105' | 116°29.07' | 14.4922° | 224°38.43' | S 17°05.22' | 12.4655' | 57.9611' | 341°07.50' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8473' | hp (π) 0.1452' | ½Ø 15.7195' | 26.1493800343051<br>35% +cre |
| | EoT at 12:00 UTC : -1s (δ 0.79 s/h) | | Phase at 12:00 UTC : 61.38° | |
| | Meridian Pass. Time : 12:00:01.662 | | Age : 4.8 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.15') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 192°37.43' | 147°30.93' | N 14°16.64' | 275°11.78' | 64°56.58' | N 20°06.86' | 333°12.22' | 6°56.14' | N 1°16.95' | 16°40.27' | 323°28.09' | S 15°51.73' | **00** |
| **01** | 207°36.87' | 147°33.95' | N 14°15.66' | 290°12.84' | 64°57.99' | N 20°07.13' | 348°14.92' | 6°55.91' | N 1°16.84' | 31°42.90' | 323°27.92' | S 15°51.78' | **01** |
| **02** | 222°36.32' | 147°36.97' | N 14°14.69' | 305°13.90' | 64°59.38' | N 20°07.40' | 3°17.61' | 6°55.67' | N 1°16.73' | 46°45.54' | 323°27.75' | S 15°51.84' | **02** |
| **03** | 237°35.76' | 147°39.99' | N 14°13.71' | 320°14.97' | 65°00.78' | N 20°07.66' | 18°20.31' | 6°55.44' | N 1°16.62' | 61°48.17' | 323°27.58' | S 15°51.90' | **03** |
| **04** | 252°35.21' | 147°43.01' | N 14°12.73' | 335°16.03' | 65°02.18' | N 20°07.93' | 33°23.01' | 6°55.21' | N 1°16.51' | 76°50.80' | 323°27.41' | S 15°51.95' | **04** |
| **05** | 267°34.65' | 147°46.03' | N 14°11.76' | 350°17.10' | 65°03.58' | N 20°08.20' | 48°25.70' | 6°54.98' | N 1°16.40' | 91°53.44' | 323°27.24' | S 15°52.01' | **05** |
| **06** | 282°34.10' | 147°49.05' | N 14°10.78' | 5°18.17' | 65°04.98' | N 20°08.46' | 63°28.40' | 6°54.74' | N 1°16.29' | 106°56.07' | 323°27.07' | S 15°52.06' | **06** |
| **07** | 297°33.54' | 147°52.07' | N 14°09.80' | 20°19.23' | 65°06.38' | N 20°08.73' | 78°31.10' | 6°54.51' | N 1°16.19' | 121°58.71' | 323°26.90' | S 15°52.12' | **07** |
| **08** | 312°32.99' | 147°55.09' | N 14°08.82' | 35°20.30' | 65°07.77' | N 20°08.99' | 93°33.80' | 6°54.27' | N 1°16.08' | 137°01.34' | 323°26.73' | S 15°52.18' | **08** |
| **09** | 327°32.43' | 147°58.10' | N 14°07.84' | 50°21.37' | 65°09.17' | N 20°09.26' | 108°36.50' | 6°54.04' | N 1°15.97' | 152°03.97' | 323°26.56' | S 15°52.23' | **09** |
| **10** | 342°31.88' | 148°01.12' | N 14°06.86' | 65°22.43' | 65°10.57' | N 20°09.52' | 123°39.19' | 6°53.81' | N 1°15.86' | 167°06.61' | 323°26.39' | S 15°52.29' | **10** |
| **11** | 357°31.33' | 148°04.14' | N 14°05.88' | 80°23.50' | 65°11.96' | N 20°09.78' | 138°41.89' | 6°53.57' | N 1°15.75' | 182°09.24' | 323°26.22' | S 15°52.35' | **11** |
| **12** | 12°30.78' | 148°07.15' | N 14°04.90' | 95°24.57' | 65°13.36' | N 20°10.05' | 153°44.59' | 6°53.34' | N 1°15.64' | 197°11.87' | 323°26.06' | S 15°52.40' | **12** |
| **13** | 27°30.22' | 148°10.17' | N 14°03.91' | 110°25.64' | 65°14.75' | N 20°10.31' | 168°47.29' | 6°53.10' | N 1°15.53' | 212°14.51' | 323°25.89' | S 15°52.46' | **13** |
| **14** | 42°29.67' | 148°13.19' | N 14°02.93' | 125°26.71' | 65°16.15' | N 20°10.58' | 183°49.99' | 6°52.87' | N 1°15.42' | 227°17.14' | 323°25.72' | S 15°52.52' | **14** |
| **15** | 57°29.12' | 148°16.20' | N 14°01.94' | 140°27.78' | 65°17.54' | N 20°10.84' | 198°52.69' | 6°52.63' | N 1°15.31' | 242°19.77' | 323°25.55' | S 15°52.57' | **15** |
| **16** | 72°28.57' | 148°19.22' | N 14°00.96' | 155°28.85' | 65°18.94' | N 20°11.10' | 213°55.39' | 6°52.40' | N 1°15.20' | 257°22.41' | 323°25.38' | S 15°52.63' | **16** |
| **17** | 87°28.02' | 148°22.23' | N 13°59.97' | 170°29.92' | 65°20.33' | N 20°11.36' | 228°58.09' | 6°52.16' | N 1°15.09' | 272°25.04' | 323°25.21' | S 15°52.68' | **17** |
| **18** | 102°27.47' | 148°25.25' | N 13°58.99' | 185°30.99' | 65°21.72' | N 20°11.63' | 244°00.79' | 6°51.92' | N 1°14.98' | 287°27.67' | 323°25.04' | S 15°52.74' | **18** |
| **19** | 117°26.92' | 148°28.26' | N 13°58.00' | 200°32.06' | 65°23.11' | N 20°11.89' | 259°03.49' | 6°51.69' | N 1°14.87' | 302°30.31' | 323°24.87' | S 15°52.80' | **19** |
| **20** | 132°26.37' | 148°31.27' | N 13°57.01' | 215°33.14' | 65°24.51' | N 20°12.15' | 274°06.19' | 6°51.45' | N 1°14.76' | 317°32.94' | 323°24.70' | S 15°52.85' | **20** |
| **21** | 147°25.82' | 148°34.29' | N 13°56.02' | 230°34.21' | 65°25.90' | N 20°12.41' | 289°08.89' | 6°51.21' | N 1°14.65' | 332°35.57' | 323°24.53' | S 15°52.91' | **21** |
| **22** | 162°25.27' | 148°37.30' | N 13°55.04' | 245°35.28' | 65°27.29' | N 20°12.67' | 304°11.59' | 6°50.98' | N 1°14.54' | 347°38.21' | 323°24.36' | S 15°52.97' | **22** |
| **23** | 177°24.72' | 148°40.31' | N 13°54.05' | 260°36.35' | 65°28.68' | N 20°12.94' | 319°14.29' | 6°50.74' | N 1°14.43' | 2°40.84' | 323°24.20' | S 15°53.02' | **23** |
| **24** | 192°24.18' | 148°43.32' | N 13°53.06' | 275°37.43' | 65°30.07' | N 20°13.20' | 334°17.00' | 6°50.50' | N 1°14.32' | 17°43.47' | 323°24.03' | S 15°53.08' | **24** |
| | δ 14.9907° | | *d* 0.9747' | δ 15.0177° | | *d* 0.2666' | δ 15.0449° | | *d* 0.1086' | δ 15.0439° | | *d* 0.0567' | |

## *Friday, September 2nd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°01.98' | 15.0033° | 161°05.52' | N 7°59.82' | 0.9105' | 116°29.07' | 14.4922° | 224°38.43' | S 17°05.22' | 12.4655' | 57.9611' | 341°07.50' | **00** |
| **01** | 195°02.18' | 15.0033° | 161°07.78' | N 7°58.91' | 0.9108' | 130°58.50' | 14.4906° | 225°11.46' | S 17°17.60' | 12.3858' | 57.9838' | 356°09.96' | **01** |
| **02** | 210°02.38' | 15.0033° | 161°10.05' | N 7°57.99' | 0.9110' | 145°27.84' | 14.4890° | 225°44.59' | S 17°29.91' | 12.3047' | 58.0064' | 11°12.43' | **02** |
| **03** | 225°02.58' | 15.0033° | 161°12.31' | N 7°57.08' | 0.9112' | 159°57.08' | 14.4873° | 226°17.81' | S 17°42.13' | 12.2219' | 58.0290' | 26°14.89' | **03** |
| **04** | 240°02.78' | 15.0033° | 161°14.58' | N 7°56.17' | 0.9114' | 174°26.22' | 14.4857° | 226°51.13' | S 17°54.27' | 12.1377' | 58.0516' | 41°17.35' | **04** |
| **05** | 255°02.98' | 15.0033° | 161°16.84' | N 7°55.26' | 0.9116' | 188°55.26' | 14.4840° | 227°24.56' | S 18°06.32' | 12.0519' | 58.0742' | 56°19.82' | **05** |
| **06** | 270°03.18' | 15.0033° | 161°19.10' | N 7°54.35' | 0.9119' | 203°24.20' | 14.4823° | 227°58.08' | S 18°18.28' | 11.9645' | 58.0968' | 71°22.28' | **06** |
| **07** | 285°03.38' | 15.0034° | 161°21.37' | N 7°53.44' | 0.9121' | 217°53.04' | 14.4806° | 228°31.71' | S 18°30.16' | 11.8756' | 58.1194' | 86°24.75' | **07** |
| **08** | 300°03.58' | 15.0034° | 161°23.63' | N 7°52.52' | 0.9123' | 232°21.77' | 14.4789° | 229°05.44' | S 18°41.95' | 11.7851' | 58.1420' | 101°27.21' | **08** |
| **09** | 315°03.78' | 15.0034° | 161°25.89' | N 7°51.61' | 0.9125' | 246°50.40' | 14.4772° | 229°39.27' | S 18°53.64' | 11.6930' | 58.1645' | 116°29.68' | **09** |
| **10** | 330°03.99' | 15.0034° | 161°28.15' | N 7°50.70' | 0.9127' | 261°18.93' | 14.4755° | 230°13.21' | S 19°05.24' | 11.5994' | 58.1871' | 131°32.14' | **10** |
| **11** | 345°04.19' | 15.0034° | 161°30.42' | N 7°49.79' | 0.9129' | 275°47.36' | 14.4738° | 230°47.25' | S 19°16.74' | 11.5042' | 58.2097' | 146°34.60' | **11** |
| **12** | 0°04.39' | 15.0034° | 161°32.68' | N 7°48.87' | 0.9132' | 290°15.68' | 14.4720° | 231°21.39' | S 19°28.15' | 11.4073' | 58.2322' | 161°37.07' | **12** |
| **13** | 15°04.59' | 15.0034° | 161°34.94' | N 7°47.96' | 0.9134' | 304°43.89' | 14.4703° | 231°55.64' | S 19°39.46' | 11.3089' | 58.2548' | 176°39.53' | **13** |
| **14** | 30°04.79' | 15.0034° | 161°37.20' | N 7°47.05' | 0.9136' | 319°12.00' | 14.4685° | 232°29.99' | S 19°50.67' | 11.2089' | 58.2773' | 191°42.00' | **14** |
| **15** | 45°05.00' | 15.0034° | 161°39.47' | N 7°46.13' | 0.9138' | 333°40.01' | 14.4667° | 233°04.45' | S 20°01.77' | 11.1072' | 58.2998' | 206°44.46' | **15** |
| **16** | 60°05.20' | 15.0034° | 161°41.73' | N 7°45.22' | 0.9140' | 348°07.91' | 14.4650° | 233°39.02' | S 20°12.78' | 11.0040' | 58.3222' | 221°46.92' | **16** |
| **17** | 75°05.40' | 15.0034° | 161°43.99' | N 7°44.30' | 0.9142' | 2°35.70' | 14.4632° | 234°13.69' | S 20°23.68' | 10.8991' | 58.3447' | 236°49.39' | **17** |
| **18** | 90°05.60' | 15.0034° | 161°46.25' | N 7°43.39' | 0.9145' | 17°03.38' | 14.4614° | 234°48.47' | S 20°34.47' | 10.7926' | 58.3671' | 251°51.85' | **18** |
| **19** | 105°05.80' | 15.0034° | 161°48.51' | N 7°42.47' | 0.9147' | 31°30.96' | 14.4596° | 235°23.36' | S 20°45.15' | 10.6845' | 58.3896' | 266°54.32' | **19** |
| **20** | 120°06.01' | 15.0034° | 161°50.77' | N 7°41.56' | 0.9149' | 45°58.43' | 14.4578° | 235°58.35' | S 20°55.73' | 10.5747' | 58.4119' | 281°56.78' | **20** |
| **21** | 135°06.21' | 15.0034° | 161°53.03' | N 7°40.64' | 0.9151' | 60°25.79' | 14.4560° | 236°33.45' | S 21°06.19' | 10.4634' | 58.4343' | 296°59.24' | **21** |
| **22** | 150°06.41' | 15.0034° | 161°55.30' | N 7°39.73' | 0.9153' | 74°53.04' | 14.4542° | 237°08.66' | S 21°16.54' | 10.3503' | 58.4566' | 312°01.71' | **22** |
| **23** | 165°06.62' | 15.0034° | 161°57.56' | N 7°38.81' | 0.9155' | 89°20.19' | 14.4524° | 237°43.98' | S 21°26.78' | 10.2357' | 58.4790' | 327°04.17' | **23** |
| **24** | 180°06.82' | 15.0034° | 161°59.82' | N 7°37.90' | 0.9157' | 103°47.23' | 14.4506° | 238°19.41' | S 21°36.90' | 10.1194' | 58.5012' | 342°06.64' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | ½Ø 15.8511' | hp (π) 0.1453' | ½Ø 15.8672' | 36.2636804227716<br>14% +cre | | |
| | EoT at 12:00 UTC : +17s (δ 0.81 s/h) | | Phase at 12:00 UTC : 73.92° | | | |
| | Meridian Pass. Time : 11:59:42.443 | | Age : 5.7 day(s) | | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.15') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 192°24.18' | 148°43.32' | N 13°53.06' | 275°37.43' | 65°30.07' | N 20°13.20' | 334°17.00' | 6°50.50' | N 1°14.32' | 17°43.47' | 323°24.03' | S 15°53.08' | **00** |
| **01** | 207°23.63' | 148°46.33' | N 13°52.06' | 290°38.50' | 65°31.46' | N 20°13.46' | 349°19.70' | 6°50.27' | N 1°14.21' | 32°46.10' | 323°23.86' | S 15°53.13' | **01** |
| **02** | 222°23.08' | 148°49.34' | N 13°51.07' | 305°39.58' | 65°32.85' | N 20°13.72' | 4°22.40' | 6°50.03' | N 1°14.10' | 47°48.74' | 323°23.69' | S 15°53.19' | **02** |
| **03** | 237°22.54' | 148°52.35' | N 13°50.08' | 320°40.65' | 65°34.24' | N 20°13.98' | 19°25.10' | 6°49.79' | N 1°13.99' | 62°51.37' | 323°23.52' | S 15°53.24' | **03** |
| **04** | 252°21.99' | 148°55.37' | N 13°49.09' | 335°41.73' | 65°35.63' | N 20°14.24' | 34°27.80' | 6°49.55' | N 1°13.88' | 77°54.00' | 323°23.35' | S 15°53.30' | **04** |
| **05** | 267°21.44' | 148°58.37' | N 13°48.09' | 350°42.81' | 65°37.01' | N 20°14.50' | 49°30.51' | 6°49.31' | N 1°13.76' | 92°56.63' | 323°23.18' | S 15°53.36' | **05** |
| **06** | 282°20.90' | 149°01.38' | N 13°47.10' | 5°43.88' | 65°38.40' | N 20°14.76' | 64°33.21' | 6°49.07' | N 1°13.65' | 107°59.27' | 323°23.02' | S 15°53.41' | **06** |
| **07** | 297°20.35' | 149°04.39' | N 13°46.10' | 20°44.96' | 65°39.79' | N 20°15.02' | 79°35.91' | 6°48.84' | N 1°13.54' | 123°01.90' | 323°22.85' | S 15°53.47' | **07** |
| **08** | 312°19.81' | 149°07.40' | N 13°45.11' | 35°46.04' | 65°41.17' | N 20°15.28' | 94°38.61' | 6°48.60' | N 1°13.43' | 138°04.53' | 323°22.68' | S 15°53.52' | **08** |
| **09** | 327°19.27' | 149°10.41' | N 13°44.11' | 50°47.11' | 65°42.56' | N 20°15.53' | 109°41.32' | 6°48.36' | N 1°13.32' | 153°07.16' | 323°22.51' | S 15°53.58' | **09** |
| **10** | 342°18.72' | 149°13.42' | N 13°43.12' | 65°48.19' | 65°43.95' | N 20°15.79' | 124°44.02' | 6°48.12' | N 1°13.21' | 168°09.80' | 323°22.34' | S 15°53.64' | **10** |
| **11** | 357°18.18' | 149°16.43' | N 13°42.12' | 80°49.27' | 65°45.33' | N 20°16.05' | 139°46.73' | 6°47.88' | N 1°13.10' | 183°12.43' | 323°22.18' | S 15°53.69' | **11** |
| **12** | 12°17.64' | 149°19.43' | N 13°41.12' | 95°50.35' | 65°46.72' | N 20°16.31' | 154°49.43' | 6°47.64' | N 1°12.99' | 198°15.06' | 323°22.01' | S 15°53.75' | **12** |
| **13** | 27°17.09' | 149°22.44' | N 13°40.12' | 110°51.43' | 65°48.10' | N 20°16.57' | 169°52.13' | 6°47.40' | N 1°12.87' | 213°17.69' | 323°21.84' | S 15°53.80' | **13** |
| **14** | 42°16.55' | 149°25.45' | N 13°39.12' | 125°52.51' | 65°49.48' | N 20°16.83' | 184°54.84' | 6°47.16' | N 1°12.76' | 228°20.32' | 323°21.67' | S 15°53.86' | **14** |
| **15** | 57°16.01' | 149°28.45' | N 13°38.12' | 140°53.59' | 65°50.87' | N 20°17.08' | 199°57.54' | 6°46.92' | N 1°12.65' | 243°22.95' | 323°21.51' | S 15°53.91' | **15** |
| **16** | 72°15.47' | 149°31.46' | N 13°37.12' | 155°54.67' | 65°52.25' | N 20°17.34' | 215°00.25' | 6°46.68' | N 1°12.54' | 258°25.59' | 323°21.34' | S 15°53.97' | **16** |
| **17** | 87°14.93' | 149°34.46' | N 13°36.12' | 170°55.75' | 65°53.63' | N 20°17.60' | 230°02.95' | 6°46.44' | N 1°12.43' | 273°28.22' | 323°21.17' | S 15°54.02' | **17** |
| **18** | 102°14.39' | 149°37.47' | N 13°35.12' | 185°56.84' | 65°55.02' | N 20°17.85' | 245°05.66' | 6°46.19' | N 1°12.32' | 288°30.85' | 323°21.00' | S 15°54.08' | **18** |
| **19** | 117°13.85' | 149°40.47' | N 13°34.11' | 200°57.92' | 65°56.40' | N 20°18.11' | 260°08.36' | 6°45.95' | N 1°12.20' | 303°33.48' | 323°20.84' | S 15°54.14' | **19** |
| **20** | 132°13.31' | 149°43.48' | N 13°33.11' | 215°59.00' | 65°57.78' | N 20°18.37' | 275°11.07' | 6°45.71' | N 1°12.09' | 318°36.11' | 323°20.67' | S 15°54.19' | **20** |
| **21** | 147°12.77' | 149°46.48' | N 13°32.10' | 231°00.09' | 65°59.16' | N 20°18.62' | 290°13.78' | 6°45.47' | N 1°11.98' | 333°38.74' | 323°20.50' | S 15°54.25' | **21** |
| **22** | 162°12.23' | 149°49.48' | N 13°31.10' | 246°01.17' | 66°00.54' | N 20°18.88' | 305°16.48' | 6°45.23' | N 1°11.87' | 348°41.37' | 323°20.33' | S 15°54.30' | **22** |
| **23** | 177°11.69' | 149°52.48' | N 13°30.09' | 261°02.25' | 66°01.92' | N 20°19.13' | 320°19.19' | 6°44.99' | N 1°11.75' | 3°44.01' | 323°20.17' | S 15°54.36' | **23** |
| **24** | 192°11.15' | 149°55.49' | N 13°29.09' | 276°03.34' | 66°03.30' | N 20°19.39' | 335°21.89' | 6°44.74' | N 1°11.64' | 18°46.64' | 323°20.00' | S 15°54.41' | **24** |
| | δ 14.9909° | | *d* 0.9910' | δ 15.0179° | | *d* 0.2608' | δ 15.0450° | | *d* 0.1106' | δ 15.0439° | | *d* 0.0560' | |

## *Saturday, September 3rd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°06.82' | 15.0034° | 161°59.82' | N 7°37.90' | 0.9157' | 103°47.23' | 14.4506° | 238°19.41' | S 21°36.90' | 10.1194' | 58.5012' | 342°06.64' | **00** |
| **01** | 195°07.02' | 15.0034° | 162°02.08' | N 7°36.98' | 0.9159' | 118°14.16' | 14.4488° | 238°54.95' | S 21°46.90' | 10.0015' | 58.5235' | 357°09.10' | **01** |
| **02** | 210°07.23' | 15.0034° | 162°04.34' | N 7°36.07' | 0.9161' | 132°40.98' | 14.4470° | 239°30.59' | S 21°56.78' | 9.8819' | 58.5457' | 12°11.57' | **02** |
| **03** | 225°07.43' | 15.0034° | 162°06.60' | N 7°35.15' | 0.9164' | 147°07.69' | 14.4452° | 240°06.34' | S 22°06.54' | 9.7607' | 58.5678' | 27°14.03' | **03** |
| **04** | 240°07.63' | 15.0034° | 162°08.86' | N 7°34.23' | 0.9166' | 161°34.29' | 14.4434° | 240°42.20' | S 22°16.18' | 9.6379' | 58.5900' | 42°16.49' | **04** |
| **05** | 255°07.84' | 15.0034° | 162°11.12' | N 7°33.32' | 0.9168' | 176°00.79' | 14.4416° | 241°18.17' | S 22°25.69' | 9.5134' | 58.6121' | 57°18.96' | **05** |
| **06** | 270°08.04' | 15.0034° | 162°13.38' | N 7°32.40' | 0.9170' | 190°27.18' | 14.4398° | 241°54.25' | S 22°35.08' | 9.3873' | 58.6341' | 72°21.42' | **06** |
| **07** | 285°08.25' | 15.0034° | 162°15.64' | N 7°31.48' | 0.9172' | 204°53.45' | 14.4380° | 242°30.43' | S 22°44.34' | 9.2595' | 58.6561' | 87°23.89' | **07** |
| **08** | 300°08.45' | 15.0034° | 162°17.90' | N 7°30.56' | 0.9174' | 219°19.63' | 14.4362° | 243°06.73' | S 22°53.47' | 9.1301' | 58.6780' | 102°26.35' | **08** |
| **09** | 315°08.65' | 15.0034° | 162°20.16' | N 7°29.65' | 0.9176' | 233°45.69' | 14.4344° | 243°43.13' | S 23°02.47' | 8.9991' | 58.6999' | 117°28.81' | **09** |
| **10** | 330°08.86' | 15.0034° | 162°22.42' | N 7°28.73' | 0.9178' | 248°11.65' | 14.4326° | 244°19.63' | S 23°11.34' | 8.8665' | 58.7218' | 132°31.28' | **10** |
| **11** | 345°09.06' | 15.0034° | 162°24.68' | N 7°27.81' | 0.9180' | 262°37.49' | 14.4308° | 244°56.25' | S 23°20.07' | 8.7322' | 58.7436' | 147°33.74' | **11** |
| **12** | 0°09.27' | 15.0034° | 162°26.94' | N 7°26.89' | 0.9182' | 277°03.24' | 14.4290° | 245°32.97' | S 23°28.66' | 8.5963' | 58.7653' | 162°36.21' | **12** |
| **13** | 15°09.47' | 15.0034° | 162°29.20' | N 7°25.97' | 0.9184' | 291°28.87' | 14.4273° | 246°09.80' | S 23°37.12' | 8.4588' | 58.7870' | 177°38.67' | **13** |
| **14** | 30°09.68' | 15.0034° | 162°31.46' | N 7°25.06' | 0.9186' | 305°54.41' | 14.4255° | 246°46.73' | S 23°45.44' | 8.3197' | 58.8086' | 192°41.14' | **14** |
| **15** | 45°09.88' | 15.0034° | 162°33.72' | N 7°24.14' | 0.9188' | 320°19.83' | 14.4238° | 247°23.77' | S 23°53.62' | 8.1790' | 58.8302' | 207°43.60' | **15** |
| **16** | 60°10.09' | 15.0034° | 162°35.98' | N 7°23.22' | 0.9191' | 334°45.15' | 14.4220° | 248°00.91' | S 24°01.66' | 8.0368' | 58.8517' | 222°46.06' | **16** |
| **17** | 75°10.29' | 15.0034° | 162°38.24' | N 7°22.30' | 0.9193' | 349°10.37' | 14.4203° | 248°38.16' | S 24°09.55' | 7.8929' | 58.8731' | 237°48.53' | **17** |
| **18** | 90°10.50' | 15.0034° | 162°40.49' | N 7°21.38' | 0.9195' | 3°35.49' | 14.4186° | 249°15.51' | S 24°17.30' | 7.7475' | 58.8944' | 252°50.99' | **18** |
| **19** | 105°10.70' | 15.0034° | 162°42.75' | N 7°20.46' | 0.9197' | 18°00.50' | 14.4169° | 249°52.96' | S 24°24.90' | 7.6005' | 58.9157' | 267°53.46' | **19** |
| **20** | 120°10.91' | 15.0034° | 162°45.01' | N 7°19.54' | 0.9199' | 32°25.41' | 14.4152° | 250°30.51' | S 24°32.35' | 7.4519' | 58.9369' | 282°55.92' | **20** |
| **21** | 135°11.12' | 15.0034° | 162°47.27' | N 7°18.62' | 0.9201' | 46°50.22' | 14.4135° | 251°08.17' | S 24°39.65' | 7.3018' | 58.9581' | 297°58.38' | **21** |
| **22** | 150°11.32' | 15.0034° | 162°49.53' | N 7°17.70' | 0.9203' | 61°14.93' | 14.4118° | 251°45.92' | S 24°46.80' | 7.1502' | 58.9791' | 313°00.85' | **22** |
| **23** | 165°11.53' | 15.0034° | 162°51.79' | N 7°16.78' | 0.9205' | 75°39.54' | 14.4102° | 252°23.77' | S 24°53.80' | 6.9971' | 59.0001' | 328°03.31' | **23** |
| **24** | 180°11.73' | 15.0034° | 162°54.04' | N 7°15.86' | 0.9207' | 90°04.05' | 14.4085° | 253°01.73' | S 25°00.64' | 6.8424' | 59.0209' | 343°05.78' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 15.8550' | hp (π) 0.1453' | ½Ø 16.0124' | 47.2427405498266 % +cre | |
| | EoT at 12:00 UTC : +37s (δ 0.82 s/h) | | Phase at 12:00 UTC : 86.70° | | |
| | Meridian Pass. Time : 11:59:22.929 | | Age : 6.7 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.15') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 192°11.15' | 149°55.49' | N 13°29.09' | 276°03.34' | 66°03.30' | N 20°19.39' | 335°21.89' | 6°44.74' | N 1°11.64' | 18°46.64' | 323°20.00' | S 15°54.41' | **00** |
| **01** | 207°10.61' | 149°58.49' | N 13°28.08' | 291°04.42' | 66°04.68' | N 20°19.64' | 350°24.60' | 6°44.50' | N 1°11.53' | 33°49.27' | 323°19.83' | S 15°54.47' | **01** |
| **02** | 222°10.07' | 150°01.49' | N 13°27.07' | 306°05.51' | 66°06.06' | N 20°19.90' | 5°27.31' | 6°44.26' | N 1°11.42' | 48°51.90' | 323°19.67' | S 15°54.52' | **02** |
| **03** | 237°09.54' | 150°04.49' | N 13°26.07' | 321°06.60' | 66°07.43' | N 20°20.15' | 20°30.02' | 6°44.01' | N 1°11.30' | 63°54.53' | 323°19.50' | S 15°54.58' | **03** |
| **04** | 252°09.00' | 150°07.49' | N 13°25.06' | 336°07.68' | 66°08.81' | N 20°20.41' | 35°32.72' | 6°43.77' | N 1°11.19' | 78°57.16' | 323°19.33' | S 15°54.63' | **04** |
| **05** | 267°08.46' | 150°10.49' | N 13°24.05' | 351°08.77' | 66°10.19' | N 20°20.66' | 50°35.43' | 6°43.53' | N 1°11.08' | 93°59.79' | 323°19.17' | S 15°54.69' | **05** |
| **06** | 282°07.93' | 150°13.49' | N 13°23.04' | 6°09.86' | 66°11.56' | N 20°20.92' | 65°38.14' | 6°43.28' | N 1°10.97' | 109°02.42' | 323°19.00' | S 15°54.74' | **06** |
| **07** | 297°07.39' | 150°16.49' | N 13°22.03' | 21°10.95' | 66°12.94' | N 20°21.17' | 80°40.85' | 6°43.04' | N 1°10.85' | 124°05.05' | 323°18.83' | S 15°54.80' | **07** |
| **08** | 312°06.86' | 150°19.49' | N 13°21.01' | 36°12.03' | 66°14.32' | N 20°21.42' | 95°43.55' | 6°42.80' | N 1°10.74' | 139°07.68' | 323°18.67' | S 15°54.85' | **08** |
| **09** | 327°06.32' | 150°22.49' | N 13°20.00' | 51°13.12' | 66°15.69' | N 20°21.68' | 110°46.26' | 6°42.55' | N 1°10.63' | 154°10.31' | 323°18.50' | S 15°54.91' | **09** |
| **10** | 342°05.79' | 150°25.49' | N 13°18.99' | 66°14.21' | 66°17.07' | N 20°21.93' | 125°48.97' | 6°42.31' | N 1°10.51' | 169°12.94' | 323°18.34' | S 15°54.96' | **10** |
| **11** | 357°05.25' | 150°28.49' | N 13°17.98' | 81°15.30' | 66°18.44' | N 20°22.18' | 140°51.68' | 6°42.06' | N 1°10.40' | 184°15.57' | 323°18.17' | S 15°55.02' | **11** |
| **12** | 12°04.72' | 150°31.49' | N 13°16.96' | 96°16.39' | 66°19.81' | N 20°22.43' | 155°54.39' | 6°41.82' | N 1°10.29' | 199°18.20' | 323°18.00' | S 15°55.07' | **12** |
| **13** | 27°04.19' | 150°34.48' | N 13°15.95' | 111°17.48' | 66°21.19' | N 20°22.69' | 170°57.10' | 6°41.57' | N 1°10.17' | 214°20.83' | 323°17.84' | S 15°55.13' | **13** |
| **14** | 42°03.66' | 150°37.48' | N 13°14.93' | 126°18.58' | 66°22.56' | N 20°22.94' | 185°59.81' | 6°41.33' | N 1°10.06' | 229°23.46' | 323°17.67' | S 15°55.18' | **14** |
| **15** | 57°03.12' | 150°40.48' | N 13°13.92' | 141°19.67' | 66°23.93' | N 20°23.19' | 201°02.52' | 6°41.08' | N 1°09.95' | 244°26.09' | 323°17.51' | S 15°55.24' | **15** |
| **16** | 72°02.59' | 150°43.47' | N 13°12.90' | 156°20.76' | 66°25.30' | N 20°23.44' | 216°05.23' | 6°40.84' | N 1°09.83' | 259°28.72' | 323°17.34' | S 15°55.29' | **16** |
| **17** | 87°02.06' | 150°46.47' | N 13°11.88' | 171°21.85' | 66°26.68' | N 20°23.69' | 231°07.94' | 6°40.59' | N 1°09.72' | 274°31.35' | 323°17.17' | S 15°55.35' | **17** |
| **18** | 102°01.53' | 150°49.46' | N 13°10.86' | 186°22.94' | 66°28.05' | N 20°23.94' | 246°10.65' | 6°40.34' | N 1°09.60' | 289°33.98' | 323°17.01' | S 15°55.40' | **18** |
| **19** | 117°01.00' | 150°52.46' | N 13°09.85' | 201°24.04' | 66°29.42' | N 20°24.19' | 261°13.36' | 6°40.10' | N 1°09.49' | 304°36.61' | 323°16.84' | S 15°55.46' | **19** |
| **20** | 132°00.47' | 150°55.45' | N 13°08.83' | 216°25.13' | 66°30.79' | N 20°24.45' | 276°16.07' | 6°39.85' | N 1°09.38' | 319°39.24' | 323°16.68' | S 15°55.51' | **20** |
| **21** | 146°59.94' | 150°58.45' | N 13°07.81' | 231°26.23' | 66°32.16' | N 20°24.70' | 291°18.78' | 6°39.61' | N 1°09.26' | 334°41.87' | 323°16.51' | S 15°55.56' | **21** |
| **22** | 161°59.41' | 151°01.44' | N 13°06.79' | 246°27.32' | 66°33.53' | N 20°24.95' | 306°21.49' | 6°39.36' | N 1°09.15' | 349°44.50' | 323°16.35' | S 15°55.62' | **22** |
| **23** | 176°58.88' | 151°04.44' | N 13°05.77' | 261°28.42' | 66°34.90' | N 20°25.20' | 321°24.20' | 6°39.11' | N 1°09.03' | 4°47.13' | 323°16.18' | S 15°55.67' | **23** |
| **24** | 191°58.35' | 151°07.43' | N 13°04.74' | 276°29.51' | 66°36.26' | N 20°25.45' | 336°26.91' | 6°38.86' | N 1°08.92' | 19°49.76' | 323°16.02' | S 15°55.73' | **24** |
| | δ 14.9910° | | *d* 1.0069' | δ 15.0181° | | *d* 0.2550' | δ 15.0451° | | *d* 0.1125' | δ 15.0438° | | *d* 0.0552' | |

## *Sunday, September 4th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°11.73' | 15.0034° | 162°54.04' | N 7°15.86' | 0.9207' | 90°04.05' | 14.4085° | 253°01.73' | S 25°00.64' | 6.8424' | 59.0209' | 343°05.78' | **00** |
| **01** | 195°11.94' | 15.0034° | 162°56.30' | N 7°14.94' | 0.9209' | 104°28.47' | 14.4069° | 253°39.77' | S 25°07.33' | 6.6863' | 59.0417' | 358°08.24' | **01** |
| **02** | 210°12.15' | 15.0034° | 162°58.56' | N 7°14.02' | 0.9211' | 118°52.79' | 14.4053° | 254°17.92' | S 25°13.86' | 6.5287' | 59.0624' | 13°10.71' | **02** |
| **03** | 225°12.35' | 15.0034° | 163°00.82' | N 7°13.09' | 0.9213' | 133°17.01' | 14.4038° | 254°56.16' | S 25°20.23' | 6.3696' | 59.0830' | 28°13.17' | **03** |
| **04** | 240°12.56' | 15.0034° | 163°03.08' | N 7°12.17' | 0.9215' | 147°41.15' | 14.4022° | 255°34.49' | S 25°26.44' | 6.2091' | 59.1036' | 43°15.63' | **04** |
| **05** | 255°12.77' | 15.0034° | 163°05.33' | N 7°11.25' | 0.9217' | 162°05.19' | 14.4007° | 256°12.91' | S 25°32.48' | 6.0472' | 59.1240' | 58°18.10' | **05** |
| **06** | 270°12.97' | 15.0034° | 163°07.59' | N 7°10.33' | 0.9219' | 176°29.13' | 14.3991° | 256°51.43' | S 25°38.37' | 5.8839' | 59.1443' | 73°20.56' | **06** |
| **07** | 285°13.18' | 15.0034° | 163°09.85' | N 7°09.41' | 0.9221' | 190°52.99' | 14.3977° | 257°30.03' | S 25°44.09' | 5.7192' | 59.1645' | 88°23.03' | **07** |
| **08** | 300°13.39' | 15.0035° | 163°12.10' | N 7°08.49' | 0.9223' | 205°16.76' | 14.3962° | 258°08.73' | S 25°49.64' | 5.5531' | 59.1846' | 103°25.49' | **08** |
| **09** | 315°13.59' | 15.0035° | 163°14.36' | N 7°07.56' | 0.9225' | 219°40.45' | 14.3947° | 258°47.51' | S 25°55.03' | 5.3857' | 59.2046' | 118°27.95' | **09** |
| **10** | 330°13.80' | 15.0035° | 163°16.62' | N 7°06.64' | 0.9227' | 234°04.05' | 14.3933° | 259°26.37' | S 26°00.24' | 5.2170' | 59.2245' | 133°30.42' | **10** |
| **11** | 345°14.01' | 15.0035° | 163°18.88' | N 7°05.72' | 0.9229' | 248°27.56' | 14.3919° | 260°05.32' | S 26°05.29' | 5.0469' | 59.2442' | 148°32.88' | **11** |
| **12** | 0°14.22' | 15.0035° | 163°21.13' | N 7°04.79' | 0.9231' | 262°51.00' | 14.3906° | 260°44.35' | S 26°10.17' | 4.8756' | 59.2639' | 163°35.35' | **12** |
| **13** | 15°14.42' | 15.0035° | 163°23.39' | N 7°03.87' | 0.9233' | 277°14.35' | 14.3892° | 261°23.46' | S 26°14.87' | 4.7031' | 59.2834' | 178°37.81' | **13** |
| **14** | 30°14.63' | 15.0035° | 163°25.64' | N 7°02.95' | 0.9235' | 291°37.63' | 14.3879° | 262°02.65' | S 26°19.40' | 4.5293' | 59.3028' | 193°40.28' | **14** |
| **15** | 45°14.84' | 15.0035° | 163°27.90' | N 7°02.02' | 0.9236' | 306°00.83' | 14.3866° | 262°41.91' | S 26°23.75' | 4.3543' | 59.3220' | 208°42.74' | **15** |
| **16** | 60°15.05' | 15.0035° | 163°30.16' | N 7°01.10' | 0.9238' | 320°23.95' | 14.3854° | 263°21.26' | S 26°27.93' | 4.1782' | 59.3412' | 223°45.20' | **16** |
| **17** | 75°15.25' | 15.0035° | 163°32.41' | N 7°00.18' | 0.9240' | 334°47.00' | 14.3842° | 264°00.67' | S 26°31.93' | 4.0009' | 59.3602' | 238°47.67' | **17** |
| **18** | 90°15.46' | 15.0035° | 163°34.67' | N 6°59.25' | 0.9242' | 349°09.98' | 14.3830° | 264°40.15' | S 26°35.75' | 3.8224' | 59.3790' | 253°50.13' | **18** |
| **19** | 105°15.67' | 15.0035° | 163°36.93' | N 6°58.33' | 0.9244' | 3°32.89' | 14.3818° | 265°19.71' | S 26°39.40' | 3.6430' | 59.3977' | 268°52.60' | **19** |
| **20** | 120°15.88' | 15.0035° | 163°39.18' | N 6°57.40' | 0.9246' | 17°55.73' | 14.3807° | 265°59.33' | S 26°42.86' | 3.4624' | 59.4163' | 283°55.06' | **20** |
| **21** | 135°16.09' | 15.0035° | 163°41.44' | N 6°56.48' | 0.9248' | 32°18.51' | 14.3796° | 266°39.02' | S 26°46.14' | 3.2808' | 59.4347' | 298°57.53' | **21** |
| **22** | 150°16.30' | 15.0035° | 163°43.69' | N 6°55.55' | 0.9250' | 46°41.22' | 14.3786° | 267°18.77' | S 26°49.24' | 3.0983' | 59.4530' | 313°59.99' | **22** |
| **23** | 165°16.51' | 15.0035° | 163°45.95' | N 6°54.63' | 0.9252' | 61°03.87' | 14.3776° | 267°58.58' | S 26°52.15' | 2.9147' | 59.4711' | 329°02.45' | **23** |
| **24** | 180°16.71' | 15.0035° | 163°48.20' | N 6°53.70' | 0.9254' | 75°26.47' | 14.3766° | 268°38.45' | S 26°54.88' | 2.7303' | 59.4891' | 344°04.92' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 15.8589' | hp (π) 0.1453' | ½Ø 16.1483' | 58.5624958422823<br>8% +gib | |
| | EoT at 12:00 UTC : +56s (δ 0.83 s/h) | | Phase at 12:00 UTC : 99.74° | | |
| | Meridian Pass. Time : 11:59:03.138 | | Age : 7.8 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.16') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 191°58.35' | 151°07.43' | N 13°04.74' | 276°29.51' | 66°36.26' | N 20°25.45' | 336°26.91' | 6°38.86' | N 1°08.92' | 19°49.76' | 323°16.02' | S 15°55.73' | **00** |
| **01** | 206°57.82' | 151°10.42' | N 13°03.72' | 291°30.61' | 66°37.63' | N 20°25.69' | 351°29.62' | 6°38.62' | N 1°08.81' | 34°52.39' | 323°15.85' | S 15°55.78' | **01** |
| **02** | 221°57.29' | 151°13.41' | N 13°02.70' | 306°31.71' | 66°39.00' | N 20°25.94' | 6°32.34' | 6°38.37' | N 1°08.69' | 49°55.02' | 323°15.69' | S 15°55.84' | **02** |
| **03** | 236°56.76' | 151°16.41' | N 13°01.68' | 321°32.80' | 66°40.37' | N 20°26.19' | 21°35.05' | 6°38.12' | N 1°08.58' | 64°57.65' | 323°15.52' | S 15°55.89' | **03** |
| **04** | 251°56.24' | 151°19.40' | N 13°00.65' | 336°33.90' | 66°41.73' | N 20°26.44' | 36°37.76' | 6°37.87' | N 1°08.46' | 80°00.28' | 323°15.36' | S 15°55.95' | **04** |
| **05** | 266°55.71' | 151°22.39' | N 12°59.63' | 351°35.00' | 66°43.10' | N 20°26.69' | 51°40.47' | 6°37.62' | N 1°08.35' | 95°02.91' | 323°15.19' | S 15°56.00' | **05** |
| **06** | 281°55.18' | 151°25.38' | N 12°58.60' | 6°36.10' | 66°44.46' | N 20°26.94' | 66°43.19' | 6°37.38' | N 1°08.23' | 110°05.53' | 323°15.03' | S 15°56.05' | **06** |
| **07** | 296°54.66' | 151°28.37' | N 12°57.57' | 21°37.20' | 66°45.83' | N 20°27.19' | 81°45.90' | 6°37.13' | N 1°08.12' | 125°08.16' | 323°14.86' | S 15°56.11' | **07** |
| **08** | 311°54.13' | 151°31.36' | N 12°56.55' | 36°38.30' | 66°47.19' | N 20°27.43' | 96°48.61' | 6°36.88' | N 1°08.00' | 140°10.79' | 323°14.70' | S 15°56.16' | **08** |
| **09** | 326°53.60' | 151°34.35' | N 12°55.52' | 51°39.40' | 66°48.56' | N 20°27.68' | 111°51.33' | 6°36.63' | N 1°07.89' | 155°13.42' | 323°14.53' | S 15°56.22' | **09** |
| **10** | 341°53.08' | 151°37.34' | N 12°54.49' | 66°40.50' | 66°49.92' | N 20°27.93' | 126°54.04' | 6°36.38' | N 1°07.77' | 170°16.05' | 323°14.37' | S 15°56.27' | **10** |
| **11** | 356°52.55' | 151°40.33' | N 12°53.46' | 81°41.60' | 66°51.28' | N 20°28.18' | 141°56.75' | 6°36.13' | N 1°07.66' | 185°18.68' | 323°14.21' | S 15°56.33' | **11** |
| **12** | 11°52.03' | 151°43.32' | N 12°52.44' | 96°42.70' | 66°52.65' | N 20°28.42' | 156°59.47' | 6°35.88' | N 1°07.54' | 200°21.31' | 323°14.04' | S 15°56.38' | **12** |
| **13** | 26°51.51' | 151°46.31' | N 12°51.41' | 111°43.80' | 66°54.01' | N 20°28.67' | 172°02.18' | 6°35.63' | N 1°07.43' | 215°23.93' | 323°13.88' | S 15°56.43' | **13** |
| **14** | 41°50.98' | 151°49.29' | N 12°50.37' | 126°44.91' | 66°55.37' | N 20°28.92' | 187°04.89' | 6°35.38' | N 1°07.31' | 230°26.56' | 323°13.71' | S 15°56.49' | **14** |
| **15** | 56°50.46' | 151°52.28' | N 12°49.34' | 141°46.01' | 66°56.73' | N 20°29.16' | 202°07.61' | 6°35.13' | N 1°07.20' | 245°29.19' | 323°13.55' | S 15°56.54' | **15** |
| **16** | 71°49.94' | 151°55.27' | N 12°48.31' | 156°47.11' | 66°58.09' | N 20°29.41' | 217°10.32' | 6°34.88' | N 1°07.08' | 260°31.82' | 323°13.39' | S 15°56.60' | **16** |
| **17** | 86°49.41' | 151°58.25' | N 12°47.28' | 171°48.22' | 66°59.45' | N 20°29.65' | 232°13.04' | 6°34.63' | N 1°06.96' | 275°34.45' | 323°13.22' | S 15°56.65' | **17** |
| **18** | 101°48.89' | 152°01.24' | N 12°46.25' | 186°49.32' | 67°00.81' | N 20°29.90' | 247°15.75' | 6°34.38' | N 1°06.85' | 290°37.07' | 323°13.06' | S 15°56.70' | **18** |
| **19** | 116°48.37' | 152°04.23' | N 12°45.21' | 201°50.43' | 67°02.17' | N 20°30.14' | 262°18.47' | 6°34.13' | N 1°06.73' | 305°39.70' | 323°12.89' | S 15°56.76' | **19** |
| **20** | 131°47.85' | 152°07.21' | N 12°44.18' | 216°51.53' | 67°03.53' | N 20°30.39' | 277°21.18' | 6°33.88' | N 1°06.62' | 320°42.33' | 323°12.73' | S 15°56.81' | **20** |
| **21** | 146°47.33' | 152°10.20' | N 12°43.14' | 231°52.64' | 67°04.89' | N 20°30.63' | 292°23.90' | 6°33.63' | N 1°06.50' | 335°44.96' | 323°12.57' | S 15°56.87' | **21** |
| **22** | 161°46.81' | 152°13.18' | N 12°42.11' | 246°53.74' | 67°06.25' | N 20°30.88' | 307°26.62' | 6°33.37' | N 1°06.39' | 350°47.58' | 323°12.40' | S 15°56.92' | **22** |
| **23** | 176°46.29' | 152°16.17' | N 12°41.07' | 261°54.85' | 67°07.60' | N 20°31.12' | 322°29.33' | 6°33.12' | N 1°06.27' | 5°50.21' | 323°12.24' | S 15°56.97' | **23** |
| **24** | 191°45.77' | 152°19.15' | N 12°40.04' | 276°55.96' | 67°08.96' | N 20°31.37' | 337°32.05' | 6°32.87' | N 1°06.15' | 20°52.84' | 323°12.08' | S 15°57.03' | **24** |
| | δ 14.9912° | | *d* 1.0223' | δ 15.0183° | | *d* 0.2494' | δ 15.0452° | | *d* 0.1144' | δ 15.0438° | | *d* 0.0545' | |

## *Monday, September 5th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°16.71' | 15.0035° | 163°48.20' | N 6°53.70' | 0.9254' | 75°26.47' | 14.3766° | 268°38.45' | S 26°54.88' | 2.7303' | 59.4891' | 344°04.92' | **00** |
| **01** | 195°16.92' | 15.0035° | 163°50.46' | N 6°52.78' | 0.9256' | 89°49.01' | 14.3756° | 269°18.38' | S 26°57.43' | 2.5449' | 59.5069' | 359°07.38' | **01** |
| **02** | 210°17.13' | 15.0035° | 163°52.71' | N 6°51.85' | 0.9258' | 104°11.49' | 14.3747° | 269°58.36' | S 26°59.79' | 2.3587' | 59.5245' | 14°09.85' | **02** |
| **03** | 225°17.34' | 15.0035° | 163°54.97' | N 6°50.93' | 0.9260' | 118°33.92' | 14.3739° | 270°38.39' | S 27°01.96' | 2.1717' | 59.5420' | 29°12.31' | **03** |
| **04** | 240°17.55' | 15.0035° | 163°57.22' | N 6°50.00' | 0.9261' | 132°56.30' | 14.3730° | 271°18.47' | S 27°03.94' | 1.9839' | 59.5593' | 44°14.77' | **04** |
| **05** | 255°17.76' | 15.0035° | 163°59.48' | N 6°49.07' | 0.9263' | 147°18.64' | 14.3722° | 271°58.60' | S 27°05.74' | 1.7953' | 59.5765' | 59°17.24' | **05** |
| **06** | 270°17.97' | 15.0035° | 164°01.73' | N 6°48.15' | 0.9265' | 161°40.92' | 14.3715° | 272°38.78' | S 27°07.34' | 1.6061' | 59.5934' | 74°19.70' | **06** |
| **07** | 285°18.18' | 15.0035° | 164°03.99' | N 6°47.22' | 0.9267' | 176°03.17' | 14.3708° | 273°19.00' | S 27°08.76' | 1.4161' | 59.6102' | 89°22.17' | **07** |
| **08** | 300°18.39' | 15.0035° | 164°06.24' | N 6°46.29' | 0.9269' | 190°25.38' | 14.3701° | 273°59.25' | S 27°09.99' | 1.2256' | 59.6268' | 104°24.63' | **08** |
| **09** | 315°18.60' | 15.0035° | 164°08.50' | N 6°45.37' | 0.9271' | 204°47.54' | 14.3695° | 274°39.55' | S 27°11.02' | 1.0344' | 59.6432' | 119°27.10' | **09** |
| **10** | 330°18.81' | 15.0035° | 164°10.75' | N 6°44.44' | 0.9273' | 219°09.68' | 14.3689° | 275°19.88' | S 27°11.86' | 0.8427' | 59.6594' | 134°29.56' | **10** |
| **11** | 345°19.02' | 15.0035° | 164°13.01' | N 6°43.51' | 0.9275' | 233°31.78' | 14.3683° | 276°00.25' | S 27°12.51' | 0.6504' | 59.6754' | 149°32.02' | **11** |
| **12** | 0°19.23' | 15.0035° | 164°15.26' | N 6°42.58' | 0.9277' | 247°53.85' | 14.3678° | 276°40.64' | S 27°12.97' | 0.4577' | 59.6912' | 164°34.49' | **12** |
| **13** | 15°19.44' | 15.0035° | 164°17.51' | N 6°41.66' | 0.9278' | 262°15.89' | 14.3674° | 277°21.06' | S 27°13.23' | 0.2646' | 59.7068' | 179°36.95' | **13** |
| **14** | 30°19.65' | 15.0035° | 164°19.77' | N 6°40.73' | 0.9280' | 276°37.91' | 14.3669° | 278°01.51' | S 27°13.31' | 0.0710' | 59.7222' | 194°39.42' | **14** |
| **15** | 45°19.86' | 15.0035° | 164°22.02' | N 6°39.80' | 0.9282' | 290°59.90' | 14.3666° | 278°41.98' | S 27°13.18' | 0.1228' | 59.7375' | 209°41.88' | **15** |
| **16** | 60°20.07' | 15.0035° | 164°24.27' | N 6°38.87' | 0.9284' | 305°21.87' | 14.3662° | 279°22.47' | S 27°12.87' | 0.3170' | 59.7524' | 224°44.34' | **16** |
| **17** | 75°20.28' | 15.0035° | 164°26.53' | N 6°37.94' | 0.9286' | 319°43.83' | 14.3659° | 280°02.98' | S 27°12.35' | 0.5115' | 59.7672' | 239°46.81' | **17** |
| **18** | 90°20.49' | 15.0035° | 164°28.78' | N 6°37.01' | 0.9288' | 334°05.77' | 14.3657° | 280°43.50' | S 27°11.65' | 0.7062' | 59.7818' | 254°49.27' | **18** |
| **19** | 105°20.70' | 15.0035° | 164°31.04' | N 6°36.08' | 0.9289' | 348°27.70' | 14.3655° | 281°24.03' | S 27°10.75' | 0.9010' | 59.7961' | 269°51.74' | **19** |
| **20** | 120°20.91' | 15.0035° | 164°33.29' | N 6°35.16' | 0.9291' | 2°49.62' | 14.3653° | 282°04.58' | S 27°09.65' | 1.0960' | 59.8102' | 284°54.20' | **20** |
| **21** | 135°21.12' | 15.0035° | 164°35.54' | N 6°34.23' | 0.9293' | 17°11.54' | 14.3652° | 282°45.13' | S 27°08.36' | 1.2911' | 59.8241' | 299°56.67' | **21** |
| **22** | 150°21.34' | 15.0035° | 164°37.79' | N 6°33.30' | 0.9295' | 31°33.45' | 14.3652° | 283°25.68' | S 27°06.87' | 1.4862' | 59.8378' | 314°59.13' | **22** |
| **23** | 165°21.55' | 15.0035° | 164°40.05' | N 6°32.37' | 0.9297' | 45°55.35' | 14.3651° | 284°06.24' | S 27°05.19' | 1.6813' | 59.8512' | 330°01.59' | **23** |
| **24** | 180°21.76' | 15.0035° | 164°42.30' | N 6°31.44' | 0.9299' | 60°17.26' | 14.3651° | 284°46.80' | S 27°03.32' | 1.8763' | 59.8644' | 345°04.06' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8629' | hp (π) 0.1454' | ½Ø 16.2647' | 69.6192980526910 1% +gib |
| | EoT at 12:00 UTC : +1m 16s (δ 0.84 s/h) | | Phase at 12:00 UTC : 113.03° | |
| | Meridian Pass. Time : 11:58:43.086 | | Age : 8.8 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.16') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 191°45.77' | 152°19.15' | N 12°40.04' | 276°55.96' | 67°08.96' | N 20°31.37' | 337°32.05' | 6°32.87' | N 1°06.15' | 20°52.84' | 323°12.08' | S 15°57.03' | **00** |
| **01** | 206°45.25' | 152°22.13' | N 12°39.00' | 291°57.07' | 67°10.32' | N 20°31.61' | 352°34.76' | 6°32.62' | N 1°06.04' | 35°55.47' | 323°11.91' | S 15°57.08' | **01** |
| **02** | 221°44.73' | 152°25.12' | N 12°37.96' | 306°58.17' | 67°11.67' | N 20°31.85' | 7°37.48' | 6°32.36' | N 1°05.92' | 50°58.09' | 323°11.75' | S 15°57.13' | **02** |
| **03** | 236°44.21' | 152°28.10' | N 12°36.92' | 321°59.28' | 67°13.03' | N 20°32.10' | 22°40.20' | 6°32.11' | N 1°05.81' | 66°00.72' | 323°11.59' | S 15°57.19' | **03** |
| **04** | 251°43.69' | 152°31.08' | N 12°35.88' | 337°00.39' | 67°14.38' | N 20°32.34' | 37°42.91' | 6°31.86' | N 1°05.69' | 81°03.35' | 323°11.43' | S 15°57.24' | **04** |
| **05** | 266°43.17' | 152°34.07' | N 12°34.84' | 352°01.50' | 67°15.74' | N 20°32.58' | 52°45.63' | 6°31.61' | N 1°05.57' | 96°05.98' | 323°11.26' | S 15°57.30' | **05** |
| **06** | 281°42.66' | 152°37.05' | N 12°33.80' | 7°02.61' | 67°17.09' | N 20°32.83' | 67°48.35' | 6°31.35' | N 1°05.46' | 111°08.60' | 323°11.10' | S 15°57.35' | **06** |
| **07** | 296°42.14' | 152°40.03' | N 12°32.76' | 22°03.72' | 67°18.44' | N 20°33.07' | 82°51.07' | 6°31.10' | N 1°05.34' | 126°11.23' | 323°10.94' | S 15°57.40' | **07** |
| **08** | 311°41.62' | 152°43.01' | N 12°31.72' | 37°04.83' | 67°19.80' | N 20°33.31' | 97°53.78' | 6°30.85' | N 1°05.22' | 141°13.86' | 323°10.78' | S 15°57.46' | **08** |
| **09** | 326°41.10' | 152°45.99' | N 12°30.68' | 52°05.95' | 67°21.15' | N 20°33.55' | 112°56.50' | 6°30.59' | N 1°05.11' | 156°16.48' | 323°10.61' | S 15°57.51' | **09** |
| **10** | 341°40.59' | 152°48.97' | N 12°29.64' | 67°07.06' | 67°22.50' | N 20°33.79' | 127°59.22' | 6°30.34' | N 1°04.99' | 171°19.11' | 323°10.45' | S 15°57.56' | **10** |
| **11** | 356°40.07' | 152°51.95' | N 12°28.59' | 82°08.17' | 67°23.85' | N 20°34.04' | 143°01.94' | 6°30.08' | N 1°04.87' | 186°21.74' | 323°10.29' | S 15°57.62' | **11** |
| **12** | 11°39.56' | 152°54.93' | N 12°27.55' | 97°09.28' | 67°25.20' | N 20°34.28' | 158°04.66' | 6°29.83' | N 1°04.76' | 201°24.36' | 323°10.13' | S 15°57.67' | **12** |
| **13** | 26°39.04' | 152°57.91' | N 12°26.51' | 112°10.40' | 67°26.56' | N 20°34.52' | 173°07.38' | 6°29.58' | N 1°04.64' | 216°26.99' | 323°09.96' | S 15°57.72' | **13** |
| **14** | 41°38.53' | 153°00.89' | N 12°25.46' | 127°11.51' | 67°27.91' | N 20°34.76' | 188°10.10' | 6°29.32' | N 1°04.52' | 231°29.62' | 323°09.80' | S 15°57.78' | **14** |
| **15** | 56°38.01' | 153°03.87' | N 12°24.41' | 142°12.63' | 67°29.25' | N 20°35.00' | 203°12.81' | 6°29.07' | N 1°04.40' | 246°32.24' | 323°09.64' | S 15°57.83' | **15** |
| **16** | 71°37.50' | 153°06.85' | N 12°23.37' | 157°13.74' | 67°30.60' | N 20°35.24' | 218°15.53' | 6°28.81' | N 1°04.29' | 261°34.87' | 323°09.48' | S 15°57.88' | **16** |
| **17** | 86°36.99' | 153°09.82' | N 12°22.32' | 172°14.86' | 67°31.95' | N 20°35.48' | 233°18.25' | 6°28.56' | N 1°04.17' | 276°37.49' | 323°09.32' | S 15°57.94' | **17** |
| **18** | 101°36.47' | 153°12.80' | N 12°21.27' | 187°15.97' | 67°33.30' | N 20°35.72' | 248°20.97' | 6°28.30' | N 1°04.05' | 291°40.12' | 323°09.15' | S 15°57.99' | **18** |
| **19** | 116°35.96' | 153°15.78' | N 12°20.23' | 202°17.09' | 67°34.65' | N 20°35.96' | 263°23.69' | 6°28.04' | N 1°03.93' | 306°42.75' | 323°08.99' | S 15°58.04' | **19** |
| **20** | 131°35.45' | 153°18.75' | N 12°19.18' | 217°18.21' | 67°36.00' | N 20°36.20' | 278°26.41' | 6°27.79' | N 1°03.82' | 321°45.37' | 323°08.83' | S 15°58.09' | **20** |
| **21** | 146°34.94' | 153°21.73' | N 12°18.13' | 232°19.32' | 67°37.34' | N 20°36.44' | 293°29.13' | 6°27.53' | N 1°03.70' | 336°48.00' | 323°08.67' | S 15°58.15' | **21** |
| **22** | 161°34.42' | 153°24.71' | N 12°17.08' | 247°20.44' | 67°38.69' | N 20°36.68' | 308°31.85' | 6°27.28' | N 1°03.58' | 351°50.62' | 323°08.51' | S 15°58.20' | **22** |
| **23** | 176°33.91' | 153°27.68' | N 12°16.03' | 262°21.56' | 67°40.03' | N 20°36.92' | 323°34.57' | 6°27.02' | N 1°03.46' | 6°53.25' | 323°08.35' | S 15°58.25' | **23** |
| **24** | 191°33.40' | 153°30.66' | N 12°14.98' | 277°22.68' | 67°41.38' | N 20°37.16' | 338°37.29' | 6°26.76' | N 1°03.35' | 21°55.87' | 323°08.18' | S 15°58.31' | **24** |
| | δ 14.9913° | | *d* 1.0372' | δ 15.0185° | | *d* 0.2438' | δ 15.0453° | | *d* 0.1162' | δ 15.0438° | | *d* 0.0537' | |

## *Tuesday, September 6th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°21.76' | 15.0035° | 164°42.30' | N 6°31.44' | 0.9299' | 60°17.26' | 14.3651° | 284°46.80' | S 27°03.32' | 1.8763' | 59.8644' | 345°04.06' | **00** |
| **01** | 195°21.97' | 15.0035° | 164°44.55' | N 6°30.51' | 0.9300' | 74°39.18' | 14.3652° | 285°27.35' | S 27°01.25' | 2.0713' | 59.8773' | 0°06.52' | **01** |
| **02** | 210°22.18' | 15.0035° | 164°46.81' | N 6°29.58' | 0.9302' | 89°01.09' | 14.3653° | 286°07.89' | S 26°58.98' | 2.2662' | 59.8900' | 15°08.99' | **02** |
| **03** | 225°22.39' | 15.0035° | 164°49.06' | N 6°28.65' | 0.9304' | 103°23.02' | 14.3655° | 286°48.43' | S 26°56.52' | 2.4608' | 59.9024' | 30°11.45' | **03** |
| **04** | 240°22.60' | 15.0035° | 164°51.31' | N 6°27.72' | 0.9306' | 117°44.96' | 14.3657° | 287°28.95' | S 26°53.86' | 2.6553' | 59.9146' | 45°13.92' | **04** |
| **05** | 255°22.82' | 15.0035° | 164°53.56' | N 6°26.78' | 0.9308' | 132°06.91' | 14.3659° | 288°09.47' | S 26°51.01' | 2.8495' | 59.9265' | 60°16.38' | **05** |
| **06** | 270°23.03' | 15.0035° | 164°55.82' | N 6°25.85' | 0.9309' | 146°28.88' | 14.3662° | 288°49.96' | S 26°47.97' | 3.0433' | 59.9382' | 75°18.84' | **06** |
| **07** | 285°23.24' | 15.0035° | 164°58.07' | N 6°24.92' | 0.9311' | 160°50.87' | 14.3665° | 289°30.43' | S 26°44.73' | 3.2368' | 59.9496' | 90°21.31' | **07** |
| **08** | 300°23.45' | 15.0035° | 165°00.32' | N 6°23.99' | 0.9313' | 175°12.88' | 14.3668° | 290°10.89' | S 26°41.30' | 3.4300' | 59.9608' | 105°23.77' | **08** |
| **09** | 315°23.66' | 15.0035° | 165°02.57' | N 6°23.06' | 0.9315' | 189°34.92' | 14.3673° | 290°51.32' | S 26°37.68' | 3.6226' | 59.9716' | 120°26.24' | **09** |
| **10** | 330°23.88' | 15.0035° | 165°04.82' | N 6°22.13' | 0.9317' | 203°56.98' | 14.3677° | 291°31.72' | S 26°33.87' | 3.8148' | 59.9822' | 135°28.70' | **10** |
| **11** | 345°24.09' | 15.0035° | 165°07.08' | N 6°21.20' | 0.9318' | 218°19.07' | 14.3682° | 292°12.09' | S 26°29.86' | 4.0065' | 59.9925' | 150°31.16' | **11** |
| **12** | 0°24.30' | 15.0035° | 165°09.33' | N 6°20.26' | 0.9320' | 232°41.19' | 14.3687° | 292°52.43' | S 26°25.66' | 4.1976' | 60.0026' | 165°33.63' | **12** |
| **13** | 15°24.51' | 15.0035° | 165°11.58' | N 6°19.33' | 0.9322' | 247°03.35' | 14.3693° | 293°32.74' | S 26°21.27' | 4.3880' | 60.0123' | 180°36.09' | **13** |
| **14** | 30°24.73' | 15.0035° | 165°13.83' | N 6°18.40' | 0.9324' | 261°25.54' | 14.3699° | 294°13.01' | S 26°16.70' | 4.5778' | 60.0218' | 195°38.56' | **14** |
| **15** | 45°24.94' | 15.0035° | 165°16.08' | N 6°17.47' | 0.9325' | 275°47.78' | 14.3705° | 294°53.24' | S 26°11.93' | 4.7669' | 60.0310' | 210°41.02' | **15** |
| **16** | 60°25.15' | 15.0035° | 165°18.33' | N 6°16.53' | 0.9327' | 290°10.05' | 14.3712° | 295°33.44' | S 26°06.97' | 4.9553' | 60.0399' | 225°43.49' | **16** |
| **17** | 75°25.37' | 15.0036° | 165°20.58' | N 6°15.60' | 0.9329' | 304°32.37' | 14.3719° | 296°13.58' | S 26°01.83' | 5.1429' | 60.0485' | 240°45.95' | **17** |
| **18** | 90°25.58' | 15.0036° | 165°22.83' | N 6°14.67' | 0.9331' | 318°54.73' | 14.3727° | 296°53.68' | S 25°56.50' | 5.3297' | 60.0568' | 255°48.41' | **18** |
| **19** | 105°25.79' | 15.0036° | 165°25.09' | N 6°13.74' | 0.9332' | 333°17.14' | 14.3735° | 297°33.74' | S 25°50.99' | 5.5156' | 60.0648' | 270°50.88' | **19** |
| **20** | 120°26.01' | 15.0036° | 165°27.34' | N 6°12.80' | 0.9334' | 347°39.60' | 14.3743° | 298°13.74' | S 25°45.29' | 5.7006' | 60.0725' | 285°53.34' | **20** |
| **21** | 135°26.22' | 15.0036° | 165°29.59' | N 6°11.87' | 0.9336' | 2°02.11' | 14.3752° | 298°53.69' | S 25°39.40' | 5.8846' | 60.0799' | 300°55.81' | **21** |
| **22** | 150°26.43' | 15.0036° | 165°31.84' | N 6°10.93' | 0.9338' | 16°24.68' | 14.3761° | 299°33.59' | S 25°33.33' | 6.0677' | 60.0869' | 315°58.27' | **22** |
| **23** | 165°26.65' | 15.0036° | 165°34.09' | N 6°10.00' | 0.9339' | 30°47.30' | 14.3771° | 300°13.43' | S 25°27.08' | 6.2497' | 60.0937' | 331°00.73' | **23** |
| **24** | 180°26.86' | 15.0036° | 165°36.34' | N 6°09.07' | 0.9341' | 45°09.99' | 14.3780° | 300°53.21' | S 25°20.65' | 6.4307' | 60.1001' | 346°03.20' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8669' | hp (π) 0.1454' | ½Ø 16.3495' | 79.7598584345485<br>2% +gib |
| | EoT at 12:00 UTC : +1m 37s (δ 0.85 s/h) | | Phase at 12:00 UTC : 126.55° | |
| | Meridian Pass. Time : 11:58:22.793 | | Age : 9.8 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.16') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 191°33.40' | 153°30.66' | N 12°14.98' | 277°22.68' | 67°41.38' | N 20°37.16' | 338°37.29' | 6°26.76' | N 1°03.35' | 21°55.87' | 323°08.18' | S 15°58.31' | **00** |
| **01** | 206°32.89' | 153°33.63' | N 12°13.93' | 292°23.80' | 67°42.72' | N 20°37.39' | 353°40.02' | 6°26.51' | N 1°03.23' | 36°58.50' | 323°08.02' | S 15°58.36' | **01** |
| **02** | 221°32.38' | 153°36.61' | N 12°12.87' | 307°24.92' | 67°44.07' | N 20°37.63' | 8°42.74' | 6°26.25' | N 1°03.11' | 52°01.12' | 323°07.86' | S 15°58.41' | **02** |
| **03** | 236°31.87' | 153°39.58' | N 12°11.82' | 322°26.04' | 67°45.41' | N 20°37.87' | 23°45.46' | 6°25.99' | N 1°02.99' | 67°03.75' | 323°07.70' | S 15°58.47' | **03** |
| **04** | 251°31.36' | 153°42.55' | N 12°10.77' | 337°27.16' | 67°46.76' | N 20°38.11' | 38°48.18' | 6°25.74' | N 1°02.87' | 82°06.37' | 323°07.54' | S 15°58.52' | **04** |
| **05** | 266°30.85' | 153°45.53' | N 12°09.71' | 352°28.28' | 67°48.10' | N 20°38.34' | 53°50.90' | 6°25.48' | N 1°02.76' | 97°09.00' | 323°07.38' | S 15°58.57' | **05** |
| **06** | 281°30.34' | 153°48.50' | N 12°08.66' | 7°29.40' | 67°49.44' | N 20°38.58' | 68°53.62' | 6°25.22' | N 1°02.64' | 112°11.62' | 323°07.22' | S 15°58.62' | **06** |
| **07** | 296°29.83' | 153°51.47' | N 12°07.60' | 22°30.53' | 67°50.78' | N 20°38.82' | 83°56.35' | 6°24.96' | N 1°02.52' | 127°14.25' | 323°07.06' | S 15°58.68' | **07** |
| **08** | 311°29.33' | 153°54.45' | N 12°06.55' | 37°31.65' | 67°52.12' | N 20°39.06' | 98°59.07' | 6°24.70' | N 1°02.40' | 142°16.87' | 323°06.90' | S 15°58.73' | **08** |
| **09** | 326°28.82' | 153°57.42' | N 12°05.49' | 52°32.77' | 67°53.46' | N 20°39.29' | 114°01.79' | 6°24.45' | N 1°02.28' | 157°19.50' | 323°06.74' | S 15°58.78' | **09** |
| **10** | 341°28.31' | 154°00.39' | N 12°04.43' | 67°33.90' | 67°54.80' | N 20°39.53' | 129°04.51' | 6°24.19' | N 1°02.16' | 172°22.12' | 323°06.58' | S 15°58.83' | **10** |
| **11** | 356°27.80' | 154°03.36' | N 12°03.38' | 82°35.02' | 67°56.14' | N 20°39.76' | 144°07.24' | 6°23.93' | N 1°02.05' | 187°24.75' | 323°06.42' | S 15°58.89' | **11** |
| **12** | 11°27.30' | 154°06.33' | N 12°02.32' | 97°36.15' | 67°57.48' | N 20°40.00' | 159°09.96' | 6°23.67' | N 1°01.93' | 202°27.37' | 323°06.26' | S 15°58.94' | **12** |
| **13** | 26°26.79' | 154°09.30' | N 12°01.26' | 112°37.27' | 67°58.82' | N 20°40.24' | 174°12.68' | 6°23.41' | N 1°01.81' | 217°30.00' | 323°06.10' | S 15°58.99' | **13** |
| **14** | 41°26.29' | 154°12.27' | N 12°00.20' | 127°38.40' | 68°00.16' | N 20°40.47' | 189°15.41' | 6°23.15' | N 1°01.69' | 232°32.62' | 323°05.94' | S 15°59.04' | **14** |
| **15** | 56°25.78' | 154°15.24' | N 11°59.14' | 142°39.52' | 68°01.50' | N 20°40.71' | 204°18.13' | 6°22.89' | N 1°01.57' | 247°35.25' | 323°05.78' | S 15°59.10' | **15** |
| **16** | 71°25.27' | 154°18.21' | N 11°58.08' | 157°40.65' | 68°02.84' | N 20°40.94' | 219°20.85' | 6°22.63' | N 1°01.45' | 262°37.87' | 323°05.62' | S 15°59.15' | **16** |
| **17** | 86°24.77' | 154°21.18' | N 11°57.02' | 172°41.78' | 68°04.17' | N 20°41.18' | 234°23.58' | 6°22.37' | N 1°01.33' | 277°40.49' | 323°05.46' | S 15°59.20' | **17** |
| **18** | 101°24.27' | 154°24.15' | N 11°55.96' | 187°42.91' | 68°05.51' | N 20°41.41' | 249°26.30' | 6°22.11' | N 1°01.21' | 292°43.12' | 323°05.30' | S 15°59.25' | **18** |
| **19** | 116°23.76' | 154°27.12' | N 11°54.90' | 202°44.03' | 68°06.84' | N 20°41.65' | 264°29.02' | 6°21.85' | N 1°01.09' | 307°45.74' | 323°05.14' | S 15°59.31' | **19** |
| **20** | 131°23.26' | 154°30.08' | N 11°53.83' | 217°45.16' | 68°08.18' | N 20°41.88' | 279°31.75' | 6°21.59' | N 1°00.98' | 322°48.37' | 323°04.98' | S 15°59.36' | **20** |
| **21** | 146°22.75' | 154°33.05' | N 11°52.77' | 232°46.29' | 68°09.51' | N 20°42.11' | 294°34.47' | 6°21.33' | N 1°00.86' | 337°50.99' | 323°04.82' | S 15°59.41' | **21** |
| **22** | 161°22.25' | 154°36.02' | N 11°51.71' | 247°47.42' | 68°10.85' | N 20°42.35' | 309°37.20' | 6°21.07' | N 1°00.74' | 352°53.61' | 323°04.66' | S 15°59.46' | **22** |
| **23** | 176°21.75' | 154°38.99' | N 11°50.64' | 262°48.55' | 68°12.18' | N 20°42.58' | 324°39.92' | 6°20.81' | N 1°00.62' | 7°56.24' | 323°04.50' | S 15°59.52' | **23** |
| **24** | 191°21.25' | 154°41.95' | N 11°49.58' | 277°49.68' | 68°13.52' | N 20°42.81' | 339°42.65' | 6°20.55' | N 1°00.50' | 22°58.86' | 323°04.34' | S 15°59.57' | **24** |
| | δ 14.9915° | | *d* 1.0516' | δ 15.0187° | | *d* 0.2384' | δ 15.0453° | | *d* 0.1179' | δ 15.0438° | | *d* 0.0529' | |

## *Wednesday, September 7th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°26.86' | 15.0036° | 165°36.34' | N 6°09.07' | 0.9341' | 45°09.99' | 14.3780° | 300°53.21' | S 25°20.65' | 6.4307' | 60.1001' | 346°03.20' | **00** |
| **01** | 195°27.07' | 15.0036° | 165°38.59' | N 6°08.13' | 0.9343' | 59°32.73' | 14.3790° | 301°32.94' | S 25°14.04' | 6.6107' | 60.1062' | 1°05.66' | **01** |
| **02** | 210°27.29' | 15.0036° | 165°40.84' | N 6°07.20' | 0.9345' | 73°55.53' | 14.3801° | 302°12.59' | S 25°07.25' | 6.7894' | 60.1120' | 16°08.13' | **02** |
| **03** | 225°27.50' | 15.0036° | 165°43.09' | N 6°06.26' | 0.9346' | 88°18.40' | 14.3812° | 302°52.19' | S 25°00.29' | 6.9671' | 60.1175' | 31°10.59' | **03** |
| **04** | 240°27.71' | 15.0036° | 165°45.34' | N 6°05.33' | 0.9348' | 102°41.34' | 14.3823° | 303°31.72' | S 24°53.14' | 7.1435' | 60.1227' | 46°13.06' | **04** |
| **05** | 255°27.93' | 15.0036° | 165°47.59' | N 6°04.39' | 0.9350' | 117°04.34' | 14.3834° | 304°11.18' | S 24°45.82' | 7.3187' | 60.1275' | 61°15.52' | **05** |
| **06** | 270°28.14' | 15.0036° | 165°49.84' | N 6°03.46' | 0.9351' | 131°27.41' | 14.3845° | 304°50.57' | S 24°38.33' | 7.4926' | 60.1320' | 76°17.98' | **06** |
| **07** | 285°28.36' | 15.0036° | 165°52.09' | N 6°02.52' | 0.9353' | 145°50.56' | 14.3857° | 305°29.89' | S 24°30.67' | 7.6652' | 60.1361' | 91°20.45' | **07** |
| **08** | 300°28.57' | 15.0036° | 165°54.34' | N 6°01.59' | 0.9355' | 160°13.77' | 14.3869° | 306°09.14' | S 24°22.83' | 7.8365' | 60.1399' | 106°22.91' | **08** |
| **09** | 315°28.79' | 15.0036° | 165°56.59' | N 6°00.65' | 0.9356' | 174°37.06' | 14.3882° | 306°48.31' | S 24°14.82' | 8.0064' | 60.1434' | 121°25.38' | **09** |
| **10** | 330°29.00' | 15.0036° | 165°58.84' | N 5°59.72' | 0.9358' | 189°00.43' | 14.3895° | 307°27.41' | S 24°06.65' | 8.1750' | 60.1465' | 136°27.84' | **10** |
| **11** | 345°29.22' | 15.0036° | 166°01.09' | N 5°58.78' | 0.9360' | 203°23.88' | 14.3907° | 308°06.43' | S 23°58.31' | 8.3421' | 60.1493' | 151°30.30' | **11** |
| **12** | 0°29.43' | 15.0036° | 166°03.34' | N 5°57.84' | 0.9361' | 217°47.40' | 14.3921° | 308°45.37' | S 23°49.80' | 8.5078' | 60.1517' | 166°32.77' | **12** |
| **13** | 15°29.64' | 15.0036° | 166°05.59' | N 5°56.91' | 0.9363' | 232°11.00' | 14.3934° | 309°24.23' | S 23°41.13' | 8.6720' | 60.1538' | 181°35.23' | **13** |
| **14** | 30°29.86' | 15.0036° | 166°07.84' | N 5°55.97' | 0.9365' | 246°34.69' | 14.3948° | 310°03.01' | S 23°32.29' | 8.8347' | 60.1556' | 196°37.70' | **14** |
| **15** | 45°30.07' | 15.0036° | 166°10.09' | N 5°55.03' | 0.9366' | 260°58.46' | 14.3961° | 310°41.70' | S 23°23.29' | 8.9959' | 60.1569' | 211°40.16' | **15** |
| **16** | 60°30.29' | 15.0036° | 166°12.34' | N 5°54.10' | 0.9368' | 275°22.31' | 14.3976° | 311°20.31' | S 23°14.14' | 9.1555' | 60.1580' | 226°42.63' | **16** |
| **17** | 75°30.51' | 15.0036° | 166°14.58' | N 5°53.16' | 0.9370' | 289°46.25' | 14.3990° | 311°58.84' | S 23°04.83' | 9.3135' | 60.1586' | 241°45.09' | **17** |
| **18** | 90°30.72' | 15.0036° | 166°16.83' | N 5°52.22' | 0.9371' | 304°10.28' | 14.4004° | 312°37.28' | S 22°55.36' | 9.4700' | 60.1589' | 256°47.55' | **18** |
| **19** | 105°30.94' | 15.0036° | 166°19.08' | N 5°51.29' | 0.9373' | 318°34.39' | 14.4019° | 313°15.63' | S 22°45.73' | 9.6248' | 60.1589' | 271°50.02' | **19** |
| **20** | 120°31.15' | 15.0036° | 166°21.33' | N 5°50.35' | 0.9375' | 332°58.59' | 14.4034° | 313°53.89' | S 22°35.95' | 9.7779' | 60.1585' | 286°52.48' | **20** |
| **21** | 135°31.37' | 15.0036° | 166°23.58' | N 5°49.41' | 0.9376' | 347°22.88' | 14.4048° | 314°32.07' | S 22°26.02' | 9.9294' | 60.1577' | 301°54.95' | **21** |
| **22** | 150°31.58' | 15.0036° | 166°25.83' | N 5°48.47' | 0.9378' | 1°47.26' | 14.4064° | 315°10.15' | S 22°15.94' | 10.0792' | 60.1565' | 316°57.41' | **22** |
| **23** | 165°31.80' | 15.0036° | 166°28.08' | N 5°47.54' | 0.9380' | 16°11.73' | 14.4079° | 315°48.14' | S 22°05.72' | 10.2273' | 60.1550' | 331°59.87' | **23** |
| **24** | 180°32.01' | 15.0036° | 166°30.33' | N 5°46.60' | 0.9381' | 30°36.30' | 14.4094° | 316°26.04' | S 21°55.34' | 10.3736' | 60.1531' | 347°02.34' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8710' | hp (π) 0.1454' | ½Ø 16.3902' | 88.3350980895656 9% +gib |
| | EoT at 12:00 UTC : +1m 57s (δ 0.86 s/h) | | Phase at 12:00 UTC : 140.23° | |
| | Meridian Pass. Time : 11:58:02.279 | | Age : 10.9 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.16') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 191°21.25' | 154°41.95' | N 11°49.58' | 277°49.68' | 68°13.52' | N 20°42.81' | 339°42.65' | 6°20.55' | N 1°00.50' | 22°58.86' | 323°04.34' | S 15°59.57' | **00** |
| **01** | 206°20.74' | 154°44.92' | N 11°48.51' | 292°50.81' | 68°14.85' | N 20°43.05' | 354°45.37' | 6°20.29' | N 1°00.38' | 38°01.48' | 323°04.18' | S 15°59.62' | **01** |
| **02** | 221°20.24' | 154°47.88' | N 11°47.45' | 307°51.95' | 68°16.18' | N 20°43.28' | 9°48.10' | 6°20.03' | N 1°00.26' | 53°04.11' | 323°04.02' | S 15°59.67' | **02** |
| **03** | 236°19.74' | 154°50.85' | N 11°46.38' | 322°53.08' | 68°17.51' | N 20°43.51' | 24°50.83' | 6°19.77' | N 1°00.14' | 68°06.73' | 323°03.86' | S 15°59.72' | **03** |
| **04** | 251°19.24' | 154°53.82' | N 11°45.31' | 337°54.21' | 68°18.84' | N 20°43.74' | 39°53.55' | 6°19.50' | N 1°00.02' | 83°09.35' | 323°03.70' | S 15°59.78' | **04** |
| **05** | 266°18.74' | 154°56.78' | N 11°44.24' | 352°55.35' | 68°20.17' | N 20°43.98' | 54°56.28' | 6°19.24' | N 0°59.90' | 98°11.98' | 323°03.54' | S 15°59.83' | **05** |
| **06** | 281°18.24' | 154°59.74' | N 11°43.18' | 7°56.48' | 68°21.50' | N 20°44.21' | 69°59.00' | 6°18.98' | N 0°59.78' | 113°14.60' | 323°03.39' | S 15°59.88' | **06** |
| **07** | 296°17.74' | 155°02.71' | N 11°42.11' | 22°57.61' | 68°22.83' | N 20°44.44' | 85°01.73' | 6°18.72' | N 0°59.66' | 128°17.22' | 323°03.23' | S 15°59.93' | **07** |
| **08** | 311°17.24' | 155°05.67' | N 11°41.04' | 37°58.75' | 68°24.16' | N 20°44.67' | 100°04.46' | 6°18.46' | N 0°59.54' | 143°19.84' | 323°03.07' | S 15°59.98' | **08** |
| **09** | 326°16.74' | 155°08.64' | N 11°39.97' | 52°59.88' | 68°25.49' | N 20°44.90' | 115°07.18' | 6°18.19' | N 0°59.42' | 158°22.47' | 323°02.91' | S 16°00.04' | **09** |
| **10** | 341°16.24' | 155°11.60' | N 11°38.90' | 68°01.02' | 68°26.82' | N 20°45.13' | 130°09.91' | 6°17.93' | N 0°59.30' | 173°25.09' | 323°02.75' | S 16°00.09' | **10** |
| **11** | 356°15.74' | 155°14.56' | N 11°37.83' | 83°02.16' | 68°28.15' | N 20°45.36' | 145°12.64' | 6°17.67' | N 0°59.18' | 188°27.71' | 323°02.59' | S 16°00.14' | **11** |
| **12** | 11°15.25' | 155°17.52' | N 11°36.75' | 98°03.29' | 68°29.48' | N 20°45.59' | 160°15.37' | 6°17.40' | N 0°59.06' | 203°30.33' | 323°02.43' | S 16°00.19' | **12** |
| **13** | 26°14.75' | 155°20.49' | N 11°35.68' | 113°04.43' | 68°30.80' | N 20°45.83' | 175°18.09' | 6°17.14' | N 0°58.94' | 218°32.96' | 323°02.28' | S 16°00.24' | **13** |
| **14** | 41°14.25' | 155°23.45' | N 11°34.61' | 128°05.57' | 68°32.13' | N 20°46.06' | 190°20.82' | 6°16.88' | N 0°58.82' | 233°35.58' | 323°02.12' | S 16°00.29' | **14** |
| **15** | 56°13.75' | 155°26.41' | N 11°33.53' | 143°06.71' | 68°33.45' | N 20°46.29' | 205°23.55' | 6°16.61' | N 0°58.70' | 248°38.20' | 323°01.96' | S 16°00.35' | **15** |
| **16** | 71°13.26' | 155°29.37' | N 11°32.46' | 158°07.85' | 68°34.78' | N 20°46.51' | 220°26.28' | 6°16.35' | N 0°58.58' | 263°40.82' | 323°01.80' | S 16°00.40' | **16** |
| **17** | 86°12.76' | 155°32.33' | N 11°31.39' | 173°08.99' | 68°36.10' | N 20°46.74' | 235°29.00' | 6°16.09' | N 0°58.46' | 278°43.44' | 323°01.64' | S 16°00.45' | **17** |
| **18** | 101°12.26' | 155°35.29' | N 11°30.31' | 188°10.13' | 68°37.43' | N 20°46.97' | 250°31.73' | 6°15.82' | N 0°58.34' | 293°46.07' | 323°01.49' | S 16°00.50' | **18** |
| **19** | 116°11.77' | 155°38.25' | N 11°29.24' | 203°11.27' | 68°38.75' | N 20°47.20' | 265°34.46' | 6°15.56' | N 0°58.22' | 308°48.69' | 323°01.33' | S 16°00.55' | **19** |
| **20** | 131°11.27' | 155°41.21' | N 11°28.16' | 218°12.41' | 68°40.07' | N 20°47.43' | 280°37.19' | 6°15.29' | N 0°58.10' | 323°51.31' | 323°01.17' | S 16°00.60' | **20** |
| **21** | 146°10.78' | 155°44.17' | N 11°27.08' | 233°13.55' | 68°41.40' | N 20°47.66' | 295°39.92' | 6°15.03' | N 0°57.98' | 338°53.93' | 323°01.01' | S 16°00.65' | **21** |
| **22** | 161°10.28' | 155°47.13' | N 11°26.00' | 248°14.69' | 68°42.72' | N 20°47.89' | 310°42.65' | 6°14.76' | N 0°57.85' | 353°56.55' | 323°00.86' | S 16°00.71' | **22** |
| **23** | 176°09.79' | 155°50.08' | N 11°24.93' | 263°15.83' | 68°44.04' | N 20°48.12' | 325°45.38' | 6°14.50' | N 0°57.73' | 8°59.17' | 323°00.70' | S 16°00.76' | **23** |
| **24** | 191°09.30' | 155°53.04' | N 11°23.85' | 278°16.98' | 68°45.36' | N 20°48.34' | 340°48.11' | 6°14.23' | N 0°57.61' | 24°01.80' | 323°00.54' | S 16°00.81' | **24** |
| | δ 14.9916° | | *d* 1.0655' | δ 15.0189° | | *d* 0.2330' | δ 15.0454° | | *d* 0.1195' | δ 15.0437° | | *d* 0.0521' | |

## *Thursday, September 8th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°32.01' | 15.0036° | 166°30.33' | N 5°46.60' | 0.9381' | 30°36.30' | 14.4094° | 316°26.04' | S 21°55.34' | 10.3736' | 60.1531' | 347°02.34' | **00** |
| **01** | 195°32.23' | 15.0036° | 166°32.57' | N 5°45.66' | 0.9383' | 45°00.96' | 14.4110° | 317°03.85' | S 21°44.83' | 10.5183' | 60.1509' | 2°04.80' | **01** |
| **02** | 210°32.44' | 15.0036° | 166°34.82' | N 5°44.72' | 0.9385' | 59°25.71' | 14.4125° | 317°41.56' | S 21°34.16' | 10.6611' | 60.1482' | 17°07.27' | **02** |
| **03** | 225°32.66' | 15.0036° | 166°37.07' | N 5°43.78' | 0.9386' | 73°50.55' | 14.4141° | 318°19.18' | S 21°23.36' | 10.8022' | 60.1452' | 32°09.73' | **03** |
| **04** | 240°32.88' | 15.0036° | 166°39.32' | N 5°42.84' | 0.9388' | 88°15.49' | 14.4157° | 318°56.70' | S 21°12.42' | 10.9414' | 60.1418' | 47°12.19' | **04** |
| **05** | 255°33.09' | 15.0036° | 166°41.57' | N 5°41.90' | 0.9389' | 102°40.53' | 14.4173° | 319°34.13' | S 21°01.34' | 11.0789' | 60.1381' | 62°14.66' | **05** |
| **06** | 270°33.31' | 15.0036° | 166°43.81' | N 5°40.97' | 0.9391' | 117°05.66' | 14.4189° | 320°11.46' | S 20°50.13' | 11.2145' | 60.1340' | 77°17.12' | **06** |
| **07** | 285°33.53' | 15.0036° | 166°46.06' | N 5°40.03' | 0.9393' | 131°30.89' | 14.4205° | 320°48.70' | S 20°38.78' | 11.3483' | 60.1294' | 92°19.59' | **07** |
| **08** | 300°33.74' | 15.0036° | 166°48.31' | N 5°39.09' | 0.9394' | 145°56.21' | 14.4221° | 321°25.84' | S 20°27.30' | 11.4803' | 60.1246' | 107°22.05' | **08** |
| **09** | 315°33.96' | 15.0036° | 166°50.56' | N 5°38.15' | 0.9396' | 160°21.63' | 14.4237° | 322°02.88' | S 20°15.69' | 11.6103' | 60.1193' | 122°24.52' | **09** |
| **10** | 330°34.17' | 15.0036° | 166°52.80' | N 5°37.21' | 0.9398' | 174°47.15' | 14.4253° | 322°39.83' | S 20°03.95' | 11.7385' | 60.1136' | 137°26.98' | **10** |
| **11** | 345°34.39' | 15.0036° | 166°55.05' | N 5°36.27' | 0.9399' | 189°12.77' | 14.4269° | 323°16.68' | S 19°52.08' | 11.8649' | 60.1076' | 152°29.44' | **11** |
| **12** | 0°34.61' | 15.0036° | 166°57.30' | N 5°35.33' | 0.9401' | 203°38.48' | 14.4286° | 323°53.42' | S 19°40.10' | 11.9893' | 60.1012' | 167°31.91' | **12** |
| **13** | 15°34.82' | 15.0036° | 166°59.55' | N 5°34.39' | 0.9402' | 218°04.30' | 14.4302° | 324°30.08' | S 19°27.98' | 12.1118' | 60.0944' | 182°34.37' | **13** |
| **14** | 30°35.04' | 15.0036° | 167°01.79' | N 5°33.45' | 0.9404' | 232°30.21' | 14.4319° | 325°06.63' | S 19°15.75' | 12.2324' | 60.0872' | 197°36.84' | **14** |
| **15** | 45°35.26' | 15.0036° | 167°04.04' | N 5°32.51' | 0.9405' | 246°56.22' | 14.4335° | 325°43.08' | S 19°03.40' | 12.3511' | 60.0797' | 212°39.30' | **15** |
| **16** | 60°35.48' | 15.0036° | 167°06.29' | N 5°31.57' | 0.9407' | 261°22.32' | 14.4351° | 326°19.44' | S 18°50.93' | 12.4678' | 60.0717' | 227°41.76' | **16** |
| **17** | 75°35.69' | 15.0036° | 167°08.54' | N 5°30.62' | 0.9409' | 275°48.53' | 14.4368° | 326°55.70' | S 18°38.35' | 12.5827' | 60.0634' | 242°44.23' | **17** |
| **18** | 90°35.91' | 15.0036° | 167°10.78' | N 5°29.68' | 0.9410' | 290°14.84' | 14.4384° | 327°31.86' | S 18°25.65' | 12.6956' | 60.0547' | 257°46.69' | **18** |
| **19** | 105°36.13' | 15.0036° | 167°13.03' | N 5°28.74' | 0.9412' | 304°41.24' | 14.4400° | 328°07.92' | S 18°12.85' | 12.8065' | 60.0456' | 272°49.16' | **19** |
| **20** | 120°36.34' | 15.0036° | 167°15.28' | N 5°27.80' | 0.9413' | 319°07.74' | 14.4417° | 328°43.88' | S 17°59.93' | 12.9155' | 60.0361' | 287°51.62' | **20** |
| **21** | 135°36.56' | 15.0036° | 167°17.52' | N 5°26.86' | 0.9415' | 333°34.34' | 14.4433° | 329°19.75' | S 17°46.91' | 13.0225' | 60.0263' | 302°54.08' | **21** |
| **22** | 150°36.78' | 15.0036° | 167°19.77' | N 5°25.92' | 0.9416' | 348°01.03' | 14.4449° | 329°55.51' | S 17°33.78' | 13.1276' | 60.0160' | 317°56.55' | **22** |
| **23** | 165°37.00' | 15.0036° | 167°22.02' | N 5°24.98' | 0.9418' | 2°27.83' | 14.4466° | 330°31.18' | S 17°20.55' | 13.2308' | 60.0054' | 332°59.01' | **23** |
| **24** | 180°37.21' | 15.0036° | 167°24.26' | N 5°24.03' | 0.9420' | 16°54.72' | 14.4482° | 331°06.76' | S 17°07.22' | 13.3319' | 59.9944' | 348°01.48' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8750' | hp (π) 0.1455' | ½Ø 16.3764' | 94.7762227907180 5% +gib |
| | EoT at 12:00 UTC : +2m 18s (δ 0.87 s/h) | | Phase at 12:00 UTC : 153.97° | |
| | Meridian Pass. Time : 11:57:41.567 | | Age : 12.0 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.16') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 191°09.30' | 155°53.04' | N 11°23.85' | 278°16.98' | 68°45.36' | N 20°48.34' | 340°48.11' | 6°14.23' | N 0°57.61' | 24°01.80' | 323°00.54' | S 16°00.81' | **00** |
| **01** | 206°08.80' | 155°56.00' | N 11°22.77' | 293°18.12' | 68°46.68' | N 20°48.57' | 355°50.84' | 6°13.97' | N 0°57.49' | 39°04.42' | 323°00.39' | S 16°00.86' | **01** |
| **02** | 221°08.31' | 155°58.96' | N 11°21.69' | 308°19.27' | 68°48.00' | N 20°48.80' | 10°53.57' | 6°13.70' | N 0°57.37' | 54°07.04' | 323°00.23' | S 16°00.91' | **02** |
| **03** | 236°07.82' | 156°01.92' | N 11°20.61' | 323°20.41' | 68°49.32' | N 20°49.03' | 25°56.30' | 6°13.43' | N 0°57.25' | 69°09.66' | 323°00.07' | S 16°00.96' | **03** |
| **04** | 251°07.32' | 156°04.87' | N 11°19.53' | 338°21.56' | 68°50.64' | N 20°49.25' | 40°59.03' | 6°13.17' | N 0°57.13' | 84°12.28' | 322°59.91' | S 16°01.01' | **04** |
| **05** | 266°06.83' | 156°07.83' | N 11°18.45' | 353°22.70' | 68°51.96' | N 20°49.48' | 56°01.76' | 6°12.90' | N 0°57.01' | 99°14.90' | 322°59.76' | S 16°01.07' | **05** |
| **06** | 281°06.34' | 156°10.78' | N 11°17.37' | 8°23.85' | 68°53.28' | N 20°49.71' | 71°04.49' | 6°12.64' | N 0°56.88' | 114°17.52' | 322°59.60' | S 16°01.12' | **06** |
| **07** | 296°05.85' | 156°13.74' | N 11°16.28' | 23°24.99' | 68°54.59' | N 20°49.93' | 86°07.22' | 6°12.37' | N 0°56.76' | 129°20.14' | 322°59.44' | S 16°01.17' | **07** |
| **08** | 311°05.36' | 156°16.70' | N 11°15.20' | 38°26.14' | 68°55.91' | N 20°50.16' | 101°09.95' | 6°12.10' | N 0°56.64' | 144°22.76' | 322°59.29' | S 16°01.22' | **08** |
| **09** | 326°04.87' | 156°19.65' | N 11°14.12' | 53°27.29' | 68°57.23' | N 20°50.39' | 116°12.68' | 6°11.84' | N 0°56.52' | 159°25.38' | 322°59.13' | S 16°01.27' | **09** |
| **10** | 341°04.37' | 156°22.60' | N 11°13.03' | 68°28.44' | 68°58.54' | N 20°50.61' | 131°15.41' | 6°11.57' | N 0°56.40' | 174°28.00' | 322°58.98' | S 16°01.32' | **10** |
| **11** | 356°03.88' | 156°25.56' | N 11°11.95' | 83°29.59' | 68°59.86' | N 20°50.84' | 146°18.14' | 6°11.30' | N 0°56.28' | 189°30.62' | 322°58.82' | S 16°01.37' | **11** |
| **12** | 11°03.40' | 156°28.51' | N 11°10.86' | 98°30.74' | 69°01.17' | N 20°51.06' | 161°20.87' | 6°11.03' | N 0°56.16' | 204°33.25' | 322°58.66' | S 16°01.42' | **12** |
| **13** | 26°02.91' | 156°31.47' | N 11°09.78' | 113°31.89' | 69°02.49' | N 20°51.29' | 176°23.60' | 6°10.77' | N 0°56.03' | 219°35.87' | 322°58.51' | S 16°01.47' | **13** |
| **14** | 41°02.42' | 156°34.42' | N 11°08.69' | 128°33.04' | 69°03.80' | N 20°51.51' | 191°26.34' | 6°10.50' | N 0°55.91' | 234°38.49' | 322°58.35' | S 16°01.52' | **14** |
| **15** | 56°01.93' | 156°37.37' | N 11°07.61' | 143°34.19' | 69°05.11' | N 20°51.74' | 206°29.07' | 6°10.23' | N 0°55.79' | 249°41.11' | 322°58.19' | S 16°01.57' | **15** |
| **16** | 71°01.44' | 156°40.33' | N 11°06.52' | 158°35.34' | 69°06.43' | N 20°51.96' | 221°31.80' | 6°09.96' | N 0°55.67' | 264°43.73' | 322°58.04' | S 16°01.63' | **16** |
| **17** | 86°00.95' | 156°43.28' | N 11°05.43' | 173°36.49' | 69°07.74' | N 20°52.18' | 236°34.53' | 6°09.70' | N 0°55.55' | 279°46.34' | 322°57.88' | S 16°01.68' | **17** |
| **18** | 101°00.46' | 156°46.23' | N 11°04.34' | 188°37.64' | 69°09.05' | N 20°52.41' | 251°37.27' | 6°09.43' | N 0°55.42' | 294°48.96' | 322°57.73' | S 16°01.73' | **18** |
| **19** | 115°59.98' | 156°49.18' | N 11°03.25' | 203°38.80' | 69°10.36' | N 20°52.63' | 266°40.00' | 6°09.16' | N 0°55.30' | 309°51.58' | 322°57.57' | S 16°01.78' | **19** |
| **20** | 130°59.49' | 156°52.13' | N 11°02.17' | 218°39.95' | 69°11.67' | N 20°52.86' | 281°42.73' | 6°08.89' | N 0°55.18' | 324°54.20' | 322°57.42' | S 16°01.83' | **20** |
| **21** | 145°59.00' | 156°55.08' | N 11°01.08' | 233°41.10' | 69°12.98' | N 20°53.08' | 296°45.46' | 6°08.62' | N 0°55.06' | 339°56.82' | 322°57.26' | S 16°01.88' | **21** |
| **22** | 160°58.52' | 156°58.03' | N 10°59.99' | 248°42.26' | 69°14.29' | N 20°53.30' | 311°48.20' | 6°08.35' | N 0°54.93' | 354°59.44' | 322°57.11' | S 16°01.93' | **22** |
| **23** | 175°58.03' | 157°00.98' | N 10°58.89' | 263°43.41' | 69°15.60' | N 20°53.53' | 326°50.93' | 6°08.08' | N 0°54.81' | 10°02.06' | 322°56.95' | S 16°01.98' | **23** |
| **24** | 190°57.54' | 157°03.93' | N 10°57.80' | 278°44.57' | 69°16.91' | N 20°53.75' | 341°53.66' | 6°07.81' | N 0°54.69' | 25°04.68' | 322°56.80' | S 16°02.03' | **24** |
| | δ 14.9918° | | *d* 1.0790' | δ 15.0191° | | *d* 0.2277' | δ 15.0455° | | *d* 0.1211' | δ 15.0437° | | *d* 0.0513' | |

## *Friday, September 9th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°37.21' | 15.0036° | 167°24.26' | N 5°24.03' | 0.9420' | 16°54.72' | 14.4482° | 331°06.76' | S 17°07.22' | 13.3319' | 59.9944' | 348°01.48' | **00** |
| **01** | 195°37.43' | 15.0036° | 167°26.51' | N 5°23.09' | 0.9421' | 31°21.71' | 14.4498° | 331°42.23' | S 16°53.79' | 13.4312' | 59.9831' | 3°03.94' | **01** |
| **02** | 210°37.65' | 15.0036° | 167°28.76' | N 5°22.15' | 0.9423' | 45°48.79' | 14.4514° | 332°17.61' | S 16°40.26' | 13.5284' | 59.9713' | 18°06.41' | **02** |
| **03** | 225°37.87' | 15.0036° | 167°31.00' | N 5°21.21' | 0.9424' | 60°15.98' | 14.4530° | 332°52.89' | S 16°26.64' | 13.6237' | 59.9592' | 33°08.87' | **03** |
| **04** | 240°38.09' | 15.0036° | 167°33.25' | N 5°20.26' | 0.9426' | 74°43.25' | 14.4546° | 333°28.08' | S 16°12.92' | 13.7170' | 59.9466' | 48°11.33' | **04** |
| **05** | 255°38.30' | 15.0036° | 167°35.49' | N 5°19.32' | 0.9427' | 89°10.63' | 14.4562° | 334°03.17' | S 15°59.11' | 13.8084' | 59.9337' | 63°13.80' | **05** |
| **06** | 270°38.52' | 15.0036° | 167°37.74' | N 5°18.38' | 0.9429' | 103°38.09' | 14.4578° | 334°38.17' | S 15°45.21' | 13.8978' | 59.9205' | 78°16.26' | **06** |
| **07** | 285°38.74' | 15.0036° | 167°39.99' | N 5°17.44' | 0.9430' | 118°05.66' | 14.4594° | 335°13.07' | S 15°31.23' | 13.9852' | 59.9068' | 93°18.73' | **07** |
| **08** | 300°38.96' | 15.0036° | 167°42.23' | N 5°16.49' | 0.9432' | 132°33.31' | 14.4609° | 335°47.88' | S 15°17.16' | 14.0707' | 59.8928' | 108°21.19' | **08** |
| **09** | 315°39.18' | 15.0036° | 167°44.48' | N 5°15.55' | 0.9433' | 147°01.06' | 14.4625° | 336°22.59' | S 15°03.00' | 14.1543' | 59.8784' | 123°23.65' | **09** |
| **10** | 330°39.39' | 15.0036° | 167°46.72' | N 5°14.61' | 0.9435' | 161°28.90' | 14.4640° | 336°57.21' | S 14°48.77' | 14.2358' | 59.8637' | 138°26.12' | **10** |
| **11** | 345°39.61' | 15.0036° | 167°48.97' | N 5°13.66' | 0.9436' | 175°56.84' | 14.4656° | 337°31.74' | S 14°34.45' | 14.3155' | 59.8485' | 153°28.58' | **11** |
| **12** | 0°39.83' | 15.0036° | 167°51.22' | N 5°12.72' | 0.9438' | 190°24.86' | 14.4671° | 338°06.18' | S 14°20.06' | 14.3932' | 59.8330' | 168°31.05' | **12** |
| **13** | 15°40.05' | 15.0036° | 167°53.46' | N 5°11.77' | 0.9439' | 204°52.98' | 14.4686° | 338°40.53' | S 14°05.59' | 14.4689' | 59.8172' | 183°33.51' | **13** |
| **14** | 30°40.27' | 15.0036° | 167°55.71' | N 5°10.83' | 0.9441' | 219°21.19' | 14.4701° | 339°14.79' | S 13°51.05' | 14.5427' | 59.8009' | 198°35.97' | **14** |
| **15** | 45°40.49' | 15.0036° | 167°57.95' | N 5°09.89' | 0.9442' | 233°49.48' | 14.4716° | 339°48.95' | S 13°36.43' | 14.6146' | 59.7843' | 213°38.44' | **15** |
| **16** | 60°40.70' | 15.0036° | 168°00.20' | N 5°08.94' | 0.9444' | 248°17.87' | 14.4731° | 340°23.03' | S 13°21.75' | 14.6846' | 59.7674' | 228°40.90' | **16** |
| **17** | 75°40.92' | 15.0036° | 168°02.44' | N 5°08.00' | 0.9445' | 262°46.34' | 14.4746° | 340°57.02' | S 13°06.99' | 14.7527' | 59.7501' | 243°43.37' | **17** |
| **18** | 90°41.14' | 15.0036° | 168°04.69' | N 5°07.05' | 0.9447' | 277°14.90' | 14.4760° | 341°30.93' | S 12°52.18' | 14.8188' | 59.7324' | 258°45.83' | **18** |
| **19** | 105°41.36' | 15.0036° | 168°06.93' | N 5°06.11' | 0.9448' | 291°43.55' | 14.4775° | 342°04.74' | S 12°37.29' | 14.8830' | 59.7144' | 273°48.29' | **19** |
| **20** | 120°41.58' | 15.0036° | 168°09.18' | N 5°05.16' | 0.9450' | 306°12.28' | 14.4789° | 342°38.47' | S 12°22.35' | 14.9454' | 59.6960' | 288°50.76' | **20** |
| **21** | 135°41.80' | 15.0036° | 168°11.42' | N 5°04.22' | 0.9451' | 320°41.10' | 14.4803° | 343°12.12' | S 12°07.34' | 15.0058' | 59.6773' | 303°53.22' | **21** |
| **22** | 150°42.02' | 15.0037° | 168°13.67' | N 5°03.27' | 0.9453' | 335°10.00' | 14.4817° | 343°45.68' | S 11°52.28' | 15.0644' | 59.6582' | 318°55.69' | **22** |
| **23** | 165°42.24' | 15.0037° | 168°15.91' | N 5°02.33' | 0.9454' | 349°38.99' | 14.4831° | 344°19.16' | S 11°37.16' | 15.1210' | 59.6388' | 333°58.15' | **23** |
| **24** | 180°42.46' | 15.0037° | 168°18.16' | N 5°01.38' | 0.9456' | 4°08.05' | 14.4844° | 344°52.56' | S 11°21.98' | 15.1758' | 59.6190' | 349°00.61' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8791' | hp (π) 0.1455' | ½Ø 16.3033' | 98.6770624578460 6% +gib |
| | EoT at 12:00 UTC : +2m 39s (δ 0.87 s/h) | | Phase at 12:00 UTC : 167.64° | |
| | Meridian Pass. Time : 11:57:20.679 | | Age : 13.0 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.16') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 190°57.54' | 157°03.93' | N 10°57.80' | 278°44.57' | 69°16.91' | N 20°53.75' | 341°53.66' | 6°07.81' | N 0°54.69' | 25°04.68' | 322°56.80' | S 16°02.03' | **00** |
| **01** | 205°57.06' | 157°06.88' | N 10°56.71' | 293°45.73' | 69°18.22' | N 20°53.97' | 356°56.40' | 6°07.54' | N 0°54.57' | 40°07.30' | 322°56.64' | S 16°02.08' | **01** |
| **02** | 220°56.57' | 157°09.83' | N 10°55.62' | 308°46.88' | 69°19.52' | N 20°54.19' | 11°59.13' | 6°07.27' | N 0°54.44' | 55°09.92' | 322°56.49' | S 16°02.13' | **02** |
| **03** | 235°56.09' | 157°12.78' | N 10°54.53' | 323°48.04' | 69°20.83' | N 20°54.41' | 27°01.86' | 6°07.00' | N 0°54.32' | 70°12.54' | 322°56.33' | S 16°02.18' | **03** |
| **04** | 250°55.60' | 157°15.73' | N 10°53.43' | 338°49.20' | 69°22.14' | N 20°54.64' | 42°04.60' | 6°06.73' | N 0°54.20' | 85°15.16' | 322°56.18' | S 16°02.23' | **04** |
| **05** | 265°55.12' | 157°18.68' | N 10°52.34' | 353°50.36' | 69°23.44' | N 20°54.86' | 57°07.33' | 6°06.46' | N 0°54.08' | 100°17.78' | 322°56.02' | S 16°02.28' | **05** |
| **06** | 280°54.64' | 157°21.63' | N 10°51.24' | 8°51.51' | 69°24.75' | N 20°55.08' | 72°10.07' | 6°06.19' | N 0°53.95' | 115°20.39' | 322°55.87' | S 16°02.33' | **06** |
| **07** | 295°54.15' | 157°24.57' | N 10°50.15' | 23°52.67' | 69°26.05' | N 20°55.30' | 87°12.80' | 6°05.92' | N 0°53.83' | 130°23.01' | 322°55.71' | S 16°02.38' | **07** |
| **08** | 310°53.67' | 157°27.52' | N 10°49.05' | 38°53.83' | 69°27.36' | N 20°55.52' | 102°15.54' | 6°05.65' | N 0°53.71' | 145°25.63' | 322°55.56' | S 16°02.43' | **08** |
| **09** | 325°53.19' | 157°30.47' | N 10°47.96' | 53°54.99' | 69°28.66' | N 20°55.74' | 117°18.27' | 6°05.38' | N 0°53.58' | 160°28.25' | 322°55.40' | S 16°02.48' | **09** |
| **10** | 340°52.70' | 157°33.41' | N 10°46.86' | 68°56.15' | 69°29.96' | N 20°55.96' | 132°21.01' | 6°05.11' | N 0°53.46' | 175°30.87' | 322°55.25' | S 16°02.53' | **10** |
| **11** | 355°52.22' | 157°36.36' | N 10°45.76' | 83°57.32' | 69°31.27' | N 20°56.18' | 147°23.74' | 6°04.84' | N 0°53.34' | 190°33.49' | 322°55.10' | S 16°02.58' | **11** |
| **12** | 10°51.74' | 157°39.31' | N 10°44.66' | 98°58.48' | 69°32.57' | N 20°56.40' | 162°26.48' | 6°04.57' | N 0°53.21' | 205°36.10' | 322°54.94' | S 16°02.63' | **12** |
| **13** | 25°51.26' | 157°42.25' | N 10°43.57' | 113°59.64' | 69°33.87' | N 20°56.62' | 177°29.21' | 6°04.30' | N 0°53.09' | 220°38.72' | 322°54.79' | S 16°02.68' | **13** |
| **14** | 40°50.78' | 157°45.20' | N 10°42.47' | 129°00.80' | 69°35.17' | N 20°56.84' | 192°31.95' | 6°04.03' | N 0°52.97' | 235°41.34' | 322°54.63' | S 16°02.73' | **14** |
| **15** | 55°50.30' | 157°48.14' | N 10°41.37' | 144°01.97' | 69°36.47' | N 20°57.06' | 207°34.68' | 6°03.75' | N 0°52.84' | 250°43.96' | 322°54.48' | S 16°02.78' | **15** |
| **16** | 70°49.82' | 157°51.09' | N 10°40.27' | 159°03.13' | 69°37.77' | N 20°57.28' | 222°37.42' | 6°03.48' | N 0°52.72' | 265°46.58' | 322°54.33' | S 16°02.83' | **16** |
| **17** | 85°49.34' | 157°54.03' | N 10°39.17' | 174°04.30' | 69°39.07' | N 20°57.50' | 237°40.16' | 6°03.21' | N 0°52.60' | 280°49.19' | 322°54.17' | S 16°02.88' | **17** |
| **18** | 100°48.86' | 157°56.97' | N 10°38.07' | 189°05.46' | 69°40.37' | N 20°57.72' | 252°42.89' | 6°02.94' | N 0°52.47' | 295°51.81' | 322°54.02' | S 16°02.93' | **18** |
| **19** | 115°48.38' | 157°59.92' | N 10°36.97' | 204°06.63' | 69°41.67' | N 20°57.94' | 267°45.63' | 6°02.66' | N 0°52.35' | 310°54.43' | 322°53.87' | S 16°02.98' | **19** |
| **20** | 130°47.90' | 158°02.86' | N 10°35.86' | 219°07.79' | 69°42.96' | N 20°58.16' | 282°48.37' | 6°02.39' | N 0°52.23' | 325°57.04' | 322°53.71' | S 16°03.03' | **20** |
| **21** | 145°47.42' | 158°05.80' | N 10°34.76' | 234°08.96' | 69°44.26' | N 20°58.37' | 297°51.10' | 6°02.12' | N 0°52.10' | 340°59.66' | 322°53.56' | S 16°03.08' | **21** |
| **22** | 160°46.94' | 158°08.75' | N 10°33.66' | 249°10.13' | 69°45.56' | N 20°58.59' | 312°53.84' | 6°01.85' | N 0°51.98' | 356°02.28' | 322°53.41' | S 16°03.13' | **22** |
| **23** | 175°46.46' | 158°11.69' | N 10°32.56' | 264°11.30' | 69°46.85' | N 20°58.81' | 327°56.58' | 6°01.57' | N 0°51.86' | 11°04.90' | 322°53.25' | S 16°03.18' | **23** |
| **24** | 190°45.98' | 158°14.63' | N 10°31.45' | 279°12.47' | 69°48.15' | N 20°59.03' | 342°59.31' | 6°01.30' | N 0°51.73' | 26°07.51' | 322°53.10' | S 16°03.23' | **24** |
| | δ 14.9919° | | *d* 1.0920' | δ 15.0193° | | *d* 0.2225' | δ 15.0456° | | *d* 0.1226' | δ 15.0437° | | *d* 0.0505' | |

## *Saturday, September 10th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°42.46' | 15.0037° | 168°18.16' | N 5°01.38' | 0.9456' | 4°08.05' | 14.4844° | 344°52.56' | S 11°21.98' | 15.1758' | 59.6190' | 349°00.61' | **00** |
| **01** | 195°42.68' | 15.0037° | 168°20.40' | N 5°00.44' | 0.9457' | 18°37.20' | 14.4858° | 345°25.88' | S 11°06.75' | 15.2288' | 59.5989' | 4°03.08' | **01** |
| **02** | 210°42.89' | 15.0037° | 168°22.65' | N 4°59.49' | 0.9459' | 33°06.43' | 14.4871° | 345°59.11' | S 10°51.47' | 15.2799' | 59.5785' | 19°05.54' | **02** |
| **03** | 225°43.11' | 15.0037° | 168°24.89' | N 4°58.54' | 0.9460' | 47°35.74' | 14.4885° | 346°32.27' | S 10°36.14' | 15.3291' | 59.5577' | 34°08.01' | **03** |
| **04** | 240°43.33' | 15.0037° | 168°27.14' | N 4°57.60' | 0.9462' | 62°05.12' | 14.4898° | 347°05.35' | S 10°20.77' | 15.3766' | 59.5366' | 49°10.47' | **04** |
| **05** | 255°43.55' | 15.0037° | 168°29.38' | N 4°56.65' | 0.9463' | 76°34.59' | 14.4911° | 347°38.35' | S 10°05.34' | 15.4221' | 59.5152' | 64°12.93' | **05** |
| **06** | 270°43.77' | 15.0037° | 168°31.63' | N 4°55.70' | 0.9465' | 91°04.13' | 14.4923° | 348°11.27' | S 9°49.88' | 15.4659' | 59.4934' | 79°15.40' | **06** |
| **07** | 285°43.99' | 15.0037° | 168°33.87' | N 4°54.76' | 0.9466' | 105°33.74' | 14.4936° | 348°44.12' | S 9°34.37' | 15.5079' | 59.4713' | 94°17.86' | **07** |
| **08** | 300°44.21' | 15.0037° | 168°36.12' | N 4°53.81' | 0.9467' | 120°03.43' | 14.4948° | 349°16.89' | S 9°18.82' | 15.5481' | 59.4489' | 109°20.33' | **08** |
| **09** | 315°44.43' | 15.0037° | 168°38.36' | N 4°52.86' | 0.9469' | 134°33.20' | 14.4961° | 349°49.59' | S 9°03.24' | 15.5865' | 59.4262' | 124°22.79' | **09** |
| **10** | 330°44.65' | 15.0037° | 168°40.60' | N 4°51.92' | 0.9470' | 149°03.03' | 14.4973° | 350°22.22' | S 8°47.61' | 15.6231' | 59.4032' | 139°25.25' | **10** |
| **11** | 345°44.87' | 15.0037° | 168°42.85' | N 4°50.97' | 0.9472' | 163°32.94' | 14.4985° | 350°54.78' | S 8°31.95' | 15.6579' | 59.3798' | 154°27.72' | **11** |
| **12** | 0°45.09' | 15.0037° | 168°45.09' | N 4°50.02' | 0.9473' | 178°02.92' | 14.4996° | 351°27.26' | S 8°16.26' | 15.6910' | 59.3562' | 169°30.18' | **12** |
| **13** | 15°45.31' | 15.0037° | 168°47.34' | N 4°49.08' | 0.9475' | 192°32.97' | 14.5008° | 351°59.68' | S 8°00.54' | 15.7223' | 59.3322' | 184°32.65' | **13** |
| **14** | 30°45.53' | 15.0037° | 168°49.58' | N 4°48.13' | 0.9476' | 207°03.08' | 14.5019° | 352°32.03' | S 7°44.79' | 15.7519' | 59.3080' | 199°35.11' | **14** |
| **15** | 45°45.75' | 15.0037° | 168°51.82' | N 4°47.18' | 0.9477' | 221°33.27' | 14.5030° | 353°04.31' | S 7°29.01' | 15.7798' | 59.2834' | 214°37.58' | **15** |
| **16** | 60°45.97' | 15.0037° | 168°54.07' | N 4°46.23' | 0.9479' | 236°03.52' | 14.5042° | 353°36.52' | S 7°13.20' | 15.8060' | 59.2586' | 229°40.04' | **16** |
| **17** | 75°46.19' | 15.0037° | 168°56.31' | N 4°45.28' | 0.9480' | 250°33.83' | 14.5052° | 354°08.67' | S 6°57.37' | 15.8304' | 59.2335' | 244°42.50' | **17** |
| **18** | 90°46.41' | 15.0037° | 168°58.56' | N 4°44.34' | 0.9482' | 265°04.21' | 14.5063° | 354°40.76' | S 6°41.52' | 15.8532' | 59.2081' | 259°44.97' | **18** |
| **19** | 105°46.63' | 15.0037° | 169°00.80' | N 4°43.39' | 0.9483' | 279°34.65' | 14.5073° | 355°12.78' | S 6°25.65' | 15.8743' | 59.1824' | 274°47.43' | **19** |
| **20** | 120°46.85' | 15.0037° | 169°03.04' | N 4°42.44' | 0.9484' | 294°05.15' | 14.5084° | 355°44.74' | S 6°09.75' | 15.8937' | 59.1564' | 289°49.90' | **20** |
| **21** | 135°47.07' | 15.0037° | 169°05.29' | N 4°41.49' | 0.9486' | 308°35.71' | 14.5094° | 356°16.64' | S 5°53.84' | 15.9115' | 59.1302' | 304°52.36' | **21** |
| **22** | 150°47.29' | 15.0037° | 169°07.53' | N 4°40.54' | 0.9487' | 323°06.34' | 14.5104° | 356°48.49' | S 5°37.91' | 15.9276' | 59.1037' | 319°54.82' | **22** |
| **23** | 165°47.51' | 15.0037° | 169°09.77' | N 4°39.59' | 0.9489' | 337°37.02' | 14.5114° | 357°20.27' | S 5°21.97' | 15.9421' | 59.0770' | 334°57.29' | **23** |
| **24** | 180°47.73' | 15.0037° | 169°12.02' | N 4°38.64' | 0.9490' | 352°07.76' | 14.5123° | 357°51.99' | S 5°06.02' | 15.9549' | 59.0499' | 349°59.75' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8832' | hp (π) 0.1456' | ½Ø 16.1734' | 99.8559060965765 8% -gib |
| | EoT at 12:00 UTC : +3m 0s (δ 0.88 s/h) | | Phase at 12:00 UTC : 181.12° | |
| | Meridian Pass. Time : 11:56:59.638 | | Age : 14.1 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.16') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 190°45.98' | 158°14.63' | N 10°31.45' | 279°12.47' | 69°48.15' | N 20°59.03' | 342°59.31' | 6°01.30' | N 0°51.73' | 26°07.51' | 322°53.10' | S 16°03.23' | **00** |
| **01** | 205°45.51' | 158°17.57' | N 10°30.35' | 294°13.63' | 69°49.44' | N 20°59.25' | 358°02.05' | 6°01.03' | N 0°51.61' | 41°10.13' | 322°52.95' | S 16°03.28' | **01** |
| **02** | 220°45.03' | 158°20.51' | N 10°29.24' | 309°14.80' | 69°50.74' | N 20°59.46' | 13°04.79' | 6°00.75' | N 0°51.48' | 56°12.75' | 322°52.80' | S 16°03.33' | **02** |
| **03** | 235°44.55' | 158°23.46' | N 10°28.14' | 324°15.97' | 69°52.03' | N 20°59.68' | 28°07.53' | 6°00.48' | N 0°51.36' | 71°15.36' | 322°52.64' | S 16°03.38' | **03** |
| **04** | 250°44.07' | 158°26.40' | N 10°27.03' | 339°17.15' | 69°53.33' | N 20°59.90' | 43°10.27' | 6°00.20' | N 0°51.24' | 86°17.98' | 322°52.49' | S 16°03.43' | **04** |
| **05** | 265°43.60' | 158°29.34' | N 10°25.92' | 354°18.32' | 69°54.62' | N 21°00.11' | 58°13.00' | 5°59.93' | N 0°51.11' | 101°20.60' | 322°52.34' | S 16°03.48' | **05** |
| **06** | 280°43.12' | 158°32.28' | N 10°24.82' | 9°19.49' | 69°55.91' | N 21°00.33' | 73°15.74' | 5°59.66' | N 0°50.99' | 116°23.21' | 322°52.19' | S 16°03.53' | **06** |
| **07** | 295°42.65' | 158°35.22' | N 10°23.71' | 24°20.66' | 69°57.20' | N 21°00.54' | 88°18.48' | 5°59.38' | N 0°50.86' | 131°25.83' | 322°52.03' | S 16°03.58' | **07** |
| **08** | 310°42.17' | 158°38.16' | N 10°22.60' | 39°21.83' | 69°58.49' | N 21°00.76' | 103°21.22' | 5°59.11' | N 0°50.74' | 146°28.45' | 322°51.88' | S 16°03.63' | **08** |
| **09** | 325°41.70' | 158°41.09' | N 10°21.49' | 54°23.01' | 69°59.78' | N 21°00.98' | 118°23.96' | 5°58.83' | N 0°50.61' | 161°31.06' | 322°51.73' | S 16°03.68' | **09** |
| **10** | 340°41.22' | 158°44.03' | N 10°20.38' | 69°24.18' | 70°01.07' | N 21°01.19' | 133°26.70' | 5°58.56' | N 0°50.49' | 176°33.68' | 322°51.58' | S 16°03.73' | **10** |
| **11** | 355°40.75' | 158°46.97' | N 10°19.27' | 84°25.36' | 70°02.36' | N 21°01.41' | 148°29.44' | 5°58.28' | N 0°50.37' | 191°36.29' | 322°51.43' | S 16°03.77' | **11** |
| **12** | 10°40.27' | 158°49.91' | N 10°18.16' | 99°26.53' | 70°03.65' | N 21°01.62' | 163°32.17' | 5°58.01' | N 0°50.24' | 206°38.91' | 322°51.27' | S 16°03.82' | **12** |
| **13** | 25°39.80' | 158°52.85' | N 10°17.05' | 114°27.71' | 70°04.94' | N 21°01.84' | 178°34.91' | 5°57.73' | N 0°50.12' | 221°41.52' | 322°51.12' | S 16°03.87' | **13** |
| **14** | 40°39.33' | 158°55.79' | N 10°15.94' | 129°28.88' | 70°06.23' | N 21°02.05' | 193°37.65' | 5°57.46' | N 0°49.99' | 236°44.14' | 322°50.97' | S 16°03.92' | **14** |
| **15** | 55°38.85' | 158°58.72' | N 10°14.83' | 144°30.06' | 70°07.52' | N 21°02.27' | 208°40.39' | 5°57.18' | N 0°49.87' | 251°46.76' | 322°50.82' | S 16°03.97' | **15** |
| **16** | 70°38.38' | 159°01.66' | N 10°13.72' | 159°31.24' | 70°08.80' | N 21°02.48' | 223°43.13' | 5°56.91' | N 0°49.74' | 266°49.37' | 322°50.67' | S 16°04.02' | **16** |
| **17** | 85°37.91' | 159°04.60' | N 10°12.61' | 174°32.41' | 70°10.09' | N 21°02.69' | 238°45.87' | 5°56.63' | N 0°49.62' | 281°51.99' | 322°50.52' | S 16°04.07' | **17** |
| **18** | 100°37.43' | 159°07.53' | N 10°11.49' | 189°33.59' | 70°11.37' | N 21°02.91' | 253°48.61' | 5°56.35' | N 0°49.49' | 296°54.60' | 322°50.37' | S 16°04.12' | **18** |
| **19** | 115°36.96' | 159°10.47' | N 10°10.38' | 204°34.77' | 70°12.66' | N 21°03.12' | 268°51.35' | 5°56.08' | N 0°49.37' | 311°57.22' | 322°50.21' | S 16°04.17' | **19** |
| **20** | 130°36.49' | 159°13.40' | N 10°09.27' | 219°35.95' | 70°13.94' | N 21°03.33' | 283°54.09' | 5°55.80' | N 0°49.24' | 326°59.83' | 322°50.06' | S 16°04.22' | **20** |
| **21** | 145°36.02' | 159°16.34' | N 10°08.15' | 234°37.13' | 70°15.23' | N 21°03.55' | 298°56.83' | 5°55.52' | N 0°49.12' | 342°02.45' | 322°49.91' | S 16°04.26' | **21** |
| **22** | 160°35.55' | 159°19.27' | N 10°07.04' | 249°38.31' | 70°16.51' | N 21°03.76' | 313°59.58' | 5°55.25' | N 0°48.99' | 357°05.06' | 322°49.76' | S 16°04.31' | **22** |
| **23** | 175°35.08' | 159°22.21' | N 10°05.92' | 264°39.49' | 70°17.79' | N 21°03.97' | 329°02.32' | 5°54.97' | N 0°48.87' | 12°07.68' | 322°49.61' | S 16°04.36' | **23** |
| **24** | 190°34.61' | 159°25.14' | N 10°04.80' | 279°40.68' | 70°19.08' | N 21°04.19' | 344°05.06' | 5°54.69' | N 0°48.74' | 27°10.29' | 322°49.46' | S 16°04.41' | **24** |
| | δ 14.9920° | | *d* 1.1045' | δ 15.0195° | | *d* 0.2173' | δ 15.0456° | | *d* 0.1240' | δ 15.0436° | | *d* 0.0496' | |

## *Sunday, September 11th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°47.73' | 15.0037° | 169°12.02' | N 4°38.64' | 0.9490' | 352°07.76' | 14.5123° | 357°51.99' | S 5°06.02' | 15.9549' | 59.0499' | 349°59.75' | **00** |
| **01** | 195°47.95' | 15.0037° | 169°14.26' | N 4°37.70' | 0.9491' | 6°38.55' | 14.5132° | 358°23.66' | S 4°50.05' | 15.9662' | 59.0227' | 5°02.22' | **01** |
| **02** | 210°48.17' | 15.0037° | 169°16.51' | N 4°36.75' | 0.9493' | 21°09.40' | 14.5142° | 358°55.28' | S 4°34.07' | 15.9758' | 58.9951' | 20°04.68' | **02** |
| **03** | 225°48.39' | 15.0037° | 169°18.75' | N 4°35.80' | 0.9494' | 35°40.31' | 14.5151° | 359°26.84' | S 4°18.09' | 15.9839' | 58.9674' | 35°07.14' | **03** |
| **04** | 240°48.62' | 15.0037° | 169°20.99' | N 4°34.85' | 0.9496' | 50°11.26' | 14.5159° | 359°58.35' | S 4°02.10' | 15.9903' | 58.9393' | 50°09.61' | **04** |
| **05** | 255°48.84' | 15.0037° | 169°23.24' | N 4°33.90' | 0.9497' | 64°42.27' | 14.5168° | 0°29.80' | S 3°46.10' | 15.9953' | 58.9111' | 65°12.07' | **05** |
| **06** | 270°49.06' | 15.0037° | 169°25.48' | N 4°32.95' | 0.9498' | 79°13.33' | 14.5176° | 1°01.21' | S 3°30.11' | 15.9986' | 58.8826' | 80°14.54' | **06** |
| **07** | 285°49.28' | 15.0037° | 169°27.72' | N 4°32.00' | 0.9500' | 93°44.44' | 14.5185° | 1°32.56' | S 3°14.11' | 16.0005' | 58.8539' | 95°17.00' | **07** |
| **08** | 300°49.50' | 15.0037° | 169°29.96' | N 4°31.05' | 0.9501' | 108°15.59' | 14.5193° | 2°03.87' | S 2°58.10' | 16.0008' | 58.8249' | 110°19.46' | **08** |
| **09** | 315°49.72' | 15.0037° | 169°32.21' | N 4°30.10' | 0.9502' | 122°46.80' | 14.5201° | 2°35.13' | S 2°42.11' | 15.9995' | 58.7958' | 125°21.93' | **09** |
| **10** | 330°49.94' | 15.0037° | 169°34.45' | N 4°29.15' | 0.9504' | 137°18.05' | 14.5208° | 3°06.35' | S 2°26.11' | 15.9968' | 58.7664' | 140°24.39' | **10** |
| **11** | 345°50.16' | 15.0037° | 169°36.69' | N 4°28.20' | 0.9505' | 151°49.34' | 14.5216° | 3°37.51' | S 2°10.12' | 15.9926' | 58.7368' | 155°26.86' | **11** |
| **12** | 0°50.38' | 15.0037° | 169°38.94' | N 4°27.25' | 0.9506' | 166°20.68' | 14.5223° | 4°08.64' | S 1°54.13' | 15.9869' | 58.7070' | 170°29.32' | **12** |
| **13** | 15°50.60' | 15.0037° | 169°41.18' | N 4°26.29' | 0.9508' | 180°52.06' | 14.5230° | 4°39.72' | S 1°38.15' | 15.9797' | 58.6770' | 185°31.78' | **13** |
| **14** | 30°50.83' | 15.0037° | 169°43.42' | N 4°25.34' | 0.9509' | 195°23.48' | 14.5237° | 5°10.77' | S 1°22.18' | 15.9711' | 58.6469' | 200°34.25' | **14** |
| **15** | 45°51.05' | 15.0037° | 169°45.67' | N 4°24.39' | 0.9510' | 209°54.94' | 14.5244° | 5°41.77' | S 1°06.22' | 15.9610' | 58.6165' | 215°36.71' | **15** |
| **16** | 60°51.27' | 15.0037° | 169°47.91' | N 4°23.44' | 0.9512' | 224°26.44' | 14.5250° | 6°12.73' | S 0°50.27' | 15.9495' | 58.5859' | 230°39.18' | **16** |
| **17** | 75°51.49' | 15.0037° | 169°50.15' | N 4°22.49' | 0.9513' | 238°57.98' | 14.5257° | 6°43.66' | S 0°34.33' | 15.9366' | 58.5552' | 245°41.64' | **17** |
| **18** | 90°51.71' | 15.0037° | 169°52.39' | N 4°21.54' | 0.9514' | 253°29.56' | 14.5263° | 7°14.54' | S 0°18.41' | 15.9222' | 58.5243' | 260°44.10' | **18** |
| **19** | 105°51.93' | 15.0037° | 169°54.64' | N 4°20.59' | 0.9516' | 268°01.17' | 14.5269° | 7°45.40' | S 0°02.50' | 15.9065' | 58.4932' | 275°46.57' | **19** |
| **20** | 120°52.15' | 15.0037° | 169°56.88' | N 4°19.64' | 0.9517' | 282°32.82' | 14.5274° | 8°16.21' | N 0°13.39' | 15.8894' | 58.4619' | 290°49.03' | **20** |
| **21** | 135°52.37' | 15.0037° | 169°59.12' | N 4°18.68' | 0.9518' | 297°04.50' | 14.5280° | 8°47.00' | N 0°29.26' | 15.8709' | 58.4305' | 305°51.50' | **21** |
| **22** | 150°52.60' | 15.0037° | 170°01.36' | N 4°17.73' | 0.9520' | 311°36.21' | 14.5285° | 9°17.75' | N 0°45.11' | 15.8510' | 58.3989' | 320°53.96' | **22** |
| **23** | 165°52.82' | 15.0037° | 170°03.61' | N 4°16.78' | 0.9521' | 326°07.95' | 14.5291° | 9°48.47' | N 1°00.94' | 15.8298' | 58.3672' | 335°56.42' | **23** |
| **24** | 180°53.04' | 15.0037° | 170°05.85' | N 4°15.83' | 0.9522' | 340°39.73' | 14.5296° | 10°19.16' | N 1°16.75' | 15.8072' | 58.3353' | 350°58.89' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.8872' | hp (π) 0.1456' | ½Ø 15.9966' | 98.3725035175393 % -gib | |
| EoT at 12:00 UTC : +3m 21s (δ 0.88 s/h) | | Phase at 12:00 UTC : 194.31° | | |
| Meridian Pass. Time : 11:56:38.468 | | Age : 15.1 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.16') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 190°34.61' | 159°25.14' | N 10°04.80' | 279°40.68' | 70°19.08' | N 21°04.19' | 344°05.06' | 5°54.69' | N 0°48.74' | 27°10.29' | 322°49.46' | S 16°04.41' | **00** |
| **01** | 205°34.14' | 159°28.08' | N 10°03.69' | 294°41.86' | 70°20.36' | N 21°04.40' | 359°07.80' | 5°54.42' | N 0°48.62' | 42°12.91' | 322°49.31' | S 16°04.46' | **01** |
| **02** | 220°33.67' | 159°31.01' | N 10°02.57' | 309°43.04' | 70°21.64' | N 21°04.61' | 14°10.54' | 5°54.14' | N 0°48.49' | 57°15.52' | 322°49.16' | S 16°04.51' | **02** |
| **03** | 235°33.20' | 159°33.94' | N 10°01.45' | 324°44.22' | 70°22.92' | N 21°04.82' | 29°13.28' | 5°53.86' | N 0°48.37' | 72°18.13' | 322°49.01' | S 16°04.56' | **03** |
| **04** | 250°32.73' | 159°36.88' | N 10°00.34' | 339°45.41' | 70°24.20' | N 21°05.03' | 44°16.02' | 5°53.58' | N 0°48.24' | 87°20.75' | 322°48.86' | S 16°04.61' | **04** |
| **05** | 265°32.26' | 159°39.81' | N 9°59.22' | 354°46.59' | 70°25.48' | N 21°05.24' | 59°18.76' | 5°53.31' | N 0°48.11' | 102°23.36' | 322°48.71' | S 16°04.65' | **05** |
| **06** | 280°31.79' | 159°42.74' | N 9°58.10' | 9°47.78' | 70°26.76' | N 21°05.46' | 74°21.51' | 5°53.03' | N 0°47.99' | 117°25.98' | 322°48.56' | S 16°04.70' | **06** |
| **07** | 295°31.32' | 159°45.68' | N 9°56.98' | 24°48.96' | 70°28.04' | N 21°05.67' | 89°24.25' | 5°52.75' | N 0°47.86' | 132°28.59' | 322°48.41' | S 16°04.75' | **07** |
| **08** | 310°30.86' | 159°48.61' | N 9°55.86' | 39°50.15' | 70°29.31' | N 21°05.88' | 104°26.99' | 5°52.47' | N 0°47.74' | 147°31.20' | 322°48.26' | S 16°04.80' | **08** |
| **09** | 325°30.39' | 159°51.54' | N 9°54.74' | 54°51.34' | 70°30.59' | N 21°06.09' | 119°29.73' | 5°52.19' | N 0°47.61' | 162°33.82' | 322°48.11' | S 16°04.85' | **09** |
| **10** | 340°29.92' | 159°54.47' | N 9°53.62' | 69°52.52' | 70°31.87' | N 21°06.30' | 134°32.48' | 5°51.92' | N 0°47.49' | 177°36.43' | 322°47.96' | S 16°04.90' | **10** |
| **11** | 355°29.45' | 159°57.40' | N 9°52.50' | 84°53.71' | 70°33.14' | N 21°06.51' | 149°35.22' | 5°51.64' | N 0°47.36' | 192°39.04' | 322°47.81' | S 16°04.94' | **11** |
| **12** | 10°28.99' | 160°00.33' | N 9°51.38' | 99°54.90' | 70°34.42' | N 21°06.72' | 164°37.96' | 5°51.36' | N 0°47.23' | 207°41.66' | 322°47.66' | S 16°04.99' | **12** |
| **13** | 25°28.52' | 160°03.26' | N 9°50.25' | 114°56.09' | 70°35.69' | N 21°06.93' | 179°40.70' | 5°51.08' | N 0°47.11' | 222°44.27' | 322°47.51' | S 16°05.04' | **13** |
| **14** | 40°28.06' | 160°06.19' | N 9°49.13' | 129°57.28' | 70°36.97' | N 21°07.14' | 194°43.45' | 5°50.80' | N 0°46.98' | 237°46.88' | 322°47.36' | S 16°05.09' | **14** |
| **15** | 55°27.59' | 160°09.12' | N 9°48.01' | 144°58.47' | 70°38.24' | N 21°07.35' | 209°46.19' | 5°50.52' | N 0°46.86' | 252°49.50' | 322°47.21' | S 16°05.14' | **15** |
| **16** | 70°27.12' | 160°12.05' | N 9°46.88' | 159°59.66' | 70°39.52' | N 21°07.56' | 224°48.93' | 5°50.24' | N 0°46.73' | 267°52.11' | 322°47.06' | S 16°05.18' | **16** |
| **17** | 85°26.66' | 160°14.98' | N 9°45.76' | 175°00.85' | 70°40.79' | N 21°07.77' | 239°51.68' | 5°49.96' | N 0°46.60' | 282°54.72' | 322°46.92' | S 16°05.23' | **17** |
| **18** | 100°26.19' | 160°17.91' | N 9°44.63' | 190°02.04' | 70°42.06' | N 21°07.97' | 254°54.42' | 5°49.68' | N 0°46.48' | 297°57.34' | 322°46.77' | S 16°05.28' | **18** |
| **19** | 115°25.73' | 160°20.84' | N 9°43.51' | 205°03.24' | 70°43.33' | N 21°08.18' | 269°57.16' | 5°49.40' | N 0°46.35' | 312°59.95' | 322°46.62' | S 16°05.33' | **19** |
| **20** | 130°25.26' | 160°23.77' | N 9°42.38' | 220°04.43' | 70°44.60' | N 21°08.39' | 284°59.91' | 5°49.12' | N 0°46.23' | 328°02.56' | 322°46.47' | S 16°05.38' | **20** |
| **21** | 145°24.80' | 160°26.69' | N 9°41.26' | 235°05.62' | 70°45.87' | N 21°08.60' | 300°02.65' | 5°48.84' | N 0°46.10' | 343°05.17' | 322°46.32' | S 16°05.42' | **21** |
| **22** | 160°24.34' | 160°29.62' | N 9°40.13' | 250°06.82' | 70°47.14' | N 21°08.81' | 315°05.40' | 5°48.56' | N 0°45.97' | 358°07.79' | 322°46.17' | S 16°05.47' | **22** |
| **23** | 175°23.87' | 160°32.55' | N 9°39.00' | 265°08.01' | 70°48.41' | N 21°09.02' | 330°08.14' | 5°48.28' | N 0°45.85' | 13°10.40' | 322°46.02' | S 16°05.52' | **23** |
| **24** | 190°23.41' | 160°35.48' | N 9°37.88' | 280°09.21' | 70°49.68' | N 21°09.22' | 345°10.89' | 5°48.00' | N 0°45.72' | 28°13.01' | 322°45.88' | S 16°05.57' | **24** |
| | δ 14.9922° | | *d* 1.1165' | δ 15.0197° | | *d* 0.2123' | δ 15.0457° | | *d* 0.1253' | δ 15.0436° | | *d* 0.0487' | |

## *Monday, September 12th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°53.04' | 15.0037° | 170°05.85' | N 4°15.83' | 0.9522' | 340°39.73' | 14.5296° | 10°19.16' | N 1°16.75' | 15.8072' | 58.3353' | 350°58.89' | **00** |
| **01** | 195°53.26' | 15.0037° | 170°08.09' | N 4°14.88' | 0.9524' | 355°11.53' | 14.5300° | 10°49.82' | N 1°32.53' | 15.7834' | 58.3032' | 6°01.35' | **01** |
| **02** | 210°53.48' | 15.0037° | 170°10.33' | N 4°13.92' | 0.9525' | 9°43.36' | 14.5305° | 11°20.46' | N 1°48.29' | 15.7582' | 58.2711' | 21°03.82' | **02** |
| **03** | 225°53.70' | 15.0037° | 170°12.58' | N 4°12.97' | 0.9526' | 24°15.22' | 14.5310° | 11°51.06' | N 2°04.02' | 15.7317' | 58.2388' | 36°06.28' | **03** |
| **04** | 240°53.93' | 15.0037° | 170°14.82' | N 4°12.02' | 0.9527' | 38°47.10' | 14.5314° | 12°21.64' | N 2°19.72' | 15.7038' | 58.2064' | 51°08.74' | **04** |
| **05** | 255°54.15' | 15.0037° | 170°17.06' | N 4°11.06' | 0.9529' | 53°19.01' | 14.5318° | 12°52.20' | N 2°35.40' | 15.6748' | 58.1738' | 66°11.21' | **05** |
| **06** | 270°54.37' | 15.0037° | 170°19.30' | N 4°10.11' | 0.9530' | 67°50.94' | 14.5322° | 13°22.73' | N 2°51.04' | 15.6444' | 58.1412' | 81°13.67' | **06** |
| **07** | 285°54.59' | 15.0037° | 170°21.54' | N 4°09.16' | 0.9531' | 82°22.89' | 14.5326° | 13°53.24' | N 3°06.65' | 15.6128' | 58.1084' | 96°16.14' | **07** |
| **08** | 300°54.81' | 15.0037° | 170°23.79' | N 4°08.21' | 0.9533' | 96°54.87' | 14.5329° | 14°23.73' | N 3°22.23' | 15.5799' | 58.0755' | 111°18.60' | **08** |
| **09** | 315°55.04' | 15.0037° | 170°26.03' | N 4°07.25' | 0.9534' | 111°26.86' | 14.5333° | 14°54.20' | N 3°37.78' | 15.5458' | 58.0425' | 126°21.06' | **09** |
| **10** | 330°55.26' | 15.0037° | 170°28.27' | N 4°06.30' | 0.9535' | 125°58.88' | 14.5336° | 15°24.65' | N 3°53.29' | 15.5104' | 58.0095' | 141°23.53' | **10** |
| **11** | 345°55.48' | 15.0037° | 170°30.51' | N 4°05.34' | 0.9536' | 140°30.91' | 14.5339° | 15°55.08' | N 4°08.76' | 15.4739' | 57.9763' | 156°25.99' | **11** |
| **12** | 0°55.70' | 15.0037° | 170°32.75' | N 4°04.39' | 0.9538' | 155°02.96' | 14.5342° | 16°25.50' | N 4°24.20' | 15.4361' | 57.9430' | 171°28.46' | **12** |
| **13** | 15°55.92' | 15.0037° | 170°35.00' | N 4°03.44' | 0.9539' | 169°35.03' | 14.5344° | 16°55.89' | N 4°39.60' | 15.3971' | 57.9097' | 186°30.92' | **13** |
| **14** | 30°56.15' | 15.0037° | 170°37.24' | N 4°02.48' | 0.9540' | 184°07.11' | 14.5347° | 17°26.28' | N 4°54.96' | 15.3570' | 57.8763' | 201°33.38' | **14** |
| **15** | 45°56.37' | 15.0037° | 170°39.48' | N 4°01.53' | 0.9541' | 198°39.20' | 14.5349° | 17°56.65' | N 5°10.27' | 15.3157' | 57.8428' | 216°35.85' | **15** |
| **16** | 60°56.59' | 15.0037° | 170°41.72' | N 4°00.57' | 0.9543' | 213°11.31' | 14.5351° | 18°27.00' | N 5°25.54' | 15.2732' | 57.8092' | 231°38.31' | **16** |
| **17** | 75°56.81' | 15.0037° | 170°43.96' | N 3°59.62' | 0.9544' | 227°43.43' | 14.5353° | 18°57.35' | N 5°40.77' | 15.2295' | 57.7756' | 246°40.78' | **17** |
| **18** | 90°57.04' | 15.0037° | 170°46.21' | N 3°58.67' | 0.9545' | 242°15.56' | 14.5355° | 19°27.68' | N 5°55.96' | 15.1847' | 57.7419' | 261°43.24' | **18** |
| **19** | 105°57.26' | 15.0037° | 170°48.45' | N 3°57.71' | 0.9546' | 256°47.70' | 14.5357° | 19°58.01' | N 6°11.10' | 15.1388' | 57.7082' | 276°45.70' | **19** |
| **20** | 120°57.48' | 15.0037° | 170°50.69' | N 3°56.76' | 0.9548' | 271°19.84' | 14.5358° | 20°28.32' | N 6°26.19' | 15.0917' | 57.6744' | 291°48.17' | **20** |
| **21** | 135°57.70' | 15.0037° | 170°52.93' | N 3°55.80' | 0.9549' | 285°52.00' | 14.5359° | 20°58.63' | N 6°41.23' | 15.0435' | 57.6406' | 306°50.63' | **21** |
| **22** | 150°57.92' | 15.0037° | 170°55.17' | N 3°54.85' | 0.9550' | 300°24.16' | 14.5360° | 21°28.93' | N 6°56.23' | 14.9942' | 57.6068' | 321°53.10' | **22** |
| **23** | 165°58.15' | 15.0037° | 170°57.41' | N 3°53.89' | 0.9551' | 314°56.33' | 14.5361° | 21°59.23' | N 7°11.17' | 14.9438' | 57.5729' | 336°55.56' | **23** |
| **24** | 180°58.37' | 15.0037° | 170°59.66' | N 3°52.94' | 0.9553' | 329°28.51' | 14.5362° | 22°29.52' | N 7°26.06' | 14.8924' | 57.5390' | 351°58.02' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8914' | hp (π) 0.1456' | ½Ø 15.7884' | 94.493308307514% -gib |
| | EoT at 12:00 UTC : +3m 42s (δ 0.89 s/h) | | Phase at 12:00 UTC : 207.11° | |
| | Meridian Pass. Time : 11:56:17.192 | | Age : 16.1 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.16') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 190°23.41' | 160°35.48' | N 9°37.88' | 280°09.21' | 70°49.68' | N 21°09.22' | 345°10.89' | 5°48.00' | N 0°45.72' | 28°13.01' | 322°45.88' | S 16°05.57' | **00** |
| **01** | 205°22.95' | 160°38.40' | N 9°36.75' | 295°10.40' | 70°50.95' | N 21°09.43' | 0°13.63' | 5°47.72' | N 0°45.59' | 43°15.62' | 322°45.73' | S 16°05.62' | **01** |
| **02** | 220°22.49' | 160°41.33' | N 9°35.62' | 310°11.60' | 70°52.22' | N 21°09.64' | 15°16.37' | 5°47.44' | N 0°45.47' | 58°18.24' | 322°45.58' | S 16°05.66' | **02** |
| **03** | 235°22.02' | 160°44.26' | N 9°34.49' | 325°12.80' | 70°53.48' | N 21°09.84' | 30°19.12' | 5°47.16' | N 0°45.34' | 73°20.85' | 322°45.43' | S 16°05.71' | **03** |
| **04** | 250°21.56' | 160°47.18' | N 9°33.36' | 340°13.99' | 70°54.75' | N 21°10.05' | 45°21.86' | 5°46.88' | N 0°45.21' | 88°23.46' | 322°45.28' | S 16°05.76' | **04** |
| **05** | 265°21.10' | 160°50.11' | N 9°32.23' | 355°15.19' | 70°56.01' | N 21°10.26' | 60°24.61' | 5°46.60' | N 0°45.09' | 103°26.07' | 322°45.14' | S 16°05.81' | **05** |
| **06** | 280°20.64' | 160°53.03' | N 9°31.10' | 10°16.39' | 70°57.28' | N 21°10.46' | 75°27.36' | 5°46.32' | N 0°44.96' | 118°28.68' | 322°44.99' | S 16°05.85' | **06** |
| **07** | 295°20.18' | 160°55.96' | N 9°29.97' | 25°17.59' | 70°58.54' | N 21°10.67' | 90°30.10' | 5°46.04' | N 0°44.83' | 133°31.29' | 322°44.84' | S 16°05.90' | **07** |
| **08** | 310°19.72' | 160°58.88' | N 9°28.84' | 40°18.79' | 70°59.81' | N 21°10.88' | 105°32.85' | 5°45.75' | N 0°44.71' | 148°33.91' | 322°44.69' | S 16°05.95' | **08** |
| **09** | 325°19.26' | 161°01.81' | N 9°27.71' | 55°19.99' | 71°01.07' | N 21°11.08' | 120°35.59' | 5°45.47' | N 0°44.58' | 163°36.52' | 322°44.55' | S 16°06.00' | **09** |
| **10** | 340°18.80' | 161°04.73' | N 9°26.57' | 70°21.19' | 71°02.33' | N 21°11.29' | 135°38.34' | 5°45.19' | N 0°44.45' | 178°39.13' | 322°44.40' | S 16°06.04' | **10** |
| **11** | 355°18.34' | 161°07.66' | N 9°25.44' | 85°22.39' | 71°03.60' | N 21°11.49' | 150°41.08' | 5°44.91' | N 0°44.33' | 193°41.74' | 322°44.25' | S 16°06.09' | **11** |
| **12** | 10°17.88' | 161°10.58' | N 9°24.31' | 100°23.60' | 71°04.86' | N 21°11.70' | 165°43.83' | 5°44.63' | N 0°44.20' | 208°44.35' | 322°44.11' | S 16°06.14' | **12** |
| **13** | 25°17.42' | 161°13.50' | N 9°23.17' | 115°24.80' | 71°06.12' | N 21°11.90' | 180°46.58' | 5°44.34' | N 0°44.07' | 223°46.96' | 322°43.96' | S 16°06.19' | **13** |
| **14** | 40°16.96' | 161°16.43' | N 9°22.04' | 130°26.00' | 71°07.38' | N 21°12.11' | 195°49.32' | 5°44.06' | N 0°43.94' | 238°49.57' | 322°43.81' | S 16°06.23' | **14** |
| **15** | 55°16.50' | 161°19.35' | N 9°20.91' | 145°27.21' | 71°08.64' | N 21°12.31' | 210°52.07' | 5°43.78' | N 0°43.82' | 253°52.18' | 322°43.67' | S 16°06.28' | **15** |
| **16** | 70°16.04' | 161°22.27' | N 9°19.77' | 160°28.41' | 71°09.90' | N 21°12.52' | 225°54.82' | 5°43.50' | N 0°43.69' | 268°54.79' | 322°43.52' | S 16°06.33' | **16** |
| **17** | 85°15.58' | 161°25.19' | N 9°18.64' | 175°29.62' | 71°11.16' | N 21°12.72' | 240°57.56' | 5°43.21' | N 0°43.56' | 283°57.40' | 322°43.37' | S 16°06.37' | **17** |
| **18** | 100°15.12' | 161°28.12' | N 9°17.50' | 190°30.82' | 71°12.42' | N 21°12.92' | 256°00.31' | 5°42.93' | N 0°43.44' | 299°00.01' | 322°43.23' | S 16°06.42' | **18** |
| **19** | 115°14.67' | 161°31.04' | N 9°16.36' | 205°32.03' | 71°13.67' | N 21°13.13' | 271°03.06' | 5°42.65' | N 0°43.31' | 314°02.62' | 322°43.08' | S 16°06.47' | **19** |
| **20** | 130°14.21' | 161°33.96' | N 9°15.23' | 220°33.24' | 71°14.93' | N 21°13.33' | 286°05.80' | 5°42.36' | N 0°43.18' | 329°05.23' | 322°42.93' | S 16°06.52' | **20** |
| **21** | 145°13.75' | 161°36.88' | N 9°14.09' | 235°34.44' | 71°16.19' | N 21°13.53' | 301°08.55' | 5°42.08' | N 0°43.05' | 344°07.84' | 322°42.79' | S 16°06.56' | **21** |
| **22** | 160°13.30' | 161°39.80' | N 9°12.95' | 250°35.65' | 71°17.44' | N 21°13.74' | 316°11.30' | 5°41.80' | N 0°42.93' | 359°10.45' | 322°42.64' | S 16°06.61' | **22** |
| **23** | 175°12.84' | 161°42.72' | N 9°11.81' | 265°36.86' | 71°18.70' | N 21°13.94' | 331°14.05' | 5°41.51' | N 0°42.80' | 14°13.06' | 322°42.50' | S 16°06.66' | **23** |
| **24** | 190°12.38' | 161°45.64' | N 9°10.67' | 280°38.07' | 71°19.95' | N 21°14.14' | 346°16.79' | 5°41.23' | N 0°42.67' | 29°15.67' | 322°42.35' | S 16°06.70' | **24** |
| | δ 14.9923° | | *d* 1.1280' | δ 15.0199° | | *d* 0.2073' | δ 15.0457° | | *d* 0.1265' | δ 15.0435° | | *d* 0.0477' | |

## *Tuesday, September 13th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°58.37' | 15.0037° | 170°59.66' | N 3°52.94' | 0.9553' | 329°28.51' | 14.5362° | 22°29.52' | N 7°26.06' | 14.8924' | 57.5390' | 351°58.02' | **00** |
| **01** | 195°58.59' | 15.0037° | 171°01.90' | N 3°51.98' | 0.9554' | 344°00.68' | 14.5363° | 22°59.81' | N 7°40.90' | 14.8398' | 57.5050' | 7°00.49' | **01** |
| **02** | 210°58.81' | 15.0037° | 171°04.14' | N 3°51.02' | 0.9555' | 358°32.86' | 14.5363° | 23°30.09' | N 7°55.69' | 14.7862' | 57.4711' | 22°02.95' | **02** |
| **03** | 225°59.04' | 15.0037° | 171°06.38' | N 3°50.07' | 0.9556' | 13°05.05' | 14.5364° | 24°00.37' | N 8°10.42' | 14.7315' | 57.4371' | 37°05.42' | **03** |
| **04** | 240°59.26' | 15.0037° | 171°08.62' | N 3°49.11' | 0.9557' | 27°37.23' | 14.5364° | 24°30.65' | N 8°25.10' | 14.6758' | 57.4031' | 52°07.88' | **04** |
| **05** | 255°59.48' | 15.0037° | 171°10.86' | N 3°48.16' | 0.9559' | 42°09.41' | 14.5364° | 25°00.93' | N 8°39.71' | 14.6190' | 57.3692' | 67°10.34' | **05** |
| **06** | 270°59.71' | 15.0037° | 171°13.10' | N 3°47.20' | 0.9560' | 56°41.59' | 14.5364° | 25°31.21' | N 8°54.28' | 14.5612' | 57.3352' | 82°12.81' | **06** |
| **07** | 285°59.93' | 15.0037° | 171°15.35' | N 3°46.25' | 0.9561' | 71°13.77' | 14.5363° | 26°01.50' | N 9°08.78' | 14.5024' | 57.3012' | 97°15.27' | **07** |
| **08** | 301°00.15' | 15.0037° | 171°17.59' | N 3°45.29' | 0.9562' | 85°45.95' | 14.5363° | 26°31.78' | N 9°23.22' | 14.4425' | 57.2673' | 112°17.74' | **08** |
| **09** | 316°00.37' | 15.0037° | 171°19.83' | N 3°44.33' | 0.9563' | 100°18.13' | 14.5362° | 27°02.07' | N 9°37.60' | 14.3817' | 57.2333' | 127°20.20' | **09** |
| **10** | 331°00.60' | 15.0037° | 171°22.07' | N 3°43.38' | 0.9565' | 114°50.30' | 14.5362° | 27°32.37' | N 9°51.92' | 14.3198' | 57.1994' | 142°22.67' | **10** |
| **11** | 346°00.82' | 15.0037° | 171°24.31' | N 3°42.42' | 0.9566' | 129°22.46' | 14.5361° | 28°02.67' | N 10°06.18' | 14.2570' | 57.1655' | 157°25.13' | **11** |
| **12** | 1°01.04' | 15.0037° | 171°26.55' | N 3°41.46' | 0.9567' | 143°54.62' | 14.5360° | 28°32.98' | N 10°20.37' | 14.1932' | 57.1316' | 172°27.59' | **12** |
| **13** | 16°01.26' | 15.0037° | 171°28.79' | N 3°40.51' | 0.9568' | 158°26.77' | 14.5358° | 29°03.29' | N 10°34.50' | 14.1284' | 57.0978' | 187°30.06' | **13** |
| **14** | 31°01.49' | 15.0037° | 171°31.03' | N 3°39.55' | 0.9569' | 172°58.91' | 14.5357° | 29°33.61' | N 10°48.56' | 14.0626' | 57.0640' | 202°32.52' | **14** |
| **15** | 46°01.71' | 15.0037° | 171°33.28' | N 3°38.59' | 0.9570' | 187°31.04' | 14.5356° | 30°03.94' | N 11°02.56' | 13.9959' | 57.0303' | 217°34.99' | **15** |
| **16** | 61°01.93' | 15.0037° | 171°35.52' | N 3°37.64' | 0.9572' | 202°03.17' | 14.5354° | 30°34.28' | N 11°16.49' | 13.9282' | 56.9966' | 232°37.45' | **16** |
| **17** | 76°02.16' | 15.0037° | 171°37.76' | N 3°36.68' | 0.9573' | 216°35.28' | 14.5352° | 31°04.63' | N 11°30.35' | 13.8596' | 56.9629' | 247°39.91' | **17** |
| **18** | 91°02.38' | 15.0037° | 171°40.00' | N 3°35.72' | 0.9574' | 231°07.38' | 14.5350° | 31°34.99' | N 11°44.14' | 13.7901' | 56.9293' | 262°42.38' | **18** |
| **19** | 106°02.60' | 15.0037° | 171°42.24' | N 3°34.76' | 0.9575' | 245°39.47' | 14.5348° | 32°05.37' | N 11°57.86' | 13.7196' | 56.8958' | 277°44.84' | **19** |
| **20** | 121°02.83' | 15.0037° | 171°44.48' | N 3°33.81' | 0.9576' | 260°11.55' | 14.5346° | 32°35.75' | N 12°11.51' | 13.6482' | 56.8623' | 292°47.31' | **20** |
| **21** | 136°03.05' | 15.0037° | 171°46.72' | N 3°32.85' | 0.9577' | 274°43.61' | 14.5344° | 33°06.16' | N 12°25.08' | 13.5759' | 56.8290' | 307°49.77' | **21** |
| **22** | 151°03.27' | 15.0037° | 171°48.96' | N 3°31.89' | 0.9578' | 289°15.66' | 14.5341° | 33°36.57' | N 12°38.58' | 13.5027' | 56.7956' | 322°52.23' | **22** |
| **23** | 166°03.49' | 15.0037° | 171°51.20' | N 3°30.93' | 0.9580' | 303°47.70' | 14.5339° | 34°07.00' | N 12°52.01' | 13.4286' | 56.7624' | 337°54.70' | **23** |
| **24** | 181°03.72' | 15.0037° | 171°53.44' | N 3°29.97' | 0.9581' | 318°19.71' | 14.5336° | 34°37.45' | N 13°05.37' | 13.3536' | 56.7292' | 352°57.16' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8955' | hp (π) 0.1457' | ½Ø 15.5673' | 88.6203467874126 6% -gib |
| | EoT at 12:00 UTC : +4m 4s (δ 0.89 s/h) | | Phase at 12:00 UTC : 219.50° | |
| | Meridian Pass. Time : 11:55:55.834 | | Age : 17.1 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.16') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 190°12.38' | 161°45.64' | N 9°10.67' | 280°38.07' | 71°19.95' | N 21°14.14' | 346°16.79' | 5°41.23' | N 0°42.67' | 29°15.67' | 322°42.35' | S 16°06.70' | **00** |
| **01** | 205°11.93' | 161°48.56' | N 9°09.54' | 295°39.28' | 71°21.21' | N 21°14.34' | 1°19.54' | 5°40.95' | N 0°42.54' | 44°18.28' | 322°42.20' | S 16°06.75' | **01** |
| **02** | 220°11.47' | 161°51.48' | N 9°08.40' | 310°40.49' | 71°22.46' | N 21°14.55' | 16°22.29' | 5°40.66' | N 0°42.42' | 59°20.89' | 322°42.06' | S 16°06.80' | **02** |
| **03** | 235°11.02' | 161°54.40' | N 9°07.26' | 325°41.70' | 71°23.71' | N 21°14.75' | 31°25.04' | 5°40.38' | N 0°42.29' | 74°23.50' | 322°41.91' | S 16°06.84' | **03** |
| **04** | 250°10.56' | 161°57.32' | N 9°06.12' | 340°42.91' | 71°24.97' | N 21°14.95' | 46°27.79' | 5°40.09' | N 0°42.16' | 89°26.11' | 322°41.77' | S 16°06.89' | **04** |
| **05** | 265°10.11' | 162°00.24' | N 9°04.97' | 355°44.13' | 71°26.22' | N 21°15.15' | 61°30.54' | 5°39.81' | N 0°42.03' | 104°28.72' | 322°41.62' | S 16°06.94' | **05** |
| **06** | 280°09.65' | 162°03.16' | N 9°03.83' | 10°45.34' | 71°27.47' | N 21°15.35' | 76°33.28' | 5°39.52' | N 0°41.90' | 119°31.33' | 322°41.48' | S 16°06.98' | **06** |
| **07** | 295°09.20' | 162°06.07' | N 9°02.69' | 25°46.55' | 71°28.72' | N 21°15.56' | 91°36.03' | 5°39.24' | N 0°41.78' | 134°33.94' | 322°41.33' | S 16°07.03' | **07** |
| **08** | 310°08.74' | 162°08.99' | N 9°01.55' | 40°47.77' | 71°29.97' | N 21°15.76' | 106°38.78' | 5°38.95' | N 0°41.65' | 149°36.55' | 322°41.19' | S 16°07.08' | **08** |
| **09** | 325°08.29' | 162°11.91' | N 9°00.41' | 55°48.98' | 71°31.22' | N 21°15.96' | 121°41.53' | 5°38.67' | N 0°41.52' | 164°39.16' | 322°41.04' | S 16°07.12' | **09** |
| **10** | 340°07.84' | 162°14.83' | N 8°59.26' | 70°50.20' | 71°32.47' | N 21°16.16' | 136°44.28' | 5°38.38' | N 0°41.39' | 179°41.77' | 322°40.90' | S 16°07.17' | **10** |
| **11** | 355°07.38' | 162°17.74' | N 8°58.12' | 85°51.41' | 71°33.72' | N 21°16.36' | 151°47.03' | 5°38.10' | N 0°41.26' | 194°44.37' | 322°40.75' | S 16°07.22' | **11** |
| **12** | 10°06.93' | 162°20.66' | N 8°56.98' | 100°52.63' | 71°34.96' | N 21°16.56' | 166°49.78' | 5°37.81' | N 0°41.14' | 209°46.98' | 322°40.61' | S 16°07.26' | **12** |
| **13** | 25°06.48' | 162°23.58' | N 8°55.83' | 115°53.85' | 71°36.21' | N 21°16.76' | 181°52.53' | 5°37.53' | N 0°41.01' | 224°49.59' | 322°40.47' | S 16°07.31' | **13** |
| **14** | 40°06.03' | 162°26.49' | N 8°54.69' | 130°55.07' | 71°37.46' | N 21°16.96' | 196°55.28' | 5°37.24' | N 0°40.88' | 239°52.20' | 322°40.32' | S 16°07.35' | **14** |
| **15** | 55°05.57' | 162°29.41' | N 8°53.54' | 145°56.28' | 71°38.70' | N 21°17.16' | 211°58.03' | 5°36.96' | N 0°40.75' | 254°54.81' | 322°40.18' | S 16°07.40' | **15** |
| **16** | 70°05.12' | 162°32.33' | N 8°52.40' | 160°57.50' | 71°39.95' | N 21°17.36' | 227°00.78' | 5°36.67' | N 0°40.62' | 269°57.42' | 322°40.03' | S 16°07.45' | **16** |
| **17** | 85°04.67' | 162°35.24' | N 8°51.25' | 175°58.72' | 71°41.19' | N 21°17.56' | 242°03.53' | 5°36.39' | N 0°40.50' | 285°00.02' | 322°39.89' | S 16°07.49' | **17** |
| **18** | 100°04.22' | 162°38.16' | N 8°50.10' | 190°59.94' | 71°42.43' | N 21°17.76' | 257°06.28' | 5°36.10' | N 0°40.37' | 300°02.63' | 322°39.75' | S 16°07.54' | **18** |
| **19** | 115°03.77' | 162°41.07' | N 8°48.96' | 206°01.16' | 71°43.68' | N 21°17.95' | 272°09.03' | 5°35.81' | N 0°40.24' | 315°05.24' | 322°39.60' | S 16°07.58' | **19** |
| **20** | 130°03.32' | 162°43.99' | N 8°47.81' | 221°02.38' | 71°44.92' | N 21°18.15' | 287°11.78' | 5°35.53' | N 0°40.11' | 330°07.85' | 322°39.46' | S 16°07.63' | **20** |
| **21** | 145°02.87' | 162°46.90' | N 8°46.66' | 236°03.61' | 71°46.16' | N 21°18.35' | 302°14.53' | 5°35.24' | N 0°39.98' | 345°10.45' | 322°39.31' | S 16°07.68' | **21** |
| **22** | 160°02.42' | 162°49.81' | N 8°45.51' | 251°04.83' | 71°47.40' | N 21°18.55' | 317°17.28' | 5°34.95' | N 0°39.85' | 0°13.06' | 322°39.17' | S 16°07.72' | **22** |
| **23** | 175°01.97' | 162°52.73' | N 8°44.36' | 266°06.05' | 71°48.64' | N 21°18.75' | 332°20.03' | 5°34.67' | N 0°39.72' | 15°15.67' | 322°39.03' | S 16°07.77' | **23** |
| **24** | 190°01.52' | 162°55.64' | N 8°43.21' | 281°07.28' | 71°49.89' | N 21°18.95' | 347°22.78' | 5°34.38' | N 0°39.60' | 30°18.28' | 322°38.89' | S 16°07.81' | **24** |
| | δ 14.9924° | | *d* 1.1391' | δ 15.0202° | | *d* 0.2024' | δ 15.0458° | | *d* 0.1276' | δ 15.0435° | | *d* 0.0468' | |

## *Wednesday, September 14th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 181°03.72' | 15.0037° | 171°53.44' | N 3°29.97' | 0.9581' | 318°19.71' | 14.5336° | 34°37.45' | N 13°05.37' | 13.3536' | 56.7292' | 352°57.16' | **00** |
| **01** | 196°03.94' | 15.0037° | 171°55.69' | N 3°29.02' | 0.9582' | 332°51.71' | 14.5333° | 35°07.91' | N 13°18.64' | 13.2777' | 56.6962' | 7°59.63' | **01** |
| **02** | 211°04.16' | 15.0037° | 171°57.93' | N 3°28.06' | 0.9583' | 347°23.70' | 14.5331° | 35°38.39' | N 13°31.84' | 13.2010' | 56.6632' | 23°02.09' | **02** |
| **03** | 226°04.39' | 15.0037° | 172°00.17' | N 3°27.10' | 0.9584' | 1°55.66' | 14.5327° | 36°08.89' | N 13°44.97' | 13.1234' | 56.6303' | 38°04.55' | **03** |
| **04** | 241°04.61' | 15.0037° | 172°02.41' | N 3°26.14' | 0.9585' | 16°27.61' | 14.5324° | 36°39.41' | N 13°58.01' | 13.0449' | 56.5975' | 53°07.02' | **04** |
| **05** | 256°04.83' | 15.0037° | 172°04.65' | N 3°25.18' | 0.9586' | 30°59.53' | 14.5321° | 37°09.95' | N 14°10.98' | 12.9656' | 56.5649' | 68°09.48' | **05** |
| **06** | 271°05.06' | 15.0037° | 172°06.89' | N 3°24.22' | 0.9587' | 45°31.44' | 14.5318° | 37°40.51' | N 14°23.86' | 12.8854' | 56.5323' | 83°11.95' | **06** |
| **07** | 286°05.28' | 15.0037° | 172°09.13' | N 3°23.26' | 0.9589' | 60°03.33' | 14.5314° | 38°11.09' | N 14°36.67' | 12.8044' | 56.4998' | 98°14.41' | **07** |
| **08** | 301°05.50' | 15.0037° | 172°11.37' | N 3°22.31' | 0.9590' | 74°35.19' | 14.5311° | 38°41.69' | N 14°49.39' | 12.7225' | 56.4675' | 113°16.87' | **08** |
| **09** | 316°05.73' | 15.0037° | 172°13.61' | N 3°21.35' | 0.9591' | 89°07.03' | 14.5307° | 39°12.31' | N 15°02.03' | 12.6398' | 56.4353' | 128°19.34' | **09** |
| **10** | 331°05.95' | 15.0037° | 172°15.85' | N 3°20.39' | 0.9592' | 103°38.85' | 14.5303° | 39°42.95' | N 15°14.59' | 12.5563' | 56.4032' | 143°21.80' | **10** |
| **11** | 346°06.17' | 15.0037° | 172°18.09' | N 3°19.43' | 0.9593' | 118°10.64' | 14.5299° | 40°13.62' | N 15°27.06' | 12.4720' | 56.3712' | 158°24.27' | **11** |
| **12** | 1°06.40' | 15.0037° | 172°20.33' | N 3°18.47' | 0.9594' | 132°42.41' | 14.5295° | 40°44.32' | N 15°39.45' | 12.3869' | 56.3393' | 173°26.73' | **12** |
| **13** | 16°06.62' | 15.0037° | 172°22.58' | N 3°17.51' | 0.9595' | 147°14.16' | 14.5291° | 41°15.04' | N 15°51.75' | 12.3009' | 56.3076' | 188°29.19' | **13** |
| **14** | 31°06.84' | 15.0037° | 172°24.82' | N 3°16.55' | 0.9596' | 161°45.88' | 14.5287° | 41°45.78' | N 16°03.96' | 12.2142' | 56.2761' | 203°31.66' | **14** |
| **15** | 46°07.07' | 15.0037° | 172°27.06' | N 3°15.59' | 0.9597' | 176°17.57' | 14.5282° | 42°16.55' | N 16°16.09' | 12.1267' | 56.2446' | 218°34.12' | **15** |
| **16** | 61°07.29' | 15.0037° | 172°29.30' | N 3°14.63' | 0.9598' | 190°49.24' | 14.5278° | 42°47.34' | N 16°28.13' | 12.0384' | 56.2134' | 233°36.59' | **16** |
| **17** | 76°07.51' | 15.0037° | 172°31.54' | N 3°13.67' | 0.9599' | 205°20.88' | 14.5274° | 43°18.17' | N 16°40.08' | 11.9493' | 56.1822' | 248°39.05' | **17** |
| **18** | 91°07.74' | 15.0037° | 172°33.78' | N 3°12.71' | 0.9601' | 219°52.50' | 14.5269° | 43°49.02' | N 16°51.93' | 11.8594' | 56.1513' | 263°41.52' | **18** |
| **19** | 106°07.96' | 15.0037° | 172°36.02' | N 3°11.75' | 0.9602' | 234°24.09' | 14.5264° | 44°19.89' | N 17°03.70' | 11.7688' | 56.1204' | 278°43.98' | **19** |
| **20** | 121°08.18' | 15.0037° | 172°38.26' | N 3°10.79' | 0.9603' | 248°55.64' | 14.5260° | 44°50.80' | N 17°15.38' | 11.6774' | 56.0898' | 293°46.44' | **20** |
| **21** | 136°08.41' | 15.0037° | 172°40.50' | N 3°09.83' | 0.9604' | 263°27.17' | 14.5255° | 45°21.74' | N 17°26.97' | 11.5853' | 56.0593' | 308°48.91' | **21** |
| **22** | 151°08.63' | 15.0037° | 172°42.74' | N 3°08.87' | 0.9605' | 277°58.67' | 14.5250° | 45°52.70' | N 17°38.46' | 11.4924' | 56.0289' | 323°51.37' | **22** |
| **23** | 166°08.85' | 15.0037° | 172°44.98' | N 3°07.91' | 0.9606' | 292°30.14' | 14.5245° | 46°23.69' | N 17°49.86' | 11.3988' | 55.9988' | 338°53.84' | **23** |
| **24** | 181°09.08' | 15.0037° | 172°47.22' | N 3°06.95' | 0.9607' | 307°01.58' | 14.5240° | 46°54.72' | N 18°01.16' | 11.3044' | 55.9688' | 353°56.30' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.8996' | hp (π) 0.1457' | ½Ø 15.3515' | 81.2117719143267<br>3% -gib |
| | EoT at 12:00 UTC : +4m 25s (δ 0.89 s/h) | | Phase at 12:00 UTC : 231.49° | |
| | Meridian Pass. Time : 11:55:34.415 | | Age : 18.0 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.17') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 190°01.52' | 162°55.64' | N 8°43.21' | 281°07.28' | 71°49.89' | N 21°18.95' | 347°22.78' | 5°34.38' | N 0°39.60' | 30°18.28' | 322°38.89' | S 16°07.81' | **00** |
| **01** | 205°01.07' | 162°58.56' | N 8°42.06' | 296°08.50' | 71°51.12' | N 21°19.14' | 2°25.53' | 5°34.09' | N 0°39.47' | 45°20.88' | 322°38.74' | S 16°07.86' | **01** |
| **02** | 220°00.62' | 163°01.47' | N 8°40.91' | 311°09.73' | 71°52.36' | N 21°19.34' | 17°28.28' | 5°33.81' | N 0°39.34' | 60°23.49' | 322°38.60' | S 16°07.91' | **02** |
| **03** | 235°00.17' | 163°04.38' | N 8°39.76' | 326°10.95' | 71°53.60' | N 21°19.54' | 32°31.04' | 5°33.52' | N 0°39.21' | 75°26.10' | 322°38.46' | S 16°07.95' | **03** |
| **04** | 249°59.72' | 163°07.29' | N 8°38.61' | 341°12.18' | 71°54.84' | N 21°19.74' | 47°33.79' | 5°33.23' | N 0°39.08' | 90°28.70' | 322°38.31' | S 16°08.00' | **04** |
| **05** | 264°59.28' | 163°10.21' | N 8°37.46' | 356°13.41' | 71°56.08' | N 21°19.93' | 62°36.54' | 5°32.94' | N 0°38.95' | 105°31.31' | 322°38.17' | S 16°08.04' | **05** |
| **06** | 279°58.83' | 163°13.12' | N 8°36.31' | 11°14.63' | 71°57.31' | N 21°20.13' | 77°39.29' | 5°32.66' | N 0°38.82' | 120°33.92' | 322°38.03' | S 16°08.09' | **06** |
| **07** | 294°58.38' | 163°16.03' | N 8°35.16' | 26°15.86' | 71°58.55' | N 21°20.33' | 92°42.04' | 5°32.37' | N 0°38.69' | 135°36.52' | 322°37.89' | S 16°08.13' | **07** |
| **08** | 309°57.93' | 163°18.94' | N 8°34.00' | 41°17.09' | 71°59.78' | N 21°20.52' | 107°44.79' | 5°32.08' | N 0°38.57' | 150°39.13' | 322°37.74' | S 16°08.18' | **08** |
| **09** | 324°57.49' | 163°21.85' | N 8°32.85' | 56°18.32' | 72°01.02' | N 21°20.72' | 122°47.55' | 5°31.79' | N 0°38.44' | 165°41.74' | 322°37.60' | S 16°08.23' | **09** |
| **10** | 339°57.04' | 163°24.76' | N 8°31.70' | 71°19.55' | 72°02.25' | N 21°20.91' | 137°50.30' | 5°31.50' | N 0°38.31' | 180°44.34' | 322°37.46' | S 16°08.27' | **10** |
| **11** | 354°56.59' | 163°27.67' | N 8°30.54' | 86°20.78' | 72°03.49' | N 21°21.11' | 152°53.05' | 5°31.22' | N 0°38.18' | 195°46.95' | 322°37.32' | S 16°08.32' | **11** |
| **12** | 9°56.15' | 163°30.58' | N 8°29.39' | 101°22.01' | 72°04.72' | N 21°21.31' | 167°55.80' | 5°30.93' | N 0°38.05' | 210°49.55' | 322°37.18' | S 16°08.36' | **12** |
| **13** | 24°55.70' | 163°33.49' | N 8°28.23' | 116°23.24' | 72°05.95' | N 21°21.50' | 182°58.56' | 5°30.64' | N 0°37.92' | 225°52.16' | 322°37.03' | S 16°08.41' | **13** |
| **14** | 39°55.25' | 163°36.40' | N 8°27.08' | 131°24.48' | 72°07.18' | N 21°21.70' | 198°01.31' | 5°30.35' | N 0°37.79' | 240°54.77' | 322°36.89' | S 16°08.45' | **14** |
| **15** | 54°54.81' | 163°39.31' | N 8°25.92' | 146°25.71' | 72°08.41' | N 21°21.89' | 213°04.06' | 5°30.06' | N 0°37.66' | 255°57.37' | 322°36.75' | S 16°08.50' | **15** |
| **16** | 69°54.36' | 163°42.22' | N 8°24.77' | 161°26.94' | 72°09.65' | N 21°22.09' | 228°06.81' | 5°29.77' | N 0°37.53' | 270°59.98' | 322°36.61' | S 16°08.54' | **16** |
| **17** | 84°53.92' | 163°45.13' | N 8°23.61' | 176°28.18' | 72°10.87' | N 21°22.28' | 243°09.57' | 5°29.48' | N 0°37.40' | 286°02.58' | 322°36.47' | S 16°08.59' | **17** |
| **18** | 99°53.47' | 163°48.04' | N 8°22.45' | 191°29.41' | 72°12.10' | N 21°22.47' | 258°12.32' | 5°29.20' | N 0°37.27' | 301°05.19' | 322°36.33' | S 16°08.63' | **18** |
| **19** | 114°53.03' | 163°50.95' | N 8°21.30' | 206°30.65' | 72°13.33' | N 21°22.67' | 273°15.07' | 5°28.91' | N 0°37.14' | 316°07.79' | 322°36.19' | S 16°08.68' | **19** |
| **20** | 129°52.58' | 163°53.86' | N 8°20.14' | 221°31.88' | 72°14.56' | N 21°22.86' | 288°17.83' | 5°28.62' | N 0°37.01' | 331°10.40' | 322°36.05' | S 16°08.72' | **20** |
| **21** | 144°52.14' | 163°56.77' | N 8°18.98' | 236°33.12' | 72°15.79' | N 21°23.06' | 303°20.58' | 5°28.33' | N 0°36.89' | 346°13.00' | 322°35.90' | S 16°08.77' | **21** |
| **22** | 159°51.70' | 163°59.67' | N 8°17.82' | 251°34.36' | 72°17.01' | N 21°23.25' | 318°23.33' | 5°28.04' | N 0°36.76' | 1°15.61' | 322°35.76' | S 16°08.81' | **22** |
| **23** | 174°51.25' | 164°02.58' | N 8°16.66' | 266°35.60' | 72°18.24' | N 21°23.44' | 333°26.09' | 5°27.75' | N 0°36.63' | 16°18.21' | 322°35.62' | S 16°08.86' | **23** |
| **24** | 189°50.81' | 164°05.49' | N 8°15.50' | 281°36.83' | 72°19.47' | N 21°23.64' | 348°28.84' | 5°27.46' | N 0°36.50' | 31°20.82' | 322°35.48' | S 16°08.90' | **24** |
| | δ 14.9925° | | *d* 1.1497' | δ 15.0204° | | *d* 0.1977' | δ 15.0459° | | *d* 0.1287' | δ 15.0435° | | *d* 0.0458' | |

## *Thursday, September 15th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 181°09.08' | 15.0037° | 172°47.22' | N 3°06.95' | 0.9607' | 307°01.58' | 14.5240° | 46°54.72' | N 18°01.16' | 11.3044' | 55.9688' | 353°56.30' | **00** |
| **01** | 196°09.30' | 15.0037° | 172°49.46' | N 3°05.99' | 0.9608' | 321°32.99' | 14.5235° | 47°25.77' | N 18°12.37' | 11.2093' | 55.9390' | 8°58.76' | **01** |
| **02** | 211°09.52' | 15.0037° | 172°51.70' | N 3°05.03' | 0.9609' | 336°04.37' | 14.5230° | 47°56.86' | N 18°23.48' | 11.1135' | 55.9093' | 24°01.23' | **02** |
| **03** | 226°09.75' | 15.0037° | 172°53.94' | N 3°04.06' | 0.9610' | 350°35.72' | 14.5224° | 48°27.98' | N 18°34.50' | 11.0169' | 55.8799' | 39°03.69' | **03** |
| **04** | 241°09.97' | 15.0037° | 172°56.18' | N 3°03.10' | 0.9611' | 5°07.03' | 14.5219° | 48°59.13' | N 18°45.42' | 10.9197' | 55.8506' | 54°06.16' | **04** |
| **05** | 256°10.20' | 15.0037° | 172°58.43' | N 3°02.14' | 0.9612' | 19°38.31' | 14.5214° | 49°30.31' | N 18°56.24' | 10.8217' | 55.8215' | 69°08.62' | **05** |
| **06** | 271°10.42' | 15.0037° | 173°00.67' | N 3°01.18' | 0.9613' | 34°09.56' | 14.5208° | 50°01.52' | N 19°06.97' | 10.7231' | 55.7926' | 84°11.08' | **06** |
| **07** | 286°10.64' | 15.0037° | 173°02.91' | N 3°00.22' | 0.9614' | 48°40.78' | 14.5203° | 50°32.77' | N 19°17.59' | 10.6237' | 55.7639' | 99°13.55' | **07** |
| **08** | 301°10.87' | 15.0037° | 173°05.15' | N 2°59.26' | 0.9615' | 63°11.97' | 14.5197° | 51°04.05' | N 19°28.11' | 10.5236' | 55.7354' | 114°16.01' | **08** |
| **09** | 316°11.09' | 15.0037° | 173°07.39' | N 2°58.30' | 0.9616' | 77°43.12' | 14.5192° | 51°35.36' | N 19°38.54' | 10.4229' | 55.7072' | 129°18.48' | **09** |
| **10** | 331°11.31' | 15.0037° | 173°09.63' | N 2°57.33' | 0.9617' | 92°14.24' | 14.5186° | 52°06.71' | N 19°48.86' | 10.3215' | 55.6791' | 144°20.94' | **10** |
| **11** | 346°11.54' | 15.0037° | 173°11.87' | N 2°56.37' | 0.9618' | 106°45.32' | 14.5181° | 52°38.09' | N 19°59.08' | 10.2194' | 55.6512' | 159°23.41' | **11** |
| **12** | 1°11.76' | 15.0037° | 173°14.11' | N 2°55.41' | 0.9619' | 121°16.37' | 14.5175° | 53°09.50' | N 20°09.19' | 10.1166' | 55.6235' | 174°25.87' | **12** |
| **13** | 16°11.98' | 15.0037° | 173°16.35' | N 2°54.45' | 0.9620' | 135°47.39' | 14.5169° | 53°40.95' | N 20°19.21' | 10.0132' | 55.5960' | 189°28.33' | **13** |
| **14** | 31°12.21' | 15.0037° | 173°18.59' | N 2°53.49' | 0.9621' | 150°18.37' | 14.5164° | 54°12.43' | N 20°29.12' | 9.9092' | 55.5688' | 204°30.80' | **14** |
| **15** | 46°12.43' | 15.0037° | 173°20.83' | N 2°52.52' | 0.9622' | 164°49.31' | 14.5158° | 54°43.95' | N 20°38.92' | 9.8044' | 55.5417' | 219°33.26' | **15** |
| **16** | 61°12.66' | 15.0037° | 173°23.07' | N 2°51.56' | 0.9623' | 179°20.22' | 14.5152° | 55°15.50' | N 20°48.62' | 9.6991' | 55.5149' | 234°35.73' | **16** |
| **17** | 76°12.88' | 15.0037° | 173°25.31' | N 2°50.60' | 0.9624' | 193°51.10' | 14.5146° | 55°47.09' | N 20°58.21' | 9.5931' | 55.4883' | 249°38.19' | **17** |
| **18** | 91°13.10' | 15.0037° | 173°27.55' | N 2°49.64' | 0.9625' | 208°21.94' | 14.5140° | 56°18.71' | N 21°07.70' | 9.4864' | 55.4620' | 264°40.65' | **18** |
| **19** | 106°13.33' | 15.0037° | 173°29.79' | N 2°48.67' | 0.9626' | 222°52.75' | 14.5134° | 56°50.37' | N 21°17.08' | 9.3792' | 55.4358' | 279°43.12' | **19** |
| **20** | 121°13.55' | 15.0037° | 173°32.03' | N 2°47.71' | 0.9627' | 237°23.52' | 14.5129° | 57°22.06' | N 21°26.35' | 9.2713' | 55.4099' | 294°45.58' | **20** |
| **21** | 136°13.77' | 15.0037° | 173°34.27' | N 2°46.75' | 0.9628' | 251°54.26' | 14.5123° | 57°53.79' | N 21°35.51' | 9.1628' | 55.3842' | 309°48.05' | **21** |
| **22** | 151°14.00' | 15.0037° | 173°36.51' | N 2°45.79' | 0.9629' | 266°24.96' | 14.5117° | 58°25.55' | N 21°44.57' | 9.0537' | 55.3588' | 324°50.51' | **22** |
| **23** | 166°14.22' | 15.0037° | 173°38.75' | N 2°44.82' | 0.9630' | 280°55.62' | 14.5111° | 58°57.35' | N 21°53.51' | 8.9440' | 55.3336' | 339°52.97' | **23** |
| **24** | 181°14.44' | 15.0037° | 173°40.99' | N 2°43.86' | 0.9631' | 295°26.25' | 14.5105° | 59°29.19' | N 22°02.34' | 8.8337' | 55.3086' | 354°55.44' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.9037' | hp (π) 0.1457' | ½Ø 15.1564' | 72.7186472605387 9% -gib | |
| EoT at 12:00 UTC : +4m 47s (δ 0.89 s/h) | | Phase at 12:00 UTC : 243.10° | | |
| Meridian Pass. Time : 11:55:12.957 | | Age : 18.9 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.17') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 189°50.81' | 164°05.49' | N 8°15.50' | 281°36.83' | 72°19.47' | N 21°23.64' | 348°28.84' | 5°27.46' | N 0°36.50' | 31°20.82' | 322°35.48' | S 16°08.90' | **00** |
| **01** | 204°50.37' | 164°08.40' | N 8°14.34' | 296°38.07' | 72°20.69' | N 21°23.83' | 3°31.60' | 5°27.17' | N 0°36.37' | 46°23.42' | 322°35.34' | S 16°08.95' | **01** |
| **02** | 219°49.92' | 164°11.30' | N 8°13.18' | 311°39.31' | 72°21.91' | N 21°24.02' | 18°34.35' | 5°26.88' | N 0°36.24' | 61°26.03' | 322°35.20' | S 16°08.99' | **02** |
| **03** | 234°49.48' | 164°14.21' | N 8°12.02' | 326°40.55' | 72°23.14' | N 21°24.21' | 33°37.10' | 5°26.59' | N 0°36.11' | 76°28.63' | 322°35.06' | S 16°09.04' | **03** |
| **04** | 249°49.04' | 164°17.12' | N 8°10.86' | 341°41.80' | 72°24.36' | N 21°24.41' | 48°39.86' | 5°26.30' | N 0°35.98' | 91°31.23' | 322°34.92' | S 16°09.08' | **04** |
| **05** | 264°48.60' | 164°20.02' | N 8°09.70' | 356°43.04' | 72°25.58' | N 21°24.60' | 63°42.61' | 5°26.01' | N 0°35.85' | 106°33.84' | 322°34.78' | S 16°09.13' | **05** |
| **06** | 279°48.16' | 164°22.93' | N 8°08.54' | 11°44.28' | 72°26.80' | N 21°24.79' | 78°45.37' | 5°25.72' | N 0°35.72' | 121°36.44' | 322°34.64' | S 16°09.17' | **06** |
| **07** | 294°47.71' | 164°25.83' | N 8°07.38' | 26°45.52' | 72°28.03' | N 21°24.98' | 93°48.12' | 5°25.43' | N 0°35.59' | 136°39.05' | 322°34.50' | S 16°09.22' | **07** |
| **08** | 309°47.27' | 164°28.74' | N 8°06.21' | 41°46.77' | 72°29.25' | N 21°25.18' | 108°50.88' | 5°25.14' | N 0°35.46' | 151°41.65' | 322°34.36' | S 16°09.26' | **08** |
| **09** | 324°46.83' | 164°31.64' | N 8°05.05' | 56°48.01' | 72°30.47' | N 21°25.37' | 123°53.63' | 5°24.85' | N 0°35.33' | 166°44.25' | 322°34.22' | S 16°09.30' | **09** |
| **10** | 339°46.39' | 164°34.55' | N 8°03.89' | 71°49.26' | 72°31.68' | N 21°25.56' | 138°56.39' | 5°24.55' | N 0°35.20' | 181°46.86' | 322°34.08' | S 16°09.35' | **10** |
| **11** | 354°45.95' | 164°37.45' | N 8°02.72' | 86°50.50' | 72°32.90' | N 21°25.75' | 153°59.14' | 5°24.26' | N 0°35.07' | 196°49.46' | 322°33.94' | S 16°09.39' | **11** |
| **12** | 9°45.51' | 164°40.36' | N 8°01.56' | 101°51.75' | 72°34.12' | N 21°25.94' | 169°01.90' | 5°23.97' | N 0°34.94' | 211°52.06' | 322°33.81' | S 16°09.44' | **12** |
| **13** | 24°45.07' | 164°43.26' | N 8°00.40' | 116°53.00' | 72°35.34' | N 21°26.13' | 184°04.65' | 5°23.68' | N 0°34.81' | 226°54.67' | 322°33.67' | S 16°09.48' | **13** |
| **14** | 39°44.63' | 164°46.17' | N 7°59.23' | 131°54.24' | 72°36.55' | N 21°26.32' | 199°07.41' | 5°23.39' | N 0°34.68' | 241°57.27' | 322°33.53' | S 16°09.53' | **14** |
| **15** | 54°44.19' | 164°49.07' | N 7°58.06' | 146°55.49' | 72°37.77' | N 21°26.51' | 214°10.16' | 5°23.10' | N 0°34.55' | 256°59.87' | 322°33.39' | S 16°09.57' | **15** |
| **16** | 69°43.75' | 164°51.97' | N 7°56.90' | 161°56.74' | 72°38.99' | N 21°26.70' | 229°12.92' | 5°22.81' | N 0°34.42' | 272°02.48' | 322°33.25' | S 16°09.61' | **16** |
| **17** | 84°43.31' | 164°54.88' | N 7°55.73' | 176°57.99' | 72°40.20' | N 21°26.89' | 244°15.67' | 5°22.52' | N 0°34.29' | 287°05.08' | 322°33.11' | S 16°09.66' | **17** |
| **18** | 99°42.88' | 164°57.78' | N 7°54.57' | 191°59.24' | 72°41.41' | N 21°27.08' | 259°18.43' | 5°22.22' | N 0°34.16' | 302°07.68' | 322°32.97' | S 16°09.70' | **18** |
| **19** | 114°42.44' | 165°00.68' | N 7°53.40' | 207°00.49' | 72°42.63' | N 21°27.27' | 274°21.19' | 5°21.93' | N 0°34.03' | 317°10.28' | 322°32.83' | S 16°09.75' | **19** |
| **20** | 129°42.00' | 165°03.58' | N 7°52.23' | 222°01.74' | 72°43.84' | N 21°27.46' | 289°23.94' | 5°21.64' | N 0°33.90' | 332°12.89' | 322°32.70' | S 16°09.79' | **20** |
| **21** | 144°41.56' | 165°06.49' | N 7°51.06' | 237°02.99' | 72°45.05' | N 21°27.65' | 304°26.70' | 5°21.35' | N 0°33.77' | 347°15.49' | 322°32.56' | S 16°09.83' | **21** |
| **22** | 159°41.12' | 165°09.39' | N 7°49.90' | 252°04.25' | 72°46.26' | N 21°27.84' | 319°29.45' | 5°21.06' | N 0°33.64' | 2°18.09' | 322°32.42' | S 16°09.88' | **22** |
| **23** | 174°40.69' | 165°12.29' | N 7°48.73' | 267°05.50' | 72°47.47' | N 21°28.03' | 334°32.21' | 5°20.76' | N 0°33.51' | 17°20.69' | 322°32.28' | S 16°09.92' | **23** |
| **24** | 189°40.25' | 165°15.19' | N 7°47.56' | 282°06.75' | 72°48.68' | N 21°28.22' | 349°34.97' | 5°20.47' | N 0°33.38' | 32°23.29' | 322°32.14' | S 16°09.97' | **24** |
| | δ 14.9926° | | *d* 1.1598' | δ 15.0207° | | *d* 0.1930' | δ 15.0459° | | *d* 0.1296' | δ 15.0434° | | *d* 0.0448' | |

## *Friday, September 16th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 181°14.44' | 15.0037° | 173°40.99' | N 2°43.86' | 0.9631' | 295°26.25' | 14.5105° | 59°29.19' | N 22°02.34' | 8.8337' | 55.3086' | 354°55.44' | **00** |
| **01** | 196°14.67' | 15.0037° | 173°43.23' | N 2°42.90' | 0.9632' | 309°56.85' | 14.5099° | 60°01.05' | N 22°11.07' | 8.7228' | 55.2838' | 9°57.90' | **01** |
| **02** | 211°14.89' | 15.0037° | 173°45.47' | N 2°41.93' | 0.9633' | 324°27.41' | 14.5093° | 60°32.96' | N 22°19.68' | 8.6113' | 55.2594' | 25°00.37' | **02** |
| **03** | 226°15.12' | 15.0037° | 173°47.71' | N 2°40.97' | 0.9633' | 338°57.93' | 14.5087° | 61°04.90' | N 22°28.18' | 8.4993' | 55.2351' | 40°02.83' | **03** |
| **04** | 241°15.34' | 15.0037° | 173°49.96' | N 2°40.01' | 0.9634' | 353°28.42' | 14.5081° | 61°36.88' | N 22°36.56' | 8.3866' | 55.2111' | 55°05.30' | **04** |
| **05** | 256°15.56' | 15.0037° | 173°52.20' | N 2°39.04' | 0.9635' | 7°58.87' | 14.5076° | 62°08.89' | N 22°44.84' | 8.2735' | 55.1874' | 70°07.76' | **05** |
| **06** | 271°15.79' | 15.0037° | 173°54.44' | N 2°38.08' | 0.9636' | 22°29.29' | 14.5070° | 62°40.93' | N 22°53.00' | 8.1597' | 55.1639' | 85°10.22' | **06** |
| **07** | 286°16.01' | 15.0037° | 173°56.68' | N 2°37.12' | 0.9637' | 36°59.67' | 14.5064° | 63°13.01' | N 23°01.04' | 8.0454' | 55.1406' | 100°12.69' | **07** |
| **08** | 301°16.23' | 15.0037° | 173°58.92' | N 2°36.15' | 0.9638' | 51°30.02' | 14.5058° | 63°45.13' | N 23°08.97' | 7.9306' | 55.1176' | 115°15.15' | **08** |
| **09** | 316°16.46' | 15.0037° | 174°01.16' | N 2°35.19' | 0.9639' | 66°00.34' | 14.5052° | 64°17.28' | N 23°16.79' | 7.8152' | 55.0949' | 130°17.62' | **09** |
| **10** | 331°16.68' | 15.0037° | 174°03.40' | N 2°34.22' | 0.9640' | 80°30.61' | 14.5046° | 64°49.47' | N 23°24.49' | 7.6993' | 55.0724' | 145°20.08' | **10** |
| **11** | 346°16.91' | 15.0037° | 174°05.64' | N 2°33.26' | 0.9641' | 95°00.86' | 14.5041° | 65°21.69' | N 23°32.07' | 7.5829' | 55.0502' | 160°22.54' | **11** |
| **12** | 1°17.13' | 15.0037° | 174°07.88' | N 2°32.30' | 0.9642' | 109°31.07' | 14.5035° | 65°53.94' | N 23°39.54' | 7.4660' | 55.0282' | 175°25.01' | **12** |
| **13** | 16°17.35' | 15.0037° | 174°10.12' | N 2°31.33' | 0.9643' | 124°01.25' | 14.5029° | 66°26.23' | N 23°46.88' | 7.3485' | 55.0065' | 190°27.47' | **13** |
| **14** | 31°17.58' | 15.0037° | 174°12.36' | N 2°30.37' | 0.9644' | 138°31.39' | 14.5024° | 66°58.55' | N 23°54.12' | 7.2306' | 54.9851' | 205°29.94' | **14** |
| **15** | 46°17.80' | 15.0037° | 174°14.60' | N 2°29.40' | 0.9644' | 153°01.50' | 14.5018° | 67°30.90' | N 24°01.23' | 7.1121' | 54.9639' | 220°32.40' | **15** |
| **16** | 61°18.02' | 15.0037° | 174°16.84' | N 2°28.44' | 0.9645' | 167°31.58' | 14.5013° | 68°03.29' | N 24°08.22' | 6.9932' | 54.9430' | 235°34.86' | **16** |
| **17** | 76°18.25' | 15.0037° | 174°19.08' | N 2°27.47' | 0.9646' | 182°01.62' | 14.5007° | 68°35.71' | N 24°15.09' | 6.8738' | 54.9224' | 250°37.33' | **17** |
| **18** | 91°18.47' | 15.0037° | 174°21.32' | N 2°26.51' | 0.9647' | 196°31.63' | 14.5002° | 69°08.16' | N 24°21.85' | 6.7539' | 54.9021' | 265°39.79' | **18** |
| **19** | 106°18.70' | 15.0037° | 174°23.56' | N 2°25.54' | 0.9648' | 211°01.61' | 14.4996° | 69°40.65' | N 24°28.48' | 6.6336' | 54.8820' | 280°42.26' | **19** |
| **20** | 121°18.92' | 15.0037° | 174°25.80' | N 2°24.58' | 0.9649' | 225°31.56' | 14.4991° | 70°13.17' | N 24°34.99' | 6.5128' | 54.8622' | 295°44.72' | **20** |
| **21** | 136°19.14' | 15.0037° | 174°28.04' | N 2°23.61' | 0.9650' | 240°01.47' | 14.4986° | 70°45.71' | N 24°41.39' | 6.3915' | 54.8426' | 310°47.19' | **21** |
| **22** | 151°19.37' | 15.0037° | 174°30.28' | N 2°22.65' | 0.9651' | 254°31.36' | 14.4981° | 71°18.29' | N 24°47.66' | 6.2698' | 54.8234' | 325°49.65' | **22** |
| **23** | 166°19.59' | 15.0037° | 174°32.52' | N 2°21.68' | 0.9651' | 269°01.21' | 14.4976° | 71°50.90' | N 24°53.80' | 6.1477' | 54.8044' | 340°52.11' | **23** |
| **24** | 181°19.81' | 15.0037° | 174°34.76' | N 2°20.72' | 0.9652' | 283°31.03' | 14.4971° | 72°23.54' | N 24°59.83' | 6.0252' | 54.7857' | 355°54.58' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.9079' | hp (π) 0.1458' | ½Ø 14.9942' | 63.5488443022313<br>66% -gib | |
| EoT at 12:00 UTC : +5m 8s (δ 0.89 s/h) | | Phase at 12:00 UTC : 254.41° | | |
| Meridian Pass. Time : 11:54:51.482 | | Age : 19.8 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.17') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 189°40.25' | 165°15.19' | N 7°47.56' | 282°06.75' | 72°48.68' | N 21°28.22' | 349°34.97' | 5°20.47' | N 0°33.38' | 32°23.29' | 322°32.14' | S 16°09.97' | **00** |
| **01** | 204°39.81' | 165°18.09' | N 7°46.39' | 297°08.01' | 72°49.89' | N 21°28.40' | 4°37.72' | 5°20.18' | N 0°33.24' | 47°25.90' | 322°32.01' | S 16°10.01' | **01** |
| **02** | 219°39.37' | 165°20.99' | N 7°45.22' | 312°09.26' | 72°51.10' | N 21°28.59' | 19°40.48' | 5°19.89' | N 0°33.11' | 62°28.50' | 322°31.87' | S 16°10.05' | **02** |
| **03** | 234°38.94' | 165°23.89' | N 7°44.05' | 327°10.52' | 72°52.31' | N 21°28.78' | 34°43.24' | 5°19.59' | N 0°32.98' | 77°31.10' | 322°31.73' | S 16°10.10' | **03** |
| **04** | 249°38.50' | 165°26.79' | N 7°42.88' | 342°11.78' | 72°53.52' | N 21°28.97' | 49°46.00' | 5°19.30' | N 0°32.85' | 92°33.70' | 322°31.59' | S 16°10.14' | **04** |
| **05** | 264°38.07' | 165°29.69' | N 7°41.71' | 357°13.03' | 72°54.72' | N 21°29.16' | 64°48.75' | 5°19.01' | N 0°32.72' | 107°36.30' | 322°31.46' | S 16°10.18' | **05** |
| **06** | 279°37.63' | 165°32.59' | N 7°40.54' | 12°14.29' | 72°55.93' | N 21°29.34' | 79°51.51' | 5°18.71' | N 0°32.59' | 122°38.90' | 322°31.32' | S 16°10.23' | **06** |
| **07** | 294°37.19' | 165°35.49' | N 7°39.36' | 27°15.55' | 72°57.14' | N 21°29.53' | 94°54.27' | 5°18.42' | N 0°32.46' | 137°41.50' | 322°31.18' | S 16°10.27' | **07** |
| **08** | 309°36.76' | 165°38.39' | N 7°38.19' | 42°16.81' | 72°58.34' | N 21°29.72' | 109°57.02' | 5°18.13' | N 0°32.33' | 152°44.11' | 322°31.05' | S 16°10.32' | **08** |
| **09** | 324°36.32' | 165°41.29' | N 7°37.02' | 57°18.07' | 72°59.55' | N 21°29.91' | 124°59.78' | 5°17.83' | N 0°32.20' | 167°46.71' | 322°30.91' | S 16°10.36' | **09** |
| **10** | 339°35.89' | 165°44.19' | N 7°35.85' | 72°19.33' | 73°00.75' | N 21°30.09' | 140°02.54' | 5°17.54' | N 0°32.07' | 182°49.31' | 322°30.77' | S 16°10.40' | **10** |
| **11** | 354°35.45' | 165°47.09' | N 7°34.67' | 87°20.59' | 73°01.95' | N 21°30.28' | 155°05.30' | 5°17.25' | N 0°31.94' | 197°51.91' | 322°30.64' | S 16°10.45' | **11** |
| **12** | 9°35.02' | 165°49.99' | N 7°33.50' | 102°21.85' | 73°03.15' | N 21°30.47' | 170°08.05' | 5°16.95' | N 0°31.81' | 212°54.51' | 322°30.50' | S 16°10.49' | **12** |
| **13** | 24°34.59' | 165°52.89' | N 7°32.33' | 117°23.12' | 73°04.36' | N 21°30.65' | 185°10.81' | 5°16.66' | N 0°31.68' | 227°57.11' | 322°30.36' | S 16°10.53' | **13** |
| **14** | 39°34.15' | 165°55.78' | N 7°31.15' | 132°24.38' | 73°05.56' | N 21°30.84' | 200°13.57' | 5°16.37' | N 0°31.55' | 242°59.71' | 322°30.23' | S 16°10.58' | **14** |
| **15** | 54°33.72' | 165°58.68' | N 7°29.98' | 147°25.64' | 73°06.76' | N 21°31.02' | 215°16.33' | 5°16.07' | N 0°31.41' | 258°02.31' | 322°30.09' | S 16°10.62' | **15** |
| **16** | 69°33.29' | 166°01.58' | N 7°28.80' | 162°26.91' | 73°07.96' | N 21°31.21' | 230°19.09' | 5°15.78' | N 0°31.28' | 273°04.91' | 322°29.96' | S 16°10.66' | **16** |
| **17** | 84°32.85' | 166°04.48' | N 7°27.63' | 177°28.17' | 73°09.16' | N 21°31.39' | 245°21.85' | 5°15.48' | N 0°31.15' | 288°07.51' | 322°29.82' | S 16°10.71' | **17** |
| **18** | 99°32.42' | 166°07.37' | N 7°26.45' | 192°29.44' | 73°10.35' | N 21°31.58' | 260°24.60' | 5°15.19' | N 0°31.02' | 303°10.11' | 322°29.68' | S 16°10.75' | **18** |
| **19** | 114°31.99' | 166°10.27' | N 7°25.27' | 207°30.71' | 73°11.55' | N 21°31.77' | 275°27.36' | 5°14.89' | N 0°30.89' | 318°12.71' | 322°29.55' | S 16°10.79' | **19** |
| **20** | 129°31.55' | 166°13.17' | N 7°24.10' | 222°31.97' | 73°12.75' | N 21°31.95' | 290°30.12' | 5°14.60' | N 0°30.76' | 333°15.31' | 322°29.41' | S 16°10.83' | **20** |
| **21** | 144°31.12' | 166°16.06' | N 7°22.92' | 237°33.24' | 73°13.94' | N 21°32.14' | 305°32.88' | 5°14.31' | N 0°30.63' | 348°17.91' | 322°29.28' | S 16°10.88' | **21** |
| **22** | 159°30.69' | 166°18.96' | N 7°21.74' | 252°34.51' | 73°15.14' | N 21°32.32' | 320°35.64' | 5°14.01' | N 0°30.50' | 3°20.51' | 322°29.14' | S 16°10.92' | **22** |
| **23** | 174°30.26' | 166°21.86' | N 7°20.57' | 267°35.78' | 73°16.33' | N 21°32.50' | 335°38.40' | 5°13.72' | N 0°30.37' | 18°23.11' | 322°29.01' | S 16°10.96' | **23** |
| **24** | 189°29.83' | 166°24.75' | N 7°19.39' | 282°37.05' | 73°17.53' | N 21°32.69' | 350°41.16' | 5°13.42' | N 0°30.23' | 33°25.71' | 322°28.87' | S 16°11.01' | **24** |
| | δ 14.9927° | | *d* 1.1694' | δ 15.0209° | | *d* 0.1885' | δ 15.0459° | | *d* 0.1305' | δ 15.0434° | | *d* 0.0438' | |

## *Saturday, September 17th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 181°19.81' | 15.0037° | 174°34.76' | N 2°20.72' | 0.9652' | 283°31.03' | 14.4971° | 72°23.54' | N 24°59.83' | 6.0252' | 54.7857' | 355°54.58' | **00** |
| **01** | 196°20.04' | 15.0037° | 174°37.00' | N 2°19.75' | 0.9653' | 298°00.83' | 14.4966° | 72°56.21' | N 25°05.73' | 5.9022' | 54.7673' | 10°57.04' | **01** |
| **02** | 211°20.26' | 15.0037° | 174°39.24' | N 2°18.79' | 0.9654' | 312°30.59' | 14.4961° | 73°28.91' | N 25°11.51' | 5.7788' | 54.7492' | 25°59.51' | **02** |
| **03** | 226°20.48' | 15.0037° | 174°41.49' | N 2°17.82' | 0.9655' | 327°00.33' | 14.4956° | 74°01.64' | N 25°17.17' | 5.6551' | 54.7313' | 41°01.97' | **03** |
| **04** | 241°20.71' | 15.0037° | 174°43.73' | N 2°16.86' | 0.9656' | 341°30.04' | 14.4951° | 74°34.40' | N 25°22.70' | 5.5309' | 54.7137' | 56°04.43' | **04** |
| **05** | 256°20.93' | 15.0037° | 174°45.97' | N 2°15.89' | 0.9656' | 355°59.72' | 14.4947° | 75°07.18' | N 25°28.10' | 5.4064' | 54.6965' | 71°06.90' | **05** |
| **06** | 271°21.16' | 15.0037° | 174°48.21' | N 2°14.93' | 0.9657' | 10°29.37' | 14.4942° | 75°39.99' | N 25°33.38' | 5.2815' | 54.6795' | 86°09.36' | **06** |
| **07** | 286°21.38' | 15.0037° | 174°50.45' | N 2°13.96' | 0.9658' | 24°59.00' | 14.4938° | 76°12.83' | N 25°38.54' | 5.1562' | 54.6628' | 101°11.83' | **07** |
| **08** | 301°21.60' | 15.0037° | 174°52.69' | N 2°12.99' | 0.9659' | 39°28.60' | 14.4933° | 76°45.69' | N 25°43.57' | 5.0305' | 54.6463' | 116°14.29' | **08** |
| **09** | 316°21.83' | 15.0037° | 174°54.93' | N 2°12.03' | 0.9660' | 53°58.17' | 14.4929° | 77°18.58' | N 25°48.48' | 4.9046' | 54.6302' | 131°16.76' | **09** |
| **10** | 331°22.05' | 15.0037° | 174°57.17' | N 2°11.06' | 0.9661' | 68°27.72' | 14.4925° | 77°51.50' | N 25°53.25' | 4.7782' | 54.6144' | 146°19.22' | **10** |
| **11** | 346°22.27' | 15.0037° | 174°59.41' | N 2°10.10' | 0.9661' | 82°57.25' | 14.4921° | 78°24.44' | N 25°57.91' | 4.6516' | 54.5988' | 161°21.68' | **11** |
| **12** | 1°22.50' | 15.0037° | 175°01.65' | N 2°09.13' | 0.9662' | 97°26.75' | 14.4917° | 78°57.40' | N 26°02.43' | 4.5246' | 54.5836' | 176°24.15' | **12** |
| **13** | 16°22.72' | 15.0037° | 175°03.89' | N 2°08.16' | 0.9663' | 111°56.23' | 14.4913° | 79°30.39' | N 26°06.83' | 4.3973' | 54.5686' | 191°26.61' | **13** |
| **14** | 31°22.94' | 15.0037° | 175°06.13' | N 2°07.20' | 0.9664' | 126°25.68' | 14.4909° | 80°03.39' | N 26°11.10' | 4.2698' | 54.5539' | 206°29.08' | **14** |
| **15** | 46°23.17' | 15.0037° | 175°08.37' | N 2°06.23' | 0.9665' | 140°55.12' | 14.4906° | 80°36.42' | N 26°15.24' | 4.1419' | 54.5396' | 221°31.54' | **15** |
| **16** | 61°23.39' | 15.0037° | 175°10.61' | N 2°05.26' | 0.9665' | 155°24.53' | 14.4902° | 81°09.48' | N 26°19.25' | 4.0138' | 54.5255' | 236°34.00' | **16** |
| **17** | 76°23.62' | 15.0037° | 175°12.85' | N 2°04.30' | 0.9666' | 169°53.92' | 14.4899° | 81°42.55' | N 26°23.14' | 3.8853' | 54.5117' | 251°36.47' | **17** |
| **18** | 91°23.84' | 15.0037° | 175°15.09' | N 2°03.33' | 0.9667' | 184°23.29' | 14.4895° | 82°15.64' | N 26°26.89' | 3.7567' | 54.4982' | 266°38.93' | **18** |
| **19** | 106°24.06' | 15.0037° | 175°17.33' | N 2°02.36' | 0.9668' | 198°52.65' | 14.4892° | 82°48.75' | N 26°30.52' | 3.6277' | 54.4850' | 281°41.40' | **19** |
| **20** | 121°24.29' | 15.0037° | 175°19.57' | N 2°01.40' | 0.9668' | 213°21.98' | 14.4889° | 83°21.88' | N 26°34.02' | 3.4985' | 54.4721' | 296°43.86' | **20** |
| **21** | 136°24.51' | 15.0037° | 175°21.82' | N 2°00.43' | 0.9669' | 227°51.30' | 14.4886° | 83°55.02' | N 26°37.39' | 3.3691' | 54.4595' | 311°46.32' | **21** |
| **22** | 151°24.73' | 15.0037° | 175°24.06' | N 1°59.46' | 0.9670' | 242°20.60' | 14.4884° | 84°28.19' | N 26°40.63' | 3.2395' | 54.4472' | 326°48.79' | **22** |
| **23** | 166°24.96' | 15.0037° | 175°26.30' | N 1°58.50' | 0.9671' | 256°49.89' | 14.4881° | 85°01.36' | N 26°43.74' | 3.1097' | 54.4352' | 341°51.25' | **23** |
| **24** | 181°25.18' | 15.0037° | 175°28.54' | N 1°57.53' | 0.9672' | 271°19.16' | 14.4878° | 85°34.56' | N 26°46.72' | 2.9796' | 54.4235' | 356°53.72' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9121' | hp (π) 0.1458' | ½Ø 14.8731' | 54.0561365996161 9% -gib |
| | EoT at 12:00 UTC : +5m 30s (δ 0.89 s/h) | | Phase at 12:00 UTC : 265.49° | |
| | Meridian Pass. Time : 11:54:30.010 | | Age : 20.6 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.17') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 189°29.83' | 166°24.75' | N 7°19.39' | 282°37.05' | 73°17.53' | N 21°32.69' | 350°41.16' | 5°13.42' | N 0°30.23' | 33°25.71' | 322°28.87' | S 16°11.01' | **00** |
| **01** | 204°29.39' | 166°27.65' | N 7°18.21' | 297°38.32' | 73°18.72' | N 21°32.87' | 5°43.92' | 5°13.13' | N 0°30.10' | 48°28.30' | 322°28.74' | S 16°11.05' | **01** |
| **02** | 219°28.96' | 166°30.54' | N 7°17.03' | 312°39.59' | 73°19.92' | N 21°33.06' | 20°46.68' | 5°12.83' | N 0°29.97' | 63°30.90' | 322°28.60' | S 16°11.09' | **02** |
| **03** | 234°28.53' | 166°33.44' | N 7°15.85' | 327°40.86' | 73°21.11' | N 21°33.24' | 35°49.43' | 5°12.54' | N 0°29.84' | 78°33.50' | 322°28.47' | S 16°11.13' | **03** |
| **04** | 249°28.10' | 166°36.33' | N 7°14.67' | 342°42.14' | 73°22.30' | N 21°33.42' | 50°52.19' | 5°12.24' | N 0°29.71' | 93°36.10' | 322°28.33' | S 16°11.18' | **04** |
| **05** | 264°27.67' | 166°39.23' | N 7°13.49' | 357°43.41' | 73°23.49' | N 21°33.61' | 65°54.95' | 5°11.94' | N 0°29.58' | 108°38.70' | 322°28.20' | S 16°11.22' | **05** |
| **06** | 279°27.24' | 166°42.12' | N 7°12.31' | 12°44.68' | 73°24.68' | N 21°33.79' | 80°57.71' | 5°11.65' | N 0°29.45' | 123°41.30' | 322°28.06' | S 16°11.26' | **06** |
| **07** | 294°26.81' | 166°45.02' | N 7°11.13' | 27°45.96' | 73°25.87' | N 21°33.97' | 96°00.47' | 5°11.35' | N 0°29.32' | 138°43.90' | 322°27.93' | S 16°11.30' | **07** |
| **08** | 309°26.38' | 166°47.91' | N 7°09.95' | 42°47.23' | 73°27.06' | N 21°34.16' | 111°03.23' | 5°11.06' | N 0°29.18' | 153°46.49' | 322°27.80' | S 16°11.35' | **08** |
| **09** | 324°25.95' | 166°50.80' | N 7°08.77' | 57°48.51' | 73°28.25' | N 21°34.34' | 126°05.99' | 5°10.76' | N 0°29.05' | 168°49.09' | 322°27.66' | S 16°11.39' | **09** |
| **10** | 339°25.52' | 166°53.70' | N 7°07.59' | 72°49.78' | 73°29.43' | N 21°34.52' | 141°08.75' | 5°10.47' | N 0°28.92' | 183°51.69' | 322°27.53' | S 16°11.43' | **10** |
| **11** | 354°25.09' | 166°56.59' | N 7°06.40' | 87°51.06' | 73°30.62' | N 21°34.70' | 156°11.51' | 5°10.17' | N 0°28.79' | 198°54.29' | 322°27.40' | S 16°11.47' | **11** |
| **12** | 9°24.66' | 166°59.48' | N 7°05.22' | 102°52.34' | 73°31.81' | N 21°34.88' | 171°14.27' | 5°09.87' | N 0°28.66' | 213°56.89' | 322°27.26' | S 16°11.52' | **12** |
| **13** | 24°24.24' | 167°02.38' | N 7°04.04' | 117°53.62' | 73°32.99' | N 21°35.07' | 186°17.03' | 5°09.58' | N 0°28.53' | 228°59.48' | 322°27.13' | S 16°11.56' | **13** |
| **14** | 39°23.81' | 167°05.27' | N 7°02.86' | 132°54.90' | 73°34.18' | N 21°35.25' | 201°19.79' | 5°09.28' | N 0°28.39' | 244°02.08' | 322°26.99' | S 16°11.60' | **14** |
| **15** | 54°23.38' | 167°08.16' | N 7°01.67' | 147°56.18' | 73°35.36' | N 21°35.43' | 216°22.55' | 5°08.99' | N 0°28.26' | 259°04.68' | 322°26.86' | S 16°11.64' | **15** |
| **16** | 69°22.95' | 167°11.05' | N 7°00.49' | 162°57.46' | 73°36.55' | N 21°35.61' | 231°25.32' | 5°08.69' | N 0°28.13' | 274°07.28' | 322°26.73' | S 16°11.69' | **16** |
| **17** | 84°22.52' | 167°13.95' | N 6°59.30' | 177°58.74' | 73°37.73' | N 21°35.79' | 246°28.08' | 5°08.39' | N 0°28.00' | 289°09.87' | 322°26.60' | S 16°11.73' | **17** |
| **18** | 99°22.10' | 167°16.84' | N 6°58.12' | 193°00.02' | 73°38.91' | N 21°35.97' | 261°30.84' | 5°08.10' | N 0°27.87' | 304°12.47' | 322°26.46' | S 16°11.77' | **18** |
| **19** | 114°21.67' | 167°19.73' | N 6°56.94' | 208°01.30' | 73°40.09' | N 21°36.15' | 276°33.60' | 5°07.80' | N 0°27.74' | 319°15.07' | 322°26.33' | S 16°11.81' | **19** |
| **20** | 129°21.24' | 167°22.62' | N 6°55.75' | 223°02.59' | 73°41.27' | N 21°36.33' | 291°36.36' | 5°07.50' | N 0°27.60' | 334°17.66' | 322°26.20' | S 16°11.85' | **20** |
| **21** | 144°20.81' | 167°25.51' | N 6°54.56' | 238°03.87' | 73°42.45' | N 21°36.51' | 306°39.12' | 5°07.21' | N 0°27.47' | 349°20.26' | 322°26.06' | S 16°11.90' | **21** |
| **22** | 159°20.39' | 167°28.40' | N 6°53.38' | 253°05.16' | 73°43.63' | N 21°36.69' | 321°41.88' | 5°06.91' | N 0°27.34' | 4°22.86' | 322°25.93' | S 16°11.94' | **22** |
| **23** | 174°19.96' | 167°31.29' | N 6°52.19' | 268°06.44' | 73°44.81' | N 21°36.87' | 336°44.64' | 5°06.61' | N 0°27.21' | 19°25.45' | 322°25.80' | S 16°11.98' | **23** |
| **24** | 189°19.53' | 167°34.18' | N 6°51.01' | 283°07.73' | 73°45.99' | N 21°37.05' | 351°47.40' | 5°06.31' | N 0°27.08' | 34°28.05' | 322°25.67' | S 16°12.02' | **24** |
| | δ 14.9928° | | *d* 1.1785' | δ 15.0212° | | *d* 0.1840' | δ 15.0460° | | *d* 0.1313' | δ 15.0433° | | *d* 0.0428' | |

## *Sunday, September 18th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 181°25.18' | 15.0037° | 175°28.54' | N 1°57.53' | 0.9672' | 271°19.16' | 14.4878° | 85°34.56' | N 26°46.72' | 2.9796' | 54.4235' | 356°53.72' | **00** |
| **01** | 196°25.40' | 15.0037° | 175°30.78' | N 1°56.56' | 0.9672' | 285°48.41' | 14.4876° | 86°07.77' | N 26°49.57' | 2.8494' | 54.4121' | 11°56.18' | **01** |
| **02** | 211°25.63' | 15.0037° | 175°33.02' | N 1°55.59' | 0.9673' | 300°17.66' | 14.4874° | 86°40.99' | N 26°52.29' | 2.7190' | 54.4010' | 26°58.65' | **02** |
| **03** | 226°25.85' | 15.0037° | 175°35.26' | N 1°54.63' | 0.9674' | 314°46.89' | 14.4872° | 87°14.22' | N 26°54.88' | 2.5884' | 54.3902' | 42°01.11' | **03** |
| **04** | 241°26.07' | 15.0037° | 175°37.50' | N 1°53.66' | 0.9675' | 329°16.10' | 14.4870° | 87°47.47' | N 26°57.33' | 2.4577' | 54.3797' | 57°03.57' | **04** |
| **05** | 256°26.30' | 15.0037° | 175°39.74' | N 1°52.69' | 0.9675' | 343°45.31' | 14.4868° | 88°20.73' | N 26°59.66' | 2.3268' | 54.3695' | 72°06.04' | **05** |
| **06** | 271°26.52' | 15.0037° | 175°41.98' | N 1°51.72' | 0.9676' | 358°14.51' | 14.4866° | 88°54.00' | N 27°01.86' | 2.1957' | 54.3595' | 87°08.50' | **06** |
| **07** | 286°26.74' | 15.0037° | 175°44.22' | N 1°50.76' | 0.9677' | 12°43.69' | 14.4864° | 89°27.27' | N 27°03.92' | 2.0646' | 54.3499' | 102°10.97' | **07** |
| **08** | 301°26.97' | 15.0037° | 175°46.46' | N 1°49.79' | 0.9677' | 27°12.87' | 14.4863° | 90°00.56' | N 27°05.85' | 1.9333' | 54.3406' | 117°13.43' | **08** |
| **09** | 316°27.19' | 15.0037° | 175°48.70' | N 1°48.82' | 0.9678' | 41°42.04' | 14.4862° | 90°33.85' | N 27°07.66' | 1.8019' | 54.3316' | 132°15.89' | **09** |
| **10** | 331°27.41' | 15.0037° | 175°50.95' | N 1°47.85' | 0.9679' | 56°11.21' | 14.4861° | 91°07.15' | N 27°09.33' | 1.6705' | 54.3229' | 147°18.36' | **10** |
| **11** | 346°27.64' | 15.0037° | 175°53.19' | N 1°46.89' | 0.9680' | 70°40.36' | 14.4860° | 91°40.46' | N 27°10.86' | 1.5389' | 54.3145' | 162°20.82' | **11** |
| **12** | 1°27.86' | 15.0037° | 175°55.43' | N 1°45.92' | 0.9680' | 85°09.52' | 14.4859° | 92°13.77' | N 27°12.27' | 1.4073' | 54.3064' | 177°23.29' | **12** |
| **13** | 16°28.08' | 15.0037° | 175°57.67' | N 1°44.95' | 0.9681' | 99°38.66' | 14.4858° | 92°47.09' | N 27°13.55' | 1.2756' | 54.2986' | 192°25.75' | **13** |
| **14** | 31°28.31' | 15.0037° | 175°59.91' | N 1°43.98' | 0.9682' | 114°07.81' | 14.4857° | 93°20.41' | N 27°14.69' | 1.1439' | 54.2911' | 207°28.22' | **14** |
| **15** | 46°28.53' | 15.0037° | 176°02.15' | N 1°43.01' | 0.9682' | 128°36.95' | 14.4857° | 93°53.73' | N 27°15.70' | 1.0121' | 54.2839' | 222°30.68' | **15** |
| **16** | 61°28.75' | 15.0037° | 176°04.39' | N 1°42.05' | 0.9683' | 143°06.09' | 14.4857° | 94°27.05' | N 27°16.58' | 0.8803' | 54.2770' | 237°33.14' | **16** |
| **17** | 76°28.98' | 15.0037° | 176°06.63' | N 1°41.08' | 0.9684' | 157°35.23' | 14.4857° | 95°00.37' | N 27°17.33' | 0.7485' | 54.2705' | 252°35.61' | **17** |
| **18** | 91°29.20' | 15.0037° | 176°08.87' | N 1°40.11' | 0.9684' | 172°04.37' | 14.4857° | 95°33.70' | N 27°17.95' | 0.6166' | 54.2642' | 267°38.07' | **18** |
| **19** | 106°29.42' | 15.0037° | 176°11.11' | N 1°39.14' | 0.9685' | 186°33.52' | 14.4857° | 96°07.02' | N 27°18.43' | 0.4848' | 54.2582' | 282°40.54' | **19** |
| **20** | 121°29.64' | 15.0037° | 176°13.36' | N 1°38.17' | 0.9686' | 201°02.66' | 14.4857° | 96°40.34' | N 27°18.79' | 0.3530' | 54.2525' | 297°43.00' | **20** |
| **21** | 136°29.87' | 15.0037° | 176°15.60' | N 1°37.20' | 0.9687' | 215°31.81' | 14.4858° | 97°13.66' | N 27°19.01' | 0.2212' | 54.2471' | 312°45.46' | **21** |
| **22** | 151°30.09' | 15.0037° | 176°17.84' | N 1°36.23' | 0.9687' | 230°00.96' | 14.4858° | 97°46.97' | N 27°19.10' | 0.0895' | 54.2420' | 327°47.93' | **22** |
| **23** | 166°30.31' | 15.0037° | 176°20.08' | N 1°35.26' | 0.9688' | 244°30.11' | 14.4859° | 98°20.28' | N 27°19.06' | 0.0422' | 54.2372' | 342°50.39' | **23** |
| **24** | 181°30.54' | 15.0037° | 176°22.32' | N 1°34.30' | 0.9688' | 258°59.27' | 14.4860° | 98°53.58' | N 27°18.88' | 0.1739' | 54.2327' | 357°52.86' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9163' | hp (π) 0.1459' | ½Ø 14.7976' | 44.5466466213326 5% -cre |
| | EoT at 12:00 UTC : +5m 51s (δ 0.89 s/h) | | Phase at 12:00 UTC : 276.43° | |
| | Meridian Pass. Time : 11:54:08.561 | | Age : 21.5 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.17') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 189°19.53' | 167°34.18' | N 6°51.01' | 283°07.73' | 73°45.99' | N 21°37.05' | 351°47.40' | 5°06.31' | N 0°27.08' | 34°28.05' | 322°25.67' | S 16°12.02' | **00** |
| **01** | 204°19.11' | 167°37.07' | N 6°49.82' | 298°09.01' | 73°47.17' | N 21°37.23' | 6°50.16' | 5°06.02' | N 0°26.94' | 49°30.65' | 322°25.54' | S 16°12.06' | **01** |
| **02** | 219°18.68' | 167°39.96' | N 6°48.63' | 313°10.30' | 73°48.34' | N 21°37.41' | 21°52.93' | 5°05.72' | N 0°26.81' | 64°33.24' | 322°25.40' | S 16°12.10' | **02** |
| **03** | 234°18.26' | 167°42.85' | N 6°47.44' | 328°11.59' | 73°49.52' | N 21°37.59' | 36°55.69' | 5°05.42' | N 0°26.68' | 79°35.84' | 322°25.27' | S 16°12.15' | **03** |
| **04** | 249°17.83' | 167°45.74' | N 6°46.26' | 343°12.88' | 73°50.69' | N 21°37.77' | 51°58.45' | 5°05.12' | N 0°26.55' | 94°38.43' | 322°25.14' | S 16°12.19' | **04** |
| **05** | 264°17.41' | 167°48.63' | N 6°45.07' | 358°14.17' | 73°51.87' | N 21°37.95' | 67°01.21' | 5°04.83' | N 0°26.42' | 109°41.03' | 322°25.01' | S 16°12.23' | **05** |
| **06** | 279°16.98' | 167°51.52' | N 6°43.88' | 13°15.46' | 73°53.04' | N 21°38.13' | 82°03.97' | 5°04.53' | N 0°26.28' | 124°43.62' | 322°24.88' | S 16°12.27' | **06** |
| **07** | 294°16.56' | 167°54.41' | N 6°42.69' | 28°16.75' | 73°54.22' | N 21°38.31' | 97°06.74' | 5°04.23' | N 0°26.15' | 139°46.22' | 322°24.75' | S 16°12.31' | **07** |
| **08** | 309°16.13' | 167°57.30' | N 6°41.50' | 43°18.04' | 73°55.39' | N 21°38.49' | 112°09.50' | 5°03.93' | N 0°26.02' | 154°48.82' | 322°24.62' | S 16°12.35' | **08** |
| **09** | 324°15.71' | 168°00.19' | N 6°40.31' | 58°19.33' | 73°56.56' | N 21°38.67' | 127°12.26' | 5°03.64' | N 0°25.89' | 169°51.41' | 322°24.48' | S 16°12.40' | **09** |
| **10** | 339°15.28' | 168°03.08' | N 6°39.12' | 73°20.63' | 73°57.73' | N 21°38.84' | 142°15.02' | 5°03.34' | N 0°25.76' | 184°54.01' | 322°24.35' | S 16°12.44' | **10** |
| **11** | 354°14.86' | 168°05.96' | N 6°37.93' | 88°21.92' | 73°58.90' | N 21°39.02' | 157°17.78' | 5°03.04' | N 0°25.62' | 199°56.60' | 322°24.22' | S 16°12.48' | **11** |
| **12** | 9°14.44' | 168°08.85' | N 6°36.74' | 103°23.22' | 74°00.07' | N 21°39.20' | 172°20.55' | 5°02.74' | N 0°25.49' | 214°59.20' | 322°24.09' | S 16°12.52' | **12** |
| **13** | 24°14.01' | 168°11.74' | N 6°35.55' | 118°24.51' | 74°01.24' | N 21°39.38' | 187°23.31' | 5°02.44' | N 0°25.36' | 230°01.79' | 322°23.96' | S 16°12.56' | **13** |
| **14** | 39°13.59' | 168°14.63' | N 6°34.36' | 133°25.81' | 74°02.41' | N 21°39.55' | 202°26.07' | 5°02.14' | N 0°25.23' | 245°04.38' | 322°23.83' | S 16°12.60' | **14** |
| **15** | 54°13.17' | 168°17.51' | N 6°33.16' | 148°27.10' | 74°03.58' | N 21°39.73' | 217°28.83' | 5°01.85' | N 0°25.10' | 260°06.98' | 322°23.70' | S 16°12.64' | **15** |
| **16** | 69°12.74' | 168°20.40' | N 6°31.97' | 163°28.40' | 74°04.74' | N 21°39.91' | 232°31.60' | 5°01.55' | N 0°24.96' | 275°09.57' | 322°23.57' | S 16°12.68' | **16** |
| **17** | 84°12.32' | 168°23.29' | N 6°30.78' | 178°29.70' | 74°05.91' | N 21°40.08' | 247°34.36' | 5°01.25' | N 0°24.83' | 290°12.17' | 322°23.44' | S 16°12.72' | **17** |
| **18** | 99°11.90' | 168°26.17' | N 6°29.59' | 193°31.00' | 74°07.08' | N 21°40.26' | 262°37.12' | 5°00.95' | N 0°24.70' | 305°14.76' | 322°23.31' | S 16°12.77' | **18** |
| **19** | 114°11.47' | 168°29.06' | N 6°28.39' | 208°32.30' | 74°08.24' | N 21°40.44' | 277°39.89' | 5°00.65' | N 0°24.57' | 320°17.36' | 322°23.18' | S 16°12.81' | **19** |
| **20** | 129°11.05' | 168°31.95' | N 6°27.20' | 223°33.60' | 74°09.40' | N 21°40.61' | 292°42.65' | 5°00.35' | N 0°24.43' | 335°19.95' | 322°23.05' | S 16°12.85' | **20** |
| **21** | 144°10.63' | 168°34.83' | N 6°26.01' | 238°34.90' | 74°10.57' | N 21°40.79' | 307°45.41' | 5°00.05' | N 0°24.30' | 350°22.54' | 322°22.92' | S 16°12.89' | **21** |
| **22** | 159°10.21' | 168°37.72' | N 6°24.81' | 253°36.20' | 74°11.73' | N 21°40.97' | 322°48.18' | 4°59.75' | N 0°24.17' | 5°25.14' | 322°22.79' | S 16°12.93' | **22** |
| **23** | 174°09.79' | 168°40.61' | N 6°23.62' | 268°37.50' | 74°12.89' | N 21°41.14' | 337°50.94' | 4°59.45' | N 0°24.04' | 20°27.73' | 322°22.66' | S 16°12.97' | **23** |
| **24** | 189°09.37' | 168°43.49' | N 6°22.42' | 283°38.80' | 74°14.05' | N 21°41.32' | 352°53.70' | 4°59.15' | N 0°23.90' | 35°30.32' | 322°22.53' | S 16°13.01' | **24** |
| | δ 14.9929° | | *d* 1.1870' | δ 15.0214° | | *d* 0.1797' | δ 15.0460° | | *d* 0.1319' | δ 15.0433° | | *d* 0.0418' | |

## *Monday, September 19th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 181°30.54' | 15.0037° | 176°22.32' | N 1°34.30' | 0.9688' | 258°59.27' | 14.4860° | 98°53.58' | N 27°18.88' | 0.1739' | 54.2327' | 357°52.86' | **00** |
| **01** | 196°30.76' | 15.0037° | 176°24.56' | N 1°33.33' | 0.9689' | 273°28.44' | 14.4861° | 99°26.88' | N 27°18.58' | 0.3054' | 54.2285' | 12°55.32' | **01** |
| **02** | 211°30.98' | 15.0037° | 176°26.80' | N 1°32.36' | 0.9690' | 287°57.62' | 14.4863° | 100°00.17' | N 27°18.14' | 0.4369' | 54.2246' | 27°57.79' | **02** |
| **03** | 226°31.21' | 15.0037° | 176°29.04' | N 1°31.39' | 0.9690' | 302°26.80' | 14.4864° | 100°33.45' | N 27°17.57' | 0.5683' | 54.2210' | 43°00.25' | **03** |
| **04** | 241°31.43' | 15.0037° | 176°31.28' | N 1°30.42' | 0.9691' | 316°55.99' | 14.4865° | 101°06.72' | N 27°16.87' | 0.6996' | 54.2177' | 58°02.71' | **04** |
| **05** | 256°31.65' | 15.0037° | 176°33.53' | N 1°29.45' | 0.9692' | 331°25.19' | 14.4867° | 101°39.98' | N 27°16.04' | 0.8308' | 54.2147' | 73°05.18' | **05** |
| **06** | 271°31.87' | 15.0037° | 176°35.77' | N 1°28.48' | 0.9692' | 345°54.41' | 14.4869° | 102°13.23' | N 27°15.08' | 0.9618' | 54.2120' | 88°07.64' | **06** |
| **07** | 286°32.10' | 15.0037° | 176°38.01' | N 1°27.51' | 0.9693' | 0°23.64' | 14.4871° | 102°46.47' | N 27°13.99' | 1.0927' | 54.2096' | 103°10.11' | **07** |
| **08** | 301°32.32' | 15.0037° | 176°40.25' | N 1°26.54' | 0.9694' | 14°52.87' | 14.4873° | 103°19.70' | N 27°12.76' | 1.2235' | 54.2074' | 118°12.57' | **08** |
| **09** | 316°32.54' | 15.0037° | 176°42.49' | N 1°25.57' | 0.9694' | 29°22.13' | 14.4875° | 103°52.91' | N 27°11.41' | 1.3541' | 54.2056' | 133°15.03' | **09** |
| **10** | 331°32.77' | 15.0037° | 176°44.73' | N 1°24.60' | 0.9695' | 43°51.39' | 14.4878° | 104°26.10' | N 27°09.92' | 1.4845' | 54.2041' | 148°17.50' | **10** |
| **11** | 346°32.99' | 15.0037° | 176°46.97' | N 1°23.63' | 0.9695' | 58°20.68' | 14.4880° | 104°59.29' | N 27°08.31' | 1.6147' | 54.2028' | 163°19.96' | **11** |
| **12** | 1°33.21' | 15.0037° | 176°49.22' | N 1°22.66' | 0.9696' | 72°49.98' | 14.4883° | 105°32.45' | N 27°06.56' | 1.7448' | 54.2019' | 178°22.43' | **12** |
| **13** | 16°33.43' | 15.0037° | 176°51.46' | N 1°21.70' | 0.9697' | 87°19.29' | 14.4886° | 106°05.60' | N 27°04.69' | 1.8747' | 54.2012' | 193°24.89' | **13** |
| **14** | 31°33.66' | 15.0037° | 176°53.70' | N 1°20.73' | 0.9697' | 101°48.63' | 14.4889° | 106°38.73' | N 27°02.69' | 2.0043' | 54.2009' | 208°27.36' | **14** |
| **15** | 46°33.88' | 15.0037° | 176°55.94' | N 1°19.76' | 0.9698' | 116°17.98' | 14.4892° | 107°11.84' | N 27°00.55' | 2.1337' | 54.2008' | 223°29.82' | **15** |
| **16** | 61°34.10' | 15.0037° | 176°58.18' | N 1°18.79' | 0.9698' | 130°47.35' | 14.4896° | 107°44.93' | N 26°58.29' | 2.2629' | 54.2010' | 238°32.28' | **16** |
| **17** | 76°34.32' | 15.0037° | 177°00.42' | N 1°17.82' | 0.9699' | 145°16.75' | 14.4899° | 108°18.00' | N 26°55.90' | 2.3918' | 54.2015' | 253°34.75' | **17** |
| **18** | 91°34.55' | 15.0037° | 177°02.66' | N 1°16.85' | 0.9700' | 159°46.16' | 14.4903° | 108°51.05' | N 26°53.38' | 2.5205' | 54.2023' | 268°37.21' | **18** |
| **19** | 106°34.77' | 15.0037° | 177°04.91' | N 1°15.88' | 0.9700' | 174°15.60' | 14.4906° | 109°24.07' | N 26°50.73' | 2.6489' | 54.2034' | 283°39.68' | **19** |
| **20** | 121°34.99' | 15.0037° | 177°07.15' | N 1°14.91' | 0.9701' | 188°45.06' | 14.4910° | 109°57.08' | N 26°47.95' | 2.7771' | 54.2048' | 298°42.14' | **20** |
| **21** | 136°35.21' | 15.0037° | 177°09.39' | N 1°13.94' | 0.9701' | 203°14.55' | 14.4914° | 110°30.06' | N 26°45.05' | 2.9049' | 54.2064' | 313°44.60' | **21** |
| **22** | 151°35.44' | 15.0037° | 177°11.63' | N 1°12.97' | 0.9702' | 217°44.05' | 14.4918° | 111°03.01' | N 26°42.01' | 3.0325' | 54.2084' | 328°47.07' | **22** |
| **23** | 166°35.66' | 15.0037° | 177°13.87' | N 1°12.00' | 0.9703' | 232°13.59' | 14.4922° | 111°35.94' | N 26°38.85' | 3.1598' | 54.2106' | 343°49.53' | **23** |
| **24** | 181°35.88' | 15.0037° | 177°16.12' | N 1°11.03' | 0.9703' | 246°43.15' | 14.4927° | 112°08.85' | N 26°35.57' | 3.2867' | 54.2131' | 358°52.00' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9206' | hp (π) 0.1459' | ½Ø 14.7691' | 35.2945700312699<br>8% -cre |
| | EoT at 12:00 UTC : +6m 12s (δ 0.89 s/h) | | Phase at 12:00 UTC : 287.30° | |
| | Meridian Pass. Time : 11:53:47.155 | | Age : 22.3 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.17') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 189°09.37' | 168°43.49' | N 6°22.42' | 283°38.80' | 74°14.05' | N 21°41.32' | 352°53.70' | 4°59.15' | N 0°23.90' | 35°30.32' | 322°22.53' | S 16°13.01' | **00** |
| **01** | 204°08.94' | 168°46.38' | N 6°21.23' | 298°40.11' | 74°15.21' | N 21°41.49' | 7°56.47' | 4°58.86' | N 0°23.77' | 50°32.92' | 322°22.40' | S 16°13.05' | **01** |
| **02** | 219°08.52' | 168°49.26' | N 6°20.03' | 313°41.41' | 74°16.37' | N 21°41.67' | 22°59.23' | 4°58.56' | N 0°23.64' | 65°35.51' | 322°22.27' | S 16°13.09' | **02** |
| **03** | 234°08.10' | 168°52.15' | N 6°18.84' | 328°42.72' | 74°17.53' | N 21°41.84' | 38°01.99' | 4°58.26' | N 0°23.51' | 80°38.10' | 322°22.15' | S 16°13.13' | **03** |
| **04** | 249°07.68' | 168°55.03' | N 6°17.64' | 343°44.02' | 74°18.69' | N 21°42.02' | 53°04.76' | 4°57.96' | N 0°23.37' | 95°40.70' | 322°22.02' | S 16°13.17' | **04** |
| **05** | 264°07.26' | 168°57.92' | N 6°16.44' | 358°45.33' | 74°19.85' | N 21°42.19' | 68°07.52' | 4°57.66' | N 0°23.24' | 110°43.29' | 322°21.89' | S 16°13.21' | **05** |
| **06** | 279°06.84' | 169°00.80' | N 6°15.25' | 13°46.64' | 74°21.01' | N 21°42.37' | 83°10.28' | 4°57.36' | N 0°23.11' | 125°45.88' | 322°21.76' | S 16°13.25' | **06** |
| **07** | 294°06.42' | 169°03.68' | N 6°14.05' | 28°47.94' | 74°22.16' | N 21°42.54' | 98°13.05' | 4°57.06' | N 0°22.98' | 140°48.47' | 322°21.63' | S 16°13.29' | **07** |
| **08** | 309°06.00' | 169°06.57' | N 6°12.85' | 43°49.25' | 74°23.32' | N 21°42.72' | 113°15.81' | 4°56.76' | N 0°22.84' | 155°51.07' | 322°21.50' | S 16°13.34' | **08** |
| **09** | 324°05.58' | 169°09.45' | N 6°11.65' | 58°50.56' | 74°24.47' | N 21°42.89' | 128°18.58' | 4°56.46' | N 0°22.71' | 170°53.66' | 322°21.37' | S 16°13.38' | **09** |
| **10** | 339°05.16' | 169°12.34' | N 6°10.46' | 73°51.87' | 74°25.63' | N 21°43.06' | 143°21.34' | 4°56.16' | N 0°22.58' | 185°56.25' | 322°21.25' | S 16°13.42' | **10** |
| **11** | 354°04.74' | 169°15.22' | N 6°09.26' | 88°53.18' | 74°26.78' | N 21°43.24' | 158°24.10' | 4°55.86' | N 0°22.44' | 200°58.84' | 322°21.12' | S 16°13.46' | **11** |
| **12** | 9°04.33' | 169°18.10' | N 6°08.06' | 103°54.49' | 74°27.93' | N 21°43.41' | 173°26.87' | 4°55.56' | N 0°22.31' | 216°01.44' | 322°20.99' | S 16°13.50' | **12** |
| **13** | 24°03.91' | 169°20.98' | N 6°06.86' | 118°55.81' | 74°29.09' | N 21°43.59' | 188°29.63' | 4°55.26' | N 0°22.18' | 231°04.03' | 322°20.86' | S 16°13.54' | **13** |
| **14** | 39°03.49' | 169°23.87' | N 6°05.66' | 133°57.12' | 74°30.24' | N 21°43.76' | 203°32.40' | 4°54.96' | N 0°22.05' | 246°06.62' | 322°20.74' | S 16°13.58' | **14** |
| **15** | 54°03.07' | 169°26.75' | N 6°04.46' | 148°58.43' | 74°31.39' | N 21°43.93' | 218°35.16' | 4°54.66' | N 0°21.91' | 261°09.21' | 322°20.61' | S 16°13.62' | **15** |
| **16** | 69°02.65' | 169°29.63' | N 6°03.26' | 163°59.75' | 74°32.54' | N 21°44.10' | 233°37.93' | 4°54.36' | N 0°21.78' | 276°11.80' | 322°20.48' | S 16°13.66' | **16** |
| **17** | 84°02.23' | 169°32.51' | N 6°02.06' | 179°01.06' | 74°33.69' | N 21°44.28' | 248°40.69' | 4°54.06' | N 0°21.65' | 291°14.39' | 322°20.35' | S 16°13.70' | **17** |
| **18** | 99°01.82' | 169°35.40' | N 6°00.86' | 194°02.38' | 74°34.83' | N 21°44.45' | 263°43.46' | 4°53.75' | N 0°21.52' | 306°16.98' | 322°20.23' | S 16°13.74' | **18** |
| **19** | 114°01.40' | 169°38.28' | N 5°59.66' | 209°03.69' | 74°35.98' | N 21°44.62' | 278°46.22' | 4°53.45' | N 0°21.38' | 321°19.58' | 322°20.10' | S 16°13.78' | **19** |
| **20** | 129°00.98' | 169°41.16' | N 5°58.46' | 224°05.01' | 74°37.13' | N 21°44.79' | 293°48.99' | 4°53.15' | N 0°21.25' | 336°22.17' | 322°19.97' | S 16°13.82' | **20** |
| **21** | 144°00.56' | 169°44.04' | N 5°57.26' | 239°06.33' | 74°38.28' | N 21°44.97' | 308°51.75' | 4°52.85' | N 0°21.12' | 351°24.76' | 322°19.85' | S 16°13.86' | **21** |
| **22** | 159°00.15' | 169°46.92' | N 5°56.06' | 254°07.65' | 74°39.42' | N 21°45.14' | 323°54.52' | 4°52.55' | N 0°20.98' | 6°27.35' | 322°19.72' | S 16°13.90' | **22** |
| **23** | 173°59.73' | 169°49.80' | N 5°54.85' | 269°08.97' | 74°40.57' | N 21°45.31' | 338°57.28' | 4°52.25' | N 0°20.85' | 21°29.94' | 322°19.59' | S 16°13.94' | **23** |
| **24** | 188°59.31' | 169°52.68' | N 5°53.65' | 284°10.29' | 74°41.71' | N 21°45.48' | 354°00.05' | 4°51.95' | N 0°20.72' | 36°32.53' | 322°19.47' | S 16°13.98' | **24** |
| | δ 14.9930° | | *d* 1.1951' | δ 15.0217° | | *d* 0.1754' | δ 15.0461° | | *d* 0.1325' | δ 15.0432° | | *d* 0.0407' | |

## *Tuesday, September 20th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 181°35.88' | 15.0037° | 177°16.12' | N 1°11.03' | 0.9703' | 246°43.15' | 14.4927° | 112°08.85' | N 26°35.57' | 3.2867' | 54.2131' | 358°52.00' | **00** |
| **01** | 196°36.10' | 15.0037° | 177°18.36' | N 1°10.05' | 0.9704' | 261°12.74' | 14.4931° | 112°41.72' | N 26°32.15' | 3.4133' | 54.2159' | 13°54.46' | **01** |
| **02** | 211°36.33' | 15.0037° | 177°20.60' | N 1°09.08' | 0.9704' | 275°42.35' | 14.4936° | 113°14.57' | N 26°28.61' | 3.5396' | 54.2189' | 28°56.92' | **02** |
| **03** | 226°36.55' | 15.0037° | 177°22.84' | N 1°08.11' | 0.9705' | 290°11.99' | 14.4941° | 113°47.39' | N 26°24.95' | 3.6656' | 54.2223' | 43°59.39' | **03** |
| **04** | 241°36.77' | 15.0037° | 177°25.08' | N 1°07.14' | 0.9705' | 304°41.67' | 14.4945° | 114°20.19' | N 26°21.16' | 3.7911' | 54.2259' | 59°01.85' | **04** |
| **05** | 256°36.99' | 15.0037° | 177°27.32' | N 1°06.17' | 0.9706' | 319°11.37' | 14.4950° | 114°52.95' | N 26°17.24' | 3.9164' | 54.2298' | 74°04.32' | **05** |
| **06** | 271°37.21' | 15.0037° | 177°29.57' | N 1°05.20' | 0.9706' | 333°41.10' | 14.4955° | 115°25.68' | N 26°13.20' | 4.0412' | 54.2339' | 89°06.78' | **06** |
| **07** | 286°37.44' | 15.0037° | 177°31.81' | N 1°04.23' | 0.9707' | 348°10.86' | 14.4961° | 115°58.38' | N 26°09.03' | 4.1657' | 54.2384' | 104°09.25' | **07** |
| **08** | 301°37.66' | 15.0037° | 177°34.05' | N 1°03.26' | 0.9707' | 2°40.66' | 14.4966° | 116°31.05' | N 26°04.74' | 4.2898' | 54.2431' | 119°11.71' | **08** |
| **09** | 316°37.88' | 15.0037° | 177°36.29' | N 1°02.29' | 0.9708' | 17°10.49' | 14.4971° | 117°03.69' | N 26°00.33' | 4.4134' | 54.2481' | 134°14.17' | **09** |
| **10** | 331°38.10' | 15.0037° | 177°38.53' | N 1°01.32' | 0.9708' | 31°40.35' | 14.4977° | 117°36.29' | N 25°55.79' | 4.5367' | 54.2534' | 149°16.64' | **10** |
| **11** | 346°38.33' | 15.0037° | 177°40.78' | N 1°00.35' | 0.9709' | 46°10.24' | 14.4982° | 118°08.86' | N 25°51.13' | 4.6596' | 54.2589' | 164°19.10' | **11** |
| **12** | 1°38.55' | 15.0037° | 177°43.02' | N 0°59.38' | 0.9709' | 60°40.17' | 14.4988° | 118°41.40' | N 25°46.35' | 4.7820' | 54.2647' | 179°21.57' | **12** |
| **13** | 16°38.77' | 15.0037° | 177°45.26' | N 0°58.41' | 0.9710' | 75°10.13' | 14.4994° | 119°13.90' | N 25°41.45' | 4.9040' | 54.2707' | 194°24.03' | **13** |
| **14** | 31°38.99' | 15.0037° | 177°47.50' | N 0°57.44' | 0.9710' | 89°40.13' | 14.5000° | 119°46.36' | N 25°36.42' | 5.0255' | 54.2771' | 209°26.49' | **14** |
| **15** | 46°39.21' | 15.0037° | 177°49.75' | N 0°56.46' | 0.9711' | 104°10.17' | 14.5006° | 120°18.79' | N 25°31.28' | 5.1466' | 54.2837' | 224°28.96' | **15** |
| **16** | 61°39.43' | 15.0037° | 177°51.99' | N 0°55.49' | 0.9711' | 118°40.24' | 14.5012° | 120°51.19' | N 25°26.01' | 5.2673' | 54.2905' | 239°31.42' | **16** |
| **17** | 76°39.66' | 15.0037° | 177°54.23' | N 0°54.52' | 0.9712' | 133°10.34' | 14.5018° | 121°23.54' | N 25°20.62' | 5.3875' | 54.2976' | 254°33.89' | **17** |
| **18** | 91°39.88' | 15.0037° | 177°56.47' | N 0°53.55' | 0.9712' | 147°40.49' | 14.5024° | 121°55.86' | N 25°15.11' | 5.5071' | 54.3050' | 269°36.35' | **18** |
| **19** | 106°40.10' | 15.0037° | 177°58.72' | N 0°52.58' | 0.9713' | 162°10.67' | 14.5031° | 122°28.14' | N 25°09.49' | 5.6264' | 54.3126' | 284°38.82' | **19** |
| **20** | 121°40.32' | 15.0037° | 178°00.96' | N 0°51.61' | 0.9713' | 176°40.90' | 14.5037° | 123°00.38' | N 25°03.74' | 5.7451' | 54.3205' | 299°41.28' | **20** |
| **21** | 136°40.54' | 15.0037° | 178°03.20' | N 0°50.64' | 0.9714' | 191°11.16' | 14.5043° | 123°32.59' | N 24°57.88' | 5.8633' | 54.3287' | 314°43.74' | **21** |
| **22** | 151°40.76' | 15.0037° | 178°05.44' | N 0°49.66' | 0.9714' | 205°41.46' | 14.5050° | 124°04.75' | N 24°51.90' | 5.9810' | 54.3371' | 329°46.21' | **22** |
| **23** | 166°40.99' | 15.0037° | 178°07.69' | N 0°48.69' | 0.9715' | 220°11.80' | 14.5057° | 124°36.88' | N 24°45.80' | 6.0982' | 54.3457' | 344°48.67' | **23** |
| **24** | 181°41.21' | 15.0037° | 178°09.93' | N 0°47.72' | 0.9715' | 234°42.18' | 14.5063° | 125°08.96' | N 24°39.58' | 6.2149' | 54.3546' | 359°51.14' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9248' | hp (π) 0.1459' | ½Ø 14.7862' | 26.5607669366142 % -cre |
| | EoT at 12:00 UTC : +6m 34s (δ 0.89 s/h) | | Phase at 12:00 UTC : 298.20° | |
| | Meridian Pass. Time : 11:53:25.812 | | Age : 23.2 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.17') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 188°59.31' | 169°52.68' | N 5°53.65' | 284°10.29' | 74°41.71' | N 21°45.48' | 354°00.05' | 4°51.95' | N 0°20.72' | 36°32.53' | 322°19.47' | S 16°13.98' | **00** |
| **01** | 203°58.90' | 169°55.57' | N 5°52.45' | 299°11.61' | 74°42.85' | N 21°45.65' | 9°02.81' | 4°51.65' | N 0°20.58' | 51°35.12' | 322°19.34' | S 16°14.02' | **01** |
| **02** | 218°58.48' | 169°58.45' | N 5°51.25' | 314°12.93' | 74°44.00' | N 21°45.82' | 24°05.58' | 4°51.35' | N 0°20.45' | 66°37.71' | 322°19.22' | S 16°14.05' | **02** |
| **03** | 233°58.06' | 170°01.33' | N 5°50.04' | 329°14.25' | 74°45.14' | N 21°45.99' | 39°08.34' | 4°51.05' | N 0°20.32' | 81°40.30' | 322°19.09' | S 16°14.09' | **03** |
| **04** | 248°57.65' | 170°04.21' | N 5°48.84' | 344°15.57' | 74°46.28' | N 21°46.17' | 54°11.11' | 4°50.74' | N 0°20.19' | 96°42.89' | 322°18.96' | S 16°14.13' | **04** |
| **05** | 263°57.23' | 170°07.09' | N 5°47.63' | 359°16.90' | 74°47.42' | N 21°46.34' | 69°13.87' | 4°50.44' | N 0°20.05' | 111°45.48' | 322°18.84' | S 16°14.17' | **05** |
| **06** | 278°56.82' | 170°09.97' | N 5°46.43' | 14°18.22' | 74°48.56' | N 21°46.51' | 84°16.64' | 4°50.14' | N 0°19.92' | 126°48.07' | 322°18.71' | S 16°14.21' | **06** |
| **07** | 293°56.40' | 170°12.85' | N 5°45.23' | 29°19.55' | 74°49.70' | N 21°46.68' | 99°19.41' | 4°49.84' | N 0°19.79' | 141°50.66' | 322°18.59' | S 16°14.25' | **07** |
| **08** | 308°55.98' | 170°15.73' | N 5°44.02' | 44°20.87' | 74°50.84' | N 21°46.85' | 114°22.17' | 4°49.54' | N 0°19.65' | 156°53.25' | 322°18.46' | S 16°14.29' | **08** |
| **09** | 323°55.57' | 170°18.60' | N 5°42.82' | 59°22.20' | 74°51.97' | N 21°47.02' | 129°24.94' | 4°49.24' | N 0°19.52' | 171°55.84' | 322°18.34' | S 16°14.33' | **09** |
| **10** | 338°55.15' | 170°21.48' | N 5°41.61' | 74°23.53' | 74°53.11' | N 21°47.19' | 144°27.70' | 4°48.93' | N 0°19.39' | 186°58.43' | 322°18.21' | S 16°14.37' | **10** |
| **11** | 353°54.74' | 170°24.36' | N 5°40.40' | 89°24.86' | 74°54.25' | N 21°47.36' | 159°30.47' | 4°48.63' | N 0°19.25' | 202°01.01' | 322°18.09' | S 16°14.41' | **11** |
| **12** | 8°54.33' | 170°27.24' | N 5°39.20' | 104°26.18' | 74°55.38' | N 21°47.53' | 174°33.24' | 4°48.33' | N 0°19.12' | 217°03.60' | 322°17.96' | S 16°14.45' | **12** |
| **13** | 23°53.91' | 170°30.12' | N 5°37.99' | 119°27.51' | 74°56.52' | N 21°47.70' | 189°36.00' | 4°48.03' | N 0°18.99' | 232°06.19' | 322°17.84' | S 16°14.49' | **13** |
| **14** | 38°53.50' | 170°33.00' | N 5°36.79' | 134°28.84' | 74°57.65' | N 21°47.86' | 204°38.77' | 4°47.73' | N 0°18.85' | 247°08.78' | 322°17.71' | S 16°14.53' | **14** |
| **15** | 53°53.08' | 170°35.88' | N 5°35.58' | 149°30.18' | 74°58.78' | N 21°48.03' | 219°41.53' | 4°47.42' | N 0°18.72' | 262°11.37' | 322°17.59' | S 16°14.57' | **15** |
| **16** | 68°52.67' | 170°38.75' | N 5°34.37' | 164°31.51' | 74°59.92' | N 21°48.20' | 234°44.30' | 4°47.12' | N 0°18.59' | 277°13.96' | 322°17.46' | S 16°14.60' | **16** |
| **17** | 83°52.25' | 170°41.63' | N 5°33.16' | 179°32.84' | 75°01.05' | N 21°48.37' | 249°47.07' | 4°46.82' | N 0°18.45' | 292°16.55' | 322°17.34' | S 16°14.64' | **17** |
| **18** | 98°51.84' | 170°44.51' | N 5°31.96' | 194°34.17' | 75°02.18' | N 21°48.54' | 264°49.83' | 4°46.52' | N 0°18.32' | 307°19.13' | 322°17.22' | S 16°14.68' | **18** |
| **19** | 113°51.43' | 170°47.39' | N 5°30.75' | 209°35.51' | 75°03.31' | N 21°48.71' | 279°52.60' | 4°46.21' | N 0°18.19' | 322°21.72' | 322°17.09' | S 16°14.72' | **19** |
| **20** | 128°51.01' | 170°50.26' | N 5°29.54' | 224°36.84' | 75°04.44' | N 21°48.88' | 294°55.37' | 4°45.91' | N 0°18.05' | 337°24.31' | 322°16.97' | S 16°14.76' | **20** |
| **21** | 143°50.60' | 170°53.14' | N 5°28.33' | 239°38.18' | 75°05.57' | N 21°49.04' | 309°58.13' | 4°45.61' | N 0°17.92' | 352°26.90' | 322°16.85' | S 16°14.80' | **21** |
| **22** | 158°50.19' | 170°56.02' | N 5°27.12' | 254°39.51' | 75°06.69' | N 21°49.21' | 325°00.90' | 4°45.31' | N 0°17.79' | 7°29.49' | 322°16.72' | S 16°14.84' | **22** |
| **23** | 173°49.78' | 170°58.90' | N 5°25.91' | 269°40.85' | 75°07.82' | N 21°49.38' | 340°03.67' | 4°45.00' | N 0°17.65' | 22°32.07' | 322°16.60' | S 16°14.88' | **23** |
| **24** | 188°49.36' | 171°01.77' | N 5°24.70' | 284°42.19' | 75°08.95' | N 21°49.55' | 355°06.43' | 4°44.70' | N 0°17.52' | 37°34.66' | 322°16.48' | S 16°14.91' | **24** |
| | δ 14.9931° | | *d* 1.2027' | δ 15.0220° | | *d* 0.1713' | δ 15.0461° | | *d* 0.1330' | δ 15.0432° | | *d* 0.0396' | |

## *Wednesday, September 21st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 181°41.21' | 15.0037° | 178°09.93' | N 0°47.72' | 0.9715' | 234°42.18' | 14.5063° | 125°08.96' | N 24°39.58' | 6.2149' | 54.3546' | 359°51.14' | **00** |
| **01** | 196°41.43' | 15.0037° | 178°12.17' | N 0°46.75' | 0.9716' | 249°12.60' | 14.5070° | 125°41.00' | N 24°33.25' | 6.3311' | 54.3638' | 14°53.60' | **01** |
| **02** | 211°41.65' | 15.0037° | 178°14.41' | N 0°45.78' | 0.9716' | 263°43.06' | 14.5077° | 126°13.01' | N 24°26.81' | 6.4467' | 54.3732' | 29°56.06' | **02** |
| **03** | 226°41.87' | 15.0037° | 178°16.66' | N 0°44.81' | 0.9717' | 278°13.56' | 14.5084° | 126°44.97' | N 24°20.25' | 6.5617' | 54.3828' | 44°58.53' | **03** |
| **04** | 241°42.09' | 15.0037° | 178°18.90' | N 0°43.84' | 0.9717' | 292°44.10' | 14.5091° | 127°16.89' | N 24°13.57' | 6.6763' | 54.3927' | 60°00.99' | **04** |
| **05** | 256°42.31' | 15.0037° | 178°21.14' | N 0°42.86' | 0.9717' | 307°14.69' | 14.5098° | 127°48.77' | N 24°06.78' | 6.7902' | 54.4028' | 75°03.46' | **05** |
| **06** | 271°42.54' | 15.0037° | 178°23.38' | N 0°41.89' | 0.9718' | 321°45.32' | 14.5105° | 128°20.60' | N 23°59.88' | 6.9036' | 54.4132' | 90°05.92' | **06** |
| **07** | 286°42.76' | 15.0037° | 178°25.63' | N 0°40.92' | 0.9718' | 336°15.99' | 14.5112° | 128°52.40' | N 23°52.86' | 7.0165' | 54.4238' | 105°08.38' | **07** |
| **08** | 301°42.98' | 15.0037° | 178°27.87' | N 0°39.95' | 0.9719' | 350°46.70' | 14.5119° | 129°24.15' | N 23°45.73' | 7.1287' | 54.4346' | 120°10.85' | **08** |
| **09** | 316°43.20' | 15.0037° | 178°30.11' | N 0°38.98' | 0.9719' | 5°17.46' | 14.5126° | 129°55.85' | N 23°38.49' | 7.2404' | 54.4457' | 135°13.31' | **09** |
| **10** | 331°43.42' | 15.0037° | 178°32.36' | N 0°38.00' | 0.9720' | 19°48.26' | 14.5133° | 130°27.52' | N 23°31.14' | 7.3515' | 54.4570' | 150°15.78' | **10** |
| **11** | 346°43.64' | 15.0037° | 178°34.60' | N 0°37.03' | 0.9720' | 34°19.10' | 14.5141° | 130°59.14' | N 23°23.68' | 7.4620' | 54.4685' | 165°18.24' | **11** |
| **12** | 1°43.86' | 15.0037° | 178°36.84' | N 0°36.06' | 0.9720' | 48°49.99' | 14.5148° | 131°30.72' | N 23°16.10' | 7.5719' | 54.4803' | 180°20.71' | **12** |
| **13** | 16°44.08' | 15.0037° | 178°39.09' | N 0°35.09' | 0.9721' | 63°20.92' | 14.5155° | 132°02.25' | N 23°08.42' | 7.6812' | 54.4923' | 195°23.17' | **13** |
| **14** | 31°44.30' | 15.0037° | 178°41.33' | N 0°34.12' | 0.9721' | 77°51.89' | 14.5162° | 132°33.74' | N 23°00.63' | 7.7898' | 54.5045' | 210°25.63' | **14** |
| **15** | 46°44.53' | 15.0037° | 178°43.57' | N 0°33.14' | 0.9722' | 92°22.91' | 14.5170° | 133°05.18' | N 22°52.74' | 7.8979' | 54.5170' | 225°28.10' | **15** |
| **16** | 61°44.75' | 15.0037° | 178°45.82' | N 0°32.17' | 0.9722' | 106°53.98' | 14.5177° | 133°36.59' | N 22°44.73' | 8.0053' | 54.5297' | 240°30.56' | **16** |
| **17** | 76°44.97' | 15.0037° | 178°48.06' | N 0°31.20' | 0.9722' | 121°25.08' | 14.5185° | 134°07.94' | N 22°36.62' | 8.1121' | 54.5425' | 255°33.03' | **17** |
| **18** | 91°45.19' | 15.0037° | 178°50.30' | N 0°30.23' | 0.9723' | 135°56.23' | 14.5192° | 134°39.26' | N 22°28.40' | 8.2183' | 54.5556' | 270°35.49' | **18** |
| **19** | 106°45.41' | 15.0037° | 178°52.55' | N 0°29.25' | 0.9723' | 150°27.43' | 14.5199° | 135°10.52' | N 22°20.08' | 8.3238' | 54.5690' | 285°37.95' | **19** |
| **20** | 121°45.63' | 15.0037° | 178°54.79' | N 0°28.28' | 0.9724' | 164°58.67' | 14.5207° | 135°41.75' | N 22°11.65' | 8.4287' | 54.5825' | 300°40.42' | **20** |
| **21** | 136°45.85' | 15.0037° | 178°57.03' | N 0°27.31' | 0.9724' | 179°29.96' | 14.5214° | 136°12.93' | N 22°03.11' | 8.5329' | 54.5963' | 315°42.88' | **21** |
| **22** | 151°46.07' | 15.0037° | 178°59.28' | N 0°26.34' | 0.9724' | 194°01.29' | 14.5222° | 136°44.06' | N 21°54.48' | 8.6365' | 54.6102' | 330°45.35' | **22** |
| **23** | 166°46.29' | 15.0037° | 179°01.52' | N 0°25.37' | 0.9725' | 208°32.66' | 14.5229° | 137°15.15' | N 21°45.74' | 8.7394' | 54.6244' | 345°47.81' | **23** |
| **24** | 181°46.51' | 15.0037° | 179°03.76' | N 0°24.39' | 0.9725' | 223°04.08' | 14.5237° | 137°46.19' | N 21°36.90' | 8.8416' | 54.6388' | 0°50.27' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9292' | hp (π) 0.1460' | ½Ø 14.8449' | 18.6091705019798<br>15% -cre |
| | EoT at 12:00 UTC : +6m 55s (δ 0.88 s/h) | | Phase at 12:00 UTC : 309.19° | |
| | Meridian Pass. Time : 11:53:04.550 | | Age : 24.0 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.17') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 188°49.36' | 171°01.77' | N 5°24.70' | 284°42.19' | 75°08.95' | N 21°49.55' | 355°06.43' | 4°44.70' | N 0°17.52' | 37°34.66' | 322°16.48' | S 16°14.91' | **00** |
| **01** | 203°48.95' | 171°04.65' | N 5°23.49' | 299°43.53' | 75°10.07' | N 21°49.71' | 10°09.20' | 4°44.40' | N 0°17.39' | 52°37.25' | 322°16.35' | S 16°14.95' | **01** |
| **02** | 218°48.54' | 171°07.52' | N 5°22.28' | 314°44.87' | 75°11.20' | N 21°49.88' | 25°11.97' | 4°44.10' | N 0°17.25' | 67°39.83' | 322°16.23' | S 16°14.99' | **02** |
| **03** | 233°48.13' | 171°10.40' | N 5°21.07' | 329°46.21' | 75°12.32' | N 21°50.05' | 40°14.73' | 4°43.79' | N 0°17.12' | 82°42.42' | 322°16.11' | S 16°15.03' | **03** |
| **04** | 248°47.72' | 171°13.28' | N 5°19.86' | 344°47.55' | 75°13.44' | N 21°50.22' | 55°17.50' | 4°43.49' | N 0°16.99' | 97°45.01' | 322°15.98' | S 16°15.07' | **04** |
| **05** | 263°47.30' | 171°16.15' | N 5°18.65' | 359°48.89' | 75°14.57' | N 21°50.38' | 70°20.27' | 4°43.19' | N 0°16.85' | 112°47.60' | 322°15.86' | S 16°15.11' | **05** |
| **06** | 278°46.89' | 171°19.03' | N 5°17.44' | 14°50.23' | 75°15.69' | N 21°50.55' | 85°23.04' | 4°42.88' | N 0°16.72' | 127°50.18' | 322°15.74' | S 16°15.15' | **06** |
| **07** | 293°46.48' | 171°21.90' | N 5°16.23' | 29°51.57' | 75°16.81' | N 21°50.71' | 100°25.80' | 4°42.58' | N 0°16.59' | 142°52.77' | 322°15.62' | S 16°15.18' | **07** |
| **08** | 308°46.07' | 171°24.78' | N 5°15.02' | 44°52.92' | 75°17.93' | N 21°50.88' | 115°28.57' | 4°42.28' | N 0°16.45' | 157°55.35' | 322°15.49' | S 16°15.22' | **08** |
| **09** | 323°45.66' | 171°27.65' | N 5°13.81' | 59°54.26' | 75°19.05' | N 21°51.05' | 130°31.34' | 4°41.97' | N 0°16.32' | 172°57.94' | 322°15.37' | S 16°15.26' | **09** |
| **10** | 338°45.25' | 171°30.53' | N 5°12.59' | 74°55.61' | 75°20.17' | N 21°51.21' | 145°34.11' | 4°41.67' | N 0°16.19' | 188°00.53' | 322°15.25' | S 16°15.30' | **10** |
| **11** | 353°44.84' | 171°33.40' | N 5°11.38' | 89°56.95' | 75°21.29' | N 21°51.38' | 160°36.87' | 4°41.37' | N 0°16.05' | 203°03.11' | 322°15.13' | S 16°15.34' | **11** |
| **12** | 8°44.43' | 171°36.28' | N 5°10.17' | 104°58.30' | 75°22.40' | N 21°51.54' | 175°39.64' | 4°41.06' | N 0°15.92' | 218°05.70' | 322°15.01' | S 16°15.37' | **12** |
| **13** | 23°44.02' | 171°39.15' | N 5°08.95' | 119°59.65' | 75°23.52' | N 21°51.71' | 190°42.41' | 4°40.76' | N 0°15.79' | 233°08.28' | 322°14.88' | S 16°15.41' | **13** |
| **14** | 38°43.61' | 171°42.03' | N 5°07.74' | 135°01.00' | 75°24.64' | N 21°51.87' | 205°45.18' | 4°40.46' | N 0°15.65' | 248°10.87' | 322°14.76' | S 16°15.45' | **14** |
| **15** | 53°43.20' | 171°44.90' | N 5°06.53' | 150°02.35' | 75°25.75' | N 21°52.04' | 220°47.94' | 4°40.15' | N 0°15.52' | 263°13.46' | 322°14.64' | S 16°15.49' | **15** |
| **16** | 68°42.79' | 171°47.78' | N 5°05.31' | 165°03.70' | 75°26.87' | N 21°52.20' | 235°50.71' | 4°39.85' | N 0°15.39' | 278°16.04' | 322°14.52' | S 16°15.53' | **16** |
| **17** | 83°42.38' | 171°50.65' | N 5°04.10' | 180°05.05' | 75°27.98' | N 21°52.37' | 250°53.48' | 4°39.55' | N 0°15.25' | 293°18.63' | 322°14.40' | S 16°15.56' | **17** |
| **18** | 98°41.97' | 171°53.52' | N 5°02.89' | 195°06.40' | 75°29.09' | N 21°52.53' | 265°56.25' | 4°39.24' | N 0°15.12' | 308°21.21' | 322°14.28' | S 16°15.60' | **18** |
| **19** | 113°41.56' | 171°56.40' | N 5°01.67' | 210°07.75' | 75°30.20' | N 21°52.70' | 280°59.02' | 4°38.94' | N 0°14.98' | 323°23.80' | 322°14.16' | S 16°15.64' | **19** |
| **20** | 128°41.15' | 171°59.27' | N 5°00.46' | 225°09.10' | 75°31.31' | N 21°52.86' | 296°01.78' | 4°38.63' | N 0°14.85' | 338°26.38' | 322°14.04' | S 16°15.68' | **20** |
| **21** | 143°40.74' | 172°02.14' | N 4°59.24' | 240°10.46' | 75°32.43' | N 21°53.03' | 311°04.55' | 4°38.33' | N 0°14.72' | 353°28.97' | 322°13.92' | S 16°15.71' | **21** |
| **22** | 158°40.33' | 172°05.02' | N 4°58.02' | 255°11.81' | 75°33.53' | N 21°53.19' | 326°07.32' | 4°38.03' | N 0°14.58' | 8°31.55' | 322°13.80' | S 16°15.75' | **22** |
| **23** | 173°39.92' | 172°07.89' | N 4°56.81' | 270°13.17' | 75°34.64' | N 21°53.35' | 341°10.09' | 4°37.72' | N 0°14.45' | 23°34.13' | 322°13.68' | S 16°15.79' | **23** |
| **24** | 188°39.51' | 172°10.76' | N 4°55.59' | 285°14.52' | 75°35.75' | N 21°53.52' | 356°12.86' | 4°37.42' | N 0°14.32' | 38°36.72' | 322°13.56' | S 16°15.83' | **24** |
| | δ 14.9931° | | *d* 1.2098' | δ 15.0223° | | *d* 0.1673' | δ 15.0461° | | *d* 0.1334' | δ 15.0431° | | *d* 0.0386' | |

## *Thursday, September 22nd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 181°46.51' | 15.0037° | 179°03.76' | N 0°24.39' | 0.9725' | 223°04.08' | 14.5237° | 137°46.19' | N 21°36.90' | 8.8416' | 54.6388' | 0°50.27' | **00** |
| **01** | 196°46.73' | 15.0037° | 179°06.01' | N 0°23.42' | 0.9725' | 237°35.54' | 14.5244° | 138°17.20' | N 21°27.95' | 8.9432' | 54.6533' | 15°52.74' | **01** |
| **02** | 211°46.95' | 15.0037° | 179°08.25' | N 0°22.45' | 0.9726' | 252°07.05' | 14.5251° | 138°48.15' | N 21°18.91' | 9.0441' | 54.6681' | 30°55.20' | **02** |
| **03** | 226°47.17' | 15.0037° | 179°10.49' | N 0°21.47' | 0.9726' | 266°38.60' | 14.5259° | 139°19.06' | N 21°09.77' | 9.1443' | 54.6831' | 45°57.67' | **03** |
| **04** | 241°47.39' | 15.0037° | 179°12.74' | N 0°20.50' | 0.9726' | 281°10.20' | 14.5266° | 139°49.93' | N 21°00.52' | 9.2438' | 54.6983' | 61°00.13' | **04** |
| **05** | 256°47.61' | 15.0037° | 179°14.98' | N 0°19.53' | 0.9727' | 295°41.84' | 14.5274° | 140°20.75' | N 20°51.18' | 9.3427' | 54.7136' | 76°02.59' | **05** |
| **06** | 271°47.83' | 15.0037° | 179°17.23' | N 0°18.56' | 0.9727' | 310°13.53' | 14.5281° | 140°51.53' | N 20°41.74' | 9.4408' | 54.7292' | 91°05.06' | **06** |
| **07** | 286°48.05' | 15.0037° | 179°19.47' | N 0°17.58' | 0.9727' | 324°45.26' | 14.5288° | 141°22.27' | N 20°32.20' | 9.5383' | 54.7450' | 106°07.52' | **07** |
| **08** | 301°48.27' | 15.0037° | 179°21.71' | N 0°16.61' | 0.9728' | 339°17.03' | 14.5296° | 141°52.96' | N 20°22.56' | 9.6350' | 54.7609' | 121°09.99' | **08** |
| **09** | 316°48.49' | 15.0037° | 179°23.96' | N 0°15.64' | 0.9728' | 353°48.85' | 14.5303° | 142°23.61' | N 20°12.83' | 9.7311' | 54.7770' | 136°12.45' | **09** |
| **10** | 331°48.71' | 15.0037° | 179°26.20' | N 0°14.67' | 0.9728' | 8°20.71' | 14.5310° | 142°54.21' | N 20°03.01' | 9.8264' | 54.7934' | 151°14.92' | **10** |
| **11** | 346°48.93' | 15.0037° | 179°28.45' | N 0°13.69' | 0.9729' | 22°52.61' | 14.5317° | 143°24.77' | N 19°53.09' | 9.9210' | 54.8099' | 166°17.38' | **11** |
| **12** | 1°49.15' | 15.0037° | 179°30.69' | N 0°12.72' | 0.9729' | 37°24.56' | 14.5324° | 143°55.29' | N 19°43.07' | 10.0149' | 54.8265' | 181°19.84' | **12** |
| **13** | 16°49.37' | 15.0037° | 179°32.93' | N 0°11.75' | 0.9729' | 51°56.55' | 14.5332° | 144°25.76' | N 19°32.96' | 10.1081' | 54.8434' | 196°22.31' | **13** |
| **14** | 31°49.59' | 15.0037° | 179°35.18' | N 0°10.77' | 0.9730' | 66°28.58' | 14.5339° | 144°56.19' | N 19°22.76' | 10.2005' | 54.8604' | 211°24.77' | **14** |
| **15** | 46°49.81' | 15.0037° | 179°37.42' | N 0°09.80' | 0.9730' | 81°00.65' | 14.5346° | 145°26.58' | N 19°12.47' | 10.2922' | 54.8776' | 226°27.24' | **15** |
| **16** | 61°50.03' | 15.0037° | 179°39.67' | N 0°08.83' | 0.9730' | 95°32.77' | 14.5353° | 145°56.93' | N 19°02.09' | 10.3832' | 54.8950' | 241°29.70' | **16** |
| **17** | 76°50.25' | 15.0037° | 179°41.91' | N 0°07.86' | 0.9730' | 110°04.93' | 14.5360° | 146°27.24' | N 18°51.61' | 10.4735' | 54.9125' | 256°32.16' | **17** |
| **18** | 91°50.47' | 15.0037° | 179°44.16' | N 0°06.88' | 0.9731' | 124°37.13' | 14.5367° | 146°57.50' | N 18°41.05' | 10.5630' | 54.9302' | 271°34.63' | **18** |
| **19** | 106°50.69' | 15.0037° | 179°46.40' | N 0°05.91' | 0.9731' | 139°09.37' | 14.5373° | 147°27.73' | N 18°30.40' | 10.6517' | 54.9481' | 286°37.09' | **19** |
| **20** | 121°50.91' | 15.0037° | 179°48.65' | N 0°04.94' | 0.9731' | 153°41.65' | 14.5380° | 147°57.91' | N 18°19.66' | 10.7397' | 54.9662' | 301°39.56' | **20** |
| **21** | 136°51.13' | 15.0037° | 179°50.89' | N 0°03.96' | 0.9732' | 168°13.97' | 14.5387° | 148°28.05' | N 18°08.83' | 10.8269' | 54.9843' | 316°42.02' | **21** |
| **22** | 151°51.35' | 15.0037° | 179°53.14' | N 0°02.99' | 0.9732' | 182°46.33' | 14.5394° | 148°58.15' | N 17°57.92' | 10.9134' | 55.0027' | 331°44.48' | **22** |
| **23** | 166°51.57' | 15.0037° | 179°55.38' | N 0°02.02' | 0.9732' | 197°18.73' | 14.5400° | 149°28.22' | N 17°46.92' | 10.9991' | 55.0212' | 346°46.95' | **23** |
| **24** | 181°51.79' | 15.0037° | 179°57.62' | N 0°01.04' | 0.9732' | 211°51.17' | 14.5407° | 149°58.24' | N 17°35.84' | 11.0841' | 55.0399' | 1°49.41' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9335' | hp (π) 0.1460' | ½Ø 14.9393' | 11.7168793056348<br>92% -cre |
| | EoT at 12:00 UTC : +7m 16s (δ 0.88 s/h) | | Phase at 12:00 UTC : 320.34° | |
| | Meridian Pass. Time : 11:52:43.388 | | Age : 24.9 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.18') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 188°39.51' | 172°10.76' | N 4°55.59' | 285°14.52' | 75°35.75' | N 21°53.52' | 356°12.86' | 4°37.42' | N 0°14.32' | 38°36.72' | 322°13.56' | S 16°15.83' | **00** |
| **01** | 203°39.10' | 172°13.63' | N 4°54.38' | 300°15.88' | 75°36.86' | N 21°53.68' | 11°15.62' | 4°37.11' | N 0°14.18' | 53°39.30' | 322°13.44' | S 16°15.86' | **01** |
| **02** | 218°38.70' | 172°16.51' | N 4°53.16' | 315°17.24' | 75°37.97' | N 21°53.84' | 26°18.39' | 4°36.81' | N 0°14.05' | 68°41.89' | 322°13.32' | S 16°15.90' | **02** |
| **03** | 233°38.29' | 172°19.38' | N 4°51.94' | 330°18.60' | 75°39.07' | N 21°54.01' | 41°21.16' | 4°36.51' | N 0°13.92' | 83°44.47' | 322°13.20' | S 16°15.94' | **03** |
| **04** | 248°37.88' | 172°22.25' | N 4°50.73' | 345°19.95' | 75°40.18' | N 21°54.17' | 56°23.93' | 4°36.20' | N 0°13.78' | 98°47.05' | 322°13.08' | S 16°15.98' | **04** |
| **05** | 263°37.47' | 172°25.12' | N 4°49.51' | 0°21.31' | 75°41.28' | N 21°54.33' | 71°26.70' | 4°35.90' | N 0°13.65' | 113°49.64' | 322°12.96' | S 16°16.01' | **05** |
| **06** | 278°37.06' | 172°27.99' | N 4°48.29' | 15°22.67' | 75°42.38' | N 21°54.50' | 86°29.47' | 4°35.59' | N 0°13.51' | 128°52.22' | 322°12.84' | S 16°16.05' | **06** |
| **07** | 293°36.66' | 172°30.87' | N 4°47.07' | 30°24.04' | 75°43.49' | N 21°54.66' | 101°32.24' | 4°35.29' | N 0°13.38' | 143°54.80' | 322°12.72' | S 16°16.09' | **07** |
| **08** | 308°36.25' | 172°33.74' | N 4°45.86' | 45°25.40' | 75°44.59' | N 21°54.82' | 116°35.00' | 4°34.98' | N 0°13.25' | 158°57.39' | 322°12.60' | S 16°16.13' | **08** |
| **09** | 323°35.84' | 172°36.61' | N 4°44.64' | 60°26.76' | 75°45.69' | N 21°54.98' | 131°37.77' | 4°34.68' | N 0°13.11' | 173°59.97' | 322°12.48' | S 16°16.16' | **09** |
| **10** | 338°35.43' | 172°39.48' | N 4°43.42' | 75°28.12' | 75°46.79' | N 21°55.15' | 146°40.54' | 4°34.37' | N 0°12.98' | 189°02.55' | 322°12.36' | S 16°16.20' | **10** |
| **11** | 353°35.03' | 172°42.35' | N 4°42.20' | 90°29.49' | 75°47.89' | N 21°55.31' | 161°43.31' | 4°34.07' | N 0°12.85' | 204°05.14' | 322°12.24' | S 16°16.24' | **11** |
| **12** | 8°34.62' | 172°45.22' | N 4°40.98' | 105°30.85' | 75°48.99' | N 21°55.47' | 176°46.08' | 4°33.76' | N 0°12.71' | 219°07.72' | 322°12.12' | S 16°16.27' | **12** |
| **13** | 23°34.21' | 172°48.09' | N 4°39.76' | 120°32.22' | 75°50.09' | N 21°55.63' | 191°48.85' | 4°33.46' | N 0°12.58' | 234°10.30' | 322°12.01' | S 16°16.31' | **13** |
| **14** | 38°33.81' | 172°50.96' | N 4°38.54' | 135°33.59' | 75°51.18' | N 21°55.79' | 206°51.62' | 4°33.15' | N 0°12.44' | 249°12.88' | 322°11.89' | S 16°16.35' | **14** |
| **15** | 53°33.40' | 172°53.83' | N 4°37.32' | 150°34.96' | 75°52.28' | N 21°55.95' | 221°54.39' | 4°32.85' | N 0°12.31' | 264°15.47' | 322°11.77' | S 16°16.38' | **15** |
| **16** | 68°32.99' | 172°56.70' | N 4°36.10' | 165°36.32' | 75°53.38' | N 21°56.11' | 236°57.15' | 4°32.55' | N 0°12.18' | 279°18.05' | 322°11.65' | S 16°16.42' | **16** |
| **17** | 83°32.59' | 172°59.57' | N 4°34.88' | 180°37.69' | 75°54.47' | N 21°56.28' | 251°59.92' | 4°32.24' | N 0°12.04' | 294°20.63' | 322°11.53' | S 16°16.46' | **17** |
| **18** | 98°32.18' | 173°02.44' | N 4°33.66' | 195°39.06' | 75°55.57' | N 21°56.44' | 267°02.69' | 4°31.94' | N 0°11.91' | 309°23.21' | 322°11.42' | S 16°16.49' | **18** |
| **19** | 113°31.78' | 173°05.31' | N 4°32.44' | 210°40.43' | 75°56.66' | N 21°56.60' | 282°05.46' | 4°31.63' | N 0°11.78' | 324°25.79' | 322°11.30' | S 16°16.53' | **19** |
| **20** | 128°31.37' | 173°08.18' | N 4°31.22' | 225°41.81' | 75°57.75' | N 21°56.76' | 297°08.23' | 4°31.32' | N 0°11.64' | 339°28.38' | 322°11.18' | S 16°16.57' | **20** |
| **21** | 143°30.97' | 173°11.05' | N 4°30.00' | 240°43.18' | 75°58.84' | N 21°56.92' | 312°11.00' | 4°31.02' | N 0°11.51' | 354°30.96' | 322°11.06' | S 16°16.60' | **21** |
| **22** | 158°30.56' | 173°13.92' | N 4°28.77' | 255°44.55' | 75°59.93' | N 21°57.08' | 327°13.77' | 4°30.71' | N 0°11.37' | 9°33.54' | 322°10.95' | S 16°16.64' | **22** |
| **23** | 173°30.16' | 173°16.79' | N 4°27.55' | 270°45.92' | 76°01.02' | N 21°57.24' | 342°16.54' | 4°30.41' | N 0°11.24' | 24°36.12' | 322°10.83' | S 16°16.68' | **23** |
| **24** | 188°29.75' | 173°19.66' | N 4°26.33' | 285°47.30' | 76°02.11' | N 21°57.40' | 357°19.31' | 4°30.10' | N 0°11.11' | 39°38.70' | 322°10.71' | S 16°16.71' | **24** |
| | δ 14.9932° | | *d* 1.2163' | δ 15.0226° | | *d* 0.1635' | δ 15.0461° | | *d* 0.1337' | δ 15.0431° | | *d* 0.0375' | |

## *Friday, September 23rd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 181°51.79' | 15.0037° | 179°57.62' | N 0°01.04' | 0.9732' | 211°51.17' | 14.5407° | 149°58.24' | N 17°35.84' | 11.0841' | 55.0399' | 1°49.41' | **00** |
| **01** | 196°52.01' | 15.0037° | 179°59.87' | N 0°00.07' | 0.9733' | 226°23.65' | 14.5413° | 150°28.22' | N 17°24.67' | 11.1683' | 55.0587' | 16°51.88' | **01** |
| **02** | 211°52.23' | 15.0037° | 180°02.11' | S 0°00.90' | 0.9733' | 240°56.17' | 14.5420° | 150°58.17' | N 17°13.42' | 11.2517' | 55.0776' | 31°54.34' | **02** |
| **03** | 226°52.44' | 15.0037° | 180°04.36' | S 0°01.88' | 0.9733' | 255°28.73' | 14.5426° | 151°28.08' | N 17°02.08' | 11.3343' | 55.0967' | 46°56.80' | **03** |
| **04** | 241°52.66' | 15.0037° | 180°06.60' | S 0°02.85' | 0.9733' | 270°01.32' | 14.5432° | 151°57.95' | N 16°50.67' | 11.4162' | 55.1159' | 61°59.27' | **04** |
| **05** | 256°52.88' | 15.0036° | 180°08.85' | S 0°03.82' | 0.9734' | 284°33.95' | 14.5439° | 152°27.78' | N 16°39.17' | 11.4972' | 55.1353' | 77°01.73' | **05** |
| **06** | 271°53.10' | 15.0036° | 180°11.09' | S 0°04.80' | 0.9734' | 299°06.62' | 14.5445° | 152°57.58' | N 16°27.59' | 11.5775' | 55.1548' | 92°04.20' | **06** |
| **07** | 286°53.32' | 15.0036° | 180°13.34' | S 0°05.77' | 0.9734' | 313°39.33' | 14.5451° | 153°27.34' | N 16°15.93' | 11.6570' | 55.1745' | 107°06.66' | **07** |
| **08** | 301°53.54' | 15.0036° | 180°15.59' | S 0°06.74' | 0.9734' | 328°12.07' | 14.5457° | 153°57.06' | N 16°04.20' | 11.7357' | 55.1943' | 122°09.12' | **08** |
| **09** | 316°53.76' | 15.0036° | 180°17.83' | S 0°07.72' | 0.9734' | 342°44.84' | 14.5462° | 154°26.75' | N 15°52.38' | 11.8136' | 55.2142' | 137°11.59' | **09** |
| **10** | 331°53.98' | 15.0036° | 180°20.08' | S 0°08.69' | 0.9735' | 357°17.65' | 14.5468° | 154°56.40' | N 15°40.49' | 11.8907' | 55.2342' | 152°14.05' | **10** |
| **11** | 346°54.20' | 15.0036° | 180°22.32' | S 0°09.66' | 0.9735' | 11°50.49' | 14.5474° | 155°26.02' | N 15°28.53' | 11.9670' | 55.2544' | 167°16.52' | **11** |
| **12** | 1°54.41' | 15.0036° | 180°24.57' | S 0°10.64' | 0.9735' | 26°23.37' | 14.5480° | 155°55.61' | N 15°16.48' | 12.0425' | 55.2747' | 182°18.98' | **12** |
| **13** | 16°54.63' | 15.0036° | 180°26.81' | S 0°11.61' | 0.9735' | 40°56.28' | 14.5485° | 156°25.16' | N 15°04.37' | 12.1172' | 55.2951' | 197°21.45' | **13** |
| **14** | 31°54.85' | 15.0036° | 180°29.06' | S 0°12.58' | 0.9735' | 55°29.22' | 14.5490° | 156°54.69' | N 14°52.18' | 12.1910' | 55.3156' | 212°23.91' | **14** |
| **15** | 46°55.07' | 15.0036° | 180°31.30' | S 0°13.56' | 0.9736' | 70°02.20' | 14.5496° | 157°24.18' | N 14°39.91' | 12.2641' | 55.3363' | 227°26.37' | **15** |
| **16** | 61°55.29' | 15.0036° | 180°33.55' | S 0°14.53' | 0.9736' | 84°35.20' | 14.5501° | 157°53.63' | N 14°27.58' | 12.3363' | 55.3570' | 242°28.84' | **16** |
| **17** | 76°55.51' | 15.0036° | 180°35.80' | S 0°15.51' | 0.9736' | 99°08.24' | 14.5506° | 158°23.06' | N 14°15.17' | 12.4077' | 55.3779' | 257°31.30' | **17** |
| **18** | 91°55.72' | 15.0036° | 180°38.04' | S 0°16.48' | 0.9736' | 113°41.31' | 14.5511° | 158°52.46' | N 14°02.69' | 12.4783' | 55.3988' | 272°33.77' | **18** |
| **19** | 106°55.94' | 15.0036° | 180°40.29' | S 0°17.45' | 0.9736' | 128°14.40' | 14.5516° | 159°21.83' | N 13°50.14' | 12.5480' | 55.4199' | 287°36.23' | **19** |
| **20** | 121°56.16' | 15.0036° | 180°42.53' | S 0°18.43' | 0.9737' | 142°47.53' | 14.5521° | 159°51.17' | N 13°37.52' | 12.6169' | 55.4411' | 302°38.69' | **20** |
| **21** | 136°56.38' | 15.0036° | 180°44.78' | S 0°19.40' | 0.9737' | 157°20.68' | 14.5525° | 160°20.48' | N 13°24.84' | 12.6850' | 55.4624' | 317°41.16' | **21** |
| **22** | 151°56.60' | 15.0036° | 180°47.03' | S 0°20.37' | 0.9737' | 171°53.86' | 14.5530° | 160°49.76' | N 13°12.09' | 12.7522' | 55.4837' | 332°43.62' | **22** |
| **23** | 166°56.81' | 15.0036° | 180°49.27' | S 0°21.35' | 0.9737' | 186°27.07' | 14.5534° | 161°19.02' | N 12°59.27' | 12.8185' | 55.5052' | 347°46.09' | **23** |
| **24** | 181°57.03' | 15.0036° | 180°51.52' | S 0°22.32' | 0.9737' | 201°00.30' | 14.5539° | 161°48.25' | N 12°46.38' | 12.8840' | 55.5268' | 2°48.55' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9379' | hp (π) 0.1461' | ½Ø 15.0614' | 6.17469680562288<br>7% -cre |
| | EoT at 12:00 UTC : +7m 37s (δ 0.87 s/h) | | Phase at 12:00 UTC : 331.68° | |
| | Meridian Pass. Time : 11:52:22.344 | | Age : 25.8 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.18') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 188°29.75' | 173°19.66' | N 4°26.33' | 285°47.30' | 76°02.11' | N 21°57.40' | 357°19.31' | 4°30.10' | N 0°11.11' | 39°38.70' | 322°10.71' | S 16°16.71' | **00** |
| **01** | 203°29.35' | 173°22.53' | N 4°25.11' | 300°48.67' | 76°03.20' | N 21°57.56' | 12°22.08' | 4°29.80' | N 0°10.97' | 54°41.28' | 322°10.59' | S 16°16.75' | **01** |
| **02** | 218°28.94' | 173°25.40' | N 4°23.89' | 315°50.05' | 76°04.29' | N 21°57.72' | 27°24.85' | 4°29.49' | N 0°10.84' | 69°43.86' | 322°10.48' | S 16°16.79' | **02** |
| **03** | 233°28.54' | 173°28.27' | N 4°22.66' | 330°51.43' | 76°05.38' | N 21°57.88' | 42°27.62' | 4°29.19' | N 0°10.70' | 84°46.44' | 322°10.36' | S 16°16.82' | **03** |
| **04** | 248°28.13' | 173°31.14' | N 4°21.44' | 345°52.81' | 76°06.46' | N 21°58.04' | 57°30.39' | 4°28.88' | N 0°10.57' | 99°49.02' | 322°10.24' | S 16°16.86' | **04** |
| **05** | 263°27.73' | 173°34.01' | N 4°20.22' | 0°54.18' | 76°07.55' | N 21°58.19' | 72°33.16' | 4°28.58' | N 0°10.44' | 114°51.60' | 322°10.13' | S 16°16.89' | **05** |
| **06** | 278°27.32' | 173°36.87' | N 4°18.99' | 15°55.56' | 76°08.63' | N 21°58.35' | 87°35.93' | 4°28.27' | N 0°10.30' | 129°54.18' | 322°10.01' | S 16°16.93' | **06** |
| **07** | 293°26.92' | 173°39.74' | N 4°17.77' | 30°56.94' | 76°09.72' | N 21°58.51' | 102°38.69' | 4°27.97' | N 0°10.17' | 144°56.76' | 322°09.90' | S 16°16.97' | **07** |
| **08** | 308°26.51' | 173°42.61' | N 4°16.54' | 45°58.33' | 76°10.80' | N 21°58.67' | 117°41.46' | 4°27.66' | N 0°10.03' | 159°59.34' | 322°09.78' | S 16°17.00' | **08** |
| **09** | 323°26.11' | 173°45.48' | N 4°15.32' | 60°59.71' | 76°11.88' | N 21°58.83' | 132°44.23' | 4°27.35' | N 0°09.90' | 175°01.92' | 322°09.66' | S 16°17.04' | **09** |
| **10** | 338°25.71' | 173°48.35' | N 4°14.10' | 76°01.09' | 76°12.96' | N 21°58.99' | 147°47.00' | 4°27.05' | N 0°09.77' | 190°04.50' | 322°09.55' | S 16°17.08' | **10** |
| **11** | 353°25.30' | 173°51.21' | N 4°12.87' | 91°02.47' | 76°14.04' | N 21°59.15' | 162°49.77' | 4°26.74' | N 0°09.63' | 205°07.08' | 322°09.43' | S 16°17.11' | **11** |
| **12** | 8°24.90' | 173°54.08' | N 4°11.65' | 106°03.86' | 76°15.12' | N 21°59.30' | 177°52.54' | 4°26.44' | N 0°09.50' | 220°09.66' | 322°09.32' | S 16°17.15' | **12** |
| **13** | 23°24.50' | 173°56.95' | N 4°10.42' | 121°05.24' | 76°16.20' | N 21°59.46' | 192°55.31' | 4°26.13' | N 0°09.37' | 235°12.24' | 322°09.20' | S 16°17.18' | **13** |
| **14** | 38°24.09' | 173°59.82' | N 4°09.20' | 136°06.63' | 76°17.28' | N 21°59.62' | 207°58.08' | 4°25.83' | N 0°09.23' | 250°14.82' | 322°09.09' | S 16°17.22' | **14** |
| **15** | 53°23.69' | 174°02.68' | N 4°07.97' | 151°08.01' | 76°18.36' | N 21°59.78' | 223°00.85' | 4°25.52' | N 0°09.10' | 265°17.40' | 322°08.97' | S 16°17.25' | **15** |
| **16** | 68°23.29' | 174°05.55' | N 4°06.74' | 166°09.40' | 76°19.44' | N 21°59.93' | 238°03.62' | 4°25.21' | N 0°08.96' | 280°19.98' | 322°08.86' | S 16°17.29' | **16** |
| **17** | 83°22.88' | 174°08.42' | N 4°05.52' | 181°10.79' | 76°20.51' | N 22°00.09' | 253°06.39' | 4°24.91' | N 0°08.83' | 295°22.56' | 322°08.74' | S 16°17.33' | **17** |
| **18** | 98°22.48' | 174°11.28' | N 4°04.29' | 196°12.18' | 76°21.59' | N 22°00.25' | 268°09.16' | 4°24.60' | N 0°08.70' | 310°25.14' | 322°08.63' | S 16°17.36' | **18** |
| **19** | 113°22.08' | 174°14.15' | N 4°03.07' | 211°13.57' | 76°22.66' | N 22°00.41' | 283°11.93' | 4°24.30' | N 0°08.56' | 325°27.72' | 322°08.51' | S 16°17.40' | **19** |
| **20** | 128°21.68' | 174°17.02' | N 4°01.84' | 226°14.96' | 76°23.73' | N 22°00.56' | 298°14.70' | 4°23.99' | N 0°08.43' | 340°30.29' | 322°08.40' | S 16°17.43' | **20** |
| **21** | 143°21.27' | 174°19.88' | N 4°00.61' | 241°16.35' | 76°24.81' | N 22°00.72' | 313°17.47' | 4°23.68' | N 0°08.29' | 355°32.87' | 322°08.29' | S 16°17.47' | **21** |
| **22** | 158°20.87' | 174°22.75' | N 3°59.38' | 256°17.74' | 76°25.88' | N 22°00.88' | 328°20.24' | 4°23.38' | N 0°08.16' | 10°35.45' | 322°08.17' | S 16°17.50' | **22** |
| **23** | 173°20.47' | 174°25.62' | N 3°58.16' | 271°19.14' | 76°26.95' | N 22°01.03' | 343°23.01' | 4°23.07' | N 0°08.03' | 25°38.03' | 322°08.06' | S 16°17.54' | **23** |
| **24** | 188°20.07' | 174°28.48' | N 3°56.93' | 286°20.53' | 76°28.02' | N 22°01.19' | 358°25.78' | 4°22.76' | N 0°07.89' | 40°40.61' | 322°07.94' | S 16°17.57' | **24** |
| | δ 14.9933° | | *d* 1.2224' | δ 15.0229° | | *d* 0.1597' | δ 15.0462° | | *d* 0.1339' | δ 15.0430° | | *d* 0.0363' | |

## *Saturday, September 24th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 181°57.03' | 15.0036° | 180°51.52' | S 0°22.32' | 0.9737' | 201°00.30' | 14.5539° | 161°48.25' | N 12°46.38' | 12.8840' | 55.5268' | 2°48.55' | **00** |
| **01** | 196°57.25' | 15.0036° | 180°53.76' | S 0°23.29' | 0.9737' | 215°33.56' | 14.5543° | 162°17.46' | N 12°33.44' | 12.9487' | 55.5484' | 17°51.01' | **01** |
| **02** | 211°57.47' | 15.0036° | 180°56.01' | S 0°24.27' | 0.9737' | 230°06.84' | 14.5547° | 162°46.64' | N 12°20.42' | 13.0125' | 55.5702' | 32°53.48' | **02** |
| **03** | 226°57.68' | 15.0036° | 180°58.26' | S 0°25.24' | 0.9738' | 244°40.15' | 14.5551° | 163°15.80' | N 12°07.35' | 13.0754' | 55.5920' | 47°55.94' | **03** |
| **04** | 241°57.90' | 15.0036° | 181°00.50' | S 0°26.22' | 0.9738' | 259°13.48' | 14.5555° | 163°44.93' | N 11°54.21' | 13.1375' | 55.6139' | 62°58.41' | **04** |
| **05** | 256°58.12' | 15.0036° | 181°02.75' | S 0°27.19' | 0.9738' | 273°46.83' | 14.5559° | 164°14.04' | N 11°41.01' | 13.1987' | 55.6359' | 78°00.87' | **05** |
| **06** | 271°58.34' | 15.0036° | 181°05.00' | S 0°28.16' | 0.9738' | 288°20.20' | 14.5562° | 164°43.13' | N 11°27.75' | 13.2591' | 55.6579' | 93°03.33' | **06** |
| **07** | 286°58.55' | 15.0036° | 181°07.24' | S 0°29.14' | 0.9738' | 302°53.60' | 14.5566° | 165°12.20' | N 11°14.43' | 13.3185' | 55.6800' | 108°05.80' | **07** |
| **08** | 301°58.77' | 15.0036° | 181°09.49' | S 0°30.11' | 0.9738' | 317°27.02' | 14.5569° | 165°41.25' | N 11°01.06' | 13.3771' | 55.7023' | 123°08.26' | **08** |
| **09** | 316°58.99' | 15.0036° | 181°11.74' | S 0°31.09' | 0.9738' | 332°00.45' | 14.5573° | 166°10.27' | N 10°47.62' | 13.4348' | 55.7245' | 138°10.73' | **09** |
| **10** | 331°59.21' | 15.0036° | 181°13.98' | S 0°32.06' | 0.9738' | 346°33.91' | 14.5576° | 166°39.28' | N 10°34.13' | 13.4916' | 55.7469' | 153°13.19' | **10** |
| **11** | 346°59.42' | 15.0036° | 181°16.23' | S 0°33.03' | 0.9739' | 1°07.38' | 14.5579° | 167°08.28' | N 10°20.58' | 13.5475' | 55.7693' | 168°15.65' | **11** |
| **12** | 1°59.64' | 15.0036° | 181°18.48' | S 0°34.01' | 0.9739' | 15°40.87' | 14.5582° | 167°37.25' | N 10°06.98' | 13.6025' | 55.7917' | 183°18.12' | **12** |
| **13** | 16°59.86' | 15.0036° | 181°20.72' | S 0°34.98' | 0.9739' | 30°14.37' | 14.5584° | 168°06.21' | N 9°53.32' | 13.6567' | 55.8143' | 198°20.58' | **13** |
| **14** | 32°00.07' | 15.0036° | 181°22.97' | S 0°35.95' | 0.9739' | 44°47.90' | 14.5587° | 168°35.15' | N 9°39.61' | 13.7099' | 55.8368' | 213°23.05' | **14** |
| **15** | 47°00.29' | 15.0036° | 181°25.22' | S 0°36.93' | 0.9739' | 59°21.43' | 14.5589° | 169°04.08' | N 9°25.85' | 13.7622' | 55.8595' | 228°25.51' | **15** |
| **16** | 62°00.51' | 15.0036° | 181°27.47' | S 0°37.90' | 0.9739' | 73°54.98' | 14.5592° | 169°32.99' | N 9°12.04' | 13.8136' | 55.8822' | 243°27.97' | **16** |
| **17** | 77°00.72' | 15.0036° | 181°29.71' | S 0°38.88' | 0.9739' | 88°28.55' | 14.5594° | 170°01.89' | N 8°58.17' | 13.8640' | 55.9049' | 258°30.44' | **17** |
| **18** | 92°00.94' | 15.0036° | 181°31.96' | S 0°39.85' | 0.9739' | 103°02.12' | 14.5596° | 170°30.78' | N 8°44.26' | 13.9136' | 55.9277' | 273°32.90' | **18** |
| **19** | 107°01.16' | 15.0036° | 181°34.21' | S 0°40.82' | 0.9739' | 117°35.71' | 14.5598° | 170°59.66' | N 8°30.30' | 13.9622' | 55.9505' | 288°35.37' | **19** |
| **20** | 122°01.37' | 15.0036° | 181°36.46' | S 0°41.80' | 0.9739' | 132°09.31' | 14.5600° | 171°28.52' | N 8°16.29' | 14.0099' | 55.9734' | 303°37.83' | **20** |
| **21** | 137°01.59' | 15.0036° | 181°38.70' | S 0°42.77' | 0.9739' | 146°42.91' | 14.5601° | 171°57.38' | N 8°02.23' | 14.0567' | 55.9963' | 318°40.29' | **21** |
| **22** | 152°01.81' | 15.0036° | 181°40.95' | S 0°43.75' | 0.9739' | 161°16.53' | 14.5603° | 172°26.23' | N 7°48.13' | 14.1025' | 56.0192' | 333°42.76' | **22** |
| **23** | 167°02.02' | 15.0036° | 181°43.20' | S 0°44.72' | 0.9739' | 175°50.16' | 14.5604° | 172°55.07' | N 7°33.98' | 14.1474' | 56.0422' | 348°45.22' | **23** |
| **24** | 182°02.24' | 15.0036° | 181°45.45' | S 0°45.69' | 0.9739' | 190°23.79' | 14.5605° | 173°23.90' | N 7°19.79' | 14.1914' | 56.0652' | 3°47.69' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9423' | hp (π) 0.1461' | ½Ø 15.2023' | 2.27600374544625<br>34% -cre |
| | EoT at 12:00 UTC : +7m 58s (δ 0.87 s/h) | | Phase at 12:00 UTC : 343.25° | |
| | Meridian Pass. Time : 11:52:01.437 | | Age : 26.7 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.18') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 188°20.07' | 174°28.48' | N 3°56.93' | 286°20.53' | 76°28.02' | N 22°01.19' | 358°25.78' | 4°22.76' | N 0°07.89' | 40°40.61' | 322°07.94' | S 16°17.57' | **00** |
| **01** | 203°19.66' | 174°31.35' | N 3°55.70' | 301°21.93' | 76°29.09' | N 22°01.34' | 13°28.56' | 4°22.46' | N 0°07.76' | 55°43.18' | 322°07.83' | S 16°17.61' | **01** |
| **02** | 218°19.26' | 174°34.21' | N 3°54.47' | 316°23.32' | 76°30.16' | N 22°01.50' | 28°31.33' | 4°22.15' | N 0°07.62' | 70°45.76' | 322°07.72' | S 16°17.64' | **02** |
| **03** | 233°18.86' | 174°37.08' | N 3°53.24' | 331°24.72' | 76°31.22' | N 22°01.66' | 43°34.10' | 4°21.85' | N 0°07.49' | 85°48.34' | 322°07.60' | S 16°17.68' | **03** |
| **04** | 248°18.46' | 174°39.95' | N 3°52.02' | 346°26.11' | 76°32.29' | N 22°01.81' | 58°36.87' | 4°21.54' | N 0°07.36' | 100°50.92' | 322°07.49' | S 16°17.71' | **04** |
| **05** | 263°18.06' | 174°42.81' | N 3°50.79' | 1°27.51' | 76°33.36' | N 22°01.97' | 73°39.64' | 4°21.23' | N 0°07.22' | 115°53.49' | 322°07.38' | S 16°17.75' | **05** |
| **06** | 278°17.66' | 174°45.68' | N 3°49.56' | 16°28.91' | 76°34.42' | N 22°02.12' | 88°42.41' | 4°20.93' | N 0°07.09' | 130°56.07' | 322°07.26' | S 16°17.78' | **06** |
| **07** | 293°17.26' | 174°48.54' | N 3°48.33' | 31°30.31' | 76°35.49' | N 22°02.28' | 103°45.18' | 4°20.62' | N 0°06.95' | 145°58.65' | 322°07.15' | S 16°17.82' | **07** |
| **08** | 308°16.86' | 174°51.41' | N 3°47.10' | 46°31.71' | 76°36.55' | N 22°02.43' | 118°47.95' | 4°20.31' | N 0°06.82' | 161°01.22' | 322°07.04' | S 16°17.85' | **08** |
| **09** | 323°16.45' | 174°54.27' | N 3°45.87' | 61°33.11' | 76°37.61' | N 22°02.59' | 133°50.72' | 4°20.01' | N 0°06.69' | 176°03.80' | 322°06.93' | S 16°17.89' | **09** |
| **10** | 338°16.05' | 174°57.14' | N 3°44.64' | 76°34.51' | 76°38.68' | N 22°02.74' | 148°53.49' | 4°19.70' | N 0°06.55' | 191°06.38' | 322°06.81' | S 16°17.92' | **10** |
| **11** | 353°15.65' | 175°00.00' | N 3°43.41' | 91°35.92' | 76°39.74' | N 22°02.90' | 163°56.26' | 4°19.39' | N 0°06.42' | 206°08.95' | 322°06.70' | S 16°17.96' | **11** |
| **12** | 8°15.25' | 175°02.87' | N 3°42.18' | 106°37.32' | 76°40.80' | N 22°03.05' | 178°59.03' | 4°19.09' | N 0°06.29' | 221°11.53' | 322°06.59' | S 16°17.99' | **12** |
| **13** | 23°14.85' | 175°05.73' | N 3°40.95' | 121°38.73' | 76°41.86' | N 22°03.21' | 194°01.80' | 4°18.78' | N 0°06.15' | 236°14.11' | 322°06.48' | S 16°18.03' | **13** |
| **14** | 38°14.45' | 175°08.59' | N 3°39.72' | 136°40.13' | 76°42.92' | N 22°03.36' | 209°04.57' | 4°18.47' | N 0°06.02' | 251°16.68' | 322°06.36' | S 16°18.06' | **14** |
| **15** | 53°14.05' | 175°11.46' | N 3°38.49' | 151°41.54' | 76°43.97' | N 22°03.51' | 224°07.34' | 4°18.17' | N 0°05.88' | 266°19.26' | 322°06.25' | S 16°18.10' | **15** |
| **16** | 68°13.65' | 175°14.32' | N 3°37.26' | 166°42.94' | 76°45.03' | N 22°03.67' | 239°10.11' | 4°17.86' | N 0°05.75' | 281°21.83' | 322°06.14' | S 16°18.13' | **16** |
| **17** | 83°13.25' | 175°17.19' | N 3°36.03' | 181°44.35' | 76°46.09' | N 22°03.82' | 254°12.88' | 4°17.55' | N 0°05.62' | 296°24.41' | 322°06.03' | S 16°18.16' | **17** |
| **18** | 98°12.85' | 175°20.05' | N 3°34.79' | 196°45.76' | 76°47.14' | N 22°03.98' | 269°15.65' | 4°17.25' | N 0°05.48' | 311°26.98' | 322°05.92' | S 16°18.20' | **18** |
| **19** | 113°12.45' | 175°22.92' | N 3°33.56' | 211°47.17' | 76°48.20' | N 22°04.13' | 284°18.43' | 4°16.94' | N 0°05.35' | 326°29.56' | 322°05.81' | S 16°18.23' | **19** |
| **20** | 128°12.05' | 175°25.78' | N 3°32.33' | 226°48.58' | 76°49.25' | N 22°04.28' | 299°21.20' | 4°16.63' | N 0°05.21' | 341°32.13' | 322°05.70' | S 16°18.27' | **20** |
| **21** | 143°11.65' | 175°28.64' | N 3°31.10' | 241°49.99' | 76°50.30' | N 22°04.44' | 314°23.97' | 4°16.33' | N 0°05.08' | 356°34.71' | 322°05.59' | S 16°18.30' | **21** |
| **22** | 158°11.25' | 175°31.51' | N 3°29.87' | 256°51.40' | 76°51.36' | N 22°04.59' | 329°26.74' | 4°16.02' | N 0°04.95' | 11°37.28' | 322°05.47' | S 16°18.34' | **22** |
| **23** | 173°10.85' | 175°34.37' | N 3°28.63' | 271°52.82' | 76°52.41' | N 22°04.74' | 344°29.51' | 4°15.71' | N 0°04.81' | 26°39.86' | 322°05.36' | S 16°18.37' | **23** |
| **24** | 188°10.45' | 175°37.23' | N 3°27.40' | 286°54.23' | 76°53.46' | N 22°04.89' | 359°32.28' | 4°15.41' | N 0°04.68' | 41°42.43' | 322°05.25' | S 16°18.40' | **24** |
| | δ 14.9933° | | *d* 1.2279' | δ 15.0232° | | *d* 0.1561' | δ 15.0462° | | *d* 0.1339' | δ 15.0430° | | *d* 0.0352' | |

## *Sunday, September 25th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 182°02.24' | 15.0036° | 181°45.45' | S 0°45.69' | 0.9739' | 190°23.79' | 14.5605° | 173°23.90' | N 7°19.79' | 14.1914' | 56.0652' | 3°47.69' | **00** |
| **01** | 197°02.46' | 15.0036° | 181°47.69' | S 0°46.67' | 0.9740' | 204°57.42' | 14.5606° | 173°52.73' | N 7°05.56' | 14.2344' | 56.0882' | 18°50.15' | **01** |
| **02** | 212°02.67' | 15.0036° | 181°49.94' | S 0°47.64' | 0.9740' | 219°31.07' | 14.5607° | 174°21.55' | N 6°51.28' | 14.2764' | 56.1113' | 33°52.61' | **02** |
| **03** | 227°02.89' | 15.0036° | 181°52.19' | S 0°48.62' | 0.9740' | 234°04.71' | 14.5608° | 174°50.36' | N 6°36.96' | 14.3175' | 56.1344' | 48°55.08' | **03** |
| **04** | 242°03.10' | 15.0036° | 181°54.44' | S 0°49.59' | 0.9740' | 248°38.37' | 14.5608° | 175°19.18' | N 6°22.60' | 14.3576' | 56.1575' | 63°57.54' | **04** |
| **05** | 257°03.32' | 15.0036° | 181°56.69' | S 0°50.56' | 0.9740' | 263°12.02' | 14.5609° | 175°47.99' | N 6°08.21' | 14.3967' | 56.1806' | 79°00.01' | **05** |
| **06** | 272°03.54' | 15.0036° | 181°58.94' | S 0°51.54' | 0.9740' | 277°45.67' | 14.5609° | 176°16.80' | N 5°53.77' | 14.4349' | 56.2037' | 94°02.47' | **06** |
| **07** | 287°03.75' | 15.0036° | 182°01.18' | S 0°52.51' | 0.9740' | 292°19.33' | 14.5609° | 176°45.60' | N 5°39.30' | 14.4721' | 56.2269' | 109°04.93' | **07** |
| **08** | 302°03.97' | 15.0036° | 182°03.43' | S 0°53.49' | 0.9740' | 306°52.99' | 14.5609° | 177°14.41' | N 5°24.79' | 14.5083' | 56.2501' | 124°07.40' | **08** |
| **09** | 317°04.18' | 15.0036° | 182°05.68' | S 0°54.46' | 0.9740' | 321°26.64' | 14.5609° | 177°43.22' | N 5°10.25' | 14.5435' | 56.2732' | 139°09.86' | **09** |
| **10** | 332°04.40' | 15.0036° | 182°07.93' | S 0°55.43' | 0.9740' | 336°00.29' | 14.5609° | 178°12.03' | N 4°55.67' | 14.5777' | 56.2964' | 154°12.33' | **10** |
| **11** | 347°04.61' | 15.0036° | 182°10.18' | S 0°56.41' | 0.9740' | 350°33.94' | 14.5608° | 178°40.85' | N 4°41.06' | 14.6110' | 56.3196' | 169°14.79' | **11** |
| **12** | 2°04.83' | 15.0036° | 182°12.43' | S 0°57.38' | 0.9740' | 5°07.59' | 14.5608° | 179°09.67' | N 4°26.42' | 14.6432' | 56.3428' | 184°17.25' | **12** |
| **13** | 17°05.04' | 15.0036° | 182°14.67' | S 0°58.36' | 0.9740' | 19°41.23' | 14.5607° | 179°38.49' | N 4°11.74' | 14.6744' | 56.3660' | 199°19.72' | **13** |
| **14** | 32°05.26' | 15.0036° | 182°16.92' | S 0°59.33' | 0.9740' | 34°14.86' | 14.5606° | 180°07.32' | N 3°57.04' | 14.7046' | 56.3892' | 214°22.18' | **14** |
| **15** | 47°05.47' | 15.0036° | 182°19.17' | S 1°00.30' | 0.9740' | 48°48.49' | 14.5605° | 180°36.15' | N 3°42.30' | 14.7338' | 56.4124' | 229°24.65' | **15** |
| **16** | 62°05.69' | 15.0036° | 182°21.42' | S 1°01.28' | 0.9740' | 63°22.11' | 14.5603° | 181°05.00' | N 3°27.54' | 14.7619' | 56.4356' | 244°27.11' | **16** |
| **17** | 77°05.90' | 15.0036° | 182°23.67' | S 1°02.25' | 0.9740' | 77°55.72' | 14.5602° | 181°33.85' | N 3°12.75' | 14.7890' | 56.4588' | 259°29.57' | **17** |
| **18** | 92°06.12' | 15.0036° | 182°25.92' | S 1°03.22' | 0.9740' | 92°29.33' | 14.5600° | 182°02.71' | N 2°57.94' | 14.8151' | 56.4819' | 274°32.04' | **18** |
| **19** | 107°06.33' | 15.0036° | 182°28.17' | S 1°04.20' | 0.9740' | 107°02.92' | 14.5598° | 182°31.59' | N 2°43.10' | 14.8402' | 56.5051' | 289°34.50' | **19** |
| **20** | 122°06.55' | 15.0036° | 182°30.42' | S 1°05.17' | 0.9739' | 121°36.49' | 14.5596° | 183°00.47' | N 2°28.23' | 14.8642' | 56.5282' | 304°36.97' | **20** |
| **21** | 137°06.76' | 15.0036° | 182°32.67' | S 1°06.15' | 0.9739' | 136°10.06' | 14.5594° | 183°29.37' | N 2°13.35' | 14.8871' | 56.5513' | 319°39.43' | **21** |
| **22** | 152°06.98' | 15.0036° | 182°34.92' | S 1°07.12' | 0.9739' | 150°43.61' | 14.5592° | 183°58.28' | N 1°58.44' | 14.9090' | 56.5744' | 334°41.90' | **22** |
| **23** | 167°07.19' | 15.0036° | 182°37.17' | S 1°08.09' | 0.9739' | 165°17.15' | 14.5590° | 184°27.21' | N 1°43.51' | 14.9298' | 56.5975' | 349°44.36' | **23** |
| **24** | 182°07.41' | 15.0036° | 182°39.42' | S 1°09.07' | 0.9739' | 179°50.67' | 14.5587° | 184°56.15' | N 1°28.56' | 14.9496' | 56.6205' | 4°46.82' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 15.9468' | hp (π) 0.1461' | ½Ø 15.3524' | 0.29356121984145 944% -cre | [redacted] |
| | EoT at 12:00 UTC : +8m 19s (δ 0.86 s/h) | | Phase at 12:00 UTC : 355.06° | | |
| | Meridian Pass. Time : 11:51:40.685 | | Age : 27.6 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.18') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 188°10.45' | 175°37.23' | N 3°27.40' | 286°54.23' | 76°53.46' | N 22°04.89' | 359°32.28' | 4°15.41' | N 0°04.68' | 41°42.43' | 322°05.25' | S 16°18.40' | **00** |
| **01** | 203°10.05' | 175°40.10' | N 3°26.17' | 301°55.64' | 76°54.51' | N 22°05.05' | 14°35.05' | 4°15.10' | N 0°04.54' | 56°45.01' | 322°05.14' | S 16°18.44' | **01** |
| **02** | 218°09.66' | 175°42.96' | N 3°24.93' | 316°57.06' | 76°55.56' | N 22°05.20' | 29°37.82' | 4°14.79' | N 0°04.41' | 71°47.58' | 322°05.03' | S 16°18.47' | **02** |
| **03** | 233°09.26' | 175°45.82' | N 3°23.70' | 331°58.47' | 76°56.60' | N 22°05.35' | 44°40.59' | 4°14.49' | N 0°04.28' | 86°50.16' | 322°04.92' | S 16°18.51' | **03** |
| **04** | 248°08.86' | 175°48.68' | N 3°22.47' | 346°59.89' | 76°57.65' | N 22°05.50' | 59°43.36' | 4°14.18' | N 0°04.14' | 101°52.73' | 322°04.81' | S 16°18.54' | **04** |
| **05** | 263°08.46' | 175°51.55' | N 3°21.23' | 2°01.31' | 76°58.70' | N 22°05.66' | 74°46.13' | 4°13.87' | N 0°04.01' | 116°55.30' | 322°04.70' | S 16°18.57' | **05** |
| **06** | 278°08.06' | 175°54.41' | N 3°20.00' | 17°02.73' | 76°59.74' | N 22°05.81' | 89°48.91' | 4°13.56' | N 0°03.87' | 131°57.88' | 322°04.59' | S 16°18.61' | **06** |
| **07** | 293°07.66' | 175°57.27' | N 3°18.77' | 32°04.15' | 77°00.79' | N 22°05.96' | 104°51.68' | 4°13.26' | N 0°03.74' | 147°00.45' | 322°04.48' | S 16°18.64' | **07** |
| **08** | 308°07.26' | 176°00.14' | N 3°17.53' | 47°05.57' | 77°01.83' | N 22°06.11' | 119°54.45' | 4°12.95' | N 0°03.61' | 162°03.02' | 322°04.37' | S 16°18.68' | **08** |
| **09** | 323°06.87' | 176°03.00' | N 3°16.30' | 62°06.99' | 77°02.87' | N 22°06.26' | 134°57.22' | 4°12.64' | N 0°03.47' | 177°05.60' | 322°04.27' | S 16°18.71' | **09** |
| **10** | 338°06.47' | 176°05.86' | N 3°15.06' | 77°08.41' | 77°03.92' | N 22°06.41' | 149°59.99' | 4°12.34' | N 0°03.34' | 192°08.17' | 322°04.16' | S 16°18.74' | **10** |
| **11** | 353°06.07' | 176°08.72' | N 3°13.83' | 92°09.83' | 77°04.96' | N 22°06.56' | 165°02.76' | 4°12.03' | N 0°03.21' | 207°10.74' | 322°04.05' | S 16°18.78' | **11** |
| **12** | 8°05.67' | 176°11.58' | N 3°12.59' | 107°11.26' | 77°06.00' | N 22°06.72' | 180°05.53' | 4°11.72' | N 0°03.07' | 222°13.32' | 322°03.94' | S 16°18.81' | **12** |
| **13** | 23°05.27' | 176°14.45' | N 3°11.36' | 122°12.68' | 77°07.04' | N 22°06.87' | 195°08.30' | 4°11.42' | N 0°02.94' | 237°15.89' | 322°03.83' | S 16°18.84' | **13** |
| **14** | 38°04.88' | 176°17.31' | N 3°10.12' | 137°14.11' | 77°08.08' | N 22°07.02' | 210°11.07' | 4°11.11' | N 0°02.80' | 252°18.46' | 322°03.72' | S 16°18.88' | **14** |
| **15** | 53°04.48' | 176°20.17' | N 3°08.89' | 152°15.53' | 77°09.11' | N 22°07.17' | 225°13.85' | 4°10.80' | N 0°02.67' | 267°21.03' | 322°03.61' | S 16°18.91' | **15** |
| **16** | 68°04.08' | 176°23.03' | N 3°07.65' | 167°16.96' | 77°10.15' | N 22°07.32' | 240°16.62' | 4°10.49' | N 0°02.54' | 282°23.61' | 322°03.50' | S 16°18.94' | **16** |
| **17** | 83°03.68' | 176°25.89' | N 3°06.41' | 182°18.39' | 77°11.19' | N 22°07.47' | 255°19.39' | 4°10.19' | N 0°02.40' | 297°26.18' | 322°03.40' | S 16°18.98' | **17** |
| **18** | 98°03.28' | 176°28.75' | N 3°05.18' | 197°19.82' | 77°12.22' | N 22°07.62' | 270°22.16' | 4°09.88' | N 0°02.27' | 312°28.75' | 322°03.29' | S 16°19.01' | **18** |
| **19** | 113°02.89' | 176°31.62' | N 3°03.94' | 212°21.25' | 77°13.26' | N 22°07.77' | 285°24.93' | 4°09.57' | N 0°02.13' | 327°31.32' | 322°03.18' | S 16°19.04' | **19** |
| **20** | 128°02.49' | 176°34.48' | N 3°02.70' | 227°22.68' | 77°14.29' | N 22°07.92' | 300°27.70' | 4°09.26' | N 0°02.00' | 342°33.89' | 322°03.07' | S 16°19.08' | **20** |
| **21** | 143°02.09' | 176°37.34' | N 3°01.47' | 242°24.11' | 77°15.32' | N 22°08.07' | 315°30.47' | 4°08.96' | N 0°01.87' | 357°36.47' | 322°02.97' | S 16°19.11' | **21** |
| **22** | 158°01.70' | 176°40.20' | N 3°00.23' | 257°25.54' | 77°16.36' | N 22°08.22' | 330°33.24' | 4°08.65' | N 0°01.73' | 12°39.04' | 322°02.86' | S 16°19.14' | **22** |
| **23** | 173°01.30' | 176°43.06' | N 2°58.99' | 272°26.97' | 77°17.39' | N 22°08.37' | 345°36.02' | 4°08.34' | N 0°01.60' | 27°41.61' | 322°02.75' | S 16°19.18' | **23** |
| **24** | 188°00.90' | 176°45.92' | N 2°57.76' | 287°28.41' | 77°18.42' | N 22°08.52' | 0°38.79' | 4°08.04' | N 0°01.47' | 42°44.18' | 322°02.64' | S 16°19.21' | **24** |
| | δ 14.9933° | | *d* 1.2329' | δ 15.0236° | | *d* 0.1526' | δ 15.0462° | | *d* 0.1339' | δ 15.0429° | | *d* 0.0340' | |

## *Monday, September 26th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 182°07.41' | 15.0036° | 182°39.42' | S 1°09.07' | 0.9739' | 179°50.67' | 14.5587° | 184°56.15' | N 1°28.56' | 14.9496' | 56.6205' | 4°46.82' | **00** |
| **01** | 197°07.62' | 15.0036° | 182°41.67' | S 1°10.04' | 0.9739' | 194°24.18' | 14.5584° | 185°25.11' | N 1°13.59' | 14.9683' | 56.6436' | 19°49.29' | **01** |
| **02** | 212°07.84' | 15.0036° | 182°43.92' | S 1°11.02' | 0.9739' | 208°57.66' | 14.5581° | 185°54.09' | N 0°58.60' | 14.9859' | 56.6666' | 34°51.75' | **02** |
| **03** | 227°08.05' | 15.0036° | 182°46.17' | S 1°11.99' | 0.9739' | 223°31.13' | 14.5578° | 186°23.08' | N 0°43.60' | 15.0024' | 56.6895' | 49°54.22' | **03** |
| **04** | 242°08.26' | 15.0036° | 182°48.42' | S 1°12.96' | 0.9739' | 238°04.58' | 14.5575° | 186°52.10' | N 0°28.58' | 15.0178' | 56.7125' | 64°56.68' | **04** |
| **05** | 257°08.48' | 15.0036° | 182°50.66' | S 1°13.94' | 0.9739' | 252°38.00' | 14.5571° | 187°21.14' | N 0°13.55' | 15.0322' | 56.7354' | 79°59.14' | **05** |
| **06** | 272°08.69' | 15.0036° | 182°52.92' | S 1°14.91' | 0.9739' | 267°11.41' | 14.5567° | 187°50.20' | S 0°01.49' | 15.0454' | 56.7582' | 95°01.61' | **06** |
| **07** | 287°08.91' | 15.0036° | 182°55.17' | S 1°15.89' | 0.9739' | 281°44.79' | 14.5564° | 188°19.28' | S 0°16.55' | 15.0575' | 56.7811' | 110°04.07' | **07** |
| **08** | 302°09.12' | 15.0036° | 182°57.42' | S 1°16.86' | 0.9739' | 296°18.15' | 14.5560° | 188°48.39' | S 0°31.62' | 15.0685' | 56.8038' | 125°06.54' | **08** |
| **09** | 317°09.33' | 15.0036° | 182°59.67' | S 1°17.83' | 0.9739' | 310°51.48' | 14.5555° | 189°17.52' | S 0°46.70' | 15.0783' | 56.8266' | 140°09.00' | **09** |
| **10** | 332°09.55' | 15.0036° | 183°01.92' | S 1°18.81' | 0.9738' | 325°24.79' | 14.5551° | 189°46.68' | S 1°01.78' | 15.0871' | 56.8493' | 155°11.46' | **10** |
| **11** | 347°09.76' | 15.0036° | 183°04.17' | S 1°19.78' | 0.9738' | 339°58.07' | 14.5546° | 190°15.86' | S 1°16.88' | 15.0947' | 56.8719' | 170°13.93' | **11** |
| **12** | 2°09.97' | 15.0036° | 183°06.42' | S 1°20.76' | 0.9738' | 354°31.32' | 14.5542° | 190°45.07' | S 1°31.98' | 15.1012' | 56.8946' | 185°16.39' | **12** |
| **13** | 17°10.19' | 15.0036° | 183°08.67' | S 1°21.73' | 0.9738' | 9°04.54' | 14.5537° | 191°14.32' | S 1°47.09' | 15.1065' | 56.9171' | 200°18.86' | **13** |
| **14** | 32°10.40' | 15.0036° | 183°10.92' | S 1°22.70' | 0.9738' | 23°37.73' | 14.5532° | 191°43.59' | S 2°02.20' | 15.1106' | 56.9396' | 215°21.32' | **14** |
| **15** | 47°10.61' | 15.0036° | 183°13.17' | S 1°23.68' | 0.9738' | 38°10.89' | 14.5527° | 192°12.90' | S 2°17.31' | 15.1136' | 56.9621' | 230°23.78' | **15** |
| **16** | 62°10.83' | 15.0036° | 183°15.42' | S 1°24.65' | 0.9738' | 52°44.01' | 14.5521° | 192°42.23' | S 2°32.43' | 15.1155' | 56.9845' | 245°26.25' | **16** |
| **17** | 77°11.04' | 15.0036° | 183°17.67' | S 1°25.62' | 0.9738' | 67°17.11' | 14.5515° | 193°11.60' | S 2°47.54' | 15.1161' | 57.0068' | 260°28.71' | **17** |
| **18** | 92°11.25' | 15.0035° | 183°19.92' | S 1°26.60' | 0.9737' | 81°50.17' | 14.5510° | 193°41.01' | S 3°02.66' | 15.1156' | 57.0291' | 275°31.18' | **18** |
| **19** | 107°11.47' | 15.0035° | 183°22.17' | S 1°27.57' | 0.9737' | 96°23.19' | 14.5504° | 194°10.45' | S 3°17.77' | 15.1139' | 57.0513' | 290°33.64' | **19** |
| **20** | 122°11.68' | 15.0035° | 183°24.42' | S 1°28.55' | 0.9737' | 110°56.17' | 14.5498° | 194°39.93' | S 3°32.88' | 15.1109' | 57.0735' | 305°36.10' | **20** |
| **21** | 137°11.89' | 15.0035° | 183°26.68' | S 1°29.52' | 0.9737' | 125°29.12' | 14.5491° | 195°09.45' | S 3°47.99' | 15.1068' | 57.0956' | 320°38.57' | **21** |
| **22** | 152°12.10' | 15.0035° | 183°28.93' | S 1°30.49' | 0.9737' | 140°02.03' | 14.5485° | 195°39.00' | S 4°03.09' | 15.1015' | 57.1176' | 335°41.03' | **22** |
| **23** | 167°12.32' | 15.0035° | 183°31.18' | S 1°31.47' | 0.9737' | 154°34.90' | 14.5478° | 196°08.60' | S 4°18.19' | 15.0950' | 57.1396' | 350°43.50' | **23** |
| **24** | 182°12.53' | 15.0035° | 183°33.43' | S 1°32.44' | 0.9737' | 169°07.73' | 14.5471° | 196°38.23' | S 4°33.27' | 15.0872' | 57.1615' | 5°45.96' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9512' | hp (π) 0.1462' | ½Ø 15.5027' | 0.44661647262724<br>26% +cre |
| | EoT at 12:00 UTC : +8m 39s (δ 0.85 s/h) | | Phase at 12:00 UTC : 7.10° | |
| | Meridian Pass. Time : 11:51:20.103 | | Age : 0.6 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.18') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 188°00.90' | 176°45.92' | N 2°57.76' | 287°28.41' | 77°18.42' | N 22°08.52' | 0°38.79' | 4°08.04' | N 0°01.47' | 42°44.18' | 322°02.64' | S 16°19.21' | **00** |
| **01** | 203°00.51' | 176°48.78' | N 2°56.52' | 302°29.84' | 77°19.45' | N 22°08.67' | 15°41.56' | 4°07.73' | N 0°01.33' | 57°46.75' | 322°02.54' | S 16°19.24' | **01** |
| **02** | 218°00.11' | 176°51.64' | N 2°55.28' | 317°31.28' | 77°20.48' | N 22°08.82' | 30°44.33' | 4°07.42' | N 0°01.20' | 72°49.32' | 322°02.43' | S 16°19.27' | **02** |
| **03** | 232°59.71' | 176°54.50' | N 2°54.04' | 332°32.71' | 77°21.50' | N 22°08.96' | 45°47.10' | 4°07.11' | N 0°01.06' | 87°51.89' | 322°02.32' | S 16°19.31' | **03** |
| **04** | 247°59.32' | 176°57.36' | N 2°52.81' | 347°34.15' | 77°22.53' | N 22°09.11' | 60°49.87' | 4°06.81' | N 0°00.93' | 102°54.46' | 322°02.22' | S 16°19.34' | **04** |
| **05** | 262°58.92' | 177°00.22' | N 2°51.57' | 2°35.59' | 77°23.56' | N 22°09.26' | 75°52.64' | 4°06.50' | N 0°00.80' | 117°57.03' | 322°02.11' | S 16°19.37' | **05** |
| **06** | 277°58.52' | 177°03.08' | N 2°50.33' | 17°37.03' | 77°24.58' | N 22°09.41' | 90°55.42' | 4°06.19' | N 0°00.66' | 132°59.60' | 322°02.00' | S 16°19.40' | **06** |
| **07** | 292°58.13' | 177°05.94' | N 2°49.09' | 32°38.47' | 77°25.61' | N 22°09.56' | 105°58.19' | 4°05.88' | N 0°00.53' | 148°02.17' | 322°01.90' | S 16°19.44' | **07** |
| **08** | 307°57.73' | 177°08.80' | N 2°47.85' | 47°39.91' | 77°26.63' | N 22°09.71' | 121°00.96' | 4°05.58' | N 0°00.40' | 163°04.74' | 322°01.79' | S 16°19.47' | **08** |
| **09** | 322°57.33' | 177°11.66' | N 2°46.61' | 62°41.35' | 77°27.65' | N 22°09.85' | 136°03.73' | 4°05.27' | N 0°00.26' | 178°07.31' | 322°01.69' | S 16°19.50' | **09** |
| **10** | 337°56.94' | 177°14.52' | N 2°45.37' | 77°42.79' | 77°28.67' | N 22°10.00' | 151°06.50' | 4°04.96' | N 0°00.13' | 193°09.88' | 322°01.58' | S 16°19.53' | **10** |
| **11** | 352°56.54' | 177°17.38' | N 2°44.14' | 92°44.23' | 77°29.69' | N 22°10.15' | 166°09.27' | 4°04.65' | S 0°00.00' | 208°12.45' | 322°01.47' | S 16°19.57' | **11** |
| **12** | 7°56.15' | 177°20.24' | N 2°42.90' | 107°45.68' | 77°30.71' | N 22°10.30' | 181°12.04' | 4°04.35' | S 0°00.14' | 223°15.02' | 322°01.37' | S 16°19.60' | **12** |
| **13** | 22°55.75' | 177°23.10' | N 2°41.66' | 122°47.12' | 77°31.73' | N 22°10.45' | 196°14.82' | 4°04.04' | S 0°00.27' | 238°17.59' | 322°01.26' | S 16°19.63' | **13** |
| **14** | 37°55.36' | 177°25.96' | N 2°40.42' | 137°48.57' | 77°32.75' | N 22°10.59' | 211°17.59' | 4°03.73' | S 0°00.41' | 253°20.16' | 322°01.16' | S 16°19.66' | **14** |
| **15** | 52°54.96' | 177°28.82' | N 2°39.18' | 152°50.01' | 77°33.77' | N 22°10.74' | 226°20.36' | 4°03.42' | S 0°00.54' | 268°22.73' | 322°01.05' | S 16°19.70' | **15** |
| **16** | 67°54.56' | 177°31.68' | N 2°37.94' | 167°51.46' | 77°34.79' | N 22°10.89' | 241°23.13' | 4°03.12' | S 0°00.67' | 283°25.30' | 322°00.95' | S 16°19.73' | **16** |
| **17** | 82°54.17' | 177°34.54' | N 2°36.70' | 182°52.91' | 77°35.80' | N 22°11.04' | 256°25.90' | 4°02.81' | S 0°00.81' | 298°27.87' | 322°00.84' | S 16°19.76' | **17** |
| **18** | 97°53.77' | 177°37.40' | N 2°35.46' | 197°54.36' | 77°36.82' | N 22°11.18' | 271°28.67' | 4°02.50' | S 0°00.94' | 313°30.44' | 322°00.74' | S 16°19.79' | **18** |
| **19** | 112°53.38' | 177°40.26' | N 2°34.22' | 212°55.81' | 77°37.83' | N 22°11.33' | 286°31.44' | 4°02.20' | S 0°01.07' | 328°33.00' | 322°00.64' | S 16°19.82' | **19** |
| **20** | 127°52.98' | 177°43.12' | N 2°32.98' | 227°57.26' | 77°38.84' | N 22°11.48' | 301°34.22' | 4°01.89' | S 0°01.21' | 343°35.57' | 322°00.53' | S 16°19.86' | **20** |
| **21** | 142°52.59' | 177°45.98' | N 2°31.73' | 242°58.71' | 77°39.85' | N 22°11.62' | 316°36.99' | 4°01.58' | S 0°01.34' | 358°38.14' | 322°00.43' | S 16°19.89' | **21** |
| **22** | 157°52.19' | 177°48.84' | N 2°30.49' | 258°00.17' | 77°40.87' | N 22°11.77' | 331°39.76' | 4°01.27' | S 0°01.47' | 13°40.71' | 322°00.32' | S 16°19.92' | **22** |
| **23** | 172°51.80' | 177°51.70' | N 2°29.25' | 273°01.62' | 77°41.88' | N 22°11.91' | 346°42.53' | 4°00.97' | S 0°01.61' | 28°43.28' | 322°00.22' | S 16°19.95' | **23** |
| **24** | 187°51.40' | 177°54.56' | N 2°28.01' | 288°03.07' | 77°42.89' | N 22°12.06' | 1°45.30' | 4°00.66' | S 0°01.74' | 43°45.84' | 322°00.12' | S 16°19.98' | **24** |
| | δ 14.9934° | | *d* 1.2374' | δ 15.0239° | | *d* 0.1492' | δ 15.0462° | | *d* 0.1338' | δ 15.0429° | | *d* 0.0329' | |

## *Tuesday, September 27th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 182°12.53' | 15.0035° | 183°33.43' | S 1°32.44' | 0.9737' | 169°07.73' | 14.5471° | 196°38.23' | S 4°33.27' | 15.0872' | 57.1615' | 5°45.96' | **00** |
| **01** | 197°12.74' | 15.0035° | 183°35.68' | S 1°33.41' | 0.9736' | 183°40.51' | 14.5464° | 197°07.91' | S 4°48.35' | 15.0782' | 57.1833' | 20°48.42' | **01** |
| **02** | 212°12.95' | 15.0035° | 183°37.93' | S 1°34.39' | 0.9736' | 198°13.25' | 14.5457° | 197°37.63' | S 5°03.42' | 15.0680' | 57.2051' | 35°50.89' | **02** |
| **03** | 227°13.17' | 15.0035° | 183°40.19' | S 1°35.36' | 0.9736' | 212°45.95' | 14.5450° | 198°07.40' | S 5°18.48' | 15.0565' | 57.2268' | 50°53.35' | **03** |
| **04** | 242°13.38' | 15.0035° | 183°42.44' | S 1°36.33' | 0.9736' | 227°18.60' | 14.5442° | 198°37.21' | S 5°33.52' | 15.0438' | 57.2484' | 65°55.82' | **04** |
| **05** | 257°13.59' | 15.0035° | 183°44.69' | S 1°37.31' | 0.9736' | 241°51.21' | 14.5434° | 199°07.07' | S 5°48.55' | 15.0298' | 57.2699' | 80°58.28' | **05** |
| **06** | 272°13.80' | 15.0035° | 183°46.94' | S 1°38.28' | 0.9735' | 256°23.76' | 14.5426° | 199°36.98' | S 6°03.56' | 15.0146' | 57.2914' | 96°00.74' | **06** |
| **07** | 287°14.01' | 15.0035° | 183°49.19' | S 1°39.26' | 0.9735' | 270°56.27' | 14.5418° | 200°06.93' | S 6°18.56' | 14.9981' | 57.3128' | 111°03.21' | **07** |
| **08** | 302°14.23' | 15.0035° | 183°51.45' | S 1°40.23' | 0.9735' | 285°28.73' | 14.5410° | 200°36.94' | S 6°33.54' | 14.9803' | 57.3341' | 126°05.67' | **08** |
| **09** | 317°14.44' | 15.0035° | 183°53.70' | S 1°41.20' | 0.9735' | 300°01.14' | 14.5401° | 201°07.00' | S 6°48.50' | 14.9612' | 57.3553' | 141°08.14' | **09** |
| **10** | 332°14.65' | 15.0035° | 183°55.95' | S 1°42.18' | 0.9735' | 314°33.50' | 14.5393° | 201°37.10' | S 7°03.45' | 14.9408' | 57.3765' | 156°10.60' | **10** |
| **11** | 347°14.86' | 15.0035° | 183°58.20' | S 1°43.15' | 0.9734' | 329°05.80' | 14.5384° | 202°07.26' | S 7°18.36' | 14.9191' | 57.3975' | 171°13.06' | **11** |
| **12** | 2°15.07' | 15.0035° | 184°00.46' | S 1°44.12' | 0.9734' | 343°38.05' | 14.5375° | 202°37.48' | S 7°33.26' | 14.8961' | 57.4185' | 186°15.53' | **12** |
| **13** | 17°15.28' | 15.0035° | 184°02.71' | S 1°45.10' | 0.9734' | 358°10.24' | 14.5366° | 203°07.75' | S 7°48.13' | 14.8718' | 57.4394' | 201°17.99' | **13** |
| **14** | 32°15.50' | 15.0035° | 184°04.96' | S 1°46.07' | 0.9734' | 12°42.38' | 14.5356° | 203°38.08' | S 8°02.98' | 14.8462' | 57.4602' | 216°20.46' | **14** |
| **15** | 47°15.71' | 15.0035° | 184°07.21' | S 1°47.04' | 0.9734' | 27°14.46' | 14.5347° | 204°08.46' | S 8°17.80' | 14.8192' | 57.4809' | 231°22.92' | **15** |
| **16** | 62°15.92' | 15.0035° | 184°09.47' | S 1°48.02' | 0.9733' | 41°46.48' | 14.5337° | 204°38.90' | S 8°32.59' | 14.7909' | 57.5015' | 246°25.38' | **16** |
| **17** | 77°16.13' | 15.0035° | 184°11.72' | S 1°48.99' | 0.9733' | 56°18.45' | 14.5327° | 205°09.40' | S 8°47.35' | 14.7613' | 57.5221' | 261°27.85' | **17** |
| **18** | 92°16.34' | 15.0035° | 184°13.97' | S 1°49.96' | 0.9733' | 70°50.35' | 14.5317° | 205°39.96' | S 9°02.08' | 14.7303' | 57.5425' | 276°30.31' | **18** |
| **19** | 107°16.55' | 15.0035° | 184°16.23' | S 1°50.94' | 0.9733' | 85°22.19' | 14.5307° | 206°10.59' | S 9°16.78' | 14.6979' | 57.5629' | 291°32.78' | **19** |
| **20** | 122°16.76' | 15.0035° | 184°18.48' | S 1°51.91' | 0.9732' | 99°53.97' | 14.5296° | 206°41.27' | S 9°31.44' | 14.6642' | 57.5831' | 306°35.24' | **20** |
| **21** | 137°16.97' | 15.0035° | 184°20.73' | S 1°52.88' | 0.9732' | 114°25.68' | 14.5286° | 207°12.02' | S 9°46.07' | 14.6291' | 57.6033' | 321°37.70' | **21** |
| **22** | 152°17.18' | 15.0035° | 184°22.99' | S 1°53.86' | 0.9732' | 128°57.33' | 14.5275° | 207°42.84' | S 10°00.66' | 14.5926' | 57.6234' | 336°40.17' | **22** |
| **23** | 167°17.39' | 15.0035° | 184°25.24' | S 1°54.83' | 0.9732' | 143°28.91' | 14.5264° | 208°13.72' | S 10°15.22' | 14.5547' | 57.6433' | 351°42.63' | **23** |
| **24** | 182°17.60' | 15.0035° | 184°27.49' | S 1°55.80' | 0.9731' | 158°00.43' | 14.5253° | 208°44.66' | S 10°29.73' | 14.5154' | 57.6632' | 6°45.10' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9558' | hp (π) 0.1462' | ½Ø 15.6455' | 2.86422430962283<br>7% +cre |
| | EoT at 12:00 UTC : +9m 0s (δ 0.85 s/h) | | Phase at 12:00 UTC : 19.36° | |
| | Meridian Pass. Time : 11:50:59.710 | | Age : 1.5 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.18') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 187°51.40' | 177°54.56' | N 2°28.01' | 288°03.07' | 77°42.89' | N 22°12.06' | 1°45.30' | 4°00.66' | S 0°01.74' | 43°45.84' | 322°00.12' | S 16°19.98' | **00** |
| **01** | 202°51.01' | 177°57.42' | N 2°26.77' | 303°04.53' | 77°43.89' | N 22°12.21' | 16°48.07' | 4°00.35' | S 0°01.87' | 58°48.41' | 322°00.01' | S 16°20.01' | **01** |
| **02** | 217°50.61' | 178°00.27' | N 2°25.53' | 318°05.98' | 77°44.90' | N 22°12.35' | 31°50.84' | 4°00.04' | S 0°02.01' | 73°50.98' | 321°59.91' | S 16°20.05' | **02** |
| **03** | 232°50.22' | 178°03.13' | N 2°24.29' | 333°07.44' | 77°45.91' | N 22°12.50' | 46°53.62' | 3°59.74' | S 0°02.14' | 88°53.55' | 321°59.81' | S 16°20.08' | **03** |
| **04** | 247°49.82' | 178°05.99' | N 2°23.04' | 348°08.90' | 77°46.92' | N 22°12.64' | 61°56.39' | 3°59.43' | S 0°02.28' | 103°56.11' | 321°59.70' | S 16°20.11' | **04** |
| **05** | 262°49.43' | 178°08.85' | N 2°21.80' | 3°10.36' | 77°47.92' | N 22°12.79' | 76°59.16' | 3°59.12' | S 0°02.41' | 118°58.68' | 321°59.60' | S 16°20.14' | **05** |
| **06** | 277°49.03' | 178°11.71' | N 2°20.56' | 18°11.82' | 77°48.93' | N 22°12.94' | 92°01.93' | 3°58.81' | S 0°02.54' | 134°01.25' | 321°59.50' | S 16°20.17' | **06** |
| **07** | 292°48.64' | 178°14.57' | N 2°19.32' | 33°13.28' | 77°49.93' | N 22°13.08' | 107°04.70' | 3°58.51' | S 0°02.68' | 149°03.81' | 321°59.39' | S 16°20.20' | **07** |
| **08** | 307°48.25' | 178°17.43' | N 2°18.07' | 48°14.74' | 77°50.93' | N 22°13.23' | 122°07.47' | 3°58.20' | S 0°02.81' | 164°06.38' | 321°59.29' | S 16°20.23' | **08** |
| **09** | 322°47.85' | 178°20.28' | N 2°16.83' | 63°16.20' | 77°51.93' | N 22°13.37' | 137°10.25' | 3°57.89' | S 0°02.94' | 179°08.95' | 321°59.19' | S 16°20.27' | **09** |
| **10** | 337°47.46' | 178°23.14' | N 2°15.59' | 78°17.67' | 77°52.93' | N 22°13.52' | 152°13.02' | 3°57.58' | S 0°03.08' | 194°11.51' | 321°59.09' | S 16°20.30' | **10** |
| **11** | 352°47.06' | 178°26.00' | N 2°14.35' | 93°19.13' | 77°53.93' | N 22°13.66' | 167°15.79' | 3°57.28' | S 0°03.21' | 209°14.08' | 321°58.98' | S 16°20.33' | **11** |
| **12** | 7°46.67' | 178°28.86' | N 2°13.10' | 108°20.59' | 77°54.93' | N 22°13.80' | 182°18.56' | 3°56.97' | S 0°03.34' | 224°16.65' | 321°58.88' | S 16°20.36' | **12** |
| **13** | 22°46.28' | 178°31.72' | N 2°11.86' | 123°22.06' | 77°55.93' | N 22°13.95' | 197°21.33' | 3°56.66' | S 0°03.48' | 239°19.21' | 321°58.78' | S 16°20.39' | **13** |
| **14** | 37°45.88' | 178°34.57' | N 2°10.62' | 138°23.53' | 77°56.93' | N 22°14.09' | 212°24.10' | 3°56.35' | S 0°03.61' | 254°21.78' | 321°58.68' | S 16°20.42' | **14** |
| **15** | 52°45.49' | 178°37.43' | N 2°09.37' | 153°24.99' | 77°57.93' | N 22°14.24' | 227°26.87' | 3°56.05' | S 0°03.74' | 269°24.34' | 321°58.58' | S 16°20.45' | **15** |
| **16** | 67°45.09' | 178°40.29' | N 2°08.13' | 168°26.46' | 77°58.92' | N 22°14.38' | 242°29.65' | 3°55.74' | S 0°03.88' | 284°26.91' | 321°58.48' | S 16°20.48' | **16** |
| **17** | 82°44.70' | 178°43.15' | N 2°06.89' | 183°27.93' | 77°59.92' | N 22°14.53' | 257°32.42' | 3°55.43' | S 0°04.01' | 299°29.47' | 321°58.37' | S 16°20.51' | **17** |
| **18** | 97°44.31' | 178°46.01' | N 2°05.64' | 198°29.40' | 78°00.91' | N 22°14.67' | 272°35.19' | 3°55.12' | S 0°04.14' | 314°32.04' | 321°58.27' | S 16°20.55' | **18** |
| **19** | 112°43.91' | 178°48.86' | N 2°04.40' | 213°30.87' | 78°01.90' | N 22°14.81' | 287°37.96' | 3°54.82' | S 0°04.28' | 329°34.60' | 321°58.17' | S 16°20.58' | **19** |
| **20** | 127°43.52' | 178°51.72' | N 2°03.15' | 228°32.35' | 78°02.89' | N 22°14.96' | 302°40.73' | 3°54.51' | S 0°04.41' | 344°37.17' | 321°58.07' | S 16°20.61' | **20** |
| **21** | 142°43.13' | 178°54.58' | N 2°01.91' | 243°33.82' | 78°03.89' | N 22°15.10' | 317°43.50' | 3°54.20' | S 0°04.54' | 359°39.73' | 321°57.97' | S 16°20.64' | **21** |
| **22** | 157°42.73' | 178°57.44' | N 2°00.66' | 258°35.29' | 78°04.88' | N 22°15.24' | 332°46.27' | 3°53.89' | S 0°04.67' | 14°42.30' | 321°57.87' | S 16°20.67' | **22** |
| **23** | 172°42.34' | 179°00.29' | N 1°59.42' | 273°36.77' | 78°05.87' | N 22°15.39' | 347°49.05' | 3°53.59' | S 0°04.81' | 29°44.86' | 321°57.77' | S 16°20.70' | **23** |
| **24** | 187°41.95' | 179°03.15' | N 1°58.17' | 288°38.24' | 78°06.85' | N 22°15.53' | 2°51.82' | 3°53.28' | S 0°04.94' | 44°47.43' | 321°57.67' | S 16°20.73' | **24** |
| | δ 14.9934° | | *d* 1.2414' | δ 15.0243° | | *d* 0.1460' | δ 15.0462° | | *d* 0.1335' | δ 15.0428° | | *d* 0.0317' | |

## *Wednesday, September 28th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 182°17.60' | 15.0035° | 184°27.49' | S 1°55.80' | 0.9731' | 158°00.43' | 14.5253° | 208°44.66' | S 10°29.73' | 14.5154' | 57.6632' | 6°45.10' | **00** |
| **01** | 197°17.81' | 15.0035° | 184°29.75' | S 1°56.77' | 0.9731' | 172°31.88' | 14.5242° | 209°15.68' | S 10°44.21' | 14.4747' | 57.6830' | 21°47.56' | **01** |
| **02** | 212°18.02' | 15.0035° | 184°32.00' | S 1°57.75' | 0.9731' | 187°03.26' | 14.5230° | 209°46.76' | S 10°58.64' | 14.4326' | 57.7027' | 36°50.02' | **02** |
| **03** | 227°18.23' | 15.0035° | 184°34.26' | S 1°58.72' | 0.9730' | 201°34.57' | 14.5219° | 210°17.91' | S 11°13.03' | 14.3891' | 57.7222' | 51°52.49' | **03** |
| **04** | 242°18.44' | 15.0035° | 184°36.51' | S 1°59.69' | 0.9730' | 216°05.81' | 14.5207° | 210°49.14' | S 11°27.37' | 14.3442' | 57.7417' | 66°54.95' | **04** |
| **05** | 257°18.65' | 15.0035° | 184°38.76' | S 2°00.67' | 0.9730' | 230°36.98' | 14.5195° | 211°20.43' | S 11°41.67' | 14.2978' | 57.7611' | 81°57.42' | **05** |
| **06** | 272°18.86' | 15.0035° | 184°41.02' | S 2°01.64' | 0.9730' | 245°08.08' | 14.5183° | 211°51.80' | S 11°55.92' | 14.2500' | 57.7804' | 96°59.88' | **06** |
| **07** | 287°19.07' | 15.0035° | 184°43.27' | S 2°02.61' | 0.9729' | 259°39.10' | 14.5170° | 212°23.24' | S 12°10.12' | 14.2007' | 57.7996' | 112°02.35' | **07** |
| **08** | 302°19.28' | 15.0035° | 184°45.53' | S 2°03.59' | 0.9729' | 274°10.05' | 14.5158° | 212°54.76' | S 12°24.27' | 14.1500' | 57.8186' | 127°04.81' | **08** |
| **09** | 317°19.49' | 15.0035° | 184°47.78' | S 2°04.56' | 0.9729' | 288°40.92' | 14.5145° | 213°26.35' | S 12°38.37' | 14.0978' | 57.8376' | 142°07.27' | **09** |
| **10** | 332°19.70' | 15.0035° | 184°50.04' | S 2°05.53' | 0.9728' | 303°11.72' | 14.5133° | 213°58.02' | S 12°52.41' | 14.0442' | 57.8565' | 157°09.74' | **10** |
| **11** | 347°19.91' | 15.0035° | 184°52.29' | S 2°06.50' | 0.9728' | 317°42.44' | 14.5120° | 214°29.76' | S 13°06.40' | 13.9890' | 57.8752' | 172°12.20' | **11** |
| **12** | 2°20.12' | 15.0035° | 184°54.55' | S 2°07.48' | 0.9728' | 332°13.08' | 14.5107° | 215°01.59' | S 13°20.34' | 13.9324' | 57.8939' | 187°14.67' | **12** |
| **13** | 17°20.33' | 15.0035° | 184°56.80' | S 2°08.45' | 0.9727' | 346°43.64' | 14.5093° | 215°33.49' | S 13°34.21' | 13.8743' | 57.9124' | 202°17.13' | **13** |
| **14** | 32°20.54' | 15.0035° | 184°59.06' | S 2°09.42' | 0.9727' | 1°14.12' | 14.5080° | 216°05.47' | S 13°48.03' | 13.8147' | 57.9309' | 217°19.59' | **14** |
| **15** | 47°20.75' | 15.0035° | 185°01.31' | S 2°10.40' | 0.9727' | 15°44.52' | 14.5067° | 216°37.54' | S 14°01.78' | 13.7536' | 57.9492' | 232°22.06' | **15** |
| **16** | 62°20.96' | 15.0035° | 185°03.57' | S 2°11.37' | 0.9726' | 30°14.84' | 14.5053° | 217°09.69' | S 14°15.47' | 13.6910' | 57.9674' | 247°24.52' | **16** |
| **17** | 77°21.16' | 15.0035° | 185°05.82' | S 2°12.34' | 0.9726' | 44°45.07' | 14.5039° | 217°41.91' | S 14°29.10' | 13.6269' | 57.9855' | 262°26.99' | **17** |
| **18** | 92°21.37' | 15.0035° | 185°08.08' | S 2°13.31' | 0.9726' | 59°15.22' | 14.5025° | 218°14.23' | S 14°42.66' | 13.5612' | 58.0036' | 277°29.45' | **18** |
| **19** | 107°21.58' | 15.0035° | 185°10.33' | S 2°14.29' | 0.9725' | 73°45.29' | 14.5011° | 218°46.62' | S 14°56.15' | 13.4940' | 58.0215' | 292°31.91' | **19** |
| **20** | 122°21.79' | 15.0035° | 185°12.59' | S 2°15.26' | 0.9725' | 88°15.27' | 14.4997° | 219°19.11' | S 15°09.58' | 13.4253' | 58.0392' | 307°34.38' | **20** |
| **21** | 137°22.00' | 15.0035° | 185°14.84' | S 2°16.23' | 0.9725' | 102°45.17' | 14.4983° | 219°51.68' | S 15°22.93' | 13.3551' | 58.0569' | 322°36.84' | **21** |
| **22** | 152°22.21' | 15.0035° | 185°17.10' | S 2°17.20' | 0.9724' | 117°14.98' | 14.4968° | 220°24.33' | S 15°36.22' | 13.2833' | 58.0745' | 337°39.31' | **22** |
| **23** | 167°22.41' | 15.0035° | 185°19.36' | S 2°18.18' | 0.9724' | 131°44.70' | 14.4954° | 220°57.07' | S 15°49.43' | 13.2099' | 58.0920' | 352°41.77' | **23** |
| **24** | 182°22.62' | 15.0035° | 185°21.61' | S 2°19.15' | 0.9723' | 146°14.33' | 14.4939° | 221°29.90' | S 16°02.56' | 13.1350' | 58.1093' | 7°44.23' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9604' | hp (π) 0.1463' | ½Ø 15.7750' | 7.55333552562791<br>3% +cre |
| | EoT at 12:00 UTC : +9m 20s (δ 0.84 s/h) | | Phase at 12:00 UTC : 31.82° | |
| | Meridian Pass. Time : 11:50:39.522 | | Age : 2.5 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.18') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 187°41.95' | 179°03.15' | N 1°58.17' | 288°38.24' | 78°06.85' | N 22°15.53' | 2°51.82' | 3°53.28' | S 0°04.94' | 44°47.43' | 321°57.67' | S 16°20.73' | **00** |
| **01** | 202°41.55' | 179°06.01' | N 1°56.93' | 303°39.72' | 78°07.84' | N 22°15.67' | 17°54.59' | 3°52.97' | S 0°05.07' | 59°49.99' | 321°57.57' | S 16°20.76' | **01** |
| **02** | 217°41.16' | 179°08.87' | N 1°55.68' | 318°41.20' | 78°08.83' | N 22°15.82' | 32°57.36' | 3°52.67' | S 0°05.21' | 74°52.55' | 321°57.47' | S 16°20.79' | **02** |
| **03** | 232°40.77' | 179°11.72' | N 1°54.44' | 333°42.68' | 78°09.81' | N 22°15.96' | 48°00.13' | 3°52.36' | S 0°05.34' | 89°55.12' | 321°57.37' | S 16°20.82' | **03** |
| **04** | 247°40.37' | 179°14.58' | N 1°53.19' | 348°44.15' | 78°10.80' | N 22°16.10' | 63°02.90' | 3°52.05' | S 0°05.47' | 104°57.68' | 321°57.27' | S 16°20.85' | **04** |
| **05** | 262°39.98' | 179°17.44' | N 1°51.95' | 3°45.63' | 78°11.78' | N 22°16.24' | 78°05.67' | 3°51.74' | S 0°05.61' | 120°00.25' | 321°57.17' | S 16°20.88' | **05** |
| **06** | 277°39.59' | 179°20.29' | N 1°50.70' | 18°47.12' | 78°12.77' | N 22°16.39' | 93°08.45' | 3°51.44' | S 0°05.74' | 135°02.81' | 321°57.07' | S 16°20.91' | **06** |
| **07** | 292°39.19' | 179°23.15' | N 1°49.46' | 33°48.60' | 78°13.75' | N 22°16.53' | 108°11.22' | 3°51.13' | S 0°05.87' | 150°05.37' | 321°56.97' | S 16°20.94' | **07** |
| **08** | 307°38.80' | 179°26.01' | N 1°48.21' | 48°50.08' | 78°14.73' | N 22°16.67' | 123°13.99' | 3°50.82' | S 0°06.01' | 165°07.93' | 321°56.87' | S 16°20.97' | **08** |
| **09** | 322°38.41' | 179°28.86' | N 1°46.97' | 63°51.56' | 78°15.71' | N 22°16.81' | 138°16.76' | 3°50.51' | S 0°06.14' | 180°10.50' | 321°56.78' | S 16°21.00' | **09** |
| **10** | 337°38.02' | 179°31.72' | N 1°45.72' | 78°53.05' | 78°16.69' | N 22°16.95' | 153°19.53' | 3°50.21' | S 0°06.27' | 195°13.06' | 321°56.68' | S 16°21.03' | **10** |
| **11** | 352°37.62' | 179°34.58' | N 1°44.47' | 93°54.53' | 78°17.67' | N 22°17.10' | 168°22.30' | 3°49.90' | S 0°06.40' | 210°15.62' | 321°56.58' | S 16°21.06' | **11** |
| **12** | 7°37.23' | 179°37.43' | N 1°43.23' | 108°56.02' | 78°18.65' | N 22°17.24' | 183°25.07' | 3°49.59' | S 0°06.54' | 225°18.19' | 321°56.48' | S 16°21.09' | **12** |
| **13** | 22°36.84' | 179°40.29' | N 1°41.98' | 123°57.51' | 78°19.62' | N 22°17.38' | 198°27.84' | 3°49.29' | S 0°06.67' | 240°20.75' | 321°56.38' | S 16°21.12' | **13** |
| **14** | 37°36.45' | 179°43.15' | N 1°40.73' | 138°58.99' | 78°20.60' | N 22°17.52' | 213°30.62' | 3°48.98' | S 0°06.80' | 255°23.31' | 321°56.28' | S 16°21.15' | **14** |
| **15** | 52°36.05' | 179°46.00' | N 1°39.49' | 154°00.48' | 78°21.57' | N 22°17.66' | 228°33.39' | 3°48.67' | S 0°06.94' | 270°25.87' | 321°56.19' | S 16°21.18' | **15** |
| **16** | 67°35.66' | 179°48.86' | N 1°38.24' | 169°01.97' | 78°22.55' | N 22°17.80' | 243°36.16' | 3°48.36' | S 0°07.07' | 285°28.43' | 321°56.09' | S 16°21.21' | **16** |
| **17** | 82°35.27' | 179°51.72' | N 1°36.99' | 184°03.46' | 78°23.52' | N 22°17.94' | 258°38.93' | 3°48.06' | S 0°07.20' | 300°31.00' | 321°55.99' | S 16°21.24' | **17** |
| **18** | 97°34.88' | 179°54.57' | N 1°35.75' | 199°04.96' | 78°24.49' | N 22°18.08' | 273°41.70' | 3°47.75' | S 0°07.33' | 315°33.56' | 321°55.89' | S 16°21.27' | **18** |
| **19** | 112°34.48' | 179°57.43' | N 1°34.50' | 214°06.45' | 78°25.46' | N 22°18.23' | 288°44.47' | 3°47.44' | S 0°07.47' | 330°36.12' | 321°55.80' | S 16°21.30' | **19** |
| **20** | 127°34.09' | 180°00.29' | N 1°33.25' | 229°07.94' | 78°26.44' | N 22°18.37' | 303°47.24' | 3°47.14' | S 0°07.60' | 345°38.68' | 321°55.70' | S 16°21.33' | **20** |
| **21** | 142°33.70' | 180°03.14' | N 1°32.00' | 244°09.44' | 78°27.40' | N 22°18.51' | 318°50.01' | 3°46.83' | S 0°07.73' | 0°41.24' | 321°55.60' | S 16°21.36' | **21** |
| **22** | 157°33.31' | 180°06.00' | N 1°30.76' | 259°10.93' | 78°28.37' | N 22°18.65' | 333°52.78' | 3°46.52' | S 0°07.87' | 15°43.80' | 321°55.50' | S 16°21.39' | **22** |
| **23** | 172°32.91' | 180°08.86' | N 1°29.51' | 274°12.43' | 78°29.34' | N 22°18.79' | 348°55.56' | 3°46.21' | S 0°08.00' | 30°46.36' | 321°55.41' | S 16°21.42' | **23** |
| **24** | 187°32.52' | 180°11.71' | N 1°28.26' | 289°13.93' | 78°30.31' | N 22°18.93' | 3°58.33' | 3°45.91' | S 0°08.13' | 45°48.92' | 321°55.31' | S 16°21.45' | **24** |
| | δ 14.9934° | | *d* 1.2449' | δ 15.0246° | | *d* 0.1430' | δ 15.0462° | | *d* 0.1331' | δ 15.0427° | | *d* 0.0304' | |

## *Thursday, September 29th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 182°22.62' | 15.0035° | 185°21.61' | S 2°19.15' | 0.9723' | 146°14.33' | 14.4939° | 221°29.90' | S 16°02.56' | 13.1350' | 58.1093' | 7°44.23' | **00** |
| **01** | 197°22.83' | 15.0035° | 185°23.87' | S 2°20.12' | 0.9723' | 160°43.87' | 14.4924° | 222°02.82' | S 16°15.62' | 13.0585' | 58.1265' | 22°46.70' | **01** |
| **02** | 212°23.04' | 15.0035° | 185°26.12' | S 2°21.09' | 0.9723' | 175°13.33' | 14.4909° | 222°35.83' | S 16°28.60' | 12.9805' | 58.1437' | 37°49.16' | **02** |
| **03** | 227°23.25' | 15.0035° | 185°28.38' | S 2°22.06' | 0.9722' | 189°42.69' | 14.4894° | 223°08.93' | S 16°41.50' | 12.9009' | 58.1607' | 52°51.63' | **03** |
| **04** | 242°23.45' | 15.0035° | 185°30.64' | S 2°23.04' | 0.9722' | 204°11.96' | 14.4879° | 223°42.13' | S 16°54.32' | 12.8197' | 58.1776' | 67°54.09' | **04** |
| **05** | 257°23.66' | 15.0035° | 185°32.89' | S 2°24.01' | 0.9721' | 218°41.15' | 14.4863° | 224°15.41' | S 17°07.06' | 12.7369' | 58.1944' | 82°56.55' | **05** |
| **06** | 272°23.87' | 15.0035° | 185°35.15' | S 2°24.98' | 0.9721' | 233°10.23' | 14.4848° | 224°48.78' | S 17°19.71' | 12.6526' | 58.2111' | 97°59.02' | **06** |
| **07** | 287°24.08' | 15.0035° | 185°37.41' | S 2°25.95' | 0.9721' | 247°39.23' | 14.4833° | 225°22.25' | S 17°32.28' | 12.5666' | 58.2276' | 113°01.48' | **07** |
| **08** | 302°24.28' | 15.0035° | 185°39.66' | S 2°26.92' | 0.9720' | 262°08.13' | 14.4817° | 225°55.81' | S 17°44.76' | 12.4791' | 58.2441' | 128°03.95' | **08** |
| **09** | 317°24.49' | 15.0035° | 185°41.92' | S 2°27.90' | 0.9720' | 276°36.94' | 14.4801° | 226°29.47' | S 17°57.15' | 12.3900' | 58.2604' | 143°06.41' | **09** |
| **10** | 332°24.70' | 15.0035° | 185°44.18' | S 2°28.87' | 0.9719' | 291°05.65' | 14.4786° | 227°03.22' | S 18°09.44' | 12.2992' | 58.2766' | 158°08.88' | **10** |
| **11** | 347°24.90' | 15.0034° | 185°46.44' | S 2°29.84' | 0.9719' | 305°34.27' | 14.4770° | 227°37.07' | S 18°21.65' | 12.2069' | 58.2927' | 173°11.34' | **11** |
| **12** | 2°25.11' | 15.0034° | 185°48.69' | S 2°30.81' | 0.9719' | 320°02.80' | 14.4754° | 228°11.01' | S 18°33.76' | 12.1130' | 58.3087' | 188°13.80' | **12** |
| **13** | 17°25.32' | 15.0034° | 185°50.95' | S 2°31.78' | 0.9718' | 334°31.22' | 14.4738° | 228°45.05' | S 18°45.78' | 12.0174' | 58.3246' | 203°16.27' | **13** |
| **14** | 32°25.52' | 15.0034° | 185°53.21' | S 2°32.76' | 0.9718' | 348°59.55' | 14.4722° | 229°19.18' | S 18°57.70' | 11.9203' | 58.3404' | 218°18.73' | **14** |
| **15** | 47°25.73' | 15.0034° | 185°55.47' | S 2°33.73' | 0.9717' | 3°27.79' | 14.4706° | 229°53.41' | S 19°09.52' | 11.8215' | 58.3560' | 233°21.20' | **15** |
| **16** | 62°25.94' | 15.0034° | 185°57.72' | S 2°34.70' | 0.9717' | 17°55.92' | 14.4689° | 230°27.74' | S 19°21.24' | 11.7211' | 58.3716' | 248°23.66' | **16** |
| **17** | 77°26.14' | 15.0034° | 185°59.98' | S 2°35.67' | 0.9716' | 32°23.96' | 14.4673° | 231°02.16' | S 19°32.86' | 11.6191' | 58.3870' | 263°26.12' | **17** |
| **18** | 92°26.35' | 15.0034° | 186°02.24' | S 2°36.64' | 0.9716' | 46°51.90' | 14.4657° | 231°36.69' | S 19°44.38' | 11.5155' | 58.4023' | 278°28.59' | **18** |
| **19** | 107°26.56' | 15.0034° | 186°04.50' | S 2°37.61' | 0.9715' | 61°19.74' | 14.4640° | 232°11.31' | S 19°55.79' | 11.4103' | 58.4175' | 293°31.05' | **19** |
| **20** | 122°26.76' | 15.0034° | 186°06.75' | S 2°38.59' | 0.9715' | 75°47.49' | 14.4624° | 232°46.03' | S 20°07.09' | 11.3035' | 58.4326' | 308°33.52' | **20** |
| **21** | 137°26.97' | 15.0034° | 186°09.01' | S 2°39.56' | 0.9714' | 90°15.14' | 14.4608° | 233°20.85' | S 20°18.29' | 11.1950' | 58.4476' | 323°35.98' | **21** |
| **22** | 152°27.17' | 15.0034° | 186°11.27' | S 2°40.53' | 0.9714' | 104°42.68' | 14.4591° | 233°55.76' | S 20°29.37' | 11.0849' | 58.4624' | 338°38.44' | **22** |
| **23** | 167°27.38' | 15.0034° | 186°13.53' | S 2°41.50' | 0.9713' | 119°10.13' | 14.4575° | 234°30.78' | S 20°40.35' | 10.9733' | 58.4772' | 353°40.91' | **23** |
| **24** | 182°27.58' | 15.0034° | 186°15.79' | S 2°42.47' | 0.9713' | 133°37.48' | 14.4558° | 235°05.89' | S 20°51.21' | 10.8600' | 58.4918' | 8°43.37' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9650' | hp (π) 0.1463' | ½Ø 15.8880' | 14.3798330644236<br>47% +cre |
| | EoT at 12:00 UTC : +9m 40s (δ 0.83 s/h) | | Phase at 12:00 UTC : 44.46° | |
| | Meridian Pass. Time : 11:50:19.556 | | Age : 3.5 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.18') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 187°32.52' | 180°11.71' | N 1°28.26' | 289°13.93' | 78°30.31' | N 22°18.93' | 3°58.33' | 3°45.91' | S 0°08.13' | 45°48.92' | 321°55.31' | S 16°21.45' | **00** |
| **01** | 202°32.13' | 180°14.57' | N 1°27.01' | 304°15.42' | 78°31.27' | N 22°19.07' | 19°01.10' | 3°45.60' | S 0°08.26' | 60°51.48' | 321°55.21' | S 16°21.47' | **01** |
| **02** | 217°31.74' | 180°17.42' | N 1°25.77' | 319°16.92' | 78°32.24' | N 22°19.21' | 34°03.87' | 3°45.29' | S 0°08.40' | 75°54.04' | 321°55.12' | S 16°21.50' | **02** |
| **03** | 232°31.35' | 180°20.28' | N 1°24.52' | 334°18.42' | 78°33.20' | N 22°19.35' | 49°06.64' | 3°44.99' | S 0°08.53' | 90°56.60' | 321°55.02' | S 16°21.53' | **03** |
| **04** | 247°30.95' | 180°23.14' | N 1°23.27' | 349°19.92' | 78°34.17' | N 22°19.49' | 64°09.41' | 3°44.68' | S 0°08.66' | 105°59.16' | 321°54.93' | S 16°21.56' | **04** |
| **05** | 262°30.56' | 180°25.99' | N 1°22.02' | 4°21.43' | 78°35.13' | N 22°19.63' | 79°12.18' | 3°44.37' | S 0°08.79' | 121°01.72' | 321°54.83' | S 16°21.59' | **05** |
| **06** | 277°30.17' | 180°28.85' | N 1°20.77' | 19°22.93' | 78°36.09' | N 22°19.77' | 94°14.95' | 3°44.07' | S 0°08.93' | 136°04.28' | 321°54.73' | S 16°21.62' | **06** |
| **07** | 292°29.78' | 180°31.70' | N 1°19.52' | 34°24.43' | 78°37.05' | N 22°19.90' | 109°17.72' | 3°43.76' | S 0°09.06' | 151°06.84' | 321°54.64' | S 16°21.65' | **07** |
| **08** | 307°29.39' | 180°34.56' | N 1°18.27' | 49°25.94' | 78°38.01' | N 22°20.04' | 124°20.49' | 3°43.45' | S 0°09.19' | 166°09.40' | 321°54.54' | S 16°21.68' | **08** |
| **09** | 322°29.00' | 180°37.42' | N 1°17.03' | 64°27.44' | 78°38.97' | N 22°20.18' | 139°23.27' | 3°43.15' | S 0°09.32' | 181°11.96' | 321°54.45' | S 16°21.71' | **09** |
| **10** | 337°28.60' | 180°40.27' | N 1°15.78' | 79°28.95' | 78°39.93' | N 22°20.32' | 154°26.04' | 3°42.84' | S 0°09.46' | 196°14.52' | 321°54.35' | S 16°21.73' | **10** |
| **11** | 352°28.21' | 180°43.13' | N 1°14.53' | 94°30.46' | 78°40.88' | N 22°20.46' | 169°28.81' | 3°42.53' | S 0°09.59' | 211°17.08' | 321°54.26' | S 16°21.76' | **11** |
| **12** | 7°27.82' | 180°45.98' | N 1°13.28' | 109°31.96' | 78°41.84' | N 22°20.60' | 184°31.58' | 3°42.23' | S 0°09.72' | 226°19.64' | 321°54.16' | S 16°21.79' | **12** |
| **13** | 22°27.43' | 180°48.84' | N 1°12.03' | 124°33.47' | 78°42.79' | N 22°20.74' | 199°34.35' | 3°41.92' | S 0°09.85' | 241°22.20' | 321°54.07' | S 16°21.82' | **13** |
| **14** | 37°27.04' | 180°51.69' | N 1°10.78' | 139°34.98' | 78°43.75' | N 22°20.88' | 214°37.12' | 3°41.61' | S 0°09.98' | 256°24.76' | 321°53.97' | S 16°21.85' | **14** |
| **15** | 52°26.65' | 180°54.55' | N 1°09.53' | 154°36.49' | 78°44.70' | N 22°21.02' | 229°39.89' | 3°41.31' | S 0°10.12' | 271°27.32' | 321°53.88' | S 16°21.88' | **15** |
| **16** | 67°26.25' | 180°57.41' | N 1°08.28' | 169°38.01' | 78°45.65' | N 22°21.15' | 244°42.66' | 3°41.00' | S 0°10.25' | 286°29.87' | 321°53.79' | S 16°21.91' | **16** |
| **17** | 82°25.86' | 181°00.26' | N 1°07.03' | 184°39.52' | 78°46.61' | N 22°21.29' | 259°45.43' | 3°40.69' | S 0°10.38' | 301°32.43' | 321°53.69' | S 16°21.93' | **17** |
| **18** | 97°25.47' | 181°03.12' | N 1°05.78' | 199°41.03' | 78°47.56' | N 22°21.43' | 274°48.20' | 3°40.39' | S 0°10.51' | 316°34.99' | 321°53.60' | S 16°21.96' | **18** |
| **19** | 112°25.08' | 181°05.97' | N 1°04.53' | 214°42.55' | 78°48.51' | N 22°21.57' | 289°50.97' | 3°40.08' | S 0°10.65' | 331°37.55' | 321°53.50' | S 16°21.99' | **19** |
| **20** | 127°24.69' | 181°08.83' | N 1°03.28' | 229°44.06' | 78°49.45' | N 22°21.71' | 304°53.74' | 3°39.77' | S 0°10.78' | 346°40.11' | 321°53.41' | S 16°22.02' | **20** |
| **21** | 142°24.30' | 181°11.68' | N 1°02.03' | 244°45.58' | 78°50.40' | N 22°21.84' | 319°56.51' | 3°39.47' | S 0°10.91' | 1°42.66' | 321°53.32' | S 16°22.05' | **21** |
| **22** | 157°23.91' | 181°14.54' | N 1°00.78' | 259°47.10' | 78°51.35' | N 22°21.98' | 334°59.28' | 3°39.16' | S 0°11.04' | 16°45.22' | 321°53.22' | S 16°22.08' | **22** |
| **23** | 172°23.51' | 181°17.39' | N 0°59.53' | 274°48.61' | 78°52.29' | N 22°22.12' | 350°02.06' | 3°38.85' | S 0°11.17' | 31°47.78' | 321°53.13' | S 16°22.10' | **23** |
| **24** | 187°23.12' | 181°20.25' | N 0°58.28' | 289°50.13' | 78°53.24' | N 22°22.26' | 5°04.83' | 3°38.55' | S 0°11.31' | 46°50.34' | 321°53.04' | S 16°22.13' | **24** |
| | δ 14.9935° | | *d* 1.2479' | δ 15.0250° | | *d* 0.1401' | δ 15.0462° | | *d* 0.1326' | δ 15.0427° | | *d* 0.0292' | |

## *Friday, September 30th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 182°27.58' | 15.0034° | 186°15.79' | S 2°42.47' | 0.9713' | 133°37.48' | 14.4558° | 235°05.89' | S 20°51.21' | 10.8600' | 58.4918' | 8°43.37' | **00** |
| **01** | 197°27.79' | 15.0034° | 186°18.05' | S 2°43.44' | 0.9712' | 148°04.73' | 14.4542° | 235°41.11' | S 21°01.95' | 10.7451' | 58.5063' | 23°45.84' | **01** |
| **02** | 212°28.00' | 15.0034° | 186°20.31' | S 2°44.41' | 0.9712' | 162°31.88' | 14.4525° | 236°16.42' | S 21°12.58' | 10.6286' | 58.5207' | 38°48.30' | **02** |
| **03** | 227°28.20' | 15.0034° | 186°22.56' | S 2°45.38' | 0.9711' | 176°58.94' | 14.4509° | 236°51.83' | S 21°23.09' | 10.5105' | 58.5350' | 53°50.77' | **03** |
| **04** | 242°28.41' | 15.0034° | 186°24.82' | S 2°46.36' | 0.9711' | 191°25.89' | 14.4492° | 237°27.34' | S 21°33.48' | 10.3908' | 58.5492' | 68°53.23' | **04** |
| **05** | 257°28.61' | 15.0034° | 186°27.08' | S 2°47.33' | 0.9710' | 205°52.74' | 14.4476° | 238°02.95' | S 21°43.75' | 10.2694' | 58.5632' | 83°55.69' | **05** |
| **06** | 272°28.82' | 15.0034° | 186°29.34' | S 2°48.30' | 0.9710' | 220°19.50' | 14.4459° | 238°38.66' | S 21°53.90' | 10.1465' | 58.5772' | 98°58.16' | **06** |
| **07** | 287°29.02' | 15.0034° | 186°31.60' | S 2°49.27' | 0.9709' | 234°46.16' | 14.4443° | 239°14.47' | S 22°03.92' | 10.0221' | 58.5910' | 114°00.62' | **07** |
| **08** | 302°29.23' | 15.0034° | 186°33.86' | S 2°50.24' | 0.9709' | 249°12.71' | 14.4426° | 239°50.37' | S 22°13.82' | 9.8960' | 58.6047' | 129°03.09' | **08** |
| **09** | 317°29.43' | 15.0034° | 186°36.12' | S 2°51.21' | 0.9708' | 263°39.18' | 14.4410° | 240°26.38' | S 22°23.58' | 9.7683' | 58.6183' | 144°05.55' | **09** |
| **10** | 332°29.63' | 15.0034° | 186°38.38' | S 2°52.18' | 0.9708' | 278°05.54' | 14.4394° | 241°02.48' | S 22°33.22' | 9.6391' | 58.6318' | 159°08.01' | **10** |
| **11** | 347°29.84' | 15.0034° | 186°40.64' | S 2°53.15' | 0.9707' | 292°31.80' | 14.4377° | 241°38.68' | S 22°42.73' | 9.5083' | 58.6451' | 174°10.48' | **11** |
| **12** | 2°30.04' | 15.0034° | 186°42.90' | S 2°54.12' | 0.9707' | 306°57.97' | 14.4361° | 242°14.97' | S 22°52.11' | 9.3760' | 58.6584' | 189°12.94' | **12** |
| **13** | 17°30.25' | 15.0034° | 186°45.16' | S 2°55.09' | 0.9706' | 321°24.04' | 14.4345° | 242°51.37' | S 23°01.35' | 9.2421' | 58.6715' | 204°15.41' | **13** |
| **14** | 32°30.45' | 15.0034° | 186°47.42' | S 2°56.06' | 0.9706' | 335°50.02' | 14.4329° | 243°27.86' | S 23°10.46' | 9.1067' | 58.6846' | 219°17.87' | **14** |
| **15** | 47°30.65' | 15.0034° | 186°49.68' | S 2°57.03' | 0.9705' | 350°15.89' | 14.4313° | 244°04.44' | S 23°19.43' | 8.9697' | 58.6975' | 234°20.34' | **15** |
| **16** | 62°30.86' | 15.0034° | 186°51.94' | S 2°58.00' | 0.9705' | 4°41.68' | 14.4297° | 244°41.12' | S 23°28.26' | 8.8313' | 58.7103' | 249°22.80' | **16** |
| **17** | 77°31.06' | 15.0034° | 186°54.20' | S 2°58.98' | 0.9704' | 19°07.37' | 14.4281° | 245°17.90' | S 23°36.95' | 8.6913' | 58.7230' | 264°25.26' | **17** |
| **18** | 92°31.27' | 15.0034° | 186°56.46' | S 2°59.95' | 0.9703' | 33°32.96' | 14.4266° | 245°54.77' | S 23°45.50' | 8.5498' | 58.7355' | 279°27.73' | **18** |
| **19** | 107°31.47' | 15.0034° | 186°58.72' | S 3°00.92' | 0.9703' | 47°58.46' | 14.4250° | 246°31.73' | S 23°53.90' | 8.4068' | 58.7480' | 294°30.19' | **19** |
| **20** | 122°31.67' | 15.0034° | 187°00.98' | S 3°01.89' | 0.9702' | 62°23.87' | 14.4235° | 247°08.79' | S 24°02.17' | 8.2624' | 58.7603' | 309°32.66' | **20** |
| **21** | 137°31.88' | 15.0034° | 187°03.24' | S 3°02.86' | 0.9702' | 76°49.18' | 14.4219° | 247°45.94' | S 24°10.28' | 8.1165' | 58.7726' | 324°35.12' | **21** |
| **22** | 152°32.08' | 15.0034° | 187°05.51' | S 3°03.83' | 0.9701' | 91°14.41' | 14.4204° | 248°23.17' | S 24°18.25' | 7.9691' | 58.7847' | 339°37.58' | **22** |
| **23** | 167°32.28' | 15.0034° | 187°07.77' | S 3°04.80' | 0.9700' | 105°39.54' | 14.4189° | 249°00.50' | S 24°26.07' | 7.8203' | 58.7967' | 354°40.05' | **23** |
| **24** | 182°32.48' | 15.0034° | 187°10.03' | S 3°05.77' | 0.9700' | 120°04.59' | 14.4174° | 249°37.92' | S 24°33.74' | 7.6701' | 58.8086' | 9°42.51' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 15.9696' | hp (π) 0.1463' | ½Ø 15.9833' | 23.0667457411146<br>23% +cre | |
| | EoT at 12:00 UTC : +10m 0s (δ 0.82 s/h) | | Phase at 12:00 UTC : 57.27° | | |
| | Meridian Pass. Time : 11:49:59.830 | | Age : 4.5 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.19') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 187°23.12' | 181°20.25' | N 0°58.28' | 289°50.13' | 78°53.24' | N 22°22.26' | 5°04.83' | 3°38.55' | S 0°11.31' | 46°50.34' | 321°53.04' | S 16°22.13' | **00** |
| **01** | 202°22.73' | 181°23.11' | N 0°57.03' | 304°51.65' | 78°54.18' | N 22°22.39' | 20°07.60' | 3°38.24' | S 0°11.44' | 61°52.89' | 321°52.94' | S 16°22.16' | **01** |
| **02** | 217°22.34' | 181°25.96' | N 0°55.78' | 319°53.18' | 78°55.13' | N 22°22.53' | 35°10.37' | 3°37.93' | S 0°11.57' | 76°55.45' | 321°52.85' | S 16°22.19' | **02** |
| **03** | 232°21.95' | 181°28.82' | N 0°54.53' | 334°54.70' | 78°56.07' | N 22°22.67' | 50°13.14' | 3°37.63' | S 0°11.70' | 91°58.01' | 321°52.76' | S 16°22.22' | **03** |
| **04** | 247°21.56' | 181°31.67' | N 0°53.28' | 349°56.22' | 78°57.01' | N 22°22.81' | 65°15.91' | 3°37.32' | S 0°11.83' | 107°00.56' | 321°52.67' | S 16°22.24' | **04** |
| **05** | 262°21.17' | 181°34.53' | N 0°52.03' | 4°57.74' | 78°57.95' | N 22°22.94' | 80°18.68' | 3°37.02' | S 0°11.97' | 122°03.12' | 321°52.57' | S 16°22.27' | **05** |
| **06** | 277°20.78' | 181°37.38' | N 0°50.78' | 19°59.27' | 78°58.89' | N 22°23.08' | 95°21.45' | 3°36.71' | S 0°12.10' | 137°05.67' | 321°52.48' | S 16°22.30' | **06** |
| **07** | 292°20.38' | 181°40.24' | N 0°49.53' | 35°00.80' | 78°59.83' | N 22°23.22' | 110°24.22' | 3°36.40' | S 0°12.23' | 152°08.23' | 321°52.39' | S 16°22.33' | **07** |
| **08** | 307°19.99' | 181°43.09' | N 0°48.28' | 50°02.32' | 79°00.76' | N 22°23.35' | 125°26.99' | 3°36.10' | S 0°12.36' | 167°10.79' | 321°52.30' | S 16°22.35' | **08** |
| **09** | 322°19.60' | 181°45.95' | N 0°47.03' | 65°03.85' | 79°01.70' | N 22°23.49' | 140°29.76' | 3°35.79' | S 0°12.49' | 182°13.34' | 321°52.21' | S 16°22.38' | **09** |
| **10** | 337°19.21' | 181°48.80' | N 0°45.77' | 80°05.38' | 79°02.64' | N 22°23.62' | 155°32.53' | 3°35.49' | S 0°12.63' | 197°15.90' | 321°52.12' | S 16°22.41' | **10** |
| **11** | 352°18.82' | 181°51.66' | N 0°44.52' | 95°06.91' | 79°03.57' | N 22°23.76' | 170°35.30' | 3°35.18' | S 0°12.76' | 212°18.45' | 321°52.02' | S 16°22.44' | **11** |
| **12** | 7°18.43' | 181°54.51' | N 0°43.27' | 110°08.44' | 79°04.50' | N 22°23.90' | 185°38.07' | 3°34.87' | S 0°12.89' | 227°21.01' | 321°51.93' | S 16°22.46' | **12** |
| **13** | 22°18.04' | 181°57.37' | N 0°42.02' | 125°09.97' | 79°05.44' | N 22°24.03' | 200°40.84' | 3°34.57' | S 0°13.02' | 242°23.56' | 321°51.84' | S 16°22.49' | **13** |
| **14** | 37°17.65' | 182°00.22' | N 0°40.77' | 140°11.50' | 79°06.37' | N 22°24.17' | 215°43.61' | 3°34.26' | S 0°13.15' | 257°26.12' | 321°51.75' | S 16°22.52' | **14** |
| **15** | 52°17.26' | 182°03.08' | N 0°39.52' | 155°13.04' | 79°07.30' | N 22°24.30' | 230°46.38' | 3°33.96' | S 0°13.28' | 272°28.67' | 321°51.66' | S 16°22.55' | **15** |
| **16** | 67°16.86' | 182°05.93' | N 0°38.27' | 170°14.57' | 79°08.23' | N 22°24.44' | 245°49.15' | 3°33.65' | S 0°13.42' | 287°31.23' | 321°51.57' | S 16°22.57' | **16** |
| **17** | 82°16.47' | 182°08.79' | N 0°37.01' | 185°16.10' | 79°09.16' | N 22°24.58' | 260°51.92' | 3°33.34' | S 0°13.55' | 302°33.78' | 321°51.48' | S 16°22.60' | **17** |
| **18** | 97°16.08' | 182°11.64' | N 0°35.76' | 200°17.64' | 79°10.09' | N 22°24.71' | 275°54.69' | 3°33.04' | S 0°13.68' | 317°36.34' | 321°51.39' | S 16°22.63' | **18** |
| **19** | 112°15.69' | 182°14.50' | N 0°34.51' | 215°19.18' | 79°11.01' | N 22°24.85' | 290°57.46' | 3°32.73' | S 0°13.81' | 332°38.89' | 321°51.30' | S 16°22.65' | **19** |
| **20** | 127°15.30' | 182°17.35' | N 0°33.26' | 230°20.72' | 79°11.94' | N 22°24.98' | 306°00.23' | 3°32.43' | S 0°13.94' | 347°41.45' | 321°51.21' | S 16°22.68' | **20** |
| **21** | 142°14.91' | 182°20.21' | N 0°32.01' | 245°22.26' | 79°12.86' | N 22°25.12' | 321°03.00' | 3°32.12' | S 0°14.07' | 2°44.00' | 321°51.12' | S 16°22.71' | **21** |
| **22** | 157°14.52' | 182°23.07' | N 0°30.75' | 260°23.80' | 79°13.79' | N 22°25.25' | 336°05.77' | 3°31.82' | S 0°14.20' | 17°46.55' | 321°51.03' | S 16°22.73' | **22** |
| **23** | 172°14.13' | 182°25.92' | N 0°29.50' | 275°25.34' | 79°14.71' | N 22°25.39' | 351°08.54' | 3°31.51' | S 0°14.34' | 32°49.11' | 321°50.94' | S 16°22.76' | **23** |
| **24** | 187°13.74' | 182°28.78' | N 0°28.25' | 290°26.88' | 79°15.63' | N 22°25.52' | 6°11.31' | 3°31.21' | S 0°14.47' | 47°51.66' | 321°50.85' | S 16°22.79' | **24** |
| | δ 14.9935° | | *d* 1.2504' | δ 15.0253° | | *d* 0.1373' | δ 15.0462° | | *d* 0.1320' | δ 15.0426° | | *d* 0.0280' | |

## *Saturday, October 1st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 182°32.48' | 15.0034° | 187°10.03' | S 3°05.77' | 0.9700' | 120°04.59' | 14.4174° | 249°37.92' | S 24°33.74' | 7.6701' | 58.8086' | 9°42.51' | **00** |
| **01** | 197°32.69' | 15.0034° | 187°12.29' | S 3°06.74' | 0.9699' | 134°29.55' | 14.4159° | 250°15.43' | S 24°41.26' | 7.5185' | 58.8203' | 24°44.98' | **01** |
| **02** | 212°32.89' | 15.0034° | 187°14.55' | S 3°07.71' | 0.9699' | 148°54.42' | 14.4145° | 250°53.03' | S 24°48.63' | 7.3655' | 58.8320' | 39°47.44' | **02** |
| **03** | 227°33.09' | 15.0034° | 187°16.81' | S 3°08.68' | 0.9698' | 163°19.20' | 14.4130° | 251°30.71' | S 24°55.84' | 7.2111' | 58.8435' | 54°49.91' | **03** |
| **04** | 242°33.29' | 15.0034° | 187°19.07' | S 3°09.65' | 0.9697' | 177°43.90' | 14.4116° | 252°08.47' | S 25°02.89' | 7.0554' | 58.8550' | 69°52.37' | **04** |
| **05** | 257°33.50' | 15.0034° | 187°21.34' | S 3°10.62' | 0.9697' | 192°08.51' | 14.4102° | 252°46.32' | S 25°09.79' | 6.8983' | 58.8663' | 84°54.83' | **05** |
| **06** | 272°33.70' | 15.0034° | 187°23.60' | S 3°11.59' | 0.9696' | 206°33.04' | 14.4088° | 253°24.26' | S 25°16.53' | 6.7399' | 58.8775' | 99°57.30' | **06** |
| **07** | 287°33.90' | 15.0034° | 187°25.86' | S 3°12.55' | 0.9696' | 220°57.49' | 14.4075° | 254°02.27' | S 25°23.11' | 6.5802' | 58.8886' | 114°59.76' | **07** |
| **08** | 302°34.10' | 15.0034° | 187°28.12' | S 3°13.52' | 0.9695' | 235°21.86' | 14.4061° | 254°40.37' | S 25°29.53' | 6.4193' | 58.8995' | 130°02.23' | **08** |
| **09** | 317°34.31' | 15.0034° | 187°30.38' | S 3°14.49' | 0.9694' | 249°46.14' | 14.4048° | 255°18.55' | S 25°35.79' | 6.2571' | 58.9104' | 145°04.69' | **09** |
| **10** | 332°34.51' | 15.0034° | 187°32.65' | S 3°15.46' | 0.9694' | 264°10.35' | 14.4035° | 255°56.80' | S 25°41.88' | 6.0936' | 58.9211' | 160°07.15' | **10** |
| **11** | 347°34.71' | 15.0034° | 187°34.91' | S 3°16.43' | 0.9693' | 278°34.49' | 14.4022° | 256°35.13' | S 25°47.81' | 5.9289' | 58.9318' | 175°09.62' | **11** |
| **12** | 2°34.91' | 15.0034° | 187°37.17' | S 3°17.40' | 0.9692' | 292°58.55' | 14.4010° | 257°13.53' | S 25°53.57' | 5.7631' | 58.9423' | 190°12.08' | **12** |
| **13** | 17°35.11' | 15.0034° | 187°39.44' | S 3°18.37' | 0.9692' | 307°22.54' | 14.3998° | 257°52.01' | S 25°59.17' | 5.5961' | 58.9527' | 205°14.55' | **13** |
| **14** | 32°35.31' | 15.0034° | 187°41.70' | S 3°19.34' | 0.9691' | 321°46.45' | 14.3986° | 258°30.56' | S 26°04.60' | 5.4279' | 58.9630' | 220°17.01' | **14** |
| **15** | 47°35.51' | 15.0034° | 187°43.96' | S 3°20.31' | 0.9690' | 336°10.29' | 14.3974° | 259°09.18' | S 26°09.86' | 5.2586' | 58.9731' | 235°19.48' | **15** |
| **16** | 62°35.71' | 15.0033° | 187°46.22' | S 3°21.28' | 0.9690' | 350°34.07' | 14.3963° | 259°47.87' | S 26°14.94' | 5.0883' | 58.9832' | 250°21.94' | **16** |
| **17** | 77°35.92' | 15.0033° | 187°48.49' | S 3°22.25' | 0.9689' | 4°57.78' | 14.3951° | 260°26.63' | S 26°19.86' | 4.9168' | 58.9931' | 265°24.40' | **17** |
| **18** | 92°36.12' | 15.0033° | 187°50.75' | S 3°23.22' | 0.9688' | 19°21.42' | 14.3940° | 261°05.45' | S 26°24.61' | 4.7443' | 59.0029' | 280°26.87' | **18** |
| **19** | 107°36.32' | 15.0033° | 187°53.02' | S 3°24.18' | 0.9688' | 33°45.00' | 14.3930° | 261°44.33' | S 26°29.18' | 4.5708' | 59.0126' | 295°29.33' | **19** |
| **20** | 122°36.52' | 15.0033° | 187°55.28' | S 3°25.15' | 0.9687' | 48°08.52' | 14.3920° | 262°23.28' | S 26°33.57' | 4.3964' | 59.0222' | 310°31.80' | **20** |
| **21** | 137°36.72' | 15.0033° | 187°57.54' | S 3°26.12' | 0.9686' | 62°31.97' | 14.3910° | 263°02.29' | S 26°37.79' | 4.2209' | 59.0317' | 325°34.26' | **21** |
| **22** | 152°36.92' | 15.0033° | 187°59.81' | S 3°27.09' | 0.9686' | 76°55.37' | 14.3900° | 263°41.35' | S 26°41.84' | 4.0446' | 59.0410' | 340°36.72' | **22** |
| **23** | 167°37.12' | 15.0033° | 188°02.07' | S 3°28.06' | 0.9685' | 91°18.72' | 14.3891° | 264°20.47' | S 26°45.71' | 3.8673' | 59.0503' | 355°39.19' | **23** |
| **24** | 182°37.32' | 15.0033° | 188°04.33' | S 3°29.03' | 0.9684' | 105°42.01' | 14.3882° | 264°59.65' | S 26°49.40' | 3.6892' | 59.0594' | 10°41.65' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 15.9742' | hp (π) 0.1464' | ½Ø 16.0606' | 33.2083295158748<br>4% +cre | |
| EoT at 12:00 UTC : +10m 19s (δ 0.81 s/h) | | Phase at 12:00 UTC : 70.22° | | |
| Meridian Pass. Time : 11:49:40.360 | | Age : 5.5 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.19') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 187°13.74' | 182°28.78' | N 0°28.25' | 290°26.88' | 79°15.63' | N 22°25.52' | 6°11.31' | 3°31.21' | S 0°14.47' | 47°51.66' | 321°50.85' | S 16°22.79' | **00** |
| **01** | 202°13.35' | 182°31.63' | N 0°27.00' | 305°28.42' | 79°16.56' | N 22°25.66' | 21°14.08' | 3°30.90' | S 0°14.60' | 62°54.21' | 321°50.76' | S 16°22.81' | **01** |
| **02** | 217°12.96' | 182°34.49' | N 0°25.75' | 320°29.96' | 79°17.48' | N 22°25.79' | 36°16.85' | 3°30.59' | S 0°14.73' | 77°56.77' | 321°50.67' | S 16°22.84' | **02** |
| **03** | 232°12.56' | 182°37.34' | N 0°24.49' | 335°31.51' | 79°18.40' | N 22°25.93' | 51°19.62' | 3°30.29' | S 0°14.86' | 92°59.32' | 321°50.59' | S 16°22.87' | **03** |
| **04** | 247°12.17' | 182°40.20' | N 0°23.24' | 350°33.05' | 79°19.31' | N 22°26.06' | 66°22.39' | 3°29.98' | S 0°14.99' | 108°01.87' | 321°50.50' | S 16°22.89' | **04** |
| **05** | 262°11.78' | 182°43.05' | N 0°21.99' | 5°34.60' | 79°20.23' | N 22°26.19' | 81°25.15' | 3°29.68' | S 0°15.12' | 123°04.43' | 321°50.41' | S 16°22.92' | **05** |
| **06** | 277°11.39' | 182°45.91' | N 0°20.74' | 20°36.15' | 79°21.15' | N 22°26.33' | 96°27.92' | 3°29.37' | S 0°15.25' | 138°06.98' | 321°50.32' | S 16°22.95' | **06** |
| **07** | 292°11.00' | 182°48.76' | N 0°19.48' | 35°37.70' | 79°22.06' | N 22°26.46' | 111°30.69' | 3°29.07' | S 0°15.39' | 153°09.53' | 321°50.23' | S 16°22.97' | **07** |
| **08** | 307°10.61' | 182°51.62' | N 0°18.23' | 50°39.25' | 79°22.98' | N 22°26.60' | 126°33.46' | 3°28.76' | S 0°15.52' | 168°12.08' | 321°50.14' | S 16°23.00' | **08** |
| **09** | 322°10.22' | 182°54.47' | N 0°16.98' | 65°40.80' | 79°23.89' | N 22°26.73' | 141°36.23' | 3°28.46' | S 0°15.65' | 183°14.63' | 321°50.06' | S 16°23.03' | **09** |
| **10** | 337°09.83' | 182°57.33' | N 0°15.72' | 80°42.35' | 79°24.81' | N 22°26.87' | 156°39.00' | 3°28.15' | S 0°15.78' | 198°17.19' | 321°49.97' | S 16°23.05' | **10** |
| **11** | 352°09.44' | 183°00.18' | N 0°14.47' | 95°43.90' | 79°25.72' | N 22°27.00' | 171°41.77' | 3°27.85' | S 0°15.91' | 213°19.74' | 321°49.88' | S 16°23.08' | **11** |
| **12** | 7°09.05' | 183°03.04' | N 0°13.22' | 110°45.45' | 79°26.63' | N 22°27.13' | 186°44.54' | 3°27.54' | S 0°16.04' | 228°22.29' | 321°49.79' | S 16°23.11' | **12** |
| **13** | 22°08.66' | 183°05.89' | N 0°11.97' | 125°47.01' | 79°27.54' | N 22°27.27' | 201°47.31' | 3°27.24' | S 0°16.17' | 243°24.84' | 321°49.71' | S 16°23.13' | **13** |
| **14** | 37°08.26' | 183°08.75' | N 0°10.71' | 140°48.56' | 79°28.45' | N 22°27.40' | 216°50.08' | 3°26.93' | S 0°16.30' | 258°27.39' | 321°49.62' | S 16°23.16' | **14** |
| **15** | 52°07.87' | 183°11.60' | N 0°09.46' | 155°50.12' | 79°29.36' | N 22°27.53' | 231°52.85' | 3°26.63' | S 0°16.43' | 273°29.94' | 321°49.53' | S 16°23.18' | **15** |
| **16** | 67°07.48' | 183°14.46' | N 0°08.21' | 170°51.68' | 79°30.26' | N 22°27.67' | 246°55.62' | 3°26.32' | S 0°16.56' | 288°32.49' | 321°49.44' | S 16°23.21' | **16** |
| **17** | 82°07.09' | 183°17.31' | N 0°06.95' | 185°53.24' | 79°31.17' | N 22°27.80' | 261°58.39' | 3°26.02' | S 0°16.69' | 303°35.05' | 321°49.36' | S 16°23.24' | **17** |
| **18** | 97°06.70' | 183°20.17' | N 0°05.70' | 200°54.79' | 79°32.07' | N 22°27.93' | 277°01.15' | 3°25.71' | S 0°16.83' | 318°37.60' | 321°49.27' | S 16°23.26' | **18** |
| **19** | 112°06.31' | 183°23.02' | N 0°04.45' | 215°56.35' | 79°32.98' | N 22°28.06' | 292°03.92' | 3°25.41' | S 0°16.96' | 333°40.15' | 321°49.18' | S 16°23.29' | **19** |
| **20** | 127°05.92' | 183°25.88' | N 0°03.19' | 230°57.92' | 79°33.88' | N 22°28.20' | 307°06.69' | 3°25.10' | S 0°17.09' | 348°42.70' | 321°49.10' | S 16°23.31' | **20** |
| **21** | 142°05.53' | 183°28.73' | N 0°01.94' | 245°59.48' | 79°34.78' | N 22°28.33' | 322°09.46' | 3°24.80' | S 0°17.22' | 3°45.25' | 321°49.01' | S 16°23.34' | **21** |
| **22** | 157°05.14' | 183°31.59' | N 0°00.69' | 261°01.04' | 79°35.68' | N 22°28.46' | 337°12.23' | 3°24.50' | S 0°17.35' | 18°47.80' | 321°48.93' | S 16°23.36' | **22** |
| **23** | 172°04.75' | 183°34.44' | S 0°00.57' | 276°02.60' | 79°36.58' | N 22°28.60' | 352°15.00' | 3°24.19' | S 0°17.48' | 33°50.35' | 321°48.84' | S 16°23.39' | **23** |
| **24** | 187°04.36' | 183°37.30' | S 0°01.82' | 291°04.17' | 79°37.48' | N 22°28.73' | 7°17.77' | 3°23.89' | S 0°17.61' | 48°52.90' | 321°48.76' | S 16°23.41' | **24** |
| | δ 14.9935° | | *d* 1.2523' | δ 15.0257° | | *d* 0.1347' | δ 15.0462° | | *d* 0.1313' | δ 15.0426° | | *d* 0.0267' | |

## *Sunday, October 2nd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 182°37.32' | 15.0033° | 188°04.33' | S 3°29.03' | 0.9684' | 105°42.01' | 14.3882° | 264°59.65' | S 26°49.40' | 3.6892' | 59.0594' | 10°41.65' | **00** |
| **01** | 197°37.52' | 15.0033° | 188°06.60' | S 3°30.00' | 0.9683' | 120°05.24' | 14.3873° | 265°38.87' | S 26°52.91' | 3.5103' | 59.0684' | 25°44.12' | **01** |
| **02** | 212°37.72' | 15.0033° | 188°08.86' | S 3°30.96' | 0.9683' | 134°28.43' | 14.3864° | 266°18.15' | S 26°56.24' | 3.3305' | 59.0773' | 40°46.58' | **02** |
| **03** | 227°37.92' | 15.0033° | 188°11.13' | S 3°31.93' | 0.9682' | 148°51.57' | 14.3856° | 266°57.48' | S 26°59.39' | 3.1500' | 59.0861' | 55°49.05' | **03** |
| **04** | 242°38.12' | 15.0033° | 188°13.39' | S 3°32.90' | 0.9681' | 163°14.66' | 14.3849° | 267°36.85' | S 27°02.35' | 2.9688' | 59.0947' | 70°51.51' | **04** |
| **05** | 257°38.32' | 15.0033° | 188°15.66' | S 3°33.87' | 0.9681' | 177°37.71' | 14.3841° | 268°16.27' | S 27°05.14' | 2.7868' | 59.1032' | 85°53.97' | **05** |
| **06** | 272°38.52' | 15.0033° | 188°17.92' | S 3°34.84' | 0.9680' | 192°00.71' | 14.3834° | 268°55.72' | S 27°07.75' | 2.6042' | 59.1116' | 100°56.44' | **06** |
| **07** | 287°38.71' | 15.0033° | 188°20.19' | S 3°35.80' | 0.9679' | 206°23.68' | 14.3828° | 269°35.22' | S 27°10.17' | 2.4209' | 59.1199' | 115°58.90' | **07** |
| **08** | 302°38.91' | 15.0033° | 188°22.45' | S 3°36.77' | 0.9678' | 220°46.61' | 14.3822° | 270°14.76' | S 27°12.40' | 2.2370' | 59.1281' | 131°01.37' | **08** |
| **09** | 317°39.11' | 15.0033° | 188°24.72' | S 3°37.74' | 0.9678' | 235°09.50' | 14.3816° | 270°54.33' | S 27°14.46' | 2.0526' | 59.1361' | 146°03.83' | **09** |
| **10** | 332°39.31' | 15.0033° | 188°26.98' | S 3°38.71' | 0.9677' | 249°32.36' | 14.3810° | 271°33.93' | S 27°16.32' | 1.8676' | 59.1441' | 161°06.29' | **10** |
| **11** | 347°39.51' | 15.0033° | 188°29.25' | S 3°39.67' | 0.9676' | 263°55.19' | 14.3805° | 272°13.56' | S 27°18.01' | 1.6821' | 59.1519' | 176°08.76' | **11** |
| **12** | 2°39.71' | 15.0033° | 188°31.51' | S 3°40.64' | 0.9675' | 278°18.00' | 14.3800° | 272°53.23' | S 27°19.50' | 1.4962' | 59.1595' | 191°11.22' | **12** |
| **13** | 17°39.91' | 15.0033° | 188°33.78' | S 3°41.61' | 0.9675' | 292°40.77' | 14.3796° | 273°32.92' | S 27°20.81' | 1.3098' | 59.1671' | 206°13.69' | **13** |
| **14** | 32°40.11' | 15.0033° | 188°36.05' | S 3°42.58' | 0.9674' | 307°03.52' | 14.3792° | 274°12.63' | S 27°21.94' | 1.1231' | 59.1745' | 221°16.15' | **14** |
| **15** | 47°40.30' | 15.0033° | 188°38.31' | S 3°43.54' | 0.9673' | 321°26.25' | 14.3788° | 274°52.36' | S 27°22.87' | 0.9360' | 59.1818' | 236°18.62' | **15** |
| **16** | 62°40.50' | 15.0033° | 188°40.58' | S 3°44.51' | 0.9672' | 335°48.96' | 14.3785° | 275°32.12' | S 27°23.62' | 0.7486' | 59.1890' | 251°21.08' | **16** |
| **17** | 77°40.70' | 15.0033° | 188°42.85' | S 3°45.48' | 0.9671' | 350°11.65' | 14.3782° | 276°11.89' | S 27°24.18' | 0.5609' | 59.1961' | 266°23.54' | **17** |
| **18** | 92°40.90' | 15.0033° | 188°45.11' | S 3°46.45' | 0.9671' | 4°34.33' | 14.3780° | 276°51.68' | S 27°24.55' | 0.3729' | 59.2030' | 281°26.01' | **18** |
| **19** | 107°41.09' | 15.0033° | 188°47.38' | S 3°47.41' | 0.9670' | 18°57.00' | 14.3778° | 277°31.47' | S 27°24.74' | 0.1848' | 59.2098' | 296°28.47' | **19** |
| **20** | 122°41.29' | 15.0033° | 188°49.64' | S 3°48.38' | 0.9669' | 33°19.66' | 14.3776° | 278°11.28' | S 27°24.73' | 0.0035' | 59.2165' | 311°30.94' | **20** |
| **21** | 137°41.49' | 15.0033° | 188°51.91' | S 3°49.35' | 0.9668' | 47°42.30' | 14.3775° | 278°51.10' | S 27°24.54' | 0.1919' | 59.2230' | 326°33.40' | **21** |
| **22** | 152°41.69' | 15.0033° | 188°54.18' | S 3°50.31' | 0.9667' | 62°04.95' | 14.3774° | 279°30.92' | S 27°24.16' | 0.3804' | 59.2295' | 341°35.87' | **22** |
| **23** | 167°41.88' | 15.0033° | 188°56.45' | S 3°51.28' | 0.9667' | 76°27.59' | 14.3774° | 280°10.74' | S 27°23.59' | 0.5690' | 59.2358' | 356°38.33' | **23** |
| **24** | 182°42.08' | 15.0033° | 188°58.71' | S 3°52.25' | 0.9666' | 90°50.23' | 14.3773° | 280°50.56' | S 27°22.84' | 0.7576' | 59.2419' | 11°40.79' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9789' | hp (π) 0.1464' | ½Ø 16.1198' | 44.2949050205814<br>7% +cre |
| | EoT at 12:00 UTC : +10m 38s (δ 0.79 s/h) | | Phase at 12:00 UTC : 83.29° | |
| | Meridian Pass. Time : 11:49:21.166 | | Age : 6.5 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.19') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 187°04.36' | 183°37.30' | S 0°01.82' | 291°04.17' | 79°37.48' | N 22°28.73' | 7°17.77' | 3°23.89' | S 0°17.61' | 48°52.90' | 321°48.76' | S 16°23.41' | **00** |
| **01** | 202°03.96' | 183°40.15' | S 0°03.08' | 306°05.73' | 79°38.38' | N 22°28.86' | 22°20.53' | 3°23.58' | S 0°17.74' | 63°55.45' | 321°48.67' | S 16°23.44' | **01** |
| **02** | 217°03.57' | 183°43.01' | S 0°04.33' | 321°07.30' | 79°39.28' | N 22°28.99' | 37°23.30' | 3°23.28' | S 0°17.87' | 78°58.00' | 321°48.58' | S 16°23.47' | **02** |
| **03** | 232°03.18' | 183°45.86' | S 0°05.58' | 336°08.87' | 79°40.18' | N 22°29.12' | 52°26.07' | 3°22.97' | S 0°18.00' | 94°00.55' | 321°48.50' | S 16°23.49' | **03** |
| **04** | 247°02.79' | 183°48.72' | S 0°06.84' | 351°10.44' | 79°41.07' | N 22°29.26' | 67°28.84' | 3°22.67' | S 0°18.13' | 109°03.09' | 321°48.41' | S 16°23.52' | **04** |
| **05** | 262°02.40' | 183°51.57' | S 0°08.09' | 6°12.01' | 79°41.97' | N 22°29.39' | 82°31.61' | 3°22.37' | S 0°18.26' | 124°05.64' | 321°48.33' | S 16°23.54' | **05** |
| **06** | 277°02.01' | 183°54.43' | S 0°09.34' | 21°13.58' | 79°42.86' | N 22°29.52' | 97°34.38' | 3°22.06' | S 0°18.39' | 139°08.19' | 321°48.25' | S 16°23.57' | **06** |
| **07** | 292°01.62' | 183°57.28' | S 0°10.60' | 36°15.15' | 79°43.75' | N 22°29.65' | 112°37.14' | 3°21.76' | S 0°18.52' | 154°10.74' | 321°48.16' | S 16°23.59' | **07** |
| **08** | 307°01.23' | 184°00.14' | S 0°11.85' | 51°16.72' | 79°44.64' | N 22°29.78' | 127°39.91' | 3°21.45' | S 0°18.65' | 169°13.29' | 321°48.08' | S 16°23.62' | **08** |
| **09** | 322°00.84' | 184°02.99' | S 0°13.11' | 66°18.30' | 79°45.53' | N 22°29.92' | 142°42.68' | 3°21.15' | S 0°18.78' | 184°15.84' | 321°47.99' | S 16°23.64' | **09** |
| **10** | 337°00.45' | 184°05.85' | S 0°14.36' | 81°19.87' | 79°46.42' | N 22°30.05' | 157°45.45' | 3°20.85' | S 0°18.91' | 199°18.39' | 321°47.91' | S 16°23.67' | **10** |
| **11** | 352°00.05' | 184°08.70' | S 0°15.61' | 96°21.45' | 79°47.31' | N 22°30.18' | 172°48.22' | 3°20.54' | S 0°19.04' | 214°20.93' | 321°47.82' | S 16°23.69' | **11** |
| **12** | 6°59.66' | 184°11.56' | S 0°16.87' | 111°23.02' | 79°48.20' | N 22°30.31' | 187°50.99' | 3°20.24' | S 0°19.17' | 229°23.48' | 321°47.74' | S 16°23.72' | **12** |
| **13** | 21°59.27' | 184°14.41' | S 0°18.12' | 126°24.60' | 79°49.09' | N 22°30.44' | 202°53.75' | 3°19.93' | S 0°19.30' | 244°26.03' | 321°47.66' | S 16°23.74' | **13** |
| **14** | 36°58.88' | 184°17.27' | S 0°19.38' | 141°26.18' | 79°49.97' | N 22°30.57' | 217°56.52' | 3°19.63' | S 0°19.43' | 259°28.58' | 321°47.57' | S 16°23.77' | **14** |
| **15** | 51°58.49' | 184°20.13' | S 0°20.63' | 156°27.76' | 79°50.86' | N 22°30.70' | 232°59.29' | 3°19.33' | S 0°19.56' | 274°31.13' | 321°47.49' | S 16°23.79' | **15** |
| **16** | 66°58.10' | 184°22.98' | S 0°21.89' | 171°29.34' | 79°51.74' | N 22°30.83' | 248°02.06' | 3°19.02' | S 0°19.69' | 289°33.67' | 321°47.41' | S 16°23.82' | **16** |
| **17** | 81°57.71' | 184°25.84' | S 0°23.14' | 186°30.92' | 79°52.62' | N 22°30.96' | 263°04.82' | 3°18.72' | S 0°19.82' | 304°36.22' | 321°47.32' | S 16°23.84' | **17** |
| **18** | 96°57.32' | 184°28.69' | S 0°24.39' | 201°32.50' | 79°53.51' | N 22°31.10' | 278°07.59' | 3°18.42' | S 0°19.95' | 319°38.77' | 321°47.24' | S 16°23.87' | **18** |
| **19** | 111°56.93' | 184°31.55' | S 0°25.65' | 216°34.09' | 79°54.39' | N 22°31.23' | 293°10.36' | 3°18.11' | S 0°20.08' | 334°41.31' | 321°47.16' | S 16°23.89' | **19** |
| **20** | 126°56.53' | 184°34.40' | S 0°26.90' | 231°35.67' | 79°55.27' | N 22°31.36' | 308°13.13' | 3°17.81' | S 0°20.21' | 349°43.86' | 321°47.08' | S 16°23.91' | **20** |
| **21** | 141°56.14' | 184°37.26' | S 0°28.16' | 246°37.26' | 79°56.14' | N 22°31.49' | 323°15.89' | 3°17.51' | S 0°20.34' | 4°46.41' | 321°46.99' | S 16°23.94' | **21** |
| **22** | 156°55.75' | 184°40.11' | S 0°29.41' | 261°38.84' | 79°57.02' | N 22°31.62' | 338°18.66' | 3°17.20' | S 0°20.47' | 19°48.95' | 321°46.91' | S 16°23.96' | **22** |
| **23** | 171°55.36' | 184°42.97' | S 0°30.67' | 276°40.43' | 79°57.90' | N 22°31.75' | 353°21.43' | 3°16.90' | S 0°20.60' | 34°51.50' | 321°46.83' | S 16°23.99' | **23** |
| **24** | 186°54.97' | 184°45.82' | S 0°31.92' | 291°42.02' | 79°58.77' | N 22°31.88' | 8°24.20' | 3°16.60' | S 0°20.73' | 49°54.05' | 321°46.75' | S 16°24.01' | **24** |
| | δ 14.9935° | | *d* 1.2537' | δ 15.0261° | | *d* 0.1323' | δ 15.0461° | | *d* 0.1305' | δ 15.0425° | | *d* 0.0255' | |

## *Monday, October 3rd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 182°42.08' | 15.0033° | 188°58.71' | S 3°52.25' | 0.9666' | 90°50.23' | 14.3773° | 280°50.56' | S 27°22.84' | 0.7576' | 59.2419' | 11°40.79' | **00** |
| **01** | 197°42.28' | 15.0033° | 189°00.98' | S 3°53.21' | 0.9665' | 105°12.87' | 14.3774° | 281°30.38' | S 27°21.89' | 0.9461' | 59.2480' | 26°43.26' | **01** |
| **02** | 212°42.47' | 15.0033° | 189°03.25' | S 3°54.18' | 0.9664' | 119°35.52' | 14.3775° | 282°10.20' | S 27°20.76' | 1.1346' | 59.2539' | 41°45.72' | **02** |
| **03** | 227°42.67' | 15.0033° | 189°05.52' | S 3°55.15' | 0.9663' | 133°58.17' | 14.3776° | 282°50.01' | S 27°19.43' | 1.3229' | 59.2596' | 56°48.19' | **03** |
| **04** | 242°42.87' | 15.0033° | 189°07.78' | S 3°56.11' | 0.9663' | 148°20.84' | 14.3777° | 283°29.81' | S 27°17.92' | 1.5112' | 59.2653' | 71°50.65' | **04** |
| **05** | 257°43.06' | 15.0033° | 189°10.05' | S 3°57.08' | 0.9662' | 162°43.51' | 14.3779° | 284°09.60' | S 27°16.22' | 1.6992' | 59.2708' | 86°53.11' | **05** |
| **06** | 272°43.26' | 15.0033° | 189°12.32' | S 3°58.04' | 0.9661' | 177°06.20' | 14.3781° | 284°49.38' | S 27°14.33' | 1.8871' | 59.2761' | 101°55.58' | **06** |
| **07** | 287°43.46' | 15.0033° | 189°14.59' | S 3°59.01' | 0.9660' | 191°28.90' | 14.3784° | 285°29.14' | S 27°12.26' | 2.0746' | 59.2814' | 116°58.04' | **07** |
| **08** | 302°43.65' | 15.0033° | 189°16.86' | S 3°59.98' | 0.9659' | 205°51.63' | 14.3787° | 286°08.88' | S 27°10.00' | 2.2619' | 59.2865' | 132°00.51' | **08** |
| **09** | 317°43.85' | 15.0033° | 189°19.12' | S 4°00.94' | 0.9658' | 220°14.37' | 14.3791° | 286°48.60' | S 27°07.55' | 2.4489' | 59.2914' | 147°02.97' | **09** |
| **10** | 332°44.04' | 15.0033° | 189°21.39' | S 4°01.91' | 0.9657' | 234°37.14' | 14.3794° | 287°28.30' | S 27°04.91' | 2.6355' | 59.2962' | 162°05.44' | **10** |
| **11** | 347°44.24' | 15.0033° | 189°23.66' | S 4°02.87' | 0.9657' | 248°59.93' | 14.3799° | 288°07.97' | S 27°02.09' | 2.8216' | 59.3009' | 177°07.90' | **11** |
| **12** | 2°44.43' | 15.0033° | 189°25.93' | S 4°03.84' | 0.9656' | 263°22.75' | 14.3803° | 288°47.61' | S 26°59.08' | 3.0074' | 59.3055' | 192°10.36' | **12** |
| **13** | 17°44.63' | 15.0033° | 189°28.20' | S 4°04.80' | 0.9655' | 277°45.60' | 14.3808° | 289°27.23' | S 26°55.89' | 3.1926' | 59.3099' | 207°12.83' | **13** |
| **14** | 32°44.82' | 15.0033° | 189°30.47' | S 4°05.77' | 0.9654' | 292°08.48' | 14.3814° | 290°06.81' | S 26°52.51' | 3.3774' | 59.3141' | 222°15.29' | **14** |
| **15** | 47°45.02' | 15.0032° | 189°32.74' | S 4°06.74' | 0.9653' | 306°31.40' | 14.3819° | 290°46.36' | S 26°48.95' | 3.5616' | 59.3182' | 237°17.76' | **15** |
| **16** | 62°45.21' | 15.0032° | 189°35.01' | S 4°07.70' | 0.9652' | 320°54.35' | 14.3825° | 291°25.87' | S 26°45.21' | 3.7452' | 59.3222' | 252°20.22' | **16** |
| **17** | 77°45.41' | 15.0032° | 189°37.28' | S 4°08.67' | 0.9651' | 335°17.34' | 14.3832° | 292°05.35' | S 26°41.28' | 3.9282' | 59.3260' | 267°22.68' | **17** |
| **18** | 92°45.60' | 15.0032° | 189°39.55' | S 4°09.63' | 0.9650' | 349°40.37' | 14.3838° | 292°44.78' | S 26°37.17' | 4.1105' | 59.3297' | 282°25.15' | **18** |
| **19** | 107°45.80' | 15.0032° | 189°41.82' | S 4°10.60' | 0.9649' | 4°03.44' | 14.3846° | 293°24.17' | S 26°32.88' | 4.2921' | 59.3332' | 297°27.61' | **19** |
| **20** | 122°45.99' | 15.0032° | 189°44.09' | S 4°11.56' | 0.9649' | 18°26.56' | 14.3853° | 294°03.52' | S 26°28.40' | 4.4731' | 59.3366' | 312°30.08' | **20** |
| **21** | 137°46.19' | 15.0032° | 189°46.36' | S 4°12.53' | 0.9648' | 32°49.72' | 14.3861° | 294°42.82' | S 26°23.75' | 4.6532' | 59.3399' | 327°32.54' | **21** |
| **22** | 152°46.38' | 15.0032° | 189°48.63' | S 4°13.49' | 0.9647' | 47°12.94' | 14.3869° | 295°22.07' | S 26°18.92' | 4.8326' | 59.3429' | 342°35.01' | **22** |
| **23** | 167°46.57' | 15.0032° | 189°50.90' | S 4°14.45' | 0.9646' | 61°36.20' | 14.3877° | 296°01.27' | S 26°13.91' | 5.0111' | 59.3459' | 357°37.47' | **23** |
| **24** | 182°46.77' | 15.0032° | 189°53.17' | S 4°15.42' | 0.9645' | 75°59.52' | 14.3886° | 296°40.42' | S 26°08.72' | 5.1888' | 59.3487' | 12°39.93' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9836' | hp (π) 0.1465' | ½Ø 16.1596' | 55.743367287916% +gib |
| | EoT at 12:00 UTC : +10m 57s (δ 0.78 s/h) | | Phase at 12:00 UTC : 96.48° | |
| | Meridian Pass. Time : 11:49:02.266 | | Age : 7.5 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.19') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 186°54.97' | 184°45.82' | S 0°31.92' | 291°42.02' | 79°58.77' | N 22°31.88' | 8°24.20' | 3°16.60' | S 0°20.73' | 49°54.05' | 321°46.75' | S 16°24.01' | **00** |
| **01** | 201°54.58' | 184°48.68' | S 0°33.18' | 306°43.61' | 79°59.65' | N 22°32.01' | 23°26.96' | 3°16.29' | S 0°20.86' | 64°56.59' | 321°46.67' | S 16°24.04' | **01** |
| **02** | 216°54.19' | 184°51.54' | S 0°34.43' | 321°45.20' | 80°00.52' | N 22°32.14' | 38°29.73' | 3°15.99' | S 0°20.99' | 79°59.14' | 321°46.58' | S 16°24.06' | **02** |
| **03** | 231°53.79' | 184°54.39' | S 0°35.69' | 336°46.79' | 80°01.40' | N 22°32.27' | 53°32.50' | 3°15.69' | S 0°21.12' | 95°01.68' | 321°46.50' | S 16°24.08' | **03** |
| **04** | 246°53.40' | 184°57.25' | S 0°36.94' | 351°48.38' | 80°02.27' | N 22°32.40' | 68°35.27' | 3°15.39' | S 0°21.25' | 110°04.23' | 321°46.42' | S 16°24.11' | **04** |
| **05** | 261°53.01' | 185°00.10' | S 0°38.19' | 6°49.98' | 80°03.14' | N 22°32.53' | 83°38.03' | 3°15.08' | S 0°21.38' | 125°06.77' | 321°46.34' | S 16°24.13' | **05** |
| **06** | 276°52.62' | 185°02.96' | S 0°39.45' | 21°51.57' | 80°04.01' | N 22°32.66' | 98°40.80' | 3°14.78' | S 0°21.51' | 140°09.32' | 321°46.26' | S 16°24.16' | **06** |
| **07** | 291°52.23' | 185°05.81' | S 0°40.70' | 36°53.16' | 80°04.88' | N 22°32.79' | 113°43.57' | 3°14.48' | S 0°21.64' | 155°11.86' | 321°46.18' | S 16°24.18' | **07** |
| **08** | 306°51.84' | 185°08.67' | S 0°41.96' | 51°54.76' | 80°05.75' | N 22°32.92' | 128°46.33' | 3°14.17' | S 0°21.77' | 170°14.41' | 321°46.10' | S 16°24.20' | **08** |
| **09** | 321°51.44' | 185°11.53' | S 0°43.21' | 66°56.36' | 80°06.61' | N 22°33.05' | 143°49.10' | 3°13.87' | S 0°21.90' | 185°16.95' | 321°46.02' | S 16°24.23' | **09** |
| **10** | 336°51.05' | 185°14.38' | S 0°44.47' | 81°57.96' | 80°07.48' | N 22°33.17' | 158°51.87' | 3°13.57' | S 0°22.03' | 200°19.50' | 321°45.94' | S 16°24.25' | **10** |
| **11** | 351°50.66' | 185°17.24' | S 0°45.72' | 96°59.56' | 80°08.34' | N 22°33.30' | 173°54.63' | 3°13.27' | S 0°22.15' | 215°22.04' | 321°45.86' | S 16°24.28' | **11** |
| **12** | 6°50.27' | 185°20.09' | S 0°46.98' | 112°01.16' | 80°09.21' | N 22°33.43' | 188°57.40' | 3°12.96' | S 0°22.28' | 230°24.59' | 321°45.78' | S 16°24.30' | **12** |
| **13** | 21°49.88' | 185°22.95' | S 0°48.23' | 127°02.76' | 80°10.07' | N 22°33.56' | 204°00.17' | 3°12.66' | S 0°22.41' | 245°27.13' | 321°45.70' | S 16°24.32' | **13** |
| **14** | 36°49.49' | 185°25.81' | S 0°49.49' | 142°04.36' | 80°10.93' | N 22°33.69' | 219°02.93' | 3°12.36' | S 0°22.54' | 260°29.67' | 321°45.62' | S 16°24.35' | **14** |
| **15** | 51°49.09' | 185°28.66' | S 0°50.74' | 157°05.96' | 80°11.79' | N 22°33.82' | 234°05.70' | 3°12.06' | S 0°22.67' | 275°32.22' | 321°45.54' | S 16°24.37' | **15** |
| **16** | 66°48.70' | 185°31.52' | S 0°52.00' | 172°07.57' | 80°12.65' | N 22°33.95' | 249°08.46' | 3°11.76' | S 0°22.80' | 290°34.76' | 321°45.46' | S 16°24.39' | **16** |
| **17** | 81°48.31' | 185°34.37' | S 0°53.25' | 187°09.17' | 80°13.51' | N 22°34.08' | 264°11.23' | 3°11.45' | S 0°22.93' | 305°37.30' | 321°45.38' | S 16°24.42' | **17** |
| **18** | 96°47.92' | 185°37.23' | S 0°54.51' | 202°10.78' | 80°14.37' | N 22°34.21' | 279°14.00' | 3°11.15' | S 0°23.06' | 320°39.85' | 321°45.30' | S 16°24.44' | **18** |
| **19** | 111°47.53' | 185°40.09' | S 0°55.76' | 217°12.39' | 80°15.23' | N 22°34.33' | 294°16.76' | 3°10.85' | S 0°23.19' | 335°42.39' | 321°45.22' | S 16°24.46' | **19** |
| **20** | 126°47.13' | 185°42.94' | S 0°57.02' | 232°13.99' | 80°16.08' | N 22°34.46' | 309°19.53' | 3°10.55' | S 0°23.32' | 350°44.93' | 321°45.14' | S 16°24.49' | **20** |
| **21** | 141°46.74' | 185°45.80' | S 0°58.27' | 247°15.60' | 80°16.94' | N 22°34.59' | 324°22.30' | 3°10.25' | S 0°23.44' | 5°47.48' | 321°45.07' | S 16°24.51' | **21** |
| **22** | 156°46.35' | 185°48.66' | S 0°59.53' | 262°17.21' | 80°17.79' | N 22°34.72' | 339°25.06' | 3°09.94' | S 0°23.57' | 20°50.02' | 321°44.99' | S 16°24.53' | **22** |
| **23** | 171°45.96' | 185°51.51' | S 1°00.78' | 277°18.83' | 80°18.64' | N 22°34.85' | 354°27.83' | 3°09.64' | S 0°23.70' | 35°52.56' | 321°44.91' | S 16°24.56' | **23** |
| **24** | 186°45.57' | 185°54.37' | S 1°02.04' | 292°20.44' | 80°19.50' | N 22°34.97' | 9°30.59' | 3°09.34' | S 0°23.83' | 50°55.10' | 321°44.83' | S 16°24.58' | **24** |
| | δ 14.9935° | | *d* 1.2546' | δ 15.0265° | | *d* 0.1301' | δ 15.0461° | | *d* 0.1296' | δ 15.0424° | | *d* 0.0242' | |

## *Tuesday, October 4th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 182°46.77' | 15.0032° | 189°53.17' | S 4°15.42' | 0.9645' | 75°59.52' | 14.3886° | 296°40.42' | S 26°08.72' | 5.1888' | 59.3487' | 12°39.93' | **00** |
| **01** | 197°46.96' | 15.0032° | 189°55.44' | S 4°16.38' | 0.9644' | 90°22.89' | 14.3895° | 297°19.51' | S 26°03.35' | 5.3656' | 59.3513' | 27°42.40' | **01** |
| **02** | 212°47.15' | 15.0032° | 189°57.71' | S 4°17.35' | 0.9643' | 104°46.31' | 14.3904° | 297°58.55' | S 25°57.81' | 5.5415' | 59.3538' | 42°44.86' | **02** |
| **03** | 227°47.35' | 15.0032° | 189°59.98' | S 4°18.31' | 0.9642' | 119°09.79' | 14.3914° | 298°37.53' | S 25°52.09' | 5.7165' | 59.3561' | 57°47.33' | **03** |
| **04** | 242°47.54' | 15.0032° | 190°02.25' | S 4°19.28' | 0.9641' | 133°33.34' | 14.3924° | 299°16.45' | S 25°46.20' | 5.8904' | 59.3582' | 72°49.79' | **04** |
| **05** | 257°47.73' | 15.0032° | 190°04.52' | S 4°20.24' | 0.9640' | 147°56.94' | 14.3934° | 299°55.31' | S 25°40.14' | 6.0634' | 59.3602' | 87°52.25' | **05** |
| **06** | 272°47.93' | 15.0032° | 190°06.79' | S 4°21.20' | 0.9639' | 162°20.61' | 14.3944° | 300°34.11' | S 25°33.91' | 6.2353' | 59.3621' | 102°54.72' | **06** |
| **07** | 287°48.12' | 15.0032° | 190°09.06' | S 4°22.17' | 0.9638' | 176°44.34' | 14.3955° | 301°12.84' | S 25°27.50' | 6.4062' | 59.3637' | 117°57.18' | **07** |
| **08** | 302°48.31' | 15.0032° | 190°11.34' | S 4°23.13' | 0.9637' | 191°08.14' | 14.3966° | 301°51.51' | S 25°20.92' | 6.5760' | 59.3653' | 132°59.65' | **08** |
| **09** | 317°48.50' | 15.0032° | 190°13.61' | S 4°24.10' | 0.9636' | 205°32.00' | 14.3977° | 302°30.11' | S 25°14.18' | 6.7446' | 59.3666' | 148°02.11' | **09** |
| **10** | 332°48.70' | 15.0032° | 190°15.88' | S 4°25.06' | 0.9635' | 219°55.93' | 14.3989° | 303°08.64' | S 25°07.27' | 6.9121' | 59.3678' | 163°04.58' | **10** |
| **11** | 347°48.89' | 15.0032° | 190°18.15' | S 4°26.02' | 0.9634' | 234°19.94' | 14.4001° | 303°47.10' | S 25°00.19' | 7.0785' | 59.3688' | 178°07.04' | **11** |
| **12** | 2°49.08' | 15.0032° | 190°20.42' | S 4°26.99' | 0.9634' | 248°44.01' | 14.4013° | 304°25.49' | S 24°52.94' | 7.2436' | 59.3697' | 193°09.50' | **12** |
| **13** | 17°49.27' | 15.0032° | 190°22.70' | S 4°27.95' | 0.9633' | 263°08.16' | 14.4025° | 305°03.81' | S 24°45.54' | 7.4075' | 59.3704' | 208°11.97' | **13** |
| **14** | 32°49.46' | 15.0032° | 190°24.97' | S 4°28.91' | 0.9632' | 277°32.38' | 14.4037° | 305°42.05' | S 24°37.97' | 7.5702' | 59.3709' | 223°14.43' | **14** |
| **15** | 47°49.65' | 15.0032° | 190°27.24' | S 4°29.88' | 0.9631' | 291°56.68' | 14.4050° | 306°20.21' | S 24°30.24' | 7.7317' | 59.3712' | 238°16.90' | **15** |
| **16** | 62°49.85' | 15.0032° | 190°29.51' | S 4°30.84' | 0.9630' | 306°21.06' | 14.4063° | 306°58.30' | S 24°22.34' | 7.8918' | 59.3714' | 253°19.36' | **16** |
| **17** | 77°50.04' | 15.0032° | 190°31.79' | S 4°31.80' | 0.9629' | 320°45.51' | 14.4076° | 307°36.31' | S 24°14.29' | 8.0506' | 59.3714' | 268°21.82' | **17** |
| **18** | 92°50.23' | 15.0032° | 190°34.06' | S 4°32.76' | 0.9628' | 335°10.04' | 14.4089° | 308°14.25' | S 24°06.08' | 8.2081' | 59.3713' | 283°24.29' | **18** |
| **19** | 107°50.42' | 15.0032° | 190°36.33' | S 4°33.73' | 0.9627' | 349°34.66' | 14.4102° | 308°52.10' | S 23°57.72' | 8.3643' | 59.3709' | 298°26.75' | **19** |
| **20** | 122°50.61' | 15.0032° | 190°38.61' | S 4°34.69' | 0.9626' | 3°59.35' | 14.4116° | 309°29.87' | S 23°49.20' | 8.5191' | 59.3704' | 313°29.22' | **20** |
| **21** | 137°50.80' | 15.0032° | 190°40.88' | S 4°35.65' | 0.9625' | 18°24.12' | 14.4129° | 310°07.56' | S 23°40.53' | 8.6724' | 59.3697' | 328°31.68' | **21** |
| **22** | 152°50.99' | 15.0032° | 190°43.15' | S 4°36.61' | 0.9624' | 32°48.98' | 14.4143° | 310°45.16' | S 23°31.70' | 8.8244' | 59.3688' | 343°34.15' | **22** |
| **23** | 167°51.18' | 15.0032° | 190°45.43' | S 4°37.58' | 0.9622' | 47°13.92' | 14.4157° | 311°22.68' | S 23°22.73' | 8.9750' | 59.3677' | 358°36.61' | **23** |
| **24** | 182°51.37' | 15.0032° | 190°47.70' | S 4°38.54' | 0.9621' | 61°38.95' | 14.4171° | 312°00.12' | S 23°13.61' | 9.1241' | 59.3665' | 13°39.07' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 15.9883' | hp (π) 0.1465' | ½Ø 16.1771' | 66.9313632049733 5% +gib | |
| | EoT at 12:00 UTC : +11m 16s (δ 0.77 s/h) | | Phase at 12:00 UTC : 109.74° | | |
| | Meridian Pass. Time : 11:48:43.681 | | Age : 8.5 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.19') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 186°45.57' | 185°54.37' | S 1°02.04' | 292°20.44' | 80°19.50' | N 22°34.97' | 9°30.59' | 3°09.34' | S 0°23.83' | 50°55.10' | 321°44.83' | S 16°24.58' | **00** |
| **01** | 201°45.17' | 185°57.22' | S 1°03.29' | 307°22.05' | 80°20.35' | N 22°35.10' | 24°33.36' | 3°09.04' | S 0°23.96' | 65°57.65' | 321°44.75' | S 16°24.60' | **01** |
| **02** | 216°44.78' | 186°00.08' | S 1°04.55' | 322°23.67' | 80°21.20' | N 22°35.23' | 39°36.12' | 3°08.74' | S 0°24.09' | 81°00.19' | 321°44.67' | S 16°24.62' | **02** |
| **03** | 231°44.39' | 186°02.94' | S 1°05.80' | 337°25.28' | 80°22.05' | N 22°35.36' | 54°38.89' | 3°08.44' | S 0°24.22' | 96°02.73' | 321°44.60' | S 16°24.65' | **03** |
| **04** | 246°44.00' | 186°05.79' | S 1°07.06' | 352°26.90' | 80°22.89' | N 22°35.49' | 69°41.66' | 3°08.14' | S 0°24.34' | 111°05.27' | 321°44.52' | S 16°24.67' | **04** |
| **05** | 261°43.60' | 186°08.65' | S 1°08.31' | 7°28.51' | 80°23.74' | N 22°35.61' | 84°44.42' | 3°07.83' | S 0°24.47' | 126°07.81' | 321°44.44' | S 16°24.69' | **05** |
| **06** | 276°43.21' | 186°11.51' | S 1°09.57' | 22°30.13' | 80°24.59' | N 22°35.74' | 99°47.19' | 3°07.53' | S 0°24.60' | 141°10.35' | 321°44.37' | S 16°24.72' | **06** |
| **07** | 291°42.82' | 186°14.36' | S 1°10.82' | 37°31.75' | 80°25.43' | N 22°35.87' | 114°49.95' | 3°07.23' | S 0°24.73' | 156°12.89' | 321°44.29' | S 16°24.74' | **07** |
| **08** | 306°42.43' | 186°17.22' | S 1°12.08' | 52°33.37' | 80°26.27' | N 22°36.00' | 129°52.72' | 3°06.93' | S 0°24.86' | 171°15.44' | 321°44.21' | S 16°24.76' | **08** |
| **09** | 321°42.03' | 186°20.08' | S 1°13.33' | 67°34.99' | 80°27.12' | N 22°36.12' | 144°55.48' | 3°06.63' | S 0°24.99' | 186°17.98' | 321°44.13' | S 16°24.78' | **09** |
| **10** | 336°41.64' | 186°22.94' | S 1°14.59' | 82°36.62' | 80°27.96' | N 22°36.25' | 159°58.25' | 3°06.33' | S 0°25.11' | 201°20.52' | 321°44.06' | S 16°24.81' | **10** |
| **11** | 351°41.25' | 186°25.79' | S 1°15.84' | 97°38.24' | 80°28.80' | N 22°36.38' | 175°01.01' | 3°06.03' | S 0°25.24' | 216°23.06' | 321°43.98' | S 16°24.83' | **11** |
| **12** | 6°40.85' | 186°28.65' | S 1°17.10' | 112°39.86' | 80°29.64' | N 22°36.50' | 190°03.78' | 3°05.73' | S 0°25.37' | 231°25.60' | 321°43.91' | S 16°24.85' | **12** |
| **13** | 21°40.46' | 186°31.51' | S 1°18.35' | 127°41.49' | 80°30.48' | N 22°36.63' | 205°06.54' | 3°05.43' | S 0°25.50' | 246°28.14' | 321°43.83' | S 16°24.87' | **13** |
| **14** | 36°40.07' | 186°34.36' | S 1°19.61' | 142°43.12' | 80°31.32' | N 22°36.76' | 220°09.31' | 3°05.13' | S 0°25.63' | 261°30.68' | 321°43.75' | S 16°24.90' | **14** |
| **15** | 51°39.68' | 186°37.22' | S 1°20.86' | 157°44.74' | 80°32.15' | N 22°36.89' | 235°12.07' | 3°04.83' | S 0°25.75' | 276°33.22' | 321°43.68' | S 16°24.92' | **15** |
| **16** | 66°39.28' | 186°40.08' | S 1°22.12' | 172°46.37' | 80°32.99' | N 22°37.01' | 250°14.84' | 3°04.53' | S 0°25.88' | 291°35.76' | 321°43.60' | S 16°24.94' | **16** |
| **17** | 81°38.89' | 186°42.94' | S 1°23.37' | 187°48.00' | 80°33.82' | N 22°37.14' | 265°17.60' | 3°04.22' | S 0°26.01' | 306°38.30' | 321°43.53' | S 16°24.96' | **17** |
| **18** | 96°38.50' | 186°45.79' | S 1°24.63' | 202°49.63' | 80°34.66' | N 22°37.27' | 280°20.36' | 3°03.92' | S 0°26.14' | 321°40.84' | 321°43.45' | S 16°24.98' | **18** |
| **19** | 111°38.10' | 186°48.65' | S 1°25.88' | 217°51.26' | 80°35.49' | N 22°37.39' | 295°23.13' | 3°03.62' | S 0°26.27' | 336°43.38' | 321°43.38' | S 16°25.01' | **19** |
| **20** | 126°37.71' | 186°51.51' | S 1°27.14' | 232°52.90' | 80°36.32' | N 22°37.52' | 310°25.89' | 3°03.32' | S 0°26.39' | 351°45.92' | 321°43.30' | S 16°25.03' | **20** |
| **21** | 141°37.32' | 186°54.36' | S 1°28.39' | 247°54.53' | 80°37.15' | N 22°37.64' | 325°28.66' | 3°03.02' | S 0°26.52' | 6°48.45' | 321°43.23' | S 16°25.05' | **21** |
| **22** | 156°36.92' | 186°57.22' | S 1°29.65' | 262°56.17' | 80°37.98' | N 22°37.77' | 340°31.42' | 3°02.72' | S 0°26.65' | 21°50.99' | 321°43.15' | S 16°25.07' | **22** |
| **23** | 171°36.53' | 187°00.08' | S 1°30.90' | 277°57.80' | 80°38.81' | N 22°37.90' | 355°34.19' | 3°02.42' | S 0°26.78' | 36°53.53' | 321°43.08' | S 16°25.09' | **23** |
| **24** | 186°36.14' | 187°02.94' | S 1°32.15' | 292°59.44' | 80°39.64' | N 22°38.02' | 10°36.95' | 3°02.12' | S 0°26.90' | 51°56.07' | 321°43.00' | S 16°25.12' | **24** |
| | δ 14.9935° | | *d* 1.2549' | δ 15.0269° | | *d* 0.1280' | δ 15.0461° | | *d* 0.1286' | δ 15.0424° | | *d* 0.0230' | |

## *Wednesday, October 5th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 182°51.37' | 15.0032° | 190°47.70' | S 4°38.54' | 0.9621' | 61°38.95' | 14.4171° | 312°00.12' | S 23°13.61' | 9.1241' | 59.3665' | 13°39.07' | **00** |
| **01** | 197°51.56' | 15.0032° | 190°49.98' | S 4°39.50' | 0.9620' | 76°04.06' | 14.4185° | 312°37.47' | S 23°04.33' | 9.2717' | 59.3651' | 28°41.54' | **01** |
| **02** | 212°51.75' | 15.0032° | 190°52.25' | S 4°40.46' | 0.9619' | 90°29.26' | 14.4200° | 313°14.74' | S 22°54.92' | 9.4179' | 59.3635' | 43°44.00' | **02** |
| **03** | 227°51.94' | 15.0032° | 190°54.52' | S 4°41.42' | 0.9618' | 104°54.55' | 14.4214° | 313°51.92' | S 22°45.35' | 9.5626' | 59.3617' | 58°46.47' | **03** |
| **04** | 242°52.13' | 15.0032° | 190°56.80' | S 4°42.39' | 0.9617' | 119°19.92' | 14.4229° | 314°29.01' | S 22°35.65' | 9.7058' | 59.3597' | 73°48.93' | **04** |
| **05** | 257°52.32' | 15.0032° | 190°59.07' | S 4°43.35' | 0.9616' | 133°45.38' | 14.4243° | 315°06.01' | S 22°25.80' | 9.8475' | 59.3575' | 88°51.39' | **05** |
| **06** | 272°52.51' | 15.0032° | 191°01.35' | S 4°44.31' | 0.9615' | 148°10.93' | 14.4258° | 315°42.93' | S 22°15.81' | 9.9876' | 59.3552' | 103°53.86' | **06** |
| **07** | 287°52.70' | 15.0032° | 191°03.62' | S 4°45.27' | 0.9614' | 162°36.57' | 14.4273° | 316°19.75' | S 22°05.69' | 10.1262' | 59.3526' | 118°56.32' | **07** |
| **08** | 302°52.89' | 15.0031° | 191°05.90' | S 4°46.23' | 0.9613' | 177°02.30' | 14.4288° | 316°56.49' | S 21°55.42' | 10.2632' | 59.3499' | 133°58.79' | **08** |
| **09** | 317°53.08' | 15.0031° | 191°08.17' | S 4°47.19' | 0.9612' | 191°28.11' | 14.4303° | 317°33.14' | S 21°45.02' | 10.3986' | 59.3469' | 149°01.25' | **09** |
| **10** | 332°53.27' | 15.0031° | 191°10.45' | S 4°48.15' | 0.9611' | 205°54.02' | 14.4318° | 318°09.69' | S 21°34.49' | 10.5325' | 59.3438' | 164°03.71' | **10** |
| **11** | 347°53.45' | 15.0031° | 191°12.73' | S 4°49.11' | 0.9610' | 220°20.02' | 14.4333° | 318°46.16' | S 21°23.83' | 10.6648' | 59.3405' | 179°06.18' | **11** |
| **12** | 2°53.64' | 15.0031° | 191°15.00' | S 4°50.08' | 0.9609' | 234°46.11' | 14.4348° | 319°22.53' | S 21°13.03' | 10.7955' | 59.3369' | 194°08.64' | **12** |
| **13** | 17°53.83' | 15.0031° | 191°17.28' | S 4°51.04' | 0.9608' | 249°12.29' | 14.4363° | 319°58.82' | S 21°02.11' | 10.9246' | 59.3332' | 209°11.11' | **13** |
| **14** | 32°54.02' | 15.0031° | 191°19.55' | S 4°52.00' | 0.9607' | 263°38.56' | 14.4379° | 320°35.01' | S 20°51.05' | 11.0520' | 59.3293' | 224°13.57' | **14** |
| **15** | 47°54.21' | 15.0031° | 191°21.83' | S 4°52.96' | 0.9606' | 278°04.93' | 14.4394° | 321°11.11' | S 20°39.88' | 11.1778' | 59.3252' | 239°16.04' | **15** |
| **16** | 62°54.39' | 15.0031° | 191°24.11' | S 4°53.92' | 0.9604' | 292°31.38' | 14.4409° | 321°47.12' | S 20°28.58' | 11.3020' | 59.3209' | 254°18.50' | **16** |
| **17** | 77°54.58' | 15.0031° | 191°26.38' | S 4°54.88' | 0.9603' | 306°57.93' | 14.4425° | 322°23.03' | S 20°17.15' | 11.4245' | 59.3163' | 269°20.96' | **17** |
| **18** | 92°54.77' | 15.0031° | 191°28.66' | S 4°55.84' | 0.9602' | 321°24.57' | 14.4440° | 322°58.86' | S 20°05.61' | 11.5454' | 59.3116' | 284°23.43' | **18** |
| **19** | 107°54.96' | 15.0031° | 191°30.94' | S 4°56.80' | 0.9601' | 335°51.30' | 14.4455° | 323°34.59' | S 19°53.94' | 11.6647' | 59.3067' | 299°25.89' | **19** |
| **20** | 122°55.14' | 15.0031° | 191°33.21' | S 4°57.76' | 0.9600' | 350°18.12' | 14.4470° | 324°10.23' | S 19°42.16' | 11.7822' | 59.3016' | 314°28.36' | **20** |
| **21** | 137°55.33' | 15.0031° | 191°35.49' | S 4°58.72' | 0.9599' | 4°45.04' | 14.4486° | 324°45.78' | S 19°30.26' | 11.8981' | 59.2962' | 329°30.82' | **21** |
| **22** | 152°55.52' | 15.0031° | 191°37.77' | S 4°59.68' | 0.9598' | 19°12.04' | 14.4501° | 325°21.24' | S 19°18.25' | 12.0123' | 59.2907' | 344°33.28' | **22** |
| **23** | 167°55.70' | 15.0031° | 191°40.04' | S 5°00.64' | 0.9597' | 33°39.14' | 14.4516° | 325°56.61' | S 19°06.12' | 12.1249' | 59.2849' | 359°35.75' | **23** |
| **24** | 182°55.89' | 15.0031° | 191°42.32' | S 5°01.60' | 0.9596' | 48°06.33' | 14.4531° | 326°31.89' | S 18°53.89' | 12.2357' | 59.2789' | 14°38.21' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9930' | hp (π) 0.1466' | ½Ø 16.1682' | 77.2363228258322 7% +gib |
| | EoT at 12:00 UTC : +11m 34s (δ 0.75 s/h) | | Phase at 12:00 UTC : 123.04° | |
| | Meridian Pass. Time : 11:48:25.432 | | Age : 9.6 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.19') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 186°36.14' | 187°02.94' | S 1°32.15' | 292°59.44' | 80°39.64' | N 22°38.02' | 10°36.95' | 3°02.12' | S 0°26.90' | 51°56.07' | 321°43.00' | S 16°25.12' | **00** |
| **01** | 201°35.74' | 187°05.80' | S 1°33.41' | 308°01.08' | 80°40.46' | N 22°38.15' | 25°39.71' | 3°01.82' | S 0°27.03' | 66°58.61' | 321°42.93' | S 16°25.14' | **01** |
| **02** | 216°35.35' | 187°08.65' | S 1°34.66' | 323°02.71' | 80°41.29' | N 22°38.28' | 40°42.48' | 3°01.52' | S 0°27.16' | 82°01.15' | 321°42.85' | S 16°25.16' | **02** |
| **03** | 231°34.95' | 187°11.51' | S 1°35.92' | 338°04.35' | 80°42.11' | N 22°38.40' | 55°45.24' | 3°01.22' | S 0°27.29' | 97°03.68' | 321°42.78' | S 16°25.18' | **03** |
| **04** | 246°34.56' | 187°14.37' | S 1°37.17' | 353°06.00' | 80°42.93' | N 22°38.53' | 70°48.00' | 3°00.93' | S 0°27.41' | 112°06.22' | 321°42.71' | S 16°25.20' | **04** |
| **05** | 261°34.17' | 187°17.23' | S 1°38.43' | 8°07.64' | 80°43.76' | N 22°38.65' | 85°50.77' | 3°00.63' | S 0°27.54' | 127°08.76' | 321°42.63' | S 16°25.22' | **05** |
| **06** | 276°33.77' | 187°20.09' | S 1°39.68' | 23°09.28' | 80°44.58' | N 22°38.78' | 100°53.53' | 3°00.33' | S 0°27.67' | 142°11.30' | 321°42.56' | S 16°25.24' | **06** |
| **07** | 291°33.38' | 187°22.94' | S 1°40.94' | 38°10.92' | 80°45.40' | N 22°38.90' | 115°56.30' | 3°00.03' | S 0°27.80' | 157°13.84' | 321°42.49' | S 16°25.27' | **07** |
| **08** | 306°32.98' | 187°25.80' | S 1°42.19' | 53°12.57' | 80°46.22' | N 22°39.03' | 130°59.06' | 2°59.73' | S 0°27.92' | 172°16.37' | 321°42.41' | S 16°25.29' | **08** |
| **09** | 321°32.59' | 187°28.66' | S 1°43.45' | 68°14.22' | 80°47.04' | N 22°39.15' | 146°01.82' | 2°59.43' | S 0°28.05' | 187°18.91' | 321°42.34' | S 16°25.31' | **09** |
| **10** | 336°32.20' | 187°31.52' | S 1°44.70' | 83°15.86' | 80°47.85' | N 22°39.28' | 161°04.59' | 2°59.13' | S 0°28.18' | 202°21.45' | 321°42.27' | S 16°25.33' | **10** |
| **11** | 351°31.80' | 187°34.38' | S 1°45.96' | 98°17.51' | 80°48.67' | N 22°39.40' | 176°07.35' | 2°58.83' | S 0°28.30' | 217°23.98' | 321°42.20' | S 16°25.35' | **11** |
| **12** | 6°31.41' | 187°37.24' | S 1°47.21' | 113°19.16' | 80°49.48' | N 22°39.53' | 191°10.11' | 2°58.53' | S 0°28.43' | 232°26.52' | 321°42.12' | S 16°25.37' | **12** |
| **13** | 21°31.01' | 187°40.09' | S 1°48.47' | 128°20.81' | 80°50.30' | N 22°39.66' | 206°12.87' | 2°58.23' | S 0°28.56' | 247°29.06' | 321°42.05' | S 16°25.39' | **13** |
| **14** | 36°30.62' | 187°42.95' | S 1°49.72' | 143°22.46' | 80°51.11' | N 22°39.78' | 221°15.64' | 2°57.93' | S 0°28.69' | 262°31.59' | 321°41.98' | S 16°25.41' | **14** |
| **15** | 51°30.22' | 187°45.81' | S 1°50.97' | 158°24.11' | 80°51.92' | N 22°39.91' | 236°18.40' | 2°57.64' | S 0°28.81' | 277°34.13' | 321°41.91' | S 16°25.44' | **15** |
| **16** | 66°29.83' | 187°48.67' | S 1°52.23' | 173°25.77' | 80°52.73' | N 22°40.03' | 251°21.16' | 2°57.34' | S 0°28.94' | 292°36.66' | 321°41.83' | S 16°25.46' | **16** |
| **17** | 81°29.43' | 187°51.53' | S 1°53.48' | 188°27.42' | 80°53.54' | N 22°40.15' | 266°23.93' | 2°57.04' | S 0°29.07' | 307°39.20' | 321°41.76' | S 16°25.48' | **17** |
| **18** | 96°29.04' | 187°54.39' | S 1°54.74' | 203°29.08' | 80°54.35' | N 22°40.28' | 281°26.69' | 2°56.74' | S 0°29.19' | 322°41.74' | 321°41.69' | S 16°25.50' | **18** |
| **19** | 111°28.64' | 187°57.25' | S 1°55.99' | 218°30.73' | 80°55.16' | N 22°40.40' | 296°29.45' | 2°56.44' | S 0°29.32' | 337°44.27' | 321°41.62' | S 16°25.52' | **19** |
| **20** | 126°28.25' | 188°00.11' | S 1°57.25' | 233°32.39' | 80°55.96' | N 22°40.53' | 311°32.21' | 2°56.14' | S 0°29.45' | 352°46.81' | 321°41.55' | S 16°25.54' | **20** |
| **21** | 141°27.85' | 188°02.97' | S 1°58.50' | 248°34.05' | 80°56.77' | N 22°40.65' | 326°34.97' | 2°55.85' | S 0°29.57' | 7°49.34' | 321°41.48' | S 16°25.56' | **21** |
| **22** | 156°27.46' | 188°05.82' | S 1°59.75' | 263°35.71' | 80°57.57' | N 22°40.78' | 341°37.74' | 2°55.55' | S 0°29.70' | 22°51.88' | 321°41.41' | S 16°25.58' | **22** |
| **23** | 171°27.06' | 188°08.68' | S 2°01.01' | 278°37.37' | 80°58.38' | N 22°40.90' | 356°40.50' | 2°55.25' | S 0°29.82' | 37°54.41' | 321°41.34' | S 16°25.60' | **23** |
| **24** | 186°26.67' | 188°11.54' | S 2°02.26' | 293°39.03' | 80°59.18' | N 22°41.03' | 11°43.26' | 2°54.95' | S 0°29.95' | 52°56.95' | 321°41.27' | S 16°25.62' | **24** |
| | δ 14.9934° | | *d* 1.2548' | δ 15.0273° | | *d* 0.1260' | δ 15.0461° | | *d* 0.1275' | δ 15.0423° | | *d* 0.0217' | |

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 182°55.89' | 15.0031° | 191°42.32' | S 5°01.60' | 0.9596' | 48°06.33' | 14.4531° | 326°31.89' | S 18°53.89' | 12.2357' | 59.2789' | 14°38.21' | **00** |
| **01** | 197°56.08' | 15.0031° | 191°44.60' | S 5°02.56' | 0.9594' | 62°33.61' | 14.4546° | 327°07.07' | S 18°41.54' | 12.3449' | 59.2727' | 29°40.68' | **01** |
| **02** | 212°56.26' | 15.0031° | 191°46.88' | S 5°03.52' | 0.9593' | 77°00.97' | 14.4562° | 327°42.17' | S 18°29.09' | 12.4524' | 59.2664' | 44°43.14' | **02** |
| **03** | 227°56.45' | 15.0031° | 191°49.16' | S 5°04.48' | 0.9592' | 91°28.43' | 14.4577° | 328°17.17' | S 18°16.53' | 12.5582' | 59.2597' | 59°45.60' | **03** |
| **04** | 242°56.63' | 15.0031° | 191°51.43' | S 5°05.43' | 0.9591' | 105°55.99' | 14.4592° | 328°52.08' | S 18°03.87' | 12.6623' | 59.2529' | 74°48.07' | **04** |
| **05** | 257°56.82' | 15.0031° | 191°53.71' | S 5°06.39' | 0.9590' | 120°23.63' | 14.4607° | 329°26.91' | S 17°51.10' | 12.7647' | 59.2459' | 89°50.53' | **05** |
| **06** | 272°57.01' | 15.0031° | 191°55.99' | S 5°07.35' | 0.9589' | 134°51.35' | 14.4622° | 330°01.64' | S 17°38.24' | 12.8654' | 59.2386' | 104°53.00' | **06** |
| **07** | 287°57.19' | 15.0031° | 191°58.27' | S 5°08.31' | 0.9588' | 149°19.17' | 14.4636° | 330°36.29' | S 17°25.27' | 12.9644' | 59.2312' | 119°55.46' | **07** |
| **08** | 302°57.38' | 15.0031° | 192°00.55' | S 5°09.27' | 0.9586' | 163°47.08' | 14.4651° | 331°10.85' | S 17°12.21' | 13.0617' | 59.2235' | 134°57.92' | **08** |
| **09** | 317°57.56' | 15.0031° | 192°02.83' | S 5°10.23' | 0.9585' | 178°15.07' | 14.4666° | 331°45.31' | S 16°59.06' | 13.1573' | 59.2156' | 150°00.39' | **09** |
| **10** | 332°57.75' | 15.0031° | 192°05.11' | S 5°11.19' | 0.9584' | 192°43.16' | 14.4680° | 332°19.70' | S 16°45.80' | 13.2512' | 59.2075' | 165°02.85' | **10** |
| **11** | 347°57.93' | 15.0031° | 192°07.39' | S 5°12.15' | 0.9583' | 207°11.33' | 14.4695° | 332°53.99' | S 16°32.46' | 13.3434' | 59.1992' | 180°05.32' | **11** |
| **12** | 2°58.11' | 15.0031° | 192°09.67' | S 5°13.10' | 0.9582' | 221°39.58' | 14.4709° | 333°28.20' | S 16°19.03' | 13.4339' | 59.1906' | 195°07.78' | **12** |
| **13** | 17°58.30' | 15.0031° | 192°11.95' | S 5°14.06' | 0.9581' | 236°07.93' | 14.4724° | 334°02.32' | S 16°05.50' | 13.5227' | 59.1818' | 210°10.25' | **13** |
| **14** | 32°58.48' | 15.0031° | 192°14.23' | S 5°15.02' | 0.9579' | 250°36.35' | 14.4738° | 334°36.36' | S 15°51.89' | 13.6098' | 59.1728' | 225°12.71' | **14** |
| **15** | 47°58.67' | 15.0031° | 192°16.51' | S 5°15.98' | 0.9578' | 265°04.87' | 14.4752° | 335°10.31' | S 15°38.20' | 13.6951' | 59.1636' | 240°15.17' | **15** |
| **16** | 62°58.85' | 15.0031° | 192°18.79' | S 5°16.93' | 0.9577' | 279°33.46' | 14.4766° | 335°44.18' | S 15°24.42' | 13.7788' | 59.1542' | 255°17.64' | **16** |
| **17** | 77°59.03' | 15.0031° | 192°21.07' | S 5°17.89' | 0.9576' | 294°02.14' | 14.4780° | 336°17.96' | S 15°10.56' | 13.8608' | 59.1445' | 270°20.10' | **17** |
| **18** | 92°59.22' | 15.0031° | 192°23.35' | S 5°18.85' | 0.9575' | 308°30.90' | 14.4794° | 336°51.66' | S 14°56.62' | 13.9411' | 59.1346' | 285°22.57' | **18** |
| **19** | 107°59.40' | 15.0031° | 192°25.63' | S 5°19.81' | 0.9573' | 322°59.75' | 14.4807° | 337°25.28' | S 14°42.60' | 14.0197' | 59.1245' | 300°25.03' | **19** |
| **20** | 122°59.59' | 15.0031° | 192°27.91' | S 5°20.76' | 0.9572' | 337°28.68' | 14.4821° | 337°58.82' | S 14°28.50' | 14.0966' | 59.1142' | 315°27.49' | **20** |
| **21** | 137°59.77' | 15.0031° | 192°30.19' | S 5°21.72' | 0.9571' | 351°57.68' | 14.4834° | 338°32.28' | S 14°14.33' | 14.1719' | 59.1036' | 330°29.96' | **21** |
| **22** | 152°59.95' | 15.0030° | 192°32.47' | S 5°22.68' | 0.9570' | 6°26.77' | 14.4848° | 339°05.65' | S 14°00.09' | 14.2454' | 59.0928' | 345°32.42' | **22** |
| **23** | 168°00.13' | 15.0030° | 192°34.75' | S 5°23.64' | 0.9569' | 20°55.93' | 14.4861° | 339°38.95' | S 13°45.77' | 14.3173' | 59.0818' | 0°34.89' | **23** |
| **24** | 183°00.32' | 15.0030° | 192°37.03' | S 5°24.59' | 0.9567' | 35°25.18' | 14.4874° | 340°12.17' | S 13°31.38' | 14.3875' | 59.0706' | 15°37.35' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 15.9976' | hp (π) 0.1466' | ½Ø 16.1283' | 86.0809275206968<br>7% +gib |
| | EoT at 12:00 UTC : +11m 52s (δ 0.74 s/h) | | Phase at 12:00 UTC : 136.32° | |
| | Meridian Pass. Time : 11:48:07.540 | | Age : 10.6 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.19') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 186°26.67' | 188°11.54' | S 2°02.26' | 293°39.03' | 80°59.18' | N 22°41.03' | 11°43.26' | 2°54.95' | S 0°29.95' | 52°56.95' | 321°41.27' | S 16°25.62' | **00** |
| **01** | 201°26.27' | 188°14.40' | S 2°03.52' | 308°40.69' | 80°59.98' | N 22°41.15' | 26°46.02' | 2°54.65' | S 0°30.08' | 67°59.48' | 321°41.20' | S 16°25.64' | **01** |
| **02** | 216°25.88' | 188°17.26' | S 2°04.77' | 323°42.36' | 81°00.78' | N 22°41.27' | 41°48.78' | 2°54.36' | S 0°30.20' | 83°02.02' | 321°41.13' | S 16°25.66' | **02** |
| **03** | 231°25.48' | 188°20.12' | S 2°06.03' | 338°44.02' | 81°01.58' | N 22°41.40' | 56°51.55' | 2°54.06' | S 0°30.33' | 98°04.55' | 321°41.06' | S 16°25.68' | **03** |
| **04** | 246°25.09' | 188°22.98' | S 2°07.28' | 353°45.69' | 81°02.38' | N 22°41.52' | 71°54.31' | 2°53.76' | S 0°30.46' | 113°07.08' | 321°40.99' | S 16°25.70' | **04** |
| **05** | 261°24.69' | 188°25.84' | S 2°08.53' | 8°47.36' | 81°03.18' | N 22°41.65' | 86°57.07' | 2°53.46' | S 0°30.58' | 128°09.62' | 321°40.92' | S 16°25.72' | **05** |
| **06** | 276°24.30' | 188°28.70' | S 2°09.79' | 23°49.02' | 81°03.97' | N 22°41.77' | 101°59.83' | 2°53.17' | S 0°30.71' | 143°12.15' | 321°40.85' | S 16°25.74' | **06** |
| **07** | 291°23.90' | 188°31.56' | S 2°11.04' | 38°50.69' | 81°04.77' | N 22°41.89' | 117°02.59' | 2°52.87' | S 0°30.83' | 158°14.68' | 321°40.78' | S 16°25.76' | **07** |
| **08** | 306°23.50' | 188°34.42' | S 2°12.29' | 53°52.36' | 81°05.56' | N 22°42.02' | 132°05.35' | 2°52.57' | S 0°30.96' | 173°17.22' | 321°40.71' | S 16°25.78' | **08** |
| **09** | 321°23.11' | 188°37.28' | S 2°13.55' | 68°54.03' | 81°06.35' | N 22°42.14' | 147°08.12' | 2°52.27' | S 0°31.09' | 188°19.75' | 321°40.64' | S 16°25.80' | **09** |
| **10** | 336°22.71' | 188°40.14' | S 2°14.80' | 83°55.71' | 81°07.15' | N 22°42.26' | 162°10.88' | 2°51.98' | S 0°31.21' | 203°22.28' | 321°40.57' | S 16°25.82' | **10** |
| **11** | 351°22.32' | 188°43.00' | S 2°16.06' | 98°57.38' | 81°07.94' | N 22°42.39' | 177°13.64' | 2°51.68' | S 0°31.34' | 218°24.82' | 321°40.50' | S 16°25.84' | **11** |
| **12** | 6°21.92' | 188°45.86' | S 2°17.31' | 113°59.06' | 81°08.73' | N 22°42.51' | 192°16.40' | 2°51.38' | S 0°31.46' | 233°27.35' | 321°40.43' | S 16°25.86' | **12** |
| **13** | 21°21.52' | 188°48.72' | S 2°18.56' | 129°00.73' | 81°09.51' | N 22°42.63' | 207°19.16' | 2°51.09' | S 0°31.59' | 248°29.88' | 321°40.36' | S 16°25.88' | **13** |
| **14** | 36°21.13' | 188°51.58' | S 2°19.82' | 144°02.41' | 81°10.30' | N 22°42.76' | 222°21.92' | 2°50.79' | S 0°31.72' | 263°32.41' | 321°40.29' | S 16°25.90' | **14** |
| **15** | 51°20.73' | 188°54.44' | S 2°21.07' | 159°04.08' | 81°11.09' | N 22°42.88' | 237°24.68' | 2°50.49' | S 0°31.84' | 278°34.95' | 321°40.23' | S 16°25.92' | **15** |
| **16** | 66°20.33' | 188°57.31' | S 2°22.32' | 174°05.76' | 81°11.87' | N 22°43.00' | 252°27.44' | 2°50.20' | S 0°31.97' | 293°37.48' | 321°40.16' | S 16°25.94' | **16** |
| **17** | 81°19.94' | 189°00.17' | S 2°23.58' | 189°07.44' | 81°12.66' | N 22°43.13' | 267°30.20' | 2°49.90' | S 0°32.09' | 308°40.01' | 321°40.09' | S 16°25.96' | **17** |
| **18** | 96°19.54' | 189°03.03' | S 2°24.83' | 204°09.12' | 81°13.44' | N 22°43.25' | 282°32.96' | 2°49.60' | S 0°32.22' | 323°42.54' | 321°40.02' | S 16°25.98' | **18** |
| **19** | 111°19.14' | 189°05.89' | S 2°26.08' | 219°10.81' | 81°14.22' | N 22°43.37' | 297°35.72' | 2°49.31' | S 0°32.34' | 338°45.07' | 321°39.96' | S 16°26.00' | **19** |
| **20** | 126°18.74' | 189°08.75' | S 2°27.34' | 234°12.49' | 81°15.01' | N 22°43.50' | 312°38.48' | 2°49.01' | S 0°32.47' | 353°47.61' | 321°39.89' | S 16°26.02' | **20** |
| **21** | 141°18.35' | 189°11.61' | S 2°28.59' | 249°14.17' | 81°15.79' | N 22°43.62' | 327°41.24' | 2°48.72' | S 0°32.59' | 8°50.14' | 321°39.82' | S 16°26.04' | **21** |
| **22** | 156°17.95' | 189°14.47' | S 2°29.84' | 264°15.86' | 81°16.56' | N 22°43.74' | 342°44.00' | 2°48.42' | S 0°32.72' | 23°52.67' | 321°39.75' | S 16°26.06' | **22** |
| **23** | 171°17.55' | 189°17.33' | S 2°31.10' | 279°17.54' | 81°17.34' | N 22°43.86' | 357°46.76' | 2°48.12' | S 0°32.84' | 38°55.20' | 321°39.69' | S 16°26.08' | **23** |
| **24** | 186°17.15' | 189°20.20' | S 2°32.35' | 294°19.23' | 81°18.12' | N 22°43.99' | 12°49.52' | 2°47.83' | S 0°32.97' | 53°57.73' | 321°39.62' | S 16°26.10' | **24** |
| | δ 14.9934° | | *d* 1.2541' | δ 15.0277° | | *d* 0.1242' | δ 15.0460° | | *d* 0.1263' | δ 15.0422° | | *d* 0.0204' | |

## *Friday, October 7th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°00.32' | 15.0030° | 192°37.03' | S 5°24.59' | 0.9567' | 35°25.18' | 14.4874° | 340°12.17' | S 13°31.38' | 14.3875' | 59.0706' | 15°37.35' | **00** |
| **01** | 198°00.50' | 15.0030° | 192°39.32' | S 5°25.55' | 0.9566' | 49°54.50' | 14.4887° | 340°45.32' | S 13°16.92' | 14.4560' | 59.0591' | 30°39.81' | **01** |
| **02** | 213°00.68' | 15.0030° | 192°41.60' | S 5°26.51' | 0.9565' | 64°23.90' | 14.4900° | 341°18.38' | S 13°02.40' | 14.5228' | 59.0474' | 45°42.28' | **02** |
| **03** | 228°00.86' | 15.0030° | 192°43.88' | S 5°27.46' | 0.9564' | 78°53.37' | 14.4912° | 341°51.37' | S 12°47.81' | 14.5880' | 59.0355' | 60°44.74' | **03** |
| **04** | 243°01.04' | 15.0030° | 192°46.16' | S 5°28.42' | 0.9562' | 93°22.92' | 14.4925° | 342°24.29' | S 12°33.16' | 14.6515' | 59.0234' | 75°47.21' | **04** |
| **05** | 258°01.23' | 15.0030° | 192°48.44' | S 5°29.37' | 0.9561' | 107°52.54' | 14.4937° | 342°57.13' | S 12°18.45' | 14.7133' | 59.0110' | 90°49.67' | **05** |
| **06** | 273°01.41' | 15.0030° | 192°50.73' | S 5°30.33' | 0.9560' | 122°22.23' | 14.4949° | 343°29.90' | S 12°03.68' | 14.7735' | 58.9984' | 105°52.13' | **06** |
| **07** | 288°01.59' | 15.0030° | 192°53.01' | S 5°31.29' | 0.9559' | 136°52.00' | 14.4961° | 344°02.60' | S 11°48.84' | 14.8320' | 58.9856' | 120°54.60' | **07** |
| **08** | 303°01.77' | 15.0030° | 192°55.29' | S 5°32.24' | 0.9557' | 151°21.84' | 14.4973° | 344°35.22' | S 11°33.95' | 14.8889' | 58.9726' | 135°57.06' | **08** |
| **09** | 318°01.95' | 15.0030° | 192°57.58' | S 5°33.20' | 0.9556' | 165°51.75' | 14.4985° | 345°07.78' | S 11°19.01' | 14.9442' | 58.9593' | 150°59.53' | **09** |
| **10** | 333°02.13' | 15.0030° | 192°59.86' | S 5°34.15' | 0.9555' | 180°21.73' | 14.4996° | 345°40.27' | S 11°04.01' | 14.9978' | 58.9458' | 166°01.99' | **10** |
| **11** | 348°02.31' | 15.0030° | 193°02.14' | S 5°35.11' | 0.9554' | 194°51.77' | 14.5008° | 346°12.68' | S 10°48.96' | 15.0498' | 58.9321' | 181°04.45' | **11** |
| **12** | 3°02.49' | 15.0030° | 193°04.43' | S 5°36.06' | 0.9552' | 209°21.89' | 14.5019° | 346°45.03' | S 10°33.86' | 15.1001' | 58.9181' | 196°06.92' | **12** |
| **13** | 18°02.67' | 15.0030° | 193°06.71' | S 5°37.02' | 0.9551' | 223°52.07' | 14.5030° | 347°17.32' | S 10°18.71' | 15.1489' | 58.9040' | 211°09.38' | **13** |
| **14** | 33°02.85' | 15.0030° | 193°08.99' | S 5°37.97' | 0.9550' | 238°22.31' | 14.5041° | 347°49.54' | S 10°03.52' | 15.1960' | 58.8896' | 226°11.85' | **14** |
| **15** | 48°03.03' | 15.0030° | 193°11.28' | S 5°38.93' | 0.9548' | 252°52.62' | 14.5052° | 348°21.69' | S 9°48.28' | 15.2415' | 58.8749' | 241°14.31' | **15** |
| **16** | 63°03.21' | 15.0030° | 193°13.56' | S 5°39.88' | 0.9547' | 267°22.99' | 14.5062° | 348°53.78' | S 9°32.99' | 15.2854' | 58.8601' | 256°16.77' | **16** |
| **17** | 78°03.39' | 15.0030° | 193°15.85' | S 5°40.84' | 0.9546' | 281°53.43' | 14.5073° | 349°25.81' | S 9°17.66' | 15.3277' | 58.8450' | 271°19.24' | **17** |
| **18** | 93°03.57' | 15.0030° | 193°18.13' | S 5°41.79' | 0.9545' | 296°23.93' | 14.5083° | 349°57.78' | S 9°02.29' | 15.3684' | 58.8297' | 286°21.70' | **18** |
| **19** | 108°03.75' | 15.0030° | 193°20.42' | S 5°42.75' | 0.9543' | 310°54.48' | 14.5093° | 350°29.68' | S 8°46.89' | 15.4075' | 58.8142' | 301°24.17' | **19** |
| **20** | 123°03.93' | 15.0030° | 193°22.70' | S 5°43.70' | 0.9542' | 325°25.10' | 14.5103° | 351°01.53' | S 8°31.44' | 15.4451' | 58.7985' | 316°26.63' | **20** |
| **21** | 138°04.11' | 15.0030° | 193°24.99' | S 5°44.65' | 0.9541' | 339°55.77' | 14.5112° | 351°33.32' | S 8°15.96' | 15.4810' | 58.7825' | 331°29.09' | **21** |
| **22** | 153°04.29' | 15.0030° | 193°27.27' | S 5°45.61' | 0.9539' | 354°26.51' | 14.5122° | 352°05.05' | S 8°00.45' | 15.5154' | 58.7663' | 346°31.56' | **22** |
| **23** | 168°04.47' | 15.0030° | 193°29.56' | S 5°46.56' | 0.9538' | 8°57.29' | 14.5131° | 352°36.73' | S 7°44.90' | 15.5482' | 58.7499' | 1°34.02' | **23** |
| **24** | 183°04.64' | 15.0030° | 193°31.84' | S 5°47.52' | 0.9537' | 23°28.14' | 14.5140° | 353°08.35' | S 7°29.32' | 15.5795' | 58.7333' | 16°36.49' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0023' | hp (π) 0.1466' | ½Ø 16.0541' | 92.9831678708829 % +gib |
| | EoT at 12:00 UTC : +12m 10s (δ 0.72 s/h) | | Phase at 12:00 UTC : 149.51° | |
| | Meridian Pass. Time : 11:47:50.029 | | Age : 11.6 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.20') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 186°17.15' | 189°20.20' | S 2°32.35' | 294°19.23' | 81°18.12' | N 22°43.99' | 12°49.52' | 2°47.83' | S 0°32.97' | 53°57.73' | 321°39.62' | S 16°26.10' | **00** |
| **01** | 201°16.76' | 189°23.06' | S 2°33.60' | 309°20.92' | 81°18.89' | N 22°44.11' | 27°52.28' | 2°47.53' | S 0°33.09' | 69°00.26' | 321°39.55' | S 16°26.12' | **01** |
| **02** | 216°16.36' | 189°25.92' | S 2°34.86' | 324°22.61' | 81°19.67' | N 22°44.23' | 42°55.04' | 2°47.24' | S 0°33.22' | 84°02.79' | 321°39.49' | S 16°26.14' | **02** |
| **03** | 231°15.96' | 189°28.78' | S 2°36.11' | 339°24.30' | 81°20.44' | N 22°44.35' | 57°57.80' | 2°46.94' | S 0°33.34' | 99°05.32' | 321°39.42' | S 16°26.15' | **03** |
| **04** | 246°15.56' | 189°31.64' | S 2°37.36' | 354°25.99' | 81°21.22' | N 22°44.48' | 73°00.56' | 2°46.65' | S 0°33.47' | 114°07.85' | 321°39.35' | S 16°26.17' | **04** |
| **05** | 261°15.17' | 189°34.50' | S 2°38.61' | 9°27.68' | 81°21.99' | N 22°44.60' | 88°03.32' | 2°46.35' | S 0°33.59' | 129°10.38' | 321°39.29' | S 16°26.19' | **05** |
| **06** | 276°14.77' | 189°37.37' | S 2°39.87' | 24°29.38' | 81°22.76' | N 22°44.72' | 103°06.08' | 2°46.05' | S 0°33.72' | 144°12.91' | 321°39.22' | S 16°26.21' | **06** |
| **07** | 291°14.37' | 189°40.23' | S 2°41.12' | 39°31.07' | 81°23.53' | N 22°44.84' | 118°08.84' | 2°45.76' | S 0°33.84' | 159°15.44' | 321°39.16' | S 16°26.23' | **07** |
| **08** | 306°13.97' | 189°43.09' | S 2°42.37' | 54°32.77' | 81°24.29' | N 22°44.96' | 133°11.60' | 2°45.46' | S 0°33.97' | 174°17.97' | 321°39.09' | S 16°26.25' | **08** |
| **09** | 321°13.57' | 189°45.95' | S 2°43.62' | 69°34.46' | 81°25.06' | N 22°45.09' | 148°14.36' | 2°45.17' | S 0°34.09' | 189°20.50' | 321°39.03' | S 16°26.27' | **09** |
| **10** | 336°13.17' | 189°48.82' | S 2°44.88' | 84°36.16' | 81°25.83' | N 22°45.21' | 163°17.12' | 2°44.88' | S 0°34.22' | 204°23.03' | 321°38.96' | S 16°26.29' | **10** |
| **11** | 351°12.78' | 189°51.68' | S 2°46.13' | 99°37.86' | 81°26.59' | N 22°45.33' | 178°19.87' | 2°44.58' | S 0°34.34' | 219°25.56' | 321°38.90' | S 16°26.31' | **11** |
| **12** | 6°12.38' | 189°54.54' | S 2°47.38' | 114°39.56' | 81°27.36' | N 22°45.45' | 193°22.63' | 2°44.29' | S 0°34.47' | 234°28.09' | 321°38.83' | S 16°26.32' | **12** |
| **13** | 21°11.98' | 189°57.40' | S 2°48.63' | 129°41.26' | 81°28.12' | N 22°45.57' | 208°25.39' | 2°43.99' | S 0°34.59' | 249°30.62' | 321°38.77' | S 16°26.34' | **13** |
| **14** | 36°11.58' | 190°00.27' | S 2°49.88' | 144°42.97' | 81°28.88' | N 22°45.70' | 223°28.15' | 2°43.70' | S 0°34.72' | 264°33.14' | 321°38.70' | S 16°26.36' | **14** |
| **15** | 51°11.18' | 190°03.13' | S 2°51.14' | 159°44.67' | 81°29.64' | N 22°45.82' | 238°30.91' | 2°43.40' | S 0°34.84' | 279°35.67' | 321°38.64' | S 16°26.38' | **15** |
| **16** | 66°10.78' | 190°05.99' | S 2°52.39' | 174°46.37' | 81°30.40' | N 22°45.94' | 253°33.67' | 2°43.11' | S 0°34.96' | 294°38.20' | 321°38.57' | S 16°26.40' | **16** |
| **17** | 81°10.38' | 190°08.86' | S 2°53.64' | 189°48.08' | 81°31.16' | N 22°46.06' | 268°36.42' | 2°42.81' | S 0°35.09' | 309°40.73' | 321°38.51' | S 16°26.42' | **17** |
| **18** | 96°09.98' | 190°11.72' | S 2°54.89' | 204°49.79' | 81°31.92' | N 22°46.18' | 283°39.18' | 2°42.52' | S 0°35.21' | 324°43.26' | 321°38.45' | S 16°26.43' | **18** |
| **19** | 111°09.58' | 190°14.58' | S 2°56.14' | 219°51.49' | 81°32.67' | N 22°46.30' | 298°41.94' | 2°42.23' | S 0°35.34' | 339°45.78' | 321°38.38' | S 16°26.45' | **19** |
| **20** | 126°09.18' | 190°17.45' | S 2°57.40' | 234°53.20' | 81°33.43' | N 22°46.42' | 313°44.70' | 2°41.93' | S 0°35.46' | 354°48.31' | 321°38.32' | S 16°26.47' | **20** |
| **21** | 141°08.78' | 190°20.31' | S 2°58.65' | 249°54.91' | 81°34.18' | N 22°46.54' | 328°47.46' | 2°41.64' | S 0°35.58' | 9°50.84' | 321°38.26' | S 16°26.49' | **21** |
| **22** | 156°08.38' | 190°23.18' | S 2°59.90' | 264°56.62' | 81°34.94' | N 22°46.67' | 343°50.21' | 2°41.35' | S 0°35.71' | 24°53.37' | 321°38.19' | S 16°26.51' | **22** |
| **23** | 171°07.98' | 190°26.04' | S 3°01.15' | 279°58.34' | 81°35.69' | N 22°46.79' | 358°52.97' | 2°41.05' | S 0°35.83' | 39°55.89' | 321°38.13' | S 16°26.52' | **23** |
| **24** | 186°07.58' | 190°28.90' | S 3°02.40' | 295°00.05' | 81°36.44' | N 22°46.91' | 13°55.73' | 2°40.76' | S 0°35.96' | 54°58.42' | 321°38.07' | S 16°26.54' | **24** |
| | δ 14.9934° | | *d* 1.2529' | δ 15.0281° | | *d* 0.1225' | δ 15.0460° | | *d* 0.1251' | δ 15.0422° | | *d* 0.0192' | |

## *Saturday, October 8th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°04.64' | 15.0030° | 193°31.84' | S 5°47.52' | 0.9537' | 23°28.14' | 14.5140° | 353°08.35' | S 7°29.32' | 15.5795' | 58.7333' | 16°36.49' | **00** |
| **01** | 198°04.82' | 15.0030° | 193°34.13' | S 5°48.47' | 0.9535' | 37°59.03' | 14.5149° | 353°39.92' | S 7°13.71' | 15.6092' | 58.7165' | 31°38.95' | **01** |
| **02** | 213°05.00' | 15.0030° | 193°36.41' | S 5°49.42' | 0.9534' | 52°29.98' | 14.5158° | 354°11.43' | S 6°58.07' | 15.6374' | 58.6994' | 46°41.42' | **02** |
| **03** | 228°05.18' | 15.0030° | 193°38.70' | S 5°50.38' | 0.9533' | 67°00.99' | 14.5167° | 354°42.89' | S 6°42.41' | 15.6640' | 58.6821' | 61°43.88' | **03** |
| **04** | 243°05.36' | 15.0030° | 193°40.99' | S 5°51.33' | 0.9531' | 81°32.04' | 14.5175° | 355°14.31' | S 6°26.72' | 15.6891' | 58.6647' | 76°46.34' | **04** |
| **05** | 258°05.53' | 15.0030° | 193°43.27' | S 5°52.28' | 0.9530' | 96°03.14' | 14.5184° | 355°45.67' | S 6°11.01' | 15.7127' | 58.6470' | 91°48.81' | **05** |
| **06** | 273°05.71' | 15.0030° | 193°45.56' | S 5°53.24' | 0.9529' | 110°34.29' | 14.5192° | 356°16.98' | S 5°55.27' | 15.7347' | 58.6290' | 106°51.27' | **06** |
| **07** | 288°05.89' | 15.0030° | 193°47.85' | S 5°54.19' | 0.9527' | 125°05.49' | 14.5200° | 356°48.25' | S 5°39.52' | 15.7553' | 58.6109' | 121°53.74' | **07** |
| **08** | 303°06.06' | 15.0029° | 193°50.14' | S 5°55.14' | 0.9526' | 139°36.73' | 14.5207° | 357°19.47' | S 5°23.74' | 15.7743' | 58.5926' | 136°56.20' | **08** |
| **09** | 318°06.24' | 15.0029° | 193°52.42' | S 5°56.09' | 0.9525' | 154°08.02' | 14.5215° | 357°50.64' | S 5°07.95' | 15.7918' | 58.5740' | 151°58.66' | **09** |
| **10** | 333°06.42' | 15.0029° | 193°54.71' | S 5°57.05' | 0.9523' | 168°39.36' | 14.5222° | 358°21.77' | S 4°52.14' | 15.8079' | 58.5553' | 167°01.13' | **10** |
| **11** | 348°06.59' | 15.0029° | 193°57.00' | S 5°58.00' | 0.9522' | 183°10.73' | 14.5229° | 358°52.86' | S 4°36.32' | 15.8224' | 58.5363' | 182°03.59' | **11** |
| **12** | 3°06.77' | 15.0029° | 193°59.29' | S 5°58.95' | 0.9521' | 197°42.15' | 14.5236° | 359°23.90' | S 4°20.48' | 15.8355' | 58.5171' | 197°06.06' | **12** |
| **13** | 18°06.95' | 15.0029° | 194°01.57' | S 5°59.90' | 0.9519' | 212°13.61' | 14.5243° | 359°54.91' | S 4°04.64' | 15.8471' | 58.4978' | 212°08.52' | **13** |
| **14** | 33°07.12' | 15.0029° | 194°03.86' | S 6°00.85' | 0.9518' | 226°45.11' | 14.5250° | 0°25.87' | S 3°48.78' | 15.8572' | 58.4782' | 227°10.98' | **14** |
| **15** | 48°07.30' | 15.0029° | 194°06.15' | S 6°01.80' | 0.9516' | 241°16.65' | 14.5256° | 0°56.80' | S 3°32.91' | 15.8659' | 58.4584' | 242°13.45' | **15** |
| **16** | 63°07.47' | 15.0029° | 194°08.44' | S 6°02.76' | 0.9515' | 255°48.22' | 14.5263° | 1°27.69' | S 3°17.04' | 15.8731' | 58.4384' | 257°15.91' | **16** |
| **17** | 78°07.65' | 15.0029° | 194°10.73' | S 6°03.71' | 0.9514' | 270°19.83' | 14.5269° | 1°58.54' | S 3°01.16' | 15.8788' | 58.4183' | 272°18.38' | **17** |
| **18** | 93°07.82' | 15.0029° | 194°13.02' | S 6°04.66' | 0.9512' | 284°51.48' | 14.5275° | 2°29.36' | S 2°45.28' | 15.8832' | 58.3979' | 287°20.84' | **18** |
| **19** | 108°08.00' | 15.0029° | 194°15.31' | S 6°05.61' | 0.9511' | 299°23.16' | 14.5280° | 3°00.14' | S 2°29.39' | 15.8860' | 58.3773' | 302°23.30' | **19** |
| **20** | 123°08.17' | 15.0029° | 194°17.60' | S 6°06.56' | 0.9509' | 313°54.88' | 14.5286° | 3°30.89' | S 2°13.50' | 15.8875' | 58.3566' | 317°25.77' | **20** |
| **21** | 138°08.35' | 15.0029° | 194°19.89' | S 6°07.51' | 0.9508' | 328°26.62' | 14.5291° | 4°01.61' | S 1°57.62' | 15.8875' | 58.3356' | 332°28.23' | **21** |
| **22** | 153°08.52' | 15.0029° | 194°22.18' | S 6°08.46' | 0.9507' | 342°58.40' | 14.5296° | 4°32.29' | S 1°41.73' | 15.8862' | 58.3145' | 347°30.70' | **22** |
| **23** | 168°08.69' | 15.0029° | 194°24.47' | S 6°09.41' | 0.9505' | 357°30.21' | 14.5301° | 5°02.95' | S 1°25.85' | 15.8834' | 58.2931' | 2°33.16' | **23** |
| **24** | 183°08.87' | 15.0029° | 194°26.76' | S 6°10.36' | 0.9504' | 12°02.05' | 14.5306° | 5°33.58' | S 1°09.97' | 15.8792' | 58.2716' | 17°35.62' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 16.0070' | hp (π) 0.1467' | ½Ø 15.9448' | 97.6033712433005 % +gib | |
| | EoT at 12:00 UTC : +12m 27s (δ 0.70 s/h) | | Phase at 12:00 UTC : 162.53° | | |
| | Meridian Pass. Time : 11:47:32.922 | | Age : 12.6 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.20') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 186°07.58' | 190°28.90' | S 3°02.40' | 295°00.05' | 81°36.44' | N 22°46.91' | 13°55.73' | 2°40.76' | S 0°35.96' | 54°58.42' | 321°38.07' | S 16°26.54' | **00** |
| **01** | 201°07.18' | 190°31.77' | S 3°03.65' | 310°01.76' | 81°37.19' | N 22°47.03' | 28°58.49' | 2°40.47' | S 0°36.08' | 70°00.95' | 321°38.00' | S 16°26.56' | **01** |
| **02** | 216°06.78' | 190°34.63' | S 3°04.90' | 325°03.48' | 81°37.94' | N 22°47.15' | 44°01.24' | 2°40.17' | S 0°36.20' | 85°03.47' | 321°37.94' | S 16°26.58' | **02** |
| **03** | 231°06.38' | 190°37.50' | S 3°06.16' | 340°05.20' | 81°38.68' | N 22°47.27' | 59°04.00' | 2°39.88' | S 0°36.33' | 100°06.00' | 321°37.88' | S 16°26.60' | **03** |
| **04** | 246°05.98' | 190°40.36' | S 3°07.41' | 355°06.91' | 81°39.43' | N 22°47.39' | 74°06.76' | 2°39.59' | S 0°36.45' | 115°08.53' | 321°37.82' | S 16°26.61' | **04** |
| **05** | 261°05.58' | 190°43.23' | S 3°08.66' | 10°08.63' | 81°40.18' | N 22°47.51' | 89°09.51' | 2°39.29' | S 0°36.57' | 130°11.05' | 321°37.75' | S 16°26.63' | **05** |
| **06** | 276°05.18' | 190°46.09' | S 3°09.91' | 25°10.35' | 81°40.92' | N 22°47.63' | 104°12.27' | 2°39.00' | S 0°36.70' | 145°13.58' | 321°37.69' | S 16°26.65' | **06** |
| **07** | 291°04.78' | 190°48.96' | S 3°11.16' | 40°12.07' | 81°41.66' | N 22°47.75' | 119°15.03' | 2°38.71' | S 0°36.82' | 160°16.10' | 321°37.63' | S 16°26.67' | **07** |
| **08** | 306°04.38' | 190°51.82' | S 3°12.41' | 55°13.79' | 81°42.40' | N 22°47.87' | 134°17.78' | 2°38.42' | S 0°36.94' | 175°18.63' | 321°37.57' | S 16°26.68' | **08** |
| **09** | 321°03.98' | 190°54.69' | S 3°13.66' | 70°15.52' | 81°43.15' | N 22°47.99' | 149°20.54' | 2°38.12' | S 0°37.07' | 190°21.16' | 321°37.51' | S 16°26.70' | **09** |
| **10** | 336°03.57' | 190°57.55' | S 3°14.91' | 85°17.24' | 81°43.89' | N 22°48.11' | 164°23.30' | 2°37.83' | S 0°37.19' | 205°23.68' | 321°37.45' | S 16°26.72' | **10** |
| **11** | 351°03.17' | 191°00.42' | S 3°16.16' | 100°18.97' | 81°44.62' | N 22°48.23' | 179°26.05' | 2°37.54' | S 0°37.31' | 220°26.21' | 321°37.39' | S 16°26.74' | **11** |
| **12** | 6°02.77' | 191°03.28' | S 3°17.41' | 115°20.69' | 81°45.36' | N 22°48.35' | 194°28.81' | 2°37.25' | S 0°37.44' | 235°28.73' | 321°37.32' | S 16°26.75' | **12** |
| **13** | 21°02.37' | 191°06.15' | S 3°18.66' | 130°22.42' | 81°46.10' | N 22°48.47' | 209°31.57' | 2°36.95' | S 0°37.56' | 250°31.26' | 321°37.26' | S 16°26.77' | **13** |
| **14** | 36°01.97' | 191°09.02' | S 3°19.91' | 145°24.15' | 81°46.83' | N 22°48.60' | 224°34.32' | 2°36.66' | S 0°37.68' | 265°33.78' | 321°37.20' | S 16°26.79' | **14** |
| **15** | 51°01.57' | 191°11.88' | S 3°21.16' | 160°25.88' | 81°47.57' | N 22°48.72' | 239°37.08' | 2°36.37' | S 0°37.81' | 280°36.31' | 321°37.14' | S 16°26.80' | **15** |
| **16** | 66°01.16' | 191°14.75' | S 3°22.41' | 175°27.61' | 81°48.30' | N 22°48.84' | 254°39.83' | 2°36.08' | S 0°37.93' | 295°38.83' | 321°37.08' | S 16°26.82' | **16** |
| **17** | 81°00.76' | 191°17.61' | S 3°23.66' | 190°29.34' | 81°49.03' | N 22°48.96' | 269°42.59' | 2°35.79' | S 0°38.05' | 310°41.35' | 321°37.02' | S 16°26.84' | **17** |
| **18** | 96°00.36' | 191°20.48' | S 3°24.91' | 205°31.08' | 81°49.76' | N 22°49.07' | 284°45.34' | 2°35.50' | S 0°38.17' | 325°43.88' | 321°36.96' | S 16°26.86' | **18** |
| **19** | 110°59.96' | 191°23.35' | S 3°26.16' | 220°32.81' | 81°50.49' | N 22°49.19' | 299°48.10' | 2°35.20' | S 0°38.30' | 340°46.40' | 321°36.90' | S 16°26.87' | **19** |
| **20** | 125°59.55' | 191°26.21' | S 3°27.41' | 235°34.55' | 81°51.22' | N 22°49.31' | 314°50.85' | 2°34.91' | S 0°38.42' | 355°48.93' | 321°36.84' | S 16°26.89' | **20** |
| **21** | 140°59.15' | 191°29.08' | S 3°28.66' | 250°36.28' | 81°51.95' | N 22°49.43' | 329°53.61' | 2°34.62' | S 0°38.54' | 10°51.45' | 321°36.78' | S 16°26.91' | **21** |
| **22** | 155°58.75' | 191°31.95' | S 3°29.91' | 265°38.02' | 81°52.68' | N 22°49.55' | 344°56.36' | 2°34.33' | S 0°38.66' | 25°53.97' | 321°36.72' | S 16°26.92' | **22** |
| **23** | 170°58.34' | 191°34.82' | S 3°31.16' | 280°39.76' | 81°53.40' | N 22°49.67' | 359°59.12' | 2°34.04' | S 0°38.79' | 40°56.50' | 321°36.66' | S 16°26.94' | **23** |
| **24** | 185°57.94' | 191°37.68' | S 3°32.41' | 295°41.50' | 81°54.12' | N 22°49.79' | 15°01.87' | 2°33.75' | S 0°38.91' | 55°59.02' | 321°36.61' | S 16°26.96' | **24** |
| | δ 14.9933° | | *d* 1.2513' | δ 15.0286° | | *d* 0.1209' | δ 15.0460° | | *d* 0.1237' | δ 15.0421° | | *d* 0.0179' | |

## *Sunday, October 9th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°08.87' | 15.0029° | 194°26.76' | S 6°10.36' | 0.9504' | 12°02.05' | 14.5306° | 5°33.58' | S 1°09.97' | 15.8792' | 58.2716' | 17°35.62' | **00** |
| **01** | 198°09.04' | 15.0029° | 194°29.05' | S 6°11.31' | 0.9502' | 26°33.91' | 14.5311° | 6°04.18' | S 0°54.09' | 15.8736' | 58.2499' | 32°38.09' | **01** |
| **02** | 213°09.22' | 15.0029° | 194°31.34' | S 6°12.26' | 0.9501' | 41°05.80' | 14.5315° | 6°34.75' | S 0°38.23' | 15.8667' | 58.2280' | 47°40.55' | **02** |
| **03** | 228°09.39' | 15.0029° | 194°33.63' | S 6°13.21' | 0.9500' | 55°37.71' | 14.5319° | 7°05.30' | S 0°22.37' | 15.8583' | 58.2060' | 62°43.02' | **03** |
| **04** | 243°09.56' | 15.0029° | 194°35.92' | S 6°14.16' | 0.9498' | 70°09.65' | 14.5323° | 7°35.83' | S 0°06.52' | 15.8486' | 58.1837' | 77°45.48' | **04** |
| **05** | 258°09.73' | 15.0029° | 194°38.21' | S 6°15.11' | 0.9497' | 84°41.62' | 14.5327° | 8°06.33' | N 0°09.32' | 15.8375' | 58.1613' | 92°47.94' | **05** |
| **06** | 273°09.91' | 15.0029° | 194°40.50' | S 6°16.06' | 0.9495' | 99°13.60' | 14.5331° | 8°36.80' | N 0°25.14' | 15.8251' | 58.1387' | 107°50.41' | **06** |
| **07** | 288°10.08' | 15.0029° | 194°42.79' | S 6°17.01' | 0.9494' | 113°45.61' | 14.5334° | 9°07.26' | N 0°40.95' | 15.8113' | 58.1160' | 122°52.87' | **07** |
| **08** | 303°10.25' | 15.0029° | 194°45.08' | S 6°17.96' | 0.9492' | 128°17.64' | 14.5338° | 9°37.70' | N 0°56.75' | 15.7962' | 58.0931' | 137°55.34' | **08** |
| **09** | 318°10.42' | 15.0029° | 194°47.38' | S 6°18.91' | 0.9491' | 142°49.68' | 14.5341° | 10°08.12' | N 1°12.53' | 15.7797' | 58.0700' | 152°57.80' | **09** |
| **10** | 333°10.60' | 15.0029° | 194°49.67' | S 6°19.86' | 0.9490' | 157°21.75' | 14.5344° | 10°38.52' | N 1°28.29' | 15.7619' | 58.0467' | 168°00.26' | **10** |
| **11** | 348°10.77' | 15.0029° | 194°51.96' | S 6°20.81' | 0.9488' | 171°53.83' | 14.5347° | 11°08.90' | N 1°44.03' | 15.7428' | 58.0233' | 183°02.73' | **11** |
| **12** | 3°10.94' | 15.0029° | 194°54.25' | S 6°21.76' | 0.9487' | 186°25.92' | 14.5349° | 11°39.27' | N 1°59.76' | 15.7223' | 57.9997' | 198°05.19' | **12** |
| **13** | 18°11.11' | 15.0029° | 194°56.54' | S 6°22.71' | 0.9485' | 200°58.03' | 14.5352° | 12°09.62' | N 2°15.46' | 15.7006' | 57.9760' | 213°07.66' | **13** |
| **14** | 33°11.28' | 15.0029° | 194°58.84' | S 6°23.65' | 0.9484' | 215°30.16' | 14.5354° | 12°39.96' | N 2°31.13' | 15.6775' | 57.9521' | 228°10.12' | **14** |
| **15** | 48°11.45' | 15.0028° | 195°01.13' | S 6°24.60' | 0.9482' | 230°02.30' | 14.5356° | 13°10.29' | N 2°46.79' | 15.6531' | 57.9281' | 243°12.58' | **15** |
| **16** | 63°11.62' | 15.0028° | 195°03.42' | S 6°25.55' | 0.9481' | 244°34.45' | 14.5358° | 13°40.60' | N 3°02.41' | 15.6275' | 57.9039' | 258°15.05' | **16** |
| **17** | 78°11.79' | 15.0028° | 195°05.72' | S 6°26.50' | 0.9479' | 259°06.61' | 14.5360° | 14°10.91' | N 3°18.01' | 15.6005' | 57.8795' | 273°17.51' | **17** |
| **18** | 93°11.96' | 15.0028° | 195°08.01' | S 6°27.45' | 0.9478' | 273°38.78' | 14.5362° | 14°41.20' | N 3°33.59' | 15.5723' | 57.8551' | 288°19.98' | **18** |
| **19** | 108°12.14' | 15.0028° | 195°10.31' | S 6°28.39' | 0.9476' | 288°10.95' | 14.5363° | 15°11.49' | N 3°49.13' | 15.5428' | 57.8305' | 303°22.44' | **19** |
| **20** | 123°12.31' | 15.0028° | 195°12.60' | S 6°29.34' | 0.9475' | 302°43.14' | 14.5364° | 15°41.76' | N 4°04.64' | 15.5121' | 57.8057' | 318°24.90' | **20** |
| **21** | 138°12.47' | 15.0028° | 195°14.89' | S 6°30.29' | 0.9473' | 317°15.33' | 14.5365° | 16°12.04' | N 4°20.12' | 15.4800' | 57.7808' | 333°27.37' | **21** |
| **22** | 153°12.64' | 15.0028° | 195°17.19' | S 6°31.24' | 0.9472' | 331°47.53' | 14.5366° | 16°42.30' | N 4°35.57' | 15.4468' | 57.7558' | 348°29.83' | **22** |
| **23** | 168°12.81' | 15.0028° | 195°19.48' | S 6°32.18' | 0.9470' | 346°19.73' | 14.5367° | 17°12.56' | N 4°50.98' | 15.4123' | 57.7307' | 3°32.30' | **23** |
| **24** | 183°12.98' | 15.0028° | 195°21.78' | S 6°33.13' | 0.9469' | 0°51.94' | 14.5368° | 17°42.82' | N 5°06.36' | 15.3765' | 57.7054' | 18°34.76' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0116' | hp (π) 0.1467' | ½Ø 15.8038' | 99.7761315589717 % +gib |
| | EoT at 12:00 UTC : +12m 43s (δ 0.69 s/h) | | Phase at 12:00 UTC : 175.32° | |
| | Meridian Pass. Time : 11:47:16.241 | | Age : 13.6 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.20') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 185°57.94' | 191°37.68' | S 3°32.41' | 295°41.50' | 81°54.12' | N 22°49.79' | 15°01.87' | 2°33.75' | S 0°38.91' | 55°59.02' | 321°36.61' | S 16°26.96' | **00** |
| **01** | 200°57.54' | 191°40.55' | S 3°33.66' | 310°43.24' | 81°54.85' | N 22°49.91' | 30°04.63' | 2°33.46' | S 0°39.03' | 71°01.54' | 321°36.55' | S 16°26.97' | **01** |
| **02** | 215°57.13' | 191°43.42' | S 3°34.91' | 325°44.98' | 81°55.57' | N 22°50.03' | 45°07.38' | 2°33.17' | S 0°39.15' | 86°04.06' | 321°36.49' | S 16°26.99' | **02** |
| **03** | 230°56.73' | 191°46.29' | S 3°36.16' | 340°46.73' | 81°56.29' | N 22°50.15' | 60°10.14' | 2°32.88' | S 0°39.28' | 101°06.59' | 321°36.43' | S 16°27.01' | **03** |
| **04** | 245°56.33' | 191°49.15' | S 3°37.40' | 355°48.47' | 81°57.01' | N 22°50.27' | 75°12.89' | 2°32.59' | S 0°39.40' | 116°09.11' | 321°36.37' | S 16°27.02' | **04** |
| **05** | 260°55.92' | 191°52.02' | S 3°38.65' | 10°50.22' | 81°57.73' | N 22°50.39' | 90°15.65' | 2°32.30' | S 0°39.52' | 131°11.63' | 321°36.31' | S 16°27.04' | **05** |
| **06** | 275°55.52' | 191°54.89' | S 3°39.90' | 25°51.96' | 81°58.45' | N 22°50.51' | 105°18.40' | 2°32.01' | S 0°39.64' | 146°14.15' | 321°36.25' | S 16°27.05' | **06** |
| **07** | 290°55.11' | 191°57.76' | S 3°41.15' | 40°53.71' | 81°59.16' | N 22°50.63' | 120°21.15' | 2°31.72' | S 0°39.76' | 161°16.67' | 321°36.20' | S 16°27.07' | **07** |
| **08** | 305°54.71' | 192°00.63' | S 3°42.40' | 55°55.46' | 81°59.88' | N 22°50.75' | 135°23.91' | 2°31.43' | S 0°39.88' | 176°19.20' | 321°36.14' | S 16°27.09' | **08** |
| **09** | 320°54.31' | 192°03.49' | S 3°43.65' | 70°57.21' | 82°00.59' | N 22°50.87' | 150°26.66' | 2°31.14' | S 0°40.01' | 191°21.72' | 321°36.08' | S 16°27.10' | **09** |
| **10** | 335°53.90' | 192°06.36' | S 3°44.89' | 85°58.96' | 82°01.30' | N 22°50.99' | 165°29.42' | 2°30.85' | S 0°40.13' | 206°24.24' | 321°36.02' | S 16°27.12' | **10** |
| **11** | 350°53.50' | 192°09.23' | S 3°46.14' | 101°00.71' | 82°02.02' | N 22°51.10' | 180°32.17' | 2°30.56' | S 0°40.25' | 221°26.76' | 321°35.97' | S 16°27.14' | **11** |
| **12** | 5°53.09' | 192°12.10' | S 3°47.39' | 116°02.47' | 82°02.73' | N 22°51.22' | 195°34.92' | 2°30.27' | S 0°40.37' | 236°29.28' | 321°35.91' | S 16°27.15' | **12** |
| **13** | 20°52.69' | 192°14.97' | S 3°48.64' | 131°04.22' | 82°03.44' | N 22°51.34' | 210°37.68' | 2°29.98' | S 0°40.49' | 251°31.80' | 321°35.85' | S 16°27.17' | **13** |
| **14** | 35°52.28' | 192°17.84' | S 3°49.89' | 146°05.98' | 82°04.14' | N 22°51.46' | 225°40.43' | 2°29.69' | S 0°40.61' | 266°34.32' | 321°35.80' | S 16°27.18' | **14** |
| **15** | 50°51.87' | 192°20.71' | S 3°51.13' | 161°07.73' | 82°04.85' | N 22°51.58' | 240°43.18' | 2°29.40' | S 0°40.74' | 281°36.84' | 321°35.74' | S 16°27.20' | **15** |
| **16** | 65°51.47' | 192°23.58' | S 3°52.38' | 176°09.49' | 82°05.56' | N 22°51.70' | 255°45.94' | 2°29.11' | S 0°40.86' | 296°39.36' | 321°35.68' | S 16°27.21' | **16** |
| **17** | 80°51.06' | 192°26.45' | S 3°53.63' | 191°11.25' | 82°06.26' | N 22°51.82' | 270°48.69' | 2°28.82' | S 0°40.98' | 311°41.88' | 321°35.63' | S 16°27.23' | **17** |
| **18** | 95°50.66' | 192°29.32' | S 3°54.88' | 206°13.01' | 82°06.97' | N 22°51.94' | 285°51.44' | 2°28.54' | S 0°41.10' | 326°44.40' | 321°35.57' | S 16°27.25' | **18** |
| **19** | 110°50.25' | 192°32.19' | S 3°56.12' | 221°14.77' | 82°07.67' | N 22°52.05' | 300°54.19' | 2°28.25' | S 0°41.22' | 341°46.92' | 321°35.52' | S 16°27.26' | **19** |
| **20** | 125°49.85' | 192°35.06' | S 3°57.37' | 236°16.53' | 82°08.37' | N 22°52.17' | 315°56.95' | 2°27.96' | S 0°41.34' | 356°49.44' | 321°35.46' | S 16°27.28' | **20** |
| **21** | 140°49.44' | 192°37.93' | S 3°58.62' | 251°18.30' | 82°09.07' | N 22°52.29' | 330°59.70' | 2°27.67' | S 0°41.46' | 11°51.96' | 321°35.40' | S 16°27.29' | **21** |
| **22** | 155°49.03' | 192°40.80' | S 3°59.86' | 266°20.06' | 82°09.77' | N 22°52.41' | 346°02.45' | 2°27.38' | S 0°41.58' | 26°54.48' | 321°35.35' | S 16°27.31' | **22** |
| **23** | 170°48.63' | 192°43.67' | S 4°01.11' | 281°21.83' | 82°10.47' | N 22°52.53' | 1°05.20' | 2°27.09' | S 0°41.70' | 41°57.00' | 321°35.29' | S 16°27.32' | **23** |
| **24** | 185°48.22' | 192°46.54' | S 4°02.36' | 296°23.60' | 82°11.17' | N 22°52.65' | 16°07.95' | 2°26.81' | S 0°41.83' | 56°59.52' | 321°35.24' | S 16°27.34' | **24** |
| | δ 14.9933° | | *d* 1.2491' | δ 15.0290° | | *d* 0.1195' | δ 15.0459° | | *d* 0.1223' | δ 15.0420° | | *d* 0.0166' | |

## *Monday, October 10th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°12.98' | 15.0028° | 195°21.78' | S 6°33.13' | 0.9469' | 0°51.94' | 14.5368° | 17°42.82' | N 5°06.36' | 15.3765' | 57.7054' | 18°34.76' | **00** |
| **01** | 198°13.15' | 15.0028° | 195°24.07' | S 6°34.08' | 0.9467' | 15°24.15' | 14.5368° | 18°13.08' | N 5°21.70' | 15.3395' | 57.6800' | 33°37.22' | **01** |
| **02** | 213°13.32' | 15.0028° | 195°26.37' | S 6°35.02' | 0.9466' | 29°56.36' | 14.5368° | 18°43.33' | N 5°37.00' | 15.3013' | 57.6545' | 48°39.69' | **02** |
| **03** | 228°13.49' | 15.0028° | 195°28.66' | S 6°35.97' | 0.9464' | 44°28.57' | 14.5369° | 19°13.58' | N 5°52.26' | 15.2619' | 57.6288' | 63°42.15' | **03** |
| **04** | 243°13.66' | 15.0028° | 195°30.96' | S 6°36.92' | 0.9463' | 59°00.78' | 14.5368° | 19°43.83' | N 6°07.48' | 15.2213' | 57.6031' | 78°44.62' | **04** |
| **05** | 258°13.83' | 15.0028° | 195°33.25' | S 6°37.86' | 0.9461' | 73°32.99' | 14.5368° | 20°14.09' | N 6°22.66' | 15.1795' | 57.5772' | 93°47.08' | **05** |
| **06** | 273°13.99' | 15.0028° | 195°35.55' | S 6°38.81' | 0.9460' | 88°05.20' | 14.5368° | 20°44.35' | N 6°37.80' | 15.1364' | 57.5512' | 108°49.54' | **06** |
| **07** | 288°14.16' | 15.0028° | 195°37.85' | S 6°39.75' | 0.9458' | 102°37.40' | 14.5367° | 21°14.60' | N 6°52.89' | 15.0922' | 57.5252' | 123°52.01' | **07** |
| **08** | 303°14.33' | 15.0028° | 195°40.14' | S 6°40.70' | 0.9457' | 117°09.60' | 14.5367° | 21°44.87' | N 7°07.94' | 15.0468' | 57.4990' | 138°54.47' | **08** |
| **09** | 318°14.50' | 15.0028° | 195°42.44' | S 6°41.64' | 0.9455' | 131°41.80' | 14.5366° | 22°15.14' | N 7°22.94' | 15.0002' | 57.4727' | 153°56.94' | **09** |
| **10** | 333°14.66' | 15.0028° | 195°44.74' | S 6°42.59' | 0.9453' | 146°13.99' | 14.5365° | 22°45.41' | N 7°37.89' | 14.9524' | 57.4463' | 168°59.40' | **10** |
| **11** | 348°14.83' | 15.0028° | 195°47.03' | S 6°43.53' | 0.9452' | 160°46.17' | 14.5364° | 23°15.69' | N 7°52.79' | 14.9035' | 57.4199' | 184°01.86' | **11** |
| **12** | 3°15.00' | 15.0028° | 195°49.33' | S 6°44.48' | 0.9450' | 175°18.35' | 14.5363° | 23°45.98' | N 8°07.65' | 14.8534' | 57.3933' | 199°04.33' | **12** |
| **13** | 18°15.16' | 15.0028° | 195°51.63' | S 6°45.42' | 0.9449' | 189°50.52' | 14.5361° | 24°16.28' | N 8°22.45' | 14.8022' | 57.3667' | 214°06.79' | **13** |
| **14** | 33°15.33' | 15.0028° | 195°53.93' | S 6°46.37' | 0.9447' | 204°22.67' | 14.5360° | 24°46.58' | N 8°37.20' | 14.7498' | 57.3400' | 229°09.26' | **14** |
| **15** | 48°15.50' | 15.0028° | 195°56.22' | S 6°47.31' | 0.9446' | 218°54.82' | 14.5358° | 25°16.90' | N 8°51.89' | 14.6962' | 57.3132' | 244°11.72' | **15** |
| **16** | 63°15.66' | 15.0028° | 195°58.52' | S 6°48.26' | 0.9444' | 233°26.96' | 14.5356° | 25°47.23' | N 9°06.54' | 14.6416' | 57.2863' | 259°14.19' | **16** |
| **17** | 78°15.83' | 15.0028° | 196°00.82' | S 6°49.20' | 0.9443' | 247°59.08' | 14.5354° | 26°17.57' | N 9°21.12' | 14.5858' | 57.2594' | 274°16.65' | **17** |
| **18** | 93°15.99' | 15.0028° | 196°03.12' | S 6°50.15' | 0.9441' | 262°31.19' | 14.5352° | 26°47.92' | N 9°35.65' | 14.5289' | 57.2323' | 289°19.11' | **18** |
| **19** | 108°16.16' | 15.0028° | 196°05.42' | S 6°51.09' | 0.9439' | 277°03.29' | 14.5350° | 27°18.29' | N 9°50.12' | 14.4709' | 57.2052' | 304°21.58' | **19** |
| **20** | 123°16.32' | 15.0028° | 196°07.72' | S 6°52.03' | 0.9438' | 291°35.38' | 14.5347° | 27°48.67' | N 10°04.53' | 14.4117' | 57.1781' | 319°24.04' | **20** |
| **21** | 138°16.49' | 15.0027° | 196°10.02' | S 6°52.98' | 0.9436' | 306°07.44' | 14.5345° | 28°19.06' | N 10°18.88' | 14.3515' | 57.1509' | 334°26.51' | **21** |
| **22** | 153°16.65' | 15.0027° | 196°12.32' | S 6°53.92' | 0.9435' | 320°39.50' | 14.5342° | 28°49.47' | N 10°33.17' | 14.2902' | 57.1236' | 349°28.97' | **22** |
| **23** | 168°16.82' | 15.0027° | 196°14.62' | S 6°54.86' | 0.9433' | 335°11.53' | 14.5339° | 29°19.90' | N 10°47.40' | 14.2278' | 57.0963' | 4°31.43' | **23** |
| **24** | 183°16.98' | 15.0027° | 196°16.92' | S 6°55.81' | 0.9431' | 349°43.55' | 14.5336° | 29°50.35' | N 11°01.57' | 14.1643' | 57.0690' | 19°33.90' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.0162' | hp (π) 0.1468' | ½Ø 15.6386' | 99.5161029884913 5% -gib | |
| EoT at 12:00 UTC : +12m 60s (δ 0.67 s/h) | | Phase at 12:00 UTC : 187.82° | | |
| Meridian Pass. Time : 11:47:00.011 | | Age : 14.6 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.20') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 185°48.22' | 192°46.54' | S 4°02.36' | 296°23.60' | 82°11.17' | N 22°52.65' | 16°07.95' | 2°26.81' | S 0°41.83' | 56°59.52' | 321°35.24' | S 16°27.34' | **00** |
| **01** | 200°47.81' | 192°49.41' | S 4°03.60' | 311°25.36' | 82°11.86' | N 22°52.76' | 31°10.71' | 2°26.52' | S 0°41.95' | 72°02.04' | 321°35.18' | S 16°27.35' | **01** |
| **02** | 215°47.41' | 192°52.28' | S 4°04.85' | 326°27.13' | 82°12.56' | N 22°52.88' | 46°13.46' | 2°26.23' | S 0°42.07' | 87°04.56' | 321°35.13' | S 16°27.37' | **02** |
| **03** | 230°47.00' | 192°55.15' | S 4°06.09' | 341°28.90' | 82°13.25' | N 22°53.00' | 61°16.21' | 2°25.94' | S 0°42.19' | 102°07.08' | 321°35.07' | S 16°27.38' | **03** |
| **04** | 245°46.59' | 192°58.03' | S 4°07.34' | 356°30.68' | 82°13.94' | N 22°53.12' | 76°18.96' | 2°25.66' | S 0°42.31' | 117°09.60' | 321°35.02' | S 16°27.40' | **04** |
| **05** | 260°46.18' | 193°00.90' | S 4°08.59' | 11°32.45' | 82°14.63' | N 22°53.24' | 91°21.71' | 2°25.37' | S 0°42.43' | 132°12.11' | 321°34.97' | S 16°27.41' | **05** |
| **06** | 275°45.78' | 193°03.77' | S 4°09.83' | 26°34.22' | 82°15.32' | N 22°53.35' | 106°24.46' | 2°25.08' | S 0°42.55' | 147°14.63' | 321°34.91' | S 16°27.43' | **06** |
| **07** | 290°45.37' | 193°06.64' | S 4°11.08' | 41°36.00' | 82°16.01' | N 22°53.47' | 121°27.22' | 2°24.79' | S 0°42.67' | 162°17.15' | 321°34.86' | S 16°27.44' | **07** |
| **08** | 305°44.96' | 193°09.51' | S 4°12.32' | 56°37.77' | 82°16.70' | N 22°53.59' | 136°29.97' | 2°24.51' | S 0°42.79' | 177°19.67' | 321°34.80' | S 16°27.46' | **08** |
| **09** | 320°44.55' | 193°12.39' | S 4°13.57' | 71°39.55' | 82°17.39' | N 22°53.71' | 151°32.72' | 2°24.22' | S 0°42.91' | 192°22.19' | 321°34.75' | S 16°27.47' | **09** |
| **10** | 335°44.14' | 193°15.26' | S 4°14.81' | 86°41.33' | 82°18.07' | N 22°53.83' | 166°35.47' | 2°23.93' | S 0°43.03' | 207°24.70' | 321°34.70' | S 16°27.49' | **10** |
| **11** | 350°43.73' | 193°18.13' | S 4°16.06' | 101°43.11' | 82°18.76' | N 22°53.94' | 181°38.22' | 2°23.65' | S 0°43.15' | 222°27.22' | 321°34.64' | S 16°27.50' | **11** |
| **12** | 5°43.33' | 193°21.00' | S 4°17.30' | 116°44.89' | 82°19.44' | N 22°54.06' | 196°40.97' | 2°23.36' | S 0°43.27' | 237°29.74' | 321°34.59' | S 16°27.52' | **12** |
| **13** | 20°42.92' | 193°23.88' | S 4°18.55' | 131°46.67' | 82°20.12' | N 22°54.18' | 211°43.72' | 2°23.07' | S 0°43.39' | 252°32.25' | 321°34.54' | S 16°27.53' | **13** |
| **14** | 35°42.51' | 193°26.75' | S 4°19.79' | 146°48.46' | 82°20.80' | N 22°54.30' | 226°46.47' | 2°22.79' | S 0°43.51' | 267°34.77' | 321°34.49' | S 16°27.55' | **14** |
| **15** | 50°42.10' | 193°29.62' | S 4°21.04' | 161°50.24' | 82°21.48' | N 22°54.41' | 241°49.22' | 2°22.50' | S 0°43.63' | 282°37.29' | 321°34.43' | S 16°27.56' | **15** |
| **16** | 65°41.69' | 193°32.50' | S 4°22.28' | 176°52.03' | 82°22.16' | N 22°54.53' | 256°51.97' | 2°22.22' | S 0°43.75' | 297°39.80' | 321°34.38' | S 16°27.58' | **16** |
| **17** | 80°41.28' | 193°35.37' | S 4°23.53' | 191°53.81' | 82°22.84' | N 22°54.65' | 271°54.72' | 2°21.93' | S 0°43.87' | 312°42.32' | 321°34.33' | S 16°27.59' | **17** |
| **18** | 95°40.87' | 193°38.24' | S 4°24.77' | 206°55.60' | 82°23.51' | N 22°54.77' | 286°57.47' | 2°21.64' | S 0°43.99' | 327°44.84' | 321°34.28' | S 16°27.60' | **18** |
| **19** | 110°40.46' | 193°41.12' | S 4°26.02' | 221°57.39' | 82°24.19' | N 22°54.88' | 302°00.22' | 2°21.36' | S 0°44.11' | 342°47.35' | 321°34.22' | S 16°27.62' | **19** |
| **20** | 125°40.05' | 193°43.99' | S 4°27.26' | 236°59.18' | 82°24.86' | N 22°55.00' | 317°02.97' | 2°21.07' | S 0°44.23' | 357°49.87' | 321°34.17' | S 16°27.63' | **20** |
| **21** | 140°39.64' | 193°46.87' | S 4°28.50' | 252°00.97' | 82°25.53' | N 22°55.12' | 332°05.72' | 2°20.79' | S 0°44.35' | 12°52.38' | 321°34.12' | S 16°27.65' | **21** |
| **22** | 155°39.23' | 193°49.74' | S 4°29.75' | 267°02.76' | 82°26.21' | N 22°55.23' | 347°08.47' | 2°20.50' | S 0°44.47' | 27°54.90' | 321°34.07' | S 16°27.66' | **22** |
| **23** | 170°38.82' | 193°52.62' | S 4°30.99' | 282°04.56' | 82°26.88' | N 22°55.35' | 2°11.22' | 2°20.22' | S 0°44.58' | 42°57.41' | 321°34.02' | S 16°27.68' | **23** |
| **24** | 185°38.41' | 193°55.49' | S 4°32.23' | 297°06.35' | 82°27.55' | N 22°55.47' | 17°13.96' | 2°19.93' | S 0°44.70' | 57°59.93' | 321°33.97' | S 16°27.69' | **24** |
| | δ 14.9932° | | *d* 1.2464' | δ 15.0295° | | *d* 0.1182' | δ 15.0459° | | *d* 0.1207' | δ 15.0420° | | *d* 0.0152' | |

## *Tuesday, October 11th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°16.98' | 15.0027° | 196°16.92' | S 6°55.81' | 0.9431' | 349°43.55' | 14.5336° | 29°50.35' | N 11°01.57' | 14.1643' | 57.0690' | 19°33.90' | **00** |
| **01** | 198°17.15' | 15.0027° | 196°19.22' | S 6°56.75' | 0.9430' | 4°15.55' | 14.5333° | 30°20.81' | N 11°15.67' | 14.0997' | 57.0415' | 34°36.36' | **01** |
| **02** | 213°17.31' | 15.0027° | 196°21.52' | S 6°57.69' | 0.9428' | 18°47.53' | 14.5330° | 30°51.29' | N 11°29.70' | 14.0341' | 57.0141' | 49°38.83' | **02** |
| **03** | 228°17.47' | 15.0027° | 196°23.82' | S 6°58.64' | 0.9427' | 33°19.49' | 14.5327° | 31°21.80' | N 11°43.67' | 13.9674' | 56.9866' | 64°41.29' | **03** |
| **04** | 243°17.64' | 15.0027° | 196°26.12' | S 6°59.58' | 0.9425' | 47°51.43' | 14.5323° | 31°52.32' | N 11°57.57' | 13.8996' | 56.9591' | 79°43.75' | **04** |
| **05** | 258°17.80' | 15.0027° | 196°28.42' | S 7°00.52' | 0.9423' | 62°23.35' | 14.5320° | 32°22.87' | N 12°11.40' | 13.8308' | 56.9315' | 94°46.22' | **05** |
| **06** | 273°17.96' | 15.0027° | 196°30.72' | S 7°01.46' | 0.9422' | 76°55.25' | 14.5316° | 32°53.43' | N 12°25.16' | 13.7610' | 56.9039' | 109°48.68' | **06** |
| **07** | 288°18.13' | 15.0027° | 196°33.02' | S 7°02.41' | 0.9420' | 91°27.12' | 14.5312° | 33°24.02' | N 12°38.85' | 13.6901' | 56.8763' | 124°51.15' | **07** |
| **08** | 303°18.29' | 15.0027° | 196°35.32' | S 7°03.35' | 0.9418' | 105°58.98' | 14.5309° | 33°54.63' | N 12°52.47' | 13.6182' | 56.8487' | 139°53.61' | **08** |
| **09** | 318°18.45' | 15.0027° | 196°37.62' | S 7°04.29' | 0.9417' | 120°30.80' | 14.5305° | 34°25.27' | N 13°06.01' | 13.5452' | 56.8211' | 154°56.07' | **09** |
| **10** | 333°18.61' | 15.0027° | 196°39.93' | S 7°05.23' | 0.9415' | 135°02.61' | 14.5300° | 34°55.93' | N 13°19.48' | 13.4713' | 56.7934' | 169°58.54' | **10** |
| **11** | 348°18.77' | 15.0027° | 196°42.23' | S 7°06.17' | 0.9413' | 149°34.38' | 14.5296° | 35°26.62' | N 13°32.88' | 13.3963' | 56.7657' | 185°01.00' | **11** |
| **12** | 3°18.94' | 15.0027° | 196°44.53' | S 7°07.11' | 0.9412' | 164°06.14' | 14.5292° | 35°57.33' | N 13°46.20' | 13.3204' | 56.7381' | 200°03.47' | **12** |
| **13** | 18°19.10' | 15.0027° | 196°46.83' | S 7°08.05' | 0.9410' | 178°37.86' | 14.5288° | 36°28.07' | N 13°59.44' | 13.2434' | 56.7104' | 215°05.93' | **13** |
| **14** | 33°19.26' | 15.0027° | 196°49.14' | S 7°08.99' | 0.9409' | 193°09.56' | 14.5283° | 36°58.84' | N 14°12.61' | 13.1654' | 56.6827' | 230°08.39' | **14** |
| **15** | 48°19.42' | 15.0027° | 196°51.44' | S 7°09.94' | 0.9407' | 207°41.23' | 14.5278° | 37°29.63' | N 14°25.70' | 13.0865' | 56.6550' | 245°10.86' | **15** |
| **16** | 63°19.58' | 15.0027° | 196°53.74' | S 7°10.88' | 0.9405' | 222°12.87' | 14.5274° | 38°00.45' | N 14°38.70' | 13.0066' | 56.6274' | 260°13.32' | **16** |
| **17** | 78°19.74' | 15.0027° | 196°56.05' | S 7°11.82' | 0.9404' | 236°44.48' | 14.5269° | 38°31.30' | N 14°51.63' | 12.9257' | 56.5997' | 275°15.79' | **17** |
| **18** | 93°19.90' | 15.0027° | 196°58.35' | S 7°12.76' | 0.9402' | 251°16.07' | 14.5264° | 39°02.18' | N 15°04.47' | 12.8438' | 56.5721' | 290°18.25' | **18** |
| **19** | 108°20.06' | 15.0027° | 197°00.65' | S 7°13.70' | 0.9400' | 265°47.62' | 14.5259° | 39°33.09' | N 15°17.23' | 12.7610' | 56.5444' | 305°20.71' | **19** |
| **20** | 123°20.22' | 15.0027° | 197°02.96' | S 7°14.64' | 0.9398' | 280°19.15' | 14.5254° | 40°04.03' | N 15°29.91' | 12.6773' | 56.5168' | 320°23.18' | **20** |
| **21** | 138°20.38' | 15.0027° | 197°05.26' | S 7°15.58' | 0.9397' | 294°50.64' | 14.5249° | 40°35.00' | N 15°42.50' | 12.5925' | 56.4892' | 335°25.64' | **21** |
| **22** | 153°20.54' | 15.0027° | 197°07.57' | S 7°16.52' | 0.9395' | 309°22.10' | 14.5244° | 41°06.01' | N 15°55.01' | 12.5069' | 56.4617' | 350°28.11' | **22** |
| **23** | 168°20.70' | 15.0027° | 197°09.87' | S 7°17.46' | 0.9393' | 323°53.53' | 14.5238° | 41°37.04' | N 16°07.43' | 12.4203' | 56.4342' | 5°30.57' | **23** |
| **24** | 183°20.86' | 15.0027° | 197°12.18' | S 7°18.39' | 0.9392' | 338°24.93' | 14.5233° | 42°08.11' | N 16°19.76' | 12.3328' | 56.4067' | 20°33.04' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0207' | hp (π) 0.1468' | ½Ø 15.4601' | 96.9944412094733<br>8% -gib |
| | EoT at 12:00 UTC : +13m 15s (δ 0.65 s/h) | | Phase at 12:00 UTC : 200.01° | |
| | Meridian Pass. Time : 11:46:44.255 | | Age : 15.6 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.20') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 185°38.41' | 193°55.49' | S 4°32.23' | 297°06.35' | 82°27.55' | N 22°55.47' | 17°13.96' | 2°19.93' | S 0°44.70' | 57°59.93' | 321°33.97' | S 16°27.69' | **00** |
| **01** | 200°38.00' | 193°58.37' | S 4°33.48' | 312°08.15' | 82°28.21' | N 22°55.59' | 32°16.71' | 2°19.65' | S 0°44.82' | 73°02.44' | 321°33.92' | S 16°27.70' | **01** |
| **02** | 215°37.58' | 194°01.24' | S 4°34.72' | 327°09.95' | 82°28.88' | N 22°55.70' | 47°19.46' | 2°19.36' | S 0°44.94' | 88°04.96' | 321°33.87' | S 16°27.72' | **02** |
| **03** | 230°37.17' | 194°04.12' | S 4°35.96' | 342°11.74' | 82°29.55' | N 22°55.82' | 62°22.21' | 2°19.08' | S 0°45.06' | 103°07.47' | 321°33.82' | S 16°27.73' | **03** |
| **04** | 245°36.76' | 194°06.99' | S 4°37.21' | 357°13.54' | 82°30.21' | N 22°55.94' | 77°24.96' | 2°18.79' | S 0°45.18' | 118°09.99' | 321°33.77' | S 16°27.74' | **04** |
| **05** | 260°36.35' | 194°09.87' | S 4°38.45' | 12°15.34' | 82°30.87' | N 22°56.05' | 92°27.71' | 2°18.51' | S 0°45.30' | 133°12.50' | 321°33.72' | S 16°27.76' | **05** |
| **06** | 275°35.94' | 194°12.74' | S 4°39.69' | 27°17.15' | 82°31.53' | N 22°56.17' | 107°30.46' | 2°18.23' | S 0°45.42' | 148°15.02' | 321°33.67' | S 16°27.77' | **06** |
| **07** | 290°35.53' | 194°15.62' | S 4°40.93' | 42°18.95' | 82°32.20' | N 22°56.29' | 122°33.20' | 2°17.94' | S 0°45.54' | 163°17.53' | 321°33.62' | S 16°27.79' | **07** |
| **08** | 305°35.11' | 194°18.50' | S 4°42.18' | 57°20.75' | 82°32.86' | N 22°56.40' | 137°35.95' | 2°17.66' | S 0°45.65' | 178°20.04' | 321°33.57' | S 16°27.80' | **08** |
| **09** | 320°34.70' | 194°21.37' | S 4°43.42' | 72°22.56' | 82°33.51' | N 22°56.52' | 152°38.70' | 2°17.37' | S 0°45.77' | 193°22.56' | 321°33.52' | S 16°27.81' | **09** |
| **10** | 335°34.29' | 194°24.25' | S 4°44.66' | 87°24.37' | 82°34.17' | N 22°56.64' | 167°41.45' | 2°17.09' | S 0°45.89' | 208°25.07' | 321°33.47' | S 16°27.83' | **10** |
| **11** | 350°33.88' | 194°27.13' | S 4°45.90' | 102°26.17' | 82°34.83' | N 22°56.75' | 182°44.19' | 2°16.81' | S 0°46.01' | 223°27.58' | 321°33.42' | S 16°27.84' | **11** |
| **12** | 5°33.46' | 194°30.00' | S 4°47.14' | 117°27.98' | 82°35.48' | N 22°56.87' | 197°46.94' | 2°16.52' | S 0°46.13' | 238°30.10' | 321°33.37' | S 16°27.85' | **12** |
| **13** | 20°33.05' | 194°32.88' | S 4°48.38' | 132°29.79' | 82°36.14' | N 22°56.99' | 212°49.69' | 2°16.24' | S 0°46.25' | 253°32.61' | 321°33.32' | S 16°27.87' | **13** |
| **14** | 35°32.64' | 194°35.76' | S 4°49.63' | 147°31.61' | 82°36.79' | N 22°57.10' | 227°52.44' | 2°15.96' | S 0°46.36' | 268°35.12' | 321°33.27' | S 16°27.88' | **14** |
| **15** | 50°32.22' | 194°38.64' | S 4°50.87' | 162°33.42' | 82°37.44' | N 22°57.22' | 242°55.18' | 2°15.68' | S 0°46.48' | 283°37.64' | 321°33.22' | S 16°27.89' | **15** |
| **16** | 65°31.81' | 194°41.51' | S 4°52.11' | 177°35.23' | 82°38.09' | N 22°57.34' | 257°57.93' | 2°15.39' | S 0°46.60' | 298°40.15' | 321°33.17' | S 16°27.91' | **16** |
| **17** | 80°31.40' | 194°44.39' | S 4°53.35' | 192°37.05' | 82°38.74' | N 22°57.45' | 273°00.68' | 2°15.11' | S 0°46.72' | 313°42.66' | 321°33.13' | S 16°27.92' | **17** |
| **18** | 95°30.98' | 194°47.27' | S 4°54.59' | 207°38.86' | 82°39.39' | N 22°57.57' | 288°03.42' | 2°14.83' | S 0°46.84' | 328°45.17' | 321°33.08' | S 16°27.93' | **18** |
| **19** | 110°30.57' | 194°50.15' | S 4°55.83' | 222°40.68' | 82°40.03' | N 22°57.68' | 303°06.17' | 2°14.55' | S 0°46.95' | 343°47.69' | 321°33.03' | S 16°27.94' | **19** |
| **20** | 125°30.15' | 194°53.03' | S 4°57.07' | 237°42.50' | 82°40.68' | N 22°57.80' | 318°08.92' | 2°14.26' | S 0°47.07' | 358°50.20' | 321°32.98' | S 16°27.96' | **20** |
| **21** | 140°29.74' | 194°55.90' | S 4°58.31' | 252°44.32' | 82°41.32' | N 22°57.92' | 333°11.66' | 2°13.98' | S 0°47.19' | 13°52.71' | 321°32.93' | S 16°27.97' | **21** |
| **22** | 155°29.32' | 194°58.78' | S 4°59.55' | 267°46.14' | 82°41.97' | N 22°58.03' | 348°14.41' | 2°13.70' | S 0°47.31' | 28°55.22' | 321°32.89' | S 16°27.98' | **22** |
| **23** | 170°28.91' | 195°01.66' | S 5°00.79' | 282°47.96' | 82°42.61' | N 22°58.15' | 3°17.15' | 2°13.42' | S 0°47.42' | 43°57.73' | 321°32.84' | S 16°28.00' | **23** |
| **24** | 185°28.49' | 195°04.54' | S 5°02.03' | 297°49.79' | 82°43.25' | N 22°58.27' | 18°19.90' | 2°13.14' | S 0°47.54' | 59°00.24' | 321°32.79' | S 16°28.01' | **24** |
| | δ 14.9932° | | *d* 1.2432' | δ 15.0299° | | *d* 0.1170' | δ 15.0458° | | *d* 0.1191' | δ 15.0419° | | *d* 0.0139' | |

## *Wednesday, October 12th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°20.86' | 15.0027° | 197°12.18' | S 7°18.39' | 0.9392' | 338°24.93' | 14.5233° | 42°08.11' | N 16°19.76' | 12.3328' | 56.4067' | 20°33.04' | **00** |
| **01** | 198°21.02' | 15.0026° | 197°14.48' | S 7°19.33' | 0.9390' | 352°56.29' | 14.5227° | 42°39.21' | N 16°32.01' | 12.2444' | 56.3792' | 35°35.50' | **01** |
| **02** | 213°21.18' | 15.0026° | 197°16.79' | S 7°20.27' | 0.9388' | 7°27.62' | 14.5222° | 43°10.34' | N 16°44.16' | 12.1551' | 56.3518' | 50°37.96' | **02** |
| **03** | 228°21.34' | 15.0026° | 197°19.09' | S 7°21.21' | 0.9387' | 21°58.92' | 14.5216° | 43°41.51' | N 16°56.23' | 12.0648' | 56.3245' | 65°40.43' | **03** |
| **04** | 243°21.49' | 15.0026° | 197°21.40' | S 7°22.15' | 0.9385' | 36°30.19' | 14.5211° | 44°12.71' | N 17°08.20' | 11.9737' | 56.2972' | 80°42.89' | **04** |
| **05** | 258°21.65' | 15.0026° | 197°23.70' | S 7°23.09' | 0.9383' | 51°01.42' | 14.5205° | 44°43.94' | N 17°20.08' | 11.8817' | 56.2699' | 95°45.36' | **05** |
| **06** | 273°21.81' | 15.0026° | 197°26.01' | S 7°24.03' | 0.9381' | 65°32.61' | 14.5199° | 45°15.21' | N 17°31.87' | 11.7888' | 56.2427' | 110°47.82' | **06** |
| **07** | 288°21.97' | 15.0026° | 197°28.32' | S 7°24.96' | 0.9380' | 80°03.77' | 14.5193° | 45°46.51' | N 17°43.57' | 11.6950' | 56.2156' | 125°50.28' | **07** |
| **08** | 303°22.12' | 15.0026° | 197°30.62' | S 7°25.90' | 0.9378' | 94°34.90' | 14.5187° | 46°17.85' | N 17°55.17' | 11.6003' | 56.1885' | 140°52.75' | **08** |
| **09** | 318°22.28' | 15.0026° | 197°32.93' | S 7°26.84' | 0.9376' | 109°05.98' | 14.5182° | 46°49.23' | N 18°06.67' | 11.5048' | 56.1615' | 155°55.21' | **09** |
| **10** | 333°22.44' | 15.0026° | 197°35.24' | S 7°27.78' | 0.9374' | 123°37.04' | 14.5176° | 47°20.64' | N 18°18.08' | 11.4085' | 56.1346' | 170°57.68' | **10** |
| **11** | 348°22.60' | 15.0026° | 197°37.55' | S 7°28.71' | 0.9373' | 138°08.05' | 14.5169° | 47°52.09' | N 18°29.39' | 11.3112' | 56.1077' | 186°00.14' | **11** |
| **12** | 3°22.75' | 15.0026° | 197°39.85' | S 7°29.65' | 0.9371' | 152°39.03' | 14.5163° | 48°23.57' | N 18°40.60' | 11.2132' | 56.0809' | 201°02.60' | **12** |
| **13** | 18°22.91' | 15.0026° | 197°42.16' | S 7°30.59' | 0.9369' | 167°09.98' | 14.5157° | 48°55.09' | N 18°51.72' | 11.1143' | 56.0542' | 216°05.07' | **13** |
| **14** | 33°23.06' | 15.0026° | 197°44.47' | S 7°31.52' | 0.9367' | 181°40.89' | 14.5151° | 49°26.65' | N 19°02.73' | 11.0146' | 56.0276' | 231°07.53' | **14** |
| **15** | 48°23.22' | 15.0026° | 197°46.78' | S 7°32.46' | 0.9366' | 196°11.76' | 14.5145° | 49°58.24' | N 19°13.65' | 10.9141' | 56.0011' | 246°10.00' | **15** |
| **16** | 63°23.37' | 15.0026° | 197°49.09' | S 7°33.40' | 0.9364' | 210°42.59' | 14.5139° | 50°29.87' | N 19°24.46' | 10.8127' | 55.9746' | 261°12.46' | **16** |
| **17** | 78°23.53' | 15.0026° | 197°51.40' | S 7°34.33' | 0.9362' | 225°13.38' | 14.5132° | 51°01.54' | N 19°35.17' | 10.7106' | 55.9483' | 276°14.93' | **17** |
| **18** | 93°23.69' | 15.0026° | 197°53.70' | S 7°35.27' | 0.9360' | 239°44.14' | 14.5126° | 51°33.25' | N 19°45.78' | 10.6076' | 55.9220' | 291°17.39' | **18** |
| **19** | 108°23.84' | 15.0026° | 197°56.01' | S 7°36.21' | 0.9359' | 254°14.86' | 14.5120° | 52°04.99' | N 19°56.28' | 10.5039' | 55.8959' | 306°19.85' | **19** |
| **20** | 123°23.99' | 15.0026° | 197°58.32' | S 7°37.14' | 0.9357' | 268°45.54' | 14.5114° | 52°36.78' | N 20°06.68' | 10.3994' | 55.8698' | 321°22.32' | **20** |
| **21** | 138°24.15' | 15.0026° | 198°00.63' | S 7°38.08' | 0.9355' | 283°16.19' | 14.5107° | 53°08.60' | N 20°16.98' | 10.2941' | 55.8439' | 336°24.78' | **21** |
| **22** | 153°24.30' | 15.0026° | 198°02.94' | S 7°39.01' | 0.9353' | 297°46.79' | 14.5101° | 53°40.45' | N 20°27.16' | 10.1881' | 55.8181' | 351°27.25' | **22** |
| **23** | 168°24.46' | 15.0026° | 198°05.25' | S 7°39.95' | 0.9351' | 312°17.36' | 14.5095° | 54°12.35' | N 20°37.25' | 10.0813' | 55.7923' | 6°29.71' | **23** |
| **24** | 183°24.61' | 15.0026° | 198°07.56' | S 7°40.88' | 0.9350' | 326°47.89' | 14.5088° | 54°44.29' | N 20°47.22' | 9.9738' | 55.7667' | 21°32.17' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 16.0253' | hp (π) 0.1469' | ½Ø 15.2810' | 92.4934637352012 % -gib | |
| | EoT at 12:00 UTC : +13m 31s (δ 0.63 s/h) | | Phase at 12:00 UTC : 211.87° | | |
| | Meridian Pass. Time : 11:46:28.994 | | Age : 16.5 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.20') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 185°28.49' | 195°04.54' | S 5°02.03' | 297°49.79' | 82°43.25' | N 22°58.27' | 18°19.90' | 2°13.14' | S 0°47.54' | 59°00.24' | 321°32.79' | S 16°28.01' | **00** |
| **01** | 200°28.08' | 195°07.42' | S 5°03.27' | 312°51.61' | 82°43.89' | N 22°58.38' | 33°22.65' | 2°12.85' | S 0°47.66' | 74°02.75' | 321°32.75' | S 16°28.02' | **01** |
| **02** | 215°27.66' | 195°10.30' | S 5°04.51' | 327°53.44' | 82°44.53' | N 22°58.50' | 48°25.39' | 2°12.57' | S 0°47.78' | 89°05.26' | 321°32.70' | S 16°28.03' | **02** |
| **03** | 230°27.25' | 195°13.18' | S 5°05.75' | 342°55.26' | 82°45.16' | N 22°58.61' | 63°28.14' | 2°12.29' | S 0°47.89' | 104°07.77' | 321°32.65' | S 16°28.05' | **03** |
| **04** | 245°26.83' | 195°16.06' | S 5°06.99' | 357°57.09' | 82°45.80' | N 22°58.73' | 78°30.88' | 2°12.01' | S 0°48.01' | 119°10.29' | 321°32.61' | S 16°28.06' | **04** |
| **05** | 260°26.41' | 195°18.94' | S 5°08.23' | 12°58.92' | 82°46.43' | N 22°58.84' | 93°33.63' | 2°11.73' | S 0°48.13' | 134°12.80' | 321°32.56' | S 16°28.07' | **05** |
| **06** | 275°26.00' | 195°21.82' | S 5°09.46' | 28°00.75' | 82°47.07' | N 22°58.96' | 108°36.37' | 2°11.45' | S 0°48.24' | 149°15.31' | 321°32.51' | S 16°28.08' | **06** |
| **07** | 290°25.58' | 195°24.70' | S 5°10.70' | 43°02.58' | 82°47.70' | N 22°59.08' | 123°39.12' | 2°11.17' | S 0°48.36' | 164°17.82' | 321°32.47' | S 16°28.09' | **07** |
| **08** | 305°25.16' | 195°27.58' | S 5°11.94' | 58°04.42' | 82°48.33' | N 22°59.19' | 138°41.86' | 2°10.89' | S 0°48.48' | 179°20.33' | 321°32.42' | S 16°28.11' | **08** |
| **09** | 320°24.75' | 195°30.47' | S 5°13.18' | 73°06.25' | 82°48.96' | N 22°59.31' | 153°44.60' | 2°10.61' | S 0°48.60' | 194°22.83' | 321°32.38' | S 16°28.12' | **09** |
| **10** | 335°24.33' | 195°33.35' | S 5°14.42' | 88°08.09' | 82°49.59' | N 22°59.42' | 168°47.35' | 2°10.33' | S 0°48.71' | 209°25.34' | 321°32.33' | S 16°28.13' | **10** |
| **11** | 350°23.91' | 195°36.23' | S 5°15.65' | 103°09.92' | 82°50.22' | N 22°59.54' | 183°50.09' | 2°10.05' | S 0°48.83' | 224°27.85' | 321°32.29' | S 16°28.14' | **11** |
| **12** | 5°23.50' | 195°39.11' | S 5°16.89' | 118°11.76' | 82°50.84' | N 22°59.65' | 198°52.84' | 2°09.77' | S 0°48.95' | 239°30.36' | 321°32.24' | S 16°28.16' | **12** |
| **13** | 20°23.08' | 195°41.99' | S 5°18.13' | 133°13.60' | 82°51.47' | N 22°59.77' | 213°55.58' | 2°09.49' | S 0°49.06' | 254°32.87' | 321°32.20' | S 16°28.17' | **13** |
| **14** | 35°22.66' | 195°44.87' | S 5°19.37' | 148°15.44' | 82°52.09' | N 22°59.89' | 228°58.32' | 2°09.21' | S 0°49.18' | 269°35.38' | 321°32.15' | S 16°28.18' | **14** |
| **15** | 50°22.24' | 195°47.76' | S 5°20.60' | 163°17.28' | 82°52.71' | N 23°00.00' | 244°01.07' | 2°08.93' | S 0°49.29' | 284°37.89' | 321°32.11' | S 16°28.19' | **15** |
| **16** | 65°21.82' | 195°50.64' | S 5°21.84' | 178°19.13' | 82°53.34' | N 23°00.12' | 259°03.81' | 2°08.65' | S 0°49.41' | 299°40.40' | 321°32.06' | S 16°28.20' | **16** |
| **17** | 80°21.40' | 195°53.52' | S 5°23.08' | 193°20.97' | 82°53.96' | N 23°00.23' | 274°06.56' | 2°08.37' | S 0°49.53' | 314°42.91' | 321°32.02' | S 16°28.21' | **17** |
| **18** | 95°20.99' | 195°56.40' | S 5°24.31' | 208°22.82' | 82°54.57' | N 23°00.35' | 289°09.30' | 2°08.09' | S 0°49.64' | 329°45.41' | 321°31.98' | S 16°28.23' | **18** |
| **19** | 110°20.57' | 195°59.29' | S 5°25.55' | 223°24.66' | 82°55.19' | N 23°00.46' | 304°12.04' | 2°07.81' | S 0°49.76' | 344°47.92' | 321°31.93' | S 16°28.24' | **19** |
| **20** | 125°20.15' | 196°02.17' | S 5°26.79' | 238°26.51' | 82°55.81' | N 23°00.58' | 319°14.78' | 2°07.53' | S 0°49.87' | 359°50.43' | 321°31.89' | S 16°28.25' | **20** |
| **21** | 140°19.73' | 196°05.05' | S 5°28.02' | 253°28.36' | 82°56.42' | N 23°00.69' | 334°17.53' | 2°07.25' | S 0°49.99' | 14°52.94' | 321°31.84' | S 16°28.26' | **21** |
| **22** | 155°19.31' | 196°07.94' | S 5°29.26' | 268°30.21' | 82°57.04' | N 23°00.81' | 349°20.27' | 2°06.98' | S 0°50.11' | 29°55.44' | 321°31.80' | S 16°28.27' | **22** |
| **23** | 170°18.89' | 196°10.82' | S 5°30.49' | 283°32.06' | 82°57.65' | N 23°00.92' | 4°23.01' | 2°06.70' | S 0°50.22' | 44°57.95' | 321°31.76' | S 16°28.28' | **23** |
| **24** | 185°18.47' | 196°13.71' | S 5°31.73' | 298°33.91' | 82°58.26' | N 23°01.04' | 19°25.75' | 2°06.42' | S 0°50.34' | 60°00.46' | 321°31.72' | S 16°28.29' | **24** |
| | δ 14.9931° | | *d* 1.2395' | δ 15.0304° | | *d* 0.1160' | δ 15.0458° | | *d* 0.1173' | δ 15.0418° | | *d* 0.0126' | |

## *Thursday, October 13th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°24.61' | 15.0026° | 198°07.56' | S 7°40.88' | 0.9350' | 326°47.89' | 14.5088° | 54°44.29' | N 20°47.22' | 9.9738' | 55.7667' | 21°32.17' | **00** |
| **01** | 198°24.76' | 15.0026° | 198°09.87' | S 7°41.82' | 0.9348' | 341°18.38' | 14.5082° | 55°16.26' | N 20°57.08' | 9.8655' | 55.7413' | 36°34.64' | **01** |
| **02** | 213°24.92' | 15.0026° | 198°12.18' | S 7°42.75' | 0.9346' | 355°48.83' | 14.5076° | 55°48.27' | N 21°06.84' | 9.7565' | 55.7159' | 51°37.10' | **02** |
| **03** | 228°25.07' | 15.0026° | 198°14.50' | S 7°43.69' | 0.9344' | 10°19.25' | 14.5069° | 56°20.32' | N 21°16.49' | 9.6468' | 55.6907' | 66°39.57' | **03** |
| **04** | 243°25.22' | 15.0025° | 198°16.81' | S 7°44.62' | 0.9342' | 24°49.63' | 14.5063° | 56°52.40' | N 21°26.02' | 9.5363' | 55.6656' | 81°42.03' | **04** |
| **05** | 258°25.38' | 15.0025° | 198°19.12' | S 7°45.55' | 0.9340' | 39°19.97' | 14.5057° | 57°24.53' | N 21°35.45' | 9.4252' | 55.6406' | 96°44.49' | **05** |
| **06** | 273°25.53' | 15.0025° | 198°21.43' | S 7°46.49' | 0.9339' | 53°50.27' | 14.5050° | 57°56.69' | N 21°44.76' | 9.3133' | 55.6158' | 111°46.96' | **06** |
| **07** | 288°25.68' | 15.0025° | 198°23.74' | S 7°47.42' | 0.9337' | 68°20.53' | 14.5044° | 58°28.89' | N 21°53.96' | 9.2008' | 55.5911' | 126°49.42' | **07** |
| **08** | 303°25.83' | 15.0025° | 198°26.05' | S 7°48.36' | 0.9335' | 82°50.76' | 14.5038° | 59°01.13' | N 22°03.05' | 9.0876' | 55.5665' | 141°51.89' | **08** |
| **09** | 318°25.98' | 15.0025° | 198°28.37' | S 7°49.29' | 0.9333' | 97°20.95' | 14.5031° | 59°33.40' | N 22°12.02' | 8.9737' | 55.5421' | 156°54.35' | **09** |
| **10** | 333°26.14' | 15.0025° | 198°30.68' | S 7°50.22' | 0.9331' | 111°51.10' | 14.5025° | 60°05.72' | N 22°20.88' | 8.8591' | 55.5179' | 171°56.82' | **10** |
| **11** | 348°26.29' | 15.0025° | 198°32.99' | S 7°51.15' | 0.9329' | 126°21.21' | 14.5019° | 60°38.06' | N 22°29.63' | 8.7439' | 55.4937' | 186°59.28' | **11** |
| **12** | 3°26.44' | 15.0025° | 198°35.31' | S 7°52.09' | 0.9328' | 140°51.29' | 14.5013° | 61°10.45' | N 22°38.26' | 8.6281' | 55.4698' | 202°01.74' | **12** |
| **13** | 18°26.59' | 15.0025° | 198°37.62' | S 7°53.02' | 0.9326' | 155°21.33' | 14.5007° | 61°42.87' | N 22°46.77' | 8.5116' | 55.4460' | 217°04.21' | **13** |
| **14** | 33°26.74' | 15.0025° | 198°39.93' | S 7°53.95' | 0.9324' | 169°51.34' | 14.5001° | 62°15.33' | N 22°55.16' | 8.3945' | 55.4224' | 232°06.67' | **14** |
| **15** | 48°26.89' | 15.0025° | 198°42.25' | S 7°54.88' | 0.9322' | 184°21.31' | 14.4995° | 62°47.83' | N 23°03.44' | 8.2768' | 55.3989' | 247°09.14' | **15** |
| **16** | 63°27.04' | 15.0025° | 198°44.56' | S 7°55.82' | 0.9320' | 198°51.24' | 14.4989° | 63°20.36' | N 23°11.60' | 8.1585' | 55.3756' | 262°11.60' | **16** |
| **17** | 78°27.19' | 15.0025° | 198°46.88' | S 7°56.75' | 0.9318' | 213°21.13' | 14.4983° | 63°52.93' | N 23°19.64' | 8.0396' | 55.3524' | 277°14.06' | **17** |
| **18** | 93°27.34' | 15.0025° | 198°49.19' | S 7°57.68' | 0.9316' | 227°51.00' | 14.4977° | 64°25.53' | N 23°27.56' | 7.9201' | 55.3294' | 292°16.53' | **18** |
| **19** | 108°27.49' | 15.0025° | 198°51.51' | S 7°58.61' | 0.9314' | 242°20.82' | 14.4971° | 64°58.17' | N 23°35.36' | 7.8000' | 55.3066' | 307°18.99' | **19** |
| **20** | 123°27.64' | 15.0025° | 198°53.82' | S 7°59.54' | 0.9313' | 256°50.61' | 14.4965° | 65°30.84' | N 23°43.04' | 7.6793' | 55.2840' | 322°21.46' | **20** |
| **21** | 138°27.78' | 15.0025° | 198°56.14' | S 8°00.47' | 0.9311' | 271°20.37' | 14.4960° | 66°03.55' | N 23°50.59' | 7.5581' | 55.2616' | 337°23.92' | **21** |
| **22** | 153°27.93' | 15.0025° | 198°58.45' | S 8°01.40' | 0.9309' | 285°50.10' | 14.4954° | 66°36.29' | N 23°58.03' | 7.4364' | 55.2393' | 352°26.38' | **22** |
| **23** | 168°28.08' | 15.0025° | 199°00.77' | S 8°02.34' | 0.9307' | 300°19.79' | 14.4948° | 67°09.06' | N 24°05.34' | 7.3141' | 55.2172' | 7°28.85' | **23** |
| **24** | 183°28.23' | 15.0025° | 199°03.08' | S 8°03.27' | 0.9305' | 314°49.44' | 14.4943° | 67°41.87' | N 24°12.54' | 7.1913' | 55.1953' | 22°31.31' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0298' | hp (π) 0.1469' | ½Ø 15.1145' | 86.3542233400152<br>8% -gib |
| | EoT at 12:00 UTC : +13m 45s (δ 0.60 s/h) | | Phase at 12:00 UTC : 223.43° | |
| | Meridian Pass. Time : 11:46:14.251 | | Age : 17.4 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.20') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 185°18.47' | 196°13.71' | S 5°31.73' | 298°33.91' | 82°58.26' | N 23°01.04' | 19°25.75' | 2°06.42' | S 0°50.34' | 60°00.46' | 321°31.72' | S 16°28.29' | **00** |
| **01** | 200°18.05' | 196°16.59' | S 5°32.96' | 313°35.77' | 82°58.87' | N 23°01.15' | 34°28.50' | 2°06.14' | S 0°50.45' | 75°02.97' | 321°31.67' | S 16°28.31' | **01** |
| **02** | 215°17.63' | 196°19.48' | S 5°34.20' | 328°37.62' | 82°59.48' | N 23°01.27' | 49°31.24' | 2°05.86' | S 0°50.57' | 90°05.47' | 321°31.63' | S 16°28.32' | **02** |
| **03** | 230°17.21' | 196°22.36' | S 5°35.43' | 343°39.48' | 83°00.09' | N 23°01.38' | 64°33.98' | 2°05.59' | S 0°50.68' | 105°07.98' | 321°31.59' | S 16°28.33' | **03** |
| **04** | 245°16.79' | 196°25.25' | S 5°36.67' | 358°41.34' | 83°00.70' | N 23°01.50' | 79°36.72' | 2°05.31' | S 0°50.80' | 120°10.49' | 321°31.54' | S 16°28.34' | **04** |
| **05** | 260°16.36' | 196°28.13' | S 5°37.90' | 13°43.19' | 83°01.30' | N 23°01.61' | 94°39.46' | 2°05.03' | S 0°50.91' | 135°12.99' | 321°31.50' | S 16°28.35' | **05** |
| **06** | 275°15.94' | 196°31.02' | S 5°39.14' | 28°45.05' | 83°01.90' | N 23°01.73' | 109°42.20' | 2°04.75' | S 0°51.03' | 150°15.50' | 321°31.46' | S 16°28.36' | **06** |
| **07** | 290°15.52' | 196°33.90' | S 5°40.37' | 43°46.92' | 83°02.51' | N 23°01.84' | 124°44.95' | 2°04.48' | S 0°51.14' | 165°18.00' | 321°31.42' | S 16°28.37' | **07** |
| **08** | 305°15.10' | 196°36.79' | S 5°41.61' | 58°48.78' | 83°03.11' | N 23°01.96' | 139°47.69' | 2°04.20' | S 0°51.26' | 180°20.51' | 321°31.38' | S 16°28.38' | **08** |
| **09** | 320°14.68' | 196°39.67' | S 5°42.84' | 73°50.64' | 83°03.71' | N 23°02.07' | 154°50.43' | 2°03.92' | S 0°51.37' | 195°23.02' | 321°31.34' | S 16°28.39' | **09** |
| **10** | 335°14.25' | 196°42.56' | S 5°44.07' | 88°52.51' | 83°04.31' | N 23°02.19' | 169°53.17' | 2°03.65' | S 0°51.49' | 210°25.52' | 321°31.29' | S 16°28.40' | **10** |
| **11** | 350°13.83' | 196°45.45' | S 5°45.31' | 103°54.37' | 83°04.91' | N 23°02.30' | 184°55.91' | 2°03.37' | S 0°51.60' | 225°28.03' | 321°31.25' | S 16°28.42' | **11** |
| **12** | 5°13.41' | 196°48.33' | S 5°46.54' | 118°56.24' | 83°05.50' | N 23°02.42' | 199°58.65' | 2°03.09' | S 0°51.72' | 240°30.53' | 321°31.21' | S 16°28.43' | **12** |
| **13** | 20°12.99' | 196°51.22' | S 5°47.77' | 133°58.11' | 83°06.10' | N 23°02.53' | 215°01.39' | 2°02.82' | S 0°51.83' | 255°33.04' | 321°31.17' | S 16°28.44' | **13** |
| **14** | 35°12.56' | 196°54.11' | S 5°49.01' | 148°59.98' | 83°06.69' | N 23°02.65' | 230°04.13' | 2°02.54' | S 0°51.95' | 270°35.54' | 321°31.13' | S 16°28.45' | **14** |
| **15** | 50°12.14' | 196°57.00' | S 5°50.24' | 164°01.85' | 83°07.29' | N 23°02.76' | 245°06.87' | 2°02.27' | S 0°52.06' | 285°38.04' | 321°31.09' | S 16°28.46' | **15** |
| **16** | 65°11.72' | 196°59.88' | S 5°51.47' | 179°03.72' | 83°07.88' | N 23°02.88' | 260°09.61' | 2°01.99' | S 0°52.18' | 300°40.55' | 321°31.05' | S 16°28.47' | **16** |
| **17** | 80°11.29' | 197°02.77' | S 5°52.70' | 194°05.60' | 83°08.47' | N 23°02.99' | 275°12.35' | 2°01.71' | S 0°52.29' | 315°43.05' | 321°31.01' | S 16°28.48' | **17** |
| **18** | 95°10.87' | 197°05.66' | S 5°53.94' | 209°07.47' | 83°09.06' | N 23°03.10' | 290°15.09' | 2°01.44' | S 0°52.41' | 330°45.56' | 321°30.97' | S 16°28.49' | **18** |
| **19** | 110°10.44' | 197°08.55' | S 5°55.17' | 224°09.35' | 83°09.65' | N 23°03.22' | 305°17.83' | 2°01.16' | S 0°52.52' | 345°48.06' | 321°30.93' | S 16°28.50' | **19** |
| **20** | 125°10.02' | 197°11.44' | S 5°56.40' | 239°11.22' | 83°10.23' | N 23°03.33' | 320°20.57' | 2°00.89' | S 0°52.63' | 0°50.57' | 321°30.89' | S 16°28.51' | **20** |
| **21** | 140°09.60' | 197°14.33' | S 5°57.63' | 254°13.10' | 83°10.82' | N 23°03.45' | 335°23.31' | 2°00.61' | S 0°52.75' | 15°53.07' | 321°30.85' | S 16°28.52' | **21** |
| **22** | 155°09.17' | 197°17.21' | S 5°58.86' | 269°14.98' | 83°11.40' | N 23°03.56' | 350°26.05' | 2°00.34' | S 0°52.86' | 30°55.57' | 321°30.81' | S 16°28.53' | **22** |
| **23** | 170°08.75' | 197°20.10' | S 6°00.09' | 284°16.86' | 83°11.98' | N 23°03.68' | 5°28.79' | 2°00.06' | S 0°52.98' | 45°58.08' | 321°30.77' | S 16°28.54' | **23** |
| **24** | 185°08.32' | 197°22.99' | S 6°01.32' | 299°18.75' | 83°12.57' | N 23°03.79' | 20°31.52' | 1°59.79' | S 0°53.09' | 61°00.58' | 321°30.73' | S 16°28.55' | **24** |
| | δ 14.9930° | | *d* 1.2353' | δ 15.0309° | | *d* 0.1151' | δ 15.0457° | | *d* 0.1155' | δ 15.0418° | | *d* 0.0113' | |

## *Friday, October 14th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°28.23' | 15.0025° | 199°03.08' | S 8°03.27' | 0.9305' | 314°49.44' | 14.4943° | 67°41.87' | N 24°12.54' | 7.1913' | 55.1953' | 22°31.31' | **00** |
| **01** | 198°28.38' | 15.0025° | 199°05.40' | S 8°04.20' | 0.9303' | 329°19.07' | 14.4938° | 68°14.71' | N 24°19.60' | 7.0680' | 55.1736' | 37°33.78' | **01** |
| **02** | 213°28.53' | 15.0025° | 199°07.72' | S 8°05.13' | 0.9301' | 343°48.66' | 14.4932° | 68°47.58' | N 24°26.55' | 6.9442' | 55.1521' | 52°36.24' | **02** |
| **03** | 228°28.67' | 15.0025° | 199°10.03' | S 8°06.06' | 0.9299' | 358°18.22' | 14.4927° | 69°20.48' | N 24°33.37' | 6.8199' | 55.1308' | 67°38.71' | **03** |
| **04** | 243°28.82' | 15.0025° | 199°12.35' | S 8°06.99' | 0.9297' | 12°47.75' | 14.4922° | 69°53.42' | N 24°40.06' | 6.6951' | 55.1097' | 82°41.17' | **04** |
| **05** | 258°28.97' | 15.0024° | 199°14.67' | S 8°07.92' | 0.9295' | 27°17.25' | 14.4917° | 70°26.38' | N 24°46.63' | 6.5698' | 55.0887' | 97°43.63' | **05** |
| **06** | 273°29.11' | 15.0024° | 199°16.98' | S 8°08.84' | 0.9293' | 41°46.72' | 14.4912° | 70°59.37' | N 24°53.08' | 6.4441' | 55.0680' | 112°46.10' | **06** |
| **07** | 288°29.26' | 15.0024° | 199°19.30' | S 8°09.77' | 0.9291' | 56°16.17' | 14.4907° | 71°32.40' | N 24°59.40' | 6.3179' | 55.0475' | 127°48.56' | **07** |
| **08** | 303°29.41' | 15.0024° | 199°21.62' | S 8°10.70' | 0.9290' | 70°45.58' | 14.4902° | 72°05.45' | N 25°05.59' | 6.1912' | 55.0272' | 142°51.03' | **08** |
| **09** | 318°29.55' | 15.0024° | 199°23.94' | S 8°11.63' | 0.9288' | 85°14.96' | 14.4897° | 72°38.53' | N 25°11.65' | 6.0642' | 55.0071' | 157°53.49' | **09** |
| **10** | 333°29.70' | 15.0024° | 199°26.26' | S 8°12.56' | 0.9286' | 99°44.32' | 14.4893° | 73°11.64' | N 25°17.59' | 5.9367' | 54.9872' | 172°55.95' | **10** |
| **11** | 348°29.84' | 15.0024° | 199°28.58' | S 8°13.49' | 0.9284' | 114°13.65' | 14.4888° | 73°44.77' | N 25°23.40' | 5.8089' | 54.9676' | 187°58.42' | **11** |
| **12** | 3°29.99' | 15.0024° | 199°30.89' | S 8°14.42' | 0.9282' | 128°42.95' | 14.4884° | 74°17.93' | N 25°29.08' | 5.6806' | 54.9481' | 203°00.88' | **12** |
| **13** | 18°30.13' | 15.0024° | 199°33.21' | S 8°15.34' | 0.9280' | 143°12.23' | 14.4880° | 74°51.12' | N 25°34.63' | 5.5520' | 54.9289' | 218°03.35' | **13** |
| **14** | 33°30.28' | 15.0024° | 199°35.53' | S 8°16.27' | 0.9278' | 157°41.48' | 14.4875° | 75°24.33' | N 25°40.05' | 5.4229' | 54.9099' | 233°05.81' | **14** |
| **15** | 48°30.42' | 15.0024° | 199°37.85' | S 8°17.20' | 0.9276' | 172°10.71' | 14.4871° | 75°57.57' | N 25°45.35' | 5.2936' | 54.8911' | 248°08.28' | **15** |
| **16** | 63°30.57' | 15.0024° | 199°40.17' | S 8°18.13' | 0.9274' | 186°39.91' | 14.4867° | 76°30.83' | N 25°50.51' | 5.1638' | 54.8725' | 263°10.74' | **16** |
| **17** | 78°30.71' | 15.0024° | 199°42.49' | S 8°19.05' | 0.9272' | 201°09.10' | 14.4864° | 77°04.11' | N 25°55.54' | 5.0338' | 54.8542' | 278°13.20' | **17** |
| **18** | 93°30.85' | 15.0024° | 199°44.81' | S 8°19.98' | 0.9270' | 215°38.26' | 14.4860° | 77°37.41' | N 26°00.45' | 4.9034' | 54.8361' | 293°15.67' | **18** |
| **19** | 108°31.00' | 15.0024° | 199°47.13' | S 8°20.91' | 0.9268' | 230°07.39' | 14.4856° | 78°10.74' | N 26°05.22' | 4.7727' | 54.8182' | 308°18.13' | **19** |
| **20** | 123°31.14' | 15.0024° | 199°49.45' | S 8°21.83' | 0.9266' | 244°36.51' | 14.4853° | 78°44.08' | N 26°09.86' | 4.6417' | 54.8006' | 323°20.60' | **20** |
| **21** | 138°31.28' | 15.0024° | 199°51.78' | S 8°22.76' | 0.9264' | 259°05.61' | 14.4850° | 79°17.45' | N 26°14.37' | 4.5105' | 54.7831' | 338°23.06' | **21** |
| **22** | 153°31.43' | 15.0024° | 199°54.10' | S 8°23.69' | 0.9262' | 273°34.69' | 14.4847° | 79°50.83' | N 26°18.75' | 4.3789' | 54.7660' | 353°25.52' | **22** |
| **23** | 168°31.57' | 15.0024° | 199°56.42' | S 8°24.61' | 0.9260' | 288°03.75' | 14.4844° | 80°24.24' | N 26°23.00' | 4.2471' | 54.7491' | 8°27.99' | **23** |
| **24** | 183°31.71' | 15.0024° | 199°58.74' | S 8°25.54' | 0.9258' | 302°32.80' | 14.4841° | 80°57.66' | N 26°27.11' | 4.1150' | 54.7324' | 23°30.45' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0343' | hp (π) 0.1469' | ½Ø 14.9724' | 78.9313190208126 5% -gib |
| | EoT at 12:00 UTC : +13m 60s (δ 0.58 s/h) | | Phase at 12:00 UTC : 234.72° | |
| | Meridian Pass. Time : 11:46:00.046 | | Age : 18.3 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.21') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 185°08.32' | 197°22.99' | S 6°01.32' | 299°18.75' | 83°12.57' | N 23°03.79' | 20°31.52' | 1°59.79' | S 0°53.09' | 61°00.58' | 321°30.73' | S 16°28.55' | **00** |
| **01** | 200°07.89' | 197°25.88' | S 6°02.55' | 314°20.63' | 83°13.15' | N 23°03.91' | 35°34.26' | 1°59.52' | S 0°53.20' | 76°03.08' | 321°30.70' | S 16°28.56' | **01** |
| **02** | 215°07.47' | 197°28.77' | S 6°03.78' | 329°22.52' | 83°13.73' | N 23°04.02' | 50°37.00' | 1°59.24' | S 0°53.32' | 91°05.58' | 321°30.66' | S 16°28.57' | **02** |
| **03** | 230°07.04' | 197°31.66' | S 6°05.01' | 344°24.40' | 83°14.30' | N 23°04.13' | 65°39.74' | 1°58.97' | S 0°53.43' | 106°08.09' | 321°30.62' | S 16°28.58' | **03** |
| **04** | 245°06.62' | 197°34.55' | S 6°06.24' | 359°26.29' | 83°14.88' | N 23°04.25' | 80°42.48' | 1°58.69' | S 0°53.54' | 121°10.59' | 321°30.58' | S 16°28.59' | **04** |
| **05** | 260°06.19' | 197°37.44' | S 6°07.47' | 14°28.18' | 83°15.46' | N 23°04.36' | 95°45.21' | 1°58.42' | S 0°53.66' | 136°13.09' | 321°30.54' | S 16°28.60' | **05** |
| **06** | 275°05.76' | 197°40.34' | S 6°08.70' | 29°30.07' | 83°16.03' | N 23°04.48' | 110°47.95' | 1°58.15' | S 0°53.77' | 151°15.59' | 321°30.51' | S 16°28.61' | **06** |
| **07** | 290°05.34' | 197°43.23' | S 6°09.93' | 44°31.96' | 83°16.60' | N 23°04.59' | 125°50.69' | 1°57.87' | S 0°53.88' | 166°18.09' | 321°30.47' | S 16°28.62' | **07** |
| **08** | 305°04.91' | 197°46.12' | S 6°11.16' | 59°33.85' | 83°17.17' | N 23°04.70' | 140°53.43' | 1°57.60' | S 0°54.00' | 181°20.60' | 321°30.43' | S 16°28.63' | **08** |
| **09** | 320°04.48' | 197°49.01' | S 6°12.39' | 74°35.75' | 83°17.74' | N 23°04.82' | 155°56.16' | 1°57.33' | S 0°54.11' | 196°23.10' | 321°30.39' | S 16°28.64' | **09** |
| **10** | 335°04.05' | 197°51.90' | S 6°13.62' | 89°37.64' | 83°18.31' | N 23°04.93' | 170°58.90' | 1°57.05' | S 0°54.22' | 211°25.60' | 321°30.36' | S 16°28.65' | **10** |
| **11** | 350°03.62' | 197°54.79' | S 6°14.85' | 104°39.54' | 83°18.88' | N 23°05.05' | 186°01.64' | 1°56.78' | S 0°54.33' | 226°28.10' | 321°30.32' | S 16°28.66' | **11** |
| **12** | 5°03.20' | 197°57.69' | S 6°16.08' | 119°41.44' | 83°19.45' | N 23°05.16' | 201°04.38' | 1°56.51' | S 0°54.45' | 241°30.60' | 321°30.28' | S 16°28.67' | **12** |
| **13** | 20°02.77' | 198°00.58' | S 6°17.30' | 134°43.33' | 83°20.01' | N 23°05.27' | 216°07.11' | 1°56.24' | S 0°54.56' | 256°33.10' | 321°30.24' | S 16°28.67' | **13** |
| **14** | 35°02.34' | 198°03.47' | S 6°18.53' | 149°45.23' | 83°20.58' | N 23°05.39' | 231°09.85' | 1°55.96' | S 0°54.67' | 271°35.60' | 321°30.21' | S 16°28.68' | **14** |
| **15** | 50°01.91' | 198°06.36' | S 6°19.76' | 164°47.14' | 83°21.14' | N 23°05.50' | 246°12.58' | 1°55.69' | S 0°54.79' | 286°38.10' | 321°30.17' | S 16°28.69' | **15** |
| **16** | 65°01.48' | 198°09.26' | S 6°20.99' | 179°49.04' | 83°21.70' | N 23°05.62' | 261°15.32' | 1°55.42' | S 0°54.90' | 301°40.60' | 321°30.14' | S 16°28.70' | **16** |
| **17** | 80°01.05' | 198°12.15' | S 6°22.21' | 194°50.94' | 83°22.26' | N 23°05.73' | 276°18.06' | 1°55.15' | S 0°55.01' | 316°43.10' | 321°30.10' | S 16°28.71' | **17** |
| **18** | 95°00.62' | 198°15.05' | S 6°23.44' | 209°52.85' | 83°22.82' | N 23°05.84' | 291°20.79' | 1°54.88' | S 0°55.12' | 331°45.60' | 321°30.06' | S 16°28.72' | **18** |
| **19** | 110°00.19' | 198°17.94' | S 6°24.67' | 224°54.75' | 83°23.38' | N 23°05.96' | 306°23.53' | 1°54.60' | S 0°55.23' | 346°48.10' | 321°30.03' | S 16°28.73' | **19** |
| **20** | 124°59.76' | 198°20.83' | S 6°25.89' | 239°56.66' | 83°23.93' | N 23°06.07' | 321°26.26' | 1°54.33' | S 0°55.35' | 1°50.60' | 321°29.99' | S 16°28.74' | **20** |
| **21** | 139°59.33' | 198°23.73' | S 6°27.12' | 254°58.57' | 83°24.49' | N 23°06.19' | 336°29.00' | 1°54.06' | S 0°55.46' | 16°53.10' | 321°29.96' | S 16°28.75' | **21** |
| **22** | 154°58.90' | 198°26.62' | S 6°28.34' | 270°00.48' | 83°25.04' | N 23°06.30' | 351°31.73' | 1°53.79' | S 0°55.57' | 31°55.60' | 321°29.92' | S 16°28.76' | **22** |
| **23** | 169°58.47' | 198°29.52' | S 6°29.57' | 285°02.39' | 83°25.60' | N 23°06.41' | 6°34.47' | 1°53.52' | S 0°55.68' | 46°58.10' | 321°29.89' | S 16°28.76' | **23** |
| **24** | 184°58.04' | 198°32.41' | S 6°30.80' | 300°04.31' | 83°26.15' | N 23°06.53' | 21°37.20' | 1°53.25' | S 0°55.79' | 62°00.60' | 321°29.85' | S 16°28.77' | **24** |
| | δ 14.9929° | | *d* 1.2305' | δ 15.0314° | | *d* 0.1143' | δ 15.0456° | | *d* 0.1136' | δ 15.0417° | | *d* 0.0099' | |

## *Saturday, October 15th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°31.71' | 15.0024° | 199°58.74' | S 8°25.54' | 0.9258' | 302°32.80' | 14.4841° | 80°57.66' | N 26°27.11' | 4.1150' | 54.7324' | 23°30.45' | **00** |
| **01** | 198°31.85' | 15.0024° | 200°01.06' | S 8°26.46' | 0.9256' | 317°01.83' | 14.4838° | 81°31.09' | N 26°31.09' | 3.9827' | 54.7159' | 38°32.92' | **01** |
| **02** | 213°32.00' | 15.0024° | 200°03.39' | S 8°27.39' | 0.9254' | 331°30.84' | 14.4835° | 82°04.54' | N 26°34.95' | 3.8502' | 54.6997' | 53°35.38' | **02** |
| **03** | 228°32.14' | 15.0024° | 200°05.71' | S 8°28.32' | 0.9252' | 345°59.84' | 14.4833° | 82°38.01' | N 26°38.66' | 3.7175' | 54.6838' | 68°37.85' | **03** |
| **04** | 243°32.28' | 15.0024° | 200°08.03' | S 8°29.24' | 0.9250' | 0°28.82' | 14.4831° | 83°11.49' | N 26°42.25' | 3.5845' | 54.6681' | 83°40.31' | **04** |
| **05** | 258°32.42' | 15.0024° | 200°10.35' | S 8°30.16' | 0.9248' | 14°57.79' | 14.4828° | 83°44.98' | N 26°45.70' | 3.4514' | 54.6527' | 98°42.77' | **05** |
| **06** | 273°32.56' | 15.0023° | 200°12.68' | S 8°31.09' | 0.9246' | 29°26.75' | 14.4826° | 84°18.49' | N 26°49.02' | 3.3181' | 54.6375' | 113°45.24' | **06** |
| **07** | 288°32.70' | 15.0023° | 200°15.00' | S 8°32.01' | 0.9244' | 43°55.70' | 14.4825° | 84°52.00' | N 26°52.20' | 3.1846' | 54.6225' | 128°47.70' | **07** |
| **08** | 303°32.84' | 15.0023° | 200°17.32' | S 8°32.94' | 0.9241' | 58°24.63' | 14.4823° | 85°25.53' | N 26°55.25' | 3.0510' | 54.6079' | 143°50.17' | **08** |
| **09** | 318°32.98' | 15.0023° | 200°19.65' | S 8°33.86' | 0.9239' | 72°53.56' | 14.4821° | 85°59.07' | N 26°58.17' | 2.9172' | 54.5935' | 158°52.63' | **09** |
| **10** | 333°33.12' | 15.0023° | 200°21.97' | S 8°34.79' | 0.9237' | 87°22.48' | 14.4820° | 86°32.61' | N 27°00.95' | 2.7833' | 54.5793' | 173°55.09' | **10** |
| **11** | 348°33.26' | 15.0023° | 200°24.30' | S 8°35.71' | 0.9235' | 101°51.39' | 14.4819° | 87°06.16' | N 27°03.60' | 2.6494' | 54.5654' | 188°57.56' | **11** |
| **12** | 3°33.40' | 15.0023° | 200°26.62' | S 8°36.63' | 0.9233' | 116°20.30' | 14.4818° | 87°39.72' | N 27°06.12' | 2.5153' | 54.5518' | 204°00.02' | **12** |
| **13** | 18°33.54' | 15.0023° | 200°28.95' | S 8°37.56' | 0.9231' | 130°49.20' | 14.4817° | 88°13.29' | N 27°08.50' | 2.3811' | 54.5384' | 219°02.49' | **13** |
| **14** | 33°33.68' | 15.0023° | 200°31.27' | S 8°38.48' | 0.9229' | 145°18.09' | 14.4816° | 88°46.86' | N 27°10.75' | 2.2468' | 54.5253' | 234°04.95' | **14** |
| **15** | 48°33.82' | 15.0023° | 200°33.60' | S 8°39.40' | 0.9227' | 159°46.99' | 14.4815° | 89°20.43' | N 27°12.86' | 2.1125' | 54.5125' | 249°07.42' | **15** |
| **16** | 63°33.95' | 15.0023° | 200°35.92' | S 8°40.32' | 0.9225' | 174°15.87' | 14.4815° | 89°54.01' | N 27°14.84' | 1.9781' | 54.4999' | 264°09.88' | **16** |
| **17** | 78°34.09' | 15.0023° | 200°38.25' | S 8°41.25' | 0.9223' | 188°44.76' | 14.4814° | 90°27.58' | N 27°16.68' | 1.8437' | 54.4876' | 279°12.34' | **17** |
| **18** | 93°34.23' | 15.0023° | 200°40.58' | S 8°42.17' | 0.9221' | 203°13.65' | 14.4814° | 91°01.16' | N 27°18.39' | 1.7093' | 54.4756' | 294°14.81' | **18** |
| **19** | 108°34.37' | 15.0023° | 200°42.90' | S 8°43.09' | 0.9219' | 217°42.53' | 14.4814° | 91°34.74' | N 27°19.96' | 1.5748' | 54.4639' | 309°17.27' | **19** |
| **20** | 123°34.51' | 15.0023° | 200°45.23' | S 8°44.01' | 0.9217' | 232°11.42' | 14.4815° | 92°08.32' | N 27°21.40' | 1.4404' | 54.4524' | 324°19.74' | **20** |
| **21** | 138°34.64' | 15.0023° | 200°47.56' | S 8°44.93' | 0.9214' | 246°40.31' | 14.4815° | 92°41.89' | N 27°22.71' | 1.3059' | 54.4412' | 339°22.20' | **21** |
| **22** | 153°34.78' | 15.0023° | 200°49.88' | S 8°45.85' | 0.9212' | 261°09.20' | 14.4815° | 93°15.46' | N 27°23.88' | 1.1715' | 54.4303' | 354°24.66' | **22** |
| **23** | 168°34.92' | 15.0023° | 200°52.21' | S 8°46.78' | 0.9210' | 275°38.10' | 14.4816° | 93°49.03' | N 27°24.92' | 1.0372' | 54.4197' | 9°27.13' | **23** |
| **24** | 183°35.05' | 15.0023° | 200°54.54' | S 8°47.70' | 0.9208' | 290°07.00' | 14.4817° | 94°22.59' | N 27°25.82' | 0.9028' | 54.4093' | 24°29.59' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 16.0388' | hp (π) 0.1470' | ½Ø 14.8644' | 70.5632361434991 5% -gib | |
| | EoT at 12:00 UTC : +14m 13s (δ 0.56 s/h) | | Phase at 12:00 UTC : 245.80° | | |
| | Meridian Pass. Time : 11:45:46.399 | | Age : 19.1 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.21') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 184°58.04' | 198°32.41' | S 6°30.80' | 300°04.31' | 83°26.15' | N 23°06.53' | 21°37.20' | 1°53.25' | S 0°55.79' | 62°00.60' | 321°29.85' | S 16°28.77' | **00** |
| **01** | 199°57.61' | 198°35.31' | S 6°32.02' | 315°06.22' | 83°26.70' | N 23°06.64' | 36°39.94' | 1°52.98' | S 0°55.91' | 77°03.10' | 321°29.82' | S 16°28.78' | **01** |
| **02** | 214°57.18' | 198°38.20' | S 6°33.25' | 330°08.14' | 83°27.25' | N 23°06.75' | 51°42.67' | 1°52.71' | S 0°56.02' | 92°05.60' | 321°29.78' | S 16°28.79' | **02** |
| **03** | 229°56.74' | 198°41.10' | S 6°34.47' | 345°10.05' | 83°27.79' | N 23°06.87' | 66°45.41' | 1°52.44' | S 0°56.13' | 107°08.10' | 321°29.75' | S 16°28.80' | **03** |
| **04** | 244°56.31' | 198°44.00' | S 6°35.70' | 0°11.97' | 83°28.34' | N 23°06.98' | 81°48.14' | 1°52.17' | S 0°56.24' | 122°10.59' | 321°29.72' | S 16°28.81' | **04** |
| **05** | 259°55.88' | 198°46.89' | S 6°36.92' | 15°13.89' | 83°28.88' | N 23°07.09' | 96°50.88' | 1°51.90' | S 0°56.35' | 137°13.09' | 321°29.68' | S 16°28.82' | **05** |
| **06** | 274°55.45' | 198°49.79' | S 6°38.14' | 30°15.81' | 83°29.43' | N 23°07.21' | 111°53.61' | 1°51.63' | S 0°56.46' | 152°15.59' | 321°29.65' | S 16°28.82' | **06** |
| **07** | 289°55.01' | 198°52.69' | S 6°39.37' | 45°17.73' | 83°29.97' | N 23°07.32' | 126°56.34' | 1°51.36' | S 0°56.57' | 167°18.09' | 321°29.61' | S 16°28.83' | **07** |
| **08** | 304°54.58' | 198°55.58' | S 6°40.59' | 60°19.66' | 83°30.51' | N 23°07.43' | 141°59.08' | 1°51.09' | S 0°56.69' | 182°20.59' | 321°29.58' | S 16°28.84' | **08** |
| **09** | 319°54.15' | 198°58.48' | S 6°41.81' | 75°21.58' | 83°31.05' | N 23°07.55' | 157°01.81' | 1°50.82' | S 0°56.80' | 197°23.08' | 321°29.55' | S 16°28.85' | **09** |
| **10** | 334°53.71' | 199°01.38' | S 6°43.04' | 90°23.51' | 83°31.59' | N 23°07.66' | 172°04.54' | 1°50.55' | S 0°56.91' | 212°25.58' | 321°29.51' | S 16°28.86' | **10** |
| **11** | 349°53.28' | 199°04.28' | S 6°44.26' | 105°25.43' | 83°32.12' | N 23°07.78' | 187°07.28' | 1°50.28' | S 0°57.02' | 227°28.08' | 321°29.48' | S 16°28.87' | **11** |
| **12** | 4°52.85' | 199°07.18' | S 6°45.48' | 120°27.36' | 83°32.66' | N 23°07.89' | 202°10.01' | 1°50.01' | S 0°57.13' | 242°30.57' | 321°29.45' | S 16°28.87' | **12** |
| **13** | 19°52.41' | 199°10.08' | S 6°46.71' | 135°29.29' | 83°33.19' | N 23°08.00' | 217°12.74' | 1°49.75' | S 0°57.24' | 257°33.07' | 321°29.42' | S 16°28.88' | **13** |
| **14** | 34°51.98' | 199°12.97' | S 6°47.93' | 150°31.22' | 83°33.73' | N 23°08.12' | 232°15.47' | 1°49.48' | S 0°57.35' | 272°35.57' | 321°29.38' | S 16°28.89' | **14** |
| **15** | 49°51.54' | 199°15.87' | S 6°49.15' | 165°33.16' | 83°34.26' | N 23°08.23' | 247°18.21' | 1°49.21' | S 0°57.46' | 287°38.06' | 321°29.35' | S 16°28.90' | **15** |
| **16** | 64°51.11' | 199°18.77' | S 6°50.37' | 180°35.09' | 83°34.79' | N 23°08.34' | 262°20.94' | 1°48.94' | S 0°57.57' | 302°40.56' | 321°29.32' | S 16°28.90' | **16** |
| **17** | 79°50.67' | 199°21.67' | S 6°51.59' | 195°37.02' | 83°35.32' | N 23°08.45' | 277°23.67' | 1°48.67' | S 0°57.68' | 317°43.06' | 321°29.29' | S 16°28.91' | **17** |
| **18** | 94°50.24' | 199°24.57' | S 6°52.81' | 210°38.96' | 83°35.85' | N 23°08.57' | 292°26.40' | 1°48.41' | S 0°57.79' | 332°45.55' | 321°29.26' | S 16°28.92' | **18** |
| **19** | 109°49.80' | 199°27.47' | S 6°54.04' | 225°40.90' | 83°36.37' | N 23°08.68' | 307°29.13' | 1°48.14' | S 0°57.90' | 347°48.05' | 321°29.22' | S 16°28.93' | **19** |
| **20** | 124°49.36' | 199°30.37' | S 6°55.26' | 240°42.84' | 83°36.90' | N 23°08.79' | 322°31.86' | 1°47.87' | S 0°58.01' | 2°50.54' | 321°29.19' | S 16°28.94' | **20** |
| **21** | 139°48.93' | 199°33.27' | S 6°56.48' | 255°44.78' | 83°37.42' | N 23°08.91' | 337°34.60' | 1°47.60' | S 0°58.12' | 17°53.04' | 321°29.16' | S 16°28.94' | **21** |
| **22** | 154°48.49' | 199°36.17' | S 6°57.70' | 270°46.72' | 83°37.94' | N 23°09.02' | 352°37.33' | 1°47.34' | S 0°58.23' | 32°55.53' | 321°29.13' | S 16°28.95' | **22** |
| **23** | 169°48.05' | 199°39.07' | S 6°58.92' | 285°48.66' | 83°38.47' | N 23°09.13' | 7°40.06' | 1°47.07' | S 0°58.34' | 47°58.03' | 321°29.10' | S 16°28.96' | **23** |
| **24** | 184°47.62' | 199°41.98' | S 7°00.14' | 300°50.61' | 83°38.99' | N 23°09.25' | 22°42.79' | 1°46.80' | S 0°58.45' | 63°00.52' | 321°29.07' | S 16°28.96' | **24** |
| | δ 14.9928° | | *d* 1.2253' | δ 15.0319° | | *d* 0.1136' | δ 15.0456° | | *d* 0.1117' | δ 15.0416° | | *d* 0.0086' | |

## *Sunday, October 16th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°35.05' | 15.0023° | 200°54.54' | S 8°47.70' | 0.9208' | 290°07.00' | 14.4817° | 94°22.59' | N 27°25.82' | 0.9028' | 54.4093' | 24°29.59' | **00** |
| **01** | 198°35.19' | 15.0023° | 200°56.87' | S 8°48.62' | 0.9206' | 304°35.91' | 14.4818° | 94°56.15' | N 27°26.59' | 0.7686' | 54.3993' | 39°32.06' | **01** |
| **02** | 213°35.32' | 15.0023° | 200°59.20' | S 8°49.54' | 0.9204' | 319°04.82' | 14.4819° | 95°29.70' | N 27°27.22' | 0.6344' | 54.3895' | 54°34.52' | **02** |
| **03** | 228°35.46' | 15.0023° | 201°01.53' | S 8°50.46' | 0.9202' | 333°33.74' | 14.4820° | 96°03.24' | N 27°27.72' | 0.5003' | 54.3800' | 69°36.99' | **03** |
| **04** | 243°35.59' | 15.0023° | 201°03.85' | S 8°51.38' | 0.9199' | 348°02.67' | 14.4822° | 96°36.78' | N 27°28.09' | 0.3663' | 54.3708' | 84°39.45' | **04** |
| **05** | 258°35.73' | 15.0023° | 201°06.18' | S 8°52.30' | 0.9197' | 2°31.61' | 14.4823° | 97°10.30' | N 27°28.32' | 0.2324' | 54.3618' | 99°41.91' | **05** |
| **06** | 273°35.86' | 15.0022° | 201°08.51' | S 8°53.22' | 0.9195' | 17°00.57' | 14.4825° | 97°43.81' | N 27°28.42' | 0.0986' | 54.3532' | 114°44.38' | **06** |
| **07** | 288°36.00' | 15.0022° | 201°10.84' | S 8°54.14' | 0.9193' | 31°29.53' | 14.4827° | 98°17.31' | N 27°28.39' | 0.0350' | 54.3448' | 129°46.84' | **07** |
| **08** | 303°36.13' | 15.0022° | 201°13.17' | S 8°55.05' | 0.9191' | 45°58.50' | 14.4829° | 98°50.80' | N 27°28.22' | 0.1685' | 54.3368' | 144°49.31' | **08** |
| **09** | 318°36.27' | 15.0022° | 201°15.50' | S 8°55.97' | 0.9189' | 60°27.49' | 14.4832° | 99°24.28' | N 27°27.92' | 0.3018' | 54.3290' | 159°51.77' | **09** |
| **10** | 333°36.40' | 15.0022° | 201°17.83' | S 8°56.89' | 0.9187' | 74°56.50' | 14.4834° | 99°57.74' | N 27°27.48' | 0.4350' | 54.3215' | 174°54.23' | **10** |
| **11** | 348°36.53' | 15.0022° | 201°20.16' | S 8°57.81' | 0.9184' | 89°25.52' | 14.4837° | 100°31.18' | N 27°26.91' | 0.5680' | 54.3144' | 189°56.70' | **11** |
| **12** | 3°36.67' | 15.0022° | 201°22.50' | S 8°58.73' | 0.9182' | 103°54.55' | 14.4839° | 101°04.61' | N 27°26.21' | 0.7008' | 54.3075' | 204°59.16' | **12** |
| **13** | 18°36.80' | 15.0022° | 201°24.83' | S 8°59.65' | 0.9180' | 118°23.61' | 14.4842° | 101°38.02' | N 27°25.38' | 0.8334' | 54.3009' | 220°01.63' | **13** |
| **14** | 33°36.93' | 15.0022° | 201°27.16' | S 9°00.56' | 0.9178' | 132°52.68' | 14.4845° | 102°11.41' | N 27°24.41' | 0.9658' | 54.2946' | 235°04.09' | **14** |
| **15** | 48°37.07' | 15.0022° | 201°29.49' | S 9°01.48' | 0.9176' | 147°21.77' | 14.4849° | 102°44.78' | N 27°23.32' | 1.0979' | 54.2886' | 250°06.56' | **15** |
| **16** | 63°37.20' | 15.0022° | 201°31.82' | S 9°02.40' | 0.9173' | 161°50.88' | 14.4852° | 103°18.14' | N 27°22.09' | 1.2298' | 54.2829' | 265°09.02' | **16** |
| **17** | 78°37.33' | 15.0022° | 201°34.15' | S 9°03.32' | 0.9171' | 176°20.02' | 14.4855° | 103°51.47' | N 27°20.72' | 1.3615' | 54.2774' | 280°11.48' | **17** |
| **18** | 93°37.46' | 15.0022° | 201°36.49' | S 9°04.23' | 0.9169' | 190°49.17' | 14.4859° | 104°24.78' | N 27°19.23' | 1.4929' | 54.2723' | 295°13.95' | **18** |
| **19** | 108°37.59' | 15.0022° | 201°38.82' | S 9°05.15' | 0.9167' | 205°18.35' | 14.4863° | 104°58.07' | N 27°17.61' | 1.6241' | 54.2675' | 310°16.41' | **19** |
| **20** | 123°37.72' | 15.0022° | 201°41.15' | S 9°06.07' | 0.9165' | 219°47.55' | 14.4867° | 105°31.33' | N 27°15.85' | 1.7549' | 54.2630' | 325°18.88' | **20** |
| **21** | 138°37.85' | 15.0022° | 201°43.49' | S 9°06.98' | 0.9162' | 234°16.77' | 14.4871° | 106°04.57' | N 27°13.97' | 1.8855' | 54.2588' | 340°21.34' | **21** |
| **22** | 153°37.99' | 15.0022° | 201°45.82' | S 9°07.90' | 0.9160' | 248°46.02' | 14.4875° | 106°37.78' | N 27°11.95' | 2.0158' | 54.2549' | 355°23.80' | **22** |
| **23** | 168°38.12' | 15.0022° | 201°48.15' | S 9°08.81' | 0.9158' | 263°15.30' | 14.4879° | 107°10.97' | N 27°09.81' | 2.1458' | 54.2513' | 10°26.27' | **23** |
| **24** | 183°38.25' | 15.0022° | 201°50.49' | S 9°09.73' | 0.9156' | 277°44.60' | 14.4884° | 107°44.13' | N 27°07.53' | 2.2754' | 54.2480' | 25°28.73' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0433' | hp (π) 0.1470' | ½Ø 14.7978' | 61.5596515815674<br>2% -gib |
| | EoT at 12:00 UTC : +14m 26s (δ 0.53 s/h) | | Phase at 12:00 UTC : 256.74° | |
| | Meridian Pass. Time : 11:45:33.329 | | Age : 20.0 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.21') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 184°47.62' | 199°41.98' | S 7°00.14' | 300°50.61' | 83°38.99' | N 23°09.25' | 22°42.79' | 1°46.80' | S 0°58.45' | 63°00.52' | 321°29.07' | S 16°28.96' | **00** |
| **01** | 199°47.18' | 199°44.88' | S 7°01.36' | 315°52.55' | 83°39.50' | N 23°09.36' | 37°45.52' | 1°46.54' | S 0°58.56' | 78°03.02' | 321°29.04' | S 16°28.97' | **01** |
| **02** | 214°46.74' | 199°47.78' | S 7°02.57' | 330°54.50' | 83°40.02' | N 23°09.47' | 52°48.25' | 1°46.27' | S 0°58.67' | 93°05.51' | 321°29.01' | S 16°28.98' | **02** |
| **03** | 229°46.30' | 199°50.68' | S 7°03.79' | 345°56.45' | 83°40.54' | N 23°09.59' | 67°50.98' | 1°46.00' | S 0°58.78' | 108°08.01' | 321°28.98' | S 16°28.99' | **03** |
| **04** | 244°45.86' | 199°53.58' | S 7°05.01' | 0°58.40' | 83°41.05' | N 23°09.70' | 82°53.71' | 1°45.74' | S 0°58.89' | 123°10.50' | 321°28.95' | S 16°28.99' | **04** |
| **05** | 259°45.43' | 199°56.49' | S 7°06.23' | 16°00.35' | 83°41.57' | N 23°09.81' | 97°56.44' | 1°45.47' | S 0°59.00' | 138°13.00' | 321°28.92' | S 16°29.00' | **05** |
| **06** | 274°44.99' | 199°59.39' | S 7°07.45' | 31°02.30' | 83°42.08' | N 23°09.93' | 112°59.17' | 1°45.21' | S 0°59.11' | 153°15.49' | 321°28.89' | S 16°29.01' | **06** |
| **07** | 289°44.55' | 200°02.29' | S 7°08.67' | 46°04.25' | 83°42.59' | N 23°10.04' | 128°01.90' | 1°44.94' | S 0°59.22' | 168°17.98' | 321°28.86' | S 16°29.01' | **07** |
| **08** | 304°44.11' | 200°05.20' | S 7°09.88' | 61°06.21' | 83°43.10' | N 23°10.15' | 143°04.63' | 1°44.68' | S 0°59.33' | 183°20.48' | 321°28.83' | S 16°29.02' | **08** |
| **09** | 319°43.67' | 200°08.10' | S 7°11.10' | 76°08.16' | 83°43.61' | N 23°10.26' | 158°07.36' | 1°44.41' | S 0°59.43' | 198°22.97' | 321°28.80' | S 16°29.03' | **09** |
| **10** | 334°43.23' | 200°11.01' | S 7°12.32' | 91°10.12' | 83°44.11' | N 23°10.38' | 173°10.09' | 1°44.15' | S 0°59.54' | 213°25.46' | 321°28.77' | S 16°29.04' | **10** |
| **11** | 349°42.79' | 200°13.91' | S 7°13.54' | 106°12.08' | 83°44.62' | N 23°10.49' | 188°12.82' | 1°43.88' | S 0°59.65' | 228°27.96' | 321°28.74' | S 16°29.04' | **11** |
| **12** | 4°42.35' | 200°16.81' | S 7°14.75' | 121°14.04' | 83°45.12' | N 23°10.60' | 203°15.54' | 1°43.62' | S 0°59.76' | 243°30.45' | 321°28.71' | S 16°29.05' | **12** |
| **13** | 19°41.91' | 200°19.72' | S 7°15.97' | 136°16.00' | 83°45.63' | N 23°10.72' | 218°18.27' | 1°43.35' | S 0°59.87' | 258°32.94' | 321°28.69' | S 16°29.06' | **13** |
| **14** | 34°41.47' | 200°22.62' | S 7°17.18' | 151°17.96' | 83°46.13' | N 23°10.83' | 233°21.00' | 1°43.09' | S 0°59.98' | 273°35.43' | 321°28.66' | S 16°29.06' | **14** |
| **15** | 49°41.03' | 200°25.53' | S 7°18.40' | 166°19.93' | 83°46.63' | N 23°10.94' | 248°23.73' | 1°42.83' | S 1°00.09' | 288°37.93' | 321°28.63' | S 16°29.07' | **15** |
| **16** | 64°40.58' | 200°28.44' | S 7°19.62' | 181°21.89' | 83°47.13' | N 23°11.05' | 263°26.46' | 1°42.56' | S 1°00.19' | 303°40.42' | 321°28.60' | S 16°29.08' | **16** |
| **17** | 79°40.14' | 200°31.34' | S 7°20.83' | 196°23.86' | 83°47.62' | N 23°11.17' | 278°29.19' | 1°42.30' | S 1°00.30' | 318°42.91' | 321°28.57' | S 16°29.08' | **17** |
| **18** | 94°39.70' | 200°34.25' | S 7°22.05' | 211°25.83' | 83°48.12' | N 23°11.28' | 293°31.91' | 1°42.03' | S 1°00.41' | 333°45.40' | 321°28.55' | S 16°29.09' | **18** |
| **19** | 109°39.26' | 200°37.15' | S 7°23.26' | 226°27.80' | 83°48.61' | N 23°11.39' | 308°34.64' | 1°41.77' | S 1°00.52' | 348°47.89' | 321°28.52' | S 16°29.09' | **19** |
| **20** | 124°38.81' | 200°40.06' | S 7°24.48' | 241°29.77' | 83°49.11' | N 23°11.51' | 323°37.37' | 1°41.51' | S 1°00.63' | 3°50.39' | 321°28.49' | S 16°29.10' | **20** |
| **21** | 139°38.37' | 200°42.97' | S 7°25.69' | 256°31.74' | 83°49.60' | N 23°11.62' | 338°40.09' | 1°41.25' | S 1°00.73' | 18°52.88' | 321°28.46' | S 16°29.11' | **21** |
| **22** | 154°37.93' | 200°45.88' | S 7°26.90' | 271°33.71' | 83°50.09' | N 23°11.73' | 353°42.82' | 1°40.98' | S 1°00.84' | 33°55.37' | 321°28.44' | S 16°29.11' | **22** |
| **23** | 169°37.48' | 200°48.78' | S 7°28.12' | 286°35.69' | 83°50.58' | N 23°11.84' | 8°45.55' | 1°40.72' | S 1°00.95' | 48°57.86' | 321°28.41' | S 16°29.12' | **23** |
| **24** | 184°37.04' | 200°51.69' | S 7°29.33' | 301°37.66' | 83°51.07' | N 23°11.96' | 23°48.27' | 1°40.46' | S 1°01.06' | 64°00.35' | 321°28.38' | S 16°29.12' | **24** |
| | δ 14.9927° | | *d* 1.2194' | δ 15.0324° | | *d* 0.1131' | δ 15.0455° | | *d* 0.1096' | δ 15.0416° | | *d* 0.0073' | |

## *Monday, October 17th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°38.25' | 15.0022° | 201°50.49' | S 9°09.73' | 0.9156' | 277°44.60' | 14.4884° | 107°44.13' | N 27°07.53' | 2.2754' | 54.2480' | 25°28.73' | **00** |
| **01** | 198°38.38' | 15.0022° | 201°52.82' | S 9°10.65' | 0.9153' | 292°13.94' | 14.4889° | 108°17.26' | N 27°05.13' | 2.4048' | 54.2450' | 40°31.20' | **01** |
| **02** | 213°38.51' | 15.0022° | 201°55.16' | S 9°11.56' | 0.9151' | 306°43.30' | 14.4893° | 108°50.37' | N 27°02.59' | 2.5338' | 54.2423' | 55°33.66' | **02** |
| **03** | 228°38.63' | 15.0022° | 201°57.49' | S 9°12.48' | 0.9149' | 321°12.69' | 14.4898° | 109°23.44' | N 26°59.93' | 2.6624' | 54.2399' | 70°36.13' | **03** |
| **04** | 243°38.76' | 15.0022° | 201°59.83' | S 9°13.39' | 0.9147' | 335°42.11' | 14.4903° | 109°56.48' | N 26°57.14' | 2.7907' | 54.2378' | 85°38.59' | **04** |
| **05** | 258°38.89' | 15.0021° | 202°02.16' | S 9°14.30' | 0.9144' | 350°11.56' | 14.4908° | 110°29.50' | N 26°54.22' | 2.9186' | 54.2360' | 100°41.05' | **05** |
| **06** | 273°39.02' | 15.0021° | 202°04.50' | S 9°15.22' | 0.9142' | 4°41.04' | 14.4914° | 111°02.48' | N 26°51.17' | 3.0462' | 54.2345' | 115°43.52' | **06** |
| **07** | 288°39.15' | 15.0021° | 202°06.83' | S 9°16.13' | 0.9140' | 19°10.55' | 14.4919° | 111°35.43' | N 26°48.00' | 3.1733' | 54.2333' | 130°45.98' | **07** |
| **08** | 303°39.28' | 15.0021° | 202°09.17' | S 9°17.05' | 0.9138' | 33°40.10' | 14.4925° | 112°08.34' | N 26°44.70' | 3.3001' | 54.2325' | 145°48.45' | **08** |
| **09** | 318°39.40' | 15.0021° | 202°11.51' | S 9°17.96' | 0.9135' | 48°09.68' | 14.4930° | 112°41.23' | N 26°41.27' | 3.4265' | 54.2319' | 160°50.91' | **09** |
| **10** | 333°39.53' | 15.0021° | 202°13.84' | S 9°18.87' | 0.9133' | 62°39.30' | 14.4936° | 113°14.08' | N 26°37.72' | 3.5525' | 54.2316' | 175°53.37' | **10** |
| **11** | 348°39.66' | 15.0021° | 202°16.18' | S 9°19.79' | 0.9131' | 77°08.95' | 14.4942° | 113°46.89' | N 26°34.04' | 3.6780' | 54.2317' | 190°55.84' | **11** |
| **12** | 3°39.79' | 15.0021° | 202°18.52' | S 9°20.70' | 0.9128' | 91°38.64' | 14.4948° | 114°19.67' | N 26°30.24' | 3.8031' | 54.2320' | 205°58.30' | **12** |
| **13** | 18°39.91' | 15.0021° | 202°20.85' | S 9°21.61' | 0.9126' | 106°08.36' | 14.4954° | 114°52.41' | N 26°26.31' | 3.9278' | 54.2327' | 221°00.77' | **13** |
| **14** | 33°40.04' | 15.0021° | 202°23.19' | S 9°22.52' | 0.9124' | 120°38.12' | 14.4960° | 115°25.11' | N 26°22.26' | 4.0521' | 54.2337' | 236°03.23' | **14** |
| **15** | 48°40.17' | 15.0021° | 202°25.53' | S 9°23.44' | 0.9122' | 135°07.92' | 14.4966° | 115°57.78' | N 26°18.08' | 4.1759' | 54.2349' | 251°05.69' | **15** |
| **16** | 63°40.29' | 15.0021° | 202°27.87' | S 9°24.35' | 0.9119' | 149°37.75' | 14.4973° | 116°30.40' | N 26°13.78' | 4.2992' | 54.2365' | 266°08.16' | **16** |
| **17** | 78°40.42' | 15.0021° | 202°30.21' | S 9°25.26' | 0.9117' | 164°07.63' | 14.4979° | 117°02.99' | N 26°09.36' | 4.4221' | 54.2384' | 281°10.62' | **17** |
| **18** | 93°40.54' | 15.0021° | 202°32.55' | S 9°26.17' | 0.9115' | 178°37.54' | 14.4986° | 117°35.54' | N 26°04.82' | 4.5445' | 54.2406' | 296°13.09' | **18** |
| **19** | 108°40.67' | 15.0021° | 202°34.88' | S 9°27.08' | 0.9112' | 193°07.50' | 14.4992° | 118°08.05' | N 26°00.15' | 4.6665' | 54.2431' | 311°15.55' | **19** |
| **20** | 123°40.79' | 15.0021° | 202°37.22' | S 9°27.99' | 0.9110' | 207°37.49' | 14.4999° | 118°40.52' | N 25°55.36' | 4.7879' | 54.2459' | 326°18.02' | **20** |
| **21** | 138°40.92' | 15.0021° | 202°39.56' | S 9°28.90' | 0.9108' | 222°07.53' | 14.5006° | 119°12.95' | N 25°50.45' | 4.9089' | 54.2490' | 341°20.48' | **21** |
| **22** | 153°41.04' | 15.0021° | 202°41.90' | S 9°29.82' | 0.9105' | 236°37.61' | 14.5013° | 119°45.34' | N 25°45.43' | 5.0293' | 54.2524' | 356°22.94' | **22** |
| **23** | 168°41.16' | 15.0021° | 202°44.24' | S 9°30.73' | 0.9103' | 251°07.72' | 14.5020° | 120°17.68' | N 25°40.28' | 5.1493' | 54.2561' | 11°25.41' | **23** |
| **24** | 183°41.29' | 15.0021° | 202°46.58' | S 9°31.64' | 0.9101' | 265°37.88' | 14.5027° | 120°49.99' | N 25°35.01' | 5.2688' | 54.2602' | 26°27.87' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0477' | hp (π) 0.1471' | ½Ø 14.7773' | 52.2028826755683 % -gib |
| | EoT at 12:00 UTC : +14m 39s (δ 0.51 s/h) | | Phase at 12:00 UTC : 267.62° | |
| | Meridian Pass. Time : 11:45:20.855 | | Age : 20.8 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.21') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 184°37.04' | 200°51.69' | S 7°29.33' | 301°37.66' | 83°51.07' | N 23°11.96' | 23°48.27' | 1°40.46' | S 1°01.06' | 64°00.35' | 321°28.38' | S 16°29.12' | **00** |
| **01** | 199°36.60' | 200°54.60' | S 7°30.54' | 316°39.64' | 83°51.55' | N 23°12.07' | 38°51.00' | 1°40.20' | S 1°01.17' | 79°02.84' | 321°28.36' | S 16°29.13' | **01** |
| **02** | 214°36.15' | 200°57.51' | S 7°31.76' | 331°41.62' | 83°52.04' | N 23°12.18' | 53°53.73' | 1°39.93' | S 1°01.27' | 94°05.33' | 321°28.33' | S 16°29.14' | **02** |
| **03** | 229°35.71' | 201°00.42' | S 7°32.97' | 346°43.60' | 83°52.52' | N 23°12.29' | 68°56.45' | 1°39.67' | S 1°01.38' | 109°07.82' | 321°28.30' | S 16°29.14' | **03** |
| **04** | 244°35.26' | 201°03.33' | S 7°34.18' | 1°45.58' | 83°53.01' | N 23°12.41' | 83°59.18' | 1°39.41' | S 1°01.49' | 124°10.31' | 321°28.28' | S 16°29.15' | **04** |
| **05** | 259°34.82' | 201°06.24' | S 7°35.39' | 16°47.56' | 83°53.49' | N 23°12.52' | 99°01.90' | 1°39.15' | S 1°01.59' | 139°12.80' | 321°28.25' | S 16°29.15' | **05** |
| **06** | 274°34.37' | 201°09.15' | S 7°36.61' | 31°49.55' | 83°53.97' | N 23°12.63' | 114°04.63' | 1°38.89' | S 1°01.70' | 154°15.29' | 321°28.23' | S 16°29.16' | **06** |
| **07** | 289°33.93' | 201°12.05' | S 7°37.82' | 46°51.53' | 83°54.45' | N 23°12.74' | 129°07.36' | 1°38.63' | S 1°01.81' | 169°17.78' | 321°28.20' | S 16°29.17' | **07** |
| **08** | 304°33.48' | 201°14.97' | S 7°39.03' | 61°53.52' | 83°54.92' | N 23°12.86' | 144°10.08' | 1°38.37' | S 1°01.92' | 184°20.27' | 321°28.18' | S 16°29.17' | **08** |
| **09** | 319°33.03' | 201°17.88' | S 7°40.24' | 76°55.51' | 83°55.40' | N 23°12.97' | 159°12.81' | 1°38.10' | S 1°02.02' | 199°22.76' | 321°28.15' | S 16°29.18' | **09** |
| **10** | 334°32.59' | 201°20.79' | S 7°41.45' | 91°57.50' | 83°55.87' | N 23°13.08' | 174°15.53' | 1°37.84' | S 1°02.13' | 214°25.25' | 321°28.13' | S 16°29.18' | **10** |
| **11** | 349°32.14' | 201°23.70' | S 7°42.66' | 106°59.49' | 83°56.35' | N 23°13.19' | 189°18.25' | 1°37.58' | S 1°02.24' | 229°27.74' | 321°28.10' | S 16°29.19' | **11** |
| **12** | 4°31.69' | 201°26.61' | S 7°43.87' | 122°01.48' | 83°56.82' | N 23°13.31' | 204°20.98' | 1°37.32' | S 1°02.34' | 244°30.22' | 321°28.08' | S 16°29.19' | **12** |
| **13** | 19°31.25' | 201°29.52' | S 7°45.08' | 137°03.48' | 83°57.29' | N 23°13.42' | 219°23.70' | 1°37.06' | S 1°02.45' | 259°32.71' | 321°28.05' | S 16°29.20' | **13** |
| **14** | 34°30.80' | 201°32.43' | S 7°46.29' | 152°05.47' | 83°57.76' | N 23°13.53' | 234°26.43' | 1°36.80' | S 1°02.55' | 274°35.20' | 321°28.03' | S 16°29.20' | **14** |
| **15** | 49°30.35' | 201°35.34' | S 7°47.50' | 167°07.47' | 83°58.23' | N 23°13.64' | 249°29.15' | 1°36.54' | S 1°02.66' | 289°37.69' | 321°28.01' | S 16°29.21' | **15** |
| **16** | 64°29.90' | 201°38.26' | S 7°48.71' | 182°09.47' | 83°58.69' | N 23°13.76' | 264°31.87' | 1°36.28' | S 1°02.77' | 304°40.18' | 321°27.98' | S 16°29.21' | **16** |
| **17** | 79°29.45' | 201°41.17' | S 7°49.92' | 197°11.46' | 83°59.16' | N 23°13.87' | 279°34.60' | 1°36.03' | S 1°02.87' | 319°42.67' | 321°27.96' | S 16°29.22' | **17** |
| **18** | 94°29.00' | 201°44.08' | S 7°51.12' | 212°13.46' | 83°59.62' | N 23°13.98' | 294°37.32' | 1°35.77' | S 1°02.98' | 334°45.15' | 321°27.93' | S 16°29.22' | **18** |
| **19** | 109°28.55' | 201°47.00' | S 7°52.33' | 227°15.47' | 84°00.08' | N 23°14.09' | 309°40.04' | 1°35.51' | S 1°03.09' | 349°47.64' | 321°27.91' | S 16°29.23' | **19** |
| **20** | 124°28.11' | 201°49.91' | S 7°53.54' | 242°17.47' | 84°00.55' | N 23°14.21' | 324°42.77' | 1°35.25' | S 1°03.19' | 4°50.13' | 321°27.89' | S 16°29.23' | **20** |
| **21** | 139°27.66' | 201°52.82' | S 7°54.75' | 257°19.47' | 84°01.01' | N 23°14.32' | 339°45.49' | 1°34.99' | S 1°03.30' | 19°52.61' | 321°27.86' | S 16°29.24' | **21** |
| **22** | 154°27.21' | 201°55.74' | S 7°55.95' | 272°21.48' | 84°01.46' | N 23°14.43' | 354°48.21' | 1°34.73' | S 1°03.40' | 34°55.10' | 321°27.84' | S 16°29.24' | **22** |
| **23** | 169°26.75' | 201°58.65' | S 7°57.16' | 287°23.49' | 84°01.92' | N 23°14.54' | 9°50.93' | 1°34.47' | S 1°03.51' | 49°57.59' | 321°27.82' | S 16°29.25' | **23** |
| **24** | 184°26.30' | 202°01.57' | S 7°58.37' | 302°25.50' | 84°02.38' | N 23°14.65' | 24°53.66' | 1°34.22' | S 1°03.61' | 65°00.08' | 321°27.80' | S 16°29.25' | **24** |
| | δ 14.9926° | | *d* 1.2131' | δ 15.0330° | | *d* 0.1126' | δ 15.0454° | | *d* 0.1075' | δ 15.0415° | | *d* 0.0060' | |

## *Tuesday, October 18th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°41.29' | 15.0021° | 202°46.58' | S 9°31.64' | 0.9101' | 265°37.88' | 14.5027° | 120°49.99' | N 25°35.01' | 5.2688' | 54.2602' | 26°27.87' | **00** |
| **01** | 198°41.41' | 15.0021° | 202°48.92' | S 9°32.55' | 0.9098' | 280°08.09' | 14.5034° | 121°22.25' | N 25°29.62' | 5.3877' | 54.2645' | 41°30.34' | **01** |
| **02** | 213°41.53' | 15.0021° | 202°51.27' | S 9°33.46' | 0.9096' | 294°38.33' | 14.5041° | 121°54.47' | N 25°24.11' | 5.5061' | 54.2691' | 56°32.80' | **02** |
| **03** | 228°41.66' | 15.0020° | 202°53.61' | S 9°34.36' | 0.9094' | 309°08.62' | 14.5048° | 122°26.64' | N 25°18.49' | 5.6240' | 54.2741' | 71°35.26' | **03** |
| **04** | 243°41.78' | 15.0020° | 202°55.95' | S 9°35.27' | 0.9091' | 323°38.96' | 14.5056° | 122°58.77' | N 25°12.75' | 5.7414' | 54.2793' | 86°37.73' | **04** |
| **05** | 258°41.90' | 15.0020° | 202°58.29' | S 9°36.18' | 0.9089' | 338°09.34' | 14.5063° | 123°30.86' | N 25°06.89' | 5.8582' | 54.2849' | 101°40.19' | **05** |
| **06** | 273°42.02' | 15.0020° | 203°00.63' | S 9°37.09' | 0.9086' | 352°39.76' | 14.5070° | 124°02.90' | N 25°00.92' | 5.9745' | 54.2907' | 116°42.66' | **06** |
| **07** | 288°42.15' | 15.0020° | 203°02.97' | S 9°38.00' | 0.9084' | 7°10.23' | 14.5078° | 124°34.89' | N 24°54.83' | 6.0902' | 54.2969' | 131°45.12' | **07** |
| **08** | 303°42.27' | 15.0020° | 203°05.32' | S 9°38.91' | 0.9082' | 21°40.74' | 14.5085° | 125°06.85' | N 24°48.62' | 6.2054' | 54.3033' | 146°47.59' | **08** |
| **09** | 318°42.39' | 15.0020° | 203°07.66' | S 9°39.82' | 0.9079' | 36°11.30' | 14.5093° | 125°38.75' | N 24°42.30' | 6.3200' | 54.3101' | 161°50.05' | **09** |
| **10** | 333°42.51' | 15.0020° | 203°10.00' | S 9°40.72' | 0.9077' | 50°41.90' | 14.5101° | 126°10.61' | N 24°35.87' | 6.4340' | 54.3172' | 176°52.51' | **10** |
| **11** | 348°42.63' | 15.0020° | 203°12.35' | S 9°41.63' | 0.9074' | 65°12.55' | 14.5108° | 126°42.43' | N 24°29.32' | 6.5475' | 54.3245' | 191°54.98' | **11** |
| **12** | 3°42.75' | 15.0020° | 203°14.69' | S 9°42.54' | 0.9072' | 79°43.24' | 14.5116° | 127°14.20' | N 24°22.66' | 6.6604' | 54.3322' | 206°57.44' | **12** |
| **13** | 18°42.87' | 15.0020° | 203°17.03' | S 9°43.44' | 0.9070' | 94°13.99' | 14.5124° | 127°45.92' | N 24°15.89' | 6.7727' | 54.3402' | 221°59.91' | **13** |
| **14** | 33°42.99' | 15.0020° | 203°19.38' | S 9°44.35' | 0.9067' | 108°44.77' | 14.5131° | 128°17.60' | N 24°09.00' | 6.8845' | 54.3484' | 237°02.37' | **14** |
| **15** | 48°43.11' | 15.0020° | 203°21.72' | S 9°45.26' | 0.9065' | 123°15.61' | 14.5139° | 128°49.23' | N 24°02.01' | 6.9957' | 54.3570' | 252°04.83' | **15** |
| **16** | 63°43.23' | 15.0020° | 203°24.07' | S 9°46.16' | 0.9062' | 137°46.49' | 14.5147° | 129°20.81' | N 23°54.90' | 7.1062' | 54.3659' | 267°07.30' | **16** |
| **17** | 78°43.35' | 15.0020° | 203°26.41' | S 9°47.07' | 0.9060' | 152°17.42' | 14.5155° | 129°52.34' | N 23°47.68' | 7.2162' | 54.3750' | 282°09.76' | **17** |
| **18** | 93°43.47' | 15.0020° | 203°28.76' | S 9°47.98' | 0.9057' | 166°48.39' | 14.5163° | 130°23.83' | N 23°40.36' | 7.3256' | 54.3845' | 297°12.23' | **18** |
| **19** | 108°43.59' | 15.0020° | 203°31.10' | S 9°48.88' | 0.9055' | 181°19.42' | 14.5170° | 130°55.27' | N 23°32.92' | 7.4344' | 54.3942' | 312°14.69' | **19** |
| **20** | 123°43.71' | 15.0020° | 203°33.45' | S 9°49.79' | 0.9053' | 195°50.49' | 14.5178° | 131°26.67' | N 23°25.38' | 7.5426' | 54.4043' | 327°17.15' | **20** |
| **21** | 138°43.82' | 15.0020° | 203°35.80' | S 9°50.69' | 0.9050' | 210°21.60' | 14.5186° | 131°58.02' | N 23°17.73' | 7.6501' | 54.4146' | 342°19.62' | **21** |
| **22** | 153°43.94' | 15.0020° | 203°38.14' | S 9°51.60' | 0.9048' | 224°52.77' | 14.5194° | 132°29.32' | N 23°09.97' | 7.7571' | 54.4252' | 357°22.08' | **22** |
| **23** | 168°44.06' | 15.0020° | 203°40.49' | S 9°52.50' | 0.9045' | 239°23.98' | 14.5202° | 133°00.57' | N 23°02.11' | 7.8635' | 54.4361' | 12°24.55' | **23** |
| **24** | 183°44.18' | 15.0020° | 203°42.84' | S 9°53.41' | 0.9043' | 253°55.24' | 14.5210° | 133°31.78' | N 22°54.14' | 7.9692' | 54.4474' | 27°27.01' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0521' | hp (π) 0.1471' | ½Ø 14.8046' | 42.7592767705814 5% -cre |
| | EoT at 12:00 UTC : +14m 51s (δ 0.48 s/h) | | Phase at 12:00 UTC : 278.52° | |
| | Meridian Pass. Time : 11:45:08.994 | | Age : 21.7 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.21') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 184°26.30' | 202°01.57' | S 7°58.37' | 302°25.50' | 84°02.38' | N 23°14.65' | 24°53.66' | 1°34.22' | S 1°03.61' | 65°00.08' | 321°27.80' | S 16°29.25' | **00** |
| **01** | 199°25.85' | 202°04.48' | S 7°59.57' | 317°27.51' | 84°02.83' | N 23°14.77' | 39°56.38' | 1°33.96' | S 1°03.72' | 80°02.56' | 321°27.77' | S 16°29.26' | **01** |
| **02** | 214°25.40' | 202°07.40' | S 8°00.78' | 332°29.52' | 84°03.28' | N 23°14.88' | 54°59.10' | 1°33.70' | S 1°03.82' | 95°05.05' | 321°27.75' | S 16°29.26' | **02** |
| **03** | 229°24.95' | 202°10.31' | S 8°01.98' | 347°31.53' | 84°03.73' | N 23°14.99' | 70°01.82' | 1°33.44' | S 1°03.93' | 110°07.53' | 321°27.73' | S 16°29.27' | **03** |
| **04** | 244°24.50' | 202°13.23' | S 8°03.19' | 2°33.54' | 84°04.18' | N 23°15.10' | 85°04.54' | 1°33.19' | S 1°04.03' | 125°10.02' | 321°27.71' | S 16°29.27' | **04** |
| **05** | 259°24.05' | 202°16.15' | S 8°04.40' | 17°35.56' | 84°04.63' | N 23°15.22' | 100°07.26' | 1°32.93' | S 1°04.14' | 140°12.51' | 321°27.69' | S 16°29.28' | **05** |
| **06** | 274°23.59' | 202°19.06' | S 8°05.60' | 32°37.58' | 84°05.08' | N 23°15.33' | 115°09.99' | 1°32.67' | S 1°04.24' | 155°14.99' | 321°27.67' | S 16°29.28' | **06** |
| **07** | 289°23.14' | 202°21.98' | S 8°06.80' | 47°39.59' | 84°05.53' | N 23°15.44' | 130°12.71' | 1°32.41' | S 1°04.35' | 170°17.48' | 321°27.64' | S 16°29.28' | **07** |
| **08** | 304°22.69' | 202°24.90' | S 8°08.01' | 62°41.61' | 84°05.97' | N 23°15.55' | 145°15.43' | 1°32.16' | S 1°04.45' | 185°19.96' | 321°27.62' | S 16°29.29' | **08** |
| **09** | 319°22.23' | 202°27.82' | S 8°09.21' | 77°43.64' | 84°06.41' | N 23°15.66' | 160°18.15' | 1°31.90' | S 1°04.56' | 200°22.45' | 321°27.60' | S 16°29.29' | **09** |
| **10** | 334°21.78' | 202°30.73' | S 8°10.42' | 92°45.66' | 84°06.86' | N 23°15.78' | 175°20.87' | 1°31.65' | S 1°04.66' | 215°24.93' | 321°27.58' | S 16°29.30' | **10** |
| **11** | 349°21.33' | 202°33.65' | S 8°11.62' | 107°47.68' | 84°07.30' | N 23°15.89' | 190°23.59' | 1°31.39' | S 1°04.77' | 230°27.42' | 321°27.56' | S 16°29.30' | **11** |
| **12** | 4°20.87' | 202°36.57' | S 8°12.82' | 122°49.71' | 84°07.73' | N 23°16.00' | 205°26.31' | 1°31.13' | S 1°04.87' | 245°29.90' | 321°27.54' | S 16°29.30' | **12** |
| **13** | 19°20.42' | 202°39.49' | S 8°14.02' | 137°51.73' | 84°08.17' | N 23°16.11' | 220°29.03' | 1°30.88' | S 1°04.97' | 260°32.39' | 321°27.52' | S 16°29.31' | **13** |
| **14** | 34°19.96' | 202°42.41' | S 8°15.23' | 152°53.76' | 84°08.61' | N 23°16.23' | 235°31.75' | 1°30.62' | S 1°05.08' | 275°34.87' | 321°27.50' | S 16°29.31' | **14** |
| **15** | 49°19.51' | 202°45.33' | S 8°16.43' | 167°55.79' | 84°09.04' | N 23°16.34' | 250°34.47' | 1°30.37' | S 1°05.18' | 290°37.35' | 321°27.48' | S 16°29.32' | **15** |
| **16** | 64°19.05' | 202°48.25' | S 8°17.63' | 182°57.82' | 84°09.48' | N 23°16.45' | 265°37.18' | 1°30.11' | S 1°05.29' | 305°39.84' | 321°27.46' | S 16°29.32' | **16** |
| **17** | 79°18.60' | 202°51.17' | S 8°18.83' | 197°59.85' | 84°09.91' | N 23°16.56' | 280°39.90' | 1°29.86' | S 1°05.39' | 320°42.32' | 321°27.44' | S 16°29.32' | **17** |
| **18** | 94°18.14' | 202°54.09' | S 8°20.03' | 213°01.89' | 84°10.34' | N 23°16.67' | 295°42.62' | 1°29.60' | S 1°05.49' | 335°44.80' | 321°27.42' | S 16°29.33' | **18** |
| **19** | 109°17.68' | 202°57.01' | S 8°21.23' | 228°03.92' | 84°10.77' | N 23°16.79' | 310°45.34' | 1°29.35' | S 1°05.60' | 350°47.29' | 321°27.40' | S 16°29.33' | **19** |
| **20** | 124°17.23' | 202°59.93' | S 8°22.43' | 243°05.96' | 84°11.20' | N 23°16.90' | 325°48.06' | 1°29.10' | S 1°05.70' | 5°49.77' | 321°27.38' | S 16°29.34' | **20** |
| **21** | 139°16.77' | 203°02.85' | S 8°23.63' | 258°08.00' | 84°11.62' | N 23°17.01' | 340°50.78' | 1°28.84' | S 1°05.80' | 20°52.25' | 321°27.37' | S 16°29.34' | **21** |
| **22** | 154°16.31' | 203°05.77' | S 8°24.83' | 273°10.03' | 84°12.05' | N 23°17.12' | 355°53.49' | 1°28.59' | S 1°05.91' | 35°54.74' | 321°27.35' | S 16°29.34' | **22** |
| **23** | 169°15.85' | 203°08.69' | S 8°26.03' | 288°12.08' | 84°12.47' | N 23°17.23' | 10°56.21' | 1°28.33' | S 1°06.01' | 50°57.22' | 321°27.33' | S 16°29.35' | **23** |
| **24** | 184°15.40' | 203°11.62' | S 8°27.23' | 303°14.12' | 84°12.89' | N 23°17.35' | 25°58.93' | 1°28.08' | S 1°06.11' | 65°59.70' | 321°27.31' | S 16°29.35' | **24** |
| | δ 14.9925° | | *d* 1.2062' | δ 15.0335° | | *d* 0.1123' | δ 15.0454° | | *d* 0.1053' | δ 15.0414° | | *d* 0.0046' | |

## *Wednesday, October 19th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°44.18' | 15.0020° | 203°42.84' | S 9°53.41' | 0.9043' | 253°55.24' | 14.5210° | 133°31.78' | N 22°54.14' | 7.9692' | 54.4474' | 27°27.01' | **00** |
| **01** | 198°44.29' | 15.0019° | 203°45.18' | S 9°54.31' | 0.9040' | 268°26.54' | 14.5218° | 134°02.93' | N 22°46.07' | 8.0743' | 54.4589' | 42°29.48' | **01** |
| **02** | 213°44.41' | 15.0019° | 203°47.53' | S 9°55.21' | 0.9038' | 282°57.89' | 14.5225° | 134°34.05' | N 22°37.89' | 8.1788' | 54.4707' | 57°31.94' | **02** |
| **03** | 228°44.53' | 15.0019° | 203°49.88' | S 9°56.12' | 0.9035' | 297°29.29' | 14.5233° | 135°05.11' | N 22°29.60' | 8.2826' | 54.4827' | 72°34.40' | **03** |
| **04** | 243°44.64' | 15.0019° | 203°52.23' | S 9°57.02' | 0.9033' | 312°00.74' | 14.5241° | 135°36.13' | N 22°21.22' | 8.3859' | 54.4951' | 87°36.87' | **04** |
| **05** | 258°44.76' | 15.0019° | 203°54.57' | S 9°57.92' | 0.9030' | 326°32.23' | 14.5249° | 136°07.10' | N 22°12.73' | 8.4885' | 54.5077' | 102°39.33' | **05** |
| **06** | 273°44.87' | 15.0019° | 203°56.92' | S 9°58.83' | 0.9028' | 341°03.77' | 14.5257° | 136°38.02' | N 22°04.14' | 8.5904' | 54.5207' | 117°41.80' | **06** |
| **07** | 288°44.99' | 15.0019° | 203°59.27' | S 9°59.73' | 0.9025' | 355°35.36' | 14.5264° | 137°08.90' | N 21°55.45' | 8.6917' | 54.5339' | 132°44.26' | **07** |
| **08** | 303°45.10' | 15.0019° | 204°01.62' | S 10°00.63' | 0.9023' | 10°06.99' | 14.5272° | 137°39.73' | N 21°46.66' | 8.7924' | 54.5474' | 147°46.72' | **08** |
| **09** | 318°45.22' | 15.0019° | 204°03.97' | S 10°01.53' | 0.9020' | 24°38.67' | 14.5280° | 138°10.51' | N 21°37.76' | 8.8925' | 54.5612' | 162°49.19' | **09** |
| **10** | 333°45.33' | 15.0019° | 204°06.32' | S 10°02.43' | 0.9018' | 39°10.40' | 14.5288° | 138°41.25' | N 21°28.77' | 8.9918' | 54.5752' | 177°51.65' | **10** |
| **11** | 348°45.45' | 15.0019° | 204°08.67' | S 10°03.34' | 0.9015' | 53°42.17' | 14.5295° | 139°11.94' | N 21°19.68' | 9.0906' | 54.5896' | 192°54.12' | **11** |
| **12** | 3°45.56' | 15.0019° | 204°11.02' | S 10°04.24' | 0.9013' | 68°13.99' | 14.5303° | 139°42.59' | N 21°10.49' | 9.1887' | 54.6042' | 207°56.58' | **12** |
| **13** | 18°45.67' | 15.0019° | 204°13.37' | S 10°05.14' | 0.9010' | 82°45.85' | 14.5311° | 140°13.19' | N 21°01.21' | 9.2861' | 54.6190' | 222°59.04' | **13** |
| **14** | 33°45.79' | 15.0019° | 204°15.72' | S 10°06.04' | 0.9008' | 97°17.76' | 14.5318° | 140°43.75' | N 20°51.82' | 9.3829' | 54.6342' | 238°01.51' | **14** |
| **15** | 48°45.90' | 15.0019° | 204°18.07' | S 10°06.94' | 0.9005' | 111°49.71' | 14.5326° | 141°14.26' | N 20°42.34' | 9.4790' | 54.6496' | 253°03.97' | **15** |
| **16** | 63°46.01' | 15.0019° | 204°20.43' | S 10°07.84' | 0.9003' | 126°21.71' | 14.5333° | 141°44.72' | N 20°32.77' | 9.5745' | 54.6653' | 268°06.44' | **16** |
| **17** | 78°46.12' | 15.0019° | 204°22.78' | S 10°08.74' | 0.9000' | 140°53.75' | 14.5340° | 142°15.15' | N 20°23.10' | 9.6693' | 54.6813' | 283°08.90' | **17** |
| **18** | 93°46.24' | 15.0019° | 204°25.13' | S 10°09.64' | 0.8998' | 155°25.84' | 14.5348° | 142°45.52' | N 20°13.34' | 9.7635' | 54.6975' | 298°11.37' | **18** |
| **19** | 108°46.35' | 15.0019° | 204°27.48' | S 10°10.54' | 0.8995' | 169°57.97' | 14.5355° | 143°15.86' | N 20°03.48' | 9.8569' | 54.7140' | 313°13.83' | **19** |
| **20** | 123°46.46' | 15.0019° | 204°29.83' | S 10°11.44' | 0.8993' | 184°30.15' | 14.5362° | 143°46.15' | N 19°53.53' | 9.9498' | 54.7308' | 328°16.29' | **20** |
| **21** | 138°46.57' | 15.0019° | 204°32.19' | S 10°12.34' | 0.8990' | 199°02.36' | 14.5369° | 144°16.39' | N 19°43.49' | 10.0419' | 54.7478' | 343°18.76' | **21** |
| **22** | 153°46.68' | 15.0018° | 204°34.54' | S 10°13.24' | 0.8987' | 213°34.62' | 14.5377° | 144°46.60' | N 19°33.35' | 10.1334' | 54.7651' | 358°21.22' | **22** |
| **23** | 168°46.79' | 15.0018° | 204°36.89' | S 10°14.13' | 0.8985' | 228°06.92' | 14.5384° | 145°16.76' | N 19°23.13' | 10.2242' | 54.7826' | 13°23.69' | **23** |
| **24** | 183°46.90' | 15.0018° | 204°39.25' | S 10°15.03' | 0.8982' | 242°39.27' | 14.5391° | 145°46.88' | N 19°12.82' | 10.3143' | 54.8004' | 28°26.15' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0566' | hp (π) 0.1471' | ½Ø 14.8787' | 33.4962860475374<br>74% -cre |
| | EoT at 12:00 UTC : +15m 2s (δ 0.46 s/h) | | Phase at 12:00 UTC : 289.50° | |
| | Meridian Pass. Time : 11:44:57.763 | | Age : 22.5 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.21') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 184°15.40' | 203°11.62' | S 8°27.23' | 303°14.12' | 84°12.89' | N 23°17.35' | 25°58.93' | 1°28.08' | S 1°06.11' | 65°59.70' | 321°27.31' | S 16°29.35' | **00** |
| **01** | 199°14.94' | 203°14.54' | S 8°28.43' | 318°16.16' | 84°13.31' | N 23°17.46' | 41°01.65' | 1°27.83' | S 1°06.22' | 81°02.18' | 321°27.29' | S 16°29.35' | **01** |
| **02** | 214°14.48' | 203°17.46' | S 8°29.63' | 333°18.21' | 84°13.73' | N 23°17.57' | 56°04.36' | 1°27.58' | S 1°06.32' | 96°04.67' | 321°27.27' | S 16°29.36' | **02** |
| **03** | 229°14.02' | 203°20.38' | S 8°30.83' | 348°20.25' | 84°14.15' | N 23°17.68' | 71°07.08' | 1°27.32' | S 1°06.42' | 111°07.15' | 321°27.26' | S 16°29.36' | **03** |
| **04** | 244°13.56' | 203°23.31' | S 8°32.02' | 3°22.30' | 84°14.57' | N 23°17.79' | 86°09.80' | 1°27.07' | S 1°06.53' | 126°09.63' | 321°27.24' | S 16°29.36' | **04** |
| **05** | 259°13.10' | 203°26.23' | S 8°33.22' | 18°24.35' | 84°14.98' | N 23°17.91' | 101°12.51' | 1°26.82' | S 1°06.63' | 141°12.11' | 321°27.22' | S 16°29.37' | **05** |
| **06** | 274°12.64' | 203°29.16' | S 8°34.42' | 33°26.40' | 84°15.40' | N 23°18.02' | 116°15.23' | 1°26.57' | S 1°06.73' | 156°14.59' | 321°27.20' | S 16°29.37' | **06** |
| **07** | 289°12.18' | 203°32.08' | S 8°35.62' | 48°28.45' | 84°15.81' | N 23°18.13' | 131°17.95' | 1°26.31' | S 1°06.83' | 171°17.07' | 321°27.19' | S 16°29.37' | **07** |
| **08** | 304°11.72' | 203°35.00' | S 8°36.81' | 63°30.50' | 84°16.22' | N 23°18.24' | 146°20.66' | 1°26.06' | S 1°06.94' | 186°19.55' | 321°27.17' | S 16°29.37' | **08** |
| **09** | 319°11.26' | 203°37.93' | S 8°38.01' | 78°32.56' | 84°16.63' | N 23°18.35' | 161°23.38' | 1°25.81' | S 1°07.04' | 201°22.04' | 321°27.15' | S 16°29.38' | **09** |
| **10** | 334°10.80' | 203°40.86' | S 8°39.20' | 93°34.61' | 84°17.04' | N 23°18.47' | 176°26.09' | 1°25.56' | S 1°07.14' | 216°24.52' | 321°27.14' | S 16°29.38' | **10** |
| **11** | 349°10.34' | 203°43.78' | S 8°40.40' | 108°36.67' | 84°17.45' | N 23°18.58' | 191°28.81' | 1°25.31' | S 1°07.24' | 231°27.00' | 321°27.12' | S 16°29.38' | **11** |
| **12** | 4°09.87' | 203°46.71' | S 8°41.60' | 123°38.73' | 84°17.85' | N 23°18.69' | 206°31.52' | 1°25.06' | S 1°07.34' | 246°29.48' | 321°27.10' | S 16°29.39' | **12** |
| **13** | 19°09.41' | 203°49.63' | S 8°42.79' | 138°40.79' | 84°18.26' | N 23°18.80' | 221°34.24' | 1°24.81' | S 1°07.45' | 261°31.96' | 321°27.09' | S 16°29.39' | **13** |
| **14** | 34°08.95' | 203°52.56' | S 8°43.98' | 153°42.85' | 84°18.66' | N 23°18.91' | 236°36.95' | 1°24.55' | S 1°07.55' | 276°34.44' | 321°27.07' | S 16°29.39' | **14** |
| **15** | 49°08.49' | 203°55.49' | S 8°45.18' | 168°44.91' | 84°19.06' | N 23°19.03' | 251°39.67' | 1°24.30' | S 1°07.65' | 291°36.92' | 321°27.06' | S 16°29.39' | **15** |
| **16** | 64°08.02' | 203°58.41' | S 8°46.37' | 183°46.98' | 84°19.46' | N 23°19.14' | 266°42.38' | 1°24.05' | S 1°07.75' | 306°39.40' | 321°27.04' | S 16°29.40' | **16** |
| **17** | 79°07.56' | 204°01.34' | S 8°47.57' | 198°49.04' | 84°19.86' | N 23°19.25' | 281°45.10' | 1°23.80' | S 1°07.85' | 321°41.88' | 321°27.02' | S 16°29.40' | **17** |
| **18** | 94°07.10' | 204°04.27' | S 8°48.76' | 213°51.11' | 84°20.25' | N 23°19.36' | 296°47.81' | 1°23.55' | S 1°07.95' | 336°44.36' | 321°27.01' | S 16°29.40' | **18** |
| **19** | 109°06.63' | 204°07.20' | S 8°49.95' | 228°53.18' | 84°20.65' | N 23°19.47' | 311°50.52' | 1°23.30' | S 1°08.06' | 351°46.83' | 321°26.99' | S 16°29.40' | **19** |
| **20** | 124°06.17' | 204°10.13' | S 8°51.14' | 243°55.25' | 84°21.04' | N 23°19.59' | 326°53.24' | 1°23.06' | S 1°08.16' | 6°49.31' | 321°26.98' | S 16°29.40' | **20** |
| **21** | 139°05.70' | 204°13.06' | S 8°52.34' | 258°57.32' | 84°21.44' | N 23°19.70' | 341°55.95' | 1°22.81' | S 1°08.26' | 21°51.79' | 321°26.97' | S 16°29.41' | **21** |
| **22** | 154°05.24' | 204°15.98' | S 8°53.53' | 273°59.39' | 84°21.83' | N 23°19.81' | 356°58.66' | 1°22.56' | S 1°08.36' | 36°54.27' | 321°26.95' | S 16°29.41' | **22** |
| **23** | 169°04.77' | 204°18.91' | S 8°54.72' | 289°01.47' | 84°22.22' | N 23°19.92' | 12°01.38' | 1°22.31' | S 1°08.46' | 51°56.75' | 321°26.94' | S 16°29.41' | **23** |
| **24** | 184°04.31' | 204°21.84' | S 8°55.91' | 304°03.54' | 84°22.61' | N 23°20.03' | 27°04.09' | 1°22.06' | S 1°08.56' | 66°59.23' | 321°26.92' | S 16°29.41' | **24** |
| | δ 14.9924° | | *d* 1.1988' | δ 15.0341° | | *d* 0.1120' | δ 15.0453° | | *d* 0.1030' | δ 15.0414° | | *d* 0.0033' | |

## *Thursday, October 20th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°46.90' | 15.0018° | 204°39.25' | S 10°15.03' | 0.8982' | 242°39.27' | 14.5391° | 145°46.88' | N 19°12.82' | 10.3143' | 54.8004' | 28°26.15' | **00** |
| **01** | 198°47.01' | 15.0018° | 204°41.60' | S 10°15.93' | 0.8980' | 257°11.65' | 14.5398° | 146°16.96' | N 19°02.41' | 10.4037' | 54.8185' | 43°28.61' | **01** |
| **02** | 213°47.12' | 15.0018° | 204°43.96' | S 10°16.83' | 0.8977' | 271°44.08' | 14.5404° | 146°47.00' | N 18°51.92' | 10.4925' | 54.8368' | 58°31.08' | **02** |
| **03** | 228°47.23' | 15.0018° | 204°46.31' | S 10°17.73' | 0.8974' | 286°16.55' | 14.5411° | 147°17.00' | N 18°41.34' | 10.5806' | 54.8554' | 73°33.54' | **03** |
| **04** | 243°47.34' | 15.0018° | 204°48.66' | S 10°18.62' | 0.8972' | 300°49.05' | 14.5418° | 147°46.95' | N 18°30.67' | 10.6680' | 54.8742' | 88°36.01' | **04** |
| **05** | 258°47.45' | 15.0018° | 204°51.02' | S 10°19.52' | 0.8969' | 315°21.60' | 14.5424° | 148°16.87' | N 18°19.92' | 10.7547' | 54.8932' | 103°38.47' | **05** |
| **06** | 273°47.56' | 15.0018° | 204°53.37' | S 10°20.42' | 0.8967' | 329°54.19' | 14.5431° | 148°46.75' | N 18°09.08' | 10.8407' | 54.9125' | 118°40.93' | **06** |
| **07** | 288°47.67' | 15.0018° | 204°55.73' | S 10°21.31' | 0.8964' | 344°26.81' | 14.5437° | 149°16.59' | N 17°58.15' | 10.9260' | 54.9321' | 133°43.40' | **07** |
| **08** | 303°47.78' | 15.0018° | 204°58.09' | S 10°22.21' | 0.8961' | 358°59.47' | 14.5444° | 149°46.39' | N 17°47.14' | 11.0107' | 54.9518' | 148°45.86' | **08** |
| **09** | 318°47.88' | 15.0018° | 205°00.44' | S 10°23.11' | 0.8959' | 13°32.17' | 14.5450° | 150°16.15' | N 17°36.04' | 11.0946' | 54.9719' | 163°48.33' | **09** |
| **10** | 333°47.99' | 15.0018° | 205°02.80' | S 10°24.00' | 0.8956' | 28°04.91' | 14.5456° | 150°45.88' | N 17°24.87' | 11.1779' | 54.9921' | 178°50.79' | **10** |
| **11** | 348°48.10' | 15.0018° | 205°05.16' | S 10°24.90' | 0.8954' | 42°37.69' | 14.5462° | 151°15.57' | N 17°13.61' | 11.2604' | 55.0126' | 193°53.25' | **11** |
| **12** | 3°48.21' | 15.0018° | 205°07.51' | S 10°25.79' | 0.8951' | 57°10.50' | 14.5468° | 151°45.22' | N 17°02.26' | 11.3423' | 55.0333' | 208°55.72' | **12** |
| **13** | 18°48.31' | 15.0018° | 205°09.87' | S 10°26.69' | 0.8948' | 71°43.34' | 14.5474° | 152°14.84' | N 16°50.84' | 11.4234' | 55.0543' | 223°58.18' | **13** |
| **14** | 33°48.42' | 15.0018° | 205°12.23' | S 10°27.58' | 0.8946' | 86°16.22' | 14.5480° | 152°44.42' | N 16°39.34' | 11.5039' | 55.0755' | 239°00.65' | **14** |
| **15** | 48°48.52' | 15.0018° | 205°14.59' | S 10°28.48' | 0.8943' | 100°49.14' | 14.5486° | 153°13.97' | N 16°27.75' | 11.5836' | 55.0969' | 254°03.11' | **15** |
| **16** | 63°48.63' | 15.0018° | 205°16.94' | S 10°29.37' | 0.8940' | 115°22.09' | 14.5491° | 153°43.49' | N 16°16.09' | 11.6626' | 55.1185' | 269°05.57' | **16** |
| **17** | 78°48.74' | 15.0018° | 205°19.30' | S 10°30.26' | 0.8938' | 129°55.07' | 14.5497° | 154°12.97' | N 16°04.35' | 11.7409' | 55.1403' | 284°08.04' | **17** |
| **18** | 93°48.84' | 15.0018° | 205°21.66' | S 10°31.16' | 0.8935' | 144°28.08' | 14.5502° | 154°42.42' | N 15°52.53' | 11.8185' | 55.1624' | 299°10.50' | **18** |
| **19** | 108°48.95' | 15.0017° | 205°24.02' | S 10°32.05' | 0.8932' | 159°01.13' | 14.5508° | 155°11.84' | N 15°40.64' | 11.8954' | 55.1847' | 314°12.97' | **19** |
| **20** | 123°49.05' | 15.0017° | 205°26.38' | S 10°32.94' | 0.8930' | 173°34.20' | 14.5513° | 155°41.23' | N 15°28.66' | 11.9716' | 55.2072' | 329°15.43' | **20** |
| **21** | 138°49.16' | 15.0017° | 205°28.74' | S 10°33.84' | 0.8927' | 188°07.31' | 14.5518° | 156°10.59' | N 15°16.62' | 12.0470' | 55.2299' | 344°17.90' | **21** |
| **22** | 153°49.26' | 15.0017° | 205°31.10' | S 10°34.73' | 0.8924' | 202°40.45' | 14.5523° | 156°39.91' | N 15°04.50' | 12.1217' | 55.2528' | 359°20.36' | **22** |
| **23** | 168°49.36' | 15.0017° | 205°33.46' | S 10°35.62' | 0.8922' | 217°13.61' | 14.5528° | 157°09.21' | N 14°52.30' | 12.1957' | 55.2759' | 14°22.82' | **23** |
| **24** | 183°49.47' | 15.0017° | 205°35.82' | S 10°36.51' | 0.8919' | 231°46.81' | 14.5532° | 157°38.48' | N 14°40.03' | 12.2689' | 55.2992' | 29°25.29' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0610' | hp (π) 0.1472' | ½Ø 14.9956' | 24.7008479316262<br>78% -cre |
| | EoT at 12:00 UTC : +15m 12s (δ 0.43 s/h) | | Phase at 12:00 UTC : 300.66° | |
| | Meridian Pass. Time : 11:44:47.178 | | Age : 23.4 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.22') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 184°04.31' | 204°21.84' | S 8°55.91' | 304°03.54' | 84°22.61' | N 23°20.03' | 27°04.09' | 1°22.06' | S 1°08.56' | 66°59.23' | 321°26.92' | S 16°29.41' | **00** |
| **01** | 199°03.84' | 204°24.77' | S 8°57.10' | 319°05.62' | 84°22.99' | N 23°20.15' | 42°06.80' | 1°21.81' | S 1°08.66' | 82°01.71' | 321°26.91' | S 16°29.42' | **01** |
| **02** | 214°03.37' | 204°27.70' | S 8°58.29' | 334°07.70' | 84°23.38' | N 23°20.26' | 57°09.51' | 1°21.56' | S 1°08.76' | 97°04.18' | 321°26.89' | S 16°29.42' | **02** |
| **03** | 229°02.91' | 204°30.64' | S 8°59.48' | 349°09.78' | 84°23.76' | N 23°20.37' | 72°12.23' | 1°21.32' | S 1°08.86' | 112°06.66' | 321°26.88' | S 16°29.42' | **03** |
| **04** | 244°02.44' | 204°33.57' | S 9°00.67' | 4°11.86' | 84°24.14' | N 23°20.48' | 87°14.94' | 1°21.07' | S 1°08.96' | 127°09.14' | 321°26.87' | S 16°29.42' | **04** |
| **05** | 259°01.97' | 204°36.50' | S 9°01.86' | 19°13.94' | 84°24.53' | N 23°20.59' | 102°17.65' | 1°20.82' | S 1°09.06' | 142°11.62' | 321°26.85' | S 16°29.42' | **05** |
| **06** | 274°01.50' | 204°39.43' | S 9°03.05' | 34°16.03' | 84°24.90' | N 23°20.70' | 117°20.36' | 1°20.57' | S 1°09.16' | 157°14.09' | 321°26.84' | S 16°29.42' | **06** |
| **07** | 289°01.04' | 204°42.36' | S 9°04.24' | 49°18.11' | 84°25.28' | N 23°20.82' | 132°23.07' | 1°20.33' | S 1°09.26' | 172°16.57' | 321°26.83' | S 16°29.43' | **07** |
| **08** | 304°00.57' | 204°45.29' | S 9°05.43' | 64°20.20' | 84°25.66' | N 23°20.93' | 147°25.78' | 1°20.08' | S 1°09.36' | 187°19.05' | 321°26.82' | S 16°29.43' | **08** |
| **09** | 319°00.10' | 204°48.23' | S 9°06.62' | 79°22.29' | 84°26.04' | N 23°21.04' | 162°28.49' | 1°19.83' | S 1°09.46' | 202°21.52' | 321°26.80' | S 16°29.43' | **09** |
| **10** | 333°59.63' | 204°51.16' | S 9°07.80' | 94°24.38' | 84°26.41' | N 23°21.15' | 177°31.21' | 1°19.59' | S 1°09.56' | 217°24.00' | 321°26.79' | S 16°29.43' | **10** |
| **11** | 348°59.16' | 204°54.09' | S 9°08.99' | 109°26.47' | 84°26.78' | N 23°21.26' | 192°33.92' | 1°19.34' | S 1°09.66' | 232°26.48' | 321°26.78' | S 16°29.43' | **11** |
| **12** | 3°58.69' | 204°57.03' | S 9°10.18' | 124°28.57' | 84°27.15' | N 23°21.38' | 207°36.63' | 1°19.09' | S 1°09.76' | 247°28.95' | 321°26.77' | S 16°29.43' | **12** |
| **13** | 18°58.22' | 204°59.96' | S 9°11.36' | 139°30.66' | 84°27.52' | N 23°21.49' | 222°39.34' | 1°18.85' | S 1°09.86' | 262°31.43' | 321°26.75' | S 16°29.43' | **13** |
| **14** | 33°57.75' | 205°02.90' | S 9°12.55' | 154°32.76' | 84°27.89' | N 23°21.60' | 237°42.05' | 1°18.60' | S 1°09.96' | 277°33.90' | 321°26.74' | S 16°29.44' | **14** |
| **15** | 48°57.28' | 205°05.83' | S 9°13.74' | 169°34.85' | 84°28.26' | N 23°21.71' | 252°44.76' | 1°18.36' | S 1°10.06' | 292°36.38' | 321°26.73' | S 16°29.44' | **15** |
| **16** | 63°56.81' | 205°08.77' | S 9°14.92' | 184°36.95' | 84°28.62' | N 23°21.82' | 267°47.46' | 1°18.11' | S 1°10.16' | 307°38.86' | 321°26.72' | S 16°29.44' | **16** |
| **17** | 78°56.34' | 205°11.70' | S 9°16.11' | 199°39.05' | 84°28.99' | N 23°21.93' | 282°50.17' | 1°17.87' | S 1°10.26' | 322°41.33' | 321°26.71' | S 16°29.44' | **17** |
| **18** | 93°55.86' | 205°14.64' | S 9°17.29' | 214°41.15' | 84°29.35' | N 23°22.05' | 297°52.88' | 1°17.62' | S 1°10.36' | 337°43.81' | 321°26.70' | S 16°29.44' | **18** |
| **19** | 108°55.39' | 205°17.57' | S 9°18.48' | 229°43.26' | 84°29.71' | N 23°22.16' | 312°55.59' | 1°17.38' | S 1°10.46' | 352°46.28' | 321°26.69' | S 16°29.44' | **19** |
| **20** | 123°54.92' | 205°20.51' | S 9°19.66' | 244°45.36' | 84°30.07' | N 23°22.27' | 327°58.30' | 1°17.13' | S 1°10.56' | 7°48.76' | 321°26.68' | S 16°29.44' | **20** |
| **21** | 138°54.45' | 205°23.45' | S 9°20.84' | 259°47.47' | 84°30.43' | N 23°22.38' | 343°01.01' | 1°16.89' | S 1°10.65' | 22°51.23' | 321°26.66' | S 16°29.44' | **21** |
| **22** | 153°53.97' | 205°26.39' | S 9°22.03' | 274°49.57' | 84°30.78' | N 23°22.49' | 358°03.72' | 1°16.64' | S 1°10.75' | 37°53.70' | 321°26.65' | S 16°29.44' | **22** |
| **23** | 168°53.50' | 205°29.32' | S 9°23.21' | 289°51.68' | 84°31.14' | N 23°22.60' | 13°06.42' | 1°16.40' | S 1°10.85' | 52°56.18' | 321°26.64' | S 16°29.44' | **23** |
| **24** | 183°53.03' | 205°32.26' | S 9°24.39' | 304°53.79' | 84°31.49' | N 23°22.72' | 28°09.13' | 1°16.16' | S 1°10.95' | 67°58.65' | 321°26.63' | S 16°29.45' | **24** |
| | δ 14.9922° | | *d* 1.1908' | δ 15.0346° | | *d* 0.1119' | δ 15.0452° | | *d* 0.1007' | δ 15.0413° | | *d* 0.0020' | |

## *Friday, October 21st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°49.47' | 15.0017° | 205°35.82' | S 10°36.51' | 0.8919' | 231°46.81' | 14.5532° | 157°38.48' | N 14°40.03' | 12.2689' | 55.2992' | 29°25.29' | **00** |
| **01** | 198°49.57' | 15.0017° | 205°38.18' | S 10°37.40' | 0.8916' | 246°20.03' | 14.5537° | 158°07.72' | N 14°27.69' | 12.3415' | 55.3228' | 44°27.75' | **01** |
| **02** | 213°49.67' | 15.0017° | 205°40.54' | S 10°38.29' | 0.8914' | 260°53.28' | 14.5541° | 158°36.94' | N 14°15.28' | 12.4132' | 55.3465' | 59°30.22' | **02** |
| **03** | 228°49.78' | 15.0017° | 205°42.90' | S 10°39.19' | 0.8911' | 275°26.55' | 14.5546° | 159°06.13' | N 14°02.79' | 12.4843' | 55.3704' | 74°32.68' | **03** |
| **04** | 243°49.88' | 15.0017° | 205°45.27' | S 10°40.08' | 0.8908' | 289°59.85' | 14.5550° | 159°35.29' | N 13°50.24' | 12.5546' | 55.3945' | 89°35.14' | **04** |
| **05** | 258°49.98' | 15.0017° | 205°47.63' | S 10°40.97' | 0.8905' | 304°33.18' | 14.5554° | 160°04.43' | N 13°37.61' | 12.6241' | 55.4188' | 104°37.61' | **05** |
| **06** | 273°50.08' | 15.0017° | 205°49.99' | S 10°41.86' | 0.8903' | 319°06.52' | 14.5558° | 160°33.55' | N 13°24.92' | 12.6929' | 55.4433' | 119°40.07' | **06** |
| **07** | 288°50.18' | 15.0017° | 205°52.35' | S 10°42.75' | 0.8900' | 333°39.90' | 14.5562° | 161°02.64' | N 13°12.16' | 12.7610' | 55.4679' | 134°42.54' | **07** |
| **08** | 303°50.28' | 15.0017° | 205°54.72' | S 10°43.64' | 0.8897' | 348°13.29' | 14.5566° | 161°31.71' | N 12°59.33' | 12.8283' | 55.4928' | 149°45.00' | **08** |
| **09** | 318°50.39' | 15.0017° | 205°57.08' | S 10°44.53' | 0.8894' | 2°46.71' | 14.5569° | 162°00.76' | N 12°46.44' | 12.8948' | 55.5178' | 164°47.46' | **09** |
| **10** | 333°50.49' | 15.0017° | 205°59.44' | S 10°45.42' | 0.8892' | 17°20.14' | 14.5573° | 162°29.79' | N 12°33.48' | 12.9606' | 55.5430' | 179°49.93' | **10** |
| **11** | 348°50.59' | 15.0017° | 206°01.81' | S 10°46.30' | 0.8889' | 31°53.60' | 14.5576° | 162°58.79' | N 12°20.45' | 13.0256' | 55.5684' | 194°52.39' | **11** |
| **12** | 3°50.69' | 15.0017° | 206°04.17' | S 10°47.19' | 0.8886' | 46°27.07' | 14.5579° | 163°27.78' | N 12°07.36' | 13.0898' | 55.5939' | 209°54.86' | **12** |
| **13** | 18°50.79' | 15.0017° | 206°06.53' | S 10°48.08' | 0.8883' | 61°00.57' | 14.5582° | 163°56.75' | N 11°54.21' | 13.1533' | 55.6196' | 224°57.32' | **13** |
| **14** | 33°50.89' | 15.0017° | 206°08.90' | S 10°48.97' | 0.8881' | 75°34.08' | 14.5585° | 164°25.70' | N 11°40.99' | 13.2160' | 55.6455' | 239°59.78' | **14** |
| **15** | 48°50.98' | 15.0017° | 206°11.26' | S 10°49.86' | 0.8878' | 90°07.61' | 14.5588° | 164°54.64' | N 11°27.71' | 13.2779' | 55.6715' | 255°02.25' | **15** |
| **16** | 63°51.08' | 15.0016° | 206°13.63' | S 10°50.75' | 0.8875' | 104°41.15' | 14.5591° | 165°23.56' | N 11°14.37' | 13.3390' | 55.6977' | 270°04.71' | **16** |
| **17** | 78°51.18' | 15.0016° | 206°15.99' | S 10°51.63' | 0.8872' | 119°14.71' | 14.5593° | 165°52.46' | N 11°00.97' | 13.3994' | 55.7240' | 285°07.18' | **17** |
| **18** | 93°51.28' | 15.0016° | 206°18.36' | S 10°52.52' | 0.8870' | 133°48.29' | 14.5596° | 166°21.36' | N 10°47.52' | 13.4589' | 55.7505' | 300°09.64' | **18** |
| **19** | 108°51.38' | 15.0016° | 206°20.73' | S 10°53.41' | 0.8867' | 148°21.87' | 14.5598° | 166°50.23' | N 10°34.00' | 13.5176' | 55.7771' | 315°12.10' | **19** |
| **20** | 123°51.48' | 15.0016° | 206°23.09' | S 10°54.29' | 0.8864' | 162°55.47' | 14.5600° | 167°19.10' | N 10°20.42' | 13.5755' | 55.8039' | 330°14.57' | **20** |
| **21** | 138°51.57' | 15.0016° | 206°25.46' | S 10°55.18' | 0.8861' | 177°29.08' | 14.5602° | 167°47.95' | N 10°06.79' | 13.6327' | 55.8308' | 345°17.03' | **21** |
| **22** | 153°51.67' | 15.0016° | 206°27.83' | S 10°56.06' | 0.8858' | 192°02.70' | 14.5603° | 168°16.80' | N 9°53.10' | 13.6890' | 55.8579' | 0°19.50' | **22** |
| **23** | 168°51.77' | 15.0016° | 206°30.19' | S 10°56.95' | 0.8856' | 206°36.33' | 14.5605° | 168°45.63' | N 9°39.36' | 13.7445' | 55.8851' | 15°21.96' | **23** |
| **24** | 183°51.86' | 15.0016° | 206°32.56' | S 10°57.84' | 0.8853' | 221°09.97' | 14.5607° | 169°14.45' | N 9°25.56' | 13.7991' | 55.9124' | 30°24.42' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.0654' | hp (π) 0.1472' | ½Ø 15.1484' | 16.6940833114531 % -cre | |
| EoT at 12:00 UTC : +15m 22s (δ 0.40 s/h) | | Phase at 12:00 UTC : 312.06° | | |
| Meridian Pass. Time : 11:44:37.254 | | Age : 24.3 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.22') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 183°53.03' | 205°32.26' | S 9°24.39' | 304°53.79' | 84°31.49' | N 23°22.72' | 28°09.13' | 1°16.16' | S 1°10.95' | 67°58.65' | 321°26.63' | S 16°29.45' | **00** |
| **01** | 198°52.55' | 205°35.20' | S 9°25.58' | 319°55.91' | 84°31.85' | N 23°22.83' | 43°11.84' | 1°15.91' | S 1°11.05' | 83°01.13' | 321°26.62' | S 16°29.45' | **01** |
| **02** | 213°52.08' | 205°38.14' | S 9°26.76' | 334°58.02' | 84°32.20' | N 23°22.94' | 58°14.55' | 1°15.67' | S 1°11.15' | 98°03.60' | 321°26.61' | S 16°29.45' | **02** |
| **03** | 228°51.60' | 205°41.08' | S 9°27.94' | 350°00.13' | 84°32.55' | N 23°23.05' | 73°17.25' | 1°15.43' | S 1°11.24' | 113°06.07' | 321°26.61' | S 16°29.45' | **03** |
| **04** | 243°51.13' | 205°44.02' | S 9°29.12' | 5°02.25' | 84°32.89' | N 23°23.16' | 88°19.96' | 1°15.18' | S 1°11.34' | 128°08.55' | 321°26.60' | S 16°29.45' | **04** |
| **05** | 258°50.65' | 205°46.96' | S 9°30.30' | 20°04.37' | 84°33.24' | N 23°23.28' | 103°22.67' | 1°14.94' | S 1°11.44' | 143°11.02' | 321°26.59' | S 16°29.45' | **05** |
| **06** | 273°50.18' | 205°49.90' | S 9°31.48' | 35°06.49' | 84°33.59' | N 23°23.39' | 118°25.37' | 1°14.70' | S 1°11.54' | 158°13.49' | 321°26.58' | S 16°29.45' | **06** |
| **07** | 288°49.70' | 205°52.84' | S 9°32.66' | 50°08.61' | 84°33.93' | N 23°23.50' | 133°28.08' | 1°14.46' | S 1°11.63' | 173°15.97' | 321°26.57' | S 16°29.45' | **07** |
| **08** | 303°49.22' | 205°55.78' | S 9°33.84' | 65°10.73' | 84°34.27' | N 23°23.61' | 148°30.79' | 1°14.21' | S 1°11.73' | 188°18.44' | 321°26.56' | S 16°29.45' | **08** |
| **09** | 318°48.75' | 205°58.72' | S 9°35.02' | 80°12.85' | 84°34.61' | N 23°23.72' | 163°33.49' | 1°13.97' | S 1°11.83' | 203°20.91' | 321°26.55' | S 16°29.45' | **09** |
| **10** | 333°48.27' | 206°01.66' | S 9°36.20' | 95°14.98' | 84°34.95' | N 23°23.83' | 178°36.20' | 1°13.73' | S 1°11.93' | 218°23.38' | 321°26.54' | S 16°29.45' | **10** |
| **11** | 348°47.79' | 206°04.60' | S 9°37.38' | 110°17.10' | 84°35.29' | N 23°23.95' | 193°38.90' | 1°13.49' | S 1°12.02' | 233°25.86' | 321°26.54' | S 16°29.45' | **11** |
| **12** | 3°47.31' | 206°07.54' | S 9°38.56' | 125°19.23' | 84°35.63' | N 23°24.06' | 208°41.61' | 1°13.25' | S 1°12.12' | 248°28.33' | 321°26.53' | S 16°29.45' | **12** |
| **13** | 18°46.83' | 206°10.49' | S 9°39.73' | 140°21.36' | 84°35.96' | N 23°24.17' | 223°44.31' | 1°13.01' | S 1°12.22' | 263°30.80' | 321°26.52' | S 16°29.45' | **13** |
| **14** | 33°46.36' | 206°13.43' | S 9°40.91' | 155°23.49' | 84°36.29' | N 23°24.28' | 238°47.02' | 1°12.77' | S 1°12.32' | 278°33.27' | 321°26.51' | S 16°29.45' | **14** |
| **15** | 48°45.88' | 206°16.37' | S 9°42.09' | 170°25.62' | 84°36.63' | N 23°24.39' | 253°49.72' | 1°12.53' | S 1°12.41' | 293°35.74' | 321°26.51' | S 16°29.45' | **15** |
| **16** | 63°45.40' | 206°19.32' | S 9°43.27' | 185°27.76' | 84°36.96' | N 23°24.50' | 268°52.43' | 1°12.29' | S 1°12.51' | 308°38.21' | 321°26.50' | S 16°29.45' | **16** |
| **17** | 78°44.92' | 206°22.26' | S 9°44.44' | 200°29.89' | 84°37.28' | N 23°24.62' | 283°55.13' | 1°12.05' | S 1°12.61' | 323°40.69' | 321°26.49' | S 16°29.45' | **17** |
| **18** | 93°44.44' | 206°25.20' | S 9°45.62' | 215°32.03' | 84°37.61' | N 23°24.73' | 298°57.83' | 1°11.81' | S 1°12.70' | 338°43.16' | 321°26.48' | S 16°29.45' | **18** |
| **19** | 108°43.96' | 206°28.15' | S 9°46.79' | 230°34.17' | 84°37.94' | N 23°24.84' | 314°00.54' | 1°11.57' | S 1°12.80' | 353°45.63' | 321°26.48' | S 16°29.45' | **19** |
| **20** | 123°43.48' | 206°31.09' | S 9°47.97' | 245°36.31' | 84°38.26' | N 23°24.95' | 329°03.24' | 1°11.33' | S 1°12.89' | 8°48.10' | 321°26.47' | S 16°29.45' | **20** |
| **21** | 138°42.99' | 206°34.04' | S 9°49.14' | 260°38.45' | 84°38.59' | N 23°25.06' | 344°05.94' | 1°11.09' | S 1°12.99' | 23°50.57' | 321°26.46' | S 16°29.45' | **21** |
| **22** | 153°42.51' | 206°36.98' | S 9°50.32' | 275°40.59' | 84°38.91' | N 23°25.18' | 359°08.65' | 1°10.85' | S 1°13.09' | 38°53.04' | 321°26.46' | S 16°29.45' | **22** |
| **23** | 168°42.03' | 206°39.93' | S 9°51.49' | 290°42.73' | 84°39.23' | N 23°25.29' | 14°11.35' | 1°10.61' | S 1°13.18' | 53°55.51' | 321°26.45' | S 16°29.45' | **23** |
| **24** | 183°41.55' | 206°42.88' | S 9°52.66' | 305°44.88' | 84°39.55' | N 23°25.40' | 29°14.05' | 1°10.37' | S 1°13.28' | 68°57.98' | 321°26.45' | S 16°29.45' | **24** |
| | δ 14.9921° | | *d* 1.1823' | δ 15.0352° | | *d* 0.1118' | δ 15.0451° | | *d* 0.0983' | δ 15.0412° | | *d* 0.0006' | |

## *Saturday, October 22nd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°51.86' | 15.0016° | 206°32.56' | S 10°57.84' | 0.8853' | 221°09.97' | 14.5607° | 169°14.45' | N 9°25.56' | 13.7991' | 55.9124' | 30°24.42' | **00** |
| **01** | 198°51.96' | 15.0016° | 206°34.93' | S 10°58.72' | 0.8850' | 235°43.62' | 14.5608° | 169°43.27' | N 9°11.70' | 13.8530' | 55.9398' | 45°26.89' | **01** |
| **02** | 213°52.06' | 15.0016° | 206°37.30' | S 10°59.60' | 0.8847' | 250°17.27' | 14.5609° | 170°12.08' | N 8°57.80' | 13.9060' | 55.9674' | 60°29.35' | **02** |
| **03** | 228°52.15' | 15.0016° | 206°39.67' | S 11°00.49' | 0.8844' | 264°50.93' | 14.5610° | 170°40.88' | N 8°43.84' | 13.9582' | 55.9951' | 75°31.82' | **03** |
| **04** | 243°52.25' | 15.0016° | 206°42.03' | S 11°01.37' | 0.8841' | 279°24.60' | 14.5611° | 171°09.68' | N 8°29.83' | 14.0095' | 56.0229' | 90°34.28' | **04** |
| **05** | 258°52.34' | 15.0016° | 206°44.40' | S 11°02.26' | 0.8839' | 293°58.27' | 14.5612° | 171°38.48' | N 8°15.77' | 14.0600' | 56.0508' | 105°36.75' | **05** |
| **06** | 273°52.44' | 15.0016° | 206°46.77' | S 11°03.14' | 0.8836' | 308°31.94' | 14.5612° | 172°07.27' | N 8°01.66' | 14.1096' | 56.0788' | 120°39.21' | **06** |
| **07** | 288°52.53' | 15.0016° | 206°49.14' | S 11°04.02' | 0.8833' | 323°05.61' | 14.5612° | 172°36.06' | N 7°47.50' | 14.1583' | 56.1070' | 135°41.67' | **07** |
| **08** | 303°52.63' | 15.0016° | 206°51.51' | S 11°04.91' | 0.8830' | 337°39.29' | 14.5613° | 173°04.85' | N 7°33.30' | 14.2062' | 56.1352' | 150°44.14' | **08** |
| **09** | 318°52.72' | 15.0016° | 206°53.88' | S 11°05.79' | 0.8827' | 352°12.97' | 14.5613° | 173°33.64' | N 7°19.04' | 14.2533' | 56.1636' | 165°46.60' | **09** |
| **10** | 333°52.81' | 15.0016° | 206°56.25' | S 11°06.67' | 0.8824' | 6°46.64' | 14.5613° | 174°02.42' | N 7°04.74' | 14.2994' | 56.1920' | 180°49.07' | **10** |
| **11** | 348°52.91' | 15.0016° | 206°58.62' | S 11°07.55' | 0.8821' | 21°20.31' | 14.5612° | 174°31.21' | N 6°50.40' | 14.3447' | 56.2205' | 195°51.53' | **11** |
| **12** | 3°53.00' | 15.0015° | 207°00.99' | S 11°08.44' | 0.8819' | 35°53.99' | 14.5612° | 175°00.01' | N 6°36.01' | 14.3890' | 56.2491' | 210°53.99' | **12** |
| **13** | 18°53.09' | 15.0015° | 207°03.37' | S 11°09.32' | 0.8816' | 50°27.65' | 14.5611° | 175°28.80' | N 6°21.58' | 14.4325' | 56.2778' | 225°56.46' | **13** |
| **14** | 33°53.18' | 15.0015° | 207°05.74' | S 11°10.20' | 0.8813' | 65°01.32' | 14.5610° | 175°57.61' | N 6°07.10' | 14.4751' | 56.3066' | 240°58.92' | **14** |
| **15** | 48°53.28' | 15.0015° | 207°08.11' | S 11°11.08' | 0.8810' | 79°34.97' | 14.5609° | 176°26.41' | N 5°52.59' | 14.5167' | 56.3355' | 256°01.39' | **15** |
| **16** | 63°53.37' | 15.0015° | 207°10.48' | S 11°11.96' | 0.8807' | 94°08.62' | 14.5608° | 176°55.23' | N 5°38.03' | 14.5575' | 56.3644' | 271°03.85' | **16** |
| **17** | 78°53.46' | 15.0015° | 207°12.85' | S 11°12.84' | 0.8804' | 108°42.27' | 14.5607° | 177°24.05' | N 5°23.43' | 14.5973' | 56.3934' | 286°06.31' | **17** |
| **18** | 93°53.55' | 15.0015° | 207°15.23' | S 11°13.72' | 0.8801' | 123°15.90' | 14.5606° | 177°52.88' | N 5°08.80' | 14.6361' | 56.4224' | 301°08.78' | **18** |
| **19** | 108°53.64' | 15.0015° | 207°17.60' | S 11°14.60' | 0.8798' | 137°49.52' | 14.5604° | 178°21.72' | N 4°54.12' | 14.6741' | 56.4516' | 316°11.24' | **19** |
| **20** | 123°53.73' | 15.0015° | 207°19.97' | S 11°15.48' | 0.8795' | 152°23.14' | 14.5602° | 178°50.57' | N 4°39.41' | 14.7111' | 56.4808' | 331°13.71' | **20** |
| **21** | 138°53.82' | 15.0015° | 207°22.35' | S 11°16.36' | 0.8793' | 166°56.74' | 14.5600° | 179°19.43' | N 4°24.66' | 14.7471' | 56.5100' | 346°16.17' | **21** |
| **22** | 153°53.91' | 15.0015° | 207°24.72' | S 11°17.24' | 0.8790' | 181°30.33' | 14.5598° | 179°48.31' | N 4°09.88' | 14.7822' | 56.5393' | 1°18.63' | **22** |
| **23** | 168°54.00' | 15.0015° | 207°27.10' | S 11°18.12' | 0.8787' | 196°03.90' | 14.5596° | 180°17.20' | N 3°55.06' | 14.8163' | 56.5686' | 16°21.10' | **23** |
| **24** | 183°54.09' | 15.0015° | 207°29.47' | S 11°19.00' | 0.8784' | 210°37.46' | 14.5593° | 180°46.10' | N 3°40.21' | 14.8494' | 56.5980' | 31°23.56' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.0698' | hp (π) 0.1473' | ½Ø 15.3269' | 9.83658692653766 % -cre | |
| EoT at 12:00 UTC : +15m 32s (δ 0.37 s/h) | | Phase at 12:00 UTC : 323.73° | | |
| Meridian Pass. Time : 11:44:28.006 | | Age : 25.2 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.22') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 183°41.55' | 206°42.88' | S 9°52.66' | 305°44.88' | 84°39.55' | N 23°25.40' | 29°14.05' | 1°10.37' | S 1°13.28' | 68°57.98' | 321°26.45' | S 16°29.45' | **00** |
| **01** | 198°41.07' | 206°45.82' | S 9°53.84' | 320°47.03' | 84°39.86' | N 23°25.51' | 44°16.75' | 1°10.14' | S 1°13.37' | 84°00.45' | 321°26.44' | S 16°29.44' | **01** |
| **02** | 213°40.58' | 206°48.77' | S 9°55.01' | 335°49.18' | 84°40.18' | N 23°25.62' | 59°19.46' | 1°09.90' | S 1°13.47' | 99°02.92' | 321°26.44' | S 16°29.44' | **02** |
| **03** | 228°40.10' | 206°51.72' | S 9°56.18' | 350°51.32' | 84°40.49' | N 23°25.73' | 74°22.16' | 1°09.66' | S 1°13.57' | 114°05.39' | 321°26.43' | S 16°29.44' | **03** |
| **04** | 243°39.62' | 206°54.67' | S 9°57.36' | 5°53.48' | 84°40.80' | N 23°25.85' | 89°24.86' | 1°09.42' | S 1°13.66' | 129°07.86' | 321°26.43' | S 16°29.44' | **04** |
| **05** | 258°39.13' | 206°57.61' | S 9°58.53' | 20°55.63' | 84°41.12' | N 23°25.96' | 104°27.56' | 1°09.18' | S 1°13.76' | 144°10.32' | 321°26.42' | S 16°29.44' | **05** |
| **06** | 273°38.65' | 207°00.56' | S 9°59.70' | 35°57.78' | 84°41.43' | N 23°26.07' | 119°30.26' | 1°08.95' | S 1°13.85' | 159°12.79' | 321°26.42' | S 16°29.44' | **06** |
| **07** | 288°38.16' | 207°03.51' | S 10°00.87' | 50°59.94' | 84°41.73' | N 23°26.18' | 134°32.96' | 1°08.71' | S 1°13.95' | 174°15.26' | 321°26.41' | S 16°29.44' | **07** |
| **08** | 303°37.68' | 207°06.46' | S 10°02.04' | 66°02.10' | 84°42.04' | N 23°26.29' | 149°35.66' | 1°08.47' | S 1°14.04' | 189°17.73' | 321°26.41' | S 16°29.44' | **08** |
| **09** | 318°37.19' | 207°09.41' | S 10°03.21' | 81°04.26' | 84°42.35' | N 23°26.40' | 164°38.36' | 1°08.24' | S 1°14.14' | 204°20.20' | 321°26.40' | S 16°29.44' | **09** |
| **10** | 333°36.71' | 207°12.36' | S 10°04.38' | 96°06.42' | 84°42.65' | N 23°26.52' | 179°41.06' | 1°08.00' | S 1°14.23' | 219°22.67' | 321°26.40' | S 16°29.44' | **10** |
| **11** | 348°36.22' | 207°15.31' | S 10°05.55' | 111°08.58' | 84°42.95' | N 23°26.63' | 194°43.76' | 1°07.76' | S 1°14.33' | 234°25.13' | 321°26.39' | S 16°29.43' | **11** |
| **12** | 3°35.73' | 207°18.26' | S 10°06.72' | 126°10.74' | 84°43.25' | N 23°26.74' | 209°46.46' | 1°07.53' | S 1°14.42' | 249°27.60' | 321°26.39' | S 16°29.43' | **12** |
| **13** | 18°35.25' | 207°21.21' | S 10°07.89' | 141°12.91' | 84°43.55' | N 23°26.85' | 224°49.16' | 1°07.29' | S 1°14.52' | 264°30.07' | 321°26.39' | S 16°29.43' | **13** |
| **14** | 33°34.76' | 207°24.16' | S 10°09.05' | 156°15.07' | 84°43.85' | N 23°26.96' | 239°51.86' | 1°07.06' | S 1°14.61' | 279°32.54' | 321°26.38' | S 16°29.43' | **14** |
| **15** | 48°34.27' | 207°27.12' | S 10°10.22' | 171°17.24' | 84°44.15' | N 23°27.08' | 254°54.56' | 1°06.82' | S 1°14.70' | 294°35.00' | 321°26.38' | S 16°29.43' | **15** |
| **16** | 63°33.78' | 207°30.07' | S 10°11.39' | 186°19.41' | 84°44.44' | N 23°27.19' | 269°57.26' | 1°06.59' | S 1°14.80' | 309°37.47' | 321°26.38' | S 16°29.43' | **16** |
| **17** | 78°33.29' | 207°33.02' | S 10°12.56' | 201°21.58' | 84°44.73' | N 23°27.30' | 284°59.96' | 1°06.35' | S 1°14.89' | 324°39.94' | 321°26.38' | S 16°29.43' | **17** |
| **18** | 93°32.80' | 207°35.97' | S 10°13.72' | 216°23.75' | 84°45.03' | N 23°27.41' | 300°02.66' | 1°06.12' | S 1°14.99' | 339°42.41' | 321°26.37' | S 16°29.42' | **18** |
| **19** | 108°32.31' | 207°38.93' | S 10°14.89' | 231°25.93' | 84°45.32' | N 23°27.52' | 315°05.36' | 1°05.88' | S 1°15.08' | 354°44.87' | 321°26.37' | S 16°29.42' | **19** |
| **20** | 123°31.83' | 207°41.88' | S 10°16.05' | 246°28.10' | 84°45.60' | N 23°27.63' | 330°08.06' | 1°05.65' | S 1°15.17' | 9°47.34' | 321°26.37' | S 16°29.42' | **20** |
| **21** | 138°31.34' | 207°44.83' | S 10°17.22' | 261°30.28' | 84°45.89' | N 23°27.75' | 345°10.75' | 1°05.42' | S 1°15.27' | 24°49.80' | 321°26.37' | S 16°29.42' | **21** |
| **22** | 153°30.84' | 207°47.79' | S 10°18.38' | 276°32.46' | 84°46.18' | N 23°27.86' | 0°13.45' | 1°05.18' | S 1°15.36' | 39°52.27' | 321°26.36' | S 16°29.42' | **22** |
| **23** | 168°30.35' | 207°50.74' | S 10°19.55' | 291°34.64' | 84°46.46' | N 23°27.97' | 15°16.15' | 1°04.95' | S 1°15.45' | 54°54.74' | 321°26.36' | S 16°29.41' | **23** |
| **24** | 183°29.86' | 207°53.70' | S 10°20.71' | 306°36.82' | 84°46.74' | N 23°28.08' | 30°18.84' | 1°04.72' | S 1°15.55' | 69°57.20' | 321°26.36' | S 16°29.41' | **24** |
| | δ 14.9920° | | *d* 1.1732' | δ 15.0358° | | *d* 0.1117' | δ 15.0450° | | *d* 0.0958' | δ 15.0412° | | *d* 0.0007' | |

## *Sunday, October 23rd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°54.09' | 15.0015° | 207°29.47' | S 11°19.00' | 0.8784' | 210°37.46' | 14.5593° | 180°46.10' | N 3°40.21' | 14.8494' | 56.5980' | 31°23.56' | **00** |
| **01** | 198°54.18' | 15.0015° | 207°31.85' | S 11°19.87' | 0.8781' | 225°11.00' | 14.5591° | 181°15.02' | N 3°25.33' | 14.8816' | 56.6274' | 46°26.03' | **01** |
| **02** | 213°54.27' | 15.0015° | 207°34.22' | S 11°20.75' | 0.8778' | 239°44.53' | 14.5588° | 181°43.96' | N 3°10.42' | 14.9127' | 56.6569' | 61°28.49' | **02** |
| **03** | 228°54.36' | 15.0015° | 207°36.60' | S 11°21.63' | 0.8775' | 254°18.04' | 14.5585° | 182°12.91' | N 2°55.48' | 14.9429' | 56.6863' | 76°30.95' | **03** |
| **04** | 243°54.44' | 15.0015° | 207°38.97' | S 11°22.51' | 0.8772' | 268°51.53' | 14.5582° | 182°41.89' | N 2°40.51' | 14.9720' | 56.7159' | 91°33.42' | **04** |
| **05** | 258°54.53' | 15.0015° | 207°41.35' | S 11°23.38' | 0.8769' | 283°25.00' | 14.5578° | 183°10.88' | N 2°25.51' | 15.0002' | 56.7454' | 106°35.88' | **05** |
| **06** | 273°54.62' | 15.0015° | 207°43.73' | S 11°24.26' | 0.8766' | 297°58.44' | 14.5575° | 183°39.90' | N 2°10.48' | 15.0273' | 56.7749' | 121°38.35' | **06** |
| **07** | 288°54.71' | 15.0015° | 207°46.10' | S 11°25.14' | 0.8763' | 312°31.87' | 14.5571° | 184°08.94' | N 1°55.42' | 15.0533' | 56.8045' | 136°40.81' | **07** |
| **08** | 303°54.79' | 15.0014° | 207°48.48' | S 11°26.01' | 0.8760' | 327°05.27' | 14.5567° | 184°38.00' | N 1°40.35' | 15.0783' | 56.8341' | 151°43.27' | **08** |
| **09** | 318°54.88' | 15.0014° | 207°50.86' | S 11°26.89' | 0.8757' | 341°38.65' | 14.5563° | 185°07.09' | N 1°25.24' | 15.1023' | 56.8637' | 166°45.74' | **09** |
| **10** | 333°54.97' | 15.0014° | 207°53.24' | S 11°27.76' | 0.8754' | 356°12.00' | 14.5558° | 185°36.20' | N 1°10.12' | 15.1252' | 56.8933' | 181°48.20' | **10** |
| **11** | 348°55.05' | 15.0014° | 207°55.61' | S 11°28.64' | 0.8751' | 10°45.32' | 14.5554° | 186°05.34' | N 0°54.97' | 15.1470' | 56.9229' | 196°50.67' | **11** |
| **12** | 3°55.14' | 15.0014° | 207°57.99' | S 11°29.51' | 0.8748' | 25°18.62' | 14.5549° | 186°34.51' | N 0°39.80' | 15.1678' | 56.9525' | 211°53.13' | **12** |
| **13** | 18°55.22' | 15.0014° | 208°00.37' | S 11°30.39' | 0.8745' | 39°51.88' | 14.5544° | 187°03.71' | N 0°24.62' | 15.1875' | 56.9820' | 226°55.59' | **13** |
| **14** | 33°55.31' | 15.0014° | 208°02.75' | S 11°31.26' | 0.8742' | 54°25.12' | 14.5539° | 187°32.94' | N 0°09.41' | 15.2060' | 57.0116' | 241°58.06' | **14** |
| **15** | 48°55.39' | 15.0014° | 208°05.13' | S 11°32.14' | 0.8739' | 68°58.33' | 14.5534° | 188°02.20' | S 0°05.81' | 15.2235' | 57.0411' | 257°00.52' | **15** |
| **16** | 63°55.48' | 15.0014° | 208°07.51' | S 11°33.01' | 0.8736' | 83°31.50' | 14.5529° | 188°31.49' | S 0°21.05' | 15.2398' | 57.0707' | 272°02.99' | **16** |
| **17** | 78°55.56' | 15.0014° | 208°09.89' | S 11°33.88' | 0.8733' | 98°04.64' | 14.5523° | 189°00.81' | S 0°36.31' | 15.2550' | 57.1002' | 287°05.45' | **17** |
| **18** | 93°55.65' | 15.0014° | 208°12.27' | S 11°34.76' | 0.8730' | 112°37.74' | 14.5517° | 189°30.17' | S 0°51.58' | 15.2691' | 57.1297' | 302°07.91' | **18** |
| **19** | 108°55.73' | 15.0014° | 208°14.65' | S 11°35.63' | 0.8727' | 127°10.81' | 14.5511° | 189°59.57' | S 1°06.86' | 15.2821' | 57.1591' | 317°10.38' | **19** |
| **20** | 123°55.81' | 15.0014° | 208°17.03' | S 11°36.50' | 0.8724' | 141°43.84' | 14.5505° | 190°29.00' | S 1°22.15' | 15.2938' | 57.1885' | 332°12.84' | **20** |
| **21** | 138°55.90' | 15.0014° | 208°19.41' | S 11°37.37' | 0.8721' | 156°16.84' | 14.5499° | 190°58.47' | S 1°37.46' | 15.3044' | 57.2179' | 347°15.31' | **21** |
| **22** | 153°55.98' | 15.0014° | 208°21.79' | S 11°38.25' | 0.8718' | 170°49.79' | 14.5492° | 191°27.98' | S 1°52.77' | 15.3138' | 57.2472' | 2°17.77' | **22** |
| **23** | 168°56.06' | 15.0014° | 208°24.17' | S 11°39.12' | 0.8715' | 185°22.71' | 14.5486° | 191°57.53' | S 2°08.09' | 15.3221' | 57.2765' | 17°20.23' | **23** |
| **24** | 183°56.14' | 15.0014° | 208°26.56' | S 11°39.99' | 0.8712' | 199°55.58' | 14.5479° | 192°27.12' | S 2°23.42' | 15.3291' | 57.3057' | 32°22.70' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0742' | hp (π) 0.1473' | ½Ø 15.5185' | 4.51843674675549<br>96% -cre |
| | EoT at 12:00 UTC : +15m 40s (δ 0.34 s/h) | | Phase at 12:00 UTC : 335.72° | |
| | Meridian Pass. Time : 11:44:19.446 | | Age : 26.1 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.22') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 183°29.86' | 207°53.70' | S 10°20.71' | 306°36.82' | 84°46.74' | N 23°28.08' | 30°18.84' | 1°04.72' | S 1°15.55' | 69°57.20' | 321°26.36' | S 16°29.41' | **00** |
| **01** | 198°29.37' | 207°56.65' | S 10°21.88' | 321°39.00' | 84°47.03' | N 23°28.19' | 45°21.54' | 1°04.48' | S 1°15.64' | 84°59.67' | 321°26.36' | S 16°29.41' | **01** |
| **02** | 213°28.88' | 207°59.61' | S 10°23.04' | 336°41.18' | 84°47.31' | N 23°28.30' | 60°24.24' | 1°04.25' | S 1°15.73' | 100°02.13' | 321°26.36' | S 16°29.41' | **02** |
| **03** | 228°28.39' | 208°02.57' | S 10°24.20' | 351°43.37' | 84°47.58' | N 23°28.42' | 75°26.94' | 1°04.02' | S 1°15.83' | 115°04.60' | 321°26.36' | S 16°29.41' | **03** |
| **04** | 243°27.89' | 208°05.52' | S 10°25.36' | 6°45.56' | 84°47.86' | N 23°28.53' | 90°29.63' | 1°03.79' | S 1°15.92' | 130°07.06' | 321°26.36' | S 16°29.40' | **04** |
| **05** | 258°27.40' | 208°08.48' | S 10°26.53' | 21°47.75' | 84°48.14' | N 23°28.64' | 105°32.33' | 1°03.55' | S 1°16.01' | 145°09.53' | 321°26.35' | S 16°29.40' | **05** |
| **06** | 273°26.91' | 208°11.44' | S 10°27.69' | 36°49.94' | 84°48.41' | N 23°28.75' | 120°35.02' | 1°03.32' | S 1°16.11' | 160°11.99' | 321°26.35' | S 16°29.40' | **06** |
| **07** | 288°26.41' | 208°14.40' | S 10°28.85' | 51°52.13' | 84°48.68' | N 23°28.86' | 135°37.72' | 1°03.09' | S 1°16.20' | 175°14.46' | 321°26.35' | S 16°29.40' | **07** |
| **08** | 303°25.92' | 208°17.35' | S 10°30.01' | 66°54.32' | 84°48.95' | N 23°28.98' | 150°40.41' | 1°02.86' | S 1°16.29' | 190°16.92' | 321°26.35' | S 16°29.39' | **08** |
| **09** | 318°25.43' | 208°20.31' | S 10°31.17' | 81°56.52' | 84°49.22' | N 23°29.09' | 165°43.11' | 1°02.63' | S 1°16.38' | 205°19.38' | 321°26.35' | S 16°29.39' | **09** |
| **10** | 333°24.93' | 208°23.27' | S 10°32.33' | 96°58.71' | 84°49.49' | N 23°29.20' | 180°45.80' | 1°02.40' | S 1°16.47' | 220°21.85' | 321°26.35' | S 16°29.39' | **10** |
| **11** | 348°24.44' | 208°26.23' | S 10°33.49' | 112°00.91' | 84°49.76' | N 23°29.31' | 195°48.50' | 1°02.17' | S 1°16.57' | 235°24.31' | 321°26.35' | S 16°29.39' | **11** |
| **12** | 3°23.94' | 208°29.19' | S 10°34.65' | 127°03.11' | 84°50.02' | N 23°29.42' | 210°51.19' | 1°01.94' | S 1°16.66' | 250°26.78' | 321°26.35' | S 16°29.38' | **12** |
| **13** | 18°23.44' | 208°32.15' | S 10°35.81' | 142°05.31' | 84°50.28' | N 23°29.53' | 225°53.89' | 1°01.71' | S 1°16.75' | 265°29.24' | 321°26.36' | S 16°29.38' | **13** |
| **14** | 33°22.95' | 208°35.11' | S 10°36.96' | 157°07.51' | 84°50.54' | N 23°29.65' | 240°56.58' | 1°01.48' | S 1°16.84' | 280°31.70' | 321°26.36' | S 16°29.38' | **14** |
| **15** | 48°22.45' | 208°38.07' | S 10°38.12' | 172°09.72' | 84°50.80' | N 23°29.76' | 255°59.27' | 1°01.25' | S 1°16.93' | 295°34.16' | 321°26.36' | S 16°29.38' | **15** |
| **16** | 63°21.95' | 208°41.03' | S 10°39.28' | 187°11.92' | 84°51.06' | N 23°29.87' | 271°01.97' | 1°01.02' | S 1°17.03' | 310°36.63' | 321°26.36' | S 16°29.37' | **16** |
| **17** | 78°21.46' | 208°43.99' | S 10°40.44' | 202°14.13' | 84°51.32' | N 23°29.98' | 286°04.66' | 1°00.79' | S 1°17.12' | 325°39.09' | 321°26.36' | S 16°29.37' | **17** |
| **18** | 93°20.96' | 208°46.96' | S 10°41.59' | 217°16.34' | 84°51.58' | N 23°30.09' | 301°07.35' | 1°00.56' | S 1°17.21' | 340°41.55' | 321°26.36' | S 16°29.37' | **18** |
| **19** | 108°20.46' | 208°49.92' | S 10°42.75' | 232°18.55' | 84°51.83' | N 23°30.21' | 316°10.05' | 1°00.33' | S 1°17.30' | 355°44.02' | 321°26.36' | S 16°29.36' | **19** |
| **20** | 123°19.96' | 208°52.88' | S 10°43.90' | 247°20.76' | 84°52.08' | N 23°30.32' | 331°12.74' | 1°00.10' | S 1°17.39' | 10°46.48' | 321°26.37' | S 16°29.36' | **20** |
| **21** | 138°19.46' | 208°55.84' | S 10°45.06' | 262°22.97' | 84°52.33' | N 23°30.43' | 346°15.43' | 0°59.87' | S 1°17.48' | 25°48.94' | 321°26.37' | S 16°29.36' | **21** |
| **22** | 153°18.96' | 208°58.81' | S 10°46.21' | 277°25.19' | 84°52.58' | N 23°30.54' | 1°18.12' | 0°59.65' | S 1°17.57' | 40°51.40' | 321°26.37' | S 16°29.35' | **22** |
| **23** | 168°18.46' | 209°01.77' | S 10°47.37' | 292°27.40' | 84°52.83' | N 23°30.65' | 16°20.82' | 0°59.42' | S 1°17.66' | 55°53.86' | 321°26.37' | S 16°29.35' | **23** |
| **24** | 183°17.96' | 209°04.74' | S 10°48.52' | 307°29.62' | 84°53.08' | N 23°30.77' | 31°23.51' | 0°59.19' | S 1°17.75' | 70°56.32' | 321°26.37' | S 16°29.35' | **24** |
| | δ 14.9918° | | *d* 1.1636' | δ 15.0364° | | *d* 0.1118' | δ 15.0449° | | *d* 0.0932' | δ 15.0411° | | *d* 0.0021' | |

## *Monday, October 24th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°56.14' | 15.0014° | 208°26.56' | S 11°39.99' | 0.8712' | 199°55.58' | 14.5479° | 192°27.12' | S 2°23.42' | 15.3291' | 57.3057' | 32°22.70' | **00** |
| **01** | 198°56.22' | 15.0014° | 208°28.94' | S 11°40.86' | 0.8709' | 214°28.41' | 14.5472° | 192°56.75' | S 2°38.76' | 15.3350' | 57.3348' | 47°25.16' | **01** |
| **02** | 213°56.31' | 15.0014° | 208°31.32' | S 11°41.73' | 0.8706' | 229°01.20' | 14.5464° | 193°26.43' | S 2°54.10' | 15.3396' | 57.3639' | 62°27.63' | **02** |
| **03** | 228°56.39' | 15.0014° | 208°33.70' | S 11°42.60' | 0.8703' | 243°33.94' | 14.5457° | 193°56.15' | S 3°09.44' | 15.3429' | 57.3930' | 77°30.09' | **03** |
| **04** | 243°56.47' | 15.0013° | 208°36.09' | S 11°43.47' | 0.8700' | 258°06.64' | 14.5449° | 194°25.92' | S 3°24.78' | 15.3451' | 57.4220' | 92°32.55' | **04** |
| **05** | 258°56.55' | 15.0013° | 208°38.47' | S 11°44.34' | 0.8697' | 272°39.29' | 14.5441° | 194°55.73' | S 3°40.13' | 15.3460' | 57.4509' | 107°35.02' | **05** |
| **06** | 273°56.63' | 15.0013° | 208°40.85' | S 11°45.21' | 0.8693' | 287°11.89' | 14.5433° | 195°25.60' | S 3°55.48' | 15.3456' | 57.4797' | 122°37.48' | **06** |
| **07** | 288°56.71' | 15.0013° | 208°43.24' | S 11°46.08' | 0.8690' | 301°44.44' | 14.5425° | 195°55.51' | S 4°10.82' | 15.3439' | 57.5084' | 137°39.95' | **07** |
| **08** | 303°56.79' | 15.0013° | 208°45.62' | S 11°46.95' | 0.8687' | 316°16.94' | 14.5417° | 196°25.47' | S 4°26.16' | 15.3410' | 57.5371' | 152°42.41' | **08** |
| **09** | 318°56.87' | 15.0013° | 208°48.01' | S 11°47.81' | 0.8684' | 330°49.39' | 14.5408° | 196°55.49' | S 4°41.50' | 15.3368' | 57.5656' | 167°44.88' | **09** |
| **10** | 333°56.95' | 15.0013° | 208°50.39' | S 11°48.68' | 0.8681' | 345°21.78' | 14.5399° | 197°25.56' | S 4°56.83' | 15.3312' | 57.5941' | 182°47.34' | **10** |
| **11** | 348°57.03' | 15.0013° | 208°52.78' | S 11°49.55' | 0.8678' | 359°54.13' | 14.5390° | 197°55.68' | S 5°12.15' | 15.3244' | 57.6225' | 197°49.80' | **11** |
| **12** | 3°57.10' | 15.0013° | 208°55.16' | S 11°50.42' | 0.8675' | 14°26.41' | 14.5381° | 198°25.85' | S 5°27.47' | 15.3162' | 57.6508' | 212°52.27' | **12** |
| **13** | 18°57.18' | 15.0013° | 208°57.55' | S 11°51.29' | 0.8672' | 28°58.64' | 14.5372° | 198°56.09' | S 5°42.78' | 15.3066' | 57.6790' | 227°54.73' | **13** |
| **14** | 33°57.26' | 15.0013° | 208°59.94' | S 11°52.15' | 0.8669' | 43°30.82' | 14.5362° | 199°26.38' | S 5°58.07' | 15.2957' | 57.7070' | 242°57.20' | **14** |
| **15** | 48°57.34' | 15.0013° | 209°02.32' | S 11°53.02' | 0.8666' | 58°02.93' | 14.5352° | 199°56.73' | S 6°13.36' | 15.2835' | 57.7350' | 257°59.66' | **15** |
| **16** | 63°57.41' | 15.0013° | 209°04.71' | S 11°53.88' | 0.8662' | 72°34.99' | 14.5343° | 200°27.14' | S 6°28.63' | 15.2699' | 57.7628' | 273°02.12' | **16** |
| **17** | 78°57.49' | 15.0013° | 209°07.10' | S 11°54.75' | 0.8659' | 87°06.98' | 14.5332° | 200°57.61' | S 6°43.88' | 15.2549' | 57.7906' | 288°04.59' | **17** |
| **18** | 93°57.57' | 15.0013° | 209°09.48' | S 11°55.62' | 0.8656' | 101°38.91' | 14.5322° | 201°28.14' | S 6°59.12' | 15.2385' | 57.8182' | 303°07.05' | **18** |
| **19** | 108°57.64' | 15.0013° | 209°11.87' | S 11°56.48' | 0.8653' | 116°10.78' | 14.5312° | 201°58.73' | S 7°14.34' | 15.2206' | 57.8457' | 318°09.52' | **19** |
| **20** | 123°57.72' | 15.0013° | 209°14.26' | S 11°57.35' | 0.8650' | 130°42.59' | 14.5301° | 202°29.39' | S 7°29.54' | 15.2014' | 57.8730' | 333°11.98' | **20** |
| **21** | 138°57.79' | 15.0013° | 209°16.65' | S 11°58.21' | 0.8647' | 145°14.33' | 14.5290° | 203°00.11' | S 7°44.72' | 15.1807' | 57.9002' | 348°14.44' | **21** |
| **22** | 153°57.87' | 15.0013° | 209°19.04' | S 11°59.08' | 0.8643' | 159°46.00' | 14.5279° | 203°30.90' | S 7°59.88' | 15.1586' | 57.9273' | 3°16.91' | **22** |
| **23** | 168°57.94' | 15.0012° | 209°21.43' | S 11°59.94' | 0.8640' | 174°17.61' | 14.5268° | 204°01.76' | S 8°15.02' | 15.1350' | 57.9542' | 18°19.37' | **23** |
| **24** | 183°58.02' | 15.0012° | 209°23.82' | S 12°00.80' | 0.8637' | 188°49.15' | 14.5256° | 204°32.69' | S 8°30.13' | 15.1100' | 57.9810' | 33°21.84' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0786' | hp (π) 0.1473' | ½Ø 15.7088' | 1.12954637832988 76% -cre |
| | EoT at 12:00 UTC : +15m 48s (δ 0.31 s/h) | | Phase at 12:00 UTC : 348.02° | |
| | Meridian Pass. Time : 11:44:11.587 | | Age : 27.1 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.22') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 183°17.96' | 209°04.74' | S 10°48.52' | 307°29.62' | 84°53.08' | N 23°30.77' | 31°23.51' | 0°59.19' | S 1°17.75' | 70°56.32' | 321°26.37' | S 16°29.35' | **00** |
| **01** | 198°17.46' | 209°07.70' | S 10°49.67' | 322°31.84' | 84°53.32' | N 23°30.88' | 46°26.20' | 0°58.96' | S 1°17.84' | 85°58.79' | 321°26.38' | S 16°29.34' | **01** |
| **02** | 213°16.96' | 209°10.67' | S 10°50.83' | 337°34.06' | 84°53.57' | N 23°30.99' | 61°28.89' | 0°58.74' | S 1°17.93' | 101°01.25' | 321°26.38' | S 16°29.34' | **02** |
| **03** | 228°16.46' | 209°13.63' | S 10°51.98' | 352°36.28' | 84°53.81' | N 23°31.10' | 76°31.58' | 0°58.51' | S 1°18.02' | 116°03.71' | 321°26.38' | S 16°29.34' | **03** |
| **04** | 243°15.96' | 209°16.60' | S 10°53.13' | 7°38.51' | 84°54.05' | N 23°31.21' | 91°34.27' | 0°58.28' | S 1°18.12' | 131°06.17' | 321°26.39' | S 16°29.33' | **04** |
| **05** | 258°15.46' | 209°19.56' | S 10°54.28' | 22°40.73' | 84°54.29' | N 23°31.32' | 106°36.96' | 0°58.06' | S 1°18.21' | 146°08.63' | 321°26.39' | S 16°29.33' | **05** |
| **06** | 273°14.95' | 209°22.53' | S 10°55.43' | 37°42.96' | 84°54.52' | N 23°31.44' | 121°39.65' | 0°57.83' | S 1°18.30' | 161°11.09' | 321°26.39' | S 16°29.33' | **06** |
| **07** | 288°14.45' | 209°25.50' | S 10°56.59' | 52°45.19' | 84°54.76' | N 23°31.55' | 136°42.34' | 0°57.60' | S 1°18.38' | 176°13.55' | 321°26.40' | S 16°29.32' | **07** |
| **08** | 303°13.95' | 209°28.46' | S 10°57.74' | 67°47.42' | 84°54.99' | N 23°31.66' | 151°45.03' | 0°57.38' | S 1°18.47' | 191°16.01' | 321°26.40' | S 16°29.32' | **08** |
| **09** | 318°13.44' | 209°31.43' | S 10°58.89' | 82°49.65' | 84°55.23' | N 23°31.77' | 166°47.72' | 0°57.15' | S 1°18.56' | 206°18.47' | 321°26.41' | S 16°29.31' | **09** |
| **10** | 333°12.94' | 209°34.40' | S 11°00.03' | 97°51.88' | 84°55.46' | N 23°31.88' | 181°50.41' | 0°56.93' | S 1°18.65' | 221°20.93' | 321°26.41' | S 16°29.31' | **10** |
| **11** | 348°12.43' | 209°37.37' | S 11°01.18' | 112°54.12' | 84°55.69' | N 23°32.00' | 196°53.10' | 0°56.70' | S 1°18.74' | 236°23.39' | 321°26.42' | S 16°29.31' | **11** |
| **12** | 3°11.93' | 209°40.34' | S 11°02.33' | 127°56.35' | 84°55.91' | N 23°32.11' | 211°55.79' | 0°56.48' | S 1°18.83' | 251°25.85' | 321°26.42' | S 16°29.30' | **12** |
| **13** | 18°11.42' | 209°43.31' | S 11°03.48' | 142°58.59' | 84°56.14' | N 23°32.22' | 226°58.48' | 0°56.25' | S 1°18.92' | 266°28.31' | 321°26.43' | S 16°29.30' | **13** |
| **14** | 33°10.92' | 209°46.28' | S 11°04.63' | 158°00.83' | 84°56.37' | N 23°32.33' | 242°01.17' | 0°56.03' | S 1°19.01' | 281°30.76' | 321°26.43' | S 16°29.29' | **14** |
| **15** | 48°10.41' | 209°49.25' | S 11°05.78' | 173°03.07' | 84°56.59' | N 23°32.44' | 257°03.85' | 0°55.81' | S 1°19.10' | 296°33.22' | 321°26.44' | S 16°29.29' | **15** |
| **16** | 63°09.91' | 209°52.22' | S 11°06.92' | 188°05.31' | 84°56.81' | N 23°32.56' | 272°06.54' | 0°55.58' | S 1°19.19' | 311°35.68' | 321°26.44' | S 16°29.29' | **16** |
| **17** | 78°09.40' | 209°55.19' | S 11°08.07' | 203°07.56' | 84°57.03' | N 23°32.67' | 287°09.23' | 0°55.36' | S 1°19.28' | 326°38.14' | 321°26.45' | S 16°29.28' | **17** |
| **18** | 93°08.89' | 209°58.16' | S 11°09.21' | 218°09.80' | 84°57.25' | N 23°32.78' | 302°11.92' | 0°55.14' | S 1°19.37' | 341°40.60' | 321°26.45' | S 16°29.28' | **18** |
| **19** | 108°08.38' | 210°01.13' | S 11°10.36' | 233°12.05' | 84°57.47' | N 23°32.89' | 317°14.60' | 0°54.91' | S 1°19.45' | 356°43.06' | 321°26.46' | S 16°29.27' | **19** |
| **20** | 123°07.88' | 210°04.10' | S 11°11.50' | 248°14.30' | 84°57.68' | N 23°33.00' | 332°17.29' | 0°54.69' | S 1°19.54' | 11°45.51' | 321°26.47' | S 16°29.27' | **20** |
| **21** | 138°07.37' | 210°07.08' | S 11°12.65' | 263°16.55' | 84°57.90' | N 23°33.12' | 347°19.98' | 0°54.47' | S 1°19.63' | 26°47.97' | 321°26.47' | S 16°29.26' | **21** |
| **22** | 153°06.86' | 210°10.05' | S 11°13.79' | 278°18.80' | 84°58.11' | N 23°33.23' | 2°22.66' | 0°54.24' | S 1°19.72' | 41°50.43' | 321°26.48' | S 16°29.26' | **22** |
| **23** | 168°06.35' | 210°13.02' | S 11°14.94' | 293°21.05' | 84°58.32' | N 23°33.34' | 17°25.35' | 0°54.02' | S 1°19.81' | 56°52.89' | 321°26.48' | S 16°29.25' | **23** |
| **24** | 183°05.84' | 210°16.00' | S 11°16.08' | 308°23.30' | 84°58.53' | N 23°33.45' | 32°28.04' | 0°53.80' | S 1°19.90' | 71°55.34' | 321°26.49' | S 16°29.25' | **24** |
| | δ 14.9917° | | *d* 1.1534' | δ 15.0370° | | *d* 0.1119' | δ 15.0449° | | *d* 0.0905' | δ 15.0410° | | *d* 0.0034' | |

## *Tuesday, October 25th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°58.02' | 15.0012° | 209°23.82' | S 12°00.80' | 0.8637' | 188°49.15' | 14.5256° | 204°32.69' | S 8°30.13' | 15.1100' | 57.9810' | 33°21.84' | **00** |
| **01** | 198°58.09' | 15.0012° | 209°26.21' | S 12°01.67' | 0.8634' | 203°20.62' | 14.5245° | 205°03.68' | S 8°45.21' | 15.0835' | 58.0077' | 48°24.30' | **01** |
| **02** | 213°58.17' | 15.0012° | 209°28.60' | S 12°02.53' | 0.8631' | 217°52.02' | 14.5233° | 205°34.75' | S 9°00.26' | 15.0555' | 58.0342' | 63°26.76' | **02** |
| **03** | 228°58.24' | 15.0012° | 209°30.99' | S 12°03.39' | 0.8628' | 232°23.34' | 14.5221° | 206°05.89' | S 9°15.29' | 15.0260' | 58.0605' | 78°29.23' | **03** |
| **04** | 243°58.31' | 15.0012° | 209°33.38' | S 12°04.26' | 0.8624' | 246°54.59' | 14.5209° | 206°37.10' | S 9°30.29' | 14.9950' | 58.0867' | 93°31.69' | **04** |
| **05** | 258°58.39' | 15.0012° | 209°35.77' | S 12°05.12' | 0.8621' | 261°25.77' | 14.5197° | 207°08.38' | S 9°45.25' | 14.9624' | 58.1127' | 108°34.16' | **05** |
| **06** | 273°58.46' | 15.0012° | 209°38.16' | S 12°05.98' | 0.8618' | 275°56.88' | 14.5184° | 207°39.74' | S 10°00.18' | 14.9283' | 58.1386' | 123°36.62' | **06** |
| **07** | 288°58.53' | 15.0012° | 209°40.55' | S 12°06.84' | 0.8615' | 290°27.91' | 14.5171° | 208°11.18' | S 10°15.07' | 14.8927' | 58.1643' | 138°39.08' | **07** |
| **08** | 303°58.60' | 15.0012° | 209°42.94' | S 12°07.70' | 0.8612' | 304°58.86' | 14.5158° | 208°42.69' | S 10°29.92' | 14.8555' | 58.1898' | 153°41.55' | **08** |
| **09** | 318°58.68' | 15.0012° | 209°45.34' | S 12°08.56' | 0.8608' | 319°29.73' | 14.5145° | 209°14.28' | S 10°44.74' | 14.8168' | 58.2151' | 168°44.01' | **09** |
| **10** | 333°58.75' | 15.0012° | 209°47.73' | S 12°09.42' | 0.8605' | 334°00.52' | 14.5132° | 209°45.95' | S 10°59.52' | 14.7764' | 58.2403' | 183°46.48' | **10** |
| **11** | 348°58.82' | 15.0012° | 209°50.12' | S 12°10.28' | 0.8602' | 348°31.24' | 14.5119° | 210°17.70' | S 11°14.25' | 14.7345' | 58.2653' | 198°48.94' | **11** |
| **12** | 3°58.89' | 15.0012° | 209°52.51' | S 12°11.14' | 0.8599' | 3°01.87' | 14.5105° | 210°49.54' | S 11°28.94' | 14.6910' | 58.2901' | 213°51.40' | **12** |
| **13** | 18°58.96' | 15.0012° | 209°54.91' | S 12°12.00' | 0.8595' | 17°32.42' | 14.5092° | 211°21.45' | S 11°43.59' | 14.6458' | 58.3147' | 228°53.87' | **13** |
| **14** | 33°59.03' | 15.0012° | 209°57.30' | S 12°12.86' | 0.8592' | 32°02.88' | 14.5078° | 211°53.45' | S 11°58.19' | 14.5991' | 58.3391' | 243°56.33' | **14** |
| **15** | 48°59.10' | 15.0012° | 209°59.70' | S 12°13.72' | 0.8589' | 46°33.27' | 14.5064° | 212°25.53' | S 12°12.74' | 14.5507' | 58.3634' | 258°58.80' | **15** |
| **16** | 63°59.17' | 15.0012° | 210°02.09' | S 12°14.58' | 0.8586' | 61°03.57' | 14.5050° | 212°57.70' | S 12°27.24' | 14.5006' | 58.3874' | 274°01.26' | **16** |
| **17** | 78°59.24' | 15.0012° | 210°04.49' | S 12°15.44' | 0.8582' | 75°33.78' | 14.5035° | 213°29.95' | S 12°41.69' | 14.4490' | 58.4112' | 289°03.73' | **17** |
| **18** | 93°59.31' | 15.0011° | 210°06.88' | S 12°16.30' | 0.8579' | 90°03.90' | 14.5021° | 214°02.29' | S 12°56.08' | 14.3956' | 58.4349' | 304°06.19' | **18** |
| **19** | 108°59.38' | 15.0011° | 210°09.28' | S 12°17.15' | 0.8576' | 104°33.94' | 14.5006° | 214°34.72' | S 13°10.42' | 14.3406' | 58.4583' | 319°08.65' | **19** |
| **20** | 123°59.45' | 15.0011° | 210°11.67' | S 12°18.01' | 0.8573' | 119°03.89' | 14.4991° | 215°07.23' | S 13°24.71' | 14.2838' | 58.4815' | 334°11.12' | **20** |
| **21** | 138°59.51' | 15.0011° | 210°14.07' | S 12°18.87' | 0.8569' | 133°33.74' | 14.4976° | 215°39.84' | S 13°38.93' | 14.2254' | 58.5045' | 349°13.58' | **21** |
| **22** | 153°59.58' | 15.0011° | 210°16.46' | S 12°19.72' | 0.8566' | 148°03.51' | 14.4961° | 216°12.53' | S 13°53.10' | 14.1653' | 58.5273' | 4°16.05' | **22** |
| **23** | 168°59.65' | 15.0011° | 210°18.86' | S 12°20.58' | 0.8563' | 162°33.19' | 14.4946° | 216°45.32' | S 14°07.20' | 14.1035' | 58.5499' | 19°18.51' | **23** |
| **24** | 183°59.72' | 15.0011° | 210°21.26' | S 12°21.44' | 0.8560' | 177°02.77' | 14.4931° | 217°18.20' | S 14°21.24' | 14.0400' | 58.5723' | 34°20.97' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0830' | hp (π) 0.1474' | ½Ø 15.8829' | 0.01040838713812<br>22% New |
| | EoT at 12:00 UTC : +15m 55s (δ 0.28 s/h) | | Phase at 12:00 UTC : 0.63° | |
| | Meridian Pass. Time : 11:44:04.439 | | Age : 0.0 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.22') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 183°05.84' | 210°16.00' | S 11°16.08' | 308°23.30' | 84°58.53' | N 23°33.45' | 32°28.04' | 0°53.80' | S 1°19.90' | 71°55.34' | 321°26.49' | S 16°29.25' | **00** |
| **01** | 198°05.33' | 210°18.97' | S 11°17.22' | 323°25.56' | 84°58.74' | N 23°33.56' | 47°30.72' | 0°53.58' | S 1°19.98' | 86°57.80' | 321°26.50' | S 16°29.24' | **01** |
| **02** | 213°04.82' | 210°21.95' | S 11°18.36' | 338°27.82' | 84°58.95' | N 23°33.68' | 62°33.41' | 0°53.36' | S 1°20.07' | 102°00.26' | 321°26.51' | S 16°29.24' | **02** |
| **03** | 228°04.31' | 210°24.92' | S 11°19.51' | 353°30.08' | 84°59.15' | N 23°33.79' | 77°36.09' | 0°53.14' | S 1°20.16' | 117°02.71' | 321°26.51' | S 16°29.23' | **03** |
| **04** | 243°03.80' | 210°27.90' | S 11°20.65' | 8°32.34' | 84°59.35' | N 23°33.90' | 92°38.78' | 0°52.92' | S 1°20.25' | 132°05.17' | 321°26.52' | S 16°29.23' | **04** |
| **05** | 258°03.28' | 210°30.87' | S 11°21.79' | 23°34.60' | 84°59.56' | N 23°34.01' | 107°41.46' | 0°52.69' | S 1°20.33' | 147°07.63' | 321°26.53' | S 16°29.22' | **05** |
| **06** | 273°02.77' | 210°33.85' | S 11°22.93' | 38°36.86' | 84°59.76' | N 23°34.12' | 122°44.15' | 0°52.47' | S 1°20.42' | 162°10.08' | 321°26.54' | S 16°29.22' | **06** |
| **07** | 288°02.26' | 210°36.82' | S 11°24.07' | 53°39.13' | 84°59.95' | N 23°34.24' | 137°46.83' | 0°52.25' | S 1°20.51' | 177°12.54' | 321°26.55' | S 16°29.21' | **07** |
| **08** | 303°01.75' | 210°39.80' | S 11°25.21' | 68°41.40' | 85°00.15' | N 23°34.35' | 152°49.51' | 0°52.03' | S 1°20.59' | 192°14.99' | 321°26.55' | S 16°29.21' | **08** |
| **09** | 318°01.23' | 210°42.78' | S 11°26.35' | 83°43.67' | 85°00.35' | N 23°34.46' | 167°52.20' | 0°51.81' | S 1°20.68' | 207°17.45' | 321°26.56' | S 16°29.20' | **09** |
| **10** | 333°00.72' | 210°45.76' | S 11°27.48' | 98°45.94' | 85°00.54' | N 23°34.57' | 182°54.88' | 0°51.60' | S 1°20.77' | 222°19.91' | 321°26.57' | S 16°29.20' | **10** |
| **11** | 348°00.21' | 210°48.74' | S 11°28.62' | 113°48.21' | 85°00.73' | N 23°34.69' | 197°57.56' | 0°51.38' | S 1°20.85' | 237°22.36' | 321°26.58' | S 16°29.19' | **11** |
| **12** | 2°59.69' | 210°51.71' | S 11°29.76' | 128°50.48' | 85°00.92' | N 23°34.80' | 213°00.25' | 0°51.16' | S 1°20.94' | 252°24.82' | 321°26.59' | S 16°29.19' | **12** |
| **13** | 17°59.18' | 210°54.69' | S 11°30.90' | 143°52.75' | 85°01.11' | N 23°34.91' | 228°02.93' | 0°50.94' | S 1°21.03' | 267°27.27' | 321°26.60' | S 16°29.18' | **13** |
| **14** | 32°58.66' | 210°57.67' | S 11°32.03' | 158°55.03' | 85°01.30' | N 23°35.02' | 243°05.61' | 0°50.72' | S 1°21.11' | 282°29.73' | 321°26.61' | S 16°29.18' | **14** |
| **15** | 47°58.14' | 211°00.65' | S 11°33.17' | 173°57.31' | 85°01.49' | N 23°35.13' | 258°08.29' | 0°50.50' | S 1°21.20' | 297°32.18' | 321°26.62' | S 16°29.17' | **15** |
| **16** | 62°57.63' | 211°03.63' | S 11°34.31' | 188°59.59' | 85°01.67' | N 23°35.25' | 273°10.98' | 0°50.28' | S 1°21.29' | 312°34.63' | 321°26.63' | S 16°29.16' | **16** |
| **17** | 77°57.11' | 211°06.61' | S 11°35.44' | 204°01.87' | 85°01.86' | N 23°35.36' | 288°13.66' | 0°50.07' | S 1°21.37' | 327°37.09' | 321°26.64' | S 16°29.16' | **17** |
| **18** | 92°56.59' | 211°09.59' | S 11°36.58' | 219°04.15' | 85°02.04' | N 23°35.47' | 303°16.34' | 0°49.85' | S 1°21.46' | 342°39.54' | 321°26.65' | S 16°29.15' | **18** |
| **19** | 107°56.08' | 211°12.58' | S 11°37.71' | 234°06.44' | 85°02.22' | N 23°35.58' | 318°19.02' | 0°49.63' | S 1°21.54' | 357°42.00' | 321°26.66' | S 16°29.15' | **19** |
| **20** | 122°55.56' | 211°15.56' | S 11°38.84' | 249°08.72' | 85°02.40' | N 23°35.70' | 333°21.70' | 0°49.41' | S 1°21.63' | 12°44.45' | 321°26.67' | S 16°29.14' | **20** |
| **21** | 137°55.04' | 211°18.54' | S 11°39.98' | 264°11.01' | 85°02.57' | N 23°35.81' | 348°24.38' | 0°49.20' | S 1°21.71' | 27°46.90' | 321°26.68' | S 16°29.14' | **21** |
| **22** | 152°54.52' | 211°21.52' | S 11°41.11' | 279°13.30' | 85°02.75' | N 23°35.92' | 3°27.06' | 0°48.98' | S 1°21.80' | 42°49.36' | 321°26.69' | S 16°29.13' | **22** |
| **23** | 167°54.00' | 211°24.51' | S 11°42.24' | 294°15.59' | 85°02.92' | N 23°36.03' | 18°29.74' | 0°48.77' | S 1°21.88' | 57°51.81' | 321°26.70' | S 16°29.12' | **23** |
| **24** | 182°53.48' | 211°27.49' | S 11°43.37' | 309°17.88' | 85°03.09' | N 23°36.14' | 33°32.42' | 0°48.55' | S 1°21.97' | 72°54.26' | 321°26.71' | S 16°29.12' | **24** |
| | δ 14.9915° | | *d* 1.1426' | δ 15.0376° | | *d* 0.1121' | δ 15.0448° | | *d* 0.0878' | δ 15.0409° | | *d* 0.0048' | |

## *Wednesday, October 26th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°59.72' | 15.0011° | 210°21.26' | S 12°21.44' | 0.8560' | 177°02.77' | 14.4931° | 217°18.20' | S 14°21.24' | 14.0400' | 58.5723' | 34°20.97' | **00** |
| **01** | 198°59.78' | 15.0011° | 210°23.65' | S 12°22.29' | 0.8556' | 191°32.26' | 14.4915° | 217°51.17' | S 14°35.22' | 13.9747' | 58.5944' | 49°23.44' | **01** |
| **02** | 213°59.85' | 15.0011° | 210°26.05' | S 12°23.15' | 0.8553' | 206°01.66' | 14.4900° | 218°24.24' | S 14°49.12' | 13.9077' | 58.6163' | 64°25.90' | **02** |
| **03** | 228°59.92' | 15.0011° | 210°28.45' | S 12°24.00' | 0.8550' | 220°30.96' | 14.4884° | 218°57.40' | S 15°02.96' | 13.8389' | 58.6380' | 79°28.37' | **03** |
| **04** | 243°59.98' | 15.0011° | 210°30.85' | S 12°24.86' | 0.8546' | 235°00.17' | 14.4868° | 219°30.66' | S 15°16.73' | 13.7684' | 58.6595' | 94°30.83' | **04** |
| **05** | 259°00.05' | 15.0011° | 210°33.25' | S 12°25.71' | 0.8543' | 249°29.28' | 14.4852° | 220°04.01' | S 15°30.43' | 13.6962' | 58.6807' | 109°33.29' | **05** |
| **06** | 274°00.11' | 15.0011° | 210°35.65' | S 12°26.56' | 0.8540' | 263°58.30' | 14.4836° | 220°37.46' | S 15°44.05' | 13.6221' | 58.7017' | 124°35.76' | **06** |
| **07** | 289°00.18' | 15.0011° | 210°38.05' | S 12°27.42' | 0.8536' | 278°27.21' | 14.4819° | 221°11.01' | S 15°57.60' | 13.5463' | 58.7225' | 139°38.22' | **07** |
| **08** | 304°00.24' | 15.0011° | 210°40.44' | S 12°28.27' | 0.8533' | 292°56.03' | 14.4803° | 221°44.65' | S 16°11.07' | 13.4687' | 58.7430' | 154°40.69' | **08** |
| **09** | 319°00.31' | 15.0011° | 210°42.84' | S 12°29.12' | 0.8530' | 307°24.75' | 14.4787° | 222°18.40' | S 16°24.45' | 13.3893' | 58.7633' | 169°43.15' | **09** |
| **10** | 334°00.37' | 15.0011° | 210°45.24' | S 12°29.98' | 0.8526' | 321°53.37' | 14.4770° | 222°52.24' | S 16°37.76' | 13.3081' | 58.7834' | 184°45.61' | **10** |
| **11** | 349°00.43' | 15.0011° | 210°47.65' | S 12°30.83' | 0.8523' | 336°21.89' | 14.4753° | 223°26.19' | S 16°50.99' | 13.2252' | 58.8032' | 199°48.08' | **11** |
| **12** | 4°00.50' | 15.0011° | 210°50.05' | S 12°31.68' | 0.8520' | 350°50.31' | 14.4737° | 224°00.23' | S 17°04.13' | 13.1404' | 58.8228' | 214°50.54' | **12** |
| **13** | 19°00.56' | 15.0010° | 210°52.45' | S 12°32.53' | 0.8516' | 5°18.63' | 14.4720° | 224°34.38' | S 17°17.18' | 13.0538' | 58.8421' | 229°53.01' | **13** |
| **14** | 34°00.62' | 15.0010° | 210°54.85' | S 12°33.38' | 0.8513' | 19°46.85' | 14.4703° | 225°08.62' | S 17°30.15' | 12.9654' | 58.8611' | 244°55.47' | **14** |
| **15** | 49°00.68' | 15.0010° | 210°57.25' | S 12°34.24' | 0.8509' | 34°14.96' | 14.4686° | 225°42.97' | S 17°43.02' | 12.8751' | 58.8800' | 259°57.94' | **15** |
| **16** | 64°00.75' | 15.0010° | 210°59.65' | S 12°35.09' | 0.8506' | 48°42.98' | 14.4669° | 226°17.42' | S 17°55.81' | 12.7831' | 58.8985' | 275°00.40' | **16** |
| **17** | 79°00.81' | 15.0010° | 211°02.05' | S 12°35.94' | 0.8503' | 63°10.89' | 14.4652° | 226°51.98' | S 18°08.49' | 12.6892' | 58.9169' | 290°02.86' | **17** |
| **18** | 94°00.87' | 15.0010° | 211°04.46' | S 12°36.79' | 0.8499' | 77°38.69' | 14.4634° | 227°26.63' | S 18°21.09' | 12.5935' | 58.9349' | 305°05.33' | **18** |
| **19** | 109°00.93' | 15.0010° | 211°06.86' | S 12°37.64' | 0.8496' | 92°06.40' | 14.4617° | 228°01.39' | S 18°33.58' | 12.4959' | 58.9527' | 320°07.79' | **19** |
| **20** | 124°00.99' | 15.0010° | 211°09.26' | S 12°38.49' | 0.8493' | 106°34.00' | 14.4600° | 228°36.26' | S 18°45.98' | 12.3965' | 58.9703' | 335°10.26' | **20** |
| **21** | 139°01.05' | 15.0010° | 211°11.67' | S 12°39.33' | 0.8489' | 121°01.49' | 14.4582° | 229°11.23' | S 18°58.28' | 12.2953' | 58.9876' | 350°12.72' | **21** |
| **22** | 154°01.11' | 15.0010° | 211°14.07' | S 12°40.18' | 0.8486' | 135°28.88' | 14.4565° | 229°46.30' | S 19°10.47' | 12.1923' | 59.0046' | 5°15.18' | **22** |
| **23** | 169°01.17' | 15.0010° | 211°16.48' | S 12°41.03' | 0.8482' | 149°56.17' | 14.4548° | 230°21.48' | S 19°22.56' | 12.0874' | 59.0214' | 20°17.65' | **23** |
| **24** | 184°01.23' | 15.0010° | 211°18.88' | S 12°41.88' | 0.8479' | 164°23.35' | 14.4530° | 230°56.77' | S 19°34.54' | 11.9806' | 59.0379' | 35°20.11' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.0874' | hp (π) 0.1474' | ½Ø 16.0281' | 1.39097946945798<br>7% +cre |
| | EoT at 12:00 UTC : +16m 2s (δ 0.25 s/h) | | Phase at 12:00 UTC : 13.51° | |
| | Meridian Pass. Time : 11:43:58.013 | | Age : 1.1 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.23') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 182°53.48' | 211°27.49' | S 11°43.37' | 309°17.88' | 85°03.09' | N 23°36.14' | 33°32.42' | 0°48.55' | S 1°21.97' | 72°54.26' | 321°26.71' | S 16°29.12' | **00** |
| **01** | 197°52.96' | 211°30.47' | S 11°44.50' | 324°20.17' | 85°03.26' | N 23°36.26' | 48°35.10' | 0°48.33' | S 1°22.06' | 87°56.72' | 321°26.72' | S 16°29.11' | **01** |
| **02** | 212°52.44' | 211°33.46' | S 11°45.64' | 339°22.47' | 85°03.43' | N 23°36.37' | 63°37.78' | 0°48.12' | S 1°22.14' | 102°59.17' | 321°26.73' | S 16°29.10' | **02** |
| **03** | 227°51.92' | 211°36.44' | S 11°46.77' | 354°24.77' | 85°03.60' | N 23°36.48' | 78°40.46' | 0°47.90' | S 1°22.22' | 118°01.62' | 321°26.75' | S 16°29.10' | **03** |
| **04** | 242°51.40' | 211°39.43' | S 11°47.90' | 9°27.06' | 85°03.77' | N 23°36.59' | 93°43.14' | 0°47.69' | S 1°22.31' | 133°04.07' | 321°26.76' | S 16°29.09' | **04** |
| **05** | 257°50.88' | 211°42.41' | S 11°49.03' | 24°29.36' | 85°03.93' | N 23°36.71' | 108°45.82' | 0°47.47' | S 1°22.39' | 148°06.52' | 321°26.77' | S 16°29.09' | **05** |
| **06** | 272°50.36' | 211°45.40' | S 11°50.15' | 39°31.66' | 85°04.09' | N 23°36.82' | 123°48.50' | 0°47.26' | S 1°22.48' | 163°08.98' | 321°26.78' | S 16°29.08' | **06** |
| **07** | 287°49.84' | 211°48.39' | S 11°51.28' | 54°33.97' | 85°04.26' | N 23°36.93' | 138°51.18' | 0°47.04' | S 1°22.56' | 178°11.43' | 321°26.79' | S 16°29.07' | **07** |
| **08** | 302°49.31' | 211°51.37' | S 11°52.41' | 69°36.27' | 85°04.41' | N 23°37.04' | 153°53.86' | 0°46.83' | S 1°22.65' | 193°13.88' | 321°26.81' | S 16°29.07' | **08** |
| **09** | 317°48.79' | 211°54.36' | S 11°53.54' | 84°38.58' | 85°04.57' | N 23°37.15' | 168°56.53' | 0°46.62' | S 1°22.73' | 208°16.33' | 321°26.82' | S 16°29.06' | **09** |
| **10** | 332°48.27' | 211°57.35' | S 11°54.66' | 99°40.89' | 85°04.73' | N 23°37.27' | 183°59.21' | 0°46.40' | S 1°22.81' | 223°18.78' | 321°26.83' | S 16°29.05' | **10** |
| **11** | 347°47.74' | 212°00.34' | S 11°55.79' | 114°43.19' | 85°04.88' | N 23°37.38' | 199°01.89' | 0°46.19' | S 1°22.90' | 238°21.23' | 321°26.85' | S 16°29.05' | **11** |
| **12** | 2°47.22' | 212°03.32' | S 11°56.92' | 129°45.51' | 85°05.04' | N 23°37.49' | 214°04.57' | 0°45.98' | S 1°22.98' | 253°23.68' | 321°26.86' | S 16°29.04' | **12** |
| **13** | 17°46.69' | 212°06.31' | S 11°58.04' | 144°47.82' | 85°05.19' | N 23°37.60' | 229°07.24' | 0°45.77' | S 1°23.07' | 268°26.13' | 321°26.87' | S 16°29.03' | **13** |
| **14** | 32°46.17' | 212°09.30' | S 11°59.17' | 159°50.13' | 85°05.34' | N 23°37.72' | 244°09.92' | 0°45.55' | S 1°23.15' | 283°28.58' | 321°26.89' | S 16°29.03' | **14** |
| **15** | 47°45.64' | 212°12.29' | S 12°00.29' | 174°52.45' | 85°05.49' | N 23°37.83' | 259°12.60' | 0°45.34' | S 1°23.23' | 298°31.03' | 321°26.90' | S 16°29.02' | **15** |
| **16** | 62°45.12' | 212°15.28' | S 12°01.42' | 189°54.76' | 85°05.63' | N 23°37.94' | 274°15.27' | 0°45.13' | S 1°23.32' | 313°33.48' | 321°26.91' | S 16°29.01' | **16** |
| **17** | 77°44.59' | 212°18.27' | S 12°02.54' | 204°57.08' | 85°05.78' | N 23°38.05' | 289°17.95' | 0°44.92' | S 1°23.40' | 328°35.93' | 321°26.93' | S 16°29.00' | **17** |
| **18** | 92°44.06' | 212°21.27' | S 12°03.66' | 219°59.40' | 85°05.92' | N 23°38.17' | 304°20.62' | 0°44.71' | S 1°23.48' | 343°38.38' | 321°26.94' | S 16°29.00' | **18** |
| **19** | 107°43.54' | 212°24.26' | S 12°04.78' | 235°01.73' | 85°06.07' | N 23°38.28' | 319°23.30' | 0°44.49' | S 1°23.56' | 358°40.83' | 321°26.96' | S 16°28.99' | **19** |
| **20** | 122°43.01' | 212°27.25' | S 12°05.91' | 250°04.05' | 85°06.21' | N 23°38.39' | 334°25.97' | 0°44.28' | S 1°23.65' | 13°43.28' | 321°26.97' | S 16°28.98' | **20** |
| **21** | 137°42.48' | 212°30.24' | S 12°07.03' | 265°06.37' | 85°06.35' | N 23°38.50' | 349°28.65' | 0°44.07' | S 1°23.73' | 28°45.73' | 321°26.99' | S 16°28.98' | **21** |
| **22** | 152°41.95' | 212°33.23' | S 12°08.15' | 280°08.70' | 85°06.48' | N 23°38.62' | 4°31.32' | 0°43.86' | S 1°23.81' | 43°48.18' | 321°27.00' | S 16°28.97' | **22** |
| **23** | 167°41.42' | 212°36.23' | S 12°09.27' | 295°11.03' | 85°06.62' | N 23°38.73' | 19°34.00' | 0°43.65' | S 1°23.89' | 58°50.63' | 321°27.02' | S 16°28.96' | **23** |
| **24** | 182°40.89' | 212°39.22' | S 12°10.39' | 310°13.36' | 85°06.75' | N 23°38.84' | 34°36.67' | 0°43.44' | S 1°23.98' | 73°53.08' | 321°27.03' | S 16°28.95' | **24** |
| | δ 14.9913° | | *d* 1.1313' | δ 15.0382° | | *d* 0.1123' | δ 15.0447° | | *d* 0.0850' | δ 15.0409° | | *d* 0.0062' | |

## *Thursday, October 27th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 184°01.23' | 15.0010° | 211°18.88' | S 12°41.88' | 0.8479' | 164°23.35' | 14.4530° | 230°56.77' | S 19°34.54' | 11.9806' | 59.0379' | 35°20.11' | **00** |
| **01** | 199°01.29' | 15.0010° | 211°21.29' | S 12°42.73' | 0.8476' | 178°50.42' | 14.4513° | 231°32.15' | S 19°46.41' | 11.8721' | 59.0541' | 50°22.58' | **01** |
| **02** | 214°01.35' | 15.0010° | 211°23.69' | S 12°43.57' | 0.8472' | 193°17.39' | 14.4495° | 232°07.65' | S 19°58.17' | 11.7617' | 59.0701' | 65°25.04' | **02** |
| **03** | 229°01.41' | 15.0010° | 211°26.10' | S 12°44.42' | 0.8469' | 207°44.26' | 14.4478° | 232°43.25' | S 20°09.82' | 11.6494' | 59.0858' | 80°27.51' | **03** |
| **04** | 244°01.47' | 15.0010° | 211°28.50' | S 12°45.27' | 0.8465' | 222°11.02' | 14.4460° | 233°18.95' | S 20°21.35' | 11.5354' | 59.1012' | 95°29.97' | **04** |
| **05** | 259°01.52' | 15.0010° | 211°30.91' | S 12°46.11' | 0.8462' | 236°37.67' | 14.4443° | 233°54.76' | S 20°32.77' | 11.4195' | 59.1164' | 110°32.43' | **05** |
| **06** | 274°01.58' | 15.0010° | 211°33.32' | S 12°46.96' | 0.8458' | 251°04.22' | 14.4425° | 234°30.67' | S 20°44.08' | 11.3018' | 59.1313' | 125°34.90' | **06** |
| **07** | 289°01.64' | 15.0010° | 211°35.72' | S 12°47.80' | 0.8455' | 265°30.67' | 14.4408° | 235°06.69' | S 20°55.26' | 11.1822' | 59.1460' | 140°37.36' | **07** |
| **08** | 304°01.70' | 15.0009° | 211°38.13' | S 12°48.65' | 0.8451' | 279°57.01' | 14.4390° | 235°42.82' | S 21°06.32' | 11.0609' | 59.1603' | 155°39.83' | **08** |
| **09** | 319°01.75' | 15.0009° | 211°40.54' | S 12°49.49' | 0.8448' | 294°23.25' | 14.4373° | 236°19.04' | S 21°17.26' | 10.9377' | 59.1744' | 170°42.29' | **09** |
| **10** | 334°01.81' | 15.0009° | 211°42.94' | S 12°50.34' | 0.8444' | 308°49.38' | 14.4355° | 236°55.38' | S 21°28.07' | 10.8127' | 59.1883' | 185°44.75' | **10** |
| **11** | 349°01.87' | 15.0009° | 211°45.35' | S 12°51.18' | 0.8441' | 323°15.40' | 14.4338° | 237°31.81' | S 21°38.76' | 10.6859' | 59.2018' | 200°47.22' | **11** |
| **12** | 4°01.92' | 15.0009° | 211°47.76' | S 12°52.03' | 0.8438' | 337°41.33' | 14.4321° | 238°08.36' | S 21°49.31' | 10.5574' | 59.2151' | 215°49.68' | **12** |
| **13** | 19°01.98' | 15.0009° | 211°50.17' | S 12°52.87' | 0.8434' | 352°07.15' | 14.4303° | 238°45.00' | S 21°59.74' | 10.4270' | 59.2281' | 230°52.15' | **13** |
| **14** | 34°02.03' | 15.0009° | 211°52.58' | S 12°53.71' | 0.8431' | 6°32.86' | 14.4286° | 239°21.75' | S 22°10.03' | 10.2949' | 59.2408' | 245°54.61' | **14** |
| **15** | 49°02.09' | 15.0009° | 211°54.99' | S 12°54.56' | 0.8427' | 20°58.48' | 14.4269° | 239°58.60' | S 22°20.20' | 10.1610' | 59.2533' | 260°57.07' | **15** |
| **16** | 64°02.14' | 15.0009° | 211°57.40' | S 12°55.40' | 0.8424' | 35°23.99' | 14.4252° | 240°35.55' | S 22°30.22' | 10.0254' | 59.2655' | 275°59.54' | **16** |
| **17** | 79°02.19' | 15.0009° | 211°59.81' | S 12°56.24' | 0.8420' | 49°49.40' | 14.4235° | 241°12.60' | S 22°40.11' | 9.8880' | 59.2774' | 291°02.00' | **17** |
| **18** | 94°02.25' | 15.0009° | 212°02.22' | S 12°57.08' | 0.8417' | 64°14.71' | 14.4218° | 241°49.76' | S 22°49.86' | 9.7489' | 59.2891' | 306°04.47' | **18** |
| **19** | 109°02.30' | 15.0009° | 212°04.63' | S 12°57.92' | 0.8413' | 78°39.92' | 14.4202° | 242°27.01' | S 22°59.47' | 9.6081' | 59.3004' | 321°06.93' | **19** |
| **20** | 124°02.35' | 15.0009° | 212°07.04' | S 12°58.76' | 0.8410' | 93°05.03' | 14.4185° | 243°04.36' | S 23°08.93' | 9.4656' | 59.3115' | 336°09.40' | **20** |
| **21** | 139°02.41' | 15.0009° | 212°09.45' | S 12°59.60' | 0.8406' | 107°30.04' | 14.4169° | 243°41.82' | S 23°18.25' | 9.3214' | 59.3224' | 351°11.86' | **21** |
| **22** | 154°02.46' | 15.0009° | 212°11.86' | S 13°00.44' | 0.8402' | 121°54.96' | 14.4152° | 244°19.37' | S 23°27.43' | 9.1755' | 59.3329' | 6°14.32' | **22** |
| **23** | 169°02.51' | 15.0009° | 212°14.28' | S 13°01.28' | 0.8399' | 136°19.77' | 14.4136° | 244°57.01' | S 23°36.46' | 9.0279' | 59.3432' | 21°16.79' | **23** |
| **24** | 184°02.56' | 15.0009° | 212°16.69' | S 13°02.12' | 0.8395' | 150°44.50' | 14.4120° | 245°34.76' | S 23°45.34' | 8.8787' | 59.3532' | 36°19.25' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.0918' | hp (π) 0.1475' | ½Ø 16.1350' | 5.33384383563584<br>3% +cre | |
| EoT at 12:00 UTC : +16m 7s (δ 0.22 s/h) | | Phase at 12:00 UTC : 26.60° | | |
| Meridian Pass. Time : 11:43:52.316 | | Age : 2.1 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.23') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 182°40.89' | 212°39.22' | S 12°10.39' | 310°13.36' | 85°06.75' | N 23°38.84' | 34°36.67' | 0°43.44' | S 1°23.98' | 73°53.08' | 321°27.03' | S 16°28.95' | **00** |
| **01** | 197°40.36' | 212°42.21' | S 12°11.51' | 325°15.69' | 85°06.89' | N 23°38.95' | 49°39.34' | 0°43.23' | S 1°24.06' | 88°55.53' | 321°27.05' | S 16°28.95' | **01** |
| **02** | 212°39.83' | 212°45.21' | S 12°12.63' | 340°18.02' | 85°07.02' | N 23°39.07' | 64°42.02' | 0°43.02' | S 1°24.14' | 103°57.98' | 321°27.07' | S 16°28.94' | **02** |
| **03** | 227°39.30' | 212°48.20' | S 12°13.75' | 355°20.36' | 85°07.15' | N 23°39.18' | 79°44.69' | 0°42.81' | S 1°24.22' | 119°00.42' | 321°27.08' | S 16°28.93' | **03** |
| **04** | 242°38.77' | 212°51.20' | S 12°14.86' | 10°22.69' | 85°07.28' | N 23°39.29' | 94°47.36' | 0°42.61' | S 1°24.30' | 134°02.87' | 321°27.10' | S 16°28.92' | **04** |
| **05** | 257°38.24' | 212°54.20' | S 12°15.98' | 25°25.03' | 85°07.40' | N 23°39.40' | 109°50.04' | 0°42.40' | S 1°24.39' | 149°05.32' | 321°27.11' | S 16°28.91' | **05** |
| **06** | 272°37.71' | 212°57.19' | S 12°17.10' | 40°27.37' | 85°07.53' | N 23°39.52' | 124°52.71' | 0°42.19' | S 1°24.47' | 164°07.77' | 321°27.13' | S 16°28.91' | **06** |
| **07** | 287°37.17' | 213°00.19' | S 12°18.22' | 55°29.71' | 85°07.65' | N 23°39.63' | 139°55.38' | 0°41.98' | S 1°24.55' | 179°10.21' | 321°27.15' | S 16°28.90' | **07** |
| **08** | 302°36.64' | 213°03.19' | S 12°19.33' | 70°32.05' | 85°07.77' | N 23°39.74' | 154°58.05' | 0°41.77' | S 1°24.63' | 194°12.66' | 321°27.16' | S 16°28.89' | **08** |
| **09** | 317°36.11' | 213°06.18' | S 12°20.45' | 85°34.40' | 85°07.89' | N 23°39.85' | 170°00.73' | 0°41.56' | S 1°24.71' | 209°15.11' | 321°27.18' | S 16°28.88' | **09** |
| **10** | 332°35.57' | 213°09.18' | S 12°21.56' | 100°36.74' | 85°08.01' | N 23°39.97' | 185°03.40' | 0°41.36' | S 1°24.79' | 224°17.56' | 321°27.20' | S 16°28.87' | **10** |
| **11** | 347°35.04' | 213°12.18' | S 12°22.68' | 115°39.09' | 85°08.13' | N 23°40.08' | 200°06.07' | 0°41.15' | S 1°24.87' | 239°20.00' | 321°27.22' | S 16°28.87' | **11** |
| **12** | 2°34.50' | 213°15.18' | S 12°23.79' | 130°41.44' | 85°08.24' | N 23°40.19' | 215°08.74' | 0°40.94' | S 1°24.95' | 254°22.45' | 321°27.23' | S 16°28.86' | **12** |
| **13** | 17°33.97' | 213°18.18' | S 12°24.90' | 145°43.79' | 85°08.36' | N 23°40.30' | 230°11.41' | 0°40.74' | S 1°25.04' | 269°24.89' | 321°27.25' | S 16°28.85' | **13** |
| **14** | 32°33.43' | 213°21.18' | S 12°26.02' | 160°46.14' | 85°08.47' | N 23°40.42' | 245°14.08' | 0°40.53' | S 1°25.12' | 284°27.34' | 321°27.27' | S 16°28.84' | **14** |
| **15** | 47°32.90' | 213°24.18' | S 12°27.13' | 175°48.50' | 85°08.58' | N 23°40.53' | 260°16.75' | 0°40.32' | S 1°25.20' | 299°29.79' | 321°27.29' | S 16°28.83' | **15** |
| **16** | 62°32.36' | 213°27.18' | S 12°28.24' | 190°50.85' | 85°08.69' | N 23°40.64' | 275°19.42' | 0°40.12' | S 1°25.28' | 314°32.23' | 321°27.31' | S 16°28.83' | **16** |
| **17** | 77°31.82' | 213°30.18' | S 12°29.35' | 205°53.21' | 85°08.80' | N 23°40.76' | 290°22.09' | 0°39.91' | S 1°25.36' | 329°34.68' | 321°27.32' | S 16°28.82' | **17** |
| **18** | 92°31.29' | 213°33.18' | S 12°30.46' | 220°55.57' | 85°08.90' | N 23°40.87' | 305°24.76' | 0°39.71' | S 1°25.44' | 344°37.12' | 321°27.34' | S 16°28.81' | **18** |
| **19** | 107°30.75' | 213°36.18' | S 12°31.57' | 235°57.93' | 85°09.00' | N 23°40.98' | 320°27.43' | 0°39.50' | S 1°25.52' | 359°39.57' | 321°27.36' | S 16°28.80' | **19** |
| **20** | 122°30.21' | 213°39.18' | S 12°32.68' | 251°00.29' | 85°09.11' | N 23°41.09' | 335°30.10' | 0°39.30' | S 1°25.60' | 14°42.01' | 321°27.38' | S 16°28.79' | **20** |
| **21** | 137°29.67' | 213°42.19' | S 12°33.79' | 266°02.65' | 85°09.21' | N 23°41.21' | 350°32.77' | 0°39.09' | S 1°25.68' | 29°44.46' | 321°27.40' | S 16°28.78' | **21** |
| **22** | 152°29.13' | 213°45.19' | S 12°34.90' | 281°05.02' | 85°09.31' | N 23°41.32' | 5°35.43' | 0°38.89' | S 1°25.76' | 44°46.90' | 321°27.42' | S 16°28.77' | **22** |
| **23** | 167°28.59' | 213°48.19' | S 12°36.01' | 296°07.38' | 85°09.41' | N 23°41.43' | 20°38.10' | 0°38.69' | S 1°25.84' | 59°49.35' | 321°27.44' | S 16°28.76' | **23** |
| **24** | 182°28.05' | 213°51.20' | S 12°37.11' | 311°09.75' | 85°09.50' | N 23°41.54' | 35°40.77' | 0°38.48' | S 1°25.91' | 74°51.79' | 321°27.46' | S 16°28.76' | **24** |
| | δ 14.9912° | | *d* 1.1195' | δ 15.0389° | | *d* 0.1125' | δ 15.0446° | | *d* 0.0821' | δ 15.0408° | | *d* 0.0076' | |

## *Friday, October 28th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 184°02.56' | 15.0009° | 212°16.69' | S 13°02.12' | 0.8395' | 150°44.50' | 14.4120° | 245°34.76' | S 23°45.34' | 8.8787' | 59.3532' | 36°19.25' | **00** |
| **01** | 199°02.62' | 15.0009° | 212°19.10' | S 13°02.96' | 0.8392' | 165°09.12' | 14.4104° | 246°12.60' | S 23°54.06' | 8.7279' | 59.3629' | 51°21.72' | **01** |
| **02** | 214°02.67' | 15.0009° | 212°21.51' | S 13°03.80' | 0.8388' | 179°33.65' | 14.4089° | 246°50.53' | S 24°02.64' | 8.5755' | 59.3724' | 66°24.18' | **02** |
| **03** | 229°02.72' | 15.0008° | 212°23.93' | S 13°04.64' | 0.8385' | 193°58.09' | 14.4073° | 247°28.55' | S 24°11.06' | 8.4215' | 59.3816' | 81°26.64' | **03** |
| **04** | 244°02.77' | 15.0008° | 212°26.34' | S 13°05.48' | 0.8381' | 208°22.44' | 14.4058° | 248°06.67' | S 24°19.33' | 8.2659' | 59.3905' | 96°29.11' | **04** |
| **05** | 259°02.82' | 15.0008° | 212°28.76' | S 13°06.32' | 0.8378' | 222°46.70' | 14.4043° | 248°44.88' | S 24°27.43' | 8.1088' | 59.3991' | 111°31.57' | **05** |
| **06** | 274°02.87' | 15.0008° | 212°31.17' | S 13°07.15' | 0.8374' | 237°10.86' | 14.4028° | 249°23.17' | S 24°35.38' | 7.9501' | 59.4075' | 126°34.04' | **06** |
| **07** | 289°02.92' | 15.0008° | 212°33.58' | S 13°07.99' | 0.8370' | 251°34.94' | 14.4013° | 250°01.56' | S 24°43.17' | 7.7900' | 59.4156' | 141°36.50' | **07** |
| **08** | 304°02.97' | 15.0008° | 212°36.00' | S 13°08.83' | 0.8367' | 265°58.93' | 14.3999° | 250°40.03' | S 24°50.80' | 7.6283' | 59.4234' | 156°38.97' | **08** |
| **09** | 319°03.02' | 15.0008° | 212°38.41' | S 13°09.66' | 0.8363' | 280°22.84' | 14.3984° | 251°18.59' | S 24°58.27' | 7.4652' | 59.4310' | 171°41.43' | **09** |
| **10** | 334°03.06' | 15.0008° | 212°40.83' | S 13°10.50' | 0.8360' | 294°46.66' | 14.3970° | 251°57.23' | S 25°05.57' | 7.3007' | 59.4383' | 186°43.89' | **10** |
| **11** | 349°03.11' | 15.0008° | 212°43.25' | S 13°11.34' | 0.8356' | 309°10.40' | 14.3957° | 252°35.96' | S 25°12.70' | 7.1348' | 59.4453' | 201°46.36' | **11** |
| **12** | 4°03.16' | 15.0008° | 212°45.66' | S 13°12.17' | 0.8353' | 323°34.06' | 14.3943° | 253°14.76' | S 25°19.67' | 6.9675' | 59.4521' | 216°48.82' | **12** |
| **13** | 19°03.21' | 15.0008° | 212°48.08' | S 13°13.01' | 0.8349' | 337°57.64' | 14.3930° | 253°53.64' | S 25°26.47' | 6.7988' | 59.4586' | 231°51.29' | **13** |
| **14** | 34°03.26' | 15.0008° | 212°50.50' | S 13°13.84' | 0.8345' | 352°21.14' | 14.3917° | 254°32.61' | S 25°33.10' | 6.6288' | 59.4648' | 246°53.75' | **14** |
| **15** | 49°03.30' | 15.0008° | 212°52.91' | S 13°14.67' | 0.8342' | 6°44.57' | 14.3904° | 255°11.64' | S 25°39.56' | 6.4575' | 59.4708' | 261°56.22' | **15** |
| **16** | 64°03.35' | 15.0008° | 212°55.33' | S 13°15.51' | 0.8338' | 21°07.92' | 14.3892° | 255°50.76' | S 25°45.84' | 6.2849' | 59.4765' | 276°58.68' | **16** |
| **17** | 79°03.40' | 15.0008° | 212°57.75' | S 13°16.34' | 0.8334' | 35°31.20' | 14.3880° | 256°29.94' | S 25°51.95' | 6.1112' | 59.4819' | 292°01.14' | **17** |
| **18** | 94°03.44' | 15.0008° | 213°00.17' | S 13°17.18' | 0.8331' | 49°54.41' | 14.3868° | 257°09.20' | S 25°57.89' | 5.9362' | 59.4871' | 307°03.61' | **18** |
| **19** | 109°03.49' | 15.0008° | 213°02.59' | S 13°18.01' | 0.8327' | 64°17.55' | 14.3857° | 257°48.52' | S 26°03.65' | 5.7600' | 59.4920' | 322°06.07' | **19** |
| **20** | 124°03.53' | 15.0008° | 213°05.00' | S 13°18.84' | 0.8323' | 78°40.62' | 14.3846° | 258°27.91' | S 26°09.23' | 5.5827' | 59.4967' | 337°08.54' | **20** |
| **21** | 139°03.58' | 15.0008° | 213°07.42' | S 13°19.67' | 0.8320' | 93°03.63' | 14.3835° | 259°07.37' | S 26°14.64' | 5.4042' | 59.5011' | 352°11.00' | **21** |
| **22** | 154°03.62' | 15.0007° | 213°09.84' | S 13°20.50' | 0.8316' | 107°26.58' | 14.3824° | 259°46.89' | S 26°19.86' | 5.2247' | 59.5053' | 7°13.46' | **22** |
| **23** | 169°03.67' | 15.0007° | 213°12.26' | S 13°21.33' | 0.8313' | 121°49.46' | 14.3814° | 260°26.47' | S 26°24.90' | 5.0442' | 59.5092' | 22°15.93' | **23** |
| **24** | 184°03.71' | 15.0007° | 213°14.68' | S 13°22.17' | 0.8309' | 136°12.29' | 14.3804° | 261°06.10' | S 26°29.77' | 4.8627' | 59.5128' | 37°18.39' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.0962' | hp (π) 0.1475' | ½Ø 16.1995' | 11.7010764317752<br>15% +cre | |
| EoT at 12:00 UTC : +16m 12s (δ 0.19 s/h) | | Phase at 12:00 UTC : 39.83° | | |
| Meridian Pass. Time : 11:43:47.358 | | Age : 3.1 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.23') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 182°28.05' | 213°51.20' | S 12°37.11' | 311°09.75' | 85°09.50' | N 23°41.54' | 35°40.77' | 0°38.48' | S 1°25.91' | 74°51.79' | 321°27.46' | S 16°28.76' | **00** |
| **01** | 197°27.51' | 213°54.20' | S 12°38.22' | 326°12.12' | 85°09.60' | N 23°41.66' | 50°43.44' | 0°38.28' | S 1°25.99' | 89°54.24' | 321°27.48' | S 16°28.75' | **01** |
| **02** | 212°26.97' | 213°57.21' | S 12°39.33' | 341°14.49' | 85°09.69' | N 23°41.77' | 65°46.10' | 0°38.08' | S 1°26.07' | 104°56.68' | 321°27.50' | S 16°28.74' | **02** |
| **03** | 227°26.43' | 214°00.21' | S 12°40.43' | 356°16.86' | 85°09.78' | N 23°41.88' | 80°48.77' | 0°37.87' | S 1°26.15' | 119°59.12' | 321°27.52' | S 16°28.73' | **03** |
| **04** | 242°25.89' | 214°03.22' | S 12°41.54' | 11°19.24' | 85°09.87' | N 23°42.00' | 95°51.44' | 0°37.67' | S 1°26.23' | 135°01.57' | 321°27.54' | S 16°28.72' | **04** |
| **05** | 257°25.35' | 214°06.22' | S 12°42.64' | 26°21.61' | 85°09.96' | N 23°42.11' | 110°54.11' | 0°37.47' | S 1°26.31' | 150°04.01' | 321°27.56' | S 16°28.71' | **05** |
| **06** | 272°24.81' | 214°09.23' | S 12°43.75' | 41°23.99' | 85°10.04' | N 23°42.22' | 125°56.77' | 0°37.27' | S 1°26.39' | 165°06.46' | 321°27.58' | S 16°28.70' | **06** |
| **07** | 287°24.26' | 214°12.24' | S 12°44.85' | 56°26.37' | 85°10.13' | N 23°42.33' | 140°59.44' | 0°37.06' | S 1°26.47' | 180°08.90' | 321°27.60' | S 16°28.69' | **07** |
| **08** | 302°23.72' | 214°15.25' | S 12°45.96' | 71°28.75' | 85°10.21' | N 23°42.45' | 156°02.10' | 0°36.86' | S 1°26.54' | 195°11.34' | 321°27.62' | S 16°28.68' | **08** |
| **09** | 317°23.18' | 214°18.25' | S 12°47.06' | 86°31.14' | 85°10.29' | N 23°42.56' | 171°04.77' | 0°36.66' | S 1°26.62' | 210°13.78' | 321°27.65' | S 16°28.67' | **09** |
| **10** | 332°22.63' | 214°21.26' | S 12°48.16' | 101°33.52' | 85°10.37' | N 23°42.67' | 186°07.43' | 0°36.46' | S 1°26.70' | 225°16.23' | 321°27.67' | S 16°28.66' | **10** |
| **11** | 347°22.09' | 214°24.27' | S 12°49.26' | 116°35.91' | 85°10.45' | N 23°42.79' | 201°10.10' | 0°36.26' | S 1°26.78' | 240°18.67' | 321°27.69' | S 16°28.65' | **11** |
| **12** | 2°21.54' | 214°27.28' | S 12°50.36' | 131°38.29' | 85°10.53' | N 23°42.90' | 216°12.76' | 0°36.06' | S 1°26.86' | 255°21.11' | 321°27.71' | S 16°28.64' | **12** |
| **13** | 17°21.00' | 214°30.29' | S 12°51.46' | 146°40.68' | 85°10.61' | N 23°43.01' | 231°15.43' | 0°35.86' | S 1°26.93' | 270°23.55' | 321°27.73' | S 16°28.64' | **13** |
| **14** | 32°20.45' | 214°33.30' | S 12°52.56' | 161°43.07' | 85°10.68' | N 23°43.12' | 246°18.09' | 0°35.66' | S 1°27.01' | 285°26.00' | 321°27.76' | S 16°28.63' | **14** |
| **15** | 47°19.90' | 214°36.31' | S 12°53.66' | 176°45.46' | 85°10.75' | N 23°43.24' | 261°20.76' | 0°35.46' | S 1°27.09' | 300°28.44' | 321°27.78' | S 16°28.62' | **15** |
| **16** | 62°19.36' | 214°39.32' | S 12°54.76' | 191°47.86' | 85°10.82' | N 23°43.35' | 276°23.42' | 0°35.26' | S 1°27.17' | 315°30.88' | 321°27.80' | S 16°28.61' | **16** |
| **17** | 77°18.81' | 214°42.33' | S 12°55.86' | 206°50.25' | 85°10.89' | N 23°43.46' | 291°26.08' | 0°35.06' | S 1°27.24' | 330°33.32' | 321°27.82' | S 16°28.60' | **17** |
| **18** | 92°18.26' | 214°45.35' | S 12°56.96' | 221°52.65' | 85°10.96' | N 23°43.58' | 306°28.75' | 0°34.86' | S 1°27.32' | 345°35.76' | 321°27.85' | S 16°28.59' | **18** |
| **19** | 107°17.71' | 214°48.36' | S 12°58.06' | 236°55.05' | 85°11.02' | N 23°43.69' | 321°31.41' | 0°34.66' | S 1°27.40' | 0°38.20' | 321°27.87' | S 16°28.58' | **19** |
| **20** | 122°17.17' | 214°51.37' | S 12°59.15' | 251°57.45' | 85°11.09' | N 23°43.80' | 336°34.07' | 0°34.46' | S 1°27.47' | 15°40.64' | 321°27.89' | S 16°28.57' | **20** |
| **21** | 137°16.62' | 214°54.38' | S 13°00.25' | 266°59.85' | 85°11.15' | N 23°43.92' | 351°36.73' | 0°34.27' | S 1°27.55' | 30°43.08' | 321°27.92' | S 16°28.56' | **21** |
| **22** | 152°16.07' | 214°57.40' | S 13°01.35' | 282°02.25' | 85°11.21' | N 23°44.03' | 6°39.40' | 0°34.07' | S 1°27.63' | 45°45.52' | 321°27.94' | S 16°28.55' | **22** |
| **23** | 167°15.52' | 215°00.41' | S 13°02.44' | 297°04.66' | 85°11.27' | N 23°44.14' | 21°42.06' | 0°33.87' | S 1°27.70' | 60°47.96' | 321°27.96' | S 16°28.54' | **23** |
| **24** | 182°14.97' | 215°03.43' | S 13°03.54' | 312°07.07' | 85°11.33' | N 23°44.25' | 36°44.72' | 0°33.67' | S 1°27.78' | 75°50.40' | 321°27.99' | S 16°28.53' | **24** |
| | δ 14.9910° | | *d* 1.1070' | δ 15.0395° | | *d* 0.1128' | δ 15.0445° | | *d* 0.0792' | δ 15.0407° | | *d* 0.0089' | |

## *Saturday, October 29th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 184°03.71' | 15.0007° | 213°14.68' | S 13°22.17' | 0.8309' | 136°12.29' | 14.3804° | 261°06.10' | S 26°29.77' | 4.8627' | 59.5128' | 37°18.39' | **00** |
| **01** | 199°03.75' | 15.0007° | 213°17.10' | S 13°23.00' | 0.8305' | 150°35.06' | 14.3795° | 261°45.80' | S 26°34.45' | 4.6801' | 59.5162' | 52°20.86' | **01** |
| **02** | 214°03.80' | 15.0007° | 213°19.52' | S 13°23.83' | 0.8302' | 164°57.77' | 14.3786° | 262°25.55' | S 26°38.94' | 4.4967' | 59.5193' | 67°23.32' | **02** |
| **03** | 229°03.84' | 15.0007° | 213°21.95' | S 13°24.66' | 0.8298' | 179°20.44' | 14.3777° | 263°05.35' | S 26°43.26' | 4.3123' | 59.5222' | 82°25.79' | **03** |
| **04** | 244°03.88' | 15.0007° | 213°24.37' | S 13°25.49' | 0.8294' | 193°43.05' | 14.3769° | 263°45.20' | S 26°47.38' | 4.1271' | 59.5249' | 97°28.25' | **04** |
| **05** | 259°03.93' | 15.0007° | 213°26.79' | S 13°26.31' | 0.8290' | 208°05.62' | 14.3761° | 264°25.10' | S 26°51.32' | 3.9411' | 59.5273' | 112°30.71' | **05** |
| **06** | 274°03.97' | 15.0007° | 213°29.21' | S 13°27.14' | 0.8287' | 222°28.14' | 14.3753° | 265°05.04' | S 26°55.08' | 3.7543' | 59.5295' | 127°33.18' | **06** |
| **07** | 289°04.01' | 15.0007° | 213°31.63' | S 13°27.97' | 0.8283' | 236°50.61' | 14.3746° | 265°45.03' | S 26°58.65' | 3.5668' | 59.5314' | 142°35.64' | **07** |
| **08** | 304°04.05' | 15.0007° | 213°34.06' | S 13°28.80' | 0.8279' | 251°13.05' | 14.3739° | 266°25.06' | S 27°02.02' | 3.3785' | 59.5331' | 157°38.11' | **08** |
| **09** | 319°04.09' | 15.0007° | 213°36.48' | S 13°29.63' | 0.8276' | 265°35.45' | 14.3733° | 267°05.12' | S 27°05.21' | 3.1896' | 59.5345' | 172°40.57' | **09** |
| **10** | 334°04.13' | 15.0007° | 213°38.90' | S 13°30.45' | 0.8272' | 279°57.81' | 14.3727° | 267°45.22' | S 27°08.21' | 3.0001' | 59.5357' | 187°43.04' | **10** |
| **11** | 349°04.17' | 15.0007° | 213°41.33' | S 13°31.28' | 0.8268' | 294°20.14' | 14.3722° | 268°25.36' | S 27°11.02' | 2.8099' | 59.5367' | 202°45.50' | **11** |
| **12** | 4°04.21' | 15.0007° | 213°43.75' | S 13°32.11' | 0.8264' | 308°42.44' | 14.3716° | 269°05.53' | S 27°13.64' | 2.6193' | 59.5374' | 217°47.96' | **12** |
| **13** | 19°04.25' | 15.0007° | 213°46.17' | S 13°32.93' | 0.8261' | 323°04.71' | 14.3712° | 269°45.72' | S 27°16.07' | 2.4281' | 59.5379' | 232°50.43' | **13** |
| **14** | 34°04.29' | 15.0007° | 213°48.60' | S 13°33.76' | 0.8257' | 337°26.95' | 14.3707° | 270°25.94' | S 27°18.31' | 2.2365' | 59.5381' | 247°52.89' | **14** |
| **15** | 49°04.33' | 15.0007° | 213°51.02' | S 13°34.58' | 0.8253' | 351°49.18' | 14.3704° | 271°06.18' | S 27°20.35' | 2.0445' | 59.5382' | 262°55.36' | **15** |
| **16** | 64°04.37' | 15.0006° | 213°53.45' | S 13°35.41' | 0.8250' | 6°11.38' | 14.3700° | 271°46.44' | S 27°22.20' | 1.8521' | 59.5380' | 277°57.82' | **16** |
| **17** | 79°04.41' | 15.0006° | 213°55.88' | S 13°36.23' | 0.8246' | 20°33.56' | 14.3697° | 272°26.73' | S 27°23.86' | 1.6594' | 59.5376' | 293°00.28' | **17** |
| **18** | 94°04.45' | 15.0006° | 213°58.30' | S 13°37.06' | 0.8242' | 34°55.73' | 14.3695° | 273°07.02' | S 27°25.33' | 1.4664' | 59.5369' | 308°02.75' | **18** |
| **19** | 109°04.49' | 15.0006° | 214°00.73' | S 13°37.88' | 0.8238' | 49°17.88' | 14.3692° | 273°47.33' | S 27°26.60' | 1.2731' | 59.5361' | 323°05.21' | **19** |
| **20** | 124°04.52' | 15.0006° | 214°03.15' | S 13°38.71' | 0.8234' | 63°40.03' | 14.3691° | 274°27.65' | S 27°27.68' | 1.0796' | 59.5350' | 338°07.68' | **20** |
| **21** | 139°04.56' | 15.0006° | 214°05.58' | S 13°39.53' | 0.8231' | 78°02.16' | 14.3689° | 275°07.98' | S 27°28.57' | 0.8860' | 59.5337' | 353°10.14' | **21** |
| **22** | 154°04.60' | 15.0006° | 214°08.01' | S 13°40.35' | 0.8227' | 92°24.30' | 14.3689° | 275°48.31' | S 27°29.26' | 0.6923' | 59.5322' | 8°12.61' | **22** |
| **23** | 169°04.63' | 15.0006° | 214°10.44' | S 13°41.17' | 0.8223' | 106°46.43' | 14.3688° | 276°28.64' | S 27°29.76' | 0.4985' | 59.5304' | 23°15.07' | **23** |
| **24** | 184°04.67' | 15.0006° | 214°12.86' | S 13°42.00' | 0.8219' | 121°08.56' | 14.3688° | 277°08.98' | S 27°30.06' | 0.3046' | 59.5285' | 38°17.53' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1006' | hp (π) 0.1475' | ½Ø 16.2228' | 20.1576289349799<br>15% +cre |
| | EoT at 12:00 UTC : +16m 16s (δ 0.16 s/h) | | Phase at 12:00 UTC : 53.15° | |
| | Meridian Pass. Time : 11:43:43.146 | | Age : 4.1 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.23') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 182°14.97' | 215°03.43' | S 13°03.54' | 312°07.07' | 85°11.33' | N 23°44.25' | 36°44.72' | 0°33.67' | S 1°27.78' | 75°50.40' | 321°27.99' | S 16°28.53' | **00** |
| **01** | 197°14.42' | 215°06.44' | S 13°04.63' | 327°09.47' | 85°11.38' | N 23°44.37' | 51°47.38' | 0°33.48' | S 1°27.86' | 90°52.84' | 321°28.01' | S 16°28.52' | **01** |
| **02** | 212°13.86' | 215°09.46' | S 13°05.72' | 342°11.88' | 85°11.44' | N 23°44.48' | 66°50.04' | 0°33.28' | S 1°27.93' | 105°55.28' | 321°28.04' | S 16°28.51' | **02** |
| **03** | 227°13.31' | 215°12.47' | S 13°06.82' | 357°14.30' | 85°11.49' | N 23°44.59' | 81°52.70' | 0°33.08' | S 1°28.01' | 120°57.72' | 321°28.06' | S 16°28.49' | **03** |
| **04** | 242°12.76' | 215°15.49' | S 13°07.91' | 12°16.71' | 85°11.54' | N 23°44.71' | 96°55.36' | 0°32.89' | S 1°28.09' | 136°00.16' | 321°28.09' | S 16°28.48' | **04** |
| **05** | 257°12.21' | 215°18.51' | S 13°09.00' | 27°19.12' | 85°11.59' | N 23°44.82' | 111°58.02' | 0°32.69' | S 1°28.16' | 151°02.60' | 321°28.11' | S 16°28.47' | **05** |
| **06** | 272°11.65' | 215°21.52' | S 13°10.09' | 42°21.54' | 85°11.64' | N 23°44.93' | 127°00.68' | 0°32.50' | S 1°28.24' | 166°05.04' | 321°28.14' | S 16°28.46' | **06** |
| **07** | 287°11.10' | 215°24.54' | S 13°11.18' | 57°23.96' | 85°11.68' | N 23°45.05' | 142°03.34' | 0°32.30' | S 1°28.31' | 181°07.48' | 321°28.16' | S 16°28.45' | **07** |
| **08** | 302°10.55' | 215°27.56' | S 13°12.27' | 72°26.38' | 85°11.73' | N 23°45.16' | 157°06.00' | 0°32.10' | S 1°28.39' | 196°09.92' | 321°28.19' | S 16°28.44' | **08** |
| **09** | 317°09.99' | 215°30.58' | S 13°13.36' | 87°28.80' | 85°11.77' | N 23°45.27' | 172°08.66' | 0°31.91' | S 1°28.46' | 211°12.36' | 321°28.21' | S 16°28.43' | **09** |
| **10** | 332°09.44' | 215°33.60' | S 13°14.45' | 102°31.22' | 85°11.81' | N 23°45.39' | 187°11.32' | 0°31.72' | S 1°28.54' | 226°14.80' | 321°28.24' | S 16°28.42' | **10** |
| **11** | 347°08.88' | 215°36.62' | S 13°15.54' | 117°33.65' | 85°11.85' | N 23°45.50' | 202°13.98' | 0°31.52' | S 1°28.61' | 241°17.23' | 321°28.27' | S 16°28.41' | **11** |
| **12** | 2°08.33' | 215°39.64' | S 13°16.63' | 132°36.07' | 85°11.89' | N 23°45.61' | 217°16.64' | 0°31.33' | S 1°28.69' | 256°19.67' | 321°28.29' | S 16°28.40' | **12** |
| **13** | 17°07.77' | 215°42.66' | S 13°17.71' | 147°38.50' | 85°11.93' | N 23°45.73' | 232°19.30' | 0°31.13' | S 1°28.76' | 271°22.11' | 321°28.32' | S 16°28.39' | **13** |
| **14** | 32°07.21' | 215°45.68' | S 13°18.80' | 162°40.93' | 85°11.96' | N 23°45.84' | 247°21.95' | 0°30.94' | S 1°28.84' | 286°24.55' | 321°28.35' | S 16°28.38' | **14** |
| **15** | 47°06.66' | 215°48.70' | S 13°19.89' | 177°43.36' | 85°12.00' | N 23°45.95' | 262°24.61' | 0°30.75' | S 1°28.91' | 301°26.98' | 321°28.37' | S 16°28.37' | **15** |
| **16** | 62°06.10' | 215°51.72' | S 13°20.97' | 192°45.79' | 85°12.03' | N 23°46.06' | 277°27.27' | 0°30.55' | S 1°28.99' | 316°29.42' | 321°28.40' | S 16°28.35' | **16** |
| **17** | 77°05.54' | 215°54.75' | S 13°22.06' | 207°48.23' | 85°12.06' | N 23°46.18' | 292°29.92' | 0°30.36' | S 1°29.06' | 331°31.86' | 321°28.43' | S 16°28.34' | **17** |
| **18** | 92°04.98' | 215°57.77' | S 13°23.14' | 222°50.66' | 85°12.09' | N 23°46.29' | 307°32.58' | 0°30.17' | S 1°29.13' | 346°34.30' | 321°28.45' | S 16°28.33' | **18** |
| **19** | 107°04.42' | 216°00.79' | S 13°24.23' | 237°53.10' | 85°12.11' | N 23°46.40' | 322°35.24' | 0°29.98' | S 1°29.21' | 1°36.73' | 321°28.48' | S 16°28.32' | **19** |
| **20** | 122°03.86' | 216°03.81' | S 13°25.31' | 252°55.54' | 85°12.14' | N 23°46.52' | 337°37.89' | 0°29.78' | S 1°29.28' | 16°39.17' | 321°28.51' | S 16°28.31' | **20** |
| **21** | 137°03.30' | 216°06.84' | S 13°26.39' | 267°57.98' | 85°12.16' | N 23°46.63' | 352°40.55' | 0°29.59' | S 1°29.36' | 31°41.61' | 321°28.54' | S 16°28.30' | **21** |
| **22** | 152°02.74' | 216°09.86' | S 13°27.47' | 283°00.42' | 85°12.18' | N 23°46.74' | 7°43.21' | 0°29.40' | S 1°29.43' | 46°44.04' | 321°28.56' | S 16°28.29' | **22** |
| **23** | 167°02.18' | 216°12.89' | S 13°28.56' | 298°02.87' | 85°12.20' | N 23°46.86' | 22°45.86' | 0°29.21' | S 1°29.50' | 61°46.48' | 321°28.59' | S 16°28.28' | **23** |
| **24** | 182°01.62' | 216°15.91' | S 13°29.64' | 313°05.31' | 85°12.22' | N 23°46.97' | 37°48.52' | 0°29.02' | S 1°29.58' | 76°48.91' | 321°28.62' | S 16°28.26' | **24** |
| | δ 14.9908° | | *d* 1.0940' | δ 15.0401° | | *d* 0.1131' | δ 15.0444° | | *d* 0.0762' | δ 15.0407° | | *d* 0.0103' | |

## *Sunday, October 30th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 184°04.67' | 15.0006° | 214°12.86' | S 13°42.00' | 0.8219' | 121°08.56' | 14.3688° | 277°08.98' | S 27°30.06' | 0.3046' | 59.5285' | 38°17.53' | **00** |
| **01** | 199°04.71' | 15.0006° | 214°15.29' | S 13°42.82' | 0.8216' | 135°30.69' | 14.3689° | 277°49.31' | S 27°30.18' | 0.1108' | 59.5263' | 53°20.00' | **01** |
| **02** | 214°04.74' | 15.0006° | 214°17.72' | S 13°43.64' | 0.8212' | 149°52.83' | 14.3690° | 278°29.64' | S 27°30.09' | 0.0829' | 59.5239' | 68°22.46' | **02** |
| **03** | 229°04.78' | 15.0006° | 214°20.15' | S 13°44.46' | 0.8208' | 164°14.97' | 14.3691° | 279°09.95' | S 27°29.82' | 0.2766' | 59.5214' | 83°24.93' | **03** |
| **04** | 244°04.81' | 15.0006° | 214°22.58' | S 13°45.28' | 0.8204' | 178°37.13' | 14.3693° | 279°50.26' | S 27°29.35' | 0.4701' | 59.5186' | 98°27.39' | **04** |
| **05** | 259°04.85' | 15.0006° | 214°25.01' | S 13°46.10' | 0.8200' | 192°59.30' | 14.3695° | 280°30.55' | S 27°28.68' | 0.6634' | 59.5156' | 113°29.86' | **05** |
| **06** | 274°04.88' | 15.0006° | 214°27.44' | S 13°46.92' | 0.8197' | 207°21.49' | 14.3698° | 281°10.83' | S 27°27.83' | 0.8565' | 59.5124' | 128°32.32' | **06** |
| **07** | 289°04.91' | 15.0006° | 214°29.87' | S 13°47.74' | 0.8193' | 221°43.69' | 14.3701° | 281°51.09' | S 27°26.78' | 1.0494' | 59.5090' | 143°34.78' | **07** |
| **08** | 304°04.95' | 15.0006° | 214°32.30' | S 13°48.56' | 0.8189' | 236°05.92' | 14.3704° | 282°31.33' | S 27°25.53' | 1.2419' | 59.5055' | 158°37.25' | **08** |
| **09** | 319°04.98' | 15.0006° | 214°34.73' | S 13°49.38' | 0.8185' | 250°28.17' | 14.3708° | 283°11.54' | S 27°24.10' | 1.4340' | 59.5017' | 173°39.71' | **09** |
| **10** | 334°05.01' | 15.0005° | 214°37.16' | S 13°50.19' | 0.8181' | 264°50.44' | 14.3713° | 283°51.73' | S 27°22.47' | 1.6258' | 59.4977' | 188°42.18' | **10** |
| **11** | 349°05.05' | 15.0005° | 214°39.59' | S 13°51.01' | 0.8177' | 279°12.75' | 14.3717° | 284°31.89' | S 27°20.66' | 1.8171' | 59.4936' | 203°44.64' | **11** |
| **12** | 4°05.08' | 15.0005° | 214°42.03' | S 13°51.83' | 0.8173' | 293°35.08' | 14.3723° | 285°12.02' | S 27°18.65' | 2.0080' | 59.4892' | 218°47.10' | **12** |
| **13** | 19°05.11' | 15.0005° | 214°44.46' | S 13°52.65' | 0.8170' | 307°57.45' | 14.3728° | 285°52.12' | S 27°16.45' | 2.1984' | 59.4847' | 233°49.57' | **13** |
| **14** | 34°05.14' | 15.0005° | 214°46.89' | S 13°53.46' | 0.8166' | 322°19.86' | 14.3734° | 286°32.18' | S 27°14.06' | 2.3881' | 59.4799' | 248°52.03' | **14** |
| **15** | 49°05.17' | 15.0005° | 214°49.32' | S 13°54.28' | 0.8162' | 336°42.30' | 14.3741° | 287°12.20' | S 27°11.49' | 2.5773' | 59.4750' | 263°54.50' | **15** |
| **16** | 64°05.20' | 15.0005° | 214°51.76' | S 13°55.09' | 0.8158' | 351°04.78' | 14.3747° | 287°52.18' | S 27°08.72' | 2.7659' | 59.4699' | 278°56.96' | **16** |
| **17** | 79°05.23' | 15.0005° | 214°54.19' | S 13°55.91' | 0.8154' | 5°27.31' | 14.3755° | 288°32.12' | S 27°05.77' | 2.9538' | 59.4647' | 293°59.43' | **17** |
| **18** | 94°05.26' | 15.0005° | 214°56.63' | S 13°56.73' | 0.8150' | 19°49.88' | 14.3762° | 289°12.01' | S 27°02.62' | 3.1410' | 59.4592' | 309°01.89' | **18** |
| **19** | 109°05.29' | 15.0005° | 214°59.06' | S 13°57.54' | 0.8146' | 34°12.50' | 14.3770° | 289°51.85' | S 26°59.30' | 3.3274' | 59.4536' | 324°04.35' | **19** |
| **20** | 124°05.32' | 15.0005° | 215°01.49' | S 13°58.35' | 0.8142' | 48°35.17' | 14.3778° | 290°31.65' | S 26°55.78' | 3.5131' | 59.4478' | 339°06.82' | **20** |
| **21** | 139°05.35' | 15.0005° | 215°03.93' | S 13°59.17' | 0.8139' | 62°57.89' | 14.3787° | 291°11.39' | S 26°52.09' | 3.6979' | 59.4418' | 354°09.28' | **21** |
| **22** | 154°05.38' | 15.0005° | 215°06.36' | S 13°59.98' | 0.8135' | 77°20.67' | 14.3796° | 291°51.08' | S 26°48.20' | 3.8819' | 59.4357' | 9°11.75' | **22** |
| **23** | 169°05.41' | 15.0005° | 215°08.80' | S 14°00.79' | 0.8131' | 91°43.50' | 14.3805° | 292°30.71' | S 26°44.14' | 4.0650' | 59.4294' | 24°14.21' | **23** |
| **24** | 184°05.44' | 15.0005° | 215°11.24' | S 14°01.61' | 0.8127' | 106°06.39' | 14.3815° | 293°10.28' | S 26°39.89' | 4.2472' | 59.4229' | 39°16.68' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.1049' | hp (π) 0.1476' | ½Ø 16.2097' | 30.2096823218383<br>83% +cre | |
| EoT at 12:00 UTC : +16m 20s (δ 0.13 s/h) | | Phase at 12:00 UTC : 66.47° | | |
| Meridian Pass. Time : 11:43:39.687 | | Age : 5.2 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.23') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 182°01.62' | 216°15.91' | S 13°29.64' | 313°05.31' | 85°12.22' | N 23°46.97' | 37°48.52' | 0°29.02' | S 1°29.58' | 76°48.91' | 321°28.62' | S 16°28.26' | **00** |
| **01** | 197°01.06' | 216°18.94' | S 13°30.72' | 328°07.76' | 85°12.24' | N 23°47.08' | 52°51.17' | 0°28.83' | S 1°29.65' | 91°51.35' | 321°28.65' | S 16°28.25' | **01** |
| **02** | 212°00.50' | 216°21.97' | S 13°31.80' | 343°10.21' | 85°12.25' | N 23°47.20' | 67°53.83' | 0°28.64' | S 1°29.72' | 106°53.78' | 321°28.68' | S 16°28.24' | **02** |
| **03** | 226°59.93' | 216°24.99' | S 13°32.88' | 358°12.66' | 85°12.27' | N 23°47.31' | 82°56.48' | 0°28.45' | S 1°29.79' | 121°56.22' | 321°28.71' | S 16°28.23' | **03** |
| **04** | 241°59.37' | 216°28.02' | S 13°33.96' | 13°15.11' | 85°12.28' | N 23°47.42' | 97°59.13' | 0°28.26' | S 1°29.87' | 136°58.66' | 321°28.74' | S 16°28.22' | **04** |
| **05** | 256°58.81' | 216°31.05' | S 13°35.03' | 28°17.56' | 85°12.29' | N 23°47.54' | 113°01.79' | 0°28.07' | S 1°29.94' | 152°01.09' | 321°28.77' | S 16°28.20' | **05** |
| **06** | 271°58.24' | 216°34.08' | S 13°36.11' | 43°20.02' | 85°12.30' | N 23°47.65' | 128°04.44' | 0°27.88' | S 1°30.01' | 167°03.52' | 321°28.79' | S 16°28.19' | **06** |
| **07** | 286°57.68' | 216°37.11' | S 13°37.19' | 58°22.48' | 85°12.31' | N 23°47.76' | 143°07.09' | 0°27.69' | S 1°30.09' | 182°05.96' | 321°28.82' | S 16°28.18' | **07** |
| **08** | 301°57.11' | 216°40.13' | S 13°38.26' | 73°24.94' | 85°12.31' | N 23°47.88' | 158°09.75' | 0°27.50' | S 1°30.16' | 197°08.39' | 321°28.85' | S 16°28.17' | **08** |
| **09** | 316°56.55' | 216°43.16' | S 13°39.34' | 88°27.40' | 85°12.32' | N 23°47.99' | 173°12.40' | 0°27.31' | S 1°30.23' | 212°10.83' | 321°28.88' | S 16°28.16' | **09** |
| **10** | 331°55.98' | 216°46.19' | S 13°40.42' | 103°29.86' | 85°12.32' | N 23°48.11' | 188°15.05' | 0°27.12' | S 1°30.30' | 227°13.26' | 321°28.91' | S 16°28.14' | **10** |
| **11** | 346°55.42' | 216°49.22' | S 13°41.49' | 118°32.32' | 85°12.32' | N 23°48.22' | 203°17.70' | 0°26.94' | S 1°30.37' | 242°15.70' | 321°28.94' | S 16°28.13' | **11** |
| **12** | 1°54.85' | 216°52.26' | S 13°42.56' | 133°34.79' | 85°12.32' | N 23°48.33' | 218°20.36' | 0°26.75' | S 1°30.45' | 257°18.13' | 321°28.97' | S 16°28.12' | **12** |
| **13** | 16°54.28' | 216°55.29' | S 13°43.64' | 148°37.25' | 85°12.32' | N 23°48.45' | 233°23.01' | 0°26.56' | S 1°30.52' | 272°20.56' | 321°29.01' | S 16°28.11' | **13** |
| **14** | 31°53.71' | 216°58.32' | S 13°44.71' | 163°39.72' | 85°12.31' | N 23°48.56' | 248°25.66' | 0°26.37' | S 1°30.59' | 287°23.00' | 321°29.04' | S 16°28.10' | **14** |
| **15** | 46°53.15' | 217°01.35' | S 13°45.78' | 178°42.19' | 85°12.31' | N 23°48.67' | 263°28.31' | 0°26.19' | S 1°30.66' | 302°25.43' | 321°29.07' | S 16°28.08' | **15** |
| **16** | 61°52.58' | 217°04.38' | S 13°46.86' | 193°44.66' | 85°12.30' | N 23°48.79' | 278°30.96' | 0°26.00' | S 1°30.73' | 317°27.86' | 321°29.10' | S 16°28.07' | **16** |
| **17** | 76°52.01' | 217°07.42' | S 13°47.93' | 208°47.14' | 85°12.29' | N 23°48.90' | 293°33.61' | 0°25.82' | S 1°30.80' | 332°30.30' | 321°29.13' | S 16°28.06' | **17** |
| **18** | 91°51.44' | 217°10.45' | S 13°49.00' | 223°49.61' | 85°12.28' | N 23°49.01' | 308°36.26' | 0°25.63' | S 1°30.87' | 347°32.73' | 321°29.16' | S 16°28.05' | **18** |
| **19** | 106°50.87' | 217°13.49' | S 13°50.07' | 238°52.09' | 85°12.27' | N 23°49.13' | 323°38.91' | 0°25.44' | S 1°30.94' | 2°35.16' | 321°29.19' | S 16°28.03' | **19** |
| **20** | 121°50.30' | 217°16.52' | S 13°51.14' | 253°54.57' | 85°12.25' | N 23°49.24' | 338°41.56' | 0°25.26' | S 1°31.02' | 17°37.59' | 321°29.23' | S 16°28.02' | **20** |
| **21** | 136°49.73' | 217°19.56' | S 13°52.20' | 268°57.05' | 85°12.24' | N 23°49.35' | 353°44.21' | 0°25.07' | S 1°31.09' | 32°40.03' | 321°29.26' | S 16°28.01' | **21** |
| **22** | 151°49.16' | 217°22.59' | S 13°53.27' | 283°59.53' | 85°12.22' | N 23°49.47' | 8°46.86' | 0°24.89' | S 1°31.16' | 47°42.46' | 321°29.29' | S 16°27.99' | **22** |
| **23** | 166°48.58' | 217°25.63' | S 13°54.34' | 299°02.01' | 85°12.20' | N 23°49.58' | 23°49.51' | 0°24.70' | S 1°31.23' | 62°44.89' | 321°29.32' | S 16°27.98' | **23** |
| **24** | 181°48.01' | 217°28.66' | S 13°55.41' | 314°04.50' | 85°12.18' | N 23°49.69' | 38°52.16' | 0°24.52' | S 1°31.30' | 77°47.32' | 321°29.35' | S 16°27.97' | **24** |
| | δ 14.9906° | | *d* 1.0805' | δ 15.0408° | | *d* 0.1134' | δ 15.0442° | | *d* 0.0732' | δ 15.0406° | | *d* 0.0116' | |

## *Monday, October 31st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 184°05.44' | 15.0005° | 215°11.24' | S 14°01.61' | 0.8127' | 106°06.39' | 14.3815° | 293°10.28' | S 26°39.89' | 4.2472' | 59.4229' | 39°16.68' | **00** |
| **01** | 199°05.47' | 15.0005° | 215°13.67' | S 14°02.42' | 0.8123' | 120°29.35' | 14.3825° | 293°49.79' | S 26°35.46' | 4.4285' | 59.4163' | 54°19.14' | **01** |
| **02** | 214°05.49' | 15.0005° | 215°16.11' | S 14°03.23' | 0.8119' | 134°52.36' | 14.3836° | 294°29.24' | S 26°30.85' | 4.6087' | 59.4095' | 69°21.60' | **02** |
| **03** | 229°05.52' | 15.0005° | 215°18.55' | S 14°04.04' | 0.8115' | 149°15.44' | 14.3846° | 295°08.63' | S 26°26.07' | 4.7880' | 59.4025' | 84°24.07' | **03** |
| **04** | 244°05.55' | 15.0004° | 215°20.98' | S 14°04.85' | 0.8111' | 163°38.58' | 14.3857° | 295°47.95' | S 26°21.10' | 4.9662' | 59.3954' | 99°26.53' | **04** |
| **05** | 259°05.58' | 15.0004° | 215°23.42' | S 14°05.66' | 0.8107' | 178°01.80' | 14.3869° | 296°27.20' | S 26°15.96' | 5.1433' | 59.3881' | 114°29.00' | **05** |
| **06** | 274°05.60' | 15.0004° | 215°25.86' | S 14°06.48' | 0.8103' | 192°25.08' | 14.3880° | 297°06.38' | S 26°10.64' | 5.3193' | 59.3806' | 129°31.46' | **06** |
| **07** | 289°05.63' | 15.0004° | 215°28.30' | S 14°07.29' | 0.8099' | 206°48.43' | 14.3892° | 297°45.49' | S 26°05.14' | 5.4942' | 59.3731' | 144°33.92' | **07** |
| **08** | 304°05.65' | 15.0004° | 215°30.74' | S 14°08.09' | 0.8095' | 221°11.86' | 14.3905° | 298°24.53' | S 25°59.48' | 5.6680' | 59.3653' | 159°36.39' | **08** |
| **09** | 319°05.68' | 15.0004° | 215°33.17' | S 14°08.90' | 0.8091' | 235°35.36' | 14.3917° | 299°03.49' | S 25°53.64' | 5.8405' | 59.3574' | 174°38.85' | **09** |
| **10** | 334°05.70' | 15.0004° | 215°35.61' | S 14°09.71' | 0.8087' | 249°58.94' | 14.3930° | 299°42.37' | S 25°47.62' | 6.0118' | 59.3494' | 189°41.32' | **10** |
| **11** | 349°05.73' | 15.0004° | 215°38.05' | S 14°10.52' | 0.8083' | 264°22.60' | 14.3943° | 300°21.18' | S 25°41.44' | 6.1819' | 59.3412' | 204°43.78' | **11** |
| **12** | 4°05.75' | 15.0004° | 215°40.49' | S 14°11.33' | 0.8079' | 278°46.34' | 14.3956° | 300°59.91' | S 25°35.09' | 6.3508' | 59.3329' | 219°46.25' | **12** |
| **13** | 19°05.78' | 15.0004° | 215°42.93' | S 14°12.14' | 0.8076' | 293°10.16' | 14.3970° | 301°38.55' | S 25°28.57' | 6.5183' | 59.3244' | 234°48.71' | **13** |
| **14** | 34°05.80' | 15.0004° | 215°45.37' | S 14°12.94' | 0.8072' | 307°34.06' | 14.3984° | 302°17.11' | S 25°21.89' | 6.6846' | 59.3158' | 249°51.17' | **14** |
| **15** | 49°05.82' | 15.0004° | 215°47.81' | S 14°13.75' | 0.8068' | 321°58.05' | 14.3998° | 302°55.59' | S 25°15.04' | 6.8495' | 59.3070' | 264°53.64' | **15** |
| **16** | 64°05.85' | 15.0004° | 215°50.26' | S 14°14.56' | 0.8064' | 336°22.12' | 14.4012° | 303°33.98' | S 25°08.03' | 7.0130' | 59.2981' | 279°56.10' | **16** |
| **17** | 79°05.87' | 15.0004° | 215°52.70' | S 14°15.36' | 0.8060' | 350°46.28' | 14.4026° | 304°12.29' | S 25°00.85' | 7.1752' | 59.2891' | 294°58.57' | **17** |
| **18** | 94°05.89' | 15.0004° | 215°55.14' | S 14°16.17' | 0.8056' | 5°10.52' | 14.4041° | 304°50.51' | S 24°53.51' | 7.3360' | 59.2799' | 310°01.03' | **18** |
| **19** | 109°05.91' | 15.0004° | 215°57.58' | S 14°16.97' | 0.8052' | 19°34.86' | 14.4056° | 305°28.64' | S 24°46.02' | 7.4954' | 59.2706' | 325°03.49' | **19** |
| **20** | 124°05.93' | 15.0004° | 216°00.02' | S 14°17.78' | 0.8048' | 33°59.28' | 14.4071° | 306°06.68' | S 24°38.37' | 7.6533' | 59.2612' | 340°05.96' | **20** |
| **21** | 139°05.96' | 15.0004° | 216°02.47' | S 14°18.58' | 0.8044' | 48°23.80' | 14.4086° | 306°44.63' | S 24°30.56' | 7.8098' | 59.2517' | 355°08.42' | **21** |
| **22** | 154°05.98' | 15.0003° | 216°04.91' | S 14°19.39' | 0.8039' | 62°48.40' | 14.4101° | 307°22.48' | S 24°22.59' | 7.9649' | 59.2420' | 10°10.89' | **22** |
| **23** | 169°06.00' | 15.0003° | 216°07.35' | S 14°20.19' | 0.8035' | 77°13.10' | 14.4117° | 308°00.25' | S 24°14.47' | 8.1185' | 59.2322' | 25°13.35' | **23** |
| **24** | 184°06.02' | 15.0003° | 216°09.80' | S 14°20.99' | 0.8031' | 91°37.90' | 14.4132° | 308°37.92' | S 24°06.20' | 8.2705' | 59.2222' | 40°15.82' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1093' | hp (π) 0.1476' | ½Ø 16.1671' | 41.2633372241250<br>46% +cre |
| | EoT at 12:00 UTC : +16m 23s (δ 0.10 s/h) | | Phase at 12:00 UTC : 79.76° | |
| | Meridian Pass. Time : 11:43:36.991 | | Age : 6.2 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.23') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 181°48.01' | 217°28.66' | S 13°55.41' | 314°04.50' | 85°12.18' | N 23°49.69' | 38°52.16' | 0°24.52' | S 1°31.30' | 77°47.32' | 321°29.35' | S 16°27.97' | **00** |
| **01** | 196°47.44' | 217°31.70' | S 13°56.47' | 329°06.98' | 85°12.16' | N 23°49.81' | 53°54.80' | 0°24.34' | S 1°31.37' | 92°49.75' | 321°29.39' | S 16°27.96' | **01** |
| **02** | 211°46.86' | 217°34.74' | S 13°57.54' | 344°09.47' | 85°12.13' | N 23°49.92' | 68°57.45' | 0°24.15' | S 1°31.44' | 107°52.18' | 321°29.42' | S 16°27.94' | **02** |
| **03** | 226°46.29' | 217°37.78' | S 13°58.60' | 359°11.96' | 85°12.11' | N 23°50.04' | 84°00.10' | 0°23.97' | S 1°31.51' | 122°54.61' | 321°29.45' | S 16°27.93' | **03** |
| **04** | 241°45.72' | 217°40.82' | S 13°59.67' | 14°14.45' | 85°12.08' | N 23°50.15' | 99°02.75' | 0°23.78' | S 1°31.58' | 137°57.05' | 321°29.49' | S 16°27.92' | **04** |
| **05** | 256°45.14' | 217°43.85' | S 14°00.73' | 29°16.94' | 85°12.05' | N 23°50.26' | 114°05.39' | 0°23.60' | S 1°31.65' | 152°59.48' | 321°29.52' | S 16°27.90' | **05** |
| **06** | 271°44.57' | 217°46.89' | S 14°01.80' | 44°19.44' | 85°12.02' | N 23°50.38' | 129°08.04' | 0°23.42' | S 1°31.72' | 168°01.91' | 321°29.55' | S 16°27.89' | **06** |
| **07** | 286°43.99' | 217°49.93' | S 14°02.86' | 59°21.94' | 85°11.99' | N 23°50.49' | 144°10.69' | 0°23.24' | S 1°31.79' | 183°04.34' | 321°29.59' | S 16°27.88' | **07** |
| **08** | 301°43.41' | 217°52.97' | S 14°03.92' | 74°24.43' | 85°11.95' | N 23°50.60' | 159°13.33' | 0°23.05' | S 1°31.85' | 198°06.77' | 321°29.62' | S 16°27.86' | **08** |
| **09** | 316°42.84' | 217°56.01' | S 14°04.98' | 89°26.93' | 85°11.92' | N 23°50.72' | 174°15.98' | 0°22.87' | S 1°31.92' | 213°09.20' | 321°29.66' | S 16°27.85' | **09** |
| **10** | 331°42.26' | 217°59.06' | S 14°06.04' | 104°29.43' | 85°11.88' | N 23°50.83' | 189°18.63' | 0°22.69' | S 1°31.99' | 228°11.63' | 321°29.69' | S 16°27.84' | **10** |
| **11** | 346°41.68' | 218°02.10' | S 14°07.10' | 119°31.94' | 85°11.84' | N 23°50.95' | 204°21.27' | 0°22.51' | S 1°32.06' | 243°14.06' | 321°29.72' | S 16°27.82' | **11** |
| **12** | 1°41.11' | 218°05.14' | S 14°08.16' | 134°34.44' | 85°11.80' | N 23°51.06' | 219°23.92' | 0°22.33' | S 1°32.13' | 258°16.49' | 321°29.76' | S 16°27.81' | **12** |
| **13** | 16°40.53' | 218°08.18' | S 14°09.22' | 149°36.95' | 85°11.76' | N 23°51.17' | 234°26.56' | 0°22.15' | S 1°32.20' | 273°18.92' | 321°29.79' | S 16°27.80' | **13** |
| **14** | 31°39.95' | 218°11.23' | S 14°10.28' | 164°39.46' | 85°11.72' | N 23°51.29' | 249°29.21' | 0°21.97' | S 1°32.27' | 288°21.34' | 321°29.83' | S 16°27.78' | **14** |
| **15** | 46°39.37' | 218°14.27' | S 14°11.34' | 179°41.97' | 85°11.67' | N 23°51.40' | 264°31.85' | 0°21.79' | S 1°32.34' | 303°23.77' | 321°29.86' | S 16°27.77' | **15** |
| **16** | 61°38.79' | 218°17.31' | S 14°12.40' | 194°44.48' | 85°11.63' | N 23°51.51' | 279°34.49' | 0°21.61' | S 1°32.40' | 318°26.20' | 321°29.90' | S 16°27.76' | **16** |
| **17** | 76°38.21' | 218°20.36' | S 14°13.45' | 209°46.99' | 85°11.58' | N 23°51.63' | 294°37.14' | 0°21.43' | S 1°32.47' | 333°28.63' | 321°29.94' | S 16°27.74' | **17** |
| **18** | 91°37.63' | 218°23.40' | S 14°14.51' | 224°49.50' | 85°11.53' | N 23°51.74' | 309°39.78' | 0°21.25' | S 1°32.54' | 348°31.06' | 321°29.97' | S 16°27.73' | **18** |
| **19** | 106°37.05' | 218°26.45' | S 14°15.56' | 239°52.02' | 85°11.47' | N 23°51.86' | 324°42.42' | 0°21.07' | S 1°32.61' | 3°33.49' | 321°30.01' | S 16°27.71' | **19** |
| **20** | 121°36.46' | 218°29.49' | S 14°16.62' | 254°54.54' | 85°11.42' | N 23°51.97' | 339°45.07' | 0°20.89' | S 1°32.68' | 18°35.92' | 321°30.04' | S 16°27.70' | **20** |
| **21** | 136°35.88' | 218°32.54' | S 14°17.67' | 269°57.06' | 85°11.37' | N 23°52.08' | 354°47.71' | 0°20.71' | S 1°32.74' | 33°38.34' | 321°30.08' | S 16°27.69' | **21** |
| **22** | 151°35.30' | 218°35.59' | S 14°18.73' | 284°59.58' | 85°11.31' | N 23°52.20' | 9°50.35' | 0°20.53' | S 1°32.81' | 48°40.77' | 321°30.12' | S 16°27.67' | **22** |
| **23** | 166°34.72' | 218°38.64' | S 14°19.78' | 300°02.10' | 85°11.25' | N 23°52.31' | 24°52.99' | 0°20.36' | S 1°32.88' | 63°43.20' | 321°30.15' | S 16°27.66' | **23** |
| **24** | 181°34.13' | 218°41.68' | S 14°20.83' | 315°04.63' | 85°11.19' | N 23°52.42' | 39°55.64' | 0°20.18' | S 1°32.95' | 78°45.63' | 321°30.19' | S 16°27.64' | **24** |
| | δ 14.9905° | | *d* 1.0663' | δ 15.0414° | | *d* 0.1136' | δ 15.0441° | | *d* 0.0701' | δ 15.0405° | | *d* 0.0130' | |

## *Tuesday, November 1st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 184°06.02' | 15.0003° | 216°09.80' | S 14°20.99' | 0.8031' | 91°37.90' | 14.4132° | 308°37.92' | S 24°06.20' | 8.2705' | 59.2222' | 40°15.82' | **00** |
| **01** | 199°06.04' | 15.0003° | 216°12.24' | S 14°21.80' | 0.8027' | 106°02.79' | 14.4148° | 309°15.49' | S 23°57.78' | 8.4211' | 59.2122' | 55°18.28' | **01** |
| **02** | 214°06.06' | 15.0003° | 216°14.69' | S 14°22.60' | 0.8023' | 120°27.77' | 14.4164° | 309°52.97' | S 23°49.21' | 8.5701' | 59.2020' | 70°20.74' | **02** |
| **03** | 229°06.08' | 15.0003° | 216°17.13' | S 14°23.40' | 0.8019' | 134°52.85' | 14.4180° | 310°30.35' | S 23°40.49' | 8.7177' | 59.1917' | 85°23.21' | **03** |
| **04** | 244°06.09' | 15.0003° | 216°19.58' | S 14°24.20' | 0.8015' | 149°18.03' | 14.4196° | 311°07.64' | S 23°31.63' | 8.8636' | 59.1812' | 100°25.67' | **04** |
| **05** | 259°06.11' | 15.0003° | 216°22.02' | S 14°25.00' | 0.8011' | 163°43.31' | 14.4213° | 311°44.83' | S 23°22.62' | 9.0080' | 59.1707' | 115°28.14' | **05** |
| **06** | 274°06.13' | 15.0003° | 216°24.47' | S 14°25.80' | 0.8007' | 178°08.68' | 14.4229° | 312°21.92' | S 23°13.47' | 9.1509' | 59.1600' | 130°30.60' | **06** |
| **07** | 289°06.15' | 15.0003° | 216°26.92' | S 14°26.60' | 0.8003' | 192°34.15' | 14.4245° | 312°58.91' | S 23°04.18' | 9.2921' | 59.1493' | 145°33.06' | **07** |
| **08** | 304°06.17' | 15.0003° | 216°29.36' | S 14°27.40' | 0.7999' | 206°59.73' | 14.4262° | 313°35.80' | S 22°54.75' | 9.4318' | 59.1384' | 160°35.53' | **08** |
| **09** | 319°06.18' | 15.0003° | 216°31.81' | S 14°28.20' | 0.7995' | 221°25.40' | 14.4279° | 314°12.60' | S 22°45.18' | 9.5699' | 59.1274' | 175°37.99' | **09** |
| **10** | 334°06.20' | 15.0003° | 216°34.26' | S 14°29.00' | 0.7991' | 235°51.17' | 14.4295° | 314°49.29' | S 22°35.47' | 9.7064' | 59.1163' | 190°40.46' | **10** |
| **11** | 349°06.22' | 15.0003° | 216°36.70' | S 14°29.80' | 0.7987' | 250°17.04' | 14.4312° | 315°25.88' | S 22°25.63' | 9.8413' | 59.1050' | 205°42.92' | **11** |
| **12** | 4°06.23' | 15.0003° | 216°39.15' | S 14°30.60' | 0.7983' | 264°43.01' | 14.4329° | 316°02.37' | S 22°15.65' | 9.9745' | 59.0937' | 220°45.39' | **12** |
| **13** | 19°06.25' | 15.0003° | 216°41.60' | S 14°31.40' | 0.7979' | 279°09.09' | 14.4345° | 316°38.76' | S 22°05.55' | 10.1062' | 59.0823' | 235°47.85' | **13** |
| **14** | 34°06.27' | 15.0003° | 216°44.05' | S 14°32.19' | 0.7974' | 293°35.26' | 14.4362° | 317°15.05' | S 21°55.31' | 10.2362' | 59.0707' | 250°50.31' | **14** |
| **15** | 49°06.28' | 15.0003° | 216°46.50' | S 14°32.99' | 0.7970' | 308°01.53' | 14.4379° | 317°51.24' | S 21°44.95' | 10.3645' | 59.0591' | 265°52.78' | **15** |
| **16** | 64°06.30' | 15.0002° | 216°48.95' | S 14°33.79' | 0.7966' | 322°27.91' | 14.4396° | 318°27.33' | S 21°34.46' | 10.4913' | 59.0473' | 280°55.24' | **16** |
| **17** | 79°06.31' | 15.0002° | 216°51.40' | S 14°34.58' | 0.7962' | 336°54.39' | 14.4413° | 319°03.32' | S 21°23.84' | 10.6164' | 59.0354' | 295°57.71' | **17** |
| **18** | 94°06.32' | 15.0002° | 216°53.85' | S 14°35.38' | 0.7958' | 351°20.97' | 14.4430° | 319°39.20' | S 21°13.10' | 10.7398' | 59.0235' | 311°00.17' | **18** |
| **19** | 109°06.34' | 15.0002° | 216°56.30' | S 14°36.18' | 0.7954' | 5°47.65' | 14.4447° | 320°14.99' | S 21°02.24' | 10.8616' | 59.0114' | 326°02.63' | **19** |
| **20** | 124°06.35' | 15.0002° | 216°58.75' | S 14°36.97' | 0.7950' | 20°14.43' | 14.4464° | 320°50.67' | S 20°51.26' | 10.9818' | 58.9992' | 341°05.10' | **20** |
| **21** | 139°06.36' | 15.0002° | 217°01.20' | S 14°37.76' | 0.7946' | 34°41.31' | 14.4481° | 321°26.25' | S 20°40.16' | 11.1003' | 58.9870' | 356°07.56' | **21** |
| **22** | 154°06.38' | 15.0002° | 217°03.65' | S 14°38.56' | 0.7941' | 49°08.30' | 14.4497° | 322°01.73' | S 20°28.94' | 11.2171' | 58.9746' | 11°10.03' | **22** |
| **23** | 169°06.39' | 15.0002° | 217°06.10' | S 14°39.35' | 0.7937' | 63°35.38' | 14.4514° | 322°37.11' | S 20°17.61' | 11.3323' | 58.9622' | 26°12.49' | **23** |
| **24** | 184°06.40' | 15.0002° | 217°08.55' | S 14°40.15' | 0.7933' | 78°02.57' | 14.4531° | 323°12.39' | S 20°06.16' | 11.4459' | 58.9496' | 41°14.96' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1136' | hp (π) 0.1477' | ½Ø 16.1019' | 52.6854727657311<br>34% +gib |
| | EoT at 12:00 UTC : +16m 24s (δ 0.06 s/h) | | Phase at 12:00 UTC : 92.95° | |
| | Meridian Pass. Time : 11:43:35.065 | | Age : 7.2 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.24') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 181°34.13' | 218°41.68' | S 14°20.83' | 315°04.63' | 85°11.19' | N 23°52.42' | 39°55.64' | 0°20.18' | S 1°32.95' | 78°45.63' | 321°30.19' | S 16°27.64' | **00** |
| **01** | 196°33.55' | 218°44.73' | S 14°21.88' | 330°07.15' | 85°11.13' | N 23°52.54' | 54°58.28' | 0°20.00' | S 1°33.01' | 93°48.05' | 321°30.23' | S 16°27.63' | **01** |
| **02** | 211°32.96' | 218°47.78' | S 14°22.93' | 345°09.68' | 85°11.07' | N 23°52.65' | 70°00.92' | 0°19.82' | S 1°33.08' | 108°50.48' | 321°30.26' | S 16°27.61' | **02** |
| **03** | 226°32.38' | 218°50.83' | S 14°23.98' | 0°12.21' | 85°11.00' | N 23°52.77' | 85°03.56' | 0°19.65' | S 1°33.15' | 123°52.91' | 321°30.30' | S 16°27.60' | **03** |
| **04** | 241°31.79' | 218°53.88' | S 14°25.03' | 15°14.74' | 85°10.93' | N 23°52.88' | 100°06.20' | 0°19.47' | S 1°33.21' | 138°55.33' | 321°30.34' | S 16°27.59' | **04** |
| **05** | 256°31.21' | 218°56.93' | S 14°26.08' | 30°17.27' | 85°10.87' | N 23°52.99' | 115°08.84' | 0°19.29' | S 1°33.28' | 153°57.76' | 321°30.38' | S 16°27.57' | **05** |
| **06** | 271°30.62' | 218°59.98' | S 14°27.13' | 45°19.81' | 85°10.79' | N 23°53.11' | 130°11.48' | 0°19.12' | S 1°33.35' | 169°00.19' | 321°30.41' | S 16°27.56' | **06** |
| **07** | 286°30.03' | 219°03.03' | S 14°28.18' | 60°22.34' | 85°10.72' | N 23°53.22' | 145°14.12' | 0°18.94' | S 1°33.41' | 184°02.61' | 321°30.45' | S 16°27.54' | **07** |
| **08** | 301°29.45' | 219°06.08' | S 14°29.23' | 75°24.88' | 85°10.65' | N 23°53.33' | 160°16.76' | 0°18.77' | S 1°33.48' | 199°05.04' | 321°30.49' | S 16°27.53' | **08** |
| **09** | 316°28.86' | 219°09.14' | S 14°30.27' | 90°27.42' | 85°10.57' | N 23°53.45' | 175°19.40' | 0°18.59' | S 1°33.54' | 214°07.46' | 321°30.53' | S 16°27.51' | **09** |
| **10** | 331°28.27' | 219°12.19' | S 14°31.32' | 105°29.96' | 85°10.50' | N 23°53.56' | 190°22.04' | 0°18.42' | S 1°33.61' | 229°09.89' | 321°30.57' | S 16°27.50' | **10** |
| **11** | 346°27.68' | 219°15.24' | S 14°32.37' | 120°32.50' | 85°10.42' | N 23°53.68' | 205°24.68' | 0°18.24' | S 1°33.68' | 244°12.32' | 321°30.61' | S 16°27.48' | **11** |
| **12** | 1°27.09' | 219°18.30' | S 14°33.41' | 135°35.05' | 85°10.34' | N 23°53.79' | 220°27.32' | 0°18.07' | S 1°33.74' | 259°14.74' | 321°30.64' | S 16°27.47' | **12** |
| **13** | 16°26.50' | 219°21.35' | S 14°34.45' | 150°37.59' | 85°10.26' | N 23°53.90' | 235°29.95' | 0°17.89' | S 1°33.81' | 274°17.17' | 321°30.68' | S 16°27.45' | **13** |
| **14** | 31°25.91' | 219°24.40' | S 14°35.50' | 165°40.14' | 85°10.17' | N 23°54.02' | 250°32.59' | 0°17.72' | S 1°33.87' | 289°19.59' | 321°30.72' | S 16°27.44' | **14** |
| **15** | 46°25.32' | 219°27.46' | S 14°36.54' | 180°42.69' | 85°10.09' | N 23°54.13' | 265°35.23' | 0°17.55' | S 1°33.94' | 304°22.02' | 321°30.76' | S 16°27.42' | **15** |
| **16** | 61°24.73' | 219°30.51' | S 14°37.58' | 195°45.24' | 85°10.00' | N 23°54.25' | 280°37.87' | 0°17.37' | S 1°34.00' | 319°24.44' | 321°30.80' | S 16°27.41' | **16** |
| **17** | 76°24.14' | 219°33.57' | S 14°38.62' | 210°47.79' | 85°09.92' | N 23°54.36' | 295°40.50' | 0°17.20' | S 1°34.07' | 334°26.86' | 321°30.84' | S 16°27.39' | **17** |
| **18** | 91°23.54' | 219°36.63' | S 14°39.66' | 225°50.35' | 85°09.83' | N 23°54.47' | 310°43.14' | 0°17.03' | S 1°34.13' | 349°29.29' | 321°30.88' | S 16°27.38' | **18** |
| **19** | 106°22.95' | 219°39.68' | S 14°40.71' | 240°52.90' | 85°09.73' | N 23°54.59' | 325°45.78' | 0°16.86' | S 1°34.20' | 4°31.71' | 321°30.92' | S 16°27.36' | **19** |
| **20** | 121°22.36' | 219°42.74' | S 14°41.74' | 255°55.46' | 85°09.64' | N 23°54.70' | 340°48.41' | 0°16.68' | S 1°34.26' | 19°34.14' | 321°30.96' | S 16°27.35' | **20** |
| **21** | 136°21.76' | 219°45.80' | S 14°42.78' | 270°58.02' | 85°09.55' | N 23°54.82' | 355°51.05' | 0°16.51' | S 1°34.33' | 34°36.56' | 321°31.00' | S 16°27.33' | **21** |
| **22** | 151°21.17' | 219°48.86' | S 14°43.82' | 286°00.58' | 85°09.45' | N 23°54.93' | 10°53.69' | 0°16.34' | S 1°34.39' | 49°38.98' | 321°31.04' | S 16°27.32' | **22** |
| **23** | 166°20.57' | 219°51.92' | S 14°44.86' | 301°03.14' | 85°09.35' | N 23°55.04' | 25°56.32' | 0°16.17' | S 1°34.45' | 64°41.41' | 321°31.08' | S 16°27.30' | **23** |
| **24** | 181°19.98' | 219°54.98' | S 14°45.90' | 316°05.70' | 85°09.25' | N 23°55.16' | 40°58.96' | 0°16.00' | S 1°34.52' | 79°43.83' | 321°31.12' | S 16°27.29' | **24** |
| | δ 14.9903° | | *d* 1.0516' | δ 15.0421° | | *d* 0.1138' | δ 15.0440° | | *d* 0.0670' | δ 15.0405° | | *d* 0.0143' | |

## *Wednesday, November 2nd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 184°06.40' | 15.0002° | 217°08.55' | S 14°40.15' | 0.7933' | 78°02.57' | 14.4531° | 323°12.39' | S 20°06.16' | 11.4459' | 58.9496' | 41°14.96' | **00** |
| **01** | 199°06.41' | 15.0002° | 217°11.01' | S 14°40.94' | 0.7929' | 92°29.86' | 14.4548° | 323°47.56' | S 19°54.60' | 11.5578' | 58.9369' | 56°17.42' | **01** |
| **02** | 214°06.42' | 15.0002° | 217°13.46' | S 14°41.73' | 0.7925' | 106°57.24' | 14.4564° | 324°22.64' | S 19°42.93' | 11.6680' | 58.9242' | 71°19.88' | **02** |
| **03** | 229°06.44' | 15.0002° | 217°15.91' | S 14°42.52' | 0.7921' | 121°24.73' | 14.4581° | 324°57.62' | S 19°31.16' | 11.7766' | 58.9114' | 86°22.35' | **03** |
| **04** | 244°06.45' | 15.0002° | 217°18.37' | S 14°43.32' | 0.7916' | 135°52.31' | 14.4598° | 325°32.50' | S 19°19.27' | 11.8835' | 58.8984' | 101°24.81' | **04** |
| **05** | 259°06.46' | 15.0002° | 217°20.82' | S 14°44.11' | 0.7912' | 150°20.00' | 14.4614° | 326°07.28' | S 19°07.29' | 11.9888' | 58.8854' | 116°27.28' | **05** |
| **06** | 274°06.47' | 15.0002° | 217°23.27' | S 14°44.90' | 0.7908' | 164°47.78' | 14.4631° | 326°41.96' | S 18°55.19' | 12.0925' | 58.8723' | 131°29.74' | **06** |
| **07** | 289°06.48' | 15.0002° | 217°25.73' | S 14°45.69' | 0.7904' | 179°15.66' | 14.4647° | 327°16.54' | S 18°43.00' | 12.1945' | 58.8591' | 146°32.20' | **07** |
| **08** | 304°06.49' | 15.0002° | 217°28.18' | S 14°46.48' | 0.7900' | 193°43.64' | 14.4663° | 327°51.02' | S 18°30.70' | 12.2948' | 58.8458' | 161°34.67' | **08** |
| **09** | 319°06.50' | 15.0002° | 217°30.64' | S 14°47.27' | 0.7896' | 208°11.72' | 14.4679° | 328°25.41' | S 18°18.31' | 12.3935' | 58.8324' | 176°37.13' | **09** |
| **10** | 334°06.50' | 15.0001° | 217°33.09' | S 14°48.06' | 0.7891' | 222°39.89' | 14.4696° | 328°59.70' | S 18°05.82' | 12.4906' | 58.8189' | 191°39.60' | **10** |
| **11** | 349°06.51' | 15.0001° | 217°35.55' | S 14°48.84' | 0.7887' | 237°08.16' | 14.4712° | 329°33.90' | S 17°53.23' | 12.5860' | 58.8054' | 206°42.06' | **11** |
| **12** | 4°06.52' | 15.0001° | 217°38.00' | S 14°49.63' | 0.7883' | 251°36.53' | 14.4727° | 330°08.00' | S 17°40.55' | 12.6799' | 58.7917' | 221°44.52' | **12** |
| **13** | 19°06.53' | 15.0001° | 217°40.46' | S 14°50.42' | 0.7879' | 266°04.99' | 14.4743° | 330°42.00' | S 17°27.78' | 12.7721' | 58.7780' | 236°46.99' | **13** |
| **14** | 34°06.54' | 15.0001° | 217°42.92' | S 14°51.21' | 0.7874' | 280°33.54' | 14.4759° | 331°15.91' | S 17°14.92' | 12.8626' | 58.7642' | 251°49.45' | **14** |
| **15** | 49°06.54' | 15.0001° | 217°45.37' | S 14°52.00' | 0.7870' | 295°02.19' | 14.4774° | 331°49.73' | S 17°01.97' | 12.9516' | 58.7503' | 266°51.92' | **15** |
| **16** | 64°06.55' | 15.0001° | 217°47.83' | S 14°52.78' | 0.7866' | 309°30.93' | 14.4790° | 332°23.45' | S 16°48.93' | 13.0389' | 58.7363' | 281°54.38' | **16** |
| **17** | 79°06.56' | 15.0001° | 217°50.29' | S 14°53.57' | 0.7862' | 323°59.76' | 14.4805° | 332°57.09' | S 16°35.80' | 13.1247' | 58.7222' | 296°56.84' | **17** |
| **18** | 94°06.56' | 15.0001° | 217°52.75' | S 14°54.35' | 0.7858' | 338°28.68' | 14.4820° | 333°30.63' | S 16°22.60' | 13.2088' | 58.7081' | 311°59.31' | **18** |
| **19** | 109°06.57' | 15.0001° | 217°55.21' | S 14°55.14' | 0.7853' | 352°57.69' | 14.4836° | 334°04.08' | S 16°09.30' | 13.2913' | 58.6939' | 327°01.77' | **19** |
| **20** | 124°06.57' | 15.0001° | 217°57.67' | S 14°55.92' | 0.7849' | 7°26.80' | 14.4851° | 334°37.44' | S 15°55.93' | 13.3723' | 58.6796' | 342°04.24' | **20** |
| **21** | 139°06.58' | 15.0001° | 218°00.12' | S 14°56.71' | 0.7845' | 21°55.99' | 14.4865° | 335°10.71' | S 15°42.48' | 13.4516' | 58.6652' | 357°06.70' | **21** |
| **22** | 154°06.58' | 15.0001° | 218°02.58' | S 14°57.49' | 0.7841' | 36°25.27' | 14.4880° | 335°43.90' | S 15°28.95' | 13.5294' | 58.6507' | 12°09.17' | **22** |
| **23** | 169°06.59' | 15.0001° | 218°05.04' | S 14°58.28' | 0.7836' | 50°54.64' | 14.4894° | 336°16.99' | S 15°15.35' | 13.6056' | 58.6361' | 27°11.63' | **23** |
| **24** | 184°06.59' | 15.0001° | 218°07.50' | S 14°59.06' | 0.7832' | 65°24.09' | 14.4909° | 336°50.00' | S 15°01.66' | 13.6803' | 58.6215' | 42°14.09' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1179' | hp (π) 0.1477' | ½Ø 16.0196' | 63.8546654960221<br>64% +gib |
| | EoT at 12:00 UTC : +16m 26s (δ 0.03 s/h) | | Phase at 12:00 UTC : 106.02° | |
| | Meridian Pass. Time : 11:43:33.920 | | Age : 8.2 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.24') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 181°19.98' | 219°54.98' | S 14°45.90' | 316°05.70' | 85°09.25' | N 23°55.16' | 40°58.96' | 0°16.00' | S 1°34.52' | 79°43.83' | 321°31.12' | S 16°27.29' | **00** |
| **01** | 196°19.38' | 219°58.04' | S 14°46.93' | 331°08.27' | 85°09.15' | N 23°55.27' | 56°01.59' | 0°15.83' | S 1°34.58' | 94°46.25' | 321°31.17' | S 16°27.27' | **01** |
| **02** | 211°18.79' | 220°01.10' | S 14°47.97' | 346°10.84' | 85°09.05' | N 23°55.39' | 71°04.22' | 0°15.66' | S 1°34.65' | 109°48.68' | 321°31.21' | S 16°27.25' | **02** |
| **03** | 226°18.19' | 220°04.16' | S 14°49.00' | 1°13.41' | 85°08.94' | N 23°55.50' | 86°06.86' | 0°15.49' | S 1°34.71' | 124°51.10' | 321°31.25' | S 16°27.24' | **03** |
| **04** | 241°17.59' | 220°07.22' | S 14°50.04' | 16°15.98' | 85°08.83' | N 23°55.61' | 101°09.49' | 0°15.32' | S 1°34.77' | 139°53.52' | 321°31.29' | S 16°27.22' | **04** |
| **05** | 256°17.00' | 220°10.28' | S 14°51.07' | 31°18.55' | 85°08.73' | N 23°55.73' | 116°12.13' | 0°15.15' | S 1°34.84' | 154°55.94' | 321°31.33' | S 16°27.21' | **05** |
| **06** | 271°16.40' | 220°13.34' | S 14°52.11' | 46°21.12' | 85°08.62' | N 23°55.84' | 131°14.76' | 0°14.98' | S 1°34.90' | 169°58.37' | 321°31.37' | S 16°27.19' | **06** |
| **07** | 286°15.80' | 220°16.41' | S 14°53.14' | 61°23.70' | 85°08.51' | N 23°55.96' | 146°17.39' | 0°14.81' | S 1°34.96' | 185°00.79' | 321°31.42' | S 16°27.17' | **07** |
| **08** | 301°15.20' | 220°19.47' | S 14°54.17' | 76°26.28' | 85°08.39' | N 23°56.07' | 161°20.03' | 0°14.64' | S 1°35.03' | 200°03.21' | 321°31.46' | S 16°27.16' | **08** |
| **09** | 316°14.60' | 220°22.53' | S 14°55.20' | 91°28.85' | 85°08.28' | N 23°56.18' | 176°22.66' | 0°14.47' | S 1°35.09' | 215°05.63' | 321°31.50' | S 16°27.14' | **09** |
| **10** | 331°14.00' | 220°25.60' | S 14°56.23' | 106°31.44' | 85°08.16' | N 23°56.30' | 191°25.29' | 0°14.31' | S 1°35.15' | 230°08.05' | 321°31.54' | S 16°27.13' | **10** |
| **11** | 346°13.40' | 220°28.66' | S 14°57.26' | 121°34.02' | 85°08.04' | N 23°56.41' | 206°27.92' | 0°14.14' | S 1°35.21' | 245°10.47' | 321°31.59' | S 16°27.11' | **11** |
| **12** | 1°12.80' | 220°31.73' | S 14°58.29' | 136°36.60' | 85°07.92' | N 23°56.53' | 221°30.55' | 0°13.97' | S 1°35.28' | 260°12.89' | 321°31.63' | S 16°27.09' | **12** |
| **13** | 16°12.20' | 220°34.79' | S 14°59.32' | 151°39.19' | 85°07.80' | N 23°56.64' | 236°33.19' | 0°13.80' | S 1°35.34' | 275°15.32' | 321°31.67' | S 16°27.08' | **13** |
| **14** | 31°11.59' | 220°37.86' | S 15°00.35' | 166°41.77' | 85°07.68' | N 23°56.75' | 251°35.82' | 0°13.64' | S 1°35.40' | 290°17.74' | 321°31.72' | S 16°27.06' | **14** |
| **15** | 46°10.99' | 220°40.93' | S 15°01.37' | 181°44.36' | 85°07.55' | N 23°56.87' | 266°38.45' | 0°13.47' | S 1°35.46' | 305°20.16' | 321°31.76' | S 16°27.05' | **15** |
| **16** | 61°10.39' | 220°43.99' | S 15°02.40' | 196°46.95' | 85°07.43' | N 23°56.98' | 281°41.08' | 0°13.30' | S 1°35.53' | 320°22.58' | 321°31.80' | S 16°27.03' | **16** |
| **17** | 76°09.78' | 220°47.06' | S 15°03.43' | 211°49.55' | 85°07.30' | N 23°57.10' | 296°43.71' | 0°13.14' | S 1°35.59' | 335°25.00' | 321°31.85' | S 16°27.01' | **17** |
| **18** | 91°09.18' | 220°50.13' | S 15°04.45' | 226°52.14' | 85°07.17' | N 23°57.21' | 311°46.34' | 0°12.97' | S 1°35.65' | 350°27.42' | 321°31.89' | S 16°27.00' | **18** |
| **19** | 106°08.58' | 220°53.20' | S 15°05.48' | 241°54.74' | 85°07.04' | N 23°57.32' | 326°48.97' | 0°12.81' | S 1°35.71' | 5°29.84' | 321°31.94' | S 16°26.98' | **19** |
| **20** | 121°07.97' | 220°56.27' | S 15°06.50' | 256°57.33' | 85°06.90' | N 23°57.44' | 341°51.60' | 0°12.64' | S 1°35.77' | 20°32.26' | 321°31.98' | S 16°26.96' | **20** |
| **21** | 136°07.37' | 220°59.34' | S 15°07.52' | 271°59.93' | 85°06.77' | N 23°57.55' | 356°54.23' | 0°12.48' | S 1°35.83' | 35°34.68' | 321°32.03' | S 16°26.95' | **21** |
| **22** | 151°06.76' | 221°02.41' | S 15°08.55' | 287°02.53' | 85°06.63' | N 23°57.67' | 11°56.85' | 0°12.31' | S 1°35.89' | 50°37.10' | 321°32.07' | S 16°26.93' | **22** |
| **23** | 166°06.15' | 221°05.48' | S 15°09.57' | 302°05.13' | 85°06.49' | N 23°57.78' | 26°59.48' | 0°12.15' | S 1°35.96' | 65°39.51' | 321°32.11' | S 16°26.91' | **23** |
| **24** | 181°05.55' | 221°08.55' | S 15°10.59' | 317°07.74' | 85°06.35' | N 23°57.89' | 42°02.11' | 0°11.98' | S 1°36.02' | 80°41.93' | 321°32.16' | S 16°26.90' | **24** |
| | δ 14.9901° | | *d* 1.0364' | δ 15.0428° | | *d* 0.1140' | δ 15.0439° | | *d* 0.0639' | δ 15.0404° | | *d* 0.0156' | |

## *Thursday, November 3rd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 184°06.59' | 15.0001° | 218°07.50' | S 14°59.06' | 0.7832' | 65°24.09' | 14.4909° | 336°50.00' | S 15°01.66' | 13.6803' | 58.6215' | 42°14.09' | **00** |
| **01** | 199°06.59' | 15.0001° | 218°09.96' | S 14°59.84' | 0.7828' | 79°53.63' | 14.4923° | 337°22.93' | S 14°47.91' | 13.7534' | 58.6068' | 57°16.56' | **01** |
| **02** | 214°06.60' | 15.0001° | 218°12.43' | S 15°00.62' | 0.7823' | 94°23.25' | 14.4937° | 337°55.77' | S 14°34.09' | 13.8249' | 58.5920' | 72°19.02' | **02** |
| **03** | 229°06.60' | 15.0000° | 218°14.89' | S 15°01.41' | 0.7819' | 108°52.96' | 14.4951° | 338°28.53' | S 14°20.19' | 13.8949' | 58.5771' | 87°21.49' | **03** |
| **04** | 244°06.60' | 15.0000° | 218°17.35' | S 15°02.19' | 0.7815' | 123°22.75' | 14.4965° | 339°01.20' | S 14°06.23' | 13.9633' | 58.5621' | 102°23.95' | **04** |
| **05** | 259°06.60' | 15.0000° | 218°19.81' | S 15°02.97' | 0.7811' | 137°52.62' | 14.4978° | 339°33.80' | S 13°52.20' | 14.0302' | 58.5471' | 117°26.41' | **05** |
| **06** | 274°06.61' | 15.0000° | 218°22.27' | S 15°03.75' | 0.7806' | 152°22.57' | 14.4992° | 340°06.31' | S 13°38.10' | 14.0956' | 58.5320' | 132°28.88' | **06** |
| **07** | 289°06.61' | 15.0000° | 218°24.74' | S 15°04.53' | 0.7802' | 166°52.60' | 14.5005° | 340°38.74' | S 13°23.94' | 14.1594' | 58.5168' | 147°31.34' | **07** |
| **08** | 304°06.61' | 15.0000° | 218°27.20' | S 15°05.31' | 0.7798' | 181°22.71' | 14.5018° | 341°11.10' | S 13°09.72' | 14.2217' | 58.5015' | 162°33.81' | **08** |
| **09** | 319°06.61' | 15.0000° | 218°29.66' | S 15°06.09' | 0.7793' | 195°52.90' | 14.5031° | 341°43.38' | S 12°55.44' | 14.2826' | 58.4862' | 177°36.27' | **09** |
| **10** | 334°06.61' | 15.0000° | 218°32.12' | S 15°06.87' | 0.7789' | 210°23.16' | 14.5044° | 342°15.58' | S 12°41.10' | 14.3419' | 58.4708' | 192°38.73' | **10** |
| **11** | 349°06.61' | 15.0000° | 218°34.59' | S 15°07.65' | 0.7785' | 224°53.50' | 14.5056° | 342°47.70' | S 12°26.70' | 14.3997' | 58.4553' | 207°41.20' | **11** |
| **12** | 4°06.61' | 15.0000° | 218°37.05' | S 15°08.42' | 0.7780' | 239°23.91' | 14.5069° | 343°19.75' | S 12°12.24' | 14.4560' | 58.4397' | 222°43.66' | **12** |
| **13** | 19°06.61' | 15.0000° | 218°39.52' | S 15°09.20' | 0.7776' | 253°54.40' | 14.5081° | 343°51.73' | S 11°57.73' | 14.5109' | 58.4241' | 237°46.13' | **13** |
| **14** | 34°06.61' | 15.0000° | 218°41.98' | S 15°09.98' | 0.7772' | 268°24.96' | 14.5093° | 344°23.63' | S 11°43.17' | 14.5642' | 58.4084' | 252°48.59' | **14** |
| **15** | 49°06.61' | 15.0000° | 218°44.45' | S 15°10.76' | 0.7767' | 282°55.59' | 14.5105° | 344°55.47' | S 11°28.55' | 14.6161' | 58.3926' | 267°51.05' | **15** |
| **16** | 64°06.60' | 15.0000° | 218°46.91' | S 15°11.53' | 0.7763' | 297°26.29' | 14.5117° | 345°27.23' | S 11°13.88' | 14.6666' | 58.3767' | 282°53.52' | **16** |
| **17** | 79°06.60' | 15.0000° | 218°49.38' | S 15°12.31' | 0.7759' | 311°57.06' | 14.5128° | 345°58.93' | S 10°59.17' | 14.7156' | 58.3608' | 297°55.98' | **17** |
| **18** | 94°06.60' | 15.0000° | 218°51.85' | S 15°13.08' | 0.7754' | 326°27.89' | 14.5140° | 346°30.55' | S 10°44.41' | 14.7631' | 58.3447' | 312°58.45' | **18** |
| **19** | 109°06.60' | 15.0000° | 218°54.31' | S 15°13.86' | 0.7750' | 340°58.80' | 14.5151° | 347°02.11' | S 10°29.60' | 14.8092' | 58.3286' | 328°00.91' | **19** |
| **20** | 124°06.59' | 14.9999° | 218°56.78' | S 15°14.63' | 0.7746' | 355°29.77' | 14.5162° | 347°33.61' | S 10°14.74' | 14.8538' | 58.3125' | 343°03.37' | **20** |
| **21** | 139°06.59' | 14.9999° | 218°59.25' | S 15°15.41' | 0.7741' | 10°00.80' | 14.5172° | 348°05.04' | S 9°59.85' | 14.8971' | 58.2962' | 358°05.84' | **21** |
| **22** | 154°06.59' | 14.9999° | 219°01.72' | S 15°16.18' | 0.7737' | 24°31.90' | 14.5183° | 348°36.41' | S 9°44.91' | 14.9389' | 58.2799' | 13°08.30' | **22** |
| **23** | 169°06.58' | 14.9999° | 219°04.18' | S 15°16.95' | 0.7733' | 39°03.06' | 14.5193° | 349°07.71' | S 9°29.93' | 14.9793' | 58.2635' | 28°10.77' | **23** |
| **24** | 184°06.58' | 14.9999° | 219°06.65' | S 15°17.73' | 0.7728' | 53°34.28' | 14.5203° | 349°38.95' | S 9°14.91' | 15.0182' | 58.2471' | 43°13.23' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1222' | hp (π) 0.1477' | ½Ø 15.9237' | 74.1991221193006 3% +gib |
| | EoT at 12:00 UTC : +16m 26s (δ -0.00 s/h) | | Phase at 12:00 UTC : 118.93° | |
| | Meridian Pass. Time : 11:43:33.563 | | Age : 9.2 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.24') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 181°05.55' | 221°08.55' | S 15°10.59' | 317°07.74' | 85°06.35' | N 23°57.89' | 42°02.11' | 0°11.98' | S 1°36.02' | 80°41.93' | 321°32.16' | S 16°26.90' | **00** |
| **01** | 196°04.94' | 221°11.62' | S 15°11.61' | 332°10.34' | 85°06.21' | N 23°58.01' | 57°04.74' | 0°11.82' | S 1°36.08' | 95°44.35' | 321°32.21' | S 16°26.88' | **01** |
| **02** | 211°04.33' | 221°14.69' | S 15°12.63' | 347°12.95' | 85°06.07' | N 23°58.12' | 72°07.37' | 0°11.66' | S 1°36.14' | 110°46.77' | 321°32.25' | S 16°26.86' | **02** |
| **03** | 226°03.72' | 221°17.76' | S 15°13.65' | 2°15.56' | 85°05.93' | N 23°58.24' | 87°09.99' | 0°11.49' | S 1°36.20' | 125°49.19' | 321°32.30' | S 16°26.84' | **03** |
| **04** | 241°03.11' | 221°20.84' | S 15°14.67' | 17°18.17' | 85°05.78' | N 23°58.35' | 102°12.62' | 0°11.33' | S 1°36.26' | 140°51.61' | 321°32.34' | S 16°26.83' | **04** |
| **05** | 256°02.50' | 221°23.91' | S 15°15.69' | 32°20.78' | 85°05.63' | N 23°58.46' | 117°15.25' | 0°11.17' | S 1°36.32' | 155°54.03' | 321°32.39' | S 16°26.81' | **05** |
| **06** | 271°01.89' | 221°26.99' | S 15°16.70' | 47°23.40' | 85°05.48' | N 23°58.58' | 132°17.87' | 0°11.00' | S 1°36.38' | 170°56.44' | 321°32.43' | S 16°26.79' | **06** |
| **07** | 286°01.28' | 221°30.06' | S 15°17.72' | 62°26.01' | 85°05.33' | N 23°58.69' | 147°20.50' | 0°10.84' | S 1°36.44' | 185°58.86' | 321°32.48' | S 16°26.78' | **07** |
| **08** | 301°00.67' | 221°33.13' | S 15°18.73' | 77°28.63' | 85°05.18' | N 23°58.81' | 162°23.13' | 0°10.68' | S 1°36.50' | 201°01.28' | 321°32.53' | S 16°26.76' | **08** |
| **09** | 316°00.06' | 221°36.21' | S 15°19.75' | 92°31.25' | 85°05.02' | N 23°58.92' | 177°25.75' | 0°10.52' | S 1°36.56' | 216°03.70' | 321°32.57' | S 16°26.74' | **09** |
| **10** | 330°59.45' | 221°39.29' | S 15°20.76' | 107°33.87' | 85°04.87' | N 23°59.03' | 192°28.38' | 0°10.36' | S 1°36.62' | 231°06.11' | 321°32.62' | S 16°26.72' | **10** |
| **11** | 345°58.84' | 221°42.36' | S 15°21.78' | 122°36.49' | 85°04.71' | N 23°59.15' | 207°31.00' | 0°10.20' | S 1°36.68' | 246°08.53' | 321°32.67' | S 16°26.71' | **11** |
| **12** | 0°58.22' | 221°45.44' | S 15°22.79' | 137°39.12' | 85°04.55' | N 23°59.26' | 222°33.63' | 0°10.04' | S 1°36.74' | 261°10.95' | 321°32.72' | S 16°26.69' | **12** |
| **13** | 15°57.61' | 221°48.52' | S 15°23.80' | 152°41.74' | 85°04.39' | N 23°59.38' | 237°36.25' | 0°09.88' | S 1°36.80' | 276°13.36' | 321°32.76' | S 16°26.67' | **13** |
| **14** | 30°56.99' | 221°51.60' | S 15°24.82' | 167°44.37' | 85°04.22' | N 23°59.49' | 252°38.87' | 0°09.72' | S 1°36.85' | 291°15.78' | 321°32.81' | S 16°26.65' | **14** |
| **15** | 45°56.38' | 221°54.67' | S 15°25.83' | 182°47.00' | 85°04.06' | N 23°59.60' | 267°41.50' | 0°09.56' | S 1°36.91' | 306°18.20' | 321°32.86' | S 16°26.64' | **15** |
| **16** | 60°55.77' | 221°57.75' | S 15°26.84' | 197°49.63' | 85°03.89' | N 23°59.72' | 282°44.12' | 0°09.40' | S 1°36.97' | 321°20.61' | 321°32.91' | S 16°26.62' | **16** |
| **17** | 75°55.15' | 222°00.83' | S 15°27.85' | 212°52.26' | 85°03.72' | N 23°59.83' | 297°46.74' | 0°09.24' | S 1°37.03' | 336°23.03' | 321°32.95' | S 16°26.60' | **17** |
| **18** | 90°54.53' | 222°03.91' | S 15°28.86' | 227°54.89' | 85°03.55' | N 23°59.95' | 312°49.37' | 0°09.08' | S 1°37.09' | 351°25.44' | 321°33.00' | S 16°26.58' | **18** |
| **19** | 105°53.92' | 222°06.99' | S 15°29.86' | 242°57.53' | 85°03.38' | N 24°00.06' | 327°51.99' | 0°08.92' | S 1°37.15' | 6°27.86' | 321°33.05' | S 16°26.56' | **19** |
| **20** | 120°53.30' | 222°10.07' | S 15°30.87' | 258°00.17' | 85°03.21' | N 24°00.17' | 342°54.61' | 0°08.76' | S 1°37.21' | 21°30.28' | 321°33.10' | S 16°26.55' | **20** |
| **21** | 135°52.68' | 222°13.16' | S 15°31.88' | 273°02.81' | 85°03.03' | N 24°00.29' | 357°57.23' | 0°08.60' | S 1°37.26' | 36°32.69' | 321°33.15' | S 16°26.53' | **21** |
| **22** | 150°52.06' | 222°16.24' | S 15°32.88' | 288°05.45' | 85°02.86' | N 24°00.40' | 12°59.86' | 0°08.45' | S 1°37.32' | 51°35.11' | 321°33.20' | S 16°26.51' | **22** |
| **23** | 165°51.45' | 222°19.32' | S 15°33.89' | 303°08.09' | 85°02.68' | N 24°00.52' | 28°02.48' | 0°08.29' | S 1°37.38' | 66°37.52' | 321°33.25' | S 16°26.49' | **23** |
| **24** | 180°50.83' | 222°22.40' | S 15°34.90' | 318°10.73' | 85°02.50' | N 24°00.63' | 43°05.10' | 0°08.13' | S 1°37.44' | 81°39.94' | 321°33.30' | S 16°26.47' | **24** |
| | δ 14.9899° | | *d* 1.0206' | δ 15.0434° | | *d* 0.1140' | δ 15.0438° | | *d* 0.0608' | δ 15.0403° | | *d* 0.0169' | |

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 184°06.58' | 14.9999° | 219°06.65' | S 15°17.73' | 0.7728' | 53°34.28' | 14.5203° | 349°38.95' | S 9°14.91' | 15.0182' | 58.2471' | 43°13.23' | **00** |
| **01** | 199°06.57' | 14.9999° | 219°09.12' | S 15°18.50' | 0.7724' | 68°05.56' | 14.5213° | 350°10.14' | S 8°59.85' | 15.0558' | 58.2305' | 58°15.70' | **01** |
| **02** | 214°06.57' | 14.9999° | 219°11.59' | S 15°19.27' | 0.7719' | 82°36.90' | 14.5223° | 350°41.26' | S 8°44.76' | 15.0920' | 58.2139' | 73°18.16' | **02** |
| **03** | 229°06.56' | 14.9999° | 219°14.06' | S 15°20.04' | 0.7715' | 97°08.29' | 14.5233° | 351°12.33' | S 8°29.63' | 15.1268' | 58.1972' | 88°20.62' | **03** |
| **04** | 244°06.56' | 14.9999° | 219°16.53' | S 15°20.81' | 0.7711' | 111°39.75' | 14.5242° | 351°43.34' | S 8°14.47' | 15.1602' | 58.1805' | 103°23.09' | **04** |
| **05** | 259°06.55' | 14.9999° | 219°19.00' | S 15°21.58' | 0.7706' | 126°11.25' | 14.5251° | 352°14.30' | S 7°59.28' | 15.1922' | 58.1637' | 118°25.55' | **05** |
| **06** | 274°06.54' | 14.9999° | 219°21.47' | S 15°22.35' | 0.7702' | 140°42.82' | 14.5260° | 352°45.20' | S 7°44.06' | 15.2229' | 58.1468' | 133°28.02' | **06** |
| **07** | 289°06.54' | 14.9999° | 219°23.94' | S 15°23.12' | 0.7697' | 155°14.43' | 14.5269° | 353°16.05' | S 7°28.81' | 15.2522' | 58.1298' | 148°30.48' | **07** |
| **08** | 304°06.53' | 14.9999° | 219°26.41' | S 15°23.89' | 0.7693' | 169°46.10' | 14.5278° | 353°46.85' | S 7°13.53' | 15.2801' | 58.1127' | 163°32.94' | **08** |
| **09** | 319°06.52' | 14.9999° | 219°28.88' | S 15°24.66' | 0.7689' | 184°17.81' | 14.5286° | 354°17.59' | S 6°58.22' | 15.3067' | 58.0956' | 178°35.41' | **09** |
| **10** | 334°06.52' | 14.9999° | 219°31.36' | S 15°25.43' | 0.7684' | 198°49.58' | 14.5294° | 354°48.29' | S 6°42.89' | 15.3319' | 58.0784' | 193°37.87' | **10** |
| **11** | 349°06.51' | 14.9999° | 219°33.83' | S 15°26.20' | 0.7680' | 213°21.39' | 14.5302° | 355°18.94' | S 6°27.53' | 15.3558' | 58.0612' | 208°40.34' | **11** |
| **12** | 4°06.50' | 14.9999° | 219°36.30' | S 15°26.97' | 0.7675' | 227°53.26' | 14.5310° | 355°49.54' | S 6°12.15' | 15.3784' | 58.0438' | 223°42.80' | **12** |
| **13** | 19°06.49' | 14.9999° | 219°38.77' | S 15°27.73' | 0.7671' | 242°25.16' | 14.5318° | 356°20.10' | S 5°56.75' | 15.3996' | 58.0264' | 238°45.26' | **13** |
| **14** | 34°06.48' | 14.9998° | 219°41.25' | S 15°28.50' | 0.7666' | 256°57.11' | 14.5325° | 356°50.61' | S 5°41.33' | 15.4196' | 58.0090' | 253°47.73' | **14** |
| **15** | 49°06.47' | 14.9998° | 219°43.72' | S 15°29.27' | 0.7662' | 271°29.11' | 14.5332° | 357°21.08' | S 5°25.90' | 15.4382' | 57.9914' | 268°50.19' | **15** |
| **16** | 64°06.46' | 14.9998° | 219°46.20' | S 15°30.03' | 0.7657' | 286°01.14' | 14.5339° | 357°51.51' | S 5°10.44' | 15.4554' | 57.9738' | 283°52.66' | **16** |
| **17** | 79°06.45' | 14.9998° | 219°48.67' | S 15°30.80' | 0.7653' | 300°33.22' | 14.5346° | 358°21.90' | S 4°54.97' | 15.4714' | 57.9561' | 298°55.12' | **17** |
| **18** | 94°06.44' | 14.9998° | 219°51.14' | S 15°31.56' | 0.7649' | 315°05.34' | 14.5353° | 358°52.24' | S 4°39.48' | 15.4861' | 57.9384' | 313°57.58' | **18** |
| **19** | 109°06.43' | 14.9998° | 219°53.62' | S 15°32.33' | 0.7644' | 329°37.50' | 14.5359° | 359°22.55' | S 4°23.98' | 15.4995' | 57.9205' | 329°00.05' | **19** |
| **20** | 124°06.42' | 14.9998° | 219°56.10' | S 15°33.09' | 0.7640' | 344°09.69' | 14.5366° | 359°52.82' | S 4°08.47' | 15.5116' | 57.9026' | 344°02.51' | **20** |
| **21** | 139°06.40' | 14.9998° | 219°58.57' | S 15°33.85' | 0.7635' | 358°41.92' | 14.5372° | 0°23.06' | S 3°52.95' | 15.5224' | 57.8847' | 359°04.98' | **21** |
| **22** | 154°06.39' | 14.9998° | 220°01.05' | S 15°34.62' | 0.7631' | 13°14.18' | 14.5377° | 0°53.26' | S 3°37.42' | 15.5319' | 57.8666' | 14°07.44' | **22** |
| **23** | 169°06.38' | 14.9998° | 220°03.52' | S 15°35.38' | 0.7626' | 27°46.48' | 14.5383° | 1°23.43' | S 3°21.88' | 15.5402' | 57.8485' | 29°09.90' | **23** |
| **24** | 184°06.37' | 14.9998° | 220°06.00' | S 15°36.14' | 0.7622' | 42°18.81' | 14.5388° | 1°53.56' | S 3°06.33' | 15.5472' | 57.8303' | 44°12.37' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1264' | hp (π) 0.1478' | ½Ø 15.8159' | 83.2244444860842 4% +gib |
| | EoT at 12:00 UTC : +16m 26s (δ -0.03 s/h) | | Phase at 12:00 UTC : 131.66° | |
| | Meridian Pass. Time : 11:43:34.006 | | Age : 10.2 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.24') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 180°50.83' | 222°22.40' | S 15°34.90' | 318°10.73' | 85°02.50' | N 24°00.63' | 43°05.10' | 0°08.13' | S 1°37.44' | 81°39.94' | 321°33.30' | S 16°26.47' | **00** |
| **01** | 195°50.21' | 222°25.49' | S 15°35.90' | 333°13.38' | 85°02.32' | N 24°00.74' | 58°07.72' | 0°07.98' | S 1°37.50' | 96°42.35' | 321°33.34' | S 16°26.46' | **01** |
| **02** | 210°49.59' | 222°28.57' | S 15°36.90' | 348°16.03' | 85°02.13' | N 24°00.86' | 73°10.34' | 0°07.82' | S 1°37.55' | 111°44.77' | 321°33.39' | S 16°26.44' | **02** |
| **03** | 225°48.97' | 222°31.66' | S 15°37.91' | 3°18.67' | 85°01.95' | N 24°00.97' | 88°12.96' | 0°07.66' | S 1°37.61' | 126°47.18' | 321°33.44' | S 16°26.42' | **03** |
| **04** | 240°48.35' | 222°34.74' | S 15°38.91' | 18°21.32' | 85°01.76' | N 24°01.09' | 103°15.58' | 0°07.51' | S 1°37.67' | 141°49.59' | 321°33.49' | S 16°26.40' | **04** |
| **05** | 255°47.72' | 222°37.83' | S 15°39.91' | 33°23.98' | 85°01.57' | N 24°01.20' | 118°18.20' | 0°07.35' | S 1°37.72' | 156°52.01' | 321°33.54' | S 16°26.38' | **05** |
| **06** | 270°47.10' | 222°40.91' | S 15°40.91' | 48°26.63' | 85°01.38' | N 24°01.31' | 133°20.82' | 0°07.20' | S 1°37.78' | 171°54.42' | 321°33.59' | S 16°26.36' | **06** |
| **07** | 285°46.48' | 222°44.00' | S 15°41.91' | 63°29.29' | 85°01.19' | N 24°01.43' | 148°23.44' | 0°07.04' | S 1°37.84' | 186°56.83' | 321°33.65' | S 16°26.34' | **07** |
| **08** | 300°45.86' | 222°47.09' | S 15°42.91' | 78°31.94' | 85°01.00' | N 24°01.54' | 163°26.06' | 0°06.89' | S 1°37.89' | 201°59.25' | 321°33.70' | S 16°26.33' | **08** |
| **09** | 315°45.23' | 222°50.17' | S 15°43.91' | 93°34.60' | 85°00.80' | N 24°01.66' | 178°28.68' | 0°06.73' | S 1°37.95' | 217°01.66' | 321°33.75' | S 16°26.31' | **09** |
| **10** | 330°44.61' | 222°53.26' | S 15°44.91' | 108°37.26' | 85°00.61' | N 24°01.77' | 193°31.29' | 0°06.58' | S 1°38.01' | 232°04.07' | 321°33.80' | S 16°26.29' | **10** |
| **11** | 345°43.98' | 222°56.35' | S 15°45.90' | 123°39.93' | 85°00.41' | N 24°01.88' | 208°33.91' | 0°06.42' | S 1°38.06' | 247°06.49' | 321°33.85' | S 16°26.27' | **11** |
| **12** | 0°43.36' | 222°59.44' | S 15°46.90' | 138°42.59' | 85°00.21' | N 24°02.00' | 223°36.53' | 0°06.27' | S 1°38.12' | 262°08.90' | 321°33.90' | S 16°26.25' | **12** |
| **13** | 15°42.73' | 223°02.53' | S 15°47.90' | 153°45.26' | 85°00.01' | N 24°02.11' | 238°39.15' | 0°06.12' | S 1°38.18' | 277°11.31' | 321°33.95' | S 16°26.23' | **13** |
| **14** | 30°42.11' | 223°05.62' | S 15°48.89' | 168°47.92' | 84°59.81' | N 24°02.22' | 253°41.76' | 0°05.96' | S 1°38.23' | 292°13.72' | 321°34.00' | S 16°26.21' | **14** |
| **15** | 45°41.48' | 223°08.71' | S 15°49.88' | 183°50.59' | 84°59.60' | N 24°02.34' | 268°44.38' | 0°05.81' | S 1°38.29' | 307°16.14' | 321°34.06' | S 16°26.19' | **15** |
| **16** | 60°40.85' | 223°11.80' | S 15°50.88' | 198°53.26' | 84°59.39' | N 24°02.45' | 283°47.00' | 0°05.66' | S 1°38.34' | 322°18.55' | 321°34.11' | S 16°26.17' | **16** |
| **17** | 75°40.23' | 223°14.89' | S 15°51.87' | 213°55.94' | 84°59.19' | N 24°02.57' | 298°49.61' | 0°05.51' | S 1°38.40' | 337°20.96' | 321°34.16' | S 16°26.16' | **17** |
| **18** | 90°39.60' | 223°17.99' | S 15°52.86' | 228°58.61' | 84°58.98' | N 24°02.68' | 313°52.23' | 0°05.35' | S 1°38.45' | 352°23.37' | 321°34.21' | S 16°26.14' | **18** |
| **19** | 105°38.97' | 223°21.08' | S 15°53.85' | 244°01.28' | 84°58.76' | N 24°02.79' | 328°54.84' | 0°05.20' | S 1°38.51' | 7°25.78' | 321°34.26' | S 16°26.12' | **19** |
| **20** | 120°38.34' | 223°24.17' | S 15°54.85' | 259°03.96' | 84°58.55' | N 24°02.91' | 343°57.46' | 0°05.05' | S 1°38.56' | 22°28.19' | 321°34.32' | S 16°26.10' | **20** |
| **21** | 135°37.71' | 223°27.27' | S 15°55.84' | 274°06.64' | 84°58.34' | N 24°03.02' | 359°00.08' | 0°04.90' | S 1°38.62' | 37°30.61' | 321°34.37' | S 16°26.08' | **21** |
| **22** | 150°37.08' | 223°30.36' | S 15°56.83' | 289°09.32' | 84°58.12' | N 24°03.14' | 14°02.69' | 0°04.75' | S 1°38.67' | 52°33.02' | 321°34.42' | S 16°26.06' | **22** |
| **23** | 165°36.45' | 223°33.45' | S 15°57.81' | 304°12.00' | 84°57.90' | N 24°03.25' | 29°05.30' | 0°04.60' | S 1°38.73' | 67°35.43' | 321°34.48' | S 16°26.04' | **23** |
| **24** | 180°35.82' | 223°36.55' | S 15°58.80' | 319°14.69' | 84°57.68' | N 24°03.36' | 44°07.92' | 0°04.45' | S 1°38.78' | 82°37.84' | 321°34.53' | S 16°26.02' | **24** |
| | δ 14.9897° | | *d* 1.0042' | δ 15.0441° | | *d* 0.1140' | δ 15.0437° | | *d* 0.0576' | δ 15.0402° | | *d* 0.0183' | |

## *Saturday, November 5th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 184°06.37' | 14.9998° | 220°06.00' | S 15°36.14' | 0.7622' | 42°18.81' | 14.5388° | 1°53.56' | S 3°06.33' | 15.5472' | 57.8303' | 44°12.37' | **00** |
| **01** | 199°06.35' | 14.9998° | 220°08.48' | S 15°36.90' | 0.7617' | 56°51.17' | 14.5394° | 2°23.66' | S 2°50.78' | 15.5529' | 57.8121' | 59°14.83' | **01** |
| **02** | 214°06.34' | 14.9998° | 220°10.96' | S 15°37.67' | 0.7613' | 71°23.56' | 14.5399° | 2°53.73' | S 2°35.22' | 15.5574' | 57.7938' | 74°17.30' | **02** |
| **03** | 229°06.33' | 14.9998° | 220°13.43' | S 15°38.43' | 0.7608' | 85°55.98' | 14.5403° | 3°23.78' | S 2°19.66' | 15.5606' | 57.7754' | 89°19.76' | **03** |
| **04** | 244°06.31' | 14.9998° | 220°15.91' | S 15°39.19' | 0.7604' | 100°28.43' | 14.5408° | 3°53.79' | S 2°04.10' | 15.5625' | 57.7569' | 104°22.22' | **04** |
| **05** | 259°06.30' | 14.9998° | 220°18.39' | S 15°39.95' | 0.7599' | 115°00.91' | 14.5413° | 4°23.78' | S 1°48.53' | 15.5632' | 57.7384' | 119°24.69' | **05** |
| **06** | 274°06.28' | 14.9998° | 220°20.87' | S 15°40.71' | 0.7595' | 129°33.41' | 14.5417° | 4°53.74' | S 1°32.97' | 15.5627' | 57.7198' | 134°27.15' | **06** |
| **07** | 289°06.27' | 14.9997° | 220°23.35' | S 15°41.46' | 0.7590' | 144°05.93' | 14.5421° | 5°23.68' | S 1°17.41' | 15.5609' | 57.7012' | 149°29.62' | **07** |
| **08** | 304°06.25' | 14.9997° | 220°25.83' | S 15°42.22' | 0.7586' | 158°38.48' | 14.5425° | 5°53.60' | S 1°01.85' | 15.5579' | 57.6824' | 164°32.08' | **08** |
| **09** | 319°06.24' | 14.9997° | 220°28.31' | S 15°42.98' | 0.7581' | 173°11.05' | 14.5428° | 6°23.49' | S 0°46.30' | 15.5537' | 57.6637' | 179°34.54' | **09** |
| **10** | 334°06.22' | 14.9997° | 220°30.79' | S 15°43.74' | 0.7577' | 187°43.64' | 14.5432° | 6°53.36' | S 0°30.75' | 15.5483' | 57.6448' | 194°37.01' | **10** |
| **11** | 349°06.20' | 14.9997° | 220°33.27' | S 15°44.50' | 0.7572' | 202°16.26' | 14.5435° | 7°23.22' | S 0°15.21' | 15.5416' | 57.6259' | 209°39.47' | **11** |
| **12** | 4°06.19' | 14.9997° | 220°35.75' | S 15°45.25' | 0.7568' | 216°48.88' | 14.5438° | 7°53.05' | N 0°00.32' | 15.5337' | 57.6069' | 224°41.94' | **12** |
| **13** | 19°06.17' | 14.9997° | 220°38.23' | S 15°46.01' | 0.7563' | 231°21.53' | 14.5441° | 8°22.87' | N 0°15.85' | 15.5246' | 57.5878' | 239°44.40' | **13** |
| **14** | 34°06.15' | 14.9997° | 220°40.72' | S 15°46.77' | 0.7558' | 245°54.19' | 14.5444° | 8°52.67' | N 0°31.36' | 15.5143' | 57.5687' | 254°46.87' | **14** |
| **15** | 49°06.13' | 14.9997° | 220°43.20' | S 15°47.52' | 0.7554' | 260°26.87' | 14.5446° | 9°22.46' | N 0°46.87' | 15.5028' | 57.5495' | 269°49.33' | **15** |
| **16** | 64°06.11' | 14.9997° | 220°45.68' | S 15°48.28' | 0.7549' | 274°59.57' | 14.5449° | 9°52.23' | N 1°02.36' | 15.4901' | 57.5302' | 284°51.79' | **16** |
| **17** | 79°06.09' | 14.9997° | 220°48.16' | S 15°49.03' | 0.7545' | 289°32.27' | 14.5451° | 10°21.99' | N 1°17.83' | 15.4762' | 57.5109' | 299°54.26' | **17** |
| **18** | 94°06.08' | 14.9997° | 220°50.65' | S 15°49.78' | 0.7540' | 304°04.99' | 14.5453° | 10°51.73' | N 1°33.29' | 15.4611' | 57.4915' | 314°56.72' | **18** |
| **19** | 109°06.06' | 14.9997° | 220°53.13' | S 15°50.54' | 0.7536' | 318°37.71' | 14.5455° | 11°21.47' | N 1°48.74' | 15.4448' | 57.4721' | 329°59.19' | **19** |
| **20** | 124°06.04' | 14.9997° | 220°55.61' | S 15°51.29' | 0.7531' | 333°10.45' | 14.5456° | 11°51.20' | N 2°04.17' | 15.4273' | 57.4526' | 345°01.65' | **20** |
| **21** | 139°06.02' | 14.9997° | 220°58.10' | S 15°52.04' | 0.7526' | 347°43.20' | 14.5458° | 12°20.92' | N 2°19.57' | 15.4087' | 57.4330' | 0°04.11' | **21** |
| **22** | 154°05.99' | 14.9997° | 221°00.58' | S 15°52.80' | 0.7522' | 2°15.95' | 14.5459° | 12°50.63' | N 2°34.96' | 15.3888' | 57.4134' | 15°06.58' | **22** |
| **23** | 169°05.97' | 14.9996° | 221°03.07' | S 15°53.55' | 0.7517' | 16°48.71' | 14.5460° | 13°20.33' | N 2°50.33' | 15.3678' | 57.3937' | 30°09.04' | **23** |
| **24** | 184°05.95' | 14.9996° | 221°05.55' | S 15°54.30' | 0.7513' | 31°21.47' | 14.5461° | 13°50.03' | N 3°05.68' | 15.3457' | 57.3739' | 45°11.51' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1305' | hp (π) 0.1478' | ½Ø 15.6968' | 90.5349988173972 7% +gib |
| | EoT at 12:00 UTC : +16m 24s (δ -0.07 s/h) | | Phase at 12:00 UTC : 144.20° | |
| | Meridian Pass. Time : 11:43:35.259 | | Age : 11.2 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.24') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 180°35.82' | 223°36.55' | S 15°58.80' | 319°14.69' | 84°57.68' | N 24°03.36' | 44°07.92' | 0°04.45' | S 1°38.78' | 82°37.84' | 321°34.53' | S 16°26.02' | **00** |
| **01** | 195°35.19' | 223°39.65' | S 15°59.79' | 334°17.37' | 84°57.46' | N 24°03.48' | 59°10.53' | 0°04.30' | S 1°38.84' | 97°40.25' | 321°34.58' | S 16°26.00' | **01** |
| **02** | 210°34.56' | 223°42.74' | S 16°00.78' | 349°20.06' | 84°57.23' | N 24°03.59' | 74°13.15' | 0°04.15' | S 1°38.89' | 112°42.66' | 321°34.64' | S 16°25.98' | **02** |
| **03** | 225°33.92' | 223°45.84' | S 16°01.76' | 4°22.75' | 84°57.01' | N 24°03.70' | 89°15.76' | 0°04.00' | S 1°38.94' | 127°45.07' | 321°34.69' | S 16°25.96' | **03** |
| **04** | 240°33.29' | 223°48.94' | S 16°02.75' | 19°25.44' | 84°56.78' | N 24°03.82' | 104°18.37' | 0°03.85' | S 1°39.00' | 142°47.48' | 321°34.75' | S 16°25.94' | **04** |
| **05** | 255°32.66' | 223°52.03' | S 16°03.73' | 34°28.13' | 84°56.55' | N 24°03.93' | 119°20.98' | 0°03.70' | S 1°39.05' | 157°49.89' | 321°34.80' | S 16°25.92' | **05** |
| **06** | 270°32.02' | 223°55.13' | S 16°04.71' | 49°30.83' | 84°56.32' | N 24°04.05' | 134°23.60' | 0°03.56' | S 1°39.11' | 172°52.30' | 321°34.85' | S 16°25.90' | **06** |
| **07** | 285°31.39' | 223°58.23' | S 16°05.70' | 64°33.52' | 84°56.09' | N 24°04.16' | 149°26.21' | 0°03.41' | S 1°39.16' | 187°54.71' | 321°34.91' | S 16°25.88' | **07** |
| **08** | 300°30.75' | 224°01.33' | S 16°06.68' | 79°36.22' | 84°55.86' | N 24°04.27' | 164°28.82' | 0°03.26' | S 1°39.21' | 202°57.12' | 321°34.96' | S 16°25.86' | **08** |
| **09** | 315°30.12' | 224°04.43' | S 16°07.66' | 94°38.92' | 84°55.62' | N 24°04.39' | 179°31.43' | 0°03.11' | S 1°39.27' | 217°59.53' | 321°35.02' | S 16°25.84' | **09** |
| **10** | 330°29.48' | 224°07.53' | S 16°08.64' | 109°41.62' | 84°55.39' | N 24°04.50' | 194°34.04' | 0°02.97' | S 1°39.32' | 233°01.93' | 321°35.07' | S 16°25.82' | **10** |
| **11** | 345°28.84' | 224°10.63' | S 16°09.62' | 124°44.32' | 84°55.15' | N 24°04.61' | 209°36.65' | 0°02.82' | S 1°39.37' | 248°04.34' | 321°35.13' | S 16°25.80' | **11** |
| **12** | 0°28.20' | 224°13.73' | S 16°10.60' | 139°47.03' | 84°54.91' | N 24°04.73' | 224°39.26' | 0°02.67' | S 1°39.42' | 263°06.75' | 321°35.18' | S 16°25.78' | **12** |
| **13** | 15°27.57' | 224°16.83' | S 16°11.58' | 154°49.73' | 84°54.67' | N 24°04.84' | 239°41.87' | 0°02.53' | S 1°39.48' | 278°09.16' | 321°35.24' | S 16°25.76' | **13** |
| **14** | 30°26.93' | 224°19.94' | S 16°12.56' | 169°52.44' | 84°54.42' | N 24°04.96' | 254°44.48' | 0°02.38' | S 1°39.53' | 293°11.57' | 321°35.30' | S 16°25.74' | **14** |
| **15** | 45°26.29' | 224°23.04' | S 16°13.54' | 184°55.15' | 84°54.18' | N 24°05.07' | 269°47.09' | 0°02.24' | S 1°39.58' | 308°13.98' | 321°35.35' | S 16°25.72' | **15** |
| **16** | 60°25.65' | 224°26.14' | S 16°14.51' | 199°57.86' | 84°53.93' | N 24°05.18' | 284°49.70' | 0°02.09' | S 1°39.63' | 323°16.38' | 321°35.41' | S 16°25.70' | **16** |
| **17** | 75°25.01' | 224°29.25' | S 16°15.49' | 215°00.57' | 84°53.68' | N 24°05.30' | 299°52.31' | 0°01.94' | S 1°39.69' | 338°18.79' | 321°35.47' | S 16°25.68' | **17** |
| **18** | 90°24.37' | 224°32.35' | S 16°16.46' | 230°03.29' | 84°53.43' | N 24°05.41' | 314°54.92' | 0°01.80' | S 1°39.74' | 353°21.20' | 321°35.52' | S 16°25.66' | **18** |
| **19** | 105°23.73' | 224°35.46' | S 16°17.44' | 245°06.01' | 84°53.18' | N 24°05.52' | 329°57.53' | 0°01.66' | S 1°39.79' | 8°23.61' | 321°35.58' | S 16°25.64' | **19** |
| **20** | 120°23.09' | 224°38.56' | S 16°18.41' | 260°08.72' | 84°52.93' | N 24°05.64' | 345°00.14' | 0°01.51' | S 1°39.84' | 23°26.01' | 321°35.64' | S 16°25.62' | **20** |
| **21** | 135°22.45' | 224°41.67' | S 16°19.38' | 275°11.44' | 84°52.67' | N 24°05.75' | 0°02.75' | 0°01.37' | S 1°39.89' | 38°28.42' | 321°35.69' | S 16°25.60' | **21** |
| **22** | 150°21.80' | 224°44.77' | S 16°20.35' | 290°14.16' | 84°52.41' | N 24°05.86' | 15°05.35' | 0°01.22' | S 1°39.95' | 53°30.83' | 321°35.75' | S 16°25.58' | **22** |
| **23** | 165°21.16' | 224°47.88' | S 16°21.33' | 305°16.89' | 84°52.16' | N 24°05.98' | 30°07.96' | 0°01.08' | S 1°40.00' | 68°33.23' | 321°35.81' | S 16°25.56' | **23** |
| **24** | 180°20.52' | 224°50.99' | S 16°22.30' | 320°19.61' | 84°51.90' | N 24°06.09' | 45°10.57' | 0°00.94' | S 1°40.05' | 83°35.64' | 321°35.86' | S 16°25.53' | **24** |
| | δ 14.9895° | | *d* 0.9873' | δ 15.0448° | | *d* 0.1138' | δ 15.0436° | | *d* 0.0543' | δ 15.0402° | | *d* 0.0196' | |

## *Sunday, November 6th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 184°05.95' | 14.9996° | 221°05.55' | S 15°54.30' | 0.7513' | 31°21.47' | 14.5461° | 13°50.03' | N 3°05.68' | 15.3457' | 57.3739' | 45°11.51' | **00** |
| **01** | 199°05.93' | 14.9996° | 221°08.04' | S 15°55.05' | 0.7508' | 45°54.24' | 14.5461° | 14°19.73' | N 3°21.00' | 15.3223' | 57.3541' | 60°13.97' | **01** |
| **02** | 214°05.91' | 14.9996° | 221°10.53' | S 15°55.80' | 0.7503' | 60°27.01' | 14.5462° | 14°49.42' | N 3°36.30' | 15.2978' | 57.3342' | 75°16.43' | **02** |
| **03** | 229°05.89' | 14.9996° | 221°13.01' | S 15°56.55' | 0.7499' | 74°59.79' | 14.5462° | 15°19.11' | N 3°51.57' | 15.2721' | 57.3143' | 90°18.90' | **03** |
| **04** | 244°05.86' | 14.9996° | 221°15.50' | S 15°57.30' | 0.7494' | 89°32.56' | 14.5462° | 15°48.80' | N 4°06.81' | 15.2453' | 57.2943' | 105°21.36' | **04** |
| **05** | 259°05.84' | 14.9996° | 221°17.99' | S 15°58.05' | 0.7490' | 104°05.33' | 14.5462° | 16°18.49' | N 4°22.03' | 15.2173' | 57.2742' | 120°23.83' | **05** |
| **06** | 274°05.82' | 14.9996° | 221°20.47' | S 15°58.80' | 0.7485' | 118°38.11' | 14.5462° | 16°48.18' | N 4°37.22' | 15.1882' | 57.2541' | 135°26.29' | **06** |
| **07** | 289°05.79' | 14.9996° | 221°22.96' | S 15°59.54' | 0.7480' | 133°10.88' | 14.5462° | 17°17.88' | N 4°52.38' | 15.1579' | 57.2339' | 150°28.75' | **07** |
| **08** | 304°05.77' | 14.9996° | 221°25.45' | S 16°00.29' | 0.7476' | 147°43.64' | 14.5461° | 17°47.57' | N 5°07.50' | 15.1264' | 57.2137' | 165°31.22' | **08** |
| **09** | 319°05.74' | 14.9996° | 221°27.94' | S 16°01.04' | 0.7471' | 162°16.41' | 14.5460° | 18°17.28' | N 5°22.60' | 15.0938' | 57.1934' | 180°33.68' | **09** |
| **10** | 334°05.72' | 14.9996° | 221°30.43' | S 16°01.79' | 0.7466' | 176°49.16' | 14.5460° | 18°46.98' | N 5°37.66' | 15.0601' | 57.1731' | 195°36.15' | **10** |
| **11** | 349°05.69' | 14.9996° | 221°32.92' | S 16°02.53' | 0.7462' | 191°21.92' | 14.5459° | 19°16.69' | N 5°52.68' | 15.0253' | 57.1527' | 210°38.61' | **11** |
| **12** | 4°05.67' | 14.9996° | 221°35.41' | S 16°03.28' | 0.7457' | 205°54.66' | 14.5457° | 19°46.41' | N 6°07.67' | 14.9893' | 57.1322' | 225°41.07' | **12** |
| **13** | 19°05.64' | 14.9996° | 221°37.90' | S 16°04.02' | 0.7453' | 220°27.40' | 14.5456° | 20°16.14' | N 6°22.63' | 14.9521' | 57.1117' | 240°43.54' | **13** |
| **14** | 34°05.62' | 14.9996° | 221°40.39' | S 16°04.77' | 0.7448' | 235°00.12' | 14.5454° | 20°45.88' | N 6°37.54' | 14.9139' | 57.0912' | 255°46.00' | **14** |
| **15** | 49°05.59' | 14.9996° | 221°42.88' | S 16°05.51' | 0.7443' | 249°32.84' | 14.5453° | 21°15.63' | N 6°52.41' | 14.8745' | 57.0706' | 270°48.47' | **15** |
| **16** | 64°05.56' | 14.9995° | 221°45.37' | S 16°06.26' | 0.7439' | 264°05.54' | 14.5451° | 21°45.39' | N 7°07.25' | 14.8340' | 57.0499' | 285°50.93' | **16** |
| **17** | 79°05.53' | 14.9995° | 221°47.86' | S 16°07.00' | 0.7434' | 278°38.24' | 14.5449° | 22°15.16' | N 7°22.04' | 14.7924' | 57.0292' | 300°53.39' | **17** |
| **18** | 94°05.51' | 14.9995° | 221°50.35' | S 16°07.74' | 0.7429' | 293°10.92' | 14.5447° | 22°44.94' | N 7°36.79' | 14.7496' | 57.0085' | 315°55.86' | **18** |
| **19** | 109°05.48' | 14.9995° | 221°52.85' | S 16°08.48' | 0.7425' | 307°43.58' | 14.5444° | 23°14.74' | N 7°51.50' | 14.7058' | 56.9877' | 330°58.32' | **19** |
| **20** | 124°05.45' | 14.9995° | 221°55.34' | S 16°09.23' | 0.7420' | 322°16.23' | 14.5442° | 23°44.56' | N 8°06.16' | 14.6608' | 56.9668' | 346°00.79' | **20** |
| **21** | 139°05.42' | 14.9995° | 221°57.83' | S 16°09.97' | 0.7415' | 336°48.87' | 14.5439° | 24°14.38' | N 8°20.77' | 14.6147' | 56.9459' | 1°03.25' | **21** |
| **22** | 154°05.39' | 14.9995° | 222°00.32' | S 16°10.71' | 0.7410' | 351°21.48' | 14.5436° | 24°44.23' | N 8°35.34' | 14.5675' | 56.9250' | 16°05.72' | **22** |
| **23** | 169°05.36' | 14.9995° | 222°02.82' | S 16°11.45' | 0.7406' | 5°54.08' | 14.5433° | 25°14.09' | N 8°49.86' | 14.5192' | 56.9040' | 31°08.18' | **23** |
| **24** | 184°05.33' | 14.9995° | 222°05.31' | S 16°12.19' | 0.7401' | 20°26.67' | 14.5430° | 25°43.98' | N 9°04.33' | 14.4698' | 56.8830' | 46°10.64' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.1346' | hp (π) 0.1479' | ½Ø 15.5675' | 95.8503232809038 % +gib | |
| EoT at 12:00 UTC : +16m 22s (δ -0.10 s/h) | | Phase at 12:00 UTC : 156.52° | | |
| Meridian Pass. Time : 11:43:37.330 | | Age : 12.2 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.24') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 180°20.52' | 224°50.99' | S 16°22.30' | 320°19.61' | 84°51.90' | N 24°06.09' | 45°10.57' | 0°00.94' | S 1°40.05' | 83°35.64' | 321°35.86' | S 16°25.53' | **00** |
| **01** | 195°19.87' | 224°54.10' | S 16°23.27' | 335°22.34' | 84°51.63' | N 24°06.20' | 60°13.17' | 0°00.80' | S 1°40.10' | 98°38.05' | 321°35.92' | S 16°25.51' | **01** |
| **02** | 210°19.23' | 224°57.21' | S 16°24.24' | 350°25.06' | 84°51.37' | N 24°06.32' | 75°15.78' | 0°00.65' | S 1°40.15' | 113°40.45' | 321°35.98' | S 16°25.49' | **02** |
| **03** | 225°18.58' | 225°00.31' | S 16°25.20' | 5°27.79' | 84°51.10' | N 24°06.43' | 90°18.39' | 0°00.51' | S 1°40.20' | 128°42.86' | 321°36.04' | S 16°25.47' | **03** |
| **04** | 240°17.94' | 225°03.42' | S 16°26.17' | 20°30.52' | 84°50.84' | N 24°06.54' | 105°20.99' | 0°00.37' | S 1°40.25' | 143°45.26' | 321°36.10' | S 16°25.45' | **04** |
| **05** | 255°17.29' | 225°06.53' | S 16°27.14' | 35°33.26' | 84°50.57' | N 24°06.66' | 120°23.60' | 0°00.23' | S 1°40.30' | 158°47.67' | 321°36.16' | S 16°25.43' | **05** |
| **06** | 270°16.64' | 225°09.65' | S 16°28.10' | 50°35.99' | 84°50.30' | N 24°06.77' | 135°26.20' | 0°00.09' | S 1°40.35' | 173°50.08' | 321°36.21' | S 16°25.41' | **06** |
| **07** | 285°16.00' | 225°12.76' | S 16°29.07' | 65°38.73' | 84°50.03' | N 24°06.89' | 150°28.81' | 359°59.95' | S 1°40.40' | 188°52.48' | 321°36.27' | S 16°25.39' | **07** |
| **08** | 300°15.35' | 225°15.87' | S 16°30.03' | 80°41.47' | 84°49.75' | N 24°07.00' | 165°31.41' | 359°59.81' | S 1°40.45' | 203°54.89' | 321°36.33' | S 16°25.37' | **08** |
| **09** | 315°14.70' | 225°18.98' | S 16°31.00' | 95°44.21' | 84°49.48' | N 24°07.11' | 180°34.02' | 359°59.67' | S 1°40.50' | 218°57.29' | 321°36.39' | S 16°25.34' | **09** |
| **10** | 330°14.05' | 225°22.09' | S 16°31.96' | 110°46.95' | 84°49.20' | N 24°07.23' | 195°36.62' | 359°59.53' | S 1°40.55' | 233°59.70' | 321°36.45' | S 16°25.32' | **10** |
| **11** | 345°13.40' | 225°25.21' | S 16°32.92' | 125°49.69' | 84°48.92' | N 24°07.34' | 210°39.22' | 359°59.39' | S 1°40.60' | 249°02.10' | 321°36.51' | S 16°25.30' | **11** |
| **12** | 0°12.75' | 225°28.32' | S 16°33.88' | 140°52.43' | 84°48.64' | N 24°07.45' | 225°41.83' | 359°59.25' | S 1°40.65' | 264°04.50' | 321°36.57' | S 16°25.28' | **12** |
| **13** | 15°12.10' | 225°31.43' | S 16°34.85' | 155°55.18' | 84°48.36' | N 24°07.57' | 240°44.43' | 359°59.11' | S 1°40.70' | 279°06.91' | 321°36.63' | S 16°25.26' | **13** |
| **14** | 30°11.45' | 225°34.55' | S 16°35.81' | 170°57.93' | 84°48.07' | N 24°07.68' | 255°47.03' | 359°58.97' | S 1°40.75' | 294°09.31' | 321°36.69' | S 16°25.24' | **14** |
| **15** | 45°10.80' | 225°37.66' | S 16°36.77' | 186°00.68' | 84°47.79' | N 24°07.79' | 270°49.64' | 359°58.83' | S 1°40.80' | 309°11.72' | 321°36.75' | S 16°25.21' | **15** |
| **16** | 60°10.15' | 225°40.78' | S 16°37.72' | 201°03.43' | 84°47.50' | N 24°07.90' | 285°52.24' | 359°58.69' | S 1°40.85' | 324°14.12' | 321°36.81' | S 16°25.19' | **16** |
| **17** | 75°09.50' | 225°43.90' | S 16°38.68' | 216°06.18' | 84°47.21' | N 24°08.02' | 300°54.84' | 359°58.56' | S 1°40.90' | 339°16.52' | 321°36.87' | S 16°25.17' | **17** |
| **18** | 90°08.84' | 225°47.01' | S 16°39.64' | 231°08.94' | 84°46.92' | N 24°08.13' | 315°57.44' | 359°58.42' | S 1°40.95' | 354°18.93' | 321°36.93' | S 16°25.15' | **18** |
| **19** | 105°08.19' | 225°50.13' | S 16°40.60' | 246°11.69' | 84°46.63' | N 24°08.24' | 331°00.04' | 359°58.28' | S 1°40.99' | 9°21.33' | 321°36.99' | S 16°25.13' | **19** |
| **20** | 120°07.54' | 225°53.25' | S 16°41.55' | 261°14.45' | 84°46.34' | N 24°08.36' | 346°02.64' | 359°58.14' | S 1°41.04' | 24°23.73' | 321°37.05' | S 16°25.11' | **20** |
| **21** | 135°06.88' | 225°56.37' | S 16°42.51' | 276°17.21' | 84°46.04' | N 24°08.47' | 1°05.24' | 359°58.01' | S 1°41.09' | 39°26.14' | 321°37.11' | S 16°25.08' | **21** |
| **22** | 150°06.23' | 225°59.49' | S 16°43.46' | 291°19.97' | 84°45.74' | N 24°08.58' | 16°07.84' | 359°57.87' | S 1°41.14' | 54°28.54' | 321°37.18' | S 16°25.06' | **22** |
| **23** | 165°05.57' | 226°02.61' | S 16°44.41' | 306°22.73' | 84°45.45' | N 24°08.70' | 31°10.44' | 359°57.73' | S 1°41.19' | 69°30.94' | 321°37.24' | S 16°25.04' | **23** |
| **24** | 180°04.92' | 226°05.73' | S 16°45.37' | 321°25.50' | 84°45.14' | N 24°08.81' | 46°13.04' | 359°57.60' | S 1°41.24' | 84°33.34' | 321°37.30' | S 16°25.02' | **24** |
| | δ 14.9893° | | *d* 0.9698' | δ 15.0454° | | *d* 0.1135' | δ 15.0434° | | *d* 0.0511' | δ 15.0401° | | *d* 0.0209' | |

## *Monday, November 7th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 184°05.33' | 14.9995° | 222°05.31' | S 16°12.19' | 0.7401' | 20°26.67' | 14.5430° | 25°43.98' | N 9°04.33' | 14.4698' | 56.8830' | 46°10.64' | **00** |
| **01** | 199°05.30' | 14.9995° | 222°07.81' | S 16°12.93' | 0.7396' | 34°59.23' | 14.5427° | 26°13.88' | N 9°18.75' | 14.4193' | 56.8619' | 61°13.11' | **01** |
| **02** | 214°05.27' | 14.9995° | 222°10.30' | S 16°13.67' | 0.7392' | 49°31.77' | 14.5424° | 26°43.80' | N 9°33.11' | 14.3677' | 56.8408' | 76°15.57' | **02** |
| **03** | 229°05.24' | 14.9995° | 222°12.80' | S 16°14.41' | 0.7387' | 64°04.29' | 14.5420° | 27°13.74' | N 9°47.43' | 14.3151' | 56.8197' | 91°18.04' | **03** |
| **04** | 244°05.21' | 14.9995° | 222°15.29' | S 16°15.15' | 0.7382' | 78°36.79' | 14.5417° | 27°43.71' | N 10°01.69' | 14.2613' | 56.7985' | 106°20.50' | **04** |
| **05** | 259°05.18' | 14.9995° | 222°17.79' | S 16°15.88' | 0.7377' | 93°09.27' | 14.5413° | 28°13.70' | N 10°15.90' | 14.2064' | 56.7773' | 121°22.96' | **05** |
| **06** | 274°05.14' | 14.9995° | 222°20.28' | S 16°16.62' | 0.7373' | 107°41.72' | 14.5409° | 28°43.71' | N 10°30.05' | 14.1505' | 56.7560' | 136°25.43' | **06** |
| **07** | 289°05.11' | 14.9995° | 222°22.78' | S 16°17.36' | 0.7368' | 122°14.15' | 14.5405° | 29°13.74' | N 10°44.14' | 14.0934' | 56.7347' | 151°27.89' | **07** |
| **08** | 304°05.08' | 14.9995° | 222°25.28' | S 16°18.09' | 0.7363' | 136°46.55' | 14.5400° | 29°43.80' | N 10°58.18' | 14.0353' | 56.7134' | 166°30.36' | **08** |
| **09** | 319°05.04' | 14.9994° | 222°27.78' | S 16°18.83' | 0.7359' | 151°18.93' | 14.5396° | 30°13.89' | N 11°12.15' | 13.9762' | 56.6921' | 181°32.82' | **09** |
| **10** | 334°05.01' | 14.9994° | 222°30.27' | S 16°19.57' | 0.7354' | 165°51.28' | 14.5392° | 30°44.01' | N 11°26.07' | 13.9159' | 56.6707' | 196°35.28' | **10** |
| **11** | 349°04.98' | 14.9994° | 222°32.77' | S 16°20.30' | 0.7349' | 180°23.60' | 14.5387° | 31°14.15' | N 11°39.92' | 13.8546' | 56.6493' | 211°37.75' | **11** |
| **12** | 4°04.94' | 14.9994° | 222°35.27' | S 16°21.03' | 0.7344' | 194°55.89' | 14.5382° | 31°44.32' | N 11°53.72' | 13.7922' | 56.6278' | 226°40.21' | **12** |
| **13** | 19°04.91' | 14.9994° | 222°37.77' | S 16°21.77' | 0.7340' | 209°28.16' | 14.5378° | 32°14.52' | N 12°07.44' | 13.7287' | 56.6064' | 241°42.68' | **13** |
| **14** | 34°04.87' | 14.9994° | 222°40.27' | S 16°22.50' | 0.7335' | 224°00.40' | 14.5373° | 32°44.74' | N 12°21.11' | 13.6642' | 56.5849' | 256°45.14' | **14** |
| **15** | 49°04.84' | 14.9994° | 222°42.77' | S 16°23.23' | 0.7330' | 238°32.60' | 14.5368° | 33°15.00' | N 12°34.71' | 13.5986' | 56.5634' | 271°47.60' | **15** |
| **16** | 64°04.80' | 14.9994° | 222°45.27' | S 16°23.97' | 0.7325' | 253°04.77' | 14.5362° | 33°45.29' | N 12°48.24' | 13.5320' | 56.5418' | 286°50.07' | **16** |
| **17** | 79°04.77' | 14.9994° | 222°47.77' | S 16°24.70' | 0.7320' | 267°36.92' | 14.5357° | 34°15.62' | N 13°01.70' | 13.4643' | 56.5203' | 301°52.53' | **17** |
| **18** | 94°04.73' | 14.9994° | 222°50.27' | S 16°25.43' | 0.7316' | 282°09.03' | 14.5352° | 34°45.97' | N 13°15.10' | 13.3956' | 56.4987' | 316°55.00' | **18** |
| **19** | 109°04.69' | 14.9994° | 222°52.77' | S 16°26.16' | 0.7311' | 296°41.10' | 14.5346° | 35°16.36' | N 13°28.42' | 13.3258' | 56.4771' | 331°57.46' | **19** |
| **20** | 124°04.65' | 14.9994° | 222°55.27' | S 16°26.89' | 0.7306' | 311°13.15' | 14.5340° | 35°46.78' | N 13°41.68' | 13.2550' | 56.4554' | 346°59.92' | **20** |
| **21** | 139°04.62' | 14.9994° | 222°57.77' | S 16°27.62' | 0.7301' | 325°45.15' | 14.5335° | 36°17.23' | N 13°54.86' | 13.1831' | 56.4338' | 2°02.39' | **21** |
| **22** | 154°04.58' | 14.9994° | 223°00.27' | S 16°28.35' | 0.7296' | 340°17.13' | 14.5329° | 36°47.73' | N 14°07.97' | 13.1102' | 56.4122' | 17°04.85' | **22** |
| **23** | 169°04.54' | 14.9994° | 223°02.78' | S 16°29.08' | 0.7292' | 354°49.07' | 14.5323° | 37°18.25' | N 14°21.01' | 13.0363' | 56.3905' | 32°07.32' | **23** |
| **24** | 184°04.50' | 14.9994° | 223°05.28' | S 16°29.81' | 0.7287' | 9°20.97' | 14.5317° | 37°48.81' | N 14°33.97' | 12.9614' | 56.3688' | 47°09.78' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1387' | hp (π) 0.1479' | ½Ø 15.4301' | 99.0148700512407 2% +gib |
| | EoT at 12:00 UTC : +16m 19s (δ -0.14 s/h) | | Phase at 12:00 UTC : 168.61° | |
| | Meridian Pass. Time : 11:43:40.229 | | Age : 13.1 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.25') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 180°04.92' | 226°05.73' | S 16°45.37' | 321°25.50' | 84°45.14' | N 24°08.81' | 46°13.04' | 359°57.60' | S 1°41.24' | 84°33.34' | 321°37.30' | S 16°25.02' | **00** |
| **01** | 195°04.26' | 226°08.85' | S 16°46.32' | 336°28.27' | 84°44.84' | N 24°08.92' | 61°15.64' | 359°57.46' | S 1°41.28' | 99°35.75' | 321°37.36' | S 16°24.99' | **01** |
| **02** | 210°03.60' | 226°11.97' | S 16°47.27' | 351°31.03' | 84°44.54' | N 24°09.04' | 76°18.24' | 359°57.33' | S 1°41.33' | 114°38.15' | 321°37.42' | S 16°24.97' | **02** |
| **03** | 225°02.95' | 226°15.09' | S 16°48.22' | 6°33.80' | 84°44.23' | N 24°09.15' | 91°20.84' | 359°57.19' | S 1°41.38' | 129°40.55' | 321°37.49' | S 16°24.95' | **03** |
| **04** | 240°02.29' | 226°18.21' | S 16°49.17' | 21°36.57' | 84°43.93' | N 24°09.26' | 106°23.44' | 359°57.06' | S 1°41.43' | 144°42.95' | 321°37.55' | S 16°24.93' | **04** |
| **05** | 255°01.63' | 226°21.33' | S 16°50.12' | 36°39.35' | 84°43.62' | N 24°09.37' | 121°26.04' | 359°56.93' | S 1°41.47' | 159°45.35' | 321°37.61' | S 16°24.91' | **05** |
| **06** | 270°00.97' | 226°24.46' | S 16°51.06' | 51°42.12' | 84°43.31' | N 24°09.49' | 136°28.64' | 359°56.79' | S 1°41.52' | 174°47.75' | 321°37.67' | S 16°24.88' | **06** |
| **07** | 285°00.31' | 226°27.58' | S 16°52.01' | 66°44.90' | 84°42.99' | N 24°09.60' | 151°31.23' | 359°56.66' | S 1°41.57' | 189°50.15' | 321°37.74' | S 16°24.86' | **07** |
| **08** | 299°59.65' | 226°30.71' | S 16°52.96' | 81°47.68' | 84°42.68' | N 24°09.71' | 166°33.83' | 359°56.52' | S 1°41.61' | 204°52.56' | 321°37.80' | S 16°24.84' | **08** |
| **09** | 314°58.99' | 226°33.83' | S 16°53.90' | 96°50.46' | 84°42.36' | N 24°09.83' | 181°36.43' | 359°56.39' | S 1°41.66' | 219°54.96' | 321°37.86' | S 16°24.81' | **09** |
| **10** | 329°58.33' | 226°36.96' | S 16°54.85' | 111°53.24' | 84°42.05' | N 24°09.94' | 196°39.02' | 359°56.26' | S 1°41.71' | 234°57.36' | 321°37.93' | S 16°24.79' | **10** |
| **11** | 344°57.67' | 226°40.08' | S 16°55.79' | 126°56.02' | 84°41.73' | N 24°10.05' | 211°41.62' | 359°56.13' | S 1°41.75' | 249°59.76' | 321°37.99' | S 16°24.77' | **11** |
| **12** | 359°57.00' | 226°43.21' | S 16°56.74' | 141°58.81' | 84°41.41' | N 24°10.16' | 226°44.22' | 359°56.00' | S 1°41.80' | 265°02.16' | 321°38.05' | S 16°24.75' | **12** |
| **13** | 14°56.34' | 226°46.33' | S 16°57.68' | 157°01.59' | 84°41.08' | N 24°10.28' | 241°46.81' | 359°55.86' | S 1°41.85' | 280°04.56' | 321°38.12' | S 16°24.72' | **13** |
| **14** | 29°55.68' | 226°49.46' | S 16°58.62' | 172°04.38' | 84°40.76' | N 24°10.39' | 256°49.41' | 359°55.73' | S 1°41.89' | 295°06.96' | 321°38.18' | S 16°24.70' | **14** |
| **15** | 44°55.01' | 226°52.59' | S 16°59.56' | 187°07.17' | 84°40.43' | N 24°10.50' | 271°52.00' | 359°55.60' | S 1°41.94' | 310°09.36' | 321°38.25' | S 16°24.68' | **15** |
| **16** | 59°54.35' | 226°55.72' | S 17°00.50' | 202°09.96' | 84°40.11' | N 24°10.62' | 286°54.60' | 359°55.47' | S 1°41.98' | 325°11.76' | 321°38.31' | S 16°24.65' | **16** |
| **17** | 74°53.68' | 226°58.85' | S 17°01.44' | 217°12.76' | 84°39.78' | N 24°10.73' | 301°57.19' | 359°55.34' | S 1°42.03' | 340°14.16' | 321°38.38' | S 16°24.63' | **17** |
| **18** | 89°53.02' | 227°01.98' | S 17°02.38' | 232°15.55' | 84°39.45' | N 24°10.84' | 316°59.79' | 359°55.21' | S 1°42.07' | 355°16.56' | 321°38.44' | S 16°24.61' | **18** |
| **19** | 104°52.35' | 227°05.11' | S 17°03.32' | 247°18.35' | 84°39.11' | N 24°10.95' | 332°02.38' | 359°55.08' | S 1°42.12' | 10°18.95' | 321°38.51' | S 16°24.58' | **19** |
| **20** | 119°51.69' | 227°08.24' | S 17°04.26' | 262°21.14' | 84°38.78' | N 24°11.07' | 347°04.97' | 359°54.95' | S 1°42.16' | 25°21.35' | 321°38.57' | S 16°24.56' | **20** |
| **21** | 134°51.02' | 227°11.37' | S 17°05.19' | 277°23.94' | 84°38.44' | N 24°11.18' | 2°07.57' | 359°54.82' | S 1°42.21' | 40°23.75' | 321°38.64' | S 16°24.54' | **21** |
| **22** | 149°50.35' | 227°14.50' | S 17°06.13' | 292°26.75' | 84°38.11' | N 24°11.29' | 17°10.16' | 359°54.69' | S 1°42.25' | 55°26.15' | 321°38.70' | S 16°24.51' | **22** |
| **23** | 164°49.68' | 227°17.63' | S 17°07.06' | 307°29.55' | 84°37.77' | N 24°11.40' | 32°12.75' | 359°54.56' | S 1°42.30' | 70°28.55' | 321°38.77' | S 16°24.49' | **23** |
| **24** | 179°49.02' | 227°20.77' | S 17°08.00' | 322°32.35' | 84°37.43' | N 24°11.52' | 47°15.35' | 359°54.44' | S 1°42.34' | 85°30.95' | 321°38.83' | S 16°24.47' | **24** |
| | δ 14.9891° | | *d* 0.9518' | δ 15.0461° | | *d* 0.1130' | δ 15.0433° | | *d* 0.0478' | δ 15.0400° | | *d* 0.0223' | |

## *Tuesday, November 8th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 184°04.50' | 14.9994° | 223°05.28' | S 16°29.81' | 0.7287' | 9°20.97' | 14.5317° | 37°48.81' | N 14°33.97' | 12.9614' | 56.3688' | 47°09.78' | **00** |
| **01** | 199°04.46' | 14.9993° | 223°07.78' | S 16°30.54' | 0.7282' | 23°52.83' | 14.5311° | 38°19.41' | N 14°46.86' | 12.8854' | 56.3472' | 62°12.25' | **01** |
| **02** | 214°04.42' | 14.9993° | 223°10.29' | S 16°31.27' | 0.7277' | 38°24.66' | 14.5305° | 38°50.05' | N 14°59.66' | 12.8084' | 56.3255' | 77°14.71' | **02** |
| **03** | 229°04.38' | 14.9993° | 223°12.79' | S 16°31.99' | 0.7272' | 52°56.45' | 14.5298° | 39°20.72' | N 15°12.39' | 12.7304' | 56.3038' | 92°17.17' | **03** |
| **04** | 244°04.34' | 14.9993° | 223°15.29' | S 16°32.72' | 0.7268' | 67°28.20' | 14.5292° | 39°51.44' | N 15°25.05' | 12.6514' | 56.2821' | 107°19.64' | **04** |
| **05** | 259°04.30' | 14.9993° | 223°17.80' | S 16°33.45' | 0.7263' | 81°59.92' | 14.5285° | 40°22.19' | N 15°37.62' | 12.5713' | 56.2604' | 122°22.10' | **05** |
| **06** | 274°04.26' | 14.9993° | 223°20.30' | S 16°34.17' | 0.7258' | 96°31.59' | 14.5279° | 40°52.98' | N 15°50.11' | 12.4903' | 56.2387' | 137°24.57' | **06** |
| **07** | 289°04.22' | 14.9993° | 223°22.81' | S 16°34.90' | 0.7253' | 111°03.22' | 14.5272° | 41°23.81' | N 16°02.52' | 12.4083' | 56.2170' | 152°27.03' | **07** |
| **08** | 304°04.18' | 14.9993° | 223°25.32' | S 16°35.62' | 0.7248' | 125°34.82' | 14.5266° | 41°54.68' | N 16°14.84' | 12.3253' | 56.1953' | 167°29.49' | **08** |
| **09** | 319°04.14' | 14.9993° | 223°27.82' | S 16°36.35' | 0.7243' | 140°06.37' | 14.5259° | 42°25.59' | N 16°27.08' | 12.2413' | 56.1736' | 182°31.96' | **09** |
| **10** | 334°04.09' | 14.9993° | 223°30.33' | S 16°37.07' | 0.7239' | 154°37.88' | 14.5252° | 42°56.54' | N 16°39.24' | 12.1563' | 56.1519' | 197°34.42' | **10** |
| **11** | 349°04.05' | 14.9993° | 223°32.83' | S 16°37.79' | 0.7234' | 169°09.35' | 14.5245° | 43°27.53' | N 16°51.31' | 12.0703' | 56.1302' | 212°36.89' | **11** |
| **12** | 4°04.01' | 14.9993° | 223°35.34' | S 16°38.52' | 0.7229' | 183°40.78' | 14.5238° | 43°58.57' | N 17°03.29' | 11.9833' | 56.1085' | 227°39.35' | **12** |
| **13** | 19°03.97' | 14.9993° | 223°37.85' | S 16°39.24' | 0.7224' | 198°12.17' | 14.5231° | 44°29.65' | N 17°15.19' | 11.8954' | 56.0869' | 242°41.81' | **13** |
| **14** | 34°03.92' | 14.9993° | 223°40.36' | S 16°39.96' | 0.7219' | 212°43.51' | 14.5224° | 45°00.77' | N 17°26.99' | 11.8065' | 56.0652' | 257°44.28' | **14** |
| **15** | 49°03.88' | 14.9993° | 223°42.87' | S 16°40.68' | 0.7214' | 227°14.81' | 14.5217° | 45°31.93' | N 17°38.71' | 11.7167' | 56.0436' | 272°46.74' | **15** |
| **16** | 64°03.83' | 14.9993° | 223°45.37' | S 16°41.40' | 0.7209' | 241°46.07' | 14.5210° | 46°03.14' | N 17°50.34' | 11.6258' | 56.0220' | 287°49.21' | **16** |
| **17** | 79°03.79' | 14.9993° | 223°47.88' | S 16°42.12' | 0.7204' | 256°17.29' | 14.5203° | 46°34.38' | N 18°01.87' | 11.5341' | 56.0004' | 302°51.67' | **17** |
| **18** | 94°03.74' | 14.9992° | 223°50.39' | S 16°42.84' | 0.7200' | 270°48.46' | 14.5195° | 47°05.68' | N 18°13.31' | 11.4414' | 55.9788' | 317°54.14' | **18** |
| **19** | 109°03.70' | 14.9992° | 223°52.90' | S 16°43.56' | 0.7195' | 285°19.59' | 14.5188° | 47°37.01' | N 18°24.66' | 11.3478' | 55.9573' | 332°56.60' | **19** |
| **20** | 124°03.65' | 14.9992° | 223°55.41' | S 16°44.28' | 0.7190' | 299°50.67' | 14.5181° | 48°08.39' | N 18°35.91' | 11.2532' | 55.9358' | 347°59.06' | **20** |
| **21** | 139°03.60' | 14.9992° | 223°57.92' | S 16°45.00' | 0.7185' | 314°21.71' | 14.5173° | 48°39.82' | N 18°47.07' | 11.1577' | 55.9143' | 3°01.53' | **21** |
| **22** | 154°03.56' | 14.9992° | 224°00.43' | S 16°45.72' | 0.7180' | 328°52.70' | 14.5166° | 49°11.29' | N 18°58.13' | 11.0613' | 55.8928' | 18°03.99' | **22** |
| **23** | 169°03.51' | 14.9992° | 224°02.95' | S 16°46.44' | 0.7175' | 343°23.65' | 14.5158° | 49°42.80' | N 19°09.10' | 10.9639' | 55.8714' | 33°06.46' | **23** |
| **24** | 184°03.46' | 14.9992° | 224°05.46' | S 16°47.15' | 0.7170' | 357°54.56' | 14.5151° | 50°14.36' | N 19°19.96' | 10.8657' | 55.8500' | 48°08.92' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.1426' | hp (π) 0.1479' | ½Ø 15.2886' | 99.9976684267124<br>2% Full | |
| EoT at 12:00 UTC : +16m 16s (δ -0.17 s/h) | | Phase at 12:00 UTC : 180.47° | | |
| Meridian Pass. Time : 11:43:43.964 | | Age : 14.0 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.25') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 179°49.02' | 227°20.77' | S 17°08.00' | 322°32.35' | 84°37.43' | N 24°11.52' | 47°15.35' | 359°54.44' | S 1°42.34' | 85°30.95' | 321°38.83' | S 16°24.47' | **00** |
| **01** | 194°48.35' | 227°23.90' | S 17°08.93' | 337°35.16' | 84°37.08' | N 24°11.63' | 62°17.94' | 359°54.31' | S 1°42.39' | 100°33.35' | 321°38.90' | S 16°24.44' | **01** |
| **02** | 209°47.68' | 227°27.03' | S 17°09.86' | 352°37.97' | 84°36.74' | N 24°11.74' | 77°20.53' | 359°54.18' | S 1°42.43' | 115°35.74' | 321°38.97' | S 16°24.42' | **02** |
| **03** | 224°47.01' | 227°30.17' | S 17°10.79' | 7°40.78' | 84°36.39' | N 24°11.85' | 92°23.12' | 359°54.05' | S 1°42.48' | 130°38.14' | 321°39.03' | S 16°24.40' | **03** |
| **04** | 239°46.34' | 227°33.30' | S 17°11.72' | 22°43.59' | 84°36.05' | N 24°11.97' | 107°25.71' | 359°53.92' | S 1°42.52' | 145°40.54' | 321°39.10' | S 16°24.37' | **04** |
| **05** | 254°45.66' | 227°36.44' | S 17°12.65' | 37°46.40' | 84°35.70' | N 24°12.08' | 122°28.30' | 359°53.80' | S 1°42.56' | 160°42.94' | 321°39.17' | S 16°24.35' | **05** |
| **06** | 269°44.99' | 227°39.57' | S 17°13.58' | 52°49.22' | 84°35.35' | N 24°12.19' | 137°30.89' | 359°53.67' | S 1°42.61' | 175°45.33' | 321°39.23' | S 16°24.33' | **06** |
| **07** | 284°44.32' | 227°42.71' | S 17°14.51' | 67°52.04' | 84°34.99' | N 24°12.30' | 152°33.48' | 359°53.55' | S 1°42.65' | 190°47.73' | 321°39.30' | S 16°24.30' | **07** |
| **08** | 299°43.65' | 227°45.85' | S 17°15.44' | 82°54.86' | 84°34.64' | N 24°12.41' | 167°36.07' | 359°53.42' | S 1°42.69' | 205°50.13' | 321°39.37' | S 16°24.28' | **08** |
| **09** | 314°42.97' | 227°48.98' | S 17°16.37' | 97°57.68' | 84°34.28' | N 24°12.53' | 182°38.66' | 359°53.29' | S 1°42.74' | 220°52.52' | 321°39.44' | S 16°24.25' | **09** |
| **10** | 329°42.30' | 227°52.12' | S 17°17.29' | 113°00.50' | 84°33.93' | N 24°12.64' | 197°41.25' | 359°53.17' | S 1°42.78' | 235°54.92' | 321°39.50' | S 16°24.23' | **10** |
| **11** | 344°41.63' | 227°55.26' | S 17°18.22' | 128°03.32' | 84°33.57' | N 24°12.75' | 212°43.84' | 359°53.04' | S 1°42.82' | 250°57.32' | 321°39.57' | S 16°24.21' | **11** |
| **12** | 359°40.95' | 227°58.40' | S 17°19.14' | 143°06.15' | 84°33.21' | N 24°12.86' | 227°46.43' | 359°52.92' | S 1°42.87' | 265°59.71' | 321°39.64' | S 16°24.18' | **12** |
| **13** | 14°40.28' | 228°01.54' | S 17°20.07' | 158°08.97' | 84°32.84' | N 24°12.98' | 242°49.02' | 359°52.79' | S 1°42.91' | 281°02.11' | 321°39.71' | S 16°24.16' | **13** |
| **14** | 29°39.60' | 228°04.68' | S 17°20.99' | 173°11.80' | 84°32.48' | N 24°13.09' | 257°51.61' | 359°52.67' | S 1°42.95' | 296°04.50' | 321°39.78' | S 16°24.13' | **14** |
| **15** | 44°38.92' | 228°07.82' | S 17°21.91' | 188°14.63' | 84°32.11' | N 24°13.20' | 272°54.20' | 359°52.55' | S 1°42.99' | 311°06.90' | 321°39.84' | S 16°24.11' | **15** |
| **16** | 59°38.25' | 228°10.96' | S 17°22.83' | 203°17.46' | 84°31.74' | N 24°13.31' | 287°56.78' | 359°52.42' | S 1°43.04' | 326°09.29' | 321°39.91' | S 16°24.08' | **16** |
| **17** | 74°37.57' | 228°14.10' | S 17°23.75' | 218°20.30' | 84°31.38' | N 24°13.42' | 302°59.37' | 359°52.30' | S 1°43.08' | 341°11.69' | 321°39.98' | S 16°24.06' | **17** |
| **18** | 89°36.89' | 228°17.25' | S 17°24.67' | 233°23.13' | 84°31.00' | N 24°13.54' | 318°01.96' | 359°52.18' | S 1°43.12' | 356°14.08' | 321°40.05' | S 16°24.04' | **18** |
| **19** | 104°36.21' | 228°20.39' | S 17°25.59' | 248°25.97' | 84°30.63' | N 24°13.65' | 333°04.54' | 359°52.06' | S 1°43.16' | 11°16.48' | 321°40.12' | S 16°24.01' | **19** |
| **20** | 119°35.53' | 228°23.53' | S 17°26.51' | 263°28.81' | 84°30.26' | N 24°13.76' | 348°07.13' | 359°51.93' | S 1°43.21' | 26°18.87' | 321°40.19' | S 16°23.99' | **20** |
| **21** | 134°34.85' | 228°26.68' | S 17°27.43' | 278°31.65' | 84°29.88' | N 24°13.87' | 3°09.72' | 359°51.81' | S 1°43.25' | 41°21.27' | 321°40.26' | S 16°23.96' | **21** |
| **22** | 149°34.17' | 228°29.82' | S 17°28.35' | 293°34.49' | 84°29.50' | N 24°13.98' | 18°12.30' | 359°51.69' | S 1°43.29' | 56°23.66' | 321°40.33' | S 16°23.94' | **22** |
| **23** | 164°33.49' | 228°32.96' | S 17°29.26' | 308°37.33' | 84°29.12' | N 24°14.09' | 33°14.89' | 359°51.57' | S 1°43.33' | 71°26.06' | 321°40.40' | S 16°23.91' | **23** |
| **24** | 179°32.81' | 228°36.11' | S 17°30.18' | 323°40.18' | 84°28.74' | N 24°14.21' | 48°17.47' | 359°51.45' | S 1°43.37' | 86°28.45' | 321°40.47' | S 16°23.89' | **24** |
| | δ 14.9888° | | *d* 0.9333' | δ 15.0468° | | *d* 0.1124' | δ 15.0432° | | *d* 0.0444' | δ 15.0400° | | *d* 0.0236' | |

## *Wednesday, November 9th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 184°03.46' | 14.9992° | 224°05.46' | S 16°47.15' | 0.7170' | 357°54.56' | 14.5151° | 50°14.36' | N 19°19.96' | 10.8657' | 55.8500' | 48°08.92' | **00** |
| **01** | 199°03.42' | 14.9992° | 224°07.97' | S 16°47.87' | 0.7165' | 12°25.42' | 14.5143° | 50°45.97' | N 19°30.73' | 10.7665' | 55.8286' | 63°11.38' | **01** |
| **02** | 214°03.37' | 14.9992° | 224°10.48' | S 16°48.59' | 0.7160' | 26°56.23' | 14.5136° | 51°17.62' | N 19°41.39' | 10.6665' | 55.8072' | 78°13.85' | **02** |
| **03** | 229°03.32' | 14.9992° | 224°12.99' | S 16°49.30' | 0.7155' | 41°27.00' | 14.5128° | 51°49.31' | N 19°51.96' | 10.5656' | 55.7860' | 93°16.31' | **03** |
| **04** | 244°03.27' | 14.9992° | 224°15.51' | S 16°50.02' | 0.7150' | 55°57.73' | 14.5121° | 52°21.05' | N 20°02.42' | 10.4638' | 55.7647' | 108°18.78' | **04** |
| **05** | 259°03.22' | 14.9992° | 224°18.02' | S 16°50.73' | 0.7145' | 70°28.41' | 14.5113° | 52°52.83' | N 20°12.78' | 10.3611' | 55.7435' | 123°21.24' | **05** |
| **06** | 274°03.17' | 14.9992° | 224°20.53' | S 16°51.45' | 0.7141' | 84°59.04' | 14.5106° | 53°24.66' | N 20°23.04' | 10.2575' | 55.7223' | 138°23.71' | **06** |
| **07** | 289°03.12' | 14.9992° | 224°23.05' | S 16°52.16' | 0.7136' | 99°29.63' | 14.5098° | 53°56.54' | N 20°33.20' | 10.1531' | 55.7012' | 153°26.17' | **07** |
| **08** | 304°03.07' | 14.9992° | 224°25.56' | S 16°52.87' | 0.7131' | 114°00.18' | 14.5091° | 54°28.46' | N 20°43.24' | 10.0479' | 55.6801' | 168°28.63' | **08** |
| **09** | 319°03.02' | 14.9992° | 224°28.08' | S 16°53.58' | 0.7126' | 128°30.67' | 14.5083° | 55°00.42' | N 20°53.19' | 9.9418' | 55.6591' | 183°31.10' | **09** |
| **10** | 334°02.97' | 14.9991° | 224°30.59' | S 16°54.30' | 0.7121' | 143°01.13' | 14.5076° | 55°32.43' | N 21°03.02' | 9.8348' | 55.6381' | 198°33.56' | **10** |
| **11** | 349°02.92' | 14.9991° | 224°33.11' | S 16°55.01' | 0.7116' | 157°31.54' | 14.5068° | 56°04.49' | N 21°12.75' | 9.7271' | 55.6172' | 213°36.03' | **11** |
| **12** | 4°02.86' | 14.9991° | 224°35.63' | S 16°55.72' | 0.7111' | 172°01.90' | 14.5061° | 56°36.59' | N 21°22.37' | 9.6185' | 55.5964' | 228°38.49' | **12** |
| **13** | 19°02.81' | 14.9991° | 224°38.14' | S 16°56.43' | 0.7106' | 186°32.22' | 14.5053° | 57°08.73' | N 21°31.87' | 9.5091' | 55.5756' | 243°40.95' | **13** |
| **14** | 34°02.76' | 14.9991° | 224°40.66' | S 16°57.14' | 0.7101' | 201°02.49' | 14.5046° | 57°40.92' | N 21°41.27' | 9.3989' | 55.5549' | 258°43.42' | **14** |
| **15** | 49°02.71' | 14.9991° | 224°43.18' | S 16°57.85' | 0.7096' | 215°32.73' | 14.5038° | 58°13.16' | N 21°50.56' | 9.2879' | 55.5342' | 273°45.88' | **15** |
| **16** | 64°02.65' | 14.9991° | 224°45.69' | S 16°58.56' | 0.7091' | 230°02.91' | 14.5031° | 58°45.44' | N 21°59.74' | 9.1761' | 55.5136' | 288°48.35' | **16** |
| **17** | 79°02.60' | 14.9991° | 224°48.21' | S 16°59.27' | 0.7086' | 244°33.05' | 14.5024° | 59°17.76' | N 22°08.80' | 9.0636' | 55.4931' | 303°50.81' | **17** |
| **18** | 94°02.54' | 14.9991° | 224°50.73' | S 16°59.97' | 0.7081' | 259°03.15' | 14.5016° | 59°50.12' | N 22°17.75' | 8.9502' | 55.4726' | 318°53.27' | **18** |
| **19** | 109°02.49' | 14.9991° | 224°53.25' | S 17°00.68' | 0.7076' | 273°33.21' | 14.5009° | 60°22.53' | N 22°26.59' | 8.8362' | 55.4522' | 333°55.74' | **19** |
| **20** | 124°02.44' | 14.9991° | 224°55.77' | S 17°01.39' | 0.7071' | 288°03.22' | 14.5002° | 60°54.98' | N 22°35.31' | 8.7213' | 55.4319' | 348°58.20' | **20** |
| **21** | 139°02.38' | 14.9991° | 224°58.29' | S 17°02.10' | 0.7066' | 302°33.19' | 14.4995° | 61°27.48' | N 22°43.91' | 8.6058' | 55.4117' | 4°00.67' | **21** |
| **22** | 154°02.32' | 14.9991° | 225°00.81' | S 17°02.80' | 0.7061' | 317°03.11' | 14.4988° | 62°00.02' | N 22°52.40' | 8.4895' | 55.3915' | 19°03.13' | **22** |
| **23** | 169°02.27' | 14.9991° | 225°03.33' | S 17°03.51' | 0.7056' | 331°33.00' | 14.4981° | 62°32.60' | N 23°00.78' | 8.3725' | 55.3715' | 34°05.60' | **23** |
| **24** | 184°02.21' | 14.9991° | 225°05.85' | S 17°04.21' | 0.7051' | 346°02.84' | 14.4974° | 63°05.22' | N 23°09.03' | 8.2548' | 55.3515' | 49°08.06' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.1465' | hp (π) 0.1480' | ½Ø 15.1490' | 98.8795876724551 % -gib | |
| EoT at 12:00 UTC : +16m 11s (δ -0.21 s/h) | | Phase at 12:00 UTC : 192.10° | | |
| Meridian Pass. Time : 11:43:48.543 | | Age : 14.9 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.25') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 179°32.81' | 228°36.11' | S 17°30.18' | 323°40.18' | 84°28.74' | N 24°14.21' | 48°17.47' | 359°51.45' | S 1°43.37' | 86°28.45' | 321°40.47' | S 16°23.89' | **00** |
| **01** | 194°32.13' | 228°39.26' | S 17°31.09' | 338°43.02' | 84°28.36' | N 24°14.32' | 63°20.06' | 359°51.33' | S 1°43.41' | 101°30.85' | 321°40.54' | S 16°23.86' | **01** |
| **02** | 209°31.45' | 228°42.40' | S 17°32.00' | 353°45.87' | 84°27.98' | N 24°14.43' | 78°22.64' | 359°51.21' | S 1°43.45' | 116°33.24' | 321°40.61' | S 16°23.84' | **02** |
| **03** | 224°30.76' | 228°45.55' | S 17°32.92' | 8°48.72' | 84°27.59' | N 24°14.54' | 93°25.23' | 359°51.09' | S 1°43.49' | 131°35.63' | 321°40.68' | S 16°23.81' | **03** |
| **04** | 239°30.08' | 228°48.70' | S 17°33.83' | 23°51.58' | 84°27.20' | N 24°14.65' | 108°27.81' | 359°50.97' | S 1°43.53' | 146°38.03' | 321°40.75' | S 16°23.79' | **04** |
| **05** | 254°29.40' | 228°51.85' | S 17°34.74' | 38°54.43' | 84°26.81' | N 24°14.76' | 123°30.39' | 359°50.85' | S 1°43.57' | 161°40.42' | 321°40.82' | S 16°23.76' | **05** |
| **06** | 269°28.71' | 228°54.99' | S 17°35.65' | 53°57.28' | 84°26.42' | N 24°14.88' | 138°32.98' | 359°50.73' | S 1°43.62' | 176°42.81' | 321°40.89' | S 16°23.74' | **06** |
| **07** | 284°28.03' | 228°58.14' | S 17°36.56' | 69°00.14' | 84°26.03' | N 24°14.99' | 153°35.56' | 359°50.61' | S 1°43.66' | 191°45.21' | 321°40.96' | S 16°23.71' | **07** |
| **08** | 299°27.34' | 229°01.29' | S 17°37.47' | 84°03.00' | 84°25.63' | N 24°15.10' | 168°38.14' | 359°50.49' | S 1°43.70' | 206°47.60' | 321°41.04' | S 16°23.69' | **08** |
| **09** | 314°26.65' | 229°04.44' | S 17°38.37' | 99°05.86' | 84°25.24' | N 24°15.21' | 183°40.72' | 359°50.37' | S 1°43.74' | 221°49.99' | 321°41.11' | S 16°23.66' | **09** |
| **10** | 329°25.97' | 229°07.59' | S 17°39.28' | 114°08.72' | 84°24.84' | N 24°15.32' | 198°43.31' | 359°50.26' | S 1°43.78' | 236°52.38' | 321°41.18' | S 16°23.64' | **10** |
| **11** | 344°25.28' | 229°10.75' | S 17°40.19' | 129°11.59' | 84°24.44' | N 24°15.43' | 213°45.89' | 359°50.14' | S 1°43.81' | 251°54.78' | 321°41.25' | S 16°23.61' | **11** |
| **12** | 359°24.59' | 229°13.90' | S 17°41.09' | 144°14.45' | 84°24.04' | N 24°15.54' | 228°48.47' | 359°50.02' | S 1°43.85' | 266°57.17' | 321°41.32' | S 16°23.58' | **12** |
| **13** | 14°23.90' | 229°17.05' | S 17°42.00' | 159°17.32' | 84°23.64' | N 24°15.65' | 243°51.05' | 359°49.90' | S 1°43.89' | 281°59.56' | 321°41.40' | S 16°23.56' | **13** |
| **14** | 29°23.22' | 229°20.20' | S 17°42.90' | 174°20.19' | 84°23.23' | N 24°15.77' | 258°53.63' | 359°49.79' | S 1°43.93' | 297°01.95' | 321°41.47' | S 16°23.53' | **14** |
| **15** | 44°22.53' | 229°23.36' | S 17°43.80' | 189°23.06' | 84°22.83' | N 24°15.88' | 273°56.21' | 359°49.67' | S 1°43.97' | 312°04.34' | 321°41.54' | S 16°23.51' | **15** |
| **16** | 59°21.84' | 229°26.51' | S 17°44.71' | 204°25.93' | 84°22.42' | N 24°15.99' | 288°58.79' | 359°49.55' | S 1°44.01' | 327°06.73' | 321°41.61' | S 16°23.48' | **16** |
| **17** | 74°21.15' | 229°29.66' | S 17°45.61' | 219°28.80' | 84°22.01' | N 24°16.10' | 304°01.37' | 359°49.44' | S 1°44.05' | 342°09.12' | 321°41.69' | S 16°23.46' | **17** |
| **18** | 89°20.46' | 229°32.82' | S 17°46.51' | 234°31.68' | 84°21.60' | N 24°16.21' | 319°03.95' | 359°49.32' | S 1°44.09' | 357°11.52' | 321°41.76' | S 16°23.43' | **18** |
| **19** | 104°19.76' | 229°35.97' | S 17°47.41' | 249°34.56' | 84°21.18' | N 24°16.32' | 334°06.53' | 359°49.21' | S 1°44.13' | 12°13.91' | 321°41.83' | S 16°23.40' | **19** |
| **20** | 119°19.07' | 229°39.13' | S 17°48.31' | 264°37.43' | 84°20.77' | N 24°16.43' | 349°09.11' | 359°49.09' | S 1°44.17' | 27°16.30' | 321°41.91' | S 16°23.38' | **20** |
| **21** | 134°18.38' | 229°42.29' | S 17°49.20' | 279°40.31' | 84°20.35' | N 24°16.54' | 4°11.69' | 359°48.98' | S 1°44.20' | 42°18.69' | 321°41.98' | S 16°23.35' | **21** |
| **22** | 149°17.69' | 229°45.44' | S 17°50.10' | 294°43.20' | 84°19.94' | N 24°16.65' | 19°14.27' | 359°48.87' | S 1°44.24' | 57°21.08' | 321°42.05' | S 16°23.33' | **22** |
| **23** | 164°16.99' | 229°48.60' | S 17°51.00' | 309°46.08' | 84°19.52' | N 24°16.76' | 34°16.84' | 359°48.75' | S 1°44.28' | 72°23.47' | 321°42.13' | S 16°23.30' | **23** |
| **24** | 179°16.30' | 229°51.76' | S 17°51.89' | 324°48.97' | 84°19.09' | N 24°16.87' | 49°19.42' | 359°48.64' | S 1°44.32' | 87°25.86' | 321°42.20' | S 16°23.27' | **24** |
| | δ 14.9886° | | *d* 0.9142' | δ 15.0474° | | *d* 0.1116' | δ 15.0431° | | *d* 0.0411' | δ 15.0399° | | *d* 0.0249' | |

## *Thursday, November 10th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 184°02.21' | 14.9991° | 225°05.85' | S 17°04.21' | 0.7051' | 346°02.84' | 14.4974° | 63°05.22' | N 23°09.03' | 8.2548' | 55.3515' | 49°08.06' | **00** |
| **01** | 199°02.16' | 14.9991° | 225°08.37' | S 17°04.92' | 0.7046' | 0°32.64' | 14.4967° | 63°37.88' | N 23°17.17' | 8.1364' | 55.3316' | 64°10.52' | **01** |
| **02** | 214°02.10' | 14.9990° | 225°10.89' | S 17°05.62' | 0.7041' | 15°02.40' | 14.4960° | 64°10.59' | N 23°25.19' | 8.0173' | 55.3118' | 79°12.99' | **02** |
| **03** | 229°02.04' | 14.9990° | 225°13.41' | S 17°06.33' | 0.7036' | 29°32.12' | 14.4953° | 64°43.33' | N 23°33.08' | 7.8975' | 55.2920' | 94°15.45' | **03** |
| **04** | 244°01.98' | 14.9990° | 225°15.93' | S 17°07.03' | 0.7031' | 44°01.80' | 14.4947° | 65°16.11' | N 23°40.86' | 7.7771' | 55.2724' | 109°17.92' | **04** |
| **05** | 259°01.92' | 14.9990° | 225°18.46' | S 17°07.73' | 0.7026' | 58°31.44' | 14.4940° | 65°48.94' | N 23°48.52' | 7.6561' | 55.2529' | 124°20.38' | **05** |
| **06** | 274°01.87' | 14.9990° | 225°20.98' | S 17°08.43' | 0.7020' | 73°01.04' | 14.4934° | 66°21.80' | N 23°56.05' | 7.5343' | 55.2334' | 139°22.84' | **06** |
| **07** | 289°01.81' | 14.9990° | 225°23.50' | S 17°09.13' | 0.7015' | 87°30.61' | 14.4927° | 66°54.70' | N 24°03.46' | 7.4120' | 55.2141' | 154°25.31' | **07** |
| **08** | 304°01.75' | 14.9990° | 225°26.03' | S 17°09.84' | 0.7010' | 102°00.13' | 14.4921° | 67°27.64' | N 24°10.75' | 7.2890' | 55.1949' | 169°27.77' | **08** |
| **09** | 319°01.69' | 14.9990° | 225°28.55' | S 17°10.54' | 0.7005' | 116°29.62' | 14.4915° | 68°00.62' | N 24°17.92' | 7.1655' | 55.1758' | 184°30.24' | **09** |
| **10** | 334°01.63' | 14.9990° | 225°31.07' | S 17°11.24' | 0.7000' | 130°59.07' | 14.4908° | 68°33.63' | N 24°24.96' | 7.0413' | 55.1567' | 199°32.70' | **10** |
| **11** | 349°01.57' | 14.9990° | 225°33.60' | S 17°11.94' | 0.6995' | 145°28.48' | 14.4902° | 69°06.68' | N 24°31.87' | 6.9166' | 55.1378' | 214°35.17' | **11** |
| **12** | 4°01.51' | 14.9990° | 225°36.12' | S 17°12.63' | 0.6990' | 159°57.86' | 14.4897° | 69°39.77' | N 24°38.67' | 6.7913' | 55.1190' | 229°37.63' | **12** |
| **13** | 19°01.45' | 14.9990° | 225°38.65' | S 17°13.33' | 0.6985' | 174°27.21' | 14.4891° | 70°12.89' | N 24°45.33' | 6.6654' | 55.1003' | 244°40.09' | **13** |
| **14** | 34°01.38' | 14.9990° | 225°41.17' | S 17°14.03' | 0.6980' | 188°56.52' | 14.4885° | 70°46.04' | N 24°51.87' | 6.5390' | 55.0818' | 259°42.56' | **14** |
| **15** | 49°01.32' | 14.9990° | 225°43.70' | S 17°14.73' | 0.6975' | 203°25.80' | 14.4879° | 71°19.23' | N 24°58.28' | 6.4121' | 55.0633' | 274°45.02' | **15** |
| **16** | 64°01.26' | 14.9990° | 225°46.23' | S 17°15.43' | 0.6970' | 217°55.04' | 14.4874° | 71°52.45' | N 25°04.57' | 6.2846' | 55.0450' | 289°47.49' | **16** |
| **17** | 79°01.20' | 14.9990° | 225°48.75' | S 17°16.12' | 0.6965' | 232°24.25' | 14.4869° | 72°25.70' | N 25°10.72' | 6.1567' | 55.0268' | 304°49.95' | **17** |
| **18** | 94°01.13' | 14.9989° | 225°51.28' | S 17°16.82' | 0.6959' | 246°53.43' | 14.4864° | 72°58.98' | N 25°16.75' | 6.0283' | 55.0087' | 319°52.41' | **18** |
| **19** | 109°01.07' | 14.9989° | 225°53.81' | S 17°17.51' | 0.6954' | 261°22.58' | 14.4858° | 73°32.30' | N 25°22.65' | 5.8993' | 54.9907' | 334°54.88' | **19** |
| **20** | 124°01.01' | 14.9989° | 225°56.34' | S 17°18.21' | 0.6949' | 275°51.71' | 14.4854° | 74°05.64' | N 25°28.42' | 5.7700' | 54.9729' | 349°57.34' | **20** |
| **21** | 139°00.94' | 14.9989° | 225°58.86' | S 17°18.90' | 0.6944' | 290°20.80' | 14.4849° | 74°39.01' | N 25°34.06' | 5.6401' | 54.9552' | 4°59.81' | **21** |
| **22** | 154°00.88' | 14.9989° | 226°01.39' | S 17°19.60' | 0.6939' | 304°49.86' | 14.4844° | 75°12.41' | N 25°39.57' | 5.5099' | 54.9376' | 20°02.27' | **22** |
| **23** | 169°00.81' | 14.9989° | 226°03.92' | S 17°20.29' | 0.6934' | 319°18.90' | 14.4840° | 75°45.84' | N 25°44.95' | 5.3792' | 54.9202' | 35°04.74' | **23** |
| **24** | 184°00.75' | 14.9989° | 226°06.45' | S 17°20.98' | 0.6929' | 333°47.91' | 14.4835° | 76°19.29' | N 25°50.20' | 5.2481' | 54.9029' | 50°07.20' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.1504' | hp (π) 0.1480' | ½Ø 15.0190' | 95.8294438704939 9% -gib | |
| EoT at 12:00 UTC : +16m 6s (δ -0.24 s/h) | | Phase at 12:00 UTC : 203.50° | | |
| Meridian Pass. Time : 11:43:53.972 | | Age : 15.8 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.25') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 179°16.30' | 229°51.76' | S 17°51.89' | 324°48.97' | 84°19.09' | N 24°16.87' | 49°19.42' | 359°48.64' | S 1°44.32' | 87°25.86' | 321°42.20' | S 16°23.27' | **00** |
| **01** | 194°15.60' | 229°54.92' | S 17°52.79' | 339°51.85' | 84°18.67' | N 24°16.98' | 64°22.00' | 359°48.52' | S 1°44.36' | 102°28.25' | 321°42.28' | S 16°23.25' | **01** |
| **02** | 209°14.91' | 229°58.08' | S 17°53.68' | 354°54.74' | 84°18.25' | N 24°17.10' | 79°24.58' | 359°48.41' | S 1°44.39' | 117°30.64' | 321°42.35' | S 16°23.22' | **02** |
| **03** | 224°14.21' | 230°01.24' | S 17°54.57' | 9°57.63' | 84°17.82' | N 24°17.21' | 94°27.15' | 359°48.30' | S 1°44.43' | 132°33.03' | 321°42.43' | S 16°23.20' | **03** |
| **04** | 239°13.52' | 230°04.40' | S 17°55.47' | 25°00.52' | 84°17.39' | N 24°17.32' | 109°29.73' | 359°48.19' | S 1°44.47' | 147°35.42' | 321°42.50' | S 16°23.17' | **04** |
| **05** | 254°12.82' | 230°07.56' | S 17°56.36' | 40°03.42' | 84°16.96' | N 24°17.43' | 124°32.31' | 359°48.08' | S 1°44.51' | 162°37.81' | 321°42.58' | S 16°23.14' | **05** |
| **06** | 269°12.12' | 230°10.72' | S 17°57.25' | 55°06.31' | 84°16.53' | N 24°17.54' | 139°34.88' | 359°47.96' | S 1°44.54' | 177°40.19' | 321°42.65' | S 16°23.12' | **06** |
| **07** | 284°11.43' | 230°13.88' | S 17°58.14' | 70°09.21' | 84°16.10' | N 24°17.65' | 154°37.46' | 359°47.85' | S 1°44.58' | 192°42.58' | 321°42.73' | S 16°23.09' | **07** |
| **08** | 299°10.73' | 230°17.05' | S 17°59.03' | 85°12.11' | 84°15.66' | N 24°17.76' | 169°40.03' | 359°47.74' | S 1°44.62' | 207°44.97' | 321°42.80' | S 16°23.06' | **08** |
| **09** | 314°10.03' | 230°20.21' | S 17°59.91' | 100°15.01' | 84°15.23' | N 24°17.87' | 184°42.61' | 359°47.63' | S 1°44.65' | 222°47.36' | 321°42.88' | S 16°23.04' | **09** |
| **10** | 329°09.33' | 230°23.37' | S 18°00.80' | 115°17.91' | 84°14.79' | N 24°17.98' | 199°45.18' | 359°47.52' | S 1°44.69' | 237°49.75' | 321°42.95' | S 16°23.01' | **10** |
| **11** | 344°08.63' | 230°26.54' | S 18°01.69' | 130°20.81' | 84°14.35' | N 24°18.09' | 214°47.76' | 359°47.41' | S 1°44.72' | 252°52.14' | 321°43.03' | S 16°22.98' | **11** |
| **12** | 359°07.93' | 230°29.70' | S 18°02.57' | 145°23.72' | 84°13.91' | N 24°18.20' | 229°50.33' | 359°47.30' | S 1°44.76' | 267°54.52' | 321°43.11' | S 16°22.96' | **12** |
| **13** | 14°07.23' | 230°32.87' | S 18°03.46' | 160°26.63' | 84°13.47' | N 24°18.31' | 244°52.90' | 359°47.19' | S 1°44.80' | 282°56.91' | 321°43.18' | S 16°22.93' | **13** |
| **14** | 29°06.53' | 230°36.03' | S 18°04.34' | 175°29.54' | 84°13.02' | N 24°18.42' | 259°55.48' | 359°47.08' | S 1°44.83' | 297°59.30' | 321°43.26' | S 16°22.90' | **14** |
| **15** | 44°05.82' | 230°39.20' | S 18°05.22' | 190°32.45' | 84°12.58' | N 24°18.53' | 274°58.05' | 359°46.97' | S 1°44.87' | 313°01.69' | 321°43.34' | S 16°22.88' | **15** |
| **16** | 59°05.12' | 230°42.37' | S 18°06.10' | 205°35.36' | 84°12.13' | N 24°18.64' | 290°00.62' | 359°46.86' | S 1°44.90' | 328°04.07' | 321°43.41' | S 16°22.85' | **16** |
| **17** | 74°04.42' | 230°45.53' | S 18°06.99' | 220°38.27' | 84°11.68' | N 24°18.75' | 305°03.19' | 359°46.76' | S 1°44.94' | 343°06.46' | 321°43.49' | S 16°22.82' | **17** |
| **18** | 89°03.71' | 230°48.70' | S 18°07.87' | 235°41.19' | 84°11.23' | N 24°18.86' | 320°05.77' | 359°46.65' | S 1°44.98' | 358°08.85' | 321°43.57' | S 16°22.80' | **18** |
| **19** | 104°03.01' | 230°51.87' | S 18°08.75' | 250°44.10' | 84°10.78' | N 24°18.97' | 335°08.34' | 359°46.54' | S 1°45.01' | 13°11.23' | 321°43.64' | S 16°22.77' | **19** |
| **20** | 119°02.30' | 230°55.04' | S 18°09.62' | 265°47.02' | 84°10.32' | N 24°19.08' | 350°10.91' | 359°46.43' | S 1°45.05' | 28°13.62' | 321°43.72' | S 16°22.74' | **20** |
| **21** | 134°01.60' | 230°58.21' | S 18°10.50' | 280°49.94' | 84°09.86' | N 24°19.19' | 5°13.48' | 359°46.33' | S 1°45.08' | 43°16.01' | 321°43.80' | S 16°22.71' | **21** |
| **22** | 149°00.89' | 231°01.38' | S 18°11.38' | 295°52.87' | 84°09.41' | N 24°19.30' | 20°16.05' | 359°46.22' | S 1°45.11' | 58°18.39' | 321°43.88' | S 16°22.69' | **22** |
| **23** | 164°00.19' | 231°04.55' | S 18°12.26' | 310°55.79' | 84°08.95' | N 24°19.41' | 35°18.62' | 359°46.11' | S 1°45.15' | 73°20.78' | 321°43.96' | S 16°22.66' | **23** |
| **24** | 178°59.48' | 231°07.72' | S 18°13.13' | 325°58.71' | 84°08.49' | N 24°19.52' | 50°21.19' | 359°46.01' | S 1°45.18' | 88°23.17' | 321°44.03' | S 16°22.63' | **24** |
| | δ 14.9884° | | *d* 0.8946' | δ 15.0481° | | *d* 0.1107' | δ 15.0430° | | *d* 0.0377' | δ 15.0398° | | *d* 0.0262' | |

## *Friday, November 11th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 184°00.75' | 14.9989° | 226°06.45' | S 17°20.98' | 0.6929' | 333°47.91' | 14.4835° | 76°19.29' | N 25°50.20' | 5.2481' | 54.9029' | 50°07.20' | **00** |
| **01** | 199°00.68' | 14.9989° | 226°08.98' | S 17°21.68' | 0.6924' | 348°16.90' | 14.4831° | 76°52.77' | N 25°55.32' | 5.1166' | 54.8858' | 65°09.66' | **01** |
| **02** | 214°00.62' | 14.9989° | 226°11.51' | S 17°22.37' | 0.6918' | 2°45.86' | 14.4827° | 77°26.27' | N 26°00.30' | 4.9848' | 54.8688' | 80°12.13' | **02** |
| **03** | 229°00.55' | 14.9989° | 226°14.04' | S 17°23.06' | 0.6913' | 17°14.79' | 14.4823° | 77°59.80' | N 26°05.15' | 4.8526' | 54.8519' | 95°14.59' | **03** |
| **04** | 244°00.48' | 14.9989° | 226°16.57' | S 17°23.75' | 0.6908' | 31°43.71' | 14.4819° | 78°33.35' | N 26°09.87' | 4.7200' | 54.8352' | 110°17.06' | **04** |
| **05** | 259°00.42' | 14.9989° | 226°19.10' | S 17°24.44' | 0.6903' | 46°12.60' | 14.4816° | 79°06.92' | N 26°14.46' | 4.5871' | 54.8186' | 125°19.52' | **05** |
| **06** | 274°00.35' | 14.9989° | 226°21.64' | S 17°25.13' | 0.6898' | 60°41.47' | 14.4812° | 79°40.51' | N 26°18.91' | 4.4539' | 54.8022' | 140°21.99' | **06** |
| **07** | 289°00.28' | 14.9989° | 226°24.17' | S 17°25.82' | 0.6893' | 75°10.33' | 14.4809° | 80°14.12' | N 26°23.23' | 4.3203' | 54.7860' | 155°24.45' | **07** |
| **08** | 304°00.21' | 14.9989° | 226°26.70' | S 17°26.51' | 0.6887' | 89°39.16' | 14.4806° | 80°47.75' | N 26°27.42' | 4.1865' | 54.7699' | 170°26.91' | **08** |
| **09** | 319°00.14' | 14.9989° | 226°29.23' | S 17°27.20' | 0.6882' | 104°07.98' | 14.4803° | 81°21.40' | N 26°31.47' | 4.0524' | 54.7539' | 185°29.38' | **09** |
| **10** | 334°00.08' | 14.9988° | 226°31.77' | S 17°27.88' | 0.6877' | 118°36.78' | 14.4800° | 81°55.06' | N 26°35.39' | 3.9181' | 54.7382' | 200°31.84' | **10** |
| **11** | 349°00.01' | 14.9988° | 226°34.30' | S 17°28.57' | 0.6872' | 133°05.56' | 14.4797° | 82°28.74' | N 26°39.17' | 3.7835' | 54.7225' | 215°34.31' | **11** |
| **12** | 3°59.94' | 14.9988° | 226°36.83' | S 17°29.26' | 0.6867' | 147°34.33' | 14.4795° | 83°02.44' | N 26°42.82' | 3.6487' | 54.7071' | 230°36.77' | **12** |
| **13** | 18°59.87' | 14.9988° | 226°39.37' | S 17°29.94' | 0.6862' | 162°03.09' | 14.4793° | 83°36.15' | N 26°46.34' | 3.5137' | 54.6918' | 245°39.23' | **13** |
| **14** | 33°59.80' | 14.9988° | 226°41.90' | S 17°30.63' | 0.6856' | 176°31.83' | 14.4791° | 84°09.87' | N 26°49.72' | 3.3784' | 54.6767' | 260°41.70' | **14** |
| **15** | 48°59.72' | 14.9988° | 226°44.44' | S 17°31.31' | 0.6851' | 191°00.56' | 14.4789° | 84°43.60' | N 26°52.96' | 3.2430' | 54.6617' | 275°44.16' | **15** |
| **16** | 63°59.65' | 14.9988° | 226°46.97' | S 17°32.00' | 0.6846' | 205°29.28' | 14.4787° | 85°17.34' | N 26°56.07' | 3.1074' | 54.6470' | 290°46.63' | **16** |
| **17** | 78°59.58' | 14.9988° | 226°49.51' | S 17°32.68' | 0.6841' | 219°58.00' | 14.4785° | 85°51.10' | N 26°59.04' | 2.9717' | 54.6324' | 305°49.09' | **17** |
| **18** | 93°59.51' | 14.9988° | 226°52.05' | S 17°33.37' | 0.6835' | 234°26.70' | 14.4784° | 86°24.86' | N 27°01.87' | 2.8358' | 54.6180' | 320°51.56' | **18** |
| **19** | 108°59.44' | 14.9988° | 226°54.58' | S 17°34.05' | 0.6830' | 248°55.40' | 14.4783° | 86°58.62' | N 27°04.57' | 2.6999' | 54.6037' | 335°54.02' | **19** |
| **20** | 123°59.36' | 14.9988° | 226°57.12' | S 17°34.73' | 0.6825' | 263°24.09' | 14.4782° | 87°32.40' | N 27°07.14' | 2.5638' | 54.5897' | 350°56.48' | **20** |
| **21** | 138°59.29' | 14.9988° | 226°59.66' | S 17°35.41' | 0.6820' | 277°52.77' | 14.4781° | 88°06.17' | N 27°09.56' | 2.4276' | 54.5758' | 5°58.95' | **21** |
| **22** | 153°59.22' | 14.9988° | 227°02.19' | S 17°36.10' | 0.6815' | 292°21.46' | 14.4780° | 88°39.96' | N 27°11.86' | 2.2913' | 54.5621' | 21°01.41' | **22** |
| **23** | 168°59.14' | 14.9988° | 227°04.73' | S 17°36.78' | 0.6809' | 306°50.13' | 14.4780° | 89°13.74' | N 27°14.01' | 2.1550' | 54.5486' | 36°03.88' | **23** |
| **24** | 183°59.07' | 14.9988° | 227°07.27' | S 17°37.46' | 0.6804' | 321°18.81' | 14.4780° | 89°47.53' | N 27°16.03' | 2.0186' | 54.5353' | 51°06.34' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.1542' | hp (π) 0.1480' | ½Ø 14.9067' | 91.0740943826065<br>9% -gib | |
| EoT at 12:00 UTC : +15m 59s (δ -0.28 s/h) | | Phase at 12:00 UTC : 214.71° | | |
| Meridian Pass. Time : 11:44:00.256 | | Age : 16.7 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.25') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 178°59.48' | 231°07.72' | S 18°13.13' | 325°58.71' | 84°08.49' | N 24°19.52' | 50°21.19' | 359°46.01' | S 1°45.18' | 88°23.17' | 321°44.03' | S 16°22.63' | **00** |
| **01** | 193°58.77' | 231°10.89' | S 18°14.01' | 341°01.64' | 84°08.02' | N 24°19.63' | 65°23.76' | 359°45.90' | S 1°45.22' | 103°25.55' | 321°44.11' | S 16°22.60' | **01** |
| **02** | 208°58.06' | 231°14.06' | S 18°14.88' | 356°04.57' | 84°07.56' | N 24°19.74' | 80°26.33' | 359°45.80' | S 1°45.25' | 118°27.94' | 321°44.19' | S 16°22.58' | **02** |
| **03** | 223°57.36' | 231°17.24' | S 18°15.75' | 11°07.50' | 84°07.09' | N 24°19.84' | 95°28.90' | 359°45.69' | S 1°45.29' | 133°30.32' | 321°44.27' | S 16°22.55' | **03** |
| **04** | 238°56.65' | 231°20.41' | S 18°16.62' | 26°10.43' | 84°06.63' | N 24°19.95' | 110°31.47' | 359°45.59' | S 1°45.32' | 148°32.71' | 321°44.35' | S 16°22.52' | **04** |
| **05** | 253°55.94' | 231°23.58' | S 18°17.49' | 41°13.37' | 84°06.16' | N 24°20.06' | 125°34.04' | 359°45.48' | S 1°45.35' | 163°35.09' | 321°44.43' | S 16°22.49' | **05** |
| **06** | 268°55.23' | 231°26.76' | S 18°18.36' | 56°16.30' | 84°05.68' | N 24°20.17' | 140°36.61' | 359°45.38' | S 1°45.39' | 178°37.48' | 321°44.51' | S 16°22.47' | **06** |
| **07** | 283°54.52' | 231°29.93' | S 18°19.23' | 71°19.24' | 84°05.21' | N 24°20.28' | 155°39.17' | 359°45.28' | S 1°45.42' | 193°39.86' | 321°44.59' | S 16°22.44' | **07** |
| **08** | 298°53.80' | 231°33.11' | S 18°20.10' | 86°22.18' | 84°04.74' | N 24°20.39' | 170°41.74' | 359°45.17' | S 1°45.45' | 208°42.25' | 321°44.67' | S 16°22.41' | **08** |
| **09** | 313°53.09' | 231°36.29' | S 18°20.97' | 101°25.12' | 84°04.26' | N 24°20.50' | 185°44.31' | 359°45.07' | S 1°45.49' | 223°44.63' | 321°44.75' | S 16°22.38' | **09** |
| **10** | 328°52.38' | 231°39.46' | S 18°21.84' | 116°28.06' | 84°03.78' | N 24°20.61' | 200°46.88' | 359°44.97' | S 1°45.52' | 238°47.01' | 321°44.83' | S 16°22.35' | **10** |
| **11** | 343°51.67' | 231°42.64' | S 18°22.70' | 131°31.00' | 84°03.30' | N 24°20.72' | 215°49.44' | 359°44.86' | S 1°45.55' | 253°49.40' | 321°44.91' | S 16°22.33' | **11** |
| **12** | 358°50.95' | 231°45.82' | S 18°23.57' | 146°33.95' | 84°02.82' | N 24°20.83' | 230°52.01' | 359°44.76' | S 1°45.59' | 268°51.78' | 321°44.99' | S 16°22.30' | **12** |
| **13** | 13°50.24' | 231°48.99' | S 18°24.43' | 161°36.89' | 84°02.34' | N 24°20.94' | 245°54.58' | 359°44.66' | S 1°45.62' | 283°54.17' | 321°45.07' | S 16°22.27' | **13** |
| **14** | 28°49.53' | 231°52.17' | S 18°25.30' | 176°39.84' | 84°01.86' | N 24°21.04' | 260°57.14' | 359°44.56' | S 1°45.65' | 298°56.55' | 321°45.15' | S 16°22.24' | **14** |
| **15** | 43°48.81' | 231°55.35' | S 18°26.16' | 191°42.79' | 84°01.37' | N 24°21.15' | 275°59.71' | 359°44.46' | S 1°45.68' | 313°58.93' | 321°45.23' | S 16°22.21' | **15** |
| **16** | 58°48.09' | 231°58.53' | S 18°27.02' | 206°45.74' | 84°00.88' | N 24°21.26' | 291°02.27' | 359°44.36' | S 1°45.72' | 329°01.32' | 321°45.31' | S 16°22.19' | **16** |
| **17** | 73°47.38' | 232°01.71' | S 18°27.88' | 221°48.70' | 84°00.39' | N 24°21.37' | 306°04.84' | 359°44.26' | S 1°45.75' | 344°03.70' | 321°45.39' | S 16°22.16' | **17** |
| **18** | 88°46.66' | 232°04.89' | S 18°28.74' | 236°51.65' | 83°59.90' | N 24°21.48' | 321°07.40' | 359°44.15' | S 1°45.78' | 359°06.08' | 321°45.47' | S 16°22.13' | **18** |
| **19** | 103°45.94' | 232°08.07' | S 18°29.60' | 251°54.61' | 83°59.41' | N 24°21.59' | 336°09.96' | 359°44.05' | S 1°45.81' | 14°08.46' | 321°45.55' | S 16°22.10' | **19** |
| **20** | 118°45.23' | 232°11.26' | S 18°30.46' | 266°57.57' | 83°58.92' | N 24°21.69' | 351°12.53' | 359°43.96' | S 1°45.84' | 29°10.85' | 321°45.64' | S 16°22.07' | **20** |
| **21** | 133°44.51' | 232°14.44' | S 18°31.31' | 282°00.53' | 83°58.42' | N 24°21.80' | 6°15.09' | 359°43.86' | S 1°45.88' | 44°13.23' | 321°45.72' | S 16°22.04' | **21** |
| **22** | 148°43.79' | 232°17.62' | S 18°32.17' | 297°03.49' | 83°57.92' | N 24°21.91' | 21°17.66' | 359°43.76' | S 1°45.91' | 59°15.61' | 321°45.80' | S 16°22.01' | **22** |
| **23** | 163°43.07' | 232°20.81' | S 18°33.03' | 312°06.45' | 83°57.42' | N 24°22.02' | 36°20.22' | 359°43.66' | S 1°45.94' | 74°17.99' | 321°45.88' | S 16°21.99' | **23** |
| **24** | 178°42.35' | 232°23.99' | S 18°33.88' | 327°09.42' | 83°56.92' | N 24°22.13' | 51°22.78' | 359°43.56' | S 1°45.97' | 89°20.38' | 321°45.96' | S 16°21.96' | **24** |
| | δ 14.9882° | | *d* 0.8744' | δ 15.0488° | | *d* 0.1095' | δ 15.0428° | | *d* 0.0343' | δ 15.0398° | | *d* 0.0275' | |

## *Saturday, November 12th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°59.07' | 14.9988° | 227°07.27' | S 17°37.46' | 0.6804' | 321°18.81' | 14.4780° | 89°47.53' | N 27°16.03' | 2.0186' | 54.5353' | 51°06.34' | **00** |
| **01** | 198°59.00' | 14.9988° | 227°09.81' | S 17°38.14' | 0.6799' | 335°47.49' | 14.4780° | 90°21.32' | N 27°17.91' | 1.8823' | 54.5222' | 66°08.80' | **01** |
| **02** | 213°58.92' | 14.9988° | 227°12.35' | S 17°38.82' | 0.6794' | 350°16.17' | 14.4780° | 90°55.10' | N 27°19.66' | 1.7459' | 54.5093' | 81°11.27' | **02** |
| **03** | 228°58.84' | 14.9987° | 227°14.89' | S 17°39.49' | 0.6788' | 4°44.85' | 14.4780° | 91°28.89' | N 27°21.27' | 1.6095' | 54.4966' | 96°13.73' | **03** |
| **04** | 243°58.77' | 14.9987° | 227°17.43' | S 17°40.17' | 0.6783' | 19°13.53' | 14.4780° | 92°02.67' | N 27°22.74' | 1.4731' | 54.4841' | 111°16.20' | **04** |
| **05** | 258°58.69' | 14.9987° | 227°19.97' | S 17°40.85' | 0.6778' | 33°42.22' | 14.4781° | 92°36.44' | N 27°24.08' | 1.3367' | 54.4717' | 126°18.66' | **05** |
| **06** | 273°58.62' | 14.9987° | 227°22.51' | S 17°41.53' | 0.6772' | 48°10.91' | 14.4782° | 93°10.22' | N 27°25.28' | 1.2004' | 54.4596' | 141°21.13' | **06** |
| **07** | 288°58.54' | 14.9987° | 227°25.05' | S 17°42.20' | 0.6767' | 62°39.61' | 14.4783° | 93°43.98' | N 27°26.34' | 1.0642' | 54.4477' | 156°23.59' | **07** |
| **08** | 303°58.46' | 14.9987° | 227°27.59' | S 17°42.88' | 0.6762' | 77°08.32' | 14.4784° | 94°17.74' | N 27°27.27' | 0.9280' | 54.4360' | 171°26.05' | **08** |
| **09** | 318°58.39' | 14.9987° | 227°30.13' | S 17°43.56' | 0.6757' | 91°37.03' | 14.4786° | 94°51.49' | N 27°28.06' | 0.7919' | 54.4245' | 186°28.52' | **09** |
| **10** | 333°58.31' | 14.9987° | 227°32.68' | S 17°44.23' | 0.6751' | 106°05.75' | 14.4787° | 95°25.23' | N 27°28.72' | 0.6560' | 54.4132' | 201°30.98' | **10** |
| **11** | 348°58.23' | 14.9987° | 227°35.22' | S 17°44.91' | 0.6746' | 120°34.49' | 14.4789° | 95°58.96' | N 27°29.24' | 0.5201' | 54.4021' | 216°33.45' | **11** |
| **12** | 3°58.15' | 14.9987° | 227°37.76' | S 17°45.58' | 0.6741' | 135°03.24' | 14.4791° | 96°32.67' | N 27°29.62' | 0.3844' | 54.3913' | 231°35.91' | **12** |
| **13** | 18°58.07' | 14.9987° | 227°40.30' | S 17°46.25' | 0.6735' | 149°32.00' | 14.4793° | 97°06.38' | N 27°29.87' | 0.2489' | 54.3806' | 246°38.37' | **13** |
| **14** | 33°57.99' | 14.9987° | 227°42.85' | S 17°46.93' | 0.6730' | 164°00.77' | 14.4796° | 97°40.07' | N 27°29.98' | 0.1135' | 54.3702' | 261°40.84' | **14** |
| **15** | 48°57.91' | 14.9987° | 227°45.39' | S 17°47.60' | 0.6725' | 178°29.56' | 14.4798° | 98°13.74' | N 27°29.96' | 0.0218' | 54.3600' | 276°43.30' | **15** |
| **16** | 63°57.83' | 14.9987° | 227°47.94' | S 17°48.27' | 0.6719' | 192°58.37' | 14.4801° | 98°47.40' | N 27°29.81' | 0.1568' | 54.3500' | 291°45.77' | **16** |
| **17** | 78°57.75' | 14.9987° | 227°50.48' | S 17°48.94' | 0.6714' | 207°27.19' | 14.4804° | 99°21.04' | N 27°29.51' | 0.2916' | 54.3403' | 306°48.23' | **17** |
| **18** | 93°57.67' | 14.9987° | 227°53.03' | S 17°49.61' | 0.6709' | 221°56.04' | 14.4807° | 99°54.66' | N 27°29.09' | 0.4262' | 54.3307' | 321°50.70' | **18** |
| **19** | 108°57.59' | 14.9986° | 227°55.57' | S 17°50.28' | 0.6703' | 236°24.90' | 14.4810° | 100°28.26' | N 27°28.53' | 0.5606' | 54.3214' | 336°53.16' | **19** |
| **20** | 123°57.51' | 14.9986° | 227°58.12' | S 17°50.95' | 0.6698' | 250°53.78' | 14.4814° | 101°01.84' | N 27°27.83' | 0.6947' | 54.3124' | 351°55.62' | **20** |
| **21** | 138°57.42' | 14.9986° | 228°00.66' | S 17°51.62' | 0.6693' | 265°22.69' | 14.4818° | 101°35.40' | N 27°27.00' | 0.8285' | 54.3035' | 6°58.09' | **21** |
| **22** | 153°57.34' | 14.9986° | 228°03.21' | S 17°52.29' | 0.6687' | 279°51.62' | 14.4821° | 102°08.94' | N 27°26.04' | 0.9621' | 54.2949' | 22°00.55' | **22** |
| **23** | 168°57.26' | 14.9986° | 228°05.76' | S 17°52.96' | 0.6682' | 294°20.57' | 14.4825° | 102°42.45' | N 27°24.95' | 1.0954' | 54.2865' | 37°03.02' | **23** |
| **24** | 183°57.18' | 14.9986° | 228°08.30' | S 17°53.63' | 0.6677' | 308°49.55' | 14.4829° | 103°15.93' | N 27°23.72' | 1.2284' | 54.2784' | 52°05.48' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.1579' | hp (π) 0.1481' | ½Ø 14.8207' | 84.8694329568750<br>3% -gib | |
| EoT at 12:00 UTC : +15m 52s (δ -0.31 s/h) | | Phase at 12:00 UTC : 225.75° | | |
| Meridian Pass. Time : 11:44:07.400 | | Age : 17.6 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.25') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 178°42.35' | 232°23.99' | S 18°33.88' | 327°09.42' | 83°56.92' | N 24°22.13' | 51°22.78' | 359°43.56' | S 1°45.97' | 89°20.38' | 321°45.96' | S 16°21.96' | **00** |
| **01** | 193°41.63' | 232°27.17' | S 18°34.73' | 342°12.38' | 83°56.42' | N 24°22.24' | 66°25.34' | 359°43.46' | S 1°46.00' | 104°22.76' | 321°46.05' | S 16°21.93' | **01** |
| **02** | 208°40.91' | 232°30.36' | S 18°35.59' | 357°15.35' | 83°55.92' | N 24°22.34' | 81°27.91' | 359°43.36' | S 1°46.03' | 119°25.14' | 321°46.13' | S 16°21.90' | **02** |
| **03** | 223°40.19' | 232°33.54' | S 18°36.44' | 12°18.32' | 83°55.41' | N 24°22.45' | 96°30.47' | 359°43.27' | S 1°46.06' | 134°27.52' | 321°46.21' | S 16°21.87' | **03** |
| **04** | 238°39.47' | 232°36.73' | S 18°37.29' | 27°21.29' | 83°54.90' | N 24°22.56' | 111°33.03' | 359°43.17' | S 1°46.09' | 149°29.90' | 321°46.30' | S 16°21.84' | **04** |
| **05** | 253°38.74' | 232°39.92' | S 18°38.14' | 42°24.27' | 83°54.39' | N 24°22.67' | 126°35.59' | 359°43.07' | S 1°46.12' | 164°32.28' | 321°46.38' | S 16°21.81' | **05** |
| **06** | 268°38.02' | 232°43.11' | S 18°38.99' | 57°27.24' | 83°53.88' | N 24°22.77' | 141°38.15' | 359°42.98' | S 1°46.15' | 179°34.66' | 321°46.46' | S 16°21.78' | **06** |
| **07** | 283°37.30' | 232°46.29' | S 18°39.84' | 72°30.22' | 83°53.37' | N 24°22.88' | 156°40.71' | 359°42.88' | S 1°46.18' | 194°37.04' | 321°46.55' | S 16°21.75' | **07** |
| **08** | 298°36.57' | 232°49.48' | S 18°40.69' | 87°33.20' | 83°52.86' | N 24°22.99' | 171°43.27' | 359°42.78' | S 1°46.21' | 209°39.42' | 321°46.63' | S 16°21.73' | **08** |
| **09** | 313°35.85' | 232°52.67' | S 18°41.53' | 102°36.18' | 83°52.34' | N 24°23.10' | 186°45.83' | 359°42.69' | S 1°46.24' | 224°41.80' | 321°46.71' | S 16°21.70' | **09** |
| **10** | 328°35.12' | 232°55.86' | S 18°42.38' | 117°39.16' | 83°51.83' | N 24°23.20' | 201°48.39' | 359°42.59' | S 1°46.27' | 239°44.18' | 321°46.80' | S 16°21.67' | **10** |
| **11** | 343°34.40' | 232°59.05' | S 18°43.22' | 132°42.14' | 83°51.31' | N 24°23.31' | 216°50.95' | 359°42.50' | S 1°46.30' | 254°46.56' | 321°46.88' | S 16°21.64' | **11** |
| **12** | 358°33.67' | 233°02.24' | S 18°44.07' | 147°45.12' | 83°50.79' | N 24°23.42' | 231°53.51' | 359°42.40' | S 1°46.33' | 269°48.94' | 321°46.97' | S 16°21.61' | **12** |
| **13** | 13°32.94' | 233°05.43' | S 18°44.91' | 162°48.11' | 83°50.26' | N 24°23.53' | 246°56.07' | 359°42.31' | S 1°46.36' | 284°51.32' | 321°47.05' | S 16°21.58' | **13** |
| **14** | 28°32.22' | 233°08.62' | S 18°45.75' | 177°51.10' | 83°49.74' | N 24°23.63' | 261°58.62' | 359°42.21' | S 1°46.39' | 299°53.70' | 321°47.14' | S 16°21.55' | **14** |
| **15** | 43°31.49' | 233°11.81' | S 18°46.59' | 192°54.09' | 83°49.22' | N 24°23.74' | 277°01.18' | 359°42.12' | S 1°46.42' | 314°56.08' | 321°47.22' | S 16°21.52' | **15** |
| **16** | 58°30.76' | 233°15.01' | S 18°47.44' | 207°57.08' | 83°48.69' | N 24°23.85' | 292°03.74' | 359°42.03' | S 1°46.45' | 329°58.46' | 321°47.31' | S 16°21.49' | **16** |
| **17** | 73°30.03' | 233°18.20' | S 18°48.27' | 223°00.07' | 83°48.16' | N 24°23.95' | 307°06.30' | 359°41.93' | S 1°46.48' | 345°00.84' | 321°47.39' | S 16°21.46' | **17** |
| **18** | 88°29.30' | 233°21.39' | S 18°49.11' | 238°03.07' | 83°47.63' | N 24°24.06' | 322°08.85' | 359°41.84' | S 1°46.50' | 0°03.22' | 321°47.48' | S 16°21.43' | **18** |
| **19** | 103°28.57' | 233°24.59' | S 18°49.95' | 253°06.06' | 83°47.10' | N 24°24.17' | 337°11.41' | 359°41.75' | S 1°46.53' | 15°05.60' | 321°47.56' | S 16°21.40' | **19** |
| **20** | 118°27.84' | 233°27.78' | S 18°50.79' | 268°09.06' | 83°46.56' | N 24°24.28' | 352°13.97' | 359°41.66' | S 1°46.56' | 30°07.98' | 321°47.65' | S 16°21.37' | **20** |
| **21** | 133°27.11' | 233°30.98' | S 18°51.62' | 283°12.06' | 83°46.03' | N 24°24.38' | 7°16.52' | 359°41.57' | S 1°46.59' | 45°10.35' | 321°47.73' | S 16°21.34' | **21** |
| **22** | 148°26.38' | 233°34.17' | S 18°52.46' | 298°15.06' | 83°45.49' | N 24°24.49' | 22°19.08' | 359°41.47' | S 1°46.62' | 60°12.73' | 321°47.82' | S 16°21.31' | **22** |
| **23** | 163°25.65' | 233°37.37' | S 18°53.29' | 313°18.06' | 83°44.95' | N 24°24.59' | 37°21.63' | 359°41.38' | S 1°46.64' | 75°15.11' | 321°47.91' | S 16°21.28' | **23** |
| **24** | 178°24.91' | 233°40.57' | S 18°54.13' | 328°21.07' | 83°44.41' | N 24°24.70' | 52°24.19' | 359°41.29' | S 1°46.67' | 90°17.49' | 321°47.99' | S 16°21.25' | **24** |
| | δ 14.9880° | | *d* 0.8538' | δ 15.0494° | | *d* 0.1080' | δ 15.0427° | | *d* 0.0309' | δ 15.0397° | | *d* 0.0288' | |

## *Sunday, November 13th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°57.18' | 14.9986° | 228°08.30' | S 17°53.63' | 0.6677' | 308°49.55' | 14.4829° | 103°15.93' | N 27°23.72' | 1.2284' | 54.2784' | 52°05.48' | **00** |
| **01** | 198°57.09' | 14.9986° | 228°10.85' | S 17°54.29' | 0.6671' | 323°18.55' | 14.4834° | 103°49.40' | N 27°22.36' | 1.3611' | 54.2705' | 67°07.95' | **01** |
| **02** | 213°57.01' | 14.9986° | 228°13.40' | S 17°54.96' | 0.6666' | 337°47.58' | 14.4838° | 104°22.83' | N 27°20.86' | 1.4934' | 54.2628' | 82°10.41' | **02** |
| **03** | 228°56.92' | 14.9986° | 228°15.95' | S 17°55.63' | 0.6661' | 352°16.64' | 14.4843° | 104°56.24' | N 27°19.24' | 1.6255' | 54.2554' | 97°12.87' | **03** |
| **04** | 243°56.84' | 14.9986° | 228°18.50' | S 17°56.29' | 0.6655' | 6°45.72' | 14.4848° | 105°29.61' | N 27°17.48' | 1.7572' | 54.2482' | 112°15.34' | **04** |
| **05** | 258°56.75' | 14.9986° | 228°21.05' | S 17°56.96' | 0.6650' | 21°14.84' | 14.4853° | 106°02.96' | N 27°15.59' | 1.8885' | 54.2413' | 127°17.80' | **05** |
| **06** | 273°56.67' | 14.9986° | 228°23.60' | S 17°57.62' | 0.6644' | 35°43.99' | 14.4858° | 106°36.28' | N 27°13.57' | 2.0194' | 54.2346' | 142°20.27' | **06** |
| **07** | 288°56.58' | 14.9986° | 228°26.15' | S 17°58.29' | 0.6639' | 50°13.17' | 14.4863° | 107°09.56' | N 27°11.42' | 2.1500' | 54.2282' | 157°22.73' | **07** |
| **08** | 303°56.50' | 14.9986° | 228°28.70' | S 17°58.95' | 0.6634' | 64°42.38' | 14.4869° | 107°42.82' | N 27°09.14' | 2.2802' | 54.2220' | 172°25.19' | **08** |
| **09** | 318°56.41' | 14.9986° | 228°31.25' | S 17°59.61' | 0.6628' | 79°11.62' | 14.4874° | 108°16.03' | N 27°06.73' | 2.4099' | 54.2160' | 187°27.66' | **09** |
| **10** | 333°56.32' | 14.9986° | 228°33.80' | S 18°00.27' | 0.6623' | 93°40.90' | 14.4880° | 108°49.22' | N 27°04.19' | 2.5393' | 54.2104' | 202°30.12' | **10** |
| **11** | 348°56.24' | 14.9985° | 228°36.35' | S 18°00.94' | 0.6617' | 108°10.22' | 14.4886° | 109°22.37' | N 27°01.53' | 2.6682' | 54.2049' | 217°32.59' | **11** |
| **12** | 3°56.15' | 14.9985° | 228°38.90' | S 18°01.60' | 0.6612' | 122°39.57' | 14.4892° | 109°55.48' | N 26°58.73' | 2.7967' | 54.1998' | 232°35.05' | **12** |
| **13** | 18°56.06' | 14.9985° | 228°41.45' | S 18°02.26' | 0.6607' | 137°08.96' | 14.4898° | 110°28.56' | N 26°55.80' | 2.9247' | 54.1948' | 247°37.52' | **13** |
| **14** | 33°55.97' | 14.9985° | 228°44.01' | S 18°02.92' | 0.6601' | 151°38.38' | 14.4904° | 111°01.60' | N 26°52.75' | 3.0523' | 54.1902' | 262°39.98' | **14** |
| **15** | 48°55.88' | 14.9985° | 228°46.56' | S 18°03.58' | 0.6596' | 166°07.85' | 14.4911° | 111°34.59' | N 26°49.57' | 3.1794' | 54.1858' | 277°42.44' | **15** |
| **16** | 63°55.79' | 14.9985° | 228°49.11' | S 18°04.24' | 0.6590' | 180°37.35' | 14.4917° | 112°07.55' | N 26°46.27' | 3.3061' | 54.1817' | 292°44.91' | **16** |
| **17** | 78°55.71' | 14.9985° | 228°51.67' | S 18°04.90' | 0.6585' | 195°06.90' | 14.4924° | 112°40.47' | N 26°42.83' | 3.4323' | 54.1778' | 307°47.37' | **17** |
| **18** | 93°55.62' | 14.9985° | 228°54.22' | S 18°05.55' | 0.6579' | 209°36.48' | 14.4931° | 113°13.35' | N 26°39.28' | 3.5579' | 54.1742' | 322°49.84' | **18** |
| **19** | 108°55.52' | 14.9985° | 228°56.78' | S 18°06.21' | 0.6574' | 224°06.11' | 14.4938° | 113°46.19' | N 26°35.59' | 3.6831' | 54.1708' | 337°52.30' | **19** |
| **20** | 123°55.43' | 14.9985° | 228°59.33' | S 18°06.87' | 0.6568' | 238°35.78' | 14.4945° | 114°18.99' | N 26°31.79' | 3.8078' | 54.1678' | 352°54.76' | **20** |
| **21** | 138°55.34' | 14.9985° | 229°01.89' | S 18°07.52' | 0.6563' | 253°05.49' | 14.4952° | 114°51.74' | N 26°27.85' | 3.9319' | 54.1650' | 7°57.23' | **21** |
| **22** | 153°55.25' | 14.9985° | 229°04.44' | S 18°08.18' | 0.6558' | 267°35.25' | 14.4959° | 115°24.45' | N 26°23.80' | 4.0555' | 54.1624' | 22°59.69' | **22** |
| **23** | 168°55.16' | 14.9985° | 229°07.00' | S 18°08.83' | 0.6552' | 282°05.05' | 14.4967° | 115°57.11' | N 26°19.62' | 4.1786' | 54.1602' | 38°02.16' | **23** |
| **24** | 183°55.07' | 14.9985° | 229°09.55' | S 18°09.49' | 0.6547' | 296°34.89' | 14.4974° | 116°29.73' | N 26°15.32' | 4.3011' | 54.1582' | 53°04.62' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.1615' | hp (π) 0.1481' | ½Ø 14.7685' | 77.4780405500436 3% -gib | |
| EoT at 12:00 UTC : +15m 44s (δ -0.35 s/h) | | Phase at 12:00 UTC : 236.66° | | |
| Meridian Pass. Time : 11:44:15.404 | | Age : 18.4 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.26') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 178°24.91' | 233°40.57' | S 18°54.13' | 328°21.07' | 83°44.41' | N 24°24.70' | 52°24.19' | 359°41.29' | S 1°46.67' | 90°17.49' | 321°47.99' | S 16°21.25' | **00** |
| **01** | 193°24.18' | 233°43.77' | S 18°54.96' | 343°24.07' | 83°43.87' | N 24°24.81' | 67°26.74' | 359°41.20' | S 1°46.70' | 105°19.87' | 321°48.08' | S 16°21.22' | **01** |
| **02** | 208°23.45' | 233°46.96' | S 18°55.79' | 358°27.08' | 83°43.33' | N 24°24.91' | 82°29.30' | 359°41.11' | S 1°46.73' | 120°22.24' | 321°48.17' | S 16°21.19' | **02** |
| **03** | 223°22.71' | 233°50.16' | S 18°56.62' | 13°30.09' | 83°42.78' | N 24°25.02' | 97°31.85' | 359°41.02' | S 1°46.75' | 135°24.62' | 321°48.25' | S 16°21.16' | **03** |
| **04** | 238°21.98' | 233°53.36' | S 18°57.45' | 28°33.10' | 83°42.24' | N 24°25.13' | 112°34.41' | 359°40.93' | S 1°46.78' | 150°27.00' | 321°48.34' | S 16°21.13' | **04** |
| **05** | 253°21.24' | 233°56.56' | S 18°58.28' | 43°36.11' | 83°41.69' | N 24°25.23' | 127°36.96' | 359°40.84' | S 1°46.81' | 165°29.37' | 321°48.43' | S 16°21.10' | **05** |
| **06** | 268°20.51' | 233°59.76' | S 18°59.11' | 58°39.13' | 83°41.14' | N 24°25.34' | 142°39.51' | 359°40.75' | S 1°46.83' | 180°31.75' | 321°48.51' | S 16°21.07' | **06** |
| **07** | 283°19.77' | 234°02.96' | S 18°59.94' | 73°42.14' | 83°40.59' | N 24°25.44' | 157°42.06' | 359°40.67' | S 1°46.86' | 195°34.13' | 321°48.60' | S 16°21.04' | **07** |
| **08** | 298°19.03' | 234°06.16' | S 19°00.76' | 88°45.16' | 83°40.03' | N 24°25.55' | 172°44.62' | 359°40.58' | S 1°46.89' | 210°36.50' | 321°48.69' | S 16°21.01' | **08** |
| **09** | 313°18.29' | 234°09.36' | S 19°01.59' | 103°48.18' | 83°39.48' | N 24°25.66' | 187°47.17' | 359°40.49' | S 1°46.91' | 225°38.88' | 321°48.78' | S 16°20.98' | **09** |
| **10** | 328°17.56' | 234°12.57' | S 19°02.41' | 118°51.20' | 83°38.92' | N 24°25.76' | 202°49.72' | 359°40.40' | S 1°46.94' | 240°41.26' | 321°48.87' | S 16°20.95' | **10** |
| **11** | 343°16.82' | 234°15.77' | S 19°03.24' | 133°54.22' | 83°38.37' | N 24°25.87' | 217°52.27' | 359°40.31' | S 1°46.97' | 255°43.63' | 321°48.95' | S 16°20.92' | **11** |
| **12** | 358°16.08' | 234°18.97' | S 19°04.06' | 148°57.24' | 83°37.81' | N 24°25.97' | 232°54.82' | 359°40.23' | S 1°46.99' | 270°46.01' | 321°49.04' | S 16°20.89' | **12** |
| **13** | 13°15.34' | 234°22.18' | S 19°04.88' | 164°00.27' | 83°37.25' | N 24°26.08' | 247°57.37' | 359°40.14' | S 1°47.02' | 285°48.38' | 321°49.13' | S 16°20.86' | **13** |
| **14** | 28°14.60' | 234°25.38' | S 19°05.70' | 179°03.30' | 83°36.68' | N 24°26.18' | 262°59.92' | 359°40.05' | S 1°47.04' | 300°50.76' | 321°49.22' | S 16°20.83' | **14** |
| **15** | 43°13.86' | 234°28.59' | S 19°06.52' | 194°06.33' | 83°36.12' | N 24°26.29' | 278°02.48' | 359°39.97' | S 1°47.07' | 315°53.13' | 321°49.31' | S 16°20.80' | **15** |
| **16** | 58°13.12' | 234°31.79' | S 19°07.34' | 209°09.36' | 83°35.55' | N 24°26.39' | 293°05.03' | 359°39.88' | S 1°47.09' | 330°55.51' | 321°49.40' | S 16°20.77' | **16** |
| **17** | 73°12.37' | 234°35.00' | S 19°08.16' | 224°12.39' | 83°34.99' | N 24°26.50' | 308°07.57' | 359°39.80' | S 1°47.12' | 345°57.88' | 321°49.49' | S 16°20.73' | **17** |
| **18** | 88°11.63' | 234°38.20' | S 19°08.98' | 239°15.42' | 83°34.42' | N 24°26.60' | 323°10.12' | 359°39.71' | S 1°47.15' | 1°00.26' | 321°49.58' | S 16°20.70' | **18** |
| **19** | 103°10.89' | 234°41.41' | S 19°09.79' | 254°18.46' | 83°33.85' | N 24°26.71' | 338°12.67' | 359°39.63' | S 1°47.17' | 16°02.63' | 321°49.67' | S 16°20.67' | **19** |
| **20** | 118°10.15' | 234°44.62' | S 19°10.61' | 269°21.49' | 83°33.27' | N 24°26.81' | 353°15.22' | 359°39.54' | S 1°47.20' | 31°05.01' | 321°49.76' | S 16°20.64' | **20** |
| **21** | 133°09.40' | 234°47.83' | S 19°11.42' | 284°24.53' | 83°32.70' | N 24°26.92' | 8°17.77' | 359°39.46' | S 1°47.22' | 46°07.38' | 321°49.85' | S 16°20.61' | **21** |
| **22** | 148°08.66' | 234°51.04' | S 19°12.24' | 299°27.57' | 83°32.12' | N 24°27.02' | 23°20.32' | 359°39.38' | S 1°47.24' | 61°09.76' | 321°49.94' | S 16°20.58' | **22** |
| **23** | 163°07.91' | 234°54.25' | S 19°13.05' | 314°30.61' | 83°31.55' | N 24°27.13' | 38°22.87' | 359°39.29' | S 1°47.27' | 76°12.13' | 321°50.03' | S 16°20.55' | **23** |
| **24** | 178°07.17' | 234°57.46' | S 19°13.86' | 329°33.65' | 83°30.97' | N 24°27.23' | 53°25.41' | 359°39.21' | S 1°47.29' | 91°14.50' | 321°50.12' | S 16°20.52' | **24** |
| | δ 14.9878° | | *d* 0.8325' | δ 15.0501° | | *d* 0.1064' | δ 15.0426° | | *d* 0.0275' | δ 15.0396° | | *d* 0.0300' | |

## *Monday, November 14th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°55.07' | 14.9985° | 229°09.55' | S 18°09.49' | 0.6547' | 296°34.89' | 14.4974° | 116°29.73' | N 26°15.32' | 4.3011' | 54.1582' | 53°04.62' | **00** |
| **01** | 198°54.98' | 14.9985° | 229°12.11' | S 18°10.14' | 0.6541' | 311°04.78' | 14.4982° | 117°02.30' | N 26°10.90' | 4.4231' | 54.1565' | 68°07.09' | **01** |
| **02** | 213°54.88' | 14.9985° | 229°14.67' | S 18°10.80' | 0.6536' | 325°34.72' | 14.4989° | 117°34.83' | N 26°06.35' | 4.5446' | 54.1550' | 83°09.55' | **02** |
| **03** | 228°54.79' | 14.9984° | 229°17.22' | S 18°11.45' | 0.6530' | 340°04.70' | 14.4997° | 118°07.31' | N 26°01.69' | 4.6654' | 54.1538' | 98°12.01' | **03** |
| **04** | 243°54.70' | 14.9984° | 229°19.78' | S 18°12.10' | 0.6525' | 354°34.73' | 14.5005° | 118°39.74' | N 25°56.90' | 4.7858' | 54.1530' | 113°14.48' | **04** |
| **05** | 258°54.60' | 14.9984° | 229°22.34' | S 18°12.75' | 0.6519' | 9°04.81' | 14.5013° | 119°12.13' | N 25°51.99' | 4.9055' | 54.1523' | 128°16.94' | **05** |
| **06** | 273°54.51' | 14.9984° | 229°24.90' | S 18°13.41' | 0.6514' | 23°34.94' | 14.5021° | 119°44.47' | N 25°46.97' | 5.0246' | 54.1520' | 143°19.41' | **06** |
| **07** | 288°54.41' | 14.9984° | 229°27.46' | S 18°14.06' | 0.6508' | 38°05.11' | 14.5029° | 120°16.76' | N 25°41.83' | 5.1432' | 54.1520' | 158°21.87' | **07** |
| **08** | 303°54.32' | 14.9984° | 229°30.02' | S 18°14.71' | 0.6503' | 52°35.34' | 14.5037° | 120°49.00' | N 25°36.56' | 5.2612' | 54.1522' | 173°24.33' | **08** |
| **09** | 318°54.22' | 14.9984° | 229°32.58' | S 18°15.36' | 0.6497' | 67°05.61' | 14.5046° | 121°21.19' | N 25°31.19' | 5.3785' | 54.1527' | 188°26.80' | **09** |
| **10** | 333°54.13' | 14.9984° | 229°35.14' | S 18°16.01' | 0.6492' | 81°35.94' | 14.5054° | 121°53.33' | N 25°25.69' | 5.4953' | 54.1535' | 203°29.26' | **10** |
| **11** | 348°54.03' | 14.9984° | 229°37.70' | S 18°16.65' | 0.6486' | 96°06.31' | 14.5062° | 122°25.42' | N 25°20.08' | 5.6115' | 54.1546' | 218°31.73' | **11** |
| **12** | 3°53.93' | 14.9984° | 229°40.26' | S 18°17.30' | 0.6481' | 110°36.74' | 14.5071° | 122°57.45' | N 25°14.35' | 5.7270' | 54.1560' | 233°34.19' | **12** |
| **13** | 18°53.84' | 14.9984° | 229°42.82' | S 18°17.95' | 0.6475' | 125°07.21' | 14.5079° | 123°29.44' | N 25°08.51' | 5.8419' | 54.1576' | 248°36.66' | **13** |
| **14** | 33°53.74' | 14.9984° | 229°45.38' | S 18°18.60' | 0.6469' | 139°37.74' | 14.5088° | 124°01.38' | N 25°02.55' | 5.9563' | 54.1596' | 263°39.12' | **14** |
| **15** | 48°53.64' | 14.9984° | 229°47.94' | S 18°19.24' | 0.6464' | 154°08.32' | 14.5097° | 124°33.26' | N 24°56.48' | 6.0699' | 54.1618' | 278°41.58' | **15** |
| **16** | 63°53.54' | 14.9984° | 229°50.51' | S 18°19.89' | 0.6458' | 168°38.95' | 14.5105° | 125°05.09' | N 24°50.30' | 6.1830' | 54.1643' | 293°44.05' | **16** |
| **17** | 78°53.44' | 14.9984° | 229°53.07' | S 18°20.53' | 0.6453' | 183°09.64' | 14.5114° | 125°36.87' | N 24°44.01' | 6.2954' | 54.1672' | 308°46.51' | **17** |
| **18** | 93°53.34' | 14.9984° | 229°55.63' | S 18°21.18' | 0.6447' | 197°40.37' | 14.5123° | 126°08.60' | N 24°37.60' | 6.4072' | 54.1703' | 323°48.98' | **18** |
| **19** | 108°53.25' | 14.9983° | 229°58.20' | S 18°21.82' | 0.6442' | 212°11.16' | 14.5132° | 126°40.28' | N 24°31.08' | 6.5183' | 54.1737' | 338°51.44' | **19** |
| **20** | 123°53.15' | 14.9983° | 230°00.76' | S 18°22.47' | 0.6436' | 226°42.01' | 14.5140° | 127°11.90' | N 24°24.45' | 6.6288' | 54.1774' | 353°53.90' | **20** |
| **21** | 138°53.05' | 14.9983° | 230°03.32' | S 18°23.11' | 0.6431' | 241°12.90' | 14.5149° | 127°43.47' | N 24°17.71' | 6.7386' | 54.1814' | 8°56.37' | **21** |
| **22** | 153°52.95' | 14.9983° | 230°05.89' | S 18°23.75' | 0.6425' | 255°43.85' | 14.5158° | 128°14.98' | N 24°10.87' | 6.8478' | 54.1856' | 23°58.83' | **22** |
| **23** | 168°52.84' | 14.9983° | 230°08.45' | S 18°24.39' | 0.6419' | 270°14.85' | 14.5167° | 128°46.45' | N 24°03.91' | 6.9564' | 54.1902' | 39°01.30' | **23** |
| **24** | 183°52.74' | 14.9983° | 230°11.02' | S 18°25.04' | 0.6414' | 284°45.91' | 14.5176° | 129°17.86' | N 23°56.84' | 7.0643' | 54.1951' | 54°03.76' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.1651' | hp (π) 0.1481' | ½Ø 14.7566' | 69.1565062633952 9% -gib | |
| EoT at 12:00 UTC : +15m 35s (δ -0.39 s/h) | | Phase at 12:00 UTC : 247.52° | | |
| Meridian Pass. Time : 11:44:24.270 | | Age : 19.3 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.26') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 178°07.17' | 234°57.46' | S 19°13.86' | 329°33.65' | 83°30.97' | N 24°27.23' | 53°25.41' | 359°39.21' | S 1°47.29' | 91°14.50' | 321°50.12' | S 16°20.52' | **00** |
| **01** | 193°06.42' | 235°00.67' | S 19°14.67' | 344°36.70' | 83°30.39' | N 24°27.34' | 68°27.96' | 359°39.13' | S 1°47.32' | 106°16.88' | 321°50.21' | S 16°20.49' | **01** |
| **02** | 208°05.67' | 235°03.88' | S 19°15.48' | 359°39.74' | 83°29.81' | N 24°27.44' | 83°30.51' | 359°39.04' | S 1°47.34' | 121°19.25' | 321°50.30' | S 16°20.45' | **02** |
| **03** | 223°04.93' | 235°07.09' | S 19°16.29' | 14°42.79' | 83°29.22' | N 24°27.55' | 98°33.05' | 359°38.96' | S 1°47.36' | 136°21.62' | 321°50.39' | S 16°20.42' | **03** |
| **04** | 238°04.18' | 235°10.30' | S 19°17.10' | 29°45.84' | 83°28.64' | N 24°27.65' | 113°35.60' | 359°38.88' | S 1°47.39' | 151°24.00' | 321°50.48' | S 16°20.39' | **04** |
| **05** | 253°03.43' | 235°13.51' | S 19°17.90' | 44°48.89' | 83°28.05' | N 24°27.75' | 128°38.14' | 359°38.80' | S 1°47.41' | 166°26.37' | 321°50.57' | S 16°20.36' | **05** |
| **06** | 268°02.68' | 235°16.73' | S 19°18.71' | 59°51.95' | 83°27.46' | N 24°27.86' | 143°40.69' | 359°38.72' | S 1°47.44' | 181°28.74' | 321°50.66' | S 16°20.33' | **06** |
| **07** | 283°01.93' | 235°19.94' | S 19°19.52' | 74°55.00' | 83°26.87' | N 24°27.96' | 158°43.24' | 359°38.64' | S 1°47.46' | 196°31.12' | 321°50.76' | S 16°20.30' | **07** |
| **08** | 298°01.18' | 235°23.15' | S 19°20.32' | 89°58.06' | 83°26.28' | N 24°28.07' | 173°45.78' | 359°38.55' | S 1°47.48' | 211°33.49' | 321°50.85' | S 16°20.26' | **08** |
| **09** | 313°00.43' | 235°26.37' | S 19°21.12' | 105°01.11' | 83°25.69' | N 24°28.17' | 188°48.32' | 359°38.47' | S 1°47.50' | 226°35.86' | 321°50.94' | S 16°20.23' | **09** |
| **10** | 327°59.68' | 235°29.58' | S 19°21.93' | 120°04.17' | 83°25.09' | N 24°28.27' | 203°50.87' | 359°38.39' | S 1°47.53' | 241°38.23' | 321°51.03' | S 16°20.20' | **10** |
| **11** | 342°58.93' | 235°32.80' | S 19°22.73' | 135°07.23' | 83°24.50' | N 24°28.38' | 218°53.41' | 359°38.31' | S 1°47.55' | 256°40.60' | 321°51.12' | S 16°20.17' | **11** |
| **12** | 357°58.18' | 235°36.01' | S 19°23.53' | 150°10.29' | 83°23.90' | N 24°28.48' | 233°55.96' | 359°38.24' | S 1°47.57' | 271°42.98' | 321°51.22' | S 16°20.14' | **12** |
| **13** | 12°57.42' | 235°39.23' | S 19°24.33' | 165°13.36' | 83°23.30' | N 24°28.58' | 248°58.50' | 359°38.16' | S 1°47.59' | 286°45.35' | 321°51.31' | S 16°20.11' | **13** |
| **14** | 27°56.67' | 235°42.45' | S 19°25.13' | 180°16.42' | 83°22.70' | N 24°28.69' | 264°01.04' | 359°38.08' | S 1°47.62' | 301°47.72' | 321°51.40' | S 16°20.07' | **14** |
| **15** | 42°55.92' | 235°45.67' | S 19°25.93' | 195°19.49' | 83°22.09' | N 24°28.79' | 279°03.58' | 359°38.00' | S 1°47.64' | 316°50.09' | 321°51.49' | S 16°20.04' | **15** |
| **16** | 57°55.16' | 235°48.88' | S 19°26.72' | 210°22.56' | 83°21.49' | N 24°28.89' | 294°06.13' | 359°37.92' | S 1°47.66' | 331°52.46' | 321°51.59' | S 16°20.01' | **16** |
| **17** | 72°54.41' | 235°52.10' | S 19°27.52' | 225°25.63' | 83°20.88' | N 24°29.00' | 309°08.67' | 359°37.84' | S 1°47.68' | 346°54.83' | 321°51.68' | S 16°19.98' | **17** |
| **18** | 87°53.65' | 235°55.32' | S 19°28.31' | 240°28.70' | 83°20.28' | N 24°29.10' | 324°11.21' | 359°37.77' | S 1°47.70' | 1°57.20' | 321°51.77' | S 16°19.95' | **18** |
| **19** | 102°52.90' | 235°58.54' | S 19°29.11' | 255°31.77' | 83°19.67' | N 24°29.20' | 339°13.75' | 359°37.69' | S 1°47.73' | 16°59.57' | 321°51.87' | S 16°19.91' | **19** |
| **20** | 117°52.14' | 236°01.76' | S 19°29.90' | 270°34.85' | 83°19.06' | N 24°29.30' | 354°16.29' | 359°37.61' | S 1°47.75' | 32°01.94' | 321°51.96' | S 16°19.88' | **20** |
| **21** | 132°51.38' | 236°04.98' | S 19°30.69' | 285°37.92' | 83°18.44' | N 24°29.41' | 9°18.83' | 359°37.54' | S 1°47.77' | 47°04.31' | 321°52.06' | S 16°19.85' | **21** |
| **22** | 147°50.63' | 236°08.21' | S 19°31.48' | 300°41.00' | 83°17.83' | N 24°29.51' | 24°21.37' | 359°37.46' | S 1°47.79' | 62°06.68' | 321°52.15' | S 16°19.82' | **22** |
| **23** | 162°49.87' | 236°11.43' | S 19°32.28' | 315°44.08' | 83°17.21' | N 24°29.61' | 39°23.91' | 359°37.38' | S 1°47.81' | 77°09.05' | 321°52.24' | S 16°19.78' | **23** |
| **24** | 177°49.11' | 236°14.65' | S 19°33.06' | 330°47.16' | 83°16.60' | N 24°29.71' | 54°26.45' | 359°37.31' | S 1°47.83' | 92°11.42' | 321°52.34' | S 16°19.75' | **24** |
| | δ 14.9876° | | *d* 0.8108' | δ 15.0507° | | *d* 0.1044' | δ 15.0425° | | *d* 0.0241' | δ 15.0396° | | *d* 0.0313' | |

## *Tuesday, November 15th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°52.74' | 14.9983° | 230°11.02' | S 18°25.04' | 0.6414' | 284°45.91' | 14.5176° | 129°17.86' | N 23°56.84' | 7.0643' | 54.1951' | 54°03.76' | **00** |
| **01** | 198°52.64' | 14.9983° | 230°13.58' | S 18°25.68' | 0.6408' | 299°17.01' | 14.5185° | 129°49.21' | N 23°49.67' | 7.1715' | 54.2003' | 69°06.23' | **01** |
| **02** | 213°52.54' | 14.9983° | 230°16.15' | S 18°26.32' | 0.6403' | 313°48.18' | 14.5194° | 130°20.51' | N 23°42.40' | 7.2781' | 54.2057' | 84°08.69' | **02** |
| **03** | 228°52.44' | 14.9983° | 230°18.72' | S 18°26.96' | 0.6397' | 328°19.39' | 14.5203° | 130°51.76' | N 23°35.01' | 7.3840' | 54.2115' | 99°11.15' | **03** |
| **04** | 243°52.34' | 14.9983° | 230°21.28' | S 18°27.60' | 0.6391' | 342°50.66' | 14.5212° | 131°22.95' | N 23°27.52' | 7.4892' | 54.2176' | 114°13.62' | **04** |
| **05** | 258°52.23' | 14.9983° | 230°23.85' | S 18°28.23' | 0.6386' | 357°21.99' | 14.5221° | 131°54.10' | N 23°19.93' | 7.5938' | 54.2239' | 129°16.08' | **05** |
| **06** | 273°52.13' | 14.9983° | 230°26.42' | S 18°28.87' | 0.6380' | 11°53.36' | 14.5230° | 132°25.18' | N 23°12.23' | 7.6977' | 54.2306' | 144°18.55' | **06** |
| **07** | 288°52.02' | 14.9983° | 230°28.99' | S 18°29.51' | 0.6375' | 26°24.79' | 14.5238° | 132°56.22' | N 23°04.43' | 7.8009' | 54.2375' | 159°21.01' | **07** |
| **08** | 303°51.92' | 14.9983° | 230°31.55' | S 18°30.15' | 0.6369' | 40°56.28' | 14.5247° | 133°27.20' | N 22°56.53' | 7.9035' | 54.2448' | 174°23.47' | **08** |
| **09** | 318°51.82' | 14.9983° | 230°34.12' | S 18°30.78' | 0.6363' | 55°27.82' | 14.5256° | 133°58.12' | N 22°48.52' | 8.0054' | 54.2524' | 189°25.94' | **09** |
| **10** | 333°51.71' | 14.9983° | 230°36.69' | S 18°31.42' | 0.6358' | 69°59.41' | 14.5265° | 134°28.99' | N 22°40.41' | 8.1066' | 54.2602' | 204°28.40' | **10** |
| **11** | 348°51.61' | 14.9982° | 230°39.26' | S 18°32.05' | 0.6352' | 84°31.05' | 14.5274° | 134°59.81' | N 22°32.21' | 8.2072' | 54.2684' | 219°30.87' | **11** |
| **12** | 3°51.50' | 14.9982° | 230°41.83' | S 18°32.69' | 0.6346' | 99°02.75' | 14.5283° | 135°30.58' | N 22°23.90' | 8.3070' | 54.2769' | 234°33.33' | **12** |
| **13** | 18°51.39' | 14.9982° | 230°44.40' | S 18°33.32' | 0.6341' | 113°34.50' | 14.5292° | 136°01.29' | N 22°15.49' | 8.4062' | 54.2857' | 249°35.80' | **13** |
| **14** | 33°51.29' | 14.9982° | 230°46.97' | S 18°33.96' | 0.6335' | 128°06.30' | 14.5301° | 136°31.95' | N 22°06.99' | 8.5048' | 54.2947' | 264°38.26' | **14** |
| **15** | 48°51.18' | 14.9982° | 230°49.54' | S 18°34.59' | 0.6329' | 142°38.16' | 14.5309° | 137°02.56' | N 21°58.39' | 8.6026' | 54.3041' | 279°40.72' | **15** |
| **16** | 63°51.07' | 14.9982° | 230°52.11' | S 18°35.22' | 0.6324' | 157°10.07' | 14.5318° | 137°33.12' | N 21°49.69' | 8.6998' | 54.3138' | 294°43.19' | **16** |
| **17** | 78°50.97' | 14.9982° | 230°54.68' | S 18°35.85' | 0.6318' | 171°42.03' | 14.5327° | 138°03.62' | N 21°40.89' | 8.7963' | 54.3238' | 309°45.65' | **17** |
| **18** | 93°50.86' | 14.9982° | 230°57.26' | S 18°36.48' | 0.6312' | 186°14.04' | 14.5335° | 138°34.07' | N 21°32.00' | 8.8921' | 54.3341' | 324°48.12' | **18** |
| **19** | 108°50.75' | 14.9982° | 230°59.83' | S 18°37.12' | 0.6307' | 200°46.11' | 14.5344° | 139°04.47' | N 21°23.01' | 8.9872' | 54.3446' | 339°50.58' | **19** |
| **20** | 123°50.64' | 14.9982° | 231°02.40' | S 18°37.75' | 0.6301' | 215°18.22' | 14.5353° | 139°34.82' | N 21°13.93' | 9.0817' | 54.3555' | 354°53.04' | **20** |
| **21** | 138°50.53' | 14.9982° | 231°04.98' | S 18°38.37' | 0.6295' | 229°50.39' | 14.5361° | 140°05.12' | N 21°04.75' | 9.1755' | 54.3667' | 9°55.51' | **21** |
| **22** | 153°50.42' | 14.9982° | 231°07.55' | S 18°39.00' | 0.6290' | 244°22.61' | 14.5370° | 140°35.37' | N 20°55.49' | 9.2686' | 54.3782' | 24°57.97' | **22** |
| **23** | 168°50.31' | 14.9982° | 231°10.12' | S 18°39.63' | 0.6284' | 258°54.87' | 14.5378° | 141°05.56' | N 20°46.12' | 9.3610' | 54.3901' | 40°00.44' | **23** |
| **24** | 183°50.20' | 14.9982° | 231°12.70' | S 18°40.26' | 0.6278' | 273°27.19' | 14.5386° | 141°35.71' | N 20°36.67' | 9.4528' | 54.4022' | 55°02.90' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.1687' | hp (π) 0.1482' | ½Ø 14.7895' | 60.1530605080259 9% -gib | |
| EoT at 12:00 UTC : +15m 26s (δ -0.42 s/h) | | Phase at 12:00 UTC : 258.39° | | |
| Meridian Pass. Time : 11:44:33.998 | | Age : 20.1 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.26') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 177°49.11' | 236°14.65' | S 19°33.06' | 330°47.16' | 83°16.60' | N 24°29.71' | 54°26.45' | 359°37.31' | S 1°47.83' | 92°11.42' | 321°52.34' | S 16°19.75' | **00** |
| **01** | 192°48.35' | 236°17.87' | S 19°33.85' | 345°50.25' | 83°15.98' | N 24°29.82' | 69°28.99' | 359°37.23' | S 1°47.85' | 107°13.79' | 321°52.43' | S 16°19.72' | **01** |
| **02** | 207°47.59' | 236°21.10' | S 19°34.64' | 0°53.33' | 83°15.36' | N 24°29.92' | 84°31.53' | 359°37.16' | S 1°47.87' | 122°16.16' | 321°52.53' | S 16°19.69' | **02** |
| **03** | 222°46.83' | 236°24.32' | S 19°35.43' | 15°56.42' | 83°14.74' | N 24°30.02' | 99°34.07' | 359°37.08' | S 1°47.89' | 137°18.53' | 321°52.62' | S 16°19.65' | **03** |
| **04** | 237°46.07' | 236°27.55' | S 19°36.21' | 30°59.50' | 83°14.11' | N 24°30.12' | 114°36.61' | 359°37.01' | S 1°47.91' | 152°20.90' | 321°52.72' | S 16°19.62' | **04** |
| **05** | 252°45.31' | 236°30.77' | S 19°37.00' | 46°02.59' | 83°13.49' | N 24°30.22' | 129°39.15' | 359°36.94' | S 1°47.93' | 167°23.27' | 321°52.81' | S 16°19.59' | **05** |
| **06** | 267°44.55' | 236°34.00' | S 19°37.78' | 61°05.68' | 83°12.86' | N 24°30.33' | 144°41.68' | 359°36.86' | S 1°47.95' | 182°25.64' | 321°52.91' | S 16°19.55' | **06** |
| **07** | 282°43.79' | 236°37.22' | S 19°38.56' | 76°08.78' | 83°12.23' | N 24°30.43' | 159°44.22' | 359°36.79' | S 1°47.97' | 197°28.01' | 321°53.00' | S 16°19.52' | **07** |
| **08** | 297°43.02' | 236°40.45' | S 19°39.35' | 91°11.87' | 83°11.61' | N 24°30.53' | 174°46.76' | 359°36.72' | S 1°47.99' | 212°30.37' | 321°53.10' | S 16°19.49' | **08** |
| **09** | 312°42.26' | 236°43.68' | S 19°40.13' | 106°14.96' | 83°10.97' | N 24°30.63' | 189°49.29' | 359°36.64' | S 1°48.01' | 227°32.74' | 321°53.20' | S 16°19.46' | **09** |
| **10** | 327°41.50' | 236°46.90' | S 19°40.91' | 121°18.06' | 83°10.34' | N 24°30.73' | 204°51.83' | 359°36.57' | S 1°48.03' | 242°35.11' | 321°53.29' | S 16°19.42' | **10** |
| **11** | 342°40.73' | 236°50.13' | S 19°41.69' | 136°21.16' | 83°09.71' | N 24°30.83' | 219°54.37' | 359°36.50' | S 1°48.05' | 257°37.48' | 321°53.39' | S 16°19.39' | **11** |
| **12** | 357°39.97' | 236°53.36' | S 19°42.47' | 151°24.26' | 83°09.07' | N 24°30.93' | 234°56.90' | 359°36.43' | S 1°48.07' | 272°39.85' | 321°53.48' | S 16°19.36' | **12** |
| **13** | 12°39.20' | 236°56.59' | S 19°43.24' | 166°27.36' | 83°08.43' | N 24°31.04' | 249°59.44' | 359°36.36' | S 1°48.09' | 287°42.21' | 321°53.58' | S 16°19.32' | **13** |
| **14** | 27°38.44' | 236°59.82' | S 19°44.02' | 181°30.46' | 83°07.79' | N 24°31.14' | 265°01.97' | 359°36.29' | S 1°48.11' | 302°44.58' | 321°53.68' | S 16°19.29' | **14** |
| **15** | 42°37.67' | 237°03.05' | S 19°44.79' | 196°33.57' | 83°07.15' | N 24°31.24' | 280°04.51' | 359°36.22' | S 1°48.13' | 317°46.95' | 321°53.77' | S 16°19.26' | **15** |
| **16** | 57°36.90' | 237°06.28' | S 19°45.57' | 211°36.68' | 83°06.51' | N 24°31.34' | 295°07.04' | 359°36.14' | S 1°48.15' | 332°49.32' | 321°53.87' | S 16°19.22' | **16** |
| **17** | 72°36.14' | 237°09.51' | S 19°46.34' | 226°39.78' | 83°05.87' | N 24°31.44' | 310°09.58' | 359°36.07' | S 1°48.16' | 347°51.68' | 321°53.97' | S 16°19.19' | **17** |
| **18** | 87°35.37' | 237°12.75' | S 19°47.11' | 241°42.89' | 83°05.22' | N 24°31.54' | 325°12.11' | 359°36.01' | S 1°48.18' | 2°54.05' | 321°54.07' | S 16°19.16' | **18** |
| **19** | 102°34.60' | 237°15.98' | S 19°47.89' | 256°46.00' | 83°04.58' | N 24°31.64' | 340°14.64' | 359°35.94' | S 1°48.20' | 17°56.42' | 321°54.16' | S 16°19.12' | **19** |
| **20** | 117°33.83' | 237°19.21' | S 19°48.66' | 271°49.12' | 83°03.93' | N 24°31.74' | 355°17.18' | 359°35.87' | S 1°48.22' | 32°58.78' | 321°54.26' | S 16°19.09' | **20** |
| **21** | 132°33.06' | 237°22.45' | S 19°49.43' | 286°52.23' | 83°03.28' | N 24°31.84' | 10°19.71' | 359°35.80' | S 1°48.24' | 48°01.15' | 321°54.36' | S 16°19.06' | **21** |
| **22** | 147°32.29' | 237°25.68' | S 19°50.19' | 301°55.35' | 83°02.63' | N 24°31.94' | 25°22.24' | 359°35.73' | S 1°48.25' | 63°03.51' | 321°54.46' | S 16°19.02' | **22** |
| **23** | 162°31.52' | 237°28.92' | S 19°50.96' | 316°58.46' | 83°01.97' | N 24°32.04' | 40°24.77' | 359°35.66' | S 1°48.27' | 78°05.88' | 321°54.56' | S 16°18.99' | **23** |
| **24** | 177°30.75' | 237°32.15' | S 19°51.73' | 332°01.58' | 83°01.32' | N 24°32.14' | 55°27.31' | 359°35.59' | S 1°48.29' | 93°08.25' | 321°54.65' | S 16°18.96' | **24** |
| | δ 14.9874° | | *d* 0.7886' | δ 15.0514° | | *d* 0.1022' | δ 15.0423° | | *d* 0.0207' | δ 15.0395° | | *d* 0.0326' | |

## *Wednesday, November 16th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°50.20' | 14.9982° | 231°12.70' | S 18°40.26' | 0.6278' | 273°27.19' | 14.5386° | 141°35.71' | N 20°36.67' | 9.4528' | 54.4022' | 55°02.90' | **00** |
| **01** | 198°50.09' | 14.9982° | 231°15.27' | S 18°40.89' | 0.6273' | 287°59.56' | 14.5395° | 142°05.81' | N 20°27.13' | 9.5439' | 54.4146' | 70°05.36' | **01** |
| **02** | 213°49.98' | 14.9982° | 231°17.85' | S 18°41.51' | 0.6267' | 302°31.97' | 14.5403° | 142°35.86' | N 20°17.49' | 9.6343' | 54.4273' | 85°07.83' | **02** |
| **03** | 228°49.87' | 14.9981° | 231°20.42' | S 18°42.14' | 0.6261' | 317°04.44' | 14.5411° | 143°05.85' | N 20°07.77' | 9.7240' | 54.4403' | 100°10.29' | **03** |
| **04** | 243°49.76' | 14.9981° | 231°23.00' | S 18°42.77' | 0.6255' | 331°36.95' | 14.5419° | 143°35.81' | N 19°57.96' | 9.8130' | 54.4536' | 115°12.76' | **04** |
| **05** | 258°49.65' | 14.9981° | 231°25.57' | S 18°43.39' | 0.6250' | 346°09.51' | 14.5427° | 144°05.71' | N 19°48.05' | 9.9014' | 54.4673' | 130°15.22' | **05** |
| **06** | 273°49.54' | 14.9981° | 231°28.15' | S 18°44.02' | 0.6244' | 0°42.12' | 14.5435° | 144°35.56' | N 19°38.07' | 9.9891' | 54.4812' | 145°17.69' | **06** |
| **07** | 288°49.42' | 14.9981° | 231°30.73' | S 18°44.64' | 0.6238' | 15°14.78' | 14.5443° | 145°05.37' | N 19°27.99' | 10.0761' | 54.4954' | 160°20.15' | **07** |
| **08** | 303°49.31' | 14.9981° | 231°33.30' | S 18°45.26' | 0.6232' | 29°47.48' | 14.5450° | 145°35.13' | N 19°17.83' | 10.1625' | 54.5100' | 175°22.61' | **08** |
| **09** | 318°49.20' | 14.9981° | 231°35.88' | S 18°45.88' | 0.6227' | 44°20.23' | 14.5458° | 146°04.85' | N 19°07.58' | 10.2482' | 54.5248' | 190°25.08' | **09** |
| **10** | 333°49.08' | 14.9981° | 231°38.46' | S 18°46.51' | 0.6221' | 58°53.02' | 14.5466° | 146°34.52' | N 18°57.25' | 10.3332' | 54.5399' | 205°27.54' | **10** |
| **11** | 348°48.97' | 14.9981° | 231°41.04' | S 18°47.13' | 0.6215' | 73°25.86' | 14.5473° | 147°04.14' | N 18°46.83' | 10.4175' | 54.5554' | 220°30.01' | **11** |
| **12** | 3°48.85' | 14.9981° | 231°43.62' | S 18°47.75' | 0.6209' | 87°58.75' | 14.5481° | 147°33.72' | N 18°36.33' | 10.5012' | 54.5711' | 235°32.47' | **12** |
| **13** | 18°48.74' | 14.9981° | 231°46.20' | S 18°48.37' | 0.6204' | 102°31.67' | 14.5488° | 148°03.26' | N 18°25.74' | 10.5842' | 54.5871' | 250°34.93' | **13** |
| **14** | 33°48.62' | 14.9981° | 231°48.78' | S 18°48.99' | 0.6198' | 117°04.64' | 14.5495° | 148°32.75' | N 18°15.08' | 10.6665' | 54.6035' | 265°37.40' | **14** |
| **15** | 48°48.51' | 14.9981° | 231°51.35' | S 18°49.61' | 0.6192' | 131°37.66' | 14.5502° | 149°02.21' | N 18°04.33' | 10.7481' | 54.6201' | 280°39.86' | **15** |
| **16** | 63°48.39' | 14.9981° | 231°53.93' | S 18°50.23' | 0.6186' | 146°10.71' | 14.5509° | 149°31.61' | N 17°53.50' | 10.8291' | 54.6371' | 295°42.33' | **16** |
| **17** | 78°48.27' | 14.9981° | 231°56.52' | S 18°50.85' | 0.6181' | 160°43.81' | 14.5516° | 150°00.98' | N 17°42.59' | 10.9094' | 54.6543' | 310°44.79' | **17** |
| **18** | 93°48.16' | 14.9981° | 231°59.10' | S 18°51.46' | 0.6175' | 175°16.95' | 14.5523° | 150°30.31' | N 17°31.60' | 10.9891' | 54.6718' | 325°47.25' | **18** |
| **19** | 108°48.04' | 14.9980° | 232°01.68' | S 18°52.08' | 0.6169' | 189°50.13' | 14.5530° | 150°59.59' | N 17°20.53' | 11.0680' | 54.6896' | 340°49.72' | **19** |
| **20** | 123°47.92' | 14.9980° | 232°04.26' | S 18°52.70' | 0.6163' | 204°23.34' | 14.5536° | 151°28.84' | N 17°09.39' | 11.1464' | 54.7078' | 355°52.18' | **20** |
| **21** | 138°47.81' | 14.9980° | 232°06.84' | S 18°53.31' | 0.6157' | 218°56.60' | 14.5543° | 151°58.05' | N 16°58.16' | 11.2240' | 54.7262' | 10°54.65' | **21** |
| **22** | 153°47.69' | 14.9980° | 232°09.42' | S 18°53.93' | 0.6152' | 233°29.89' | 14.5549° | 152°27.22' | N 16°46.86' | 11.3010' | 54.7449' | 25°57.11' | **22** |
| **23** | 168°47.57' | 14.9980° | 232°12.01' | S 18°54.54' | 0.6146' | 248°03.23' | 14.5555° | 152°56.35' | N 16°35.48' | 11.3773' | 54.7639' | 40°59.58' | **23** |
| **24** | 183°47.45' | 14.9980° | 232°14.59' | S 18°55.16' | 0.6140' | 262°36.60' | 14.5561° | 153°25.44' | N 16°24.03' | 11.4529' | 54.7832' | 56°02.04' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.1721' | hp (π) 0.1482' | ½Ø 14.8697' | 50.7148688842378<br>1% -gib | |
| EoT at 12:00 UTC : +15m 15s (δ -0.46 s/h) | | Phase at 12:00 UTC : 269.33° | | |
| Meridian Pass. Time : 11:44:44.586 | | Age : 20.9 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.26') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 177°30.75' | 237°32.15' | S 19°51.73' | 332°01.58' | 83°01.32' | N 24°32.14' | 55°27.31' | 359°35.59' | S 1°48.29' | 93°08.25' | 321°54.65' | S 16°18.96' | **00** |
| **01** | 192°29.98' | 237°35.39' | S 19°52.49' | 347°04.70' | 83°00.66' | N 24°32.24' | 70°29.84' | 359°35.53' | S 1°48.31' | 108°10.61' | 321°54.75' | S 16°18.92' | **01** |
| **02** | 207°29.21' | 237°38.62' | S 19°53.26' | 2°07.82' | 83°00.01' | N 24°32.34' | 85°32.37' | 359°35.46' | S 1°48.32' | 123°12.98' | 321°54.85' | S 16°18.89' | **02** |
| **03** | 222°28.43' | 237°41.86' | S 19°54.02' | 17°10.95' | 82°59.35' | N 24°32.44' | 100°34.90' | 359°35.39' | S 1°48.34' | 138°15.34' | 321°54.95' | S 16°18.85' | **03** |
| **04** | 237°27.66' | 237°45.10' | S 19°54.79' | 32°14.07' | 82°58.69' | N 24°32.54' | 115°37.43' | 359°35.33' | S 1°48.36' | 153°17.71' | 321°55.05' | S 16°18.82' | **04** |
| **05** | 252°26.89' | 237°48.33' | S 19°55.55' | 47°17.20' | 82°58.02' | N 24°32.64' | 130°39.96' | 359°35.26' | S 1°48.37' | 168°20.07' | 321°55.15' | S 16°18.79' | **05** |
| **06** | 267°26.11' | 237°51.57' | S 19°56.31' | 62°20.32' | 82°57.36' | N 24°32.74' | 145°42.49' | 359°35.19' | S 1°48.39' | 183°22.44' | 321°55.25' | S 16°18.75' | **06** |
| **07** | 282°25.34' | 237°54.81' | S 19°57.07' | 77°23.45' | 82°56.70' | N 24°32.84' | 160°45.02' | 359°35.13' | S 1°48.41' | 198°24.80' | 321°55.35' | S 16°18.72' | **07** |
| **08** | 297°24.56' | 237°58.05' | S 19°57.83' | 92°26.59' | 82°56.03' | N 24°32.93' | 175°47.55' | 359°35.06' | S 1°48.42' | 213°27.17' | 321°55.45' | S 16°18.68' | **08** |
| **09** | 312°23.79' | 238°01.29' | S 19°58.59' | 107°29.72' | 82°55.36' | N 24°33.03' | 190°50.08' | 359°35.00' | S 1°48.44' | 228°29.53' | 321°55.55' | S 16°18.65' | **09** |
| **10** | 327°23.01' | 238°04.53' | S 19°59.34' | 122°32.85' | 82°54.69' | N 24°33.13' | 205°52.61' | 359°34.93' | S 1°48.45' | 243°31.89' | 321°55.65' | S 16°18.61' | **10** |
| **11** | 342°22.23' | 238°07.77' | S 20°00.10' | 137°35.99' | 82°54.02' | N 24°33.23' | 220°55.14' | 359°34.87' | S 1°48.47' | 258°34.26' | 321°55.75' | S 16°18.58' | **11** |
| **12** | 357°21.46' | 238°11.01' | S 20°00.85' | 152°39.12' | 82°53.35' | N 24°33.33' | 235°57.66' | 359°34.81' | S 1°48.49' | 273°36.62' | 321°55.85' | S 16°18.55' | **12** |
| **13** | 12°20.68' | 238°14.26' | S 20°01.61' | 167°42.26' | 82°52.67' | N 24°33.43' | 251°00.19' | 359°34.74' | S 1°48.50' | 288°38.99' | 321°55.95' | S 16°18.51' | **13** |
| **14** | 27°19.90' | 238°17.50' | S 20°02.36' | 182°45.40' | 82°52.00' | N 24°33.53' | 266°02.72' | 359°34.68' | S 1°48.52' | 303°41.35' | 321°56.05' | S 16°18.48' | **14** |
| **15** | 42°19.12' | 238°20.74' | S 20°03.11' | 197°48.54' | 82°51.32' | N 24°33.62' | 281°05.25' | 359°34.62' | S 1°48.53' | 318°43.71' | 321°56.15' | S 16°18.44' | **15** |
| **16** | 57°18.34' | 238°23.99' | S 20°03.87' | 212°51.69' | 82°50.64' | N 24°33.72' | 296°07.77' | 359°34.55' | S 1°48.55' | 333°46.07' | 321°56.25' | S 16°18.41' | **16** |
| **17** | 72°17.56' | 238°27.23' | S 20°04.62' | 227°54.83' | 82°49.96' | N 24°33.82' | 311°10.30' | 359°34.49' | S 1°48.56' | 348°48.44' | 321°56.35' | S 16°18.37' | **17** |
| **18** | 87°16.78' | 238°30.48' | S 20°05.37' | 242°57.98' | 82°49.28' | N 24°33.92' | 326°12.82' | 359°34.43' | S 1°48.58' | 3°50.80' | 321°56.45' | S 16°18.34' | **18** |
| **19** | 102°16.00' | 238°33.72' | S 20°06.11' | 258°01.13' | 82°48.59' | N 24°34.02' | 341°15.35' | 359°34.37' | S 1°48.59' | 18°53.16' | 321°56.56' | S 16°18.30' | **19** |
| **20** | 117°15.22' | 238°36.97' | S 20°06.86' | 273°04.28' | 82°47.91' | N 24°34.11' | 356°17.88' | 359°34.31' | S 1°48.61' | 33°55.53' | 321°56.66' | S 16°18.27' | **20** |
| **21** | 132°14.43' | 238°40.21' | S 20°07.61' | 288°07.43' | 82°47.22' | N 24°34.21' | 11°20.40' | 359°34.25' | S 1°48.62' | 48°57.89' | 321°56.76' | S 16°18.23' | **21** |
| **22** | 147°13.65' | 238°43.46' | S 20°08.35' | 303°10.58' | 82°46.53' | N 24°34.31' | 26°22.93' | 359°34.19' | S 1°48.63' | 64°00.25' | 321°56.86' | S 16°18.20' | **22** |
| **23** | 162°12.87' | 238°46.71' | S 20°09.10' | 318°13.73' | 82°45.84' | N 24°34.41' | 41°25.45' | 359°34.13' | S 1°48.65' | 79°02.61' | 321°56.96' | S 16°18.16' | **23** |
| **24** | 177°12.08' | 238°49.95' | S 20°09.84' | 333°16.89' | 82°45.15' | N 24°34.50' | 56°27.97' | 359°34.07' | S 1°48.66' | 94°04.97' | 321°57.07' | S 16°18.13' | **24** |
| | δ 14.9871° | | *d* 0.7658' | δ 15.0520° | | *d* 0.0998' | δ 15.0422° | | *d* 0.0172' | δ 15.0394° | | *d* 0.0338' | |

## *Thursday, November 17th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°47.45' | 14.9980° | 232°14.59' | S 18°55.16' | 0.6140' | 262°36.60' | 14.5561° | 153°25.44' | N 16°24.03' | 11.4529' | 54.7832' | 56°02.04' | **00** |
| **01** | 198°47.33' | 14.9980° | 232°17.17' | S 18°55.77' | 0.6134' | 277°10.00' | 14.5568° | 153°54.50' | N 16°12.50' | 11.5279' | 54.8028' | 71°04.50' | **01** |
| **02** | 213°47.21' | 14.9980° | 232°19.76' | S 18°56.38' | 0.6128' | 291°43.44' | 14.5573° | 154°23.53' | N 16°00.90' | 11.6022' | 54.8227' | 86°06.97' | **02** |
| **03** | 228°47.09' | 14.9980° | 232°22.34' | S 18°56.99' | 0.6123' | 306°16.92' | 14.5579° | 154°52.52' | N 15°49.23' | 11.6758' | 54.8428' | 101°09.43' | **03** |
| **04** | 243°46.97' | 14.9980° | 232°24.93' | S 18°57.61' | 0.6117' | 320°50.42' | 14.5585° | 155°21.47' | N 15°37.48' | 11.7488' | 54.8633' | 116°11.90' | **04** |
| **05** | 258°46.85' | 14.9980° | 232°27.51' | S 18°58.22' | 0.6111' | 335°23.97' | 14.5590° | 155°50.39' | N 15°25.66' | 11.8211' | 54.8840' | 131°14.36' | **05** |
| **06** | 273°46.73' | 14.9980° | 232°30.10' | S 18°58.83' | 0.6105' | 349°57.54' | 14.5596° | 156°19.28' | N 15°13.76' | 11.8927' | 54.9050' | 146°16.82' | **06** |
| **07** | 288°46.61' | 14.9980° | 232°32.68' | S 18°59.44' | 0.6099' | 4°31.15' | 14.5601° | 156°48.14' | N 15°01.80' | 11.9637' | 54.9264' | 161°19.29' | **07** |
| **08** | 303°46.48' | 14.9980° | 232°35.27' | S 19°00.05' | 0.6093' | 19°04.78' | 14.5606° | 157°16.97' | N 14°49.77' | 12.0339' | 54.9479' | 176°21.75' | **08** |
| **09** | 318°46.36' | 14.9980° | 232°37.85' | S 19°00.66' | 0.6087' | 33°38.45' | 14.5611° | 157°45.77' | N 14°37.66' | 12.1036' | 54.9698' | 191°24.22' | **09** |
| **10** | 333°46.24' | 14.9980° | 232°40.44' | S 19°01.26' | 0.6082' | 48°12.15' | 14.5616° | 158°14.53' | N 14°25.49' | 12.1725' | 54.9920' | 206°26.68' | **10** |
| **11** | 348°46.12' | 14.9979° | 232°43.03' | S 19°01.87' | 0.6076' | 62°45.87' | 14.5621° | 158°43.27' | N 14°13.25' | 12.2408' | 55.0144' | 221°29.14' | **11** |
| **12** | 3°45.99' | 14.9979° | 232°45.62' | S 19°02.48' | 0.6070' | 77°19.62' | 14.5625° | 159°11.99' | N 14°00.94' | 12.3084' | 55.0371' | 236°31.61' | **12** |
| **13** | 18°45.87' | 14.9979° | 232°48.20' | S 19°03.08' | 0.6064' | 91°53.40' | 14.5630° | 159°40.67' | N 13°48.56' | 12.3754' | 55.0601' | 251°34.07' | **13** |
| **14** | 33°45.74' | 14.9979° | 232°50.79' | S 19°03.69' | 0.6058' | 106°27.21' | 14.5634° | 160°09.33' | N 13°36.12' | 12.4417' | 55.0834' | 266°36.54' | **14** |
| **15** | 48°45.62' | 14.9979° | 232°53.38' | S 19°04.30' | 0.6052' | 121°01.03' | 14.5638° | 160°37.97' | N 13°23.62' | 12.5073' | 55.1069' | 281°39.00' | **15** |
| **16** | 63°45.49' | 14.9979° | 232°55.97' | S 19°04.90' | 0.6046' | 135°34.89' | 14.5642° | 161°06.58' | N 13°11.04' | 12.5722' | 55.1307' | 296°41.46' | **16** |
| **17** | 78°45.37' | 14.9979° | 232°58.56' | S 19°05.50' | 0.6040' | 150°08.76' | 14.5646° | 161°35.17' | N 12°58.41' | 12.6365' | 55.1548' | 311°43.93' | **17** |
| **18** | 93°45.24' | 14.9979° | 233°01.15' | S 19°06.11' | 0.6035' | 164°42.66' | 14.5650° | 162°03.73' | N 12°45.71' | 12.7000' | 55.1792' | 326°46.39' | **18** |
| **19** | 108°45.12' | 14.9979° | 233°03.74' | S 19°06.71' | 0.6029' | 179°16.58' | 14.5653° | 162°32.27' | N 12°32.94' | 12.7629' | 55.2038' | 341°48.86' | **19** |
| **20** | 123°44.99' | 14.9979° | 233°06.33' | S 19°07.31' | 0.6023' | 193°50.52' | 14.5657° | 163°00.80' | N 12°20.12' | 12.8252' | 55.2287' | 356°51.32' | **20** |
| **21** | 138°44.86' | 14.9979° | 233°08.92' | S 19°07.91' | 0.6017' | 208°24.48' | 14.5660° | 163°29.30' | N 12°07.23' | 12.8867' | 55.2538' | 11°53.79' | **21** |
| **22** | 153°44.74' | 14.9979° | 233°11.51' | S 19°08.52' | 0.6011' | 222°58.46' | 14.5663° | 163°57.79' | N 11°54.28' | 12.9475' | 55.2792' | 26°56.25' | **22** |
| **23** | 168°44.61' | 14.9979° | 233°14.10' | S 19°09.12' | 0.6005' | 237°32.46' | 14.5666° | 164°26.26' | N 11°41.28' | 13.0077' | 55.3049' | 41°58.71' | **23** |
| **24** | 183°44.48' | 14.9979° | 233°16.70' | S 19°09.72' | 0.5999' | 252°06.47' | 14.5669° | 164°54.71' | N 11°28.21' | 13.0672' | 55.3308' | 57°01.18' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1756' | hp (π) 0.1482' | ½Ø 14.9967' | 41.1033675742971 % -cre |
| | EoT at 12:00 UTC : +15m 4s (δ -0.49 s/h) | | Phase at 12:00 UTC : 280.44° | |
| | Meridian Pass. Time : 11:44:56.031 | | Age : 21.8 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.26') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 177°12.08' | 238°49.95' | S 20°09.84' | 333°16.89' | 82°45.15' | N 24°34.50' | 56°27.97' | 359°34.07' | S 1°48.66' | 94°04.97' | 321°57.07' | S 16°18.13' | **00** |
| **01** | 192°11.30' | 238°53.20' | S 20°10.58' | 348°20.04' | 82°44.46' | N 24°34.60' | 71°30.50' | 359°34.01' | S 1°48.68' | 109°07.33' | 321°57.17' | S 16°18.09' | **01** |
| **02** | 207°10.52' | 238°56.45' | S 20°11.33' | 3°23.20' | 82°43.77' | N 24°34.70' | 86°33.02' | 359°33.95' | S 1°48.69' | 124°09.70' | 321°57.27' | S 16°18.06' | **02** |
| **03** | 222°09.73' | 238°59.70' | S 20°12.07' | 18°26.36' | 82°43.07' | N 24°34.79' | 101°35.54' | 359°33.89' | S 1°48.70' | 139°12.06' | 321°57.37' | S 16°18.02' | **03** |
| **04** | 237°08.94' | 239°02.95' | S 20°12.81' | 33°29.52' | 82°42.37' | N 24°34.89' | 116°38.07' | 359°33.83' | S 1°48.72' | 154°14.42' | 321°57.48' | S 16°17.99' | **04** |
| **05** | 252°08.16' | 239°06.20' | S 20°13.54' | 48°32.69' | 82°41.67' | N 24°34.99' | 131°40.59' | 359°33.77' | S 1°48.73' | 169°16.78' | 321°57.58' | S 16°17.95' | **05** |
| **06** | 267°07.37' | 239°09.45' | S 20°14.28' | 63°35.85' | 82°40.97' | N 24°35.08' | 146°43.11' | 359°33.71' | S 1°48.74' | 184°19.14' | 321°57.68' | S 16°17.92' | **06** |
| **07** | 282°06.58' | 239°12.70' | S 20°15.02' | 78°39.02' | 82°40.27' | N 24°35.18' | 161°45.63' | 359°33.65' | S 1°48.76' | 199°21.50' | 321°57.79' | S 16°17.88' | **07** |
| **08** | 297°05.80' | 239°15.96' | S 20°15.75' | 93°42.18' | 82°39.57' | N 24°35.28' | 176°48.15' | 359°33.60' | S 1°48.77' | 214°23.86' | 321°57.89' | S 16°17.85' | **08** |
| **09** | 312°05.01' | 239°19.21' | S 20°16.49' | 108°45.35' | 82°38.86' | N 24°35.37' | 191°50.68' | 359°33.54' | S 1°48.78' | 229°26.22' | 321°57.99' | S 16°17.81' | **09** |
| **10** | 327°04.22' | 239°22.46' | S 20°17.22' | 123°48.52' | 82°38.16' | N 24°35.47' | 206°53.20' | 359°33.48' | S 1°48.79' | 244°28.58' | 321°58.10' | S 16°17.78' | **10** |
| **11** | 342°03.43' | 239°25.72' | S 20°17.95' | 138°51.69' | 82°37.45' | N 24°35.56' | 221°55.72' | 359°33.43' | S 1°48.81' | 259°30.94' | 321°58.20' | S 16°17.74' | **11** |
| **12** | 357°02.64' | 239°28.97' | S 20°18.69' | 153°54.87' | 82°36.74' | N 24°35.66' | 236°58.24' | 359°33.37' | S 1°48.82' | 274°33.30' | 321°58.31' | S 16°17.70' | **12** |
| **13** | 12°01.85' | 239°32.22' | S 20°19.42' | 168°58.04' | 82°36.03' | N 24°35.75' | 252°00.76' | 359°33.32' | S 1°48.83' | 289°35.66' | 321°58.41' | S 16°17.67' | **13** |
| **14** | 27°01.06' | 239°35.48' | S 20°20.15' | 184°01.22' | 82°35.32' | N 24°35.85' | 267°03.28' | 359°33.26' | S 1°48.84' | 304°38.02' | 321°58.52' | S 16°17.63' | **14** |
| **15** | 42°00.27' | 239°38.73' | S 20°20.88' | 199°04.40' | 82°34.60' | N 24°35.95' | 282°05.80' | 359°33.20' | S 1°48.85' | 319°40.38' | 321°58.62' | S 16°17.60' | **15** |
| **16** | 56°59.47' | 239°41.99' | S 20°21.60' | 214°07.57' | 82°33.89' | N 24°36.04' | 297°08.31' | 359°33.15' | S 1°48.86' | 334°42.74' | 321°58.73' | S 16°17.56' | **16** |
| **17** | 71°58.68' | 239°45.25' | S 20°22.33' | 229°10.76' | 82°33.17' | N 24°36.14' | 312°10.83' | 359°33.10' | S 1°48.88' | 349°45.10' | 321°58.83' | S 16°17.53' | **17** |
| **18** | 86°57.89' | 239°48.50' | S 20°23.06' | 244°13.94' | 82°32.46' | N 24°36.23' | 327°13.35' | 359°33.04' | S 1°48.89' | 4°47.46' | 321°58.94' | S 16°17.49' | **18** |
| **19** | 101°57.09' | 239°51.76' | S 20°23.78' | 259°17.12' | 82°31.74' | N 24°36.33' | 342°15.87' | 359°32.99' | S 1°48.90' | 19°49.82' | 321°59.04' | S 16°17.45' | **19** |
| **20** | 116°56.30' | 239°55.02' | S 20°24.50' | 274°20.31' | 82°31.01' | N 24°36.42' | 357°18.39' | 359°32.93' | S 1°48.91' | 34°52.17' | 321°59.15' | S 16°17.42' | **20** |
| **21** | 131°55.51' | 239°58.28' | S 20°25.23' | 289°23.49' | 82°30.29' | N 24°36.51' | 12°20.90' | 359°32.88' | S 1°48.92' | 49°54.53' | 321°59.25' | S 16°17.38' | **21** |
| **22** | 146°54.71' | 240°01.54' | S 20°25.95' | 304°26.68' | 82°29.57' | N 24°36.61' | 27°23.42' | 359°32.83' | S 1°48.93' | 64°56.89' | 321°59.36' | S 16°17.35' | **22** |
| **23** | 161°53.91' | 240°04.80' | S 20°26.67' | 319°29.87' | 82°28.84' | N 24°36.70' | 42°25.94' | 359°32.78' | S 1°48.94' | 79°59.25' | 321°59.47' | S 16°17.31' | **23** |
| **24** | 176°53.12' | 240°08.06' | S 20°27.39' | 334°33.06' | 82°28.12' | N 24°36.80' | 57°28.45' | 359°32.72' | S 1°48.95' | 95°01.61' | 321°59.57' | S 16°17.27' | **24** |
| | δ 14.9869° | | *d* 0.7425' | δ 15.0526° | | *d* 0.0970' | δ 15.0421° | | *d* 0.0138' | δ 15.0394° | | *d* 0.0351' | |

## *Friday, November 18th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°44.48' | 14.9979° | 233°16.70' | S 19°09.72' | 0.5999' | 252°06.47' | 14.5669° | 164°54.71' | N 11°28.21' | 13.0672' | 55.3308' | 57°01.18' | **00** |
| **01** | 198°44.35' | 14.9979° | 233°19.29' | S 19°10.32' | 0.5993' | 266°40.50' | 14.5671° | 165°23.14' | N 11°15.08' | 13.1260' | 55.3570' | 72°03.64' | **01** |
| **02** | 213°44.22' | 14.9979° | 233°21.88' | S 19°10.91' | 0.5987' | 281°14.54' | 14.5674° | 165°51.56' | N 11°01.90' | 13.1841' | 55.3834' | 87°06.11' | **02** |
| **03** | 228°44.10' | 14.9978° | 233°24.47' | S 19°11.51' | 0.5981' | 295°48.60' | 14.5676° | 166°19.97' | N 10°48.66' | 13.2415' | 55.4101' | 102°08.57' | **03** |
| **04** | 243°43.97' | 14.9978° | 233°27.07' | S 19°12.11' | 0.5975' | 310°22.67' | 14.5678° | 166°48.36' | N 10°35.36' | 13.2982' | 55.4370' | 117°11.03' | **04** |
| **05** | 258°43.84' | 14.9978° | 233°29.66' | S 19°12.71' | 0.5969' | 324°56.75' | 14.5680° | 167°16.74' | N 10°22.01' | 13.3543' | 55.4642' | 132°13.50' | **05** |
| **06** | 273°43.71' | 14.9978° | 233°32.26' | S 19°13.30' | 0.5963' | 339°30.85' | 14.5682° | 167°45.11' | N 10°08.60' | 13.4096' | 55.4916' | 147°15.96' | **06** |
| **07** | 288°43.58' | 14.9978° | 233°34.85' | S 19°13.90' | 0.5957' | 354°04.95' | 14.5684° | 168°13.48' | N 9°55.13' | 13.4642' | 55.5193' | 162°18.43' | **07** |
| **08** | 303°43.45' | 14.9978° | 233°37.44' | S 19°14.49' | 0.5951' | 8°39.06' | 14.5685° | 168°41.83' | N 9°41.61' | 13.5181' | 55.5472' | 177°20.89' | **08** |
| **09** | 318°43.31' | 14.9978° | 233°40.04' | S 19°15.09' | 0.5945' | 23°13.18' | 14.5687° | 169°10.17' | N 9°28.04' | 13.5713' | 55.5753' | 192°23.35' | **09** |
| **10** | 333°43.18' | 14.9978° | 233°42.64' | S 19°15.68' | 0.5940' | 37°47.31' | 14.5688° | 169°38.51' | N 9°14.42' | 13.6238' | 55.6037' | 207°25.82' | **10** |
| **11** | 348°43.05' | 14.9978° | 233°45.23' | S 19°16.28' | 0.5934' | 52°21.44' | 14.5689° | 170°06.84' | N 9°00.74' | 13.6755' | 55.6323' | 222°28.28' | **11** |
| **12** | 3°42.92' | 14.9978° | 233°47.83' | S 19°16.87' | 0.5928' | 66°55.58' | 14.5690° | 170°35.17' | N 8°47.02' | 13.7266' | 55.6612' | 237°30.75' | **12** |
| **13** | 18°42.79' | 14.9978° | 233°50.42' | S 19°17.46' | 0.5922' | 81°29.72' | 14.5690° | 171°03.49' | N 8°33.24' | 13.7769' | 55.6902' | 252°33.21' | **13** |
| **14** | 33°42.65' | 14.9978° | 233°53.02' | S 19°18.05' | 0.5916' | 96°03.87' | 14.5691° | 171°31.81' | N 8°19.41' | 13.8265' | 55.7195' | 267°35.67' | **14** |
| **15** | 48°42.52' | 14.9978° | 233°55.62' | S 19°18.64' | 0.5910' | 110°38.01' | 14.5691° | 172°00.13' | N 8°05.54' | 13.8753' | 55.7490' | 282°38.14' | **15** |
| **16** | 63°42.39' | 14.9978° | 233°58.22' | S 19°19.23' | 0.5904' | 125°12.16' | 14.5691° | 172°28.44' | N 7°51.61' | 13.9234' | 55.7788' | 297°40.60' | **16** |
| **17** | 78°42.25' | 14.9978° | 234°00.82' | S 19°19.82' | 0.5898' | 139°46.31' | 14.5691° | 172°56.76' | N 7°37.64' | 13.9708' | 55.8087' | 312°43.07' | **17** |
| **18** | 93°42.12' | 14.9978° | 234°03.41' | S 19°20.41' | 0.5892' | 154°20.45' | 14.5691° | 173°25.08' | N 7°23.63' | 14.0174' | 55.8389' | 327°45.53' | **18** |
| **19** | 108°41.98' | 14.9978° | 234°06.01' | S 19°21.00' | 0.5886' | 168°54.59' | 14.5690° | 173°53.40' | N 7°09.56' | 14.0633' | 55.8693' | 342°47.99' | **19** |
| **20** | 123°41.85' | 14.9977° | 234°08.61' | S 19°21.59' | 0.5880' | 183°28.73' | 14.5690° | 174°21.73' | N 6°55.45' | 14.1084' | 55.8998' | 357°50.46' | **20** |
| **21** | 138°41.71' | 14.9977° | 234°11.21' | S 19°22.18' | 0.5873' | 198°02.87' | 14.5689° | 174°50.06' | N 6°41.30' | 14.1528' | 55.9306' | 12°52.92' | **21** |
| **22** | 153°41.57' | 14.9977° | 234°13.81' | S 19°22.76' | 0.5867' | 212°36.99' | 14.5688° | 175°18.39' | N 6°27.11' | 14.1963' | 55.9616' | 27°55.39' | **22** |
| **23** | 168°41.44' | 14.9977° | 234°16.41' | S 19°23.35' | 0.5861' | 227°11.11' | 14.5687° | 175°46.74' | N 6°12.87' | 14.2392' | 55.9928' | 42°57.85' | **23** |
| **24** | 183°41.30' | 14.9977° | 234°19.01' | S 19°23.93' | 0.5855' | 241°45.23' | 14.5685° | 176°15.09' | N 5°58.58' | 14.2812' | 56.0242' | 58°00.32' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1789' | hp (π) 0.1483' | ½Ø 15.1667' | 31.6144908472752<br>14% -cre |
| | EoT at 12:00 UTC : +14m 51s (δ -0.53 s/h) | | Phase at 12:00 UTC : 291.78° | |
| | Meridian Pass. Time : 11:45:08.327 | | Age : 22.7 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.26') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 176°53.12' | 240°08.06' | S 20°27.39' | 334°33.06' | 82°28.12' | N 24°36.80' | 57°28.45' | 359°32.72' | S 1°48.95' | 95°01.61' | 321°59.57' | S 16°17.27' | **00** |
| **01** | 191°52.32' | 240°11.32' | S 20°28.11' | 349°36.25' | 82°27.39' | N 24°36.89' | 72°30.97' | 359°32.67' | S 1°48.96' | 110°03.96' | 321°59.68' | S 16°17.24' | **01** |
| **02** | 206°51.52' | 240°14.58' | S 20°28.82' | 4°39.45' | 82°26.66' | N 24°36.99' | 87°33.49' | 359°32.62' | S 1°48.97' | 125°06.32' | 321°59.78' | S 16°17.20' | **02** |
| **03** | 221°50.73' | 240°17.84' | S 20°29.54' | 19°42.64' | 82°25.93' | N 24°37.08' | 102°36.00' | 359°32.57' | S 1°48.98' | 140°08.68' | 321°59.89' | S 16°17.16' | **03** |
| **04** | 236°49.93' | 240°21.11' | S 20°30.26' | 34°45.84' | 82°25.19' | N 24°37.17' | 117°38.52' | 359°32.52' | S 1°48.99' | 155°11.04' | 321°60.00' | S 16°17.13' | **04** |
| **05** | 251°49.13' | 240°24.37' | S 20°30.97' | 49°49.04' | 82°24.46' | N 24°37.27' | 132°41.03' | 359°32.47' | S 1°49.00' | 170°13.39' | 322°00.11' | S 16°17.09' | **05** |
| **06** | 266°48.33' | 240°27.63' | S 20°31.69' | 64°52.24' | 82°23.72' | N 24°37.36' | 147°43.54' | 359°32.42' | S 1°49.01' | 185°15.75' | 322°00.21' | S 16°17.05' | **06** |
| **07** | 281°47.53' | 240°30.90' | S 20°32.40' | 79°55.44' | 82°22.99' | N 24°37.45' | 162°46.06' | 359°32.37' | S 1°49.02' | 200°18.11' | 322°00.32' | S 16°17.02' | **07** |
| **08** | 296°46.73' | 240°34.16' | S 20°33.11' | 94°58.64' | 82°22.25' | N 24°37.55' | 177°48.57' | 359°32.32' | S 1°49.03' | 215°20.46' | 322°00.43' | S 16°16.98' | **08** |
| **09** | 311°45.93' | 240°37.42' | S 20°33.82' | 110°01.85' | 82°21.51' | N 24°37.64' | 192°51.09' | 359°32.27' | S 1°49.04' | 230°22.82' | 322°00.54' | S 16°16.94' | **09** |
| **10** | 326°45.13' | 240°40.69' | S 20°34.53' | 125°05.05' | 82°20.77' | N 24°37.73' | 207°53.60' | 359°32.22' | S 1°49.05' | 245°25.17' | 322°00.64' | S 16°16.91' | **10** |
| **11** | 341°44.33' | 240°43.96' | S 20°35.24' | 140°08.26' | 82°20.02' | N 24°37.82' | 222°56.11' | 359°32.17' | S 1°49.06' | 260°27.53' | 322°00.75' | S 16°16.87' | **11** |
| **12** | 356°43.52' | 240°47.22' | S 20°35.95' | 155°11.47' | 82°19.28' | N 24°37.92' | 237°58.62' | 359°32.12' | S 1°49.07' | 275°29.89' | 322°00.86' | S 16°16.83' | **12** |
| **13** | 11°42.72' | 240°50.49' | S 20°36.65' | 170°14.68' | 82°18.53' | N 24°38.01' | 253°01.14' | 359°32.08' | S 1°49.07' | 290°32.24' | 322°00.97' | S 16°16.80' | **13** |
| **14** | 26°41.92' | 240°53.76' | S 20°37.36' | 185°17.89' | 82°17.79' | N 24°38.10' | 268°03.65' | 359°32.03' | S 1°49.08' | 305°34.60' | 322°01.08' | S 16°16.76' | **14** |
| **15** | 41°41.11' | 240°57.02' | S 20°38.06' | 200°21.10' | 82°17.04' | N 24°38.19' | 283°06.16' | 359°31.98' | S 1°49.09' | 320°36.95' | 322°01.19' | S 16°16.72' | **15** |
| **16** | 56°40.31' | 241°00.29' | S 20°38.77' | 215°24.31' | 82°16.29' | N 24°38.28' | 298°08.67' | 359°31.93' | S 1°49.10' | 335°39.31' | 322°01.29' | S 16°16.69' | **16** |
| **17** | 71°39.50' | 241°03.56' | S 20°39.47' | 230°27.53' | 82°15.54' | N 24°38.38' | 313°11.18' | 359°31.89' | S 1°49.11' | 350°41.66' | 322°01.40' | S 16°16.65' | **17** |
| **18** | 86°38.70' | 241°06.83' | S 20°40.17' | 245°30.75' | 82°14.78' | N 24°38.47' | 328°13.69' | 359°31.84' | S 1°49.12' | 5°44.02' | 322°01.51' | S 16°16.61' | **18** |
| **19** | 101°37.89' | 241°10.10' | S 20°40.87' | 260°33.97' | 82°14.03' | N 24°38.56' | 343°16.20' | 359°31.79' | S 1°49.12' | 20°46.37' | 322°01.62' | S 16°16.57' | **19** |
| **20** | 116°37.09' | 241°13.37' | S 20°41.57' | 275°37.18' | 82°13.27' | N 24°38.65' | 358°18.71' | 359°31.75' | S 1°49.13' | 35°48.73' | 322°01.73' | S 16°16.54' | **20** |
| **21** | 131°36.28' | 241°16.64' | S 20°42.27' | 290°40.41' | 82°12.52' | N 24°38.74' | 13°21.22' | 359°31.70' | S 1°49.14' | 50°51.08' | 322°01.84' | S 16°16.50' | **21** |
| **22** | 146°35.47' | 241°19.91' | S 20°42.97' | 305°43.63' | 82°11.76' | N 24°38.83' | 28°23.73' | 359°31.66' | S 1°49.15' | 65°53.44' | 322°01.95' | S 16°16.46' | **22** |
| **23** | 161°34.66' | 241°23.19' | S 20°43.66' | 320°46.85' | 82°11.00' | N 24°38.92' | 43°26.24' | 359°31.61' | S 1°49.15' | 80°55.79' | 322°02.06' | S 16°16.42' | **23** |
| **24** | 176°33.86' | 241°26.46' | S 20°44.36' | 335°50.08' | 82°10.24' | N 24°39.02' | 58°28.75' | 359°31.57' | S 1°49.16' | 95°58.14' | 322°02.17' | S 16°16.39' | **24** |
| | δ 14.9867° | | *d* 0.7187' | δ 15.0532° | | *d* 0.0940' | δ 15.0419° | | *d* 0.0103' | δ 15.0393° | | *d* 0.0363' | |

## *Saturday, November 19th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°41.30' | 14.9977° | 234°19.01' | S 19°23.93' | 0.5855' | 241°45.23' | 14.5685° | 176°15.09' | N 5°58.58' | 14.2812' | 56.0242' | 58°00.32' | **00** |
| **01** | 198°41.16' | 14.9977° | 234°21.61' | S 19°24.52' | 0.5849' | 256°19.33' | 14.5684° | 176°43.45' | N 5°44.26' | 14.3224' | 56.0558' | 73°02.78' | **01** |
| **02** | 213°41.03' | 14.9977° | 234°24.22' | S 19°25.10' | 0.5843' | 270°53.42' | 14.5682° | 177°11.82' | N 5°29.90' | 14.3629' | 56.0876' | 88°05.24' | **02** |
| **03** | 228°40.89' | 14.9977° | 234°26.82' | S 19°25.69' | 0.5837' | 285°27.51' | 14.5680° | 177°40.20' | N 5°15.50' | 14.4025' | 56.1195' | 103°07.71' | **03** |
| **04** | 243°40.75' | 14.9977° | 234°29.42' | S 19°26.27' | 0.5831' | 300°01.57' | 14.5678° | 178°08.60' | N 5°01.06' | 14.4414' | 56.1517' | 118°10.17' | **04** |
| **05** | 258°40.61' | 14.9977° | 234°32.02' | S 19°26.85' | 0.5825' | 314°35.63' | 14.5676° | 178°37.01' | N 4°46.58' | 14.4794' | 56.1840' | 133°12.64' | **05** |
| **06** | 273°40.47' | 14.9977° | 234°34.63' | S 19°27.44' | 0.5819' | 329°09.67' | 14.5673° | 179°05.43' | N 4°32.06' | 14.5166' | 56.2165' | 148°15.10' | **06** |
| **07** | 288°40.33' | 14.9977° | 234°37.23' | S 19°28.02' | 0.5813' | 343°43.70' | 14.5671° | 179°33.87' | N 4°17.51' | 14.5530' | 56.2492' | 163°17.56' | **07** |
| **08** | 303°40.20' | 14.9977° | 234°39.83' | S 19°28.60' | 0.5807' | 358°17.70' | 14.5668° | 180°02.33' | N 4°02.92' | 14.5886' | 56.2820' | 178°20.03' | **08** |
| **09** | 318°40.06' | 14.9977° | 234°42.44' | S 19°29.18' | 0.5801' | 12°51.69' | 14.5665° | 180°30.80' | N 3°48.29' | 14.6233' | 56.3150' | 193°22.49' | **09** |
| **10** | 333°39.91' | 14.9977° | 234°45.04' | S 19°29.76' | 0.5795' | 27°25.66' | 14.5662° | 180°59.29' | N 3°33.64' | 14.6572' | 56.3482' | 208°24.96' | **10** |
| **11** | 348°39.77' | 14.9977° | 234°47.65' | S 19°30.34' | 0.5789' | 41°59.61' | 14.5658° | 181°27.81' | N 3°18.95' | 14.6902' | 56.3815' | 223°27.42' | **11** |
| **12** | 3°39.63' | 14.9976° | 234°50.25' | S 19°30.91' | 0.5783' | 56°33.54' | 14.5654° | 181°56.35' | N 3°04.23' | 14.7223' | 56.4150' | 238°29.88' | **12** |
| **13** | 18°39.49' | 14.9976° | 234°52.86' | S 19°31.49' | 0.5776' | 71°07.44' | 14.5651° | 182°24.91' | N 2°49.47' | 14.7536' | 56.4486' | 253°32.35' | **13** |
| **14** | 33°39.35' | 14.9976° | 234°55.46' | S 19°32.07' | 0.5770' | 85°41.32' | 14.5647° | 182°53.49' | N 2°34.69' | 14.7840' | 56.4824' | 268°34.81' | **14** |
| **15** | 48°39.21' | 14.9976° | 234°58.07' | S 19°32.64' | 0.5764' | 100°15.17' | 14.5642° | 183°22.10' | N 2°19.87' | 14.8135' | 56.5163' | 283°37.28' | **15** |
| **16** | 63°39.06' | 14.9976° | 235°00.68' | S 19°33.22' | 0.5758' | 114°49.00' | 14.5638° | 183°50.74' | N 2°05.03' | 14.8422' | 56.5504' | 298°39.74' | **16** |
| **17** | 78°38.92' | 14.9976° | 235°03.28' | S 19°33.80' | 0.5752' | 129°22.80' | 14.5633° | 184°19.40' | N 1°50.16' | 14.8699' | 56.5846' | 313°42.20' | **17** |
| **18** | 93°38.78' | 14.9976° | 235°05.89' | S 19°34.37' | 0.5746' | 143°56.57' | 14.5628° | 184°48.10' | N 1°35.27' | 14.8966' | 56.6189' | 328°44.67' | **18** |
| **19** | 108°38.64' | 14.9976° | 235°08.50' | S 19°34.94' | 0.5740' | 158°30.31' | 14.5623° | 185°16.82' | N 1°20.34' | 14.9225' | 56.6533' | 343°47.13' | **19** |
| **20** | 123°38.49' | 14.9976° | 235°11.11' | S 19°35.52' | 0.5734' | 173°04.02' | 14.5618° | 185°45.58' | N 1°05.40' | 14.9474' | 56.6879' | 358°49.60' | **20** |
| **21** | 138°38.35' | 14.9976° | 235°13.71' | S 19°36.09' | 0.5727' | 187°37.70' | 14.5613° | 186°14.37' | N 0°50.42' | 14.9714' | 56.7226' | 13°52.06' | **21** |
| **22** | 153°38.20' | 14.9976° | 235°16.32' | S 19°36.66' | 0.5721' | 202°11.34' | 14.5607° | 186°43.19' | N 0°35.43' | 14.9945' | 56.7574' | 28°54.52' | **22** |
| **23** | 168°38.06' | 14.9976° | 235°18.93' | S 19°37.23' | 0.5715' | 216°44.94' | 14.5601° | 187°12.05' | N 0°20.41' | 15.0165' | 56.7923' | 43°56.99' | **23** |
| **24** | 183°37.91' | 14.9976° | 235°21.54' | S 19°37.81' | 0.5709' | 231°18.51' | 14.5595° | 187°40.94' | N 0°05.38' | 15.0376' | 56.8274' | 58°59.45' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1823' | hp (π) 0.1483' | ½Ø 15.3721' | 22.5985460132971<br>6% -cre |
| | EoT at 12:00 UTC : +14m 38s (δ -0.56 s/h) | | Phase at 12:00 UTC : 303.43° | |
| | Meridian Pass. Time : 11:45:21.468 | | Age : 23.6 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.26') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 176°33.86' | 241°26.46' | S 20°44.36' | 335°50.08' | 82°10.24' | N 24°39.02' | 58°28.75' | 359°31.57' | S 1°49.16' | 95°58.14' | 322°02.17' | S 16°16.39' | **00** |
| **01** | 191°33.05' | 241°29.73' | S 20°45.05' | 350°53.31' | 82°09.47' | N 24°39.11' | 73°31.25' | 359°31.53' | S 1°49.17' | 111°00.50' | 322°02.28' | S 16°16.35' | **01** |
| **02** | 206°32.24' | 241°33.01' | S 20°45.75' | 5°56.53' | 82°08.71' | N 24°39.20' | 88°33.76' | 359°31.48' | S 1°49.17' | 126°02.85' | 322°02.39' | S 16°16.31' | **02** |
| **03** | 221°31.43' | 241°36.28' | S 20°46.44' | 20°59.76' | 82°07.94' | N 24°39.29' | 103°36.27' | 359°31.44' | S 1°49.18' | 141°05.20' | 322°02.50' | S 16°16.27' | **03** |
| **04** | 236°30.62' | 241°39.55' | S 20°47.13' | 36°02.99' | 82°07.18' | N 24°39.38' | 118°38.78' | 359°31.40' | S 1°49.19' | 156°07.56' | 322°02.61' | S 16°16.24' | **04** |
| **05** | 251°29.81' | 241°42.83' | S 20°47.82' | 51°06.23' | 82°06.41' | N 24°39.47' | 133°41.28' | 359°31.35' | S 1°49.19' | 171°09.91' | 322°02.72' | S 16°16.20' | **05** |
| **06** | 266°28.99' | 241°46.11' | S 20°48.51' | 66°09.46' | 82°05.64' | N 24°39.56' | 148°43.79' | 359°31.31' | S 1°49.20' | 186°12.26' | 322°02.84' | S 16°16.16' | **06** |
| **07** | 281°28.18' | 241°49.38' | S 20°49.20' | 81°12.70' | 82°04.87' | N 24°39.65' | 163°46.29' | 359°31.27' | S 1°49.20' | 201°14.62' | 322°02.95' | S 16°16.12' | **07** |
| **08** | 296°27.37' | 241°52.66' | S 20°49.89' | 96°15.93' | 82°04.09' | N 24°39.74' | 178°48.80' | 359°31.23' | S 1°49.21' | 216°16.97' | 322°03.06' | S 16°16.08' | **08** |
| **09** | 311°26.56' | 241°55.94' | S 20°50.57' | 111°19.17' | 82°03.32' | N 24°39.83' | 193°51.31' | 359°31.19' | S 1°49.22' | 231°19.32' | 322°03.17' | S 16°16.05' | **09** |
| **10** | 326°25.74' | 241°59.21' | S 20°51.26' | 126°22.41' | 82°02.54' | N 24°39.92' | 208°53.81' | 359°31.14' | S 1°49.22' | 246°21.67' | 322°03.28' | S 16°16.01' | **10** |
| **11** | 341°24.93' | 242°02.49' | S 20°51.94' | 141°25.65' | 82°01.77' | N 24°40.00' | 223°56.32' | 359°31.10' | S 1°49.23' | 261°24.03' | 322°03.39' | S 16°15.97' | **11** |
| **12** | 356°24.11' | 242°05.77' | S 20°52.62' | 156°28.89' | 82°00.99' | N 24°40.09' | 238°58.82' | 359°31.06' | S 1°49.23' | 276°26.38' | 322°03.51' | S 16°15.93' | **12** |
| **13** | 11°23.30' | 242°09.05' | S 20°53.31' | 171°32.14' | 82°00.21' | N 24°40.18' | 254°01.32' | 359°31.02' | S 1°49.24' | 291°28.73' | 322°03.62' | S 16°15.89' | **13** |
| **14** | 26°22.48' | 242°12.33' | S 20°53.99' | 186°35.38' | 81°59.43' | N 24°40.27' | 269°03.83' | 359°30.98' | S 1°49.24' | 306°31.08' | 322°03.73' | S 16°15.86' | **14** |
| **15** | 41°21.67' | 242°15.61' | S 20°54.67' | 201°38.63' | 81°58.65' | N 24°40.36' | 284°06.33' | 359°30.94' | S 1°49.25' | 321°33.43' | 322°03.84' | S 16°15.82' | **15** |
| **16** | 56°20.85' | 242°18.89' | S 20°55.35' | 216°41.88' | 81°57.86' | N 24°40.45' | 299°08.83' | 359°30.91' | S 1°49.25' | 336°35.78' | 322°03.96' | S 16°15.78' | **16** |
| **17** | 71°20.03' | 242°22.17' | S 20°56.02' | 231°45.13' | 81°57.08' | N 24°40.54' | 314°11.34' | 359°30.87' | S 1°49.26' | 351°38.13' | 322°04.07' | S 16°15.74' | **17** |
| **18** | 86°19.22' | 242°25.45' | S 20°56.70' | 246°48.38' | 81°56.29' | N 24°40.62' | 329°13.84' | 359°30.83' | S 1°49.26' | 6°40.49' | 322°04.18' | S 16°15.70' | **18** |
| **19** | 101°18.40' | 242°28.73' | S 20°57.38' | 261°51.63' | 81°55.50' | N 24°40.71' | 344°16.34' | 359°30.79' | S 1°49.26' | 21°42.84' | 322°04.30' | S 16°15.66' | **19** |
| **20** | 116°17.58' | 242°32.02' | S 20°58.05' | 276°54.88' | 81°54.71' | N 24°40.80' | 359°18.84' | 359°30.75' | S 1°49.27' | 36°45.19' | 322°04.41' | S 16°15.63' | **20** |
| **21** | 131°16.76' | 242°35.30' | S 20°58.73' | 291°58.14' | 81°53.92' | N 24°40.89' | 14°21.35' | 359°30.72' | S 1°49.27' | 51°47.54' | 322°04.52' | S 16°15.59' | **21** |
| **22** | 146°15.94' | 242°38.58' | S 20°59.40' | 307°01.40' | 81°53.13' | N 24°40.98' | 29°23.85' | 359°30.68' | S 1°49.28' | 66°49.89' | 322°04.64' | S 16°15.55' | **22** |
| **23** | 161°15.12' | 242°41.87' | S 21°00.07' | 322°04.65' | 81°52.34' | N 24°41.06' | 44°26.35' | 359°30.64' | S 1°49.28' | 81°52.24' | 322°04.75' | S 16°15.51' | **23** |
| **24** | 176°14.30' | 242°45.15' | S 21°00.74' | 337°07.91' | 81°51.54' | N 24°41.15' | 59°28.85' | 359°30.61' | S 1°49.28' | 96°54.59' | 322°04.87' | S 16°15.47' | **24** |
| | δ 14.9865° | | *d* 0.6944' | δ 15.0538° | | *d* 0.0907' | δ 15.0418° | | *d* 0.0068' | δ 15.0392° | | *d* 0.0376' | |

## *Sunday, November 20th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°37.91' | 14.9976° | 235°21.54' | S 19°37.81' | 0.5709' | 231°18.51' | 14.5595° | 187°40.94' | N 0°05.38' | 15.0376' | 56.8274' | 58°59.45' | **00** |
| **01** | 198°37.77' | 14.9976° | 235°24.15' | S 19°38.38' | 0.5703' | 245°52.05' | 14.5589° | 188°09.87' | S 0°09.68' | 15.0577' | 56.8625' | 74°01.92' | **01** |
| **02** | 213°37.62' | 14.9976° | 235°26.76' | S 19°38.95' | 0.5697' | 260°25.54' | 14.5582° | 188°38.84' | S 0°24.76' | 15.0768' | 56.8977' | 89°04.38' | **02** |
| **03** | 228°37.47' | 14.9976° | 235°29.37' | S 19°39.51' | 0.5691' | 274°58.99' | 14.5576° | 189°07.85' | S 0°39.85' | 15.0949' | 56.9330' | 104°06.84' | **03** |
| **04** | 243°37.33' | 14.9976° | 235°31.98' | S 19°40.08' | 0.5684' | 289°32.41' | 14.5569° | 189°36.90' | S 0°54.97' | 15.1120' | 56.9684' | 119°09.31' | **04** |
| **05** | 258°37.18' | 14.9975° | 235°34.59' | S 19°40.65' | 0.5678' | 304°05.77' | 14.5562° | 190°06.00' | S 1°10.09' | 15.1280' | 57.0039' | 134°11.77' | **05** |
| **06** | 273°37.03' | 14.9975° | 235°37.21' | S 19°41.22' | 0.5672' | 318°39.10' | 14.5554° | 190°35.14' | S 1°25.24' | 15.1430' | 57.0395' | 149°14.24' | **06** |
| **07** | 288°36.88' | 14.9975° | 235°39.82' | S 19°41.78' | 0.5666' | 333°12.38' | 14.5547° | 191°04.32' | S 1°40.39' | 15.1569' | 57.0751' | 164°16.70' | **07** |
| **08** | 303°36.74' | 14.9975° | 235°42.43' | S 19°42.35' | 0.5660' | 347°45.61' | 14.5539° | 191°33.55' | S 1°55.56' | 15.1698' | 57.1108' | 179°19.17' | **08** |
| **09** | 318°36.59' | 14.9975° | 235°45.04' | S 19°42.92' | 0.5654' | 2°18.80' | 14.5531° | 192°02.83' | S 2°10.75' | 15.1816' | 57.1466' | 194°21.63' | **09** |
| **10** | 333°36.44' | 14.9975° | 235°47.66' | S 19°43.48' | 0.5647' | 16°51.94' | 14.5523° | 192°32.16' | S 2°25.94' | 15.1923' | 57.1824' | 209°24.09' | **10** |
| **11** | 348°36.29' | 14.9975° | 235°50.27' | S 19°44.04' | 0.5641' | 31°25.02' | 14.5514° | 193°01.53' | S 2°41.14' | 15.2019' | 57.2183' | 224°26.56' | **11** |
| **12** | 3°36.14' | 14.9975° | 235°52.88' | S 19°44.61' | 0.5635' | 45°58.06' | 14.5506° | 193°30.96' | S 2°56.35' | 15.2104' | 57.2543' | 239°29.02' | **12** |
| **13** | 18°35.99' | 14.9975° | 235°55.50' | S 19°45.17' | 0.5629' | 60°31.04' | 14.5497° | 194°00.45' | S 3°11.57' | 15.2177' | 57.2903' | 254°31.49' | **13** |
| **14** | 33°35.84' | 14.9975° | 235°58.11' | S 19°45.73' | 0.5622' | 75°03.97' | 14.5488° | 194°29.98' | S 3°26.79' | 15.2239' | 57.3263' | 269°33.95' | **14** |
| **15** | 48°35.69' | 14.9975° | 236°00.73' | S 19°46.29' | 0.5616' | 89°36.84' | 14.5479° | 194°59.57' | S 3°42.02' | 15.2290' | 57.3624' | 284°36.41' | **15** |
| **16** | 63°35.54' | 14.9975° | 236°03.34' | S 19°46.86' | 0.5610' | 104°09.66' | 14.5469° | 195°29.22' | S 3°57.25' | 15.2328' | 57.3985' | 299°38.88' | **16** |
| **17** | 78°35.38' | 14.9975° | 236°05.96' | S 19°47.42' | 0.5604' | 118°42.42' | 14.5460° | 195°58.93' | S 4°12.49' | 15.2355' | 57.4346' | 314°41.34' | **17** |
| **18** | 93°35.23' | 14.9975° | 236°08.57' | S 19°47.98' | 0.5598' | 133°15.11' | 14.5450° | 196°28.69' | S 4°27.73' | 15.2370' | 57.4707' | 329°43.81' | **18** |
| **19** | 108°35.08' | 14.9975° | 236°11.19' | S 19°48.53' | 0.5591' | 147°47.75' | 14.5440° | 196°58.52' | S 4°42.96' | 15.2373' | 57.5069' | 344°46.27' | **19** |
| **20** | 123°34.93' | 14.9975° | 236°13.81' | S 19°49.09' | 0.5585' | 162°20.33' | 14.5429° | 197°28.40' | S 4°58.20' | 15.2364' | 57.5430' | 359°48.73' | **20** |
| **21** | 138°34.77' | 14.9975° | 236°16.42' | S 19°49.65' | 0.5579' | 176°52.84' | 14.5419° | 197°58.35' | S 5°13.43' | 15.2342' | 57.5792' | 14°51.20' | **21** |
| **22** | 153°34.62' | 14.9974° | 236°19.04' | S 19°50.21' | 0.5573' | 191°25.29' | 14.5408° | 198°28.37' | S 5°28.66' | 15.2307' | 57.6154' | 29°53.66' | **22** |
| **23** | 168°34.47' | 14.9974° | 236°21.66' | S 19°50.77' | 0.5566' | 205°57.68' | 14.5397° | 198°58.45' | S 5°43.89' | 15.2260' | 57.6516' | 44°56.13' | **23** |
| **24** | 183°34.31' | 14.9974° | 236°24.28' | S 19°51.32' | 0.5560' | 220°29.99' | 14.5386° | 199°28.60' | S 5°59.11' | 15.2200' | 57.6877' | 59°58.59' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1856' | hp (π) 0.1483' | ½Ø 15.6007' | 14.4723072465977<br>26% -cre |
| | EoT at 12:00 UTC : +14m 24s (δ -0.60 s/h) | | Phase at 12:00 UTC : 315.45° | |
| | Meridian Pass. Time : 11:45:35.446 | | Age : 24.5 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.26') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 176°14.30' | 242°45.15' | S 21°00.74' | 337°07.91' | 81°51.54' | N 24°41.15' | 59°28.85' | 359°30.61' | S 1°49.28' | 96°54.59' | 322°04.87' | S 16°15.47' | **00** |
| **01** | 191°13.48' | 242°48.44' | S 21°01.41' | 352°11.17' | 81°50.74' | N 24°41.24' | 74°31.35' | 359°30.57' | S 1°49.29' | 111°56.94' | 322°04.98' | S 16°15.43' | **01** |
| **02** | 206°12.66' | 242°51.72' | S 21°02.08' | 7°14.43' | 81°49.95' | N 24°41.32' | 89°33.85' | 359°30.53' | S 1°49.29' | 126°59.29' | 322°05.09' | S 16°15.39' | **02** |
| **03** | 221°11.84' | 242°55.01' | S 21°02.75' | 22°17.70' | 81°49.15' | N 24°41.41' | 104°36.35' | 359°30.50' | S 1°49.29' | 142°01.64' | 322°05.21' | S 16°15.35' | **03** |
| **04** | 236°11.01' | 242°58.30' | S 21°03.41' | 37°20.96' | 81°48.35' | N 24°41.50' | 119°38.85' | 359°30.46' | S 1°49.30' | 157°03.99' | 322°05.32' | S 16°15.31' | **04** |
| **05** | 251°10.19' | 243°01.58' | S 21°04.08' | 52°24.23' | 81°47.55' | N 24°41.58' | 134°41.34' | 359°30.43' | S 1°49.30' | 172°06.34' | 322°05.44' | S 16°15.28' | **05** |
| **06** | 266°09.37' | 243°04.87' | S 21°04.74' | 67°27.49' | 81°46.74' | N 24°41.67' | 149°43.84' | 359°30.39' | S 1°49.30' | 187°08.68' | 322°05.55' | S 16°15.24' | **06** |
| **07** | 281°08.54' | 243°08.16' | S 21°05.41' | 82°30.76' | 81°45.94' | N 24°41.76' | 164°46.34' | 359°30.36' | S 1°49.30' | 202°11.03' | 322°05.67' | S 16°15.20' | **07** |
| **08** | 296°07.72' | 243°11.45' | S 21°06.07' | 97°34.03' | 81°45.13' | N 24°41.84' | 179°48.84' | 359°30.33' | S 1°49.31' | 217°13.38' | 322°05.78' | S 16°15.16' | **08** |
| **09** | 311°06.89' | 243°14.74' | S 21°06.73' | 112°37.30' | 81°44.33' | N 24°41.93' | 194°51.34' | 359°30.29' | S 1°49.31' | 232°15.73' | 322°05.90' | S 16°15.12' | **09** |
| **10** | 326°06.07' | 243°18.03' | S 21°07.39' | 127°40.58' | 81°43.52' | N 24°42.01' | 209°53.83' | 359°30.26' | S 1°49.31' | 247°18.08' | 322°06.01' | S 16°15.08' | **10** |
| **11** | 341°05.24' | 243°21.32' | S 21°08.05' | 142°43.85' | 81°42.71' | N 24°42.10' | 224°56.33' | 359°30.23' | S 1°49.31' | 262°20.43' | 322°06.13' | S 16°15.04' | **11** |
| **12** | 356°04.41' | 243°24.61' | S 21°08.71' | 157°47.12' | 81°41.90' | N 24°42.18' | 239°58.83' | 359°30.19' | S 1°49.31' | 277°22.77' | 322°06.25' | S 16°15.00' | **12** |
| **13** | 11°03.59' | 243°27.90' | S 21°09.37' | 172°50.40' | 81°41.08' | N 24°42.27' | 255°01.32' | 359°30.16' | S 1°49.31' | 292°25.12' | 322°06.36' | S 16°14.96' | **13** |
| **14** | 26°02.76' | 243°31.19' | S 21°10.02' | 187°53.68' | 81°40.27' | N 24°42.36' | 270°03.82' | 359°30.13' | S 1°49.32' | 307°27.47' | 322°06.48' | S 16°14.92' | **14** |
| **15** | 41°01.93' | 243°34.48' | S 21°10.68' | 202°56.96' | 81°39.46' | N 24°42.44' | 285°06.31' | 359°30.10' | S 1°49.32' | 322°29.82' | 322°06.60' | S 16°14.88' | **15** |
| **16** | 56°01.10' | 243°37.77' | S 21°11.33' | 218°00.24' | 81°38.64' | N 24°42.52' | 300°08.81' | 359°30.07' | S 1°49.32' | 337°32.17' | 322°06.71' | S 16°14.84' | **16** |
| **17** | 71°00.27' | 243°41.07' | S 21°11.98' | 233°03.52' | 81°37.82' | N 24°42.61' | 315°11.30' | 359°30.04' | S 1°49.32' | 352°34.51' | 322°06.83' | S 16°14.80' | **17** |
| **18** | 85°59.45' | 243°44.36' | S 21°12.64' | 248°06.80' | 81°37.00' | N 24°42.69' | 330°13.80' | 359°30.01' | S 1°49.32' | 7°36.86' | 322°06.95' | S 16°14.76' | **18** |
| **19** | 100°58.62' | 243°47.65' | S 21°13.29' | 263°10.09' | 81°36.18' | N 24°42.78' | 345°16.29' | 359°29.98' | S 1°49.32' | 22°39.21' | 322°07.06' | S 16°14.72' | **19** |
| **20** | 115°57.78' | 243°50.95' | S 21°13.94' | 278°13.37' | 81°35.36' | N 24°42.86' | 0°18.79' | 359°29.95' | S 1°49.32' | 37°41.55' | 322°07.18' | S 16°14.68' | **20** |
| **21** | 130°56.95' | 243°54.24' | S 21°14.58' | 293°16.66' | 81°34.54' | N 24°42.95' | 15°21.28' | 359°29.92' | S 1°49.32' | 52°43.90' | 322°07.30' | S 16°14.64' | **21** |
| **22** | 145°56.12' | 243°57.54' | S 21°15.23' | 308°19.95' | 81°33.71' | N 24°43.03' | 30°23.77' | 359°29.89' | S 1°49.32' | 67°46.25' | 322°07.42' | S 16°14.60' | **22** |
| **23** | 160°55.29' | 244°00.84' | S 21°15.88' | 323°23.24' | 81°32.89' | N 24°43.11' | 45°26.27' | 359°29.86' | S 1°49.32' | 82°48.59' | 322°07.53' | S 16°14.56' | **23** |
| **24** | 175°54.46' | 244°04.13' | S 21°16.52' | 338°26.53' | 81°32.06' | N 24°43.20' | 60°28.76' | 359°29.83' | S 1°49.32' | 97°50.94' | 322°07.65' | S 16°14.52' | **24** |
| | δ 14.9863° | | *d* 0.6697' | δ 15.0543° | | *d* 0.0871' | δ 15.0417° | | *d* 0.0033' | δ 15.0392° | | *d* 0.0388' | |

## *Monday, November 21st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°34.31' | 14.9974° | 236°24.28' | S 19°51.32' | 0.5560' | 220°29.99' | 14.5386° | 199°28.60' | S 5°59.11' | 15.2200' | 57.6877' | 59°58.59' | **00** |
| **01** | 198°34.16' | 14.9974° | 236°26.90' | S 19°51.88' | 0.5554' | 235°02.24' | 14.5375° | 199°58.81' | S 6°14.32' | 15.2127' | 57.7239' | 75°01.05' | **01** |
| **02** | 213°34.00' | 14.9974° | 236°29.51' | S 19°52.43' | 0.5548' | 249°34.42' | 14.5363° | 200°29.10' | S 6°29.53' | 15.2041' | 57.7600' | 90°03.52' | **02** |
| **03** | 228°33.85' | 14.9974° | 236°32.13' | S 19°52.99' | 0.5541' | 264°06.53' | 14.5351° | 200°59.46' | S 6°44.72' | 15.1941' | 57.7961' | 105°05.98' | **03** |
| **04** | 243°33.69' | 14.9974° | 236°34.75' | S 19°53.54' | 0.5535' | 278°38.56' | 14.5339° | 201°29.88' | S 6°59.90' | 15.1829' | 57.8321' | 120°08.45' | **04** |
| **05** | 258°33.54' | 14.9974° | 236°37.37' | S 19°54.09' | 0.5529' | 293°10.53' | 14.5327° | 202°00.39' | S 7°15.07' | 15.1702' | 57.8681' | 135°10.91' | **05** |
| **06** | 273°33.38' | 14.9974° | 236°39.99' | S 19°54.64' | 0.5522' | 307°42.41' | 14.5315° | 202°30.96' | S 7°30.23' | 15.1562' | 57.9041' | 150°13.37' | **06** |
| **07** | 288°33.23' | 14.9974° | 236°42.61' | S 19°55.20' | 0.5516' | 322°14.23' | 14.5302° | 203°01.61' | S 7°45.37' | 15.1407' | 57.9401' | 165°15.84' | **07** |
| **08** | 303°33.07' | 14.9974° | 236°45.23' | S 19°55.75' | 0.5510' | 336°45.96' | 14.5289° | 203°32.34' | S 8°00.50' | 15.1239' | 57.9759' | 180°18.30' | **08** |
| **09** | 318°32.91' | 14.9974° | 236°47.86' | S 19°56.30' | 0.5504' | 351°17.62' | 14.5276° | 204°03.15' | S 8°15.60' | 15.1056' | 58.0117' | 195°20.77' | **09** |
| **10** | 333°32.75' | 14.9974° | 236°50.48' | S 19°56.85' | 0.5497' | 5°49.19' | 14.5263° | 204°34.04' | S 8°30.69' | 15.0859' | 58.0475' | 210°23.23' | **10** |
| **11** | 348°32.60' | 14.9974° | 236°53.10' | S 19°57.40' | 0.5491' | 20°20.69' | 14.5249° | 205°05.01' | S 8°45.75' | 15.0648' | 58.0832' | 225°25.70' | **11** |
| **12** | 3°32.44' | 14.9974° | 236°55.72' | S 19°57.94' | 0.5485' | 34°52.10' | 14.5236° | 205°36.06' | S 9°00.79' | 15.0421' | 58.1188' | 240°28.16' | **12** |
| **13** | 18°32.28' | 14.9974° | 236°58.34' | S 19°58.49' | 0.5478' | 49°23.43' | 14.5222° | 206°07.19' | S 9°15.81' | 15.0180' | 58.1543' | 255°30.62' | **13** |
| **14** | 33°32.12' | 14.9974° | 237°00.97' | S 19°59.04' | 0.5472' | 63°54.68' | 14.5208° | 206°38.41' | S 9°30.80' | 14.9924' | 58.1897' | 270°33.09' | **14** |
| **15** | 48°31.96' | 14.9973° | 237°03.59' | S 19°59.59' | 0.5466' | 78°25.84' | 14.5193° | 207°09.72' | S 9°45.77' | 14.9652' | 58.2251' | 285°35.55' | **15** |
| **16** | 63°31.80' | 14.9973° | 237°06.22' | S 20°00.13' | 0.5459' | 92°56.91' | 14.5179° | 207°41.11' | S 10°00.71' | 14.9365' | 58.2603' | 300°38.02' | **16** |
| **17** | 78°31.64' | 14.9973° | 237°08.84' | S 20°00.68' | 0.5453' | 107°27.89' | 14.5164° | 208°12.59' | S 10°15.61' | 14.9063' | 58.2955' | 315°40.48' | **17** |
| **18** | 93°31.48' | 14.9973° | 237°11.46' | S 20°01.22' | 0.5447' | 121°58.79' | 14.5149° | 208°44.16' | S 10°30.49' | 14.8745' | 58.3305' | 330°42.94' | **18** |
| **19** | 108°31.32' | 14.9973° | 237°14.09' | S 20°01.77' | 0.5440' | 136°29.59' | 14.5134° | 209°15.82' | S 10°45.33' | 14.8410' | 58.3654' | 345°45.41' | **19** |
| **20** | 123°31.16' | 14.9973° | 237°16.71' | S 20°02.31' | 0.5434' | 151°00.30' | 14.5119° | 209°47.57' | S 11°00.13' | 14.8060' | 58.4002' | 0°47.87' | **20** |
| **21** | 138°31.00' | 14.9973° | 237°19.34' | S 20°02.85' | 0.5428' | 165°30.92' | 14.5103° | 210°19.42' | S 11°14.90' | 14.7694' | 58.4349' | 15°50.34' | **21** |
| **22** | 153°30.83' | 14.9973° | 237°21.97' | S 20°03.39' | 0.5421' | 180°01.44' | 14.5087° | 210°51.36' | S 11°29.63' | 14.7311' | 58.4694' | 30°52.80' | **22** |
| **23** | 168°30.67' | 14.9973° | 237°24.59' | S 20°03.94' | 0.5415' | 194°31.87' | 14.5071° | 211°23.39' | S 11°44.33' | 14.6912' | 58.5038' | 45°55.26' | **23** |
| **24** | 183°30.51' | 14.9973° | 237°27.22' | S 20°04.48' | 0.5409' | 209°02.20' | 14.5055° | 211°55.52' | S 11°58.97' | 14.6496' | 58.5381' | 60°57.73' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1888' | hp (π) 0.1484' | ½Ø 15.8363' | 7.71396438511389<br>2% -cre |
| | EoT at 12:00 UTC : +14m 9s (δ -0.63 s/h) | | Phase at 12:00 UTC : 327.86° | |
| | Meridian Pass. Time : 11:45:50.251 | | Age : 25.5 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.26') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 175°54.46' | 244°04.13' | S 21°16.52' | 338°26.53' | 81°32.06' | N 24°43.20' | 60°28.76' | 359°29.83' | S 1°49.32' | 97°50.94' | 322°07.65' | S 16°14.52' | **00** |
| **01** | 190°53.63' | 244°07.43' | S 21°17.17' | 353°29.82' | 81°31.23' | N 24°43.28' | 75°31.25' | 359°29.80' | S 1°49.32' | 112°53.28' | 322°07.77' | S 16°14.48' | **01** |
| **02** | 205°52.79' | 244°10.73' | S 21°17.81' | 8°33.12' | 81°30.40' | N 24°43.36' | 90°33.74' | 359°29.77' | S 1°49.32' | 127°55.63' | 322°07.89' | S 16°14.44' | **02** |
| **03** | 220°51.96' | 244°14.02' | S 21°18.45' | 23°36.41' | 81°29.57' | N 24°43.45' | 105°36.24' | 359°29.75' | S 1°49.32' | 142°57.98' | 322°08.01' | S 16°14.40' | **03** |
| **04** | 235°51.12' | 244°17.32' | S 21°19.10' | 38°39.71' | 81°28.74' | N 24°43.53' | 120°38.73' | 359°29.72' | S 1°49.32' | 158°00.32' | 322°08.13' | S 16°14.36' | **04** |
| **05** | 250°50.29' | 244°20.62' | S 21°19.74' | 53°43.00' | 81°27.91' | N 24°43.61' | 135°41.22' | 359°29.69' | S 1°49.32' | 173°02.67' | 322°08.24' | S 16°14.32' | **05** |
| **06** | 265°49.45' | 244°23.92' | S 21°20.37' | 68°46.30' | 81°27.07' | N 24°43.69' | 150°43.71' | 359°29.67' | S 1°49.32' | 188°05.01' | 322°08.36' | S 16°14.28' | **06** |
| **07** | 280°48.62' | 244°27.22' | S 21°21.01' | 83°49.60' | 81°26.24' | N 24°43.77' | 165°46.20' | 359°29.64' | S 1°49.32' | 203°07.36' | 322°08.48' | S 16°14.24' | **07** |
| **08** | 295°47.78' | 244°30.52' | S 21°21.65' | 98°52.90' | 81°25.40' | N 24°43.86' | 180°48.69' | 359°29.62' | S 1°49.32' | 218°09.70' | 322°08.60' | S 16°14.20' | **08** |
| **09** | 310°46.94' | 244°33.82' | S 21°22.29' | 113°56.21' | 81°24.56' | N 24°43.94' | 195°51.18' | 359°29.59' | S 1°49.32' | 233°12.05' | 322°08.72' | S 16°14.16' | **09** |
| **10** | 325°46.11' | 244°37.12' | S 21°22.92' | 128°59.51' | 81°23.72' | N 24°44.02' | 210°53.67' | 359°29.56' | S 1°49.31' | 248°14.39' | 322°08.84' | S 16°14.12' | **10** |
| **11** | 340°45.27' | 244°40.43' | S 21°23.55' | 144°02.82' | 81°22.88' | N 24°44.10' | 225°56.16' | 359°29.54' | S 1°49.31' | 263°16.73' | 322°08.96' | S 16°14.08' | **11** |
| **12** | 355°44.43' | 244°43.73' | S 21°24.19' | 159°06.12' | 81°22.04' | N 24°44.18' | 240°58.64' | 359°29.52' | S 1°49.31' | 278°19.08' | 322°09.08' | S 16°14.04' | **12** |
| **13** | 10°43.59' | 244°47.03' | S 21°24.82' | 174°09.43' | 81°21.19' | N 24°44.26' | 256°01.13' | 359°29.49' | S 1°49.31' | 293°21.42' | 322°09.20' | S 16°14.00' | **13** |
| **14** | 25°42.75' | 244°50.33' | S 21°25.45' | 189°12.74' | 81°20.35' | N 24°44.35' | 271°03.62' | 359°29.47' | S 1°49.31' | 308°23.77' | 322°09.32' | S 16°13.96' | **14** |
| **15** | 40°41.91' | 244°53.64' | S 21°26.08' | 204°16.05' | 81°19.50' | N 24°44.43' | 286°06.11' | 359°29.44' | S 1°49.30' | 323°26.11' | 322°09.44' | S 16°13.92' | **15** |
| **16** | 55°41.07' | 244°56.94' | S 21°26.71' | 219°19.36' | 81°18.66' | N 24°44.51' | 301°08.60' | 359°29.42' | S 1°49.30' | 338°28.45' | 322°09.56' | S 16°13.88' | **16** |
| **17** | 70°40.23' | 245°00.25' | S 21°27.33' | 234°22.67' | 81°17.81' | N 24°44.59' | 316°11.08' | 359°29.40' | S 1°49.30' | 353°30.80' | 322°09.68' | S 16°13.84' | **17** |
| **18** | 85°39.39' | 245°03.55' | S 21°27.96' | 249°25.99' | 81°16.96' | N 24°44.67' | 331°13.57' | 359°29.38' | S 1°49.30' | 8°33.14' | 322°09.80' | S 16°13.79' | **18** |
| **19** | 100°38.55' | 245°06.86' | S 21°28.59' | 264°29.30' | 81°16.11' | N 24°44.75' | 346°16.05' | 359°29.35' | S 1°49.29' | 23°35.48' | 322°09.92' | S 16°13.75' | **19** |
| **20** | 115°37.71' | 245°10.16' | S 21°29.21' | 279°32.62' | 81°15.25' | N 24°44.83' | 1°18.54' | 359°29.33' | S 1°49.29' | 38°37.83' | 322°10.05' | S 16°13.71' | **20** |
| **21** | 130°36.87' | 245°13.47' | S 21°29.83' | 294°35.94' | 81°14.40' | N 24°44.91' | 16°21.03' | 359°29.31' | S 1°49.29' | 53°40.17' | 322°10.17' | S 16°13.67' | **21** |
| **22** | 145°36.02' | 245°16.78' | S 21°30.46' | 309°39.26' | 81°13.54' | N 24°44.99' | 31°23.51' | 359°29.29' | S 1°49.28' | 68°42.51' | 322°10.29' | S 16°13.63' | **22** |
| **23** | 160°35.18' | 245°20.08' | S 21°31.08' | 324°42.58' | 81°12.69' | N 24°45.07' | 46°26.00' | 359°29.27' | S 1°49.28' | 83°44.85' | 322°10.41' | S 16°13.59' | **23** |
| **24** | 175°34.34' | 245°23.39' | S 21°31.70' | 339°45.90' | 81°11.83' | N 24°45.15' | 61°28.48' | 359°29.25' | S 1°49.28' | 98°47.20' | 322°10.53' | S 16°13.55' | **24** |
| | δ 14.9861° | | *d* 0.6444' | δ 15.0549° | | *d* 0.0832' | δ 15.0415° | | *d* 0.0002' | δ 15.0391° | | *d* 0.0401' | |

## *Tuesday, November 22nd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°30.51' | 14.9973° | 237°27.22' | S 20°04.48' | 0.5409' | 209°02.20' | 14.5055° | 211°55.52' | S 11°58.97' | 14.6496' | 58.5381' | 60°57.73' | **00** |
| **01** | 198°30.35' | 14.9973° | 237°29.85' | S 20°05.02' | 0.5402' | 223°32.44' | 14.5039° | 212°27.75' | S 12°13.58' | 14.6063' | 58.5722' | 76°00.19' | **01** |
| **02** | 213°30.18' | 14.9973° | 237°32.47' | S 20°05.56' | 0.5396' | 238°02.57' | 14.5023° | 213°00.08' | S 12°28.14' | 14.5613' | 58.6061' | 91°02.66' | **02** |
| **03** | 228°30.02' | 14.9973° | 237°35.10' | S 20°06.10' | 0.5389' | 252°32.61' | 14.5006° | 213°32.51' | S 12°42.66' | 14.5146' | 58.6399' | 106°05.12' | **03** |
| **04** | 243°29.86' | 14.9973° | 237°37.73' | S 20°06.63' | 0.5383' | 267°02.54' | 14.4989° | 214°05.04' | S 12°57.12' | 14.4661' | 58.6735' | 121°07.59' | **04** |
| **05** | 258°29.69' | 14.9973° | 237°40.36' | S 20°07.17' | 0.5377' | 281°32.38' | 14.4972° | 214°37.67' | S 13°11.54' | 14.4159' | 58.7070' | 136°10.05' | **05** |
| **06** | 273°29.53' | 14.9973° | 237°42.99' | S 20°07.71' | 0.5370' | 296°02.10' | 14.4955° | 215°10.41' | S 13°25.90' | 14.3639' | 58.7402' | 151°12.51' | **06** |
| **07** | 288°29.36' | 14.9973° | 237°45.61' | S 20°08.24' | 0.5364' | 310°31.73' | 14.4937° | 215°43.25' | S 13°40.21' | 14.3102' | 58.7733' | 166°14.98' | **07** |
| **08** | 303°29.20' | 14.9972° | 237°48.24' | S 20°08.78' | 0.5357' | 325°01.25' | 14.4920° | 216°16.19' | S 13°54.47' | 14.2546' | 58.8062' | 181°17.44' | **08** |
| **09** | 318°29.03' | 14.9972° | 237°50.87' | S 20°09.32' | 0.5351' | 339°30.66' | 14.4902° | 216°49.24' | S 14°08.67' | 14.1973' | 58.8389' | 196°19.91' | **09** |
| **10** | 333°28.87' | 14.9972° | 237°53.50' | S 20°09.85' | 0.5345' | 353°59.97' | 14.4884° | 217°22.40' | S 14°22.80' | 14.1381' | 58.8714' | 211°22.37' | **10** |
| **11** | 348°28.70' | 14.9972° | 237°56.13' | S 20°10.38' | 0.5338' | 8°29.17' | 14.4866° | 217°55.67' | S 14°36.88' | 14.0770' | 58.9037' | 226°24.83' | **11** |
| **12** | 3°28.53' | 14.9972° | 237°58.77' | S 20°10.92' | 0.5332' | 22°58.25' | 14.4848° | 218°29.04' | S 14°50.89' | 14.0141' | 58.9358' | 241°27.30' | **12** |
| **13** | 18°28.37' | 14.9972° | 238°01.40' | S 20°11.45' | 0.5325' | 37°27.23' | 14.4830° | 219°02.53' | S 15°04.84' | 13.9493' | 58.9677' | 256°29.76' | **13** |
| **14** | 33°28.20' | 14.9972° | 238°04.03' | S 20°11.98' | 0.5319' | 51°56.10' | 14.4811° | 219°36.13' | S 15°18.73' | 13.8827' | 58.9993' | 271°32.23' | **14** |
| **15** | 48°28.03' | 14.9972° | 238°06.66' | S 20°12.51' | 0.5313' | 66°24.86' | 14.4793° | 220°09.83' | S 15°32.54' | 13.8141' | 59.0308' | 286°34.69' | **15** |
| **16** | 63°27.86' | 14.9972° | 238°09.29' | S 20°13.04' | 0.5306' | 80°53.50' | 14.4774° | 220°43.66' | S 15°46.28' | 13.7436' | 59.0620' | 301°37.15' | **16** |
| **17** | 78°27.69' | 14.9972° | 238°11.92' | S 20°13.57' | 0.5300' | 95°22.03' | 14.4755° | 221°17.59' | S 15°59.96' | 13.6712' | 59.0929' | 316°39.62' | **17** |
| **18** | 93°27.53' | 14.9972° | 238°14.56' | S 20°14.10' | 0.5293' | 109°50.44' | 14.4736° | 221°51.64' | S 16°13.55' | 13.5969' | 59.1236' | 331°42.08' | **18** |
| **19** | 108°27.36' | 14.9972° | 238°17.19' | S 20°14.63' | 0.5287' | 124°18.74' | 14.4717° | 222°25.80' | S 16°27.07' | 13.5205' | 59.1541' | 346°44.55' | **19** |
| **20** | 123°27.19' | 14.9972° | 238°19.82' | S 20°15.16' | 0.5280' | 138°46.93' | 14.4697° | 223°00.08' | S 16°40.51' | 13.4423' | 59.1843' | 1°47.01' | **20** |
| **21** | 138°27.02' | 14.9972° | 238°22.46' | S 20°15.69' | 0.5274' | 153°15.00' | 14.4678° | 223°34.48' | S 16°53.88' | 13.3620' | 59.2142' | 16°49.48' | **21** |
| **22** | 153°26.85' | 14.9972° | 238°25.09' | S 20°16.21' | 0.5267' | 167°42.95' | 14.4658° | 224°08.99' | S 17°07.16' | 13.2798' | 59.2439' | 31°51.94' | **22** |
| **23** | 168°26.68' | 14.9972° | 238°27.73' | S 20°16.74' | 0.5261' | 182°10.78' | 14.4639° | 224°43.62' | S 17°20.35' | 13.1955' | 59.2733' | 46°54.40' | **23** |
| **24** | 183°26.51' | 14.9972° | 238°30.36' | S 20°17.26' | 0.5254' | 196°38.49' | 14.4619° | 225°18.37' | S 17°33.46' | 13.1093' | 59.3025' | 61°56.87' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1920' | hp (π) 0.1484' | ½Ø 16.0589' | 2.83105321402817<br>86% -cre |
| | EoT at 12:00 UTC : +13m 54s (δ -0.67 s/h) | | Phase at 12:00 UTC : 340.68° | |
| | Meridian Pass. Time : 11:46:05.869 | | Age : 26.5 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.27') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 175°34.34' | 245°23.39' | S 21°31.70' | 339°45.90' | 81°11.83' | N 24°45.15' | 61°28.48' | 359°29.25' | S 1°49.28' | 98°47.20' | 322°10.53' | S 16°13.55' | **00** |
| **01** | 190°33.49' | 245°26.70' | S 21°32.31' | 354°49.22' | 81°10.97' | N 24°45.22' | 76°30.97' | 359°29.23' | S 1°49.27' | 113°49.54' | 322°10.65' | S 16°13.51' | **01** |
| **02** | 205°32.65' | 245°30.01' | S 21°32.93' | 9°52.54' | 81°10.11' | N 24°45.30' | 91°33.45' | 359°29.21' | S 1°49.27' | 128°51.88' | 322°10.78' | S 16°13.46' | **02** |
| **03** | 220°31.80' | 245°33.32' | S 21°33.55' | 24°55.87' | 81°09.25' | N 24°45.38' | 106°35.93' | 359°29.19' | S 1°49.27' | 143°54.22' | 322°10.90' | S 16°13.42' | **03** |
| **04** | 235°30.95' | 245°36.63' | S 21°34.16' | 39°59.20' | 81°08.39' | N 24°45.46' | 121°38.42' | 359°29.17' | S 1°49.26' | 158°56.56' | 322°11.02' | S 16°13.38' | **04** |
| **05** | 250°30.11' | 245°39.94' | S 21°34.78' | 55°02.52' | 81°07.53' | N 24°45.54' | 136°40.90' | 359°29.15' | S 1°49.26' | 173°58.90' | 322°11.14' | S 16°13.34' | **05** |
| **06** | 265°29.26' | 245°43.25' | S 21°35.39' | 70°05.85' | 81°06.66' | N 24°45.62' | 151°43.38' | 359°29.13' | S 1°49.25' | 189°01.25' | 322°11.27' | S 16°13.30' | **06** |
| **07** | 280°28.41' | 245°46.56' | S 21°36.00' | 85°09.18' | 81°05.79' | N 24°45.70' | 166°45.86' | 359°29.11' | S 1°49.25' | 204°03.59' | 322°11.39' | S 16°13.26' | **07** |
| **08** | 295°27.57' | 245°49.87' | S 21°36.62' | 100°12.51' | 81°04.93' | N 24°45.77' | 181°48.35' | 359°29.10' | S 1°49.24' | 219°05.93' | 322°11.51' | S 16°13.22' | **08** |
| **09** | 310°26.72' | 245°53.19' | S 21°37.23' | 115°15.85' | 81°04.06' | N 24°45.85' | 196°50.83' | 359°29.08' | S 1°49.24' | 234°08.27' | 322°11.64' | S 16°13.17' | **09** |
| **10** | 325°25.87' | 245°56.50' | S 21°37.83' | 130°19.18' | 81°03.19' | N 24°45.93' | 211°53.31' | 359°29.06' | S 1°49.23' | 249°10.61' | 322°11.76' | S 16°13.13' | **10** |
| **11** | 340°25.02' | 245°59.81' | S 21°38.44' | 145°22.52' | 81°02.32' | N 24°46.01' | 226°55.79' | 359°29.04' | S 1°49.23' | 264°12.95' | 322°11.88' | S 16°13.09' | **11** |
| **12** | 355°24.17' | 246°03.13' | S 21°39.05' | 160°25.85' | 81°01.45' | N 24°46.08' | 241°58.27' | 359°29.03' | S 1°49.22' | 279°15.29' | 322°12.01' | S 16°13.05' | **12** |
| **13** | 10°23.32' | 246°06.44' | S 21°39.65' | 175°29.19' | 81°00.57' | N 24°46.16' | 257°00.75' | 359°29.01' | S 1°49.22' | 294°17.63' | 322°12.13' | S 16°13.01' | **13** |
| **14** | 25°22.47' | 246°09.76' | S 21°40.26' | 190°32.53' | 80°59.70' | N 24°46.24' | 272°03.23' | 359°29.00' | S 1°49.21' | 309°19.97' | 322°12.26' | S 16°12.96' | **14** |
| **15** | 40°21.62' | 246°13.07' | S 21°40.86' | 205°35.87' | 80°58.82' | N 24°46.31' | 287°05.71' | 359°28.98' | S 1°49.21' | 324°22.31' | 322°12.38' | S 16°12.92' | **15** |
| **16** | 55°20.77' | 246°16.39' | S 21°41.47' | 220°39.21' | 80°57.95' | N 24°46.39' | 302°08.19' | 359°28.97' | S 1°49.20' | 339°24.65' | 322°12.50' | S 16°12.88' | **16** |
| **17** | 70°19.92' | 246°19.70' | S 21°42.07' | 235°42.55' | 80°57.07' | N 24°46.47' | 317°10.67' | 359°28.95' | S 1°49.19' | 354°26.99' | 322°12.63' | S 16°12.84' | **17** |
| **18** | 85°19.06' | 246°23.02' | S 21°42.67' | 250°45.89' | 80°56.19' | N 24°46.54' | 332°13.15' | 359°28.94' | S 1°49.19' | 9°29.33' | 322°12.75' | S 16°12.80' | **18** |
| **19** | 100°18.21' | 246°26.34' | S 21°43.27' | 265°49.24' | 80°55.31' | N 24°46.62' | 347°15.62' | 359°28.92' | S 1°49.18' | 24°31.67' | 322°12.88' | S 16°12.75' | **19** |
| **20** | 115°17.36' | 246°29.65' | S 21°43.86' | 280°52.58' | 80°54.43' | N 24°46.69' | 2°18.10' | 359°28.91' | S 1°49.18' | 39°34.01' | 322°13.00' | S 16°12.71' | **20** |
| **21** | 130°16.50' | 246°32.97' | S 21°44.46' | 295°55.93' | 80°53.54' | N 24°46.77' | 17°20.58' | 359°28.89' | S 1°49.17' | 54°36.35' | 322°13.13' | S 16°12.67' | **21** |
| **22** | 145°15.65' | 246°36.29' | S 21°45.06' | 310°59.28' | 80°52.66' | N 24°46.84' | 32°23.06' | 359°28.88' | S 1°49.16' | 69°38.68' | 322°13.25' | S 16°12.63' | **22** |
| **23** | 160°14.79' | 246°39.61' | S 21°45.65' | 326°02.63' | 80°51.77' | N 24°46.92' | 47°25.53' | 359°28.87' | S 1°49.16' | 84°41.02' | 322°13.38' | S 16°12.58' | **23** |
| **24** | 175°13.94' | 246°42.93' | S 21°46.25' | 341°05.98' | 80°50.89' | N 24°46.99' | 62°28.01' | 359°28.86' | S 1°49.15' | 99°43.36' | 322°13.51' | S 16°12.54' | **24** |
| | δ 14.9859° | | *d* 0.6187' | δ 15.0554° | | *d* 0.0791' | δ 15.0414° | | *d* 0.0037' | δ 15.0390° | | *d* 0.0413' | |

## *Wednesday, November 23rd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°26.51' | 14.9972° | 238°30.36' | S 20°17.26' | 0.5254' | 196°38.49' | 14.4619° | 225°18.37' | S 17°33.46' | 13.1093' | 59.3025' | 61°56.87' | **00** |
| **01** | 198°26.33' | 14.9971° | 238°33.00' | S 20°17.79' | 0.5248' | 211°06.09' | 14.4599° | 225°53.24' | S 17°46.48' | 13.0210' | 59.3313' | 76°59.33' | **01** |
| **02** | 213°26.16' | 14.9971° | 238°35.63' | S 20°18.31' | 0.5241' | 225°33.56' | 14.4579° | 226°28.23' | S 17°59.41' | 12.9307' | 59.3599' | 92°01.80' | **02** |
| **03** | 228°25.99' | 14.9971° | 238°38.27' | S 20°18.84' | 0.5235' | 240°00.92' | 14.4559° | 227°03.34' | S 18°12.25' | 12.8383' | 59.3882' | 107°04.26' | **03** |
| **04** | 243°25.82' | 14.9971° | 238°40.91' | S 20°19.36' | 0.5228' | 254°28.16' | 14.4539° | 227°38.57' | S 18°25.00' | 12.7439' | 59.4162' | 122°06.72' | **04** |
| **05** | 258°25.65' | 14.9971° | 238°43.54' | S 20°19.88' | 0.5222' | 268°55.27' | 14.4519° | 228°13.92' | S 18°37.64' | 12.6475' | 59.4438' | 137°09.19' | **05** |
| **06** | 273°25.47' | 14.9971° | 238°46.18' | S 20°20.40' | 0.5216' | 283°22.26' | 14.4499° | 228°49.39' | S 18°50.19' | 12.5489' | 59.4712' | 152°11.65' | **06** |
| **07** | 288°25.30' | 14.9971° | 238°48.82' | S 20°20.92' | 0.5209' | 297°49.13' | 14.4479° | 229°24.98' | S 19°02.64' | 12.4483' | 59.4983' | 167°14.12' | **07** |
| **08** | 303°25.13' | 14.9971° | 238°51.45' | S 20°21.45' | 0.5202' | 312°15.88' | 14.4458° | 230°00.70' | S 19°14.99' | 12.3457' | 59.5251' | 182°16.58' | **08** |
| **09** | 318°24.95' | 14.9971° | 238°54.09' | S 20°21.96' | 0.5196' | 326°42.51' | 14.4438° | 230°36.53' | S 19°27.23' | 12.2409' | 59.5515' | 197°19.05' | **09** |
| **10** | 333°24.78' | 14.9971° | 238°56.73' | S 20°22.48' | 0.5189' | 341°09.02' | 14.4417° | 231°12.49' | S 19°39.36' | 12.1341' | 59.5776' | 212°21.51' | **10** |
| **11** | 348°24.60' | 14.9971° | 238°59.37' | S 20°23.00' | 0.5183' | 355°35.40' | 14.4397° | 231°48.58' | S 19°51.39' | 12.0251' | 59.6034' | 227°23.97' | **11** |
| **12** | 3°24.43' | 14.9971° | 239°02.01' | S 20°23.52' | 0.5176' | 10°01.66' | 14.4377° | 232°24.78' | S 20°03.30' | 11.9141' | 59.6289' | 242°26.44' | **12** |
| **13** | 18°24.25' | 14.9971° | 239°04.65' | S 20°24.04' | 0.5170' | 24°27.79' | 14.4356° | 233°01.11' | S 20°15.10' | 11.8010' | 59.6540' | 257°28.90' | **13** |
| **14** | 33°24.08' | 14.9971° | 239°07.29' | S 20°24.55' | 0.5163' | 38°53.81' | 14.4336° | 233°37.56' | S 20°26.79' | 11.6858' | 59.6788' | 272°31.37' | **14** |
| **15** | 48°23.90' | 14.9971° | 239°09.93' | S 20°25.07' | 0.5157' | 53°19.70' | 14.4315° | 234°14.13' | S 20°38.36' | 11.5684' | 59.7033' | 287°33.83' | **15** |
| **16** | 63°23.73' | 14.9971° | 239°12.57' | S 20°25.58' | 0.5150' | 67°45.47' | 14.4295° | 234°50.83' | S 20°49.80' | 11.4490' | 59.7274' | 302°36.29' | **16** |
| **17** | 78°23.55' | 14.9971° | 239°15.21' | S 20°26.10' | 0.5144' | 82°11.11' | 14.4274° | 235°27.64' | S 21°01.13' | 11.3275' | 59.7511' | 317°38.76' | **17** |
| **18** | 93°23.37' | 14.9971° | 239°17.85' | S 20°26.61' | 0.5137' | 96°36.64' | 14.4254° | 236°04.58' | S 21°12.34' | 11.2039' | 59.7745' | 332°41.22' | **18** |
| **19** | 108°23.19' | 14.9970° | 239°20.49' | S 20°27.12' | 0.5131' | 111°02.04' | 14.4234° | 236°41.65' | S 21°23.41' | 11.0782' | 59.7975' | 347°43.69' | **19** |
| **20** | 123°23.02' | 14.9970° | 239°23.13' | S 20°27.64' | 0.5124' | 125°27.32' | 14.4213° | 237°18.83' | S 21°34.36' | 10.9503' | 59.8202' | 2°46.15' | **20** |
| **21** | 138°22.84' | 14.9970° | 239°25.78' | S 20°28.15' | 0.5118' | 139°52.48' | 14.4193° | 237°56.14' | S 21°45.18' | 10.8205' | 59.8425' | 17°48.62' | **21** |
| **22** | 153°22.66' | 14.9970° | 239°28.42' | S 20°28.66' | 0.5111' | 154°17.51' | 14.4173° | 238°33.57' | S 21°55.87' | 10.6885' | 59.8644' | 32°51.08' | **22** |
| **23** | 168°22.48' | 14.9970° | 239°31.06' | S 20°29.17' | 0.5104' | 168°42.43' | 14.4153° | 239°11.11' | S 22°06.43' | 10.5544' | 59.8860' | 47°53.54' | **23** |
| **24** | 183°22.30' | 14.9970° | 239°33.71' | S 20°29.68' | 0.5098' | 183°07.23' | 14.4133° | 239°48.78' | S 22°16.85' | 10.4183' | 59.9071' | 62°56.01' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.1952' | hp (π) 0.1484' | ½Ø 16.2477' | 0.29590637346716 41% -cre |
| | EoT at 12:00 UTC : +13m 37s (δ -0.70 s/h) | | Phase at 12:00 UTC : 353.87° | |
| | Meridian Pass. Time : 11:46:22.286 | | Age : 27.5 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.27') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 175°13.94' | 246°42.93' | S 21°46.25' | 341°05.98' | 80°50.89' | N 24°46.99' | 62°28.01' | 359°28.86' | S 1°49.15' | 99°43.36' | 322°13.51' | S 16°12.54' | **00** |
| **01** | 190°13.08' | 246°46.25' | S 21°46.84' | 356°09.33' | 80°50.00' | N 24°47.07' | 77°30.49' | 359°28.84' | S 1°49.14' | 114°45.70' | 322°13.63' | S 16°12.50' | **01** |
| **02** | 205°12.23' | 246°49.57' | S 21°47.43' | 11°12.68' | 80°49.11' | N 24°47.14' | 92°32.96' | 359°28.83' | S 1°49.13' | 129°48.04' | 322°13.76' | S 16°12.46' | **02** |
| **03** | 220°11.37' | 246°52.89' | S 21°48.02' | 26°16.04' | 80°48.22' | N 24°47.22' | 107°35.44' | 359°28.82' | S 1°49.13' | 144°50.38' | 322°13.88' | S 16°12.41' | **03** |
| **04** | 235°10.51' | 246°56.21' | S 21°48.61' | 41°19.39' | 80°47.33' | N 24°47.29' | 122°37.91' | 359°28.81' | S 1°49.12' | 159°52.71' | 322°14.01' | S 16°12.37' | **04** |
| **05** | 250°09.66' | 246°59.53' | S 21°49.20' | 56°22.75' | 80°46.44' | N 24°47.37' | 137°40.39' | 359°28.80' | S 1°49.11' | 174°55.05' | 322°14.14' | S 16°12.33' | **05** |
| **06** | 265°08.80' | 247°02.85' | S 21°49.78' | 71°26.11' | 80°45.55' | N 24°47.44' | 152°42.86' | 359°28.79' | S 1°49.10' | 189°57.39' | 322°14.26' | S 16°12.29' | **06** |
| **07** | 280°07.94' | 247°06.18' | S 21°50.37' | 86°29.46' | 80°44.65' | N 24°47.51' | 167°45.34' | 359°28.78' | S 1°49.09' | 204°59.73' | 322°14.39' | S 16°12.24' | **07** |
| **08** | 295°07.08' | 247°09.50' | S 21°50.96' | 101°32.82' | 80°43.76' | N 24°47.59' | 182°47.81' | 359°28.77' | S 1°49.09' | 220°02.06' | 322°14.52' | S 16°12.20' | **08** |
| **09** | 310°06.22' | 247°12.82' | S 21°51.54' | 116°36.19' | 80°42.86' | N 24°47.66' | 197°50.29' | 359°28.76' | S 1°49.08' | 235°04.40' | 322°14.64' | S 16°12.16' | **09** |
| **10** | 325°05.36' | 247°16.15' | S 21°52.12' | 131°39.55' | 80°41.96' | N 24°47.73' | 212°52.76' | 359°28.75' | S 1°49.07' | 250°06.74' | 322°14.77' | S 16°12.11' | **10** |
| **11** | 340°04.50' | 247°19.47' | S 21°52.70' | 146°42.91' | 80°41.06' | N 24°47.80' | 227°55.23' | 359°28.74' | S 1°49.06' | 265°09.07' | 322°14.90' | S 16°12.07' | **11** |
| **12** | 355°03.64' | 247°22.80' | S 21°53.28' | 161°46.27' | 80°40.16' | N 24°47.88' | 242°57.70' | 359°28.73' | S 1°49.05' | 280°11.41' | 322°15.03' | S 16°12.03' | **12** |
| **13** | 10°02.78' | 247°26.12' | S 21°53.86' | 176°49.64' | 80°39.26' | N 24°47.95' | 258°00.18' | 359°28.73' | S 1°49.04' | 295°13.75' | 322°15.16' | S 16°11.98' | **13** |
| **14** | 25°01.92' | 247°29.45' | S 21°54.44' | 191°53.01' | 80°38.36' | N 24°48.02' | 273°02.65' | 359°28.72' | S 1°49.03' | 310°16.08' | 322°15.28' | S 16°11.94' | **14** |
| **15** | 40°01.06' | 247°32.77' | S 21°55.02' | 206°56.37' | 80°37.46' | N 24°48.09' | 288°05.12' | 359°28.71' | S 1°49.02' | 325°18.42' | 322°15.41' | S 16°11.90' | **15** |
| **16** | 55°00.19' | 247°36.10' | S 21°55.59' | 221°59.74' | 80°36.55' | N 24°48.17' | 303°07.59' | 359°28.70' | S 1°49.01' | 340°20.75' | 322°15.54' | S 16°11.85' | **16** |
| **17** | 69°59.33' | 247°39.43' | S 21°56.17' | 237°03.11' | 80°35.65' | N 24°48.24' | 318°10.06' | 359°28.70' | S 1°49.01' | 355°23.09' | 322°15.67' | S 16°11.81' | **17** |
| **18** | 84°58.47' | 247°42.75' | S 21°56.74' | 252°06.48' | 80°34.74' | N 24°48.31' | 333°12.53' | 359°28.69' | S 1°49.00' | 10°25.43' | 322°15.80' | S 16°11.77' | **18** |
| **19** | 99°57.60' | 247°46.08' | S 21°57.32' | 267°09.86' | 80°33.83' | N 24°48.38' | 348°15.00' | 359°28.68' | S 1°48.99' | 25°27.76' | 322°15.93' | S 16°11.72' | **19** |
| **20** | 114°56.74' | 247°49.41' | S 21°57.89' | 282°13.23' | 80°32.92' | N 24°48.45' | 3°17.47' | 359°28.68' | S 1°48.98' | 40°30.10' | 322°16.05' | S 16°11.68' | **20** |
| **21** | 129°55.87' | 247°52.74' | S 21°58.46' | 297°16.60' | 80°32.01' | N 24°48.52' | 18°19.94' | 359°28.67' | S 1°48.97' | 55°32.43' | 322°16.18' | S 16°11.64' | **21** |
| **22** | 144°55.01' | 247°56.07' | S 21°59.03' | 312°19.98' | 80°31.10' | N 24°48.59' | 33°22.41' | 359°28.67' | S 1°48.96' | 70°34.77' | 322°16.31' | S 16°11.59' | **22** |
| **23** | 159°54.14' | 247°59.40' | S 21°59.60' | 327°23.35' | 80°30.19' | N 24°48.66' | 48°24.88' | 359°28.66' | S 1°48.94' | 85°37.10' | 322°16.44' | S 16°11.55' | **23** |
| **24** | 174°53.28' | 248°02.73' | S 22°00.16' | 342°26.73' | 80°29.28' | N 24°48.73' | 63°27.35' | 359°28.66' | S 1°48.93' | 100°39.44' | 322°16.57' | S 16°11.51' | **24** |
| | δ 14.9857° | | *d* 0.5926' | δ 15.0559° | | *d* 0.0747' | δ 15.0413° | | *d* 0.0072' | δ 15.0390° | | *d* 0.0426' | |

## *Thursday, November 24th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°22.30' | 14.9970° | 239°33.71' | S 20°29.68' | 0.5098' | 183°07.23' | 14.4133° | 239°48.78' | S 22°16.85' | 10.4183' | 59.9071' | 62°56.01' | **00** |
| **01** | 198°22.12' | 14.9970° | 239°36.35' | S 20°30.19' | 0.5091' | 197°31.90' | 14.4113° | 240°26.57' | S 22°27.13' | 10.2801' | 59.9279' | 77°58.47' | **01** |
| **02** | 213°21.94' | 14.9970° | 239°38.99' | S 20°30.70' | 0.5085' | 211°56.46' | 14.4093° | 241°04.47' | S 22°37.27' | 10.1399' | 59.9483' | 93°00.94' | **02** |
| **03** | 228°21.76' | 14.9970° | 239°41.64' | S 20°31.21' | 0.5078' | 226°20.90' | 14.4073° | 241°42.50' | S 22°47.26' | 9.9976' | 59.9684' | 108°03.40' | **03** |
| **04** | 243°21.58' | 14.9970° | 239°44.28' | S 20°31.71' | 0.5071' | 240°45.22' | 14.4054° | 242°20.64' | S 22°57.12' | 9.8533' | 59.9880' | 123°05.86' | **04** |
| **05** | 258°21.40' | 14.9970° | 239°46.93' | S 20°32.22' | 0.5065' | 255°09.43' | 14.4034° | 242°58.90' | S 23°06.82' | 9.7070' | 60.0072' | 138°08.33' | **05** |
| **06** | 273°21.22' | 14.9970° | 239°49.57' | S 20°32.73' | 0.5058' | 269°33.52' | 14.4015° | 243°37.27' | S 23°16.38' | 9.5587' | 60.0261' | 153°10.79' | **06** |
| **07** | 288°21.04' | 14.9970° | 239°52.22' | S 20°33.23' | 0.5052' | 283°57.50' | 14.3996° | 244°15.76' | S 23°25.79' | 9.4084' | 60.0445' | 168°13.26' | **07** |
| **08** | 303°20.86' | 14.9970° | 239°54.86' | S 20°33.73' | 0.5045' | 298°21.36' | 14.3977° | 244°54.36' | S 23°35.05' | 9.2561' | 60.0625' | 183°15.72' | **08** |
| **09** | 318°20.68' | 14.9970° | 239°57.51' | S 20°34.24' | 0.5038' | 312°45.11' | 14.3958° | 245°33.08' | S 23°44.15' | 9.1018' | 60.0801' | 198°18.19' | **09** |
| **10** | 333°20.49' | 14.9970° | 240°00.16' | S 20°34.74' | 0.5032' | 327°08.74' | 14.3940° | 246°11.91' | S 23°53.09' | 8.9457' | 60.0974' | 213°20.65' | **10** |
| **11** | 348°20.31' | 14.9970° | 240°02.80' | S 20°35.24' | 0.5025' | 341°32.27' | 14.3921° | 246°50.84' | S 24°01.88' | 8.7876' | 60.1142' | 228°23.11' | **11** |
| **12** | 3°20.13' | 14.9969° | 240°05.45' | S 20°35.75' | 0.5019' | 355°55.69' | 14.3903° | 247°29.89' | S 24°10.51' | 8.6276' | 60.1306' | 243°25.58' | **12** |
| **13** | 18°19.95' | 14.9969° | 240°08.10' | S 20°36.25' | 0.5012' | 10°19.00' | 14.3885° | 248°09.04' | S 24°18.97' | 8.4657' | 60.1466' | 258°28.04' | **13** |
| **14** | 33°19.76' | 14.9969° | 240°10.75' | S 20°36.75' | 0.5005' | 24°42.21' | 14.3867° | 248°48.30' | S 24°27.28' | 8.3020' | 60.1621' | 273°30.51' | **14** |
| **15** | 48°19.58' | 14.9969° | 240°13.39' | S 20°37.25' | 0.4999' | 39°05.31' | 14.3850° | 249°27.67' | S 24°35.41' | 8.1364' | 60.1773' | 288°32.97' | **15** |
| **16** | 63°19.39' | 14.9969° | 240°16.04' | S 20°37.75' | 0.4992' | 53°28.30' | 14.3833° | 250°07.13' | S 24°43.38' | 7.9690' | 60.1920' | 303°35.44' | **16** |
| **17** | 78°19.21' | 14.9969° | 240°18.69' | S 20°38.25' | 0.4985' | 67°51.20' | 14.3816° | 250°46.70' | S 24°51.18' | 7.7999' | 60.2063' | 318°37.90' | **17** |
| **18** | 93°19.02' | 14.9969° | 240°21.34' | S 20°38.74' | 0.4979' | 82°13.99' | 14.3799° | 251°26.37' | S 24°58.81' | 7.6290' | 60.2202' | 333°40.36' | **18** |
| **19** | 108°18.84' | 14.9969° | 240°23.99' | S 20°39.24' | 0.4972' | 96°36.69' | 14.3783° | 252°06.14' | S 25°06.27' | 7.4564' | 60.2336' | 348°42.83' | **19** |
| **20** | 123°18.65' | 14.9969° | 240°26.64' | S 20°39.74' | 0.4965' | 110°59.29' | 14.3767° | 252°46.00' | S 25°13.55' | 7.2821' | 60.2467' | 3°45.29' | **20** |
| **21** | 138°18.47' | 14.9969° | 240°29.29' | S 20°40.23' | 0.4959' | 125°21.80' | 14.3751° | 253°25.96' | S 25°20.66' | 7.1061' | 60.2592' | 18°47.76' | **21** |
| **22** | 153°18.28' | 14.9969° | 240°31.94' | S 20°40.73' | 0.4952' | 139°44.21' | 14.3736° | 254°06.01' | S 25°27.58' | 6.9285' | 60.2714' | 33°50.22' | **22** |
| **23** | 168°18.09' | 14.9969° | 240°34.59' | S 20°41.22' | 0.4945' | 154°06.53' | 14.3721° | 254°46.15' | S 25°34.33' | 6.7493' | 60.2831' | 48°52.68' | **23** |
| **24** | 183°17.91' | 14.9969° | 240°37.24' | S 20°41.72' | 0.4939' | 168°28.77' | 14.3706° | 255°26.38' | S 25°40.90' | 6.5686' | 60.2944' | 63°55.15' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.1983' | hp (π) 0.1484' | ½Ø 16.3844' | 0.45611416855343<br>98% +cre | |
| EoT at 12:00 UTC : +13m 20s (δ -0.73 s/h) | | Phase at 12:00 UTC : 7.37° | | |
| Meridian Pass. Time : 11:46:39.486 | | Age : 0.6 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.27') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 174°53.28' | 248°02.73' | S 22°00.16' | 342°26.73' | 80°29.28' | N 24°48.73' | 63°27.35' | 359°28.66' | S 1°48.93' | 100°39.44' | 322°16.57' | S 16°11.51' | **00** |
| **01** | 189°52.41' | 248°06.06' | S 22°00.73' | 357°30.11' | 80°28.36' | N 24°48.80' | 78°29.82' | 359°28.65' | S 1°48.92' | 115°41.77' | 322°16.70' | S 16°11.46' | **01** |
| **02** | 204°51.54' | 248°09.39' | S 22°01.29' | 12°33.49' | 80°27.45' | N 24°48.87' | 93°32.29' | 359°28.65' | S 1°48.91' | 130°44.10' | 322°16.83' | S 16°11.42' | **02** |
| **03** | 219°50.68' | 248°12.72' | S 22°01.86' | 27°36.87' | 80°26.53' | N 24°48.94' | 108°34.75' | 359°28.65' | S 1°48.90' | 145°46.44' | 322°16.96' | S 16°11.37' | **03** |
| **04** | 234°49.81' | 248°16.06' | S 22°02.42' | 42°40.25' | 80°25.61' | N 24°49.01' | 123°37.22' | 359°28.64' | S 1°48.89' | 160°48.77' | 322°17.09' | S 16°11.33' | **04** |
| **05** | 249°48.94' | 248°19.39' | S 22°02.98' | 57°43.64' | 80°24.69' | N 24°49.08' | 138°39.69' | 359°28.64' | S 1°48.88' | 175°51.11' | 322°17.22' | S 16°11.29' | **05** |
| **06** | 264°48.07' | 248°22.72' | S 22°03.54' | 72°47.02' | 80°23.77' | N 24°49.15' | 153°42.15' | 359°28.64' | S 1°48.87' | 190°53.44' | 322°17.35' | S 16°11.24' | **06** |
| **07** | 279°47.20' | 248°26.05' | S 22°04.10' | 87°50.41' | 80°22.85' | N 24°49.22' | 168°44.62' | 359°28.64' | S 1°48.86' | 205°55.77' | 322°17.48' | S 16°11.20' | **07** |
| **08** | 294°46.33' | 248°29.39' | S 22°04.66' | 102°53.79' | 80°21.93' | N 24°49.29' | 183°47.09' | 359°28.63' | S 1°48.84' | 220°58.11' | 322°17.61' | S 16°11.15' | **08** |
| **09** | 309°45.46' | 248°32.72' | S 22°05.22' | 117°57.18' | 80°21.01' | N 24°49.36' | 198°49.55' | 359°28.63' | S 1°48.83' | 236°00.44' | 322°17.75' | S 16°11.11' | **09** |
| **10** | 324°44.59' | 248°36.06' | S 22°05.77' | 133°00.57' | 80°20.08' | N 24°49.43' | 213°52.02' | 359°28.63' | S 1°48.82' | 251°02.77' | 322°17.88' | S 16°11.06' | **10** |
| **11** | 339°43.72' | 248°39.39' | S 22°06.33' | 148°03.96' | 80°19.16' | N 24°49.49' | 228°54.48' | 359°28.63' | S 1°48.81' | 266°05.11' | 322°18.01' | S 16°11.02' | **11** |
| **12** | 354°42.85' | 248°42.73' | S 22°06.88' | 163°07.35' | 80°18.23' | N 24°49.56' | 243°56.95' | 359°28.63' | S 1°48.80' | 281°07.44' | 322°18.14' | S 16°10.98' | **12** |
| **13** | 9°41.98' | 248°46.06' | S 22°07.43' | 178°10.74' | 80°17.30' | N 24°49.63' | 258°59.41' | 359°28.63' | S 1°48.78' | 296°09.77' | 322°18.27' | S 16°10.93' | **13** |
| **14** | 24°41.11' | 248°49.40' | S 22°07.99' | 193°14.13' | 80°16.38' | N 24°49.70' | 274°01.88' | 359°28.63' | S 1°48.77' | 311°12.10' | 322°18.40' | S 16°10.89' | **14** |
| **15** | 39°40.23' | 248°52.74' | S 22°08.54' | 208°17.53' | 80°15.45' | N 24°49.76' | 289°04.34' | 359°28.63' | S 1°48.76' | 326°14.44' | 322°18.54' | S 16°10.84' | **15** |
| **16** | 54°39.36' | 248°56.07' | S 22°09.09' | 223°20.92' | 80°14.52' | N 24°49.83' | 304°06.80' | 359°28.63' | S 1°48.74' | 341°16.77' | 322°18.67' | S 16°10.80' | **16** |
| **17** | 69°38.49' | 248°59.41' | S 22°09.63' | 238°24.32' | 80°13.58' | N 24°49.90' | 319°09.27' | 359°28.63' | S 1°48.73' | 356°19.10' | 322°18.80' | S 16°10.75' | **17** |
| **18** | 84°37.61' | 249°02.75' | S 22°10.18' | 253°27.71' | 80°12.65' | N 24°49.97' | 334°11.73' | 359°28.64' | S 1°48.72' | 11°21.43' | 322°18.93' | S 16°10.71' | **18** |
| **19** | 99°36.74' | 249°06.09' | S 22°10.73' | 268°31.11' | 80°11.72' | N 24°50.03' | 349°14.19' | 359°28.64' | S 1°48.70' | 26°23.76' | 322°19.06' | S 16°10.66' | **19** |
| **20** | 114°35.86' | 249°09.43' | S 22°11.27' | 283°34.51' | 80°10.78' | N 24°50.10' | 4°16.65' | 359°28.64' | S 1°48.69' | 41°26.09' | 322°19.20' | S 16°10.62' | **20** |
| **21** | 129°34.99' | 249°12.77' | S 22°11.81' | 298°37.91' | 80°09.85' | N 24°50.16' | 19°19.11' | 359°28.64' | S 1°48.68' | 56°28.43' | 322°19.33' | S 16°10.57' | **21** |
| **22** | 144°34.11' | 249°16.11' | S 22°12.36' | 313°41.31' | 80°08.91' | N 24°50.23' | 34°21.58' | 359°28.65' | S 1°48.66' | 71°30.76' | 322°19.46' | S 16°10.53' | **22** |
| **23** | 159°33.24' | 249°19.45' | S 22°12.90' | 328°44.71' | 80°07.97' | N 24°50.30' | 49°24.04' | 359°28.65' | S 1°48.65' | 86°33.09' | 322°19.60' | S 16°10.48' | **23** |
| **24** | 174°32.36' | 249°22.79' | S 22°13.44' | 343°48.11' | 80°07.04' | N 24°50.36' | 64°26.50' | 359°28.65' | S 1°48.64' | 101°35.42' | 322°19.73' | S 16°10.44' | **24** |
| | δ 14.9856° | | *d* 0.5660' | δ 15.0563° | | *d* 0.0701' | δ 15.0411° | | *d* 0.0108' | δ 15.0389° | | *d* 0.0438' | |

## *Friday, November 25th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°17.91' | 14.9969° | 240°37.24' | S 20°41.72' | 0.4939' | 168°28.77' | 14.3706° | 255°26.38' | S 25°40.90' | 6.5686' | 60.2944' | 63°55.15' | **00** |
| **01** | 198°17.72' | 14.9969° | 240°39.89' | S 20°42.21' | 0.4932' | 182°50.92' | 14.3691° | 256°06.70' | S 25°47.29' | 6.3863' | 60.3053' | 78°57.61' | **01** |
| **02** | 213°17.53' | 14.9969° | 240°42.55' | S 20°42.70' | 0.4925' | 197°12.98' | 14.3677° | 256°47.10' | S 25°53.49' | 6.2025' | 60.3158' | 94°00.08' | **02** |
| **03** | 228°17.34' | 14.9969° | 240°45.20' | S 20°43.19' | 0.4919' | 211°34.96' | 14.3664° | 257°27.58' | S 25°59.51' | 6.0173' | 60.3258' | 109°02.54' | **03** |
| **04** | 243°17.16' | 14.9969° | 240°47.85' | S 20°43.69' | 0.4912' | 225°56.87' | 14.3650° | 258°08.14' | S 26°05.34' | 5.8307' | 60.3353' | 124°05.01' | **04** |
| **05** | 258°16.97' | 14.9969° | 240°50.50' | S 20°44.18' | 0.4905' | 240°18.69' | 14.3638° | 258°48.78' | S 26°10.98' | 5.6427' | 60.3444' | 139°07.47' | **05** |
| **06** | 273°16.78' | 14.9969° | 240°53.16' | S 20°44.67' | 0.4899' | 254°40.44' | 14.3625° | 259°29.49' | S 26°16.44' | 5.4533' | 60.3531' | 154°09.93' | **06** |
| **07** | 288°16.59' | 14.9968° | 240°55.81' | S 20°45.15' | 0.4892' | 269°02.12' | 14.3613° | 260°10.28' | S 26°21.70' | 5.2627' | 60.3614' | 169°12.40' | **07** |
| **08** | 303°16.40' | 14.9968° | 240°58.46' | S 20°45.64' | 0.4885' | 283°23.73' | 14.3601° | 260°51.14' | S 26°26.77' | 5.0708' | 60.3692' | 184°14.86' | **08** |
| **09** | 318°16.21' | 14.9968° | 241°01.12' | S 20°46.13' | 0.4878' | 297°45.27' | 14.3590° | 261°32.06' | S 26°31.65' | 4.8777' | 60.3766' | 199°17.33' | **09** |
| **10** | 333°16.02' | 14.9968° | 241°03.77' | S 20°46.62' | 0.4872' | 312°06.74' | 14.3579° | 262°13.05' | S 26°36.33' | 4.6835' | 60.3835' | 214°19.79' | **10** |
| **11** | 348°15.83' | 14.9968° | 241°06.43' | S 20°47.10' | 0.4865' | 326°28.16' | 14.3569° | 262°54.10' | S 26°40.82' | 4.4882' | 60.3900' | 229°22.26' | **11** |
| **12** | 3°15.64' | 14.9968° | 241°09.08' | S 20°47.59' | 0.4858' | 340°49.51' | 14.3559° | 263°35.21' | S 26°45.11' | 4.2917' | 60.3961' | 244°24.72' | **12** |
| **13** | 18°15.45' | 14.9968° | 241°11.74' | S 20°48.08' | 0.4851' | 355°10.81' | 14.3550° | 264°16.37' | S 26°49.20' | 4.0943' | 60.4017' | 259°27.18' | **13** |
| **14** | 33°15.25' | 14.9968° | 241°14.39' | S 20°48.56' | 0.4845' | 9°32.06' | 14.3541° | 264°57.59' | S 26°53.10' | 3.8959' | 60.4069' | 274°29.65' | **14** |
| **15** | 48°15.06' | 14.9968° | 241°17.05' | S 20°49.04' | 0.4838' | 23°53.25' | 14.3532° | 265°38.86' | S 26°56.80' | 3.6966' | 60.4117' | 289°32.11' | **15** |
| **16** | 63°14.87' | 14.9968° | 241°19.71' | S 20°49.53' | 0.4831' | 38°14.40' | 14.3524° | 266°20.18' | S 27°00.29' | 3.4964' | 60.4160' | 304°34.58' | **16** |
| **17** | 78°14.68' | 14.9968° | 241°22.36' | S 20°50.01' | 0.4824' | 52°35.50' | 14.3517° | 267°01.54' | S 27°03.59' | 3.2954' | 60.4199' | 319°37.04' | **17** |
| **18** | 93°14.49' | 14.9968° | 241°25.02' | S 20°50.49' | 0.4818' | 66°56.56' | 14.3510° | 267°42.95' | S 27°06.68' | 3.0936' | 60.4233' | 334°39.51' | **18** |
| **19** | 108°14.29' | 14.9968° | 241°27.68' | S 20°50.97' | 0.4811' | 81°17.58' | 14.3503° | 268°24.39' | S 27°09.57' | 2.8911' | 60.4264' | 349°41.97' | **19** |
| **20** | 123°14.10' | 14.9968° | 241°30.33' | S 20°51.45' | 0.4804' | 95°38.56' | 14.3497° | 269°05.87' | S 27°12.26' | 2.6879' | 60.4290' | 4°44.43' | **20** |
| **21** | 138°13.91' | 14.9968° | 241°32.99' | S 20°51.93' | 0.4797' | 109°59.51' | 14.3492° | 269°47.39' | S 27°14.75' | 2.4842' | 60.4311' | 19°46.90' | **21** |
| **22** | 153°13.71' | 14.9968° | 241°35.65' | S 20°52.41' | 0.4791' | 124°20.43' | 14.3487° | 270°28.93' | S 27°17.03' | 2.2798' | 60.4328' | 34°49.36' | **22** |
| **23** | 168°13.52' | 14.9968° | 241°38.31' | S 20°52.89' | 0.4784' | 138°41.33' | 14.3482° | 271°10.50' | S 27°19.10' | 2.0750' | 60.4341' | 49°51.83' | **23** |
| **24** | 183°13.32' | 14.9968° | 241°40.97' | S 20°53.37' | 0.4777' | 153°02.20' | 14.3479° | 271°52.09' | S 27°20.97' | 1.8697' | 60.4350' | 64°54.29' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2014' | hp (π) 0.1485' | ½Ø 16.4567' | 3.44578578484607<br>25% +cre | |
| EoT at 12:00 UTC : +13m 2s (δ -0.76 s/h) | | Phase at 12:00 UTC : 21.08° | | |
| Meridian Pass. Time : 11:46:57.450 | | Age : 1.6 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.27') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 174°32.36' | 249°22.79' | S 22°13.44' | 343°48.11' | 80°07.04' | N 24°50.36' | 64°26.50' | 359°28.65' | S 1°48.64' | 101°35.42' | 322°19.73' | S 16°10.44' | **00** |
| **01** | 189°31.48' | 249°26.13' | S 22°13.98' | 358°51.52' | 80°06.10' | N 24°50.43' | 79°28.96' | 359°28.66' | S 1°48.62' | 116°37.75' | 322°19.86' | S 16°10.39' | **01** |
| **02** | 204°30.61' | 249°29.47' | S 22°14.51' | 13°54.92' | 80°05.16' | N 24°50.49' | 94°31.42' | 359°28.66' | S 1°48.61' | 131°40.08' | 322°20.00' | S 16°10.35' | **02** |
| **03** | 219°29.73' | 249°32.81' | S 22°15.05' | 28°58.33' | 80°04.21' | N 24°50.56' | 109°33.88' | 359°28.67' | S 1°48.59' | 146°42.41' | 322°20.13' | S 16°10.30' | **03** |
| **04** | 234°28.85' | 249°36.16' | S 22°15.59' | 44°01.73' | 80°03.27' | N 24°50.62' | 124°36.34' | 359°28.67' | S 1°48.58' | 161°44.74' | 322°20.27' | S 16°10.26' | **04** |
| **05** | 249°27.97' | 249°39.50' | S 22°16.12' | 59°05.14' | 80°02.33' | N 24°50.69' | 139°38.79' | 359°28.68' | S 1°48.56' | 176°47.07' | 322°20.40' | S 16°10.21' | **05** |
| **06** | 264°27.09' | 249°42.84' | S 22°16.66' | 74°08.55' | 80°01.38' | N 24°50.75' | 154°41.25' | 359°28.68' | S 1°48.55' | 191°49.40' | 322°20.53' | S 16°10.17' | **06** |
| **07** | 279°26.21' | 249°46.19' | S 22°17.19' | 89°11.96' | 80°00.44' | N 24°50.81' | 169°43.71' | 359°28.69' | S 1°48.53' | 206°51.73' | 322°20.67' | S 16°10.12' | **07** |
| **08** | 294°25.33' | 249°49.53' | S 22°17.72' | 104°15.37' | 79°59.49' | N 24°50.88' | 184°46.17' | 359°28.69' | S 1°48.52' | 221°54.06' | 322°20.80' | S 16°10.08' | **08** |
| **09** | 309°24.45' | 249°52.88' | S 22°18.25' | 119°18.78' | 79°58.54' | N 24°50.94' | 199°48.63' | 359°28.70' | S 1°48.50' | 236°56.39' | 322°20.94' | S 16°10.03' | **09** |
| **10** | 324°23.57' | 249°56.22' | S 22°18.78' | 134°22.20' | 79°57.60' | N 24°51.00' | 214°51.08' | 359°28.71' | S 1°48.49' | 251°58.72' | 322°21.07' | S 16°09.99' | **10** |
| **11** | 339°22.69' | 249°59.57' | S 22°19.30' | 149°25.61' | 79°56.65' | N 24°51.07' | 229°53.54' | 359°28.71' | S 1°48.47' | 267°01.05' | 322°21.21' | S 16°09.94' | **11** |
| **12** | 354°21.81' | 250°02.91' | S 22°19.83' | 164°29.02' | 79°55.70' | N 24°51.13' | 244°56.00' | 359°28.72' | S 1°48.45' | 282°03.38' | 322°21.34' | S 16°09.90' | **12** |
| **13** | 9°20.93' | 250°06.26' | S 22°20.36' | 179°32.44' | 79°54.74' | N 24°51.19' | 259°58.45' | 359°28.73' | S 1°48.44' | 297°05.71' | 322°21.48' | S 16°09.85' | **13** |
| **14** | 24°20.04' | 250°09.61' | S 22°20.88' | 194°35.86' | 79°53.79' | N 24°51.26' | 275°00.91' | 359°28.74' | S 1°48.42' | 312°08.03' | 322°21.61' | S 16°09.80' | **14** |
| **15** | 39°19.16' | 250°12.95' | S 22°21.40' | 209°39.27' | 79°52.84' | N 24°51.32' | 290°03.37' | 359°28.75' | S 1°48.41' | 327°10.36' | 322°21.75' | S 16°09.76' | **15** |
| **16** | 54°18.28' | 250°16.30' | S 22°21.93' | 224°42.69' | 79°51.88' | N 24°51.38' | 305°05.82' | 359°28.76' | S 1°48.39' | 342°12.69' | 322°21.89' | S 16°09.71' | **16** |
| **17** | 69°17.39' | 250°19.65' | S 22°22.45' | 239°46.11' | 79°50.93' | N 24°51.44' | 320°08.28' | 359°28.76' | S 1°48.37' | 357°15.02' | 322°22.02' | S 16°09.67' | **17** |
| **18** | 84°16.51' | 250°23.00' | S 22°22.97' | 254°49.53' | 79°49.97' | N 24°51.50' | 335°10.73' | 359°28.77' | S 1°48.36' | 12°17.35' | 322°22.16' | S 16°09.62' | **18** |
| **19** | 99°15.62' | 250°26.35' | S 22°23.49' | 269°52.95' | 79°49.02' | N 24°51.57' | 350°13.19' | 359°28.78' | S 1°48.34' | 27°19.67' | 322°22.29' | S 16°09.58' | **19** |
| **20** | 114°14.74' | 250°29.69' | S 22°24.00' | 284°56.38' | 79°48.06' | N 24°51.63' | 5°15.64' | 359°28.79' | S 1°48.32' | 42°22.00' | 322°22.43' | S 16°09.53' | **20** |
| **21** | 129°13.85' | 250°33.04' | S 22°24.52' | 299°59.80' | 79°47.10' | N 24°51.69' | 20°18.09' | 359°28.81' | S 1°48.30' | 57°24.33' | 322°22.57' | S 16°09.48' | **21** |
| **22** | 144°12.97' | 250°36.39' | S 22°25.03' | 315°03.22' | 79°46.14' | N 24°51.75' | 35°20.55' | 359°28.82' | S 1°48.29' | 72°26.66' | 322°22.70' | S 16°09.44' | **22** |
| **23** | 159°12.08' | 250°39.74' | S 22°25.55' | 330°06.65' | 79°45.18' | N 24°51.81' | 50°23.00' | 359°28.83' | S 1°48.27' | 87°28.98' | 322°22.84' | S 16°09.39' | **23** |
| **24** | 174°11.20' | 250°43.10' | S 22°26.06' | 345°10.08' | 79°44.22' | N 24°51.87' | 65°25.45' | 359°28.84' | S 1°48.25' | 102°31.31' | 322°22.98' | S 16°09.35' | **24** |
| | δ 14.9854° | | *d* 0.5390' | δ 15.0567° | | *d* 0.0653' | δ 15.0410° | | *d* 0.0143' | δ 15.0388° | | *d* 0.0450' | |

## *Saturday, November 26th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°13.32' | 14.9968° | 241°40.97' | S 20°53.37' | 0.4777' | 153°02.20' | 14.3479° | 271°52.09' | S 27°20.97' | 1.8697' | 60.4350' | 64°54.29' | **00** |
| **01** | 198°13.13' | 14.9967° | 241°43.63' | S 20°53.84' | 0.4770' | 167°23.05' | 14.3475° | 272°33.71' | S 27°22.63' | 1.6640' | 60.4355' | 79°56.76' | **01** |
| **02** | 213°12.93' | 14.9967° | 241°46.29' | S 20°54.32' | 0.4764' | 181°43.88' | 14.3472° | 273°15.34' | S 27°24.09' | 1.4580' | 60.4355' | 94°59.22' | **02** |
| **03** | 228°12.74' | 14.9967° | 241°48.95' | S 20°54.80' | 0.4757' | 196°04.70' | 14.3470° | 273°56.98' | S 27°25.34' | 1.2517' | 60.4351' | 110°01.68' | **03** |
| **04** | 243°12.54' | 14.9967° | 241°51.61' | S 20°55.27' | 0.4750' | 210°25.51' | 14.3468° | 274°38.64' | S 27°26.39' | 1.0451' | 60.4343' | 125°04.15' | **04** |
| **05** | 258°12.34' | 14.9967° | 241°54.27' | S 20°55.75' | 0.4743' | 224°46.31' | 14.3467° | 275°20.30' | S 27°27.23' | 0.8384' | 60.4330' | 140°06.61' | **05** |
| **06** | 273°12.15' | 14.9967° | 241°56.93' | S 20°56.22' | 0.4736' | 239°07.11' | 14.3466° | 276°01.97' | S 27°27.86' | 0.6316' | 60.4314' | 155°09.08' | **06** |
| **07** | 288°11.95' | 14.9967° | 241°59.59' | S 20°56.69' | 0.4730' | 253°27.90' | 14.3466° | 276°43.64' | S 27°28.28' | 0.4247' | 60.4293' | 170°11.54' | **07** |
| **08** | 303°11.75' | 14.9967° | 242°02.25' | S 20°57.17' | 0.4723' | 267°48.70' | 14.3466° | 277°25.31' | S 27°28.50' | 0.2178' | 60.4269' | 185°14.00' | **08** |
| **09** | 318°11.56' | 14.9967° | 242°04.91' | S 20°57.64' | 0.4716' | 282°09.50' | 14.3467° | 278°06.97' | S 27°28.51' | 0.0109' | 60.4240' | 200°16.47' | **09** |
| **10** | 333°11.36' | 14.9967° | 242°07.58' | S 20°58.11' | 0.4709' | 296°30.31' | 14.3468° | 278°48.62' | S 27°28.32' | 0.1959' | 60.4207' | 215°18.93' | **10** |
| **11** | 348°11.16' | 14.9967° | 242°10.24' | S 20°58.58' | 0.4702' | 310°51.13' | 14.3470° | 279°30.26' | S 27°27.91' | 0.4025' | 60.4170' | 230°21.40' | **11** |
| **12** | 3°10.96' | 14.9967° | 242°12.90' | S 20°59.05' | 0.4695' | 325°11.97' | 14.3473° | 280°11.89' | S 27°27.30' | 0.6089' | 60.4129' | 245°23.86' | **12** |
| **13** | 18°10.76' | 14.9967° | 242°15.56' | S 20°59.52' | 0.4689' | 339°32.82' | 14.3476° | 280°53.50' | S 27°26.49' | 0.8151' | 60.4084' | 260°26.33' | **13** |
| **14** | 33°10.56' | 14.9967° | 242°18.23' | S 20°59.98' | 0.4682' | 353°53.70' | 14.3479° | 281°35.09' | S 27°25.47' | 1.0209' | 60.4035' | 275°28.79' | **14** |
| **15** | 48°10.36' | 14.9967° | 242°20.89' | S 21°00.45' | 0.4675' | 8°14.60' | 14.3483° | 282°16.66' | S 27°24.24' | 1.2263' | 60.3982' | 290°31.25' | **15** |
| **16** | 63°10.16' | 14.9967° | 242°23.56' | S 21°00.92' | 0.4668' | 22°35.52' | 14.3488° | 282°58.19' | S 27°22.81' | 1.4314' | 60.3925' | 305°33.72' | **16** |
| **17** | 78°09.96' | 14.9967° | 242°26.22' | S 21°01.38' | 0.4661' | 36°56.48' | 14.3493° | 283°39.70' | S 27°21.18' | 1.6359' | 60.3864' | 320°36.18' | **17** |
| **18** | 93°09.76' | 14.9967° | 242°28.88' | S 21°01.85' | 0.4654' | 51°17.47' | 14.3498° | 284°21.18' | S 27°19.34' | 1.8399' | 60.3800' | 335°38.65' | **18** |
| **19** | 108°09.56' | 14.9967° | 242°31.55' | S 21°02.31' | 0.4647' | 65°38.50' | 14.3504° | 285°02.61' | S 27°17.29' | 2.0434' | 60.3731' | 350°41.11' | **19** |
| **20** | 123°09.36' | 14.9966° | 242°34.21' | S 21°02.78' | 0.4641' | 79°59.56' | 14.3511° | 285°44.01' | S 27°15.05' | 2.2462' | 60.3659' | 5°43.58' | **20** |
| **21** | 138°09.16' | 14.9966° | 242°36.88' | S 21°03.24' | 0.4634' | 94°20.67' | 14.3518° | 286°25.37' | S 27°12.60' | 2.4483' | 60.3583' | 20°46.04' | **21** |
| **22** | 153°08.96' | 14.9966° | 242°39.55' | S 21°03.71' | 0.4627' | 108°41.83' | 14.3526° | 287°06.68' | S 27°09.95' | 2.6497' | 60.3503' | 35°48.50' | **22** |
| **23** | 168°08.76' | 14.9966° | 242°42.21' | S 21°04.17' | 0.4620' | 123°03.03' | 14.3534° | 287°47.94' | S 27°07.10' | 2.8503' | 60.3420' | 50°50.97' | **23** |
| **24** | 183°08.55' | 14.9966° | 242°44.88' | S 21°04.63' | 0.4613' | 137°24.28' | 14.3542° | 288°29.15' | S 27°04.05' | 3.0501' | 60.3333' | 65°53.43' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2045' | hp (π) 0.1485' | ½Ø 16.4613' | 9.13370882375656<br>4% +cre | |
| EoT at 12:00 UTC : +12m 43s (δ -0.79 s/h) | | Phase at 12:00 UTC : 34.87° | | |
| Meridian Pass. Time : 11:47:16.157 | | Age : 2.7 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.27') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 174°11.20' | 250°43.10' | S 22°26.06' | 345°10.08' | 79°44.22' | N 24°51.87' | 65°25.45' | 359°28.84' | S 1°48.25' | 102°31.31' | 322°22.98' | S 16°09.35' | **00** |
| **01** | 189°10.31' | 250°46.45' | S 22°26.57' | 0°13.50' | 79°43.25' | N 24°51.93' | 80°27.90' | 359°28.85' | S 1°48.23' | 117°33.64' | 322°23.12' | S 16°09.30' | **01** |
| **02** | 204°09.42' | 250°49.80' | S 22°27.08' | 15°16.93' | 79°42.29' | N 24°51.99' | 95°30.36' | 359°28.86' | S 1°48.22' | 132°35.97' | 322°23.25' | S 16°09.25' | **02** |
| **03** | 219°08.53' | 250°53.15' | S 22°27.59' | 30°20.36' | 79°41.32' | N 24°52.05' | 110°32.81' | 359°28.88' | S 1°48.20' | 147°38.29' | 322°23.39' | S 16°09.21' | **03** |
| **04** | 234°07.64' | 250°56.50' | S 22°28.10' | 45°23.79' | 79°40.36' | N 24°52.11' | 125°35.26' | 359°28.89' | S 1°48.18' | 162°40.62' | 322°23.53' | S 16°09.16' | **04** |
| **05** | 249°06.76' | 250°59.86' | S 22°28.61' | 60°27.22' | 79°39.39' | N 24°52.17' | 140°37.71' | 359°28.90' | S 1°48.16' | 177°42.95' | 322°23.67' | S 16°09.11' | **05** |
| **06** | 264°05.87' | 251°03.21' | S 22°29.11' | 75°30.65' | 79°38.43' | N 24°52.23' | 155°40.16' | 359°28.92' | S 1°48.14' | 192°45.27' | 322°23.81' | S 16°09.07' | **06** |
| **07** | 279°04.98' | 251°06.56' | S 22°29.62' | 90°34.08' | 79°37.46' | N 24°52.29' | 170°42.61' | 359°28.93' | S 1°48.12' | 207°47.60' | 322°23.94' | S 16°09.02' | **07** |
| **08** | 294°04.09' | 251°09.92' | S 22°30.12' | 105°37.52' | 79°36.49' | N 24°52.35' | 185°45.06' | 359°28.94' | S 1°48.11' | 222°49.92' | 322°24.08' | S 16°08.97' | **08** |
| **09** | 309°03.20' | 251°13.27' | S 22°30.62' | 120°40.95' | 79°35.52' | N 24°52.41' | 200°47.51' | 359°28.96' | S 1°48.09' | 237°52.25' | 322°24.22' | S 16°08.93' | **09** |
| **10** | 324°02.31' | 251°16.63' | S 22°31.13' | 135°44.39' | 79°34.55' | N 24°52.46' | 215°49.96' | 359°28.97' | S 1°48.07' | 252°54.57' | 322°24.36' | S 16°08.88' | **10** |
| **11** | 339°01.42' | 251°19.98' | S 22°31.63' | 150°47.82' | 79°33.58' | N 24°52.52' | 230°52.41' | 359°28.99' | S 1°48.05' | 267°56.90' | 322°24.50' | S 16°08.83' | **11** |
| **12** | 354°00.52' | 251°23.34' | S 22°32.12' | 165°51.26' | 79°32.60' | N 24°52.58' | 245°54.86' | 359°29.00' | S 1°48.03' | 282°59.22' | 322°24.64' | S 16°08.79' | **12** |
| **13** | 8°59.63' | 251°26.69' | S 22°32.62' | 180°54.70' | 79°31.63' | N 24°52.64' | 260°57.31' | 359°29.02' | S 1°48.01' | 298°01.55' | 322°24.78' | S 16°08.74' | **13** |
| **14** | 23°58.74' | 251°30.05' | S 22°33.12' | 195°58.13' | 79°30.66' | N 24°52.70' | 275°59.75' | 359°29.04' | S 1°47.99' | 313°03.87' | 322°24.92' | S 16°08.69' | **14** |
| **15** | 38°57.85' | 251°33.41' | S 22°33.61' | 211°01.57' | 79°29.68' | N 24°52.75' | 291°02.20' | 359°29.05' | S 1°47.97' | 328°06.20' | 322°25.05' | S 16°08.65' | **15** |
| **16** | 53°56.95' | 251°36.77' | S 22°34.11' | 226°05.01' | 79°28.70' | N 24°52.81' | 306°04.65' | 359°29.07' | S 1°47.95' | 343°08.52' | 322°25.19' | S 16°08.60' | **16** |
| **17** | 68°56.06' | 251°40.12' | S 22°34.60' | 241°08.46' | 79°27.73' | N 24°52.87' | 321°07.10' | 359°29.09' | S 1°47.93' | 358°10.85' | 322°25.33' | S 16°08.55' | **17** |
| **18** | 83°55.17' | 251°43.48' | S 22°35.09' | 256°11.90' | 79°26.75' | N 24°52.92' | 336°09.54' | 359°29.11' | S 1°47.91' | 13°13.17' | 322°25.47' | S 16°08.51' | **18** |
| **19** | 98°54.27' | 251°46.84' | S 22°35.58' | 271°15.34' | 79°25.77' | N 24°52.98' | 351°11.99' | 359°29.12' | S 1°47.89' | 28°15.50' | 322°25.61' | S 16°08.46' | **19** |
| **20** | 113°53.38' | 251°50.20' | S 22°36.07' | 286°18.78' | 79°24.79' | N 24°53.04' | 6°14.43' | 359°29.14' | S 1°47.87' | 43°17.82' | 322°25.75' | S 16°08.41' | **20** |
| **21** | 128°52.48' | 251°53.56' | S 22°36.56' | 301°22.23' | 79°23.81' | N 24°53.09' | 21°16.88' | 359°29.16' | S 1°47.85' | 58°20.15' | 322°25.89' | S 16°08.36' | **21** |
| **22** | 143°51.59' | 251°56.92' | S 22°37.05' | 316°25.67' | 79°22.83' | N 24°53.15' | 36°19.33' | 359°29.18' | S 1°47.83' | 73°22.47' | 322°26.04' | S 16°08.32' | **22** |
| **23** | 158°50.69' | 252°00.28' | S 22°37.54' | 331°29.12' | 79°21.85' | N 24°53.20' | 51°21.77' | 359°29.20' | S 1°47.81' | 88°24.79' | 322°26.18' | S 16°08.27' | **23** |
| **24** | 173°49.79' | 252°03.64' | S 22°38.02' | 346°32.57' | 79°20.86' | N 24°53.26' | 66°24.21' | 359°29.22' | S 1°47.78' | 103°27.12' | 322°26.32' | S 16°08.22' | **24** |
| | δ 14.9852° | | *d* 0.5116' | δ 15.0571° | | *d* 0.0603' | δ 15.0409° | | *d* 0.0178' | δ 15.0388° | | *d* 0.0462' | |

## *Sunday, November 27th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°08.55' | 14.9966° | 242°44.88' | S 21°04.63' | 0.4613' | 137°24.28' | 14.3542° | 288°29.15' | S 27°04.05' | 3.0501' | 60.3333' | 65°53.43' | **00** |
| **01** | 198°08.35' | 14.9966° | 242°47.55' | S 21°05.09' | 0.4606' | 151°45.59' | 14.3551° | 289°10.31' | S 27°00.80' | 3.2490' | 60.3242' | 80°55.90' | **01** |
| **02** | 213°08.15' | 14.9966° | 242°50.21' | S 21°05.55' | 0.4599' | 166°06.95' | 14.3561° | 289°51.41' | S 26°57.35' | 3.4470' | 60.3148' | 95°58.36' | **02** |
| **03** | 228°07.95' | 14.9966° | 242°52.88' | S 21°06.01' | 0.4592' | 180°28.37' | 14.3570° | 290°32.45' | S 26°53.71' | 3.6440' | 60.3050' | 111°00.83' | **03** |
| **04** | 243°07.74' | 14.9966° | 242°55.55' | S 21°06.47' | 0.4586' | 194°49.86' | 14.3581° | 291°13.43' | S 26°49.87' | 3.8400' | 60.2948' | 126°03.29' | **04** |
| **05** | 258°07.54' | 14.9966° | 242°58.22' | S 21°06.92' | 0.4579' | 209°11.41' | 14.3591° | 291°54.35' | S 26°45.83' | 4.0349' | 60.2843' | 141°05.75' | **05** |
| **06** | 273°07.33' | 14.9966° | 243°00.88' | S 21°07.38' | 0.4572' | 223°33.02' | 14.3603° | 292°35.20' | S 26°41.60' | 4.2288' | 60.2735' | 156°08.22' | **06** |
| **07** | 288°07.13' | 14.9966° | 243°03.55' | S 21°07.84' | 0.4565' | 237°54.71' | 14.3614° | 293°15.97' | S 26°37.18' | 4.4215' | 60.2623' | 171°10.68' | **07** |
| **08** | 303°06.93' | 14.9966° | 243°06.22' | S 21°08.29' | 0.4558' | 252°16.47' | 14.3626° | 293°56.68' | S 26°32.57' | 4.6130' | 60.2508' | 186°13.15' | **08** |
| **09** | 318°06.72' | 14.9966° | 243°08.89' | S 21°08.75' | 0.4551' | 266°38.30' | 14.3639° | 294°37.31' | S 26°27.77' | 4.8033' | 60.2389' | 201°15.61' | **09** |
| **10** | 333°06.51' | 14.9966° | 243°11.56' | S 21°09.20' | 0.4544' | 281°00.21' | 14.3652° | 295°17.87' | S 26°22.77' | 4.9923' | 60.2268' | 216°18.08' | **10** |
| **11** | 348°06.31' | 14.9966° | 243°14.23' | S 21°09.66' | 0.4537' | 295°22.20' | 14.3665° | 295°58.34' | S 26°17.59' | 5.1800' | 60.2143' | 231°20.54' | **11** |
| **12** | 3°06.10' | 14.9966° | 243°16.90' | S 21°10.11' | 0.4530' | 309°44.26' | 14.3678° | 296°38.74' | S 26°12.23' | 5.3664' | 60.2014' | 246°23.00' | **12** |
| **13** | 18°05.90' | 14.9966° | 243°19.57' | S 21°10.56' | 0.4523' | 324°06.42' | 14.3692° | 297°19.05' | S 26°06.68' | 5.5514' | 60.1883' | 261°25.47' | **13** |
| **14** | 33°05.69' | 14.9966° | 243°22.24' | S 21°11.01' | 0.4516' | 338°28.66' | 14.3706° | 297°59.28' | S 26°00.94' | 5.7351' | 60.1748' | 276°27.93' | **14** |
| **15** | 48°05.48' | 14.9966° | 243°24.91' | S 21°11.47' | 0.4509' | 352°50.98' | 14.3721° | 298°39.41' | S 25°55.02' | 5.9173' | 60.1610' | 291°30.40' | **15** |
| **16** | 63°05.28' | 14.9965° | 243°27.58' | S 21°11.92' | 0.4502' | 7°13.40' | 14.3736° | 299°19.46' | S 25°48.93' | 6.0980' | 60.1469' | 306°32.86' | **16** |
| **17** | 78°05.07' | 14.9965° | 243°30.26' | S 21°12.36' | 0.4495' | 21°35.91' | 14.3751° | 299°59.42' | S 25°42.65' | 6.2772' | 60.1325' | 321°35.32' | **17** |
| **18** | 93°04.86' | 14.9965° | 243°32.93' | S 21°12.81' | 0.4489' | 35°58.51' | 14.3767° | 300°39.28' | S 25°36.19' | 6.4549' | 60.1179' | 336°37.79' | **18** |
| **19** | 108°04.65' | 14.9965° | 243°35.60' | S 21°13.26' | 0.4482' | 50°21.20' | 14.3783° | 301°19.05' | S 25°29.56' | 6.6310' | 60.1029' | 351°40.25' | **19** |
| **20** | 123°04.44' | 14.9965° | 243°38.27' | S 21°13.71' | 0.4475' | 64°44.00' | 14.3799° | 301°58.72' | S 25°22.76' | 6.8055' | 60.0876' | 6°42.72' | **20** |
| **21** | 138°04.24' | 14.9965° | 243°40.95' | S 21°14.16' | 0.4468' | 79°06.89' | 14.3815° | 302°38.29' | S 25°15.78' | 6.9784' | 60.0720' | 21°45.18' | **21** |
| **22** | 153°04.03' | 14.9965° | 243°43.62' | S 21°14.60' | 0.4461' | 93°29.88' | 14.3832° | 303°17.76' | S 25°08.63' | 7.1497' | 60.0562' | 36°47.65' | **22** |
| **23** | 168°03.82' | 14.9965° | 243°46.29' | S 21°15.05' | 0.4454' | 107°52.98' | 14.3849° | 303°57.13' | S 25°01.31' | 7.3193' | 60.0401' | 51°50.11' | **23** |
| **24** | 183°03.61' | 14.9965° | 243°48.97' | S 21°15.49' | 0.4447' | 122°16.17' | 14.3866° | 304°36.40' | S 24°53.82' | 7.4873' | 60.0237' | 66°52.57' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2075' | hp (π) 0.1485' | ½Ø 16.4037' | 17.1335076981296<br>84% +cre |
| | EoT at 12:00 UTC : +12m 24s (δ -0.82 s/h) | | Phase at 12:00 UTC : 48.61° | |
| | Meridian Pass. Time : 11:47:35.587 | | Age : 3.8 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.27') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 173°49.79' | 252°03.64' | S 22°38.02' | 346°32.57' | 79°20.86' | N 24°53.26' | 66°24.21' | 359°29.22' | S 1°47.78' | 103°27.12' | 322°26.32' | S 16°08.22' | **00** |
| **01** | 188°48.90' | 252°07.00' | S 22°38.51' | 1°36.02' | 79°19.88' | N 24°53.31' | 81°26.66' | 359°29.24' | S 1°47.76' | 118°29.44' | 322°26.46' | S 16°08.18' | **01** |
| **02** | 203°48.00' | 252°10.36' | S 22°38.99' | 16°39.46' | 79°18.90' | N 24°53.37' | 96°29.10' | 359°29.26' | S 1°47.74' | 133°31.76' | 322°26.60' | S 16°08.13' | **02** |
| **03** | 218°47.10' | 252°13.72' | S 22°39.47' | 31°42.91' | 79°17.91' | N 24°53.42' | 111°31.55' | 359°29.28' | S 1°47.72' | 148°34.09' | 322°26.74' | S 16°08.08' | **03** |
| **04** | 233°46.21' | 252°17.08' | S 22°39.95' | 46°46.36' | 79°16.93' | N 24°53.48' | 126°33.99' | 359°29.30' | S 1°47.70' | 163°36.41' | 322°26.88' | S 16°08.03' | **04** |
| **05** | 248°45.31' | 252°20.45' | S 22°40.43' | 61°49.82' | 79°15.94' | N 24°53.53' | 141°36.43' | 359°29.32' | S 1°47.68' | 178°38.73' | 322°27.02' | S 16°07.99' | **05** |
| **06** | 263°44.41' | 252°23.81' | S 22°40.91' | 76°53.27' | 79°14.95' | N 24°53.59' | 156°38.88' | 359°29.34' | S 1°47.65' | 193°41.05' | 322°27.17' | S 16°07.94' | **06** |
| **07** | 278°43.51' | 252°27.17' | S 22°41.38' | 91°56.72' | 79°13.96' | N 24°53.64' | 171°41.32' | 359°29.36' | S 1°47.63' | 208°43.38' | 322°27.31' | S 16°07.89' | **07** |
| **08** | 293°42.61' | 252°30.54' | S 22°41.86' | 107°00.17' | 79°12.97' | N 24°53.69' | 186°43.76' | 359°29.39' | S 1°47.61' | 223°45.70' | 322°27.45' | S 16°07.84' | **08** |
| **09** | 308°41.71' | 252°33.90' | S 22°42.33' | 122°03.63' | 79°11.98' | N 24°53.75' | 201°46.20' | 359°29.41' | S 1°47.59' | 238°48.02' | 322°27.59' | S 16°07.79' | **09** |
| **10** | 323°40.81' | 252°37.26' | S 22°42.81' | 137°07.08' | 79°10.99' | N 24°53.80' | 216°48.64' | 359°29.43' | S 1°47.57' | 253°50.34' | 322°27.73' | S 16°07.75' | **10** |
| **11** | 338°39.91' | 252°40.63' | S 22°43.28' | 152°10.54' | 79°10.00' | N 24°53.85' | 231°51.08' | 359°29.46' | S 1°47.54' | 268°52.66' | 322°27.88' | S 16°07.70' | **11** |
| **12** | 353°39.01' | 252°43.99' | S 22°43.75' | 167°14.00' | 79°09.01' | N 24°53.91' | 246°53.52' | 359°29.48' | S 1°47.52' | 283°54.98' | 322°28.02' | S 16°07.65' | **12** |
| **13** | 8°38.11' | 252°47.36' | S 22°44.22' | 182°17.45' | 79°08.01' | N 24°53.96' | 261°55.96' | 359°29.50' | S 1°47.50' | 298°57.31' | 322°28.16' | S 16°07.60' | **13** |
| **14** | 23°37.21' | 252°50.73' | S 22°44.69' | 197°20.91' | 79°07.02' | N 24°54.01' | 276°58.40' | 359°29.53' | S 1°47.47' | 313°59.63' | 322°28.30' | S 16°07.55' | **14** |
| **15** | 38°36.30' | 252°54.09' | S 22°45.16' | 212°24.37' | 79°06.02' | N 24°54.06' | 292°00.84' | 359°29.55' | S 1°47.45' | 329°01.95' | 322°28.45' | S 16°07.51' | **15** |
| **16** | 53°35.40' | 252°57.46' | S 22°45.62' | 227°27.83' | 79°05.03' | N 24°54.11' | 307°03.28' | 359°29.58' | S 1°47.43' | 344°04.27' | 322°28.59' | S 16°07.46' | **16** |
| **17** | 68°34.50' | 253°00.83' | S 22°46.09' | 242°31.29' | 79°04.03' | N 24°54.17' | 322°05.72' | 359°29.60' | S 1°47.40' | 359°06.59' | 322°28.73' | S 16°07.41' | **17** |
| **18** | 83°33.60' | 253°04.19' | S 22°46.55' | 257°34.75' | 79°03.03' | N 24°54.22' | 337°08.16' | 359°29.63' | S 1°47.38' | 14°08.91' | 322°28.88' | S 16°07.36' | **18** |
| **19** | 98°32.69' | 253°07.56' | S 22°47.01' | 272°38.22' | 79°02.04' | N 24°54.27' | 352°10.60' | 359°29.65' | S 1°47.36' | 29°11.23' | 322°29.02' | S 16°07.31' | **19** |
| **20** | 113°31.79' | 253°10.93' | S 22°47.48' | 287°41.68' | 79°01.04' | N 24°54.32' | 7°13.04' | 359°29.68' | S 1°47.33' | 44°13.55' | 322°29.17' | S 16°07.27' | **20** |
| **21** | 128°30.88' | 253°14.30' | S 22°47.94' | 302°45.14' | 79°00.04' | N 24°54.37' | 22°15.48' | 359°29.71' | S 1°47.31' | 59°15.87' | 322°29.31' | S 16°07.22' | **21** |
| **22** | 143°29.98' | 253°17.67' | S 22°48.40' | 317°48.61' | 78°59.04' | N 24°54.42' | 37°17.91' | 359°29.73' | S 1°47.28' | 74°18.19' | 322°29.45' | S 16°07.17' | **22** |
| **23** | 158°29.07' | 253°21.04' | S 22°48.85' | 332°52.07' | 78°58.04' | N 24°54.47' | 52°20.35' | 359°29.76' | S 1°47.26' | 89°20.51' | 322°29.60' | S 16°07.12' | **23** |
| **24** | 173°28.17' | 253°24.41' | S 22°49.31' | 347°55.54' | 78°57.03' | N 24°54.52' | 67°22.79' | 359°29.79' | S 1°47.23' | 104°22.83' | 322°29.74' | S 16°07.07' | **24** |
| | δ 14.9851° | | *d* 0.4839' | δ 15.0575° | | *d* 0.0551' | δ 15.0407° | | *d* 0.0213' | δ 15.0387° | | *d* 0.0474' | |

## *Monday, November 28th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 183°03.61' | 14.9965° | 243°48.97' | S 21°15.49' | 0.4447' | 122°16.17' | 14.3866° | 304°36.40' | S 24°53.82' | 7.4873' | 60.0237' | 66°52.57' | **00** |
| **01** | 198°03.40' | 14.9965° | 243°51.64' | S 21°15.94' | 0.4440' | 136°39.47' | 14.3884° | 305°15.56' | S 24°46.17' | 7.6535' | 60.0070' | 81°55.04' | **01** |
| **02** | 213°03.19' | 14.9965° | 243°54.31' | S 21°16.38' | 0.4433' | 151°02.88' | 14.3901° | 305°54.62' | S 24°38.35' | 7.8180' | 59.9901' | 96°57.50' | **02** |
| **03** | 228°02.98' | 14.9965° | 243°56.99' | S 21°16.82' | 0.4426' | 165°26.40' | 14.3919° | 306°33.57' | S 24°30.37' | 7.9808' | 59.9729' | 111°59.97' | **03** |
| **04** | 243°02.77' | 14.9965° | 243°59.66' | S 21°17.26' | 0.4419' | 179°50.02' | 14.3937° | 307°12.41' | S 24°22.23' | 8.1418' | 59.9555' | 127°02.43' | **04** |
| **05** | 258°02.56' | 14.9965° | 244°02.34' | S 21°17.71' | 0.4412' | 194°13.75' | 14.3955° | 307°51.14' | S 24°13.93' | 8.3010' | 59.9378' | 142°04.90' | **05** |
| **06** | 273°02.34' | 14.9965° | 244°05.01' | S 21°18.15' | 0.4405' | 208°37.59' | 14.3974° | 308°29.77' | S 24°05.47' | 8.4584' | 59.9199' | 157°07.36' | **06** |
| **07** | 288°02.13' | 14.9965° | 244°07.69' | S 21°18.59' | 0.4398' | 223°01.55' | 14.3992° | 309°08.28' | S 23°56.85' | 8.6140' | 59.9017' | 172°09.82' | **07** |
| **08** | 303°01.92' | 14.9965° | 244°10.37' | S 21°19.02' | 0.4391' | 237°25.62' | 14.4011° | 309°46.67' | S 23°48.09' | 8.7678' | 59.8833' | 187°12.29' | **08** |
| **09** | 318°01.71' | 14.9965° | 244°13.04' | S 21°19.46' | 0.4384' | 251°49.80' | 14.4030° | 310°24.96' | S 23°39.17' | 8.9197' | 59.8646' | 202°14.75' | **09** |
| **10** | 333°01.50' | 14.9965° | 244°15.72' | S 21°19.90' | 0.4377' | 266°14.09' | 14.4049° | 311°03.13' | S 23°30.10' | 9.0698' | 59.8457' | 217°17.22' | **10** |
| **11** | 348°01.28' | 14.9965° | 244°18.40' | S 21°20.34' | 0.4370' | 280°38.50' | 14.4068° | 311°41.18' | S 23°20.88' | 9.2180' | 59.8266' | 232°19.68' | **11** |
| **12** | 3°01.07' | 14.9964° | 244°21.07' | S 21°20.77' | 0.4363' | 295°03.02' | 14.4087° | 312°19.12' | S 23°11.51' | 9.3644' | 59.8073' | 247°22.14' | **12** |
| **13** | 18°00.86' | 14.9964° | 244°23.75' | S 21°21.21' | 0.4356' | 309°27.66' | 14.4107° | 312°56.95' | S 23°02.01' | 9.5089' | 59.7877' | 262°24.61' | **13** |
| **14** | 33°00.64' | 14.9964° | 244°26.43' | S 21°21.64' | 0.4349' | 323°52.42' | 14.4126° | 313°34.65' | S 22°52.35' | 9.6515' | 59.7680' | 277°27.07' | **14** |
| **15** | 48°00.43' | 14.9964° | 244°29.11' | S 21°22.08' | 0.4342' | 338°17.29' | 14.4146° | 314°12.24' | S 22°42.56' | 9.7921' | 59.7480' | 292°29.54' | **15** |
| **16** | 63°00.22' | 14.9964° | 244°31.79' | S 21°22.51' | 0.4334' | 352°42.29' | 14.4165° | 314°49.71' | S 22°32.63' | 9.9309' | 59.7278' | 307°32.00' | **16** |
| **17** | 78°00.00' | 14.9964° | 244°34.47' | S 21°22.94' | 0.4327' | 7°07.40' | 14.4185° | 315°27.07' | S 22°22.56' | 10.0678' | 59.7074' | 322°34.47' | **17** |
| **18** | 92°59.79' | 14.9964° | 244°37.14' | S 21°23.38' | 0.4320' | 21°32.63' | 14.4205° | 316°04.30' | S 22°12.36' | 10.2028' | 59.6869' | 337°36.93' | **18** |
| **19** | 107°59.57' | 14.9964° | 244°39.82' | S 21°23.81' | 0.4313' | 35°57.97' | 14.4224° | 316°41.42' | S 22°02.03' | 10.3359' | 59.6661' | 352°39.39' | **19** |
| **20** | 122°59.35' | 14.9964° | 244°42.50' | S 21°24.24' | 0.4306' | 50°23.44' | 14.4244° | 317°18.42' | S 21°51.56' | 10.4670' | 59.6452' | 7°41.86' | **20** |
| **21** | 137°59.14' | 14.9964° | 244°45.18' | S 21°24.67' | 0.4299' | 64°49.02' | 14.4264° | 317°55.30' | S 21°40.96' | 10.5962' | 59.6240' | 22°44.32' | **21** |
| **22** | 152°58.92' | 14.9964° | 244°47.86' | S 21°25.10' | 0.4292' | 79°14.73' | 14.4284° | 318°32.06' | S 21°30.24' | 10.7235' | 59.6027' | 37°46.79' | **22** |
| **23** | 167°58.71' | 14.9964° | 244°50.54' | S 21°25.53' | 0.4285' | 93°40.55' | 14.4304° | 319°08.70' | S 21°19.39' | 10.8489' | 59.5812' | 52°49.25' | **23** |
| **24** | 182°58.49' | 14.9964° | 244°53.22' | S 21°25.95' | 0.4278' | 108°06.49' | 14.4324° | 319°45.22' | S 21°08.42' | 10.9724' | 59.5596' | 67°51.71' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 16.2105' | hp (π) 0.1486' | ½Ø 16.2963' | 26.8719534136693<br>1% +cre | |
| | EoT at 12:00 UTC : +12m 4s (δ -0.85 s/h) | | Phase at 12:00 UTC : 62.20° | | |
| | Meridian Pass. Time : 11:47:55.718 | | Age : 4.8 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.27') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 173°28.17' | 253°24.41' | S 22°49.31' | 347°55.54' | 78°57.03' | N 24°54.52' | 67°22.79' | 359°29.79' | S 1°47.23' | 104°22.83' | 322°29.74' | S 16°07.07' | **00** |
| **01** | 188°27.26' | 253°27.78' | S 22°49.77' | 2°59.01' | 78°56.03' | N 24°54.57' | 82°25.22' | 359°29.82' | S 1°47.21' | 119°25.15' | 322°29.89' | S 16°07.02' | **01** |
| **02** | 203°26.36' | 253°31.15' | S 22°50.22' | 18°02.47' | 78°55.03' | N 24°54.62' | 97°27.66' | 359°29.84' | S 1°47.18' | 134°27.47' | 322°30.03' | S 16°06.97' | **02** |
| **03** | 218°25.45' | 253°34.52' | S 22°50.67' | 33°05.94' | 78°54.02' | N 24°54.67' | 112°30.09' | 359°29.87' | S 1°47.16' | 149°29.79' | 322°30.18' | S 16°06.93' | **03** |
| **04** | 233°24.54' | 253°37.89' | S 22°51.13' | 48°09.41' | 78°53.02' | N 24°54.72' | 127°32.53' | 359°29.90' | S 1°47.13' | 164°32.11' | 322°30.32' | S 16°06.88' | **04** |
| **05** | 248°23.64' | 253°41.26' | S 22°51.58' | 63°12.88' | 78°52.01' | N 24°54.77' | 142°34.96' | 359°29.93' | S 1°47.11' | 179°34.43' | 322°30.47' | S 16°06.83' | **05** |
| **06** | 263°22.73' | 253°44.63' | S 22°52.03' | 78°16.35' | 78°51.01' | N 24°54.82' | 157°37.40' | 359°29.96' | S 1°47.08' | 194°36.75' | 322°30.61' | S 16°06.78' | **06** |
| **07** | 278°21.82' | 253°48.00' | S 22°52.48' | 93°19.82' | 78°50.00' | N 24°54.86' | 172°39.83' | 359°29.99' | S 1°47.06' | 209°39.07' | 322°30.76' | S 16°06.73' | **07** |
| **08** | 293°20.91' | 253°51.38' | S 22°52.92' | 108°23.29' | 78°48.99' | N 24°54.91' | 187°42.27' | 359°30.02' | S 1°47.03' | 224°41.38' | 322°30.90' | S 16°06.68' | **08** |
| **09** | 308°20.00' | 253°54.75' | S 22°53.37' | 123°26.77' | 78°47.98' | N 24°54.96' | 202°44.70' | 359°30.05' | S 1°47.01' | 239°43.70' | 322°31.05' | S 16°06.63' | **09** |
| **10** | 323°19.09' | 253°58.12' | S 22°53.81' | 138°30.24' | 78°46.98' | N 24°55.01' | 217°47.13' | 359°30.08' | S 1°46.98' | 254°46.02' | 322°31.20' | S 16°06.58' | **10** |
| **11** | 338°18.18' | 254°01.50' | S 22°54.26' | 153°33.71' | 78°45.97' | N 24°55.06' | 232°49.57' | 359°30.11' | S 1°46.95' | 269°48.34' | 322°31.34' | S 16°06.54' | **11** |
| **12** | 353°17.27' | 254°04.87' | S 22°54.70' | 168°37.19' | 78°44.96' | N 24°55.10' | 247°52.00' | 359°30.14' | S 1°46.93' | 284°50.66' | 322°31.49' | S 16°06.49' | **12** |
| **13** | 8°16.36' | 254°08.24' | S 22°55.14' | 183°40.66' | 78°43.94' | N 24°55.15' | 262°54.43' | 359°30.18' | S 1°46.90' | 299°52.97' | 322°31.63' | S 16°06.44' | **13** |
| **14** | 23°15.45' | 254°11.62' | S 22°55.58' | 198°44.14' | 78°42.93' | N 24°55.20' | 277°56.86' | 359°30.21' | S 1°46.87' | 314°55.29' | 322°31.78' | S 16°06.39' | **14** |
| **15** | 38°14.54' | 254°14.99' | S 22°56.02' | 213°47.62' | 78°41.92' | N 24°55.24' | 292°59.30' | 359°30.24' | S 1°46.85' | 329°57.61' | 322°31.93' | S 16°06.34' | **15** |
| **16** | 53°13.63' | 254°18.37' | S 22°56.46' | 228°51.10' | 78°40.91' | N 24°55.29' | 308°01.73' | 359°30.27' | S 1°46.82' | 344°59.93' | 322°32.07' | S 16°06.29' | **16** |
| **17** | 68°12.72' | 254°21.75' | S 22°56.90' | 243°54.57' | 78°39.89' | N 24°55.34' | 323°04.16' | 359°30.31' | S 1°46.79' | 0°02.24' | 322°32.22' | S 16°06.24' | **17** |
| **18** | 83°11.81' | 254°25.12' | S 22°57.33' | 258°58.05' | 78°38.88' | N 24°55.38' | 338°06.59' | 359°30.34' | S 1°46.77' | 15°04.56' | 322°32.37' | S 16°06.19' | **18** |
| **19** | 98°10.90' | 254°28.50' | S 22°57.77' | 274°01.53' | 78°37.86' | N 24°55.43' | 353°09.02' | 359°30.37' | S 1°46.74' | 30°06.88' | 322°32.52' | S 16°06.14' | **19** |
| **20** | 113°09.98' | 254°31.88' | S 22°58.20' | 289°05.01' | 78°36.85' | N 24°55.47' | 8°11.45' | 359°30.41' | S 1°46.71' | 45°09.19' | 322°32.66' | S 16°06.09' | **20** |
| **21** | 128°09.07' | 254°35.25' | S 22°58.63' | 304°08.49' | 78°35.83' | N 24°55.52' | 23°13.88' | 359°30.44' | S 1°46.68' | 60°11.51' | 322°32.81' | S 16°06.04' | **21** |
| **22** | 143°08.16' | 254°38.63' | S 22°59.06' | 319°11.97' | 78°34.81' | N 24°55.56' | 38°16.31' | 359°30.48' | S 1°46.66' | 75°13.83' | 322°32.96' | S 16°05.99' | **22** |
| **23** | 158°07.24' | 254°42.01' | S 22°59.49' | 334°15.46' | 78°33.79' | N 24°55.61' | 53°18.74' | 359°30.51' | S 1°46.63' | 90°16.14' | 322°33.11' | S 16°05.94' | **23** |
| **24** | 173°06.33' | 254°45.39' | S 22°59.92' | 349°18.94' | 78°32.78' | N 24°55.65' | 68°21.17' | 359°30.55' | S 1°46.60' | 105°18.46' | 322°33.25' | S 16°05.89' | **24** |
| | δ 14.9849° | | *d* 0.4557' | δ 15.0578° | | *d* 0.0498' | δ 15.0406° | | *d* 0.0248' | δ 15.0387° | | *d* 0.0485' | |

## *Tuesday, November 29th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 182°58.49' | 14.9964° | 244°53.22' | S 21°25.95' | 0.4278' | 108°06.49' | 14.4324° | 319°45.22' | S 21°08.42' | 10.9724' | 59.5596' | 67°51.71' | **00** |
| **01** | 197°58.27' | 14.9964° | 244°55.91' | S 21°26.38' | 0.4271' | 122°32.55' | 14.4343° | 320°21.63' | S 20°57.32' | 11.0939' | 59.5378' | 82°54.18' | **01** |
| **02** | 212°58.06' | 14.9964° | 244°58.59' | S 21°26.81' | 0.4264' | 136°58.73' | 14.4363° | 320°57.91' | S 20°46.11' | 11.2136' | 59.5158' | 97°56.64' | **02** |
| **03** | 227°57.84' | 14.9964° | 245°01.27' | S 21°27.23' | 0.4257' | 151°25.03' | 14.4383° | 321°34.08' | S 20°34.78' | 11.3313' | 59.4937' | 112°59.11' | **03** |
| **04** | 242°57.62' | 14.9964° | 245°03.95' | S 21°27.66' | 0.4250' | 165°51.45' | 14.4403° | 322°10.13' | S 20°23.33' | 11.4471' | 59.4714' | 128°01.57' | **04** |
| **05** | 257°57.40' | 14.9964° | 245°06.63' | S 21°28.08' | 0.4243' | 180°17.98' | 14.4423° | 322°46.05' | S 20°11.77' | 11.5610' | 59.4489' | 143°04.04' | **05** |
| **06** | 272°57.18' | 14.9964° | 245°09.32' | S 21°28.51' | 0.4235' | 194°44.63' | 14.4442° | 323°21.87' | S 20°00.10' | 11.6730' | 59.4263' | 158°06.50' | **06** |
| **07** | 287°56.97' | 14.9964° | 245°12.00' | S 21°28.93' | 0.4228' | 209°11.40' | 14.4462° | 323°57.56' | S 19°48.31' | 11.7831' | 59.4036' | 173°08.96' | **07** |
| **08** | 302°56.75' | 14.9964° | 245°14.68' | S 21°29.35' | 0.4221' | 223°38.29' | 14.4481° | 324°33.14' | S 19°36.42' | 11.8913' | 59.3808' | 188°11.43' | **08** |
| **09** | 317°56.53' | 14.9963° | 245°17.37' | S 21°29.77' | 0.4214' | 238°05.30' | 14.4501° | 325°08.59' | S 19°24.43' | 11.9977' | 59.3578' | 203°13.89' | **09** |
| **10** | 332°56.31' | 14.9963° | 245°20.05' | S 21°30.19' | 0.4207' | 252°32.42' | 14.4520° | 325°43.94' | S 19°12.32' | 12.1021' | 59.3346' | 218°16.36' | **10** |
| **11** | 347°56.09' | 14.9963° | 245°22.73' | S 21°30.61' | 0.4200' | 266°59.66' | 14.4540° | 326°19.16' | S 19°00.12' | 12.2047' | 59.3114' | 233°18.82' | **11** |
| **12** | 2°55.87' | 14.9963° | 245°25.42' | S 21°31.03' | 0.4193' | 281°27.01' | 14.4559° | 326°54.28' | S 18°47.81' | 12.3054' | 59.2880' | 248°21.28' | **12** |
| **13** | 17°55.65' | 14.9963° | 245°28.10' | S 21°31.45' | 0.4186' | 295°54.48' | 14.4578° | 327°29.27' | S 18°35.41' | 12.4042' | 59.2645' | 263°23.75' | **13** |
| **14** | 32°55.43' | 14.9963° | 245°30.79' | S 21°31.87' | 0.4179' | 310°22.06' | 14.4597° | 328°04.16' | S 18°22.91' | 12.5013' | 59.2409' | 278°26.21' | **14** |
| **15** | 47°55.21' | 14.9963° | 245°33.47' | S 21°32.29' | 0.4171' | 324°49.75' | 14.4616° | 328°38.92' | S 18°10.31' | 12.5964' | 59.2172' | 293°28.68' | **15** |
| **16** | 62°54.98' | 14.9963° | 245°36.16' | S 21°32.70' | 0.4164' | 339°17.56' | 14.4635° | 329°13.58' | S 17°57.62' | 12.6898' | 59.1934' | 308°31.14' | **16** |
| **17** | 77°54.76' | 14.9963° | 245°38.84' | S 21°33.12' | 0.4157' | 353°45.48' | 14.4653° | 329°48.13' | S 17°44.84' | 12.7813' | 59.1695' | 323°33.61' | **17** |
| **18** | 92°54.54' | 14.9963° | 245°41.53' | S 21°33.53' | 0.4150' | 8°13.51' | 14.4672° | 330°22.56' | S 17°31.97' | 12.8710' | 59.1454' | 338°36.07' | **18** |
| **19** | 107°54.32' | 14.9963° | 245°44.21' | S 21°33.95' | 0.4143' | 22°41.65' | 14.4690° | 330°56.88' | S 17°19.01' | 12.9589' | 59.1213' | 353°38.53' | **19** |
| **20** | 122°54.10' | 14.9963° | 245°46.90' | S 21°34.36' | 0.4136' | 37°09.90' | 14.4709° | 331°31.09' | S 17°05.97' | 13.0450' | 59.0971' | 8°41.00' | **20** |
| **21** | 137°53.87' | 14.9963° | 245°49.59' | S 21°34.77' | 0.4129' | 51°38.26' | 14.4727° | 332°05.20' | S 16°52.84' | 13.1293' | 59.0728' | 23°43.46' | **21** |
| **22** | 152°53.65' | 14.9963° | 245°52.28' | S 21°35.19' | 0.4121' | 66°06.73' | 14.4745° | 332°39.19' | S 16°39.62' | 13.2119' | 59.0484' | 38°45.93' | **22** |
| **23** | 167°53.43' | 14.9963° | 245°54.96' | S 21°35.60' | 0.4114' | 80°35.31' | 14.4763° | 333°13.08' | S 16°26.33' | 13.2927' | 59.0240' | 53°48.39' | **23** |
| **24** | 182°53.20' | 14.9963° | 245°57.65' | S 21°36.01' | 0.4107' | 95°03.99' | 14.4780° | 333°46.86' | S 16°12.96' | 13.3717' | 58.9994' | 68°50.85' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2134' | hp (π) 0.1486' | ½Ø 16.1548' | 37.6854038614639 6% +cre |
| | EoT at 12:00 UTC : +11m 43s (δ -0.88 s/h) | | Phase at 12:00 UTC : 75.54° | |
| | Meridian Pass. Time : 11:48:16.530 | | Age : 5.9 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.27') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 173°06.33' | 254°45.39' | S 22°59.92' | 349°18.94' | 78°32.78' | N 24°55.65' | 68°21.17' | 359°30.55' | S 1°46.60' | 105°18.46' | 322°33.25' | S 16°05.89' | **00** |
| **01** | 188°05.41' | 254°48.77' | S 23°00.35' | 4°22.42' | 78°31.76' | N 24°55.70' | 83°23.60' | 359°30.58' | S 1°46.57' | 120°20.78' | 322°33.40' | S 16°05.84' | **01** |
| **02** | 203°04.50' | 254°52.14' | S 23°00.77' | 19°25.91' | 78°30.74' | N 24°55.74' | 98°26.02' | 359°30.62' | S 1°46.54' | 135°23.09' | 322°33.55' | S 16°05.79' | **02** |
| **03** | 218°03.58' | 254°55.52' | S 23°01.20' | 34°29.39' | 78°29.72' | N 24°55.78' | 113°28.45' | 359°30.66' | S 1°46.52' | 150°25.41' | 322°33.70' | S 16°05.74' | **03** |
| **04** | 233°02.67' | 254°58.90' | S 23°01.62' | 49°32.88' | 78°28.70' | N 24°55.83' | 128°30.88' | 359°30.69' | S 1°46.49' | 165°27.72' | 322°33.85' | S 16°05.69' | **04** |
| **05** | 248°01.75' | 255°02.28' | S 23°02.04' | 64°36.36' | 78°27.67' | N 24°55.87' | 143°33.31' | 359°30.73' | S 1°46.46' | 180°30.04' | 322°34.00' | S 16°05.64' | **05** |
| **06** | 263°00.84' | 255°05.66' | S 23°02.47' | 79°39.85' | 78°26.65' | N 24°55.92' | 158°35.73' | 359°30.77' | S 1°46.43' | 195°32.35' | 322°34.15' | S 16°05.59' | **06** |
| **07** | 277°59.92' | 255°09.04' | S 23°02.89' | 94°43.34' | 78°25.63' | N 24°55.96' | 173°38.16' | 359°30.81' | S 1°46.40' | 210°34.67' | 322°34.29' | S 16°05.54' | **07** |
| **08** | 292°59.00' | 255°12.43' | S 23°03.30' | 109°46.82' | 78°24.60' | N 24°56.00' | 188°40.58' | 359°30.84' | S 1°46.37' | 225°36.98' | 322°34.44' | S 16°05.49' | **08** |
| **09** | 307°58.09' | 255°15.81' | S 23°03.72' | 124°50.31' | 78°23.58' | N 24°56.04' | 203°43.01' | 359°30.88' | S 1°46.34' | 240°39.30' | 322°34.59' | S 16°05.44' | **09** |
| **10** | 322°57.17' | 255°19.19' | S 23°04.14' | 139°53.80' | 78°22.56' | N 24°56.09' | 218°45.44' | 359°30.92' | S 1°46.31' | 255°41.61' | 322°34.74' | S 16°05.39' | **10** |
| **11** | 337°56.25' | 255°22.57' | S 23°04.55' | 154°57.29' | 78°21.53' | N 24°56.13' | 233°47.86' | 359°30.96' | S 1°46.28' | 270°43.93' | 322°34.89' | S 16°05.34' | **11** |
| **12** | 352°55.33' | 255°25.95' | S 23°04.97' | 170°00.78' | 78°20.50' | N 24°56.17' | 248°50.29' | 359°31.00' | S 1°46.25' | 285°46.24' | 322°35.04' | S 16°05.29' | **12** |
| **13** | 7°54.41' | 255°29.34' | S 23°05.38' | 185°04.27' | 78°19.48' | N 24°56.21' | 263°52.71' | 359°31.04' | S 1°46.22' | 300°48.56' | 322°35.19' | S 16°05.24' | **13** |
| **14** | 22°53.49' | 255°32.72' | S 23°05.79' | 200°07.76' | 78°18.45' | N 24°56.25' | 278°55.13' | 359°31.08' | S 1°46.19' | 315°50.87' | 322°35.34' | S 16°05.19' | **14** |
| **15** | 37°52.57' | 255°36.10' | S 23°06.20' | 215°11.26' | 78°17.42' | N 24°56.29' | 293°57.56' | 359°31.12' | S 1°46.16' | 330°53.18' | 322°35.49' | S 16°05.14' | **15** |
| **16** | 52°51.66' | 255°39.49' | S 23°06.61' | 230°14.75' | 78°16.39' | N 24°56.33' | 308°59.98' | 359°31.16' | S 1°46.13' | 345°55.50' | 322°35.64' | S 16°05.09' | **16** |
| **17** | 67°50.74' | 255°42.87' | S 23°07.02' | 245°18.24' | 78°15.36' | N 24°56.37' | 324°02.40' | 359°31.20' | S 1°46.10' | 0°57.81' | 322°35.79' | S 16°05.04' | **17** |
| **18** | 82°49.81' | 255°46.25' | S 23°07.43' | 260°21.73' | 78°14.33' | N 24°56.41' | 339°04.83' | 359°31.24' | S 1°46.07' | 16°00.13' | 322°35.94' | S 16°04.99' | **18** |
| **19** | 97°48.89' | 255°49.64' | S 23°07.83' | 275°25.23' | 78°13.30' | N 24°56.45' | 354°07.25' | 359°31.28' | S 1°46.04' | 31°02.44' | 322°36.10' | S 16°04.94' | **19** |
| **20** | 112°47.97' | 255°53.02' | S 23°08.24' | 290°28.72' | 78°12.27' | N 24°56.49' | 9°09.67' | 359°31.33' | S 1°46.01' | 46°04.75' | 322°36.25' | S 16°04.89' | **20** |
| **21** | 127°47.05' | 255°56.41' | S 23°08.64' | 305°32.22' | 78°11.24' | N 24°56.53' | 24°12.09' | 359°31.37' | S 1°45.98' | 61°07.06' | 322°36.40' | S 16°04.84' | **21** |
| **22** | 142°46.13' | 255°59.80' | S 23°09.04' | 320°35.72' | 78°10.21' | N 24°56.57' | 39°14.52' | 359°31.41' | S 1°45.95' | 76°09.38' | 322°36.55' | S 16°04.79' | **22** |
| **23** | 157°45.21' | 256°03.18' | S 23°09.44' | 335°39.21' | 78°09.18' | N 24°56.61' | 54°16.94' | 359°31.45' | S 1°45.92' | 91°11.69' | 322°36.70' | S 16°04.74' | **23** |
| **24** | 172°44.29' | 256°06.57' | S 23°09.84' | 350°42.71' | 78°08.14' | N 24°56.65' | 69°19.36' | 359°31.50' | S 1°45.88' | 106°14.00' | 322°36.85' | S 16°04.69' | **24** |
| | δ 14.9848° | | *d* 0.4272' | δ 15.0581° | | *d* 0.0443' | δ 15.0405° | | *d* 0.0282' | δ 15.0386° | | *d* 0.0497' | |

## *Wednesday, November 30th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 182°53.20' | 14.9963° | 245°57.65' | S 21°36.01' | 0.4107' | 95°03.99' | 14.4780° | 333°46.86' | S 16°12.96' | 13.3717' | 58.9994' | 68°50.85' | **00** |
| **01** | 197°52.98' | 14.9963° | 246°00.34' | S 21°36.42' | 0.4100' | 109°32.78' | 14.4798° | 334°20.54' | S 15°59.51' | 13.4490' | 58.9748' | 83°53.32' | **01** |
| **02** | 212°52.76' | 14.9963° | 246°03.03' | S 21°36.83' | 0.4093' | 124°01.67' | 14.4815° | 334°54.11' | S 15°45.99' | 13.5246' | 58.9501' | 98°55.78' | **02** |
| **03** | 227°52.53' | 14.9963° | 246°05.72' | S 21°37.24' | 0.4086' | 138°30.67' | 14.4833° | 335°27.58' | S 15°32.39' | 13.5985' | 58.9254' | 113°58.25' | **03** |
| **04** | 242°52.31' | 14.9963° | 246°08.40' | S 21°37.64' | 0.4078' | 152°59.76' | 14.4850° | 336°00.95' | S 15°18.72' | 13.6707' | 58.9006' | 129°00.71' | **04** |
| **05** | 257°52.08' | 14.9963° | 246°11.09' | S 21°38.05' | 0.4071' | 167°28.96' | 14.4866° | 336°34.21' | S 15°04.98' | 13.7411' | 58.8757' | 144°03.17' | **05** |
| **06** | 272°51.86' | 14.9962° | 246°13.78' | S 21°38.46' | 0.4064' | 181°58.26' | 14.4883° | 337°07.38' | S 14°51.17' | 13.8099' | 58.8508' | 159°05.64' | **06** |
| **07** | 287°51.63' | 14.9962° | 246°16.47' | S 21°38.86' | 0.4057' | 196°27.66' | 14.4900° | 337°40.44' | S 14°37.29' | 13.8771' | 58.8258' | 174°08.10' | **07** |
| **08** | 302°51.41' | 14.9962° | 246°19.16' | S 21°39.27' | 0.4050' | 210°57.16' | 14.4916° | 338°13.41' | S 14°23.35' | 13.9426' | 58.8008' | 189°10.57' | **08** |
| **09** | 317°51.18' | 14.9962° | 246°21.85' | S 21°39.67' | 0.4043' | 225°26.75' | 14.4932° | 338°46.28' | S 14°09.34' | 14.0064' | 58.7757' | 204°13.03' | **09** |
| **10** | 332°50.95' | 14.9962° | 246°24.54' | S 21°40.08' | 0.4035' | 239°56.44' | 14.4948° | 339°19.06' | S 13°55.27' | 14.0686' | 58.7505' | 219°15.50' | **10** |
| **11** | 347°50.73' | 14.9962° | 246°27.23' | S 21°40.48' | 0.4028' | 254°26.22' | 14.4964° | 339°51.74' | S 13°41.14' | 14.1292' | 58.7254' | 234°17.96' | **11** |
| **12** | 2°50.50' | 14.9962° | 246°29.92' | S 21°40.88' | 0.4021' | 268°56.10' | 14.4980° | 340°24.32' | S 13°26.95' | 14.1882' | 58.7001' | 249°20.42' | **12** |
| **13** | 17°50.27' | 14.9962° | 246°32.62' | S 21°41.28' | 0.4014' | 283°26.07' | 14.4995° | 340°56.82' | S 13°12.71' | 14.2456' | 58.6749' | 264°22.89' | **13** |
| **14** | 32°50.04' | 14.9962° | 246°35.31' | S 21°41.68' | 0.4006' | 297°56.13' | 14.5010° | 341°29.22' | S 12°58.41' | 14.3014' | 58.6496' | 279°25.35' | **14** |
| **15** | 47°49.82' | 14.9962° | 246°38.00' | S 21°42.08' | 0.3999' | 312°26.29' | 14.5025° | 342°01.53' | S 12°44.05' | 14.3557' | 58.6243' | 294°27.82' | **15** |
| **16** | 62°49.59' | 14.9962° | 246°40.69' | S 21°42.48' | 0.3992' | 326°56.53' | 14.5040° | 342°33.75' | S 12°29.64' | 14.4084' | 58.5990' | 309°30.28' | **16** |
| **17** | 77°49.36' | 14.9962° | 246°43.38' | S 21°42.88' | 0.3985' | 341°26.85' | 14.5055° | 343°05.89' | S 12°15.18' | 14.4596' | 58.5736' | 324°32.74' | **17** |
| **18** | 92°49.13' | 14.9962° | 246°46.08' | S 21°43.28' | 0.3978' | 355°57.27' | 14.5069° | 343°37.94' | S 12°00.67' | 14.5092' | 58.5482' | 339°35.21' | **18** |
| **19** | 107°48.90' | 14.9962° | 246°48.77' | S 21°43.67' | 0.3970' | 10°27.77' | 14.5083° | 344°09.90' | S 11°46.12' | 14.5573' | 58.5228' | 354°37.67' | **19** |
| **20** | 122°48.67' | 14.9962° | 246°51.46' | S 21°44.07' | 0.3963' | 24°58.35' | 14.5097° | 344°41.78' | S 11°31.51' | 14.6039' | 58.4974' | 9°40.14' | **20** |
| **21** | 137°48.44' | 14.9962° | 246°54.16' | S 21°44.47' | 0.3956' | 39°29.02' | 14.5111° | 345°13.58' | S 11°16.86' | 14.6490' | 58.4719' | 24°42.60' | **21** |
| **22** | 152°48.21' | 14.9962° | 246°56.85' | S 21°44.86' | 0.3949' | 53°59.77' | 14.5125° | 345°45.30' | S 11°02.17' | 14.6927' | 58.4465' | 39°45.06' | **22** |
| **23** | 167°47.98' | 14.9962° | 246°59.54' | S 21°45.26' | 0.3941' | 68°30.59' | 14.5138° | 346°16.94' | S 10°47.44' | 14.7348' | 58.4210' | 54°47.53' | **23** |
| **24** | 182°47.75' | 14.9962° | 247°02.24' | S 21°45.65' | 0.3934' | 83°01.50' | 14.5151° | 346°48.49' | S 10°32.66' | 14.7755' | 58.3955' | 69°49.99' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2163' | hp (π) 0.1486' | ½Ø 15.9947' | 48.9089119967655<br>04% +cre |
| | EoT at 12:00 UTC : +11m 22s (δ -0.91 s/h) | | Phase at 12:00 UTC : 88.60° | |
| | Meridian Pass. Time : 11:48:38.003 | | Age : 6.9 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.27') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 172°44.29' | 256°06.57' | S 23°09.84' | 350°42.71' | 78°08.14' | N 24°56.65' | 69°19.36' | 359°31.50' | S 1°45.88' | 106°14.00' | 322°36.85' | S 16°04.69' | **00** |
| **01** | 187°43.36' | 256°09.95' | S 23°10.24' | 5°46.21' | 78°07.11' | N 24°56.69' | 84°21.78' | 359°31.54' | S 1°45.85' | 121°16.32' | 322°37.00' | S 16°04.64' | **01** |
| **02** | 202°42.44' | 256°13.34' | S 23°10.64' | 20°49.71' | 78°06.08' | N 24°56.73' | 99°24.20' | 359°31.58' | S 1°45.82' | 136°18.63' | 322°37.15' | S 16°04.59' | **02** |
| **03** | 217°41.52' | 256°16.73' | S 23°11.03' | 35°53.20' | 78°05.04' | N 24°56.77' | 114°26.62' | 359°31.63' | S 1°45.79' | 151°20.94' | 322°37.31' | S 16°04.54' | **03** |
| **04** | 232°40.59' | 256°20.12' | S 23°11.43' | 50°56.70' | 78°04.01' | N 24°56.81' | 129°29.04' | 359°31.67' | S 1°45.76' | 166°23.25' | 322°37.46' | S 16°04.48' | **04** |
| **05** | 247°39.67' | 256°23.50' | S 23°11.82' | 66°00.20' | 78°02.97' | N 24°56.84' | 144°31.46' | 359°31.72' | S 1°45.72' | 181°25.56' | 322°37.61' | S 16°04.43' | **05** |
| **06** | 262°38.75' | 256°26.89' | S 23°12.21' | 81°03.70' | 78°01.94' | N 24°56.88' | 159°33.87' | 359°31.76' | S 1°45.69' | 196°27.87' | 322°37.76' | S 16°04.38' | **06** |
| **07** | 277°37.82' | 256°30.28' | S 23°12.60' | 96°07.20' | 78°00.90' | N 24°56.92' | 174°36.29' | 359°31.81' | S 1°45.66' | 211°30.19' | 322°37.92' | S 16°04.33' | **07** |
| **08** | 292°36.90' | 256°33.67' | S 23°12.99' | 111°10.71' | 77°59.86' | N 24°56.95' | 189°38.71' | 359°31.86' | S 1°45.63' | 226°32.50' | 322°38.07' | S 16°04.28' | **08** |
| **09** | 307°35.97' | 256°37.06' | S 23°13.38' | 126°14.21' | 77°58.82' | N 24°56.99' | 204°41.13' | 359°31.90' | S 1°45.59' | 241°34.81' | 322°38.22' | S 16°04.23' | **09** |
| **10** | 322°35.05' | 256°40.45' | S 23°13.77' | 141°17.71' | 77°57.78' | N 24°57.03' | 219°43.55' | 359°31.95' | S 1°45.56' | 256°37.12' | 322°38.38' | S 16°04.18' | **10** |
| **11** | 337°34.12' | 256°43.84' | S 23°14.16' | 156°21.21' | 77°56.75' | N 24°57.06' | 234°45.96' | 359°32.00' | S 1°45.53' | 271°39.43' | 322°38.53' | S 16°04.13' | **11** |
| **12** | 352°33.19' | 256°47.23' | S 23°14.54' | 171°24.72' | 77°55.71' | N 24°57.10' | 249°48.38' | 359°32.04' | S 1°45.49' | 286°41.74' | 322°38.68' | S 16°04.07' | **12** |
| **13** | 7°32.27' | 256°50.62' | S 23°14.92' | 186°28.22' | 77°54.67' | N 24°57.14' | 264°50.80' | 359°32.09' | S 1°45.46' | 301°44.05' | 322°38.83' | S 16°04.02' | **13** |
| **14** | 22°31.34' | 256°54.01' | S 23°15.31' | 201°31.73' | 77°53.63' | N 24°57.17' | 279°53.21' | 359°32.14' | S 1°45.43' | 316°46.36' | 322°38.99' | S 16°03.97' | **14** |
| **15** | 37°30.41' | 256°57.40' | S 23°15.69' | 216°35.23' | 77°52.59' | N 24°57.21' | 294°55.63' | 359°32.19' | S 1°45.39' | 331°48.67' | 322°39.14' | S 16°03.92' | **15** |
| **16** | 52°29.49' | 257°00.79' | S 23°16.07' | 231°38.74' | 77°51.54' | N 24°57.24' | 309°58.05' | 359°32.23' | S 1°45.36' | 346°50.98' | 322°39.30' | S 16°03.87' | **16** |
| **17** | 67°28.56' | 257°04.19' | S 23°16.45' | 246°42.24' | 77°50.50' | N 24°57.28' | 325°00.46' | 359°32.28' | S 1°45.33' | 1°53.29' | 322°39.45' | S 16°03.82' | **17** |
| **18** | 82°27.63' | 257°07.58' | S 23°16.83' | 261°45.75' | 77°49.46' | N 24°57.31' | 340°02.88' | 359°32.33' | S 1°45.29' | 16°55.60' | 322°39.60' | S 16°03.77' | **18** |
| **19** | 97°26.70' | 257°10.97' | S 23°17.20' | 276°49.26' | 77°48.42' | N 24°57.35' | 355°05.29' | 359°32.38' | S 1°45.26' | 31°57.91' | 322°39.76' | S 16°03.71' | **19** |
| **20** | 112°25.77' | 257°14.36' | S 23°17.58' | 291°52.76' | 77°47.37' | N 24°57.38' | 10°07.70' | 359°32.43' | S 1°45.22' | 47°00.22' | 322°39.91' | S 16°03.66' | **20** |
| **21** | 127°24.84' | 257°17.76' | S 23°17.95' | 306°56.27' | 77°46.33' | N 24°57.41' | 25°10.12' | 359°32.48' | S 1°45.19' | 62°02.53' | 322°40.07' | S 16°03.61' | **21** |
| **22** | 142°23.91' | 257°21.15' | S 23°18.32' | 321°59.78' | 77°45.29' | N 24°57.45' | 40°12.53' | 359°32.53' | S 1°45.15' | 77°04.84' | 322°40.22' | S 16°03.56' | **22** |
| **23** | 157°22.98' | 257°24.54' | S 23°18.70' | 337°03.29' | 77°44.24' | N 24°57.48' | 55°14.94' | 359°32.58' | S 1°45.12' | 92°07.15' | 322°40.38' | S 16°03.51' | **23** |
| **24** | 172°22.05' | 257°27.94' | S 23°19.07' | 352°06.80' | 77°43.20' | N 24°57.52' | 70°17.36' | 359°32.64' | S 1°45.09' | 107°09.46' | 322°40.53' | S 16°03.45' | **24** |
| | δ 14.9846° | | *d* 0.3983' | δ 15.0583° | | *d* 0.0387' | δ 15.0403° | | *d* 0.0316' | δ 15.0385° | | *d* 0.0508' | |

## *Thursday, December 1st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 182°47.75' | 14.9962° | 247°02.24' | S 21°45.65' | 0.3934' | 83°01.50' | 14.5151° | 346°48.49' | S 10°32.66' | 14.7755' | 58.3955' | 69°49.99' | **00** |
| **01** | 197°47.52' | 14.9962° | 247°04.93' | S 21°46.04' | 0.3927' | 97°32.48' | 14.5164° | 347°19.97' | S 10°17.85' | 14.8148' | 58.3700' | 84°52.46' | **01** |
| **02** | 212°47.29' | 14.9962° | 247°07.63' | S 21°46.43' | 0.3920' | 112°03.54' | 14.5177° | 347°51.38' | S 10°02.99' | 14.8527' | 58.3446' | 99°54.92' | **02** |
| **03** | 227°47.06' | 14.9961° | 247°10.32' | S 21°46.83' | 0.3912' | 126°34.68' | 14.5189° | 348°22.71' | S 9°48.10' | 14.8891' | 58.3191' | 114°57.38' | **03** |
| **04** | 242°46.83' | 14.9961° | 247°13.02' | S 21°47.22' | 0.3905' | 141°05.89' | 14.5201° | 348°53.96' | S 9°33.18' | 14.9241' | 58.2936' | 129°59.85' | **04** |
| **05** | 257°46.60' | 14.9961° | 247°15.71' | S 21°47.61' | 0.3898' | 155°37.17' | 14.5214° | 349°25.14' | S 9°18.22' | 14.9577' | 58.2681' | 145°02.31' | **05** |
| **06** | 272°46.37' | 14.9961° | 247°18.41' | S 21°47.99' | 0.3891' | 170°08.52' | 14.5225° | 349°56.26' | S 9°03.23' | 14.9899' | 58.2426' | 160°04.78' | **06** |
| **07** | 287°46.14' | 14.9961° | 247°21.11' | S 21°48.38' | 0.3883' | 184°39.94' | 14.5237° | 350°27.30' | S 8°48.21' | 15.0208' | 58.2172' | 175°07.24' | **07** |
| **08** | 302°45.90' | 14.9961° | 247°23.80' | S 21°48.77' | 0.3876' | 199°11.43' | 14.5248° | 350°58.27' | S 8°33.16' | 15.0502' | 58.1917' | 190°09.71' | **08** |
| **09** | 317°45.67' | 14.9961° | 247°26.50' | S 21°49.16' | 0.3869' | 213°42.99' | 14.5260° | 351°29.18' | S 8°18.08' | 15.0784' | 58.1663' | 205°12.17' | **09** |
| **10** | 332°45.44' | 14.9961° | 247°29.20' | S 21°49.54' | 0.3862' | 228°14.61' | 14.5271° | 352°00.02' | S 8°02.98' | 15.1052' | 58.1409' | 220°14.63' | **10** |
| **11** | 347°45.20' | 14.9961° | 247°31.89' | S 21°49.93' | 0.3854' | 242°46.30' | 14.5281° | 352°30.80' | S 7°47.85' | 15.1306' | 58.1155' | 235°17.10' | **11** |
| **12** | 2°44.97' | 14.9961° | 247°34.59' | S 21°50.31' | 0.3847' | 257°18.05' | 14.5292° | 353°01.51' | S 7°32.69' | 15.1548' | 58.0901' | 250°19.56' | **12** |
| **13** | 17°44.74' | 14.9961° | 247°37.29' | S 21°50.70' | 0.3840' | 271°49.86' | 14.5302° | 353°32.16' | S 7°17.51' | 15.1776' | 58.0647' | 265°22.03' | **13** |
| **14** | 32°44.50' | 14.9961° | 247°39.99' | S 21°51.08' | 0.3832' | 286°21.74' | 14.5312° | 354°02.75' | S 7°02.32' | 15.1991' | 58.0393' | 280°24.49' | **14** |
| **15** | 47°44.27' | 14.9961° | 247°42.69' | S 21°51.46' | 0.3825' | 300°53.67' | 14.5322° | 354°33.29' | S 6°47.10' | 15.2193' | 58.0140' | 295°26.95' | **15** |
| **16** | 62°44.03' | 14.9961° | 247°45.38' | S 21°51.85' | 0.3818' | 315°25.66' | 14.5332° | 355°03.76' | S 6°31.86' | 15.2383' | 57.9887' | 310°29.42' | **16** |
| **17** | 77°43.80' | 14.9961° | 247°48.08' | S 21°52.23' | 0.3811' | 329°57.70' | 14.5341° | 355°34.18' | S 6°16.60' | 15.2560' | 57.9634' | 325°31.88' | **17** |
| **18** | 92°43.56' | 14.9961° | 247°50.78' | S 21°52.61' | 0.3803' | 344°29.80' | 14.5350° | 356°04.54' | S 6°01.33' | 15.2724' | 57.9382' | 340°34.35' | **18** |
| **19** | 107°43.33' | 14.9961° | 247°53.48' | S 21°52.99' | 0.3796' | 359°01.96' | 14.5359° | 356°34.85' | S 5°46.04' | 15.2876' | 57.9130' | 355°36.81' | **19** |
| **20** | 122°43.09' | 14.9961° | 247°56.18' | S 21°53.37' | 0.3789' | 13°34.16' | 14.5368° | 357°05.11' | S 5°30.74' | 15.3015' | 57.8878' | 10°39.27' | **20** |
| **21** | 137°42.86' | 14.9961° | 247°58.88' | S 21°53.74' | 0.3781' | 28°06.42' | 14.5376° | 357°35.32' | S 5°15.43' | 15.3142' | 57.8626' | 25°41.74' | **21** |
| **22** | 152°42.62' | 14.9961° | 248°01.58' | S 21°54.12' | 0.3774' | 42°38.73' | 14.5385° | 358°05.47' | S 5°00.10' | 15.3257' | 57.8375' | 40°44.20' | **22** |
| **23** | 167°42.38' | 14.9961° | 248°04.28' | S 21°54.50' | 0.3767' | 57°11.08' | 14.5393° | 358°35.58' | S 4°44.76' | 15.3359' | 57.8124' | 55°46.67' | **23** |
| **24** | 182°42.15' | 14.9961° | 248°06.98' | S 21°54.87' | 0.3759' | 71°43.49' | 14.5400° | 359°05.64' | S 4°29.42' | 15.3450' | 57.7874' | 70°49.13' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2191' | hp (π) 0.1486' | ½Ø 15.8285' | 59.9366195725351<br>2% +gib |
| | EoT at 12:00 UTC : +10m 59s (δ -0.93 s/h) | | Phase at 12:00 UTC : 101.35° | |
| | Meridian Pass. Time : 11:49:00.116 | | Age : 7.9 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.27') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 172°22.05' | 257°27.94' | S 23°19.07' | 352°06.80' | 77°43.20' | N 24°57.52' | 70°17.36' | 359°32.64' | S 1°45.09' | 107°09.46' | 322°40.53' | S 16°03.45' | **00** |
| **01** | 187°21.12' | 257°31.33' | S 23°19.43' | 7°10.31' | 77°42.15' | N 24°57.55' | 85°19.77' | 359°32.69' | S 1°45.05' | 122°11.77' | 322°40.69' | S 16°03.40' | **01** |
| **02** | 202°20.19' | 257°34.73' | S 23°19.80' | 22°13.82' | 77°41.10' | N 24°57.58' | 100°22.18' | 359°32.74' | S 1°45.01' | 137°14.08' | 322°40.84' | S 16°03.35' | **02** |
| **03** | 217°19.26' | 257°38.12' | S 23°20.17' | 37°17.33' | 77°40.06' | N 24°57.61' | 115°24.59' | 359°32.79' | S 1°44.98' | 152°16.39' | 322°41.00' | S 16°03.30' | **03** |
| **04** | 232°18.33' | 257°41.52' | S 23°20.53' | 52°20.84' | 77°39.01' | N 24°57.65' | 130°27.01' | 359°32.84' | S 1°44.94' | 167°18.69' | 322°41.15' | S 16°03.25' | **04** |
| **05** | 247°17.40' | 257°44.91' | S 23°20.90' | 67°24.35' | 77°37.96' | N 24°57.68' | 145°29.42' | 359°32.90' | S 1°44.91' | 182°21.00' | 322°41.31' | S 16°03.19' | **05** |
| **06** | 262°16.47' | 257°48.31' | S 23°21.26' | 82°27.86' | 77°36.92' | N 24°57.71' | 160°31.83' | 359°32.95' | S 1°44.87' | 197°23.31' | 322°41.47' | S 16°03.14' | **06** |
| **07** | 277°15.54' | 257°51.70' | S 23°21.62' | 97°31.37' | 77°35.87' | N 24°57.74' | 175°34.24' | 359°33.00' | S 1°44.84' | 212°25.62' | 322°41.62' | S 16°03.09' | **07** |
| **08** | 292°14.60' | 257°55.10' | S 23°21.98' | 112°34.89' | 77°34.82' | N 24°57.77' | 190°36.65' | 359°33.06' | S 1°44.80' | 227°27.93' | 322°41.78' | S 16°03.04' | **08** |
| **09** | 307°13.67' | 257°58.50' | S 23°22.34' | 127°38.40' | 77°33.77' | N 24°57.80' | 205°39.06' | 359°33.11' | S 1°44.76' | 242°30.24' | 322°41.93' | S 16°02.98' | **09** |
| **10** | 322°12.74' | 258°01.90' | S 23°22.70' | 142°41.91' | 77°32.72' | N 24°57.83' | 220°41.47' | 359°33.17' | S 1°44.73' | 257°32.54' | 322°42.09' | S 16°02.93' | **10** |
| **11** | 337°11.81' | 258°05.29' | S 23°23.06' | 157°45.43' | 77°31.67' | N 24°57.87' | 235°43.88' | 359°33.22' | S 1°44.69' | 272°34.85' | 322°42.25' | S 16°02.88' | **11** |
| **12** | 352°10.87' | 258°08.69' | S 23°23.41' | 172°48.94' | 77°30.62' | N 24°57.90' | 250°46.29' | 359°33.27' | S 1°44.65' | 287°37.16' | 322°42.40' | S 16°02.83' | **12** |
| **13** | 7°09.94' | 258°12.09' | S 23°23.77' | 187°52.46' | 77°29.57' | N 24°57.93' | 265°48.70' | 359°33.33' | S 1°44.62' | 302°39.46' | 322°42.56' | S 16°02.77' | **13** |
| **14** | 22°09.00' | 258°15.49' | S 23°24.12' | 202°55.97' | 77°28.52' | N 24°57.96' | 280°51.10' | 359°33.39' | S 1°44.58' | 317°41.77' | 322°42.72' | S 16°02.72' | **14** |
| **15** | 37°08.07' | 258°18.88' | S 23°24.47' | 217°59.49' | 77°27.47' | N 24°57.99' | 295°53.51' | 359°33.44' | S 1°44.54' | 332°44.08' | 322°42.88' | S 16°02.67' | **15** |
| **16** | 52°07.13' | 258°22.28' | S 23°24.82' | 233°03.00' | 77°26.41' | N 24°58.02' | 310°55.92' | 359°33.50' | S 1°44.51' | 347°46.39' | 322°43.03' | S 16°02.62' | **16** |
| **17** | 67°06.20' | 258°25.68' | S 23°25.17' | 248°06.52' | 77°25.36' | N 24°58.04' | 325°58.33' | 359°33.56' | S 1°44.47' | 2°48.69' | 322°43.19' | S 16°02.56' | **17** |
| **18** | 82°05.26' | 258°29.08' | S 23°25.52' | 263°10.04' | 77°24.31' | N 24°58.07' | 341°00.73' | 359°33.61' | S 1°44.43' | 17°51.00' | 322°43.35' | S 16°02.51' | **18** |
| **19** | 97°04.33' | 258°32.48' | S 23°25.87' | 278°13.55' | 77°23.26' | N 24°58.10' | 356°03.14' | 359°33.67' | S 1°44.39' | 32°53.30' | 322°43.51' | S 16°02.46' | **19** |
| **20** | 112°03.39' | 258°35.88' | S 23°26.22' | 293°17.07' | 77°22.20' | N 24°58.13' | 11°05.55' | 359°33.73' | S 1°44.36' | 47°55.61' | 322°43.66' | S 16°02.41' | **20** |
| **21** | 127°02.46' | 258°39.28' | S 23°26.56' | 308°20.59' | 77°21.15' | N 24°58.16' | 26°07.95' | 359°33.79' | S 1°44.32' | 62°57.92' | 322°43.82' | S 16°02.35' | **21** |
| **22** | 142°01.52' | 258°42.68' | S 23°26.90' | 323°24.11' | 77°20.09' | N 24°58.19' | 41°10.36' | 359°33.84' | S 1°44.28' | 78°00.22' | 322°43.98' | S 16°02.30' | **22** |
| **23** | 157°00.58' | 258°46.08' | S 23°27.25' | 338°27.63' | 77°19.04' | N 24°58.21' | 56°12.76' | 359°33.90' | S 1°44.24' | 93°02.53' | 322°44.14' | S 16°02.25' | **23** |
| **24** | 171°59.65' | 258°49.48' | S 23°27.59' | 353°31.15' | 77°17.98' | N 24°58.24' | 71°15.17' | 359°33.96' | S 1°44.20' | 108°04.83' | 322°44.30' | S 16°02.19' | **24** |
| | δ 14.9845° | | *d* 0.3691' | δ 15.0585° | | *d* 0.0330' | δ 15.0402° | | *d* 0.0351' | δ 15.0385° | | *d* 0.0520' | |

## *Friday, December 2nd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 182°42.15' | 14.9961° | 248°06.98' | S 21°54.87' | 0.3759' | 71°43.49' | 14.5400° | 359°05.64' | S 4°29.42' | 15.3450' | 57.7874' | 70°49.13' | **00** |
| **01** | 197°41.91' | 14.9961° | 248°09.68' | S 21°55.25' | 0.3752' | 86°15.93' | 14.5408° | 359°35.66' | S 4°14.07' | 15.3528' | 57.7624' | 85°51.59' | **01** |
| **02** | 212°41.67' | 14.9960° | 248°12.38' | S 21°55.62' | 0.3745' | 100°48.43' | 14.5415° | 0°05.63' | S 3°58.71' | 15.3595' | 57.7374' | 100°54.06' | **02** |
| **03** | 227°41.44' | 14.9960° | 248°15.09' | S 21°56.00' | 0.3737' | 115°20.96' | 14.5423° | 0°35.56' | S 3°43.34' | 15.3650' | 57.7125' | 115°56.52' | **03** |
| **04** | 242°41.20' | 14.9960° | 248°17.79' | S 21°56.37' | 0.3730' | 129°53.54' | 14.5429° | 1°05.45' | S 3°27.97' | 15.3693' | 57.6876' | 130°58.99' | **04** |
| **05** | 257°40.96' | 14.9960° | 248°20.49' | S 21°56.74' | 0.3723' | 144°26.16' | 14.5436° | 1°35.30' | S 3°12.60' | 15.3724' | 57.6627' | 146°01.45' | **05** |
| **06** | 272°40.72' | 14.9960° | 248°23.19' | S 21°57.11' | 0.3715' | 158°58.81' | 14.5443° | 2°05.10' | S 2°57.23' | 15.3744' | 57.6379' | 161°03.91' | **06** |
| **07** | 287°40.48' | 14.9960° | 248°25.90' | S 21°57.48' | 0.3708' | 173°31.51' | 14.5449° | 2°34.87' | S 2°41.85' | 15.3752' | 57.6132' | 176°06.38' | **07** |
| **08** | 302°40.25' | 14.9960° | 248°28.60' | S 21°57.85' | 0.3701' | 188°04.24' | 14.5455° | 3°04.61' | S 2°26.48' | 15.3749' | 57.5885' | 191°08.84' | **08** |
| **09** | 317°40.01' | 14.9960° | 248°31.30' | S 21°58.22' | 0.3693' | 202°37.00' | 14.5461° | 3°34.31' | S 2°11.10' | 15.3735' | 57.5638' | 206°11.31' | **09** |
| **10** | 332°39.77' | 14.9960° | 248°34.00' | S 21°58.59' | 0.3686' | 217°09.80' | 14.5467° | 4°03.97' | S 1°55.73' | 15.3709' | 57.5392' | 221°13.77' | **10** |
| **11** | 347°39.53' | 14.9960° | 248°36.71' | S 21°58.96' | 0.3679' | 231°42.63' | 14.5472° | 4°33.60' | S 1°40.36' | 15.3672' | 57.5147' | 236°16.24' | **11** |
| **12** | 2°39.29' | 14.9960° | 248°39.41' | S 21°59.33' | 0.3671' | 246°15.50' | 14.5477° | 5°03.20' | S 1°25.00' | 15.3624' | 57.4902' | 251°18.70' | **12** |
| **13** | 17°39.05' | 14.9960° | 248°42.12' | S 21°59.69' | 0.3664' | 260°48.39' | 14.5482° | 5°32.77' | S 1°09.65' | 15.3564' | 57.4657' | 266°21.16' | **13** |
| **14** | 32°38.81' | 14.9960° | 248°44.82' | S 22°00.06' | 0.3657' | 275°21.31' | 14.5487° | 6°02.32' | S 0°54.30' | 15.3494' | 57.4413' | 281°23.63' | **14** |
| **15** | 47°38.57' | 14.9960° | 248°47.53' | S 22°00.42' | 0.3649' | 289°54.26' | 14.5491° | 6°31.83' | S 0°38.95' | 15.3413' | 57.4169' | 296°26.09' | **15** |
| **16** | 62°38.33' | 14.9960° | 248°50.23' | S 22°00.79' | 0.3642' | 304°27.23' | 14.5496° | 7°01.32' | S 0°23.62' | 15.3320' | 57.3927' | 311°28.56' | **16** |
| **17** | 77°38.08' | 14.9960° | 248°52.94' | S 22°01.15' | 0.3634' | 319°00.23' | 14.5500° | 7°30.79' | S 0°08.30' | 15.3217' | 57.3684' | 326°31.02' | **17** |
| **18** | 92°37.84' | 14.9960° | 248°55.64' | S 22°01.51' | 0.3627' | 333°33.26' | 14.5504° | 8°00.23' | N 0°07.01' | 15.3103' | 57.3442' | 341°33.48' | **18** |
| **19** | 107°37.60' | 14.9960° | 248°58.35' | S 22°01.88' | 0.3620' | 348°06.30' | 14.5508° | 8°29.65' | N 0°22.31' | 15.2978' | 57.3201' | 356°35.95' | **19** |
| **20** | 122°37.36' | 14.9960° | 249°01.05' | S 22°02.24' | 0.3612' | 2°39.37' | 14.5511° | 8°59.04' | N 0°37.59' | 15.2843' | 57.2960' | 11°38.41' | **20** |
| **21** | 137°37.12' | 14.9960° | 249°03.76' | S 22°02.60' | 0.3605' | 17°12.45' | 14.5514° | 9°28.42' | N 0°52.86' | 15.2697' | 57.2720' | 26°40.88' | **21** |
| **22** | 152°36.87' | 14.9960° | 249°06.47' | S 22°02.96' | 0.3598' | 31°45.56' | 14.5517° | 9°57.78' | N 1°08.11' | 15.2540' | 57.2481' | 41°43.34' | **22** |
| **23** | 167°36.63' | 14.9960° | 249°09.17' | S 22°03.32' | 0.3590' | 46°18.68' | 14.5520° | 10°27.12' | N 1°23.35' | 15.2372' | 57.2242' | 56°45.80' | **23** |
| **24** | 182°36.39' | 14.9960° | 249°11.88' | S 22°03.68' | 0.3583' | 60°51.82' | 14.5523° | 10°56.45' | N 1°38.57' | 15.2195' | 57.2004' | 71°48.27' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2218' | hp (π) 0.1487' | ½Ø 15.6650' | 70.2510248178565 % +gib |
| | EoT at 12:00 UTC : +10m 37s (δ -0.96 s/h) | | Phase at 12:00 UTC : 113.80° | |
| | Meridian Pass. Time : 11:49:22.850 | | Age : 8.9 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.27') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 171°59.65' | 258°49.48' | S 23°27.59' | 353°31.15' | 77°17.98' | N 24°58.24' | 71°15.17' | 359°33.96' | S 1°44.20' | 108°04.83' | 322°44.30' | S 16°02.19' | **00** |
| **01** | 186°58.71' | 258°52.89' | S 23°27.93' | 8°34.67' | 77°16.93' | N 24°58.27' | 86°17.57' | 359°34.02' | S 1°44.17' | 123°07.14' | 322°44.46' | S 16°02.14' | **01** |
| **02** | 201°57.77' | 258°56.29' | S 23°28.26' | 23°38.19' | 77°15.87' | N 24°58.30' | 101°19.98' | 359°34.08' | S 1°44.13' | 138°09.44' | 322°44.61' | S 16°02.09' | **02** |
| **03** | 216°56.83' | 258°59.69' | S 23°28.60' | 38°41.71' | 77°14.82' | N 24°58.32' | 116°22.38' | 359°34.14' | S 1°44.09' | 153°11.75' | 322°44.77' | S 16°02.03' | **03** |
| **04** | 231°55.89' | 259°03.09' | S 23°28.94' | 53°45.23' | 77°13.76' | N 24°58.35' | 131°24.79' | 359°34.20' | S 1°44.05' | 168°14.05' | 322°44.93' | S 16°01.98' | **04** |
| **05** | 246°54.96' | 259°06.49' | S 23°29.27' | 68°48.75' | 77°12.70' | N 24°58.38' | 146°27.19' | 359°34.26' | S 1°44.01' | 183°16.36' | 322°45.09' | S 16°01.93' | **05** |
| **06** | 261°54.02' | 259°09.90' | S 23°29.61' | 83°52.27' | 77°11.65' | N 24°58.40' | 161°29.59' | 359°34.32' | S 1°43.97' | 198°18.66' | 322°45.25' | S 16°01.87' | **06** |
| **07** | 276°53.08' | 259°13.30' | S 23°29.94' | 98°55.79' | 77°10.59' | N 24°58.43' | 176°32.00' | 359°34.38' | S 1°43.93' | 213°20.97' | 322°45.41' | S 16°01.82' | **07** |
| **08** | 291°52.14' | 259°16.70' | S 23°30.27' | 113°59.31' | 77°09.53' | N 24°58.45' | 191°34.40' | 359°34.45' | S 1°43.89' | 228°23.27' | 322°45.57' | S 16°01.77' | **08** |
| **09** | 306°51.20' | 259°20.11' | S 23°30.60' | 129°02.83' | 77°08.47' | N 24°58.48' | 206°36.80' | 359°34.51' | S 1°43.85' | 243°25.58' | 322°45.73' | S 16°01.71' | **09** |
| **10** | 321°50.26' | 259°23.51' | S 23°30.93' | 144°06.36' | 77°07.42' | N 24°58.50' | 221°39.20' | 359°34.57' | S 1°43.81' | 258°27.88' | 322°45.89' | S 16°01.66' | **10** |
| **11** | 336°49.32' | 259°26.92' | S 23°31.25' | 159°09.88' | 77°06.36' | N 24°58.53' | 236°41.60' | 359°34.63' | S 1°43.77' | 273°30.19' | 322°46.05' | S 16°01.61' | **11** |
| **12** | 351°48.38' | 259°30.32' | S 23°31.58' | 174°13.40' | 77°05.30' | N 24°58.55' | 251°44.00' | 359°34.70' | S 1°43.73' | 288°32.49' | 322°46.21' | S 16°01.55' | **12** |
| **13** | 6°47.44' | 259°33.72' | S 23°31.91' | 189°16.92' | 77°04.24' | N 24°58.58' | 266°46.40' | 359°34.76' | S 1°43.69' | 303°34.79' | 322°46.37' | S 16°01.50' | **13** |
| **14** | 21°46.50' | 259°37.13' | S 23°32.23' | 204°20.45' | 77°03.18' | N 24°58.60' | 281°48.81' | 359°34.82' | S 1°43.65' | 318°37.10' | 322°46.53' | S 16°01.45' | **14** |
| **15** | 36°45.56' | 259°40.53' | S 23°32.55' | 219°23.97' | 77°02.12' | N 24°58.63' | 296°51.21' | 359°34.89' | S 1°43.61' | 333°39.40' | 322°46.69' | S 16°01.39' | **15** |
| **16** | 51°44.62' | 259°43.94' | S 23°32.87' | 234°27.50' | 77°01.06' | N 24°58.65' | 311°53.61' | 359°34.95' | S 1°43.57' | 348°41.70' | 322°46.85' | S 16°01.34' | **16** |
| **17** | 66°43.67' | 259°47.35' | S 23°33.19' | 249°31.02' | 76°60.00' | N 24°58.67' | 326°56.00' | 359°35.02' | S 1°43.53' | 3°44.01' | 322°47.01' | S 16°01.28' | **17** |
| **18** | 81°42.73' | 259°50.75' | S 23°33.51' | 264°34.55' | 76°58.94' | N 24°58.70' | 341°58.40' | 359°35.08' | S 1°43.49' | 18°46.31' | 322°47.17' | S 16°01.23' | **18** |
| **19** | 96°41.79' | 259°54.16' | S 23°33.83' | 279°38.07' | 76°57.88' | N 24°58.72' | 357°00.80' | 359°35.15' | S 1°43.45' | 33°48.61' | 322°47.34' | S 16°01.18' | **19** |
| **20** | 111°40.85' | 259°57.57' | S 23°34.14' | 294°41.60' | 76°56.82' | N 24°58.74' | 12°03.20' | 359°35.21' | S 1°43.41' | 48°50.91' | 322°47.50' | S 16°01.12' | **20** |
| **21** | 126°39.90' | 260°00.97' | S 23°34.46' | 309°45.12' | 76°55.75' | N 24°58.76' | 27°05.60' | 359°35.28' | S 1°43.37' | 63°53.22' | 322°47.66' | S 16°01.07' | **21** |
| **22** | 141°38.96' | 260°04.38' | S 23°34.77' | 324°48.65' | 76°54.69' | N 24°58.79' | 42°08.00' | 359°35.34' | S 1°43.33' | 78°55.52' | 322°47.82' | S 16°01.01' | **22** |
| **23** | 156°38.02' | 260°07.79' | S 23°35.09' | 339°52.17' | 76°53.63' | N 24°58.81' | 57°10.39' | 359°35.41' | S 1°43.28' | 93°57.82' | 322°47.98' | S 16°00.96' | **23** |
| **24** | 171°37.07' | 260°11.19' | S 23°35.40' | 354°55.70' | 76°52.57' | N 24°58.83' | 72°12.79' | 359°35.48' | S 1°43.24' | 109°00.12' | 322°48.14' | S 16°00.91' | **24** |
| | δ 14.9844° | | *d* 0.3397' | δ 15.0587° | | *d* 0.0273' | δ 15.0401° | | *d* 0.0385' | δ 15.0384° | | *d* 0.0531' | |

## *Saturday, December 3rd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 182°36.39' | 14.9960° | 249°11.88' | S 22°03.68' | 0.3583' | 60°51.82' | 14.5523° | 10°56.45' | N 1°38.57' | 15.2195' | 57.2004' | 71°48.27' | **00** |
| **01** | 197°36.15' | 14.9959° | 249°14.59' | S 22°04.03' | 0.3575' | 75°24.97' | 14.5525° | 11°25.76' | N 1°53.77' | 15.2006' | 57.1766' | 86°50.73' | **01** |
| **02** | 212°35.90' | 14.9959° | 249°17.29' | S 22°04.39' | 0.3568' | 89°58.14' | 14.5528° | 11°55.06' | N 2°08.95' | 15.1808' | 57.1529' | 101°53.20' | **02** |
| **03** | 227°35.66' | 14.9959° | 249°20.00' | S 22°04.75' | 0.3561' | 104°31.32' | 14.5530° | 12°24.34' | N 2°24.11' | 15.1598' | 57.1292' | 116°55.66' | **03** |
| **04** | 242°35.41' | 14.9959° | 249°22.71' | S 22°05.10' | 0.3553' | 119°04.51' | 14.5532° | 12°53.62' | N 2°39.25' | 15.1379' | 57.1056' | 131°58.12' | **04** |
| **05** | 257°35.17' | 14.9959° | 249°25.42' | S 22°05.46' | 0.3546' | 133°37.71' | 14.5533° | 13°22.88' | N 2°54.37' | 15.1149' | 57.0821' | 147°00.59' | **05** |
| **06** | 272°34.93' | 14.9959° | 249°28.13' | S 22°05.81' | 0.3538' | 148°10.92' | 14.5535° | 13°52.14' | N 3°09.46' | 15.0909' | 57.0587' | 162°03.05' | **06** |
| **07** | 287°34.68' | 14.9959° | 249°30.84' | S 22°06.16' | 0.3531' | 162°44.13' | 14.5536° | 14°21.39' | N 3°24.52' | 15.0659' | 57.0353' | 177°05.52' | **07** |
| **08** | 302°34.44' | 14.9959° | 249°33.54' | S 22°06.52' | 0.3524' | 177°17.35' | 14.5537° | 14°50.63' | N 3°39.56' | 15.0398' | 57.0119' | 192°07.98' | **08** |
| **09** | 317°34.19' | 14.9959° | 249°36.25' | S 22°06.87' | 0.3516' | 191°50.58' | 14.5538° | 15°19.86' | N 3°54.57' | 15.0127' | 56.9887' | 207°10.45' | **09** |
| **10** | 332°33.95' | 14.9959° | 249°38.96' | S 22°07.22' | 0.3509' | 206°23.81' | 14.5539° | 15°49.10' | N 4°09.56' | 14.9846' | 56.9655' | 222°12.91' | **10** |
| **11** | 347°33.70' | 14.9959° | 249°41.67' | S 22°07.57' | 0.3501' | 220°57.05' | 14.5539° | 16°18.32' | N 4°24.51' | 14.9555' | 56.9423' | 237°15.37' | **11** |
| **12** | 2°33.45' | 14.9959° | 249°44.38' | S 22°07.92' | 0.3494' | 235°30.29' | 14.5539° | 16°47.55' | N 4°39.44' | 14.9254' | 56.9193' | 252°17.84' | **12** |
| **13** | 17°33.21' | 14.9959° | 249°47.09' | S 22°08.27' | 0.3486' | 250°03.52' | 14.5540° | 17°16.78' | N 4°54.33' | 14.8943' | 56.8963' | 267°20.30' | **13** |
| **14** | 32°32.96' | 14.9959° | 249°49.80' | S 22°08.61' | 0.3479' | 264°36.76' | 14.5539° | 17°46.01' | N 5°09.20' | 14.8622' | 56.8733' | 282°22.77' | **14** |
| **15** | 47°32.71' | 14.9959° | 249°52.52' | S 22°08.96' | 0.3472' | 279°09.99' | 14.5539° | 18°15.24' | N 5°24.03' | 14.8291' | 56.8505' | 297°25.23' | **15** |
| **16** | 62°32.47' | 14.9959° | 249°55.23' | S 22°09.31' | 0.3464' | 293°43.23' | 14.5539° | 18°44.47' | N 5°38.82' | 14.7950' | 56.8277' | 312°27.69' | **16** |
| **17** | 77°32.22' | 14.9959° | 249°57.94' | S 22°09.65' | 0.3457' | 308°16.45' | 14.5538° | 19°13.70' | N 5°53.58' | 14.7598' | 56.8049' | 327°30.16' | **17** |
| **18** | 92°31.97' | 14.9959° | 250°00.65' | S 22°10.00' | 0.3449' | 322°49.68' | 14.5537° | 19°42.94' | N 6°08.30' | 14.7237' | 56.7823' | 342°32.62' | **18** |
| **19** | 107°31.72' | 14.9959° | 250°03.36' | S 22°10.34' | 0.3442' | 337°22.90' | 14.5536° | 20°12.19' | N 6°22.99' | 14.6866' | 56.7597' | 357°35.09' | **19** |
| **20** | 122°31.48' | 14.9959° | 250°06.07' | S 22°10.69' | 0.3434' | 351°56.11' | 14.5535° | 20°41.44' | N 6°37.64' | 14.6486' | 56.7371' | 12°37.55' | **20** |
| **21** | 137°31.23' | 14.9959° | 250°08.79' | S 22°11.03' | 0.3427' | 6°29.31' | 14.5534° | 21°10.71' | N 6°52.25' | 14.6095' | 56.7147' | 27°40.01' | **21** |
| **22** | 152°30.98' | 14.9959° | 250°11.50' | S 22°11.37' | 0.3419' | 21°02.50' | 14.5532° | 21°39.98' | N 7°06.82' | 14.5694' | 56.6923' | 42°42.48' | **22** |
| **23** | 167°30.73' | 14.9959° | 250°14.21' | S 22°11.71' | 0.3412' | 35°35.68' | 14.5530° | 22°09.26' | N 7°21.35' | 14.5284' | 56.6699' | 57°44.94' | **23** |
| **24** | 182°30.48' | 14.9959° | 250°16.92' | S 22°12.05' | 0.3405' | 50°08.85' | 14.5528° | 22°38.55' | N 7°35.83' | 14.4864' | 56.6477' | 72°47.41' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2244' | hp (π) 0.1487' | ½Ø 15.5095' | 79.4304858687586<br>2% +gib |
| | EoT at 12:00 UTC : +10m 13s (δ -0.98 s/h) | | Phase at 12:00 UTC : 125.97° | |
| | Meridian Pass. Time : 11:49:46.184 | | Age : 9.8 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.27') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 171°37.07' | 260°11.19' | S 23°35.40' | 354°55.70' | 76°52.57' | N 24°58.83' | 72°12.79' | 359°35.48' | S 1°43.24' | 109°00.12' | 322°48.14' | S 16°00.91' | **00** |
| **01** | 186°36.13' | 260°14.60' | S 23°35.71' | 9°59.23' | 76°51.51' | N 24°58.85' | 87°15.19' | 359°35.54' | S 1°43.20' | 124°02.43' | 322°48.31' | S 16°00.85' | **01** |
| **02** | 201°35.19' | 260°18.01' | S 23°36.02' | 25°02.75' | 76°50.44' | N 24°58.87' | 102°17.59' | 359°35.61' | S 1°43.16' | 139°04.73' | 322°48.47' | S 16°00.80' | **02** |
| **03** | 216°34.24' | 260°21.42' | S 23°36.32' | 40°06.28' | 76°49.38' | N 24°58.89' | 117°19.98' | 359°35.68' | S 1°43.12' | 154°07.03' | 322°48.63' | S 16°00.74' | **03** |
| **04** | 231°33.30' | 260°24.83' | S 23°36.63' | 55°09.81' | 76°48.32' | N 24°58.91' | 132°22.38' | 359°35.75' | S 1°43.07' | 169°09.33' | 322°48.79' | S 16°00.69' | **04** |
| **05** | 246°32.35' | 260°28.24' | S 23°36.93' | 70°13.34' | 76°47.25' | N 24°58.93' | 147°24.77' | 359°35.82' | S 1°43.03' | 184°11.63' | 322°48.96' | S 16°00.63' | **05** |
| **06** | 261°31.41' | 260°31.65' | S 23°37.24' | 85°16.86' | 76°46.19' | N 24°58.96' | 162°27.17' | 359°35.88' | S 1°42.99' | 199°13.93' | 322°49.12' | S 16°00.58' | **06** |
| **07** | 276°30.46' | 260°35.06' | S 23°37.54' | 100°20.39' | 76°45.12' | N 24°58.98' | 177°29.56' | 359°35.95' | S 1°42.95' | 214°16.23' | 322°49.28' | S 16°00.52' | **07** |
| **08** | 291°29.52' | 260°38.47' | S 23°37.84' | 115°23.92' | 76°44.06' | N 24°59.00' | 192°31.96' | 359°36.02' | S 1°42.90' | 229°18.54' | 322°49.45' | S 16°00.47' | **08** |
| **09** | 306°28.57' | 260°41.88' | S 23°38.14' | 130°27.45' | 76°43.00' | N 24°59.01' | 207°34.35' | 359°36.09' | S 1°42.86' | 244°20.84' | 322°49.61' | S 16°00.42' | **09** |
| **10** | 321°27.62' | 260°45.29' | S 23°38.44' | 145°30.98' | 76°41.93' | N 24°59.03' | 222°36.75' | 359°36.16' | S 1°42.82' | 259°23.14' | 322°49.77' | S 16°00.36' | **10** |
| **11** | 336°26.68' | 260°48.70' | S 23°38.74' | 160°34.51' | 76°40.87' | N 24°59.05' | 237°39.14' | 359°36.23' | S 1°42.77' | 274°25.44' | 322°49.94' | S 16°00.31' | **11** |
| **12** | 351°25.73' | 260°52.11' | S 23°39.03' | 175°38.04' | 76°39.80' | N 24°59.07' | 252°41.53' | 359°36.30' | S 1°42.73' | 289°27.74' | 322°50.10' | S 16°00.25' | **12** |
| **13** | 6°24.78' | 260°55.52' | S 23°39.33' | 190°41.57' | 76°38.73' | N 24°59.09' | 267°43.93' | 359°36.37' | S 1°42.69' | 304°30.04' | 322°50.26' | S 16°00.20' | **13** |
| **14** | 21°23.84' | 260°58.93' | S 23°39.62' | 205°45.10' | 76°37.67' | N 24°59.11' | 282°46.32' | 359°36.45' | S 1°42.64' | 319°32.34' | 322°50.43' | S 16°00.14' | **14** |
| **15** | 36°22.89' | 261°02.34' | S 23°39.91' | 220°48.63' | 76°36.60' | N 24°59.13' | 297°48.71' | 359°36.52' | S 1°42.60' | 334°34.64' | 322°50.59' | S 16°00.09' | **15** |
| **16** | 51°21.94' | 261°05.75' | S 23°40.21' | 235°52.16' | 76°35.54' | N 24°59.15' | 312°51.10' | 359°36.59' | S 1°42.56' | 349°36.94' | 322°50.75' | S 16°00.03' | **16** |
| **17** | 66°20.99' | 261°09.16' | S 23°40.50' | 250°55.69' | 76°34.47' | N 24°59.16' | 327°53.50' | 359°36.66' | S 1°42.51' | 4°39.24' | 322°50.92' | S 15°59.98' | **17** |
| **18** | 81°20.05' | 261°12.58' | S 23°40.78' | 265°59.22' | 76°33.40' | N 24°59.18' | 342°55.89' | 359°36.73' | S 1°42.47' | 19°41.54' | 322°51.08' | S 15°59.92' | **18** |
| **19** | 96°19.10' | 261°15.99' | S 23°41.07' | 281°02.75' | 76°32.34' | N 24°59.20' | 357°58.28' | 359°36.81' | S 1°42.42' | 34°43.84' | 322°51.25' | S 15°59.87' | **19** |
| **20** | 111°18.15' | 261°19.40' | S 23°41.36' | 296°06.28' | 76°31.27' | N 24°59.21' | 13°00.67' | 359°36.88' | S 1°42.38' | 49°46.14' | 322°51.41' | S 15°59.81' | **20** |
| **21** | 126°17.20' | 261°22.81' | S 23°41.64' | 311°09.81' | 76°30.20' | N 24°59.23' | 28°03.06' | 359°36.95' | S 1°42.33' | 64°48.44' | 322°51.58' | S 15°59.76' | **21** |
| **22** | 141°16.25' | 261°26.23' | S 23°41.93' | 326°13.34' | 76°29.14' | N 24°59.25' | 43°05.45' | 359°37.03' | S 1°42.29' | 79°50.73' | 322°51.74' | S 15°59.70' | **22** |
| **23** | 156°15.30' | 261°29.64' | S 23°42.21' | 341°16.87' | 76°28.07' | N 24°59.26' | 58°07.84' | 359°37.10' | S 1°42.24' | 94°53.03' | 322°51.91' | S 15°59.65' | **23** |
| **24** | 171°14.35' | 261°33.06' | S 23°42.49' | 356°20.40' | 76°27.00' | N 24°59.28' | 73°10.23' | 359°37.18' | S 1°42.20' | 109°55.33' | 322°52.07' | S 15°59.59' | **24** |
| | δ 14.9843° | | *d* 0.3099' | δ 15.0588° | | *d* 0.0215' | δ 15.0399° | | *d* 0.0419' | δ 15.0384° | | *d* 0.0543' | |

## *Sunday, December 4th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 182°30.48' | 14.9959° | 250°16.92' | S 22°12.05' | 0.3405' | 50°08.85' | 14.5528° | 22°38.55' | N 7°35.83' | 14.4864' | 56.6477' | 72°47.41' | **00** |
| **01** | 197°30.23' | 14.9958° | 250°19.64' | S 22°12.39' | 0.3397' | 64°42.01' | 14.5526° | 23°07.86' | N 7°50.28' | 14.4434' | 56.6255' | 87°49.87' | **01** |
| **02** | 212°29.98' | 14.9958° | 250°22.35' | S 22°12.73' | 0.3390' | 79°15.16' | 14.5524° | 23°37.18' | N 8°04.68' | 14.3994' | 56.6034' | 102°52.33' | **02** |
| **03** | 227°29.73' | 14.9958° | 250°25.06' | S 22°13.07' | 0.3382' | 93°48.29' | 14.5522° | 24°06.51' | N 8°19.03' | 14.3544' | 56.5813' | 117°54.80' | **03** |
| **04** | 242°29.48' | 14.9958° | 250°27.78' | S 22°13.41' | 0.3375' | 108°21.40' | 14.5519° | 24°35.86' | N 8°33.34' | 14.3085' | 56.5593' | 132°57.26' | **04** |
| **05** | 257°29.23' | 14.9958° | 250°30.49' | S 22°13.74' | 0.3367' | 122°54.50' | 14.5516° | 25°05.23' | N 8°47.60' | 14.2616' | 56.5374' | 147°59.73' | **05** |
| **06** | 272°28.98' | 14.9958° | 250°33.21' | S 22°14.08' | 0.3360' | 137°27.58' | 14.5514° | 25°34.61' | N 9°01.81' | 14.2137' | 56.5156' | 163°02.19' | **06** |
| **07** | 287°28.73' | 14.9958° | 250°35.92' | S 22°14.41' | 0.3352' | 152°00.65' | 14.5510° | 26°04.01' | N 9°15.98' | 14.1648' | 56.4938' | 178°04.66' | **07** |
| **08** | 302°28.48' | 14.9958° | 250°38.64' | S 22°14.75' | 0.3345' | 166°33.69' | 14.5507° | 26°33.43' | N 9°30.09' | 14.1150' | 56.4721' | 193°07.12' | **08** |
| **09** | 317°28.23' | 14.9958° | 250°41.35' | S 22°15.08' | 0.3337' | 181°06.71' | 14.5504° | 27°02.87' | N 9°44.16' | 14.0642' | 56.4505' | 208°09.58' | **09** |
| **10** | 332°27.98' | 14.9958° | 250°44.07' | S 22°15.42' | 0.3330' | 195°39.71' | 14.5500° | 27°32.33' | N 9°58.17' | 14.0124' | 56.4289' | 223°12.05' | **10** |
| **11** | 347°27.73' | 14.9958° | 250°46.78' | S 22°15.75' | 0.3322' | 210°12.69' | 14.5497° | 28°01.82' | N 10°12.13' | 13.9597' | 56.4074' | 238°14.51' | **11** |
| **12** | 2°27.48' | 14.9958° | 250°49.50' | S 22°16.08' | 0.3315' | 224°45.65' | 14.5493° | 28°31.33' | N 10°26.04' | 13.9060' | 56.3860' | 253°16.98' | **12** |
| **13** | 17°27.22' | 14.9958° | 250°52.22' | S 22°16.41' | 0.3307' | 239°18.58' | 14.5489° | 29°00.86' | N 10°39.89' | 13.8513' | 56.3646' | 268°19.44' | **13** |
| **14** | 32°26.97' | 14.9958° | 250°54.93' | S 22°16.74' | 0.3300' | 253°51.49' | 14.5485° | 29°30.42' | N 10°53.68' | 13.7957' | 56.3433' | 283°21.90' | **14** |
| **15** | 47°26.72' | 14.9958° | 250°57.65' | S 22°17.07' | 0.3292' | 268°24.37' | 14.5480° | 29°60.00' | N 11°07.42' | 13.7391' | 56.3221' | 298°24.37' | **15** |
| **16** | 62°26.47' | 14.9958° | 251°00.37' | S 22°17.40' | 0.3285' | 282°57.22' | 14.5476° | 30°29.61' | N 11°21.10' | 13.6815' | 56.3010' | 313°26.83' | **16** |
| **17** | 77°26.21' | 14.9958° | 251°03.08' | S 22°17.72' | 0.3277' | 297°30.05' | 14.5471° | 30°59.25' | N 11°34.73' | 13.6230' | 56.2799' | 328°29.30' | **17** |
| **18** | 92°25.96' | 14.9958° | 251°05.80' | S 22°18.05' | 0.3270' | 312°02.85' | 14.5466° | 31°28.91' | N 11°48.29' | 13.5635' | 56.2589' | 343°31.76' | **18** |
| **19** | 107°25.71' | 14.9958° | 251°08.52' | S 22°18.38' | 0.3262' | 326°35.62' | 14.5462° | 31°58.61' | N 12°01.79' | 13.5031' | 56.2380' | 358°34.22' | **19** |
| **20** | 122°25.45' | 14.9958° | 251°11.24' | S 22°18.70' | 0.3255' | 341°08.36' | 14.5457° | 32°28.33' | N 12°15.24' | 13.4417' | 56.2171' | 13°36.69' | **20** |
| **21** | 137°25.20' | 14.9958° | 251°13.96' | S 22°19.03' | 0.3247' | 355°41.07' | 14.5451° | 32°58.09' | N 12°28.61' | 13.3793' | 56.1963' | 28°39.15' | **21** |
| **22** | 152°24.94' | 14.9958° | 251°16.67' | S 22°19.35' | 0.3240' | 10°13.74' | 14.5446° | 33°27.87' | N 12°41.93' | 13.3160' | 56.1756' | 43°41.62' | **22** |
| **23** | 167°24.69' | 14.9958° | 251°19.39' | S 22°19.68' | 0.3232' | 24°46.39' | 14.5441° | 33°57.70' | N 12°55.18' | 13.2517' | 56.1549' | 58°44.08' | **23** |
| **24** | 182°24.43' | 14.9958° | 251°22.11' | S 22°20.00' | 0.3225' | 39°19.00' | 14.5435° | 34°27.55' | N 13°08.37' | 13.1865' | 56.1344' | 73°46.54' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2270' | hp (π) 0.1487' | ½Ø 15.3642' | 87.1465492140422 8% +gib |
| | EoT at 12:00 UTC : +9m 49s (δ -1.01 s/h) | | Phase at 12:00 UTC : 137.89° | |
| | Meridian Pass. Time : 11:50:10.098 | | Age : 10.7 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.27') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 171°14.35' | 261°33.06' | S 23°42.49' | 356°20.40' | 76°27.00' | N 24°59.28' | 73°10.23' | 359°37.18' | S 1°42.20' | 109°55.33' | 322°52.07' | S 15°59.59' | **00** |
| **01** | 186°13.40' | 261°36.47' | S 23°42.77' | 11°23.94' | 76°25.93' | N 24°59.30' | 88°12.62' | 359°37.25' | S 1°42.15' | 124°57.63' | 322°52.24' | S 15°59.53' | **01** |
| **02** | 201°12.45' | 261°39.88' | S 23°43.05' | 26°27.47' | 76°24.87' | N 24°59.31' | 103°15.01' | 359°37.33' | S 1°42.11' | 139°59.93' | 322°52.41' | S 15°59.48' | **02** |
| **03** | 216°11.50' | 261°43.30' | S 23°43.33' | 41°31.00' | 76°23.80' | N 24°59.33' | 118°17.39' | 359°37.40' | S 1°42.06' | 155°02.23' | 322°52.57' | S 15°59.42' | **03** |
| **04** | 231°10.55' | 261°46.71' | S 23°43.60' | 56°34.53' | 76°22.73' | N 24°59.34' | 133°19.78' | 359°37.48' | S 1°42.02' | 170°04.53' | 322°52.74' | S 15°59.37' | **04** |
| **05** | 246°09.60' | 261°50.13' | S 23°43.88' | 71°38.06' | 76°21.66' | N 24°59.36' | 148°22.17' | 359°37.56' | S 1°41.97' | 185°06.82' | 322°52.90' | S 15°59.31' | **05** |
| **06** | 261°08.65' | 261°53.54' | S 23°44.15' | 86°41.60' | 76°20.59' | N 24°59.37' | 163°24.56' | 359°37.63' | S 1°41.93' | 200°09.12' | 322°53.07' | S 15°59.26' | **06** |
| **07** | 276°07.70' | 261°56.96' | S 23°44.42' | 101°45.13' | 76°19.53' | N 24°59.38' | 178°26.95' | 359°37.71' | S 1°41.88' | 215°11.42' | 322°53.24' | S 15°59.20' | **07** |
| **08** | 291°06.75' | 262°00.37' | S 23°44.69' | 116°48.66' | 76°18.46' | N 24°59.40' | 193°29.33' | 359°37.79' | S 1°41.83' | 230°13.72' | 322°53.40' | S 15°59.15' | **08** |
| **09** | 306°05.79' | 262°03.79' | S 23°44.96' | 131°52.20' | 76°17.39' | N 24°59.41' | 208°31.72' | 359°37.86' | S 1°41.79' | 245°16.01' | 322°53.57' | S 15°59.09' | **09** |
| **10** | 321°04.84' | 262°07.21' | S 23°45.23' | 146°55.73' | 76°16.32' | N 24°59.43' | 223°34.11' | 359°37.94' | S 1°41.74' | 260°18.31' | 322°53.74' | S 15°59.03' | **10** |
| **11** | 336°03.89' | 262°10.62' | S 23°45.50' | 161°59.26' | 76°15.25' | N 24°59.44' | 238°36.49' | 359°38.02' | S 1°41.69' | 275°20.61' | 322°53.90' | S 15°58.98' | **11** |
| **12** | 351°02.94' | 262°14.04' | S 23°45.77' | 177°02.79' | 76°14.18' | N 24°59.45' | 253°38.88' | 359°38.10' | S 1°41.65' | 290°22.91' | 322°54.07' | S 15°58.92' | **12** |
| **13** | 6°01.98' | 262°17.45' | S 23°46.03' | 192°06.33' | 76°13.11' | N 24°59.47' | 268°41.26' | 359°38.18' | S 1°41.60' | 305°25.20' | 322°54.24' | S 15°58.87' | **13** |
| **14** | 21°01.03' | 262°20.87' | S 23°46.30' | 207°09.86' | 76°12.04' | N 24°59.48' | 283°43.65' | 359°38.26' | S 1°41.55' | 320°27.50' | 322°54.40' | S 15°58.81' | **14** |
| **15** | 36°00.08' | 262°24.29' | S 23°46.56' | 222°13.40' | 76°10.97' | N 24°59.49' | 298°46.03' | 359°38.34' | S 1°41.51' | 335°29.80' | 322°54.57' | S 15°58.75' | **15** |
| **16** | 50°59.13' | 262°27.71' | S 23°46.82' | 237°16.93' | 76°09.90' | N 24°59.50' | 313°48.42' | 359°38.42' | S 1°41.46' | 350°32.09' | 322°54.74' | S 15°58.70' | **16** |
| **17** | 65°58.17' | 262°31.12' | S 23°47.08' | 252°20.46' | 76°08.83' | N 24°59.51' | 328°50.80' | 359°38.50' | S 1°41.41' | 5°34.39' | 322°54.91' | S 15°58.64' | **17** |
| **18** | 80°57.22' | 262°34.54' | S 23°47.34' | 267°24.00' | 76°07.76' | N 24°59.53' | 343°53.18' | 359°38.58' | S 1°41.36' | 20°36.69' | 322°55.07' | S 15°58.59' | **18** |
| **19** | 95°56.26' | 262°37.96' | S 23°47.59' | 282°27.53' | 76°06.69' | N 24°59.54' | 358°55.57' | 359°38.66' | S 1°41.32' | 35°38.98' | 322°55.24' | S 15°58.53' | **19** |
| **20** | 110°55.31' | 262°41.38' | S 23°47.85' | 297°31.06' | 76°05.62' | N 24°59.55' | 13°57.95' | 359°38.74' | S 1°41.27' | 50°41.28' | 322°55.41' | S 15°58.47' | **20** |
| **21** | 125°54.36' | 262°44.80' | S 23°48.11' | 312°34.60' | 76°04.55' | N 24°59.56' | 29°00.33' | 359°38.82' | S 1°41.22' | 65°43.57' | 322°55.58' | S 15°58.42' | **21** |
| **22** | 140°53.40' | 262°48.22' | S 23°48.36' | 327°38.13' | 76°03.48' | N 24°59.57' | 44°02.71' | 359°38.90' | S 1°41.17' | 80°45.87' | 322°55.75' | S 15°58.36' | **22** |
| **23** | 155°52.45' | 262°51.63' | S 23°48.61' | 342°41.67' | 76°02.41' | N 24°59.58' | 59°05.10' | 359°38.98' | S 1°41.12' | 95°48.16' | 322°55.92' | S 15°58.30' | **23** |
| **24** | 170°51.49' | 262°55.05' | S 23°48.86' | 357°45.20' | 76°01.34' | N 24°59.59' | 74°07.48' | 359°39.07' | S 1°41.08' | 110°50.46' | 322°56.09' | S 15°58.25' | **24** |
| | δ 14.9842° | | *d* 0.2799' | δ 15.0589° | | *d* 0.0157' | δ 15.0398° | | *d* 0.0452' | δ 15.0383° | | *d* 0.0554' | |

## *Monday, December 5th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 182°24.43' | 14.9958° | 251°22.11' | S 22°20.00' | 0.3225' | 39°19.00' | 14.5435° | 34°27.55' | N 13°08.37' | 13.1865' | 56.1344' | 73°46.54' | **00** |
| **01** | 197°24.18' | 14.9957° | 251°24.83' | S 22°20.32' | 0.3217' | 53°51.57' | 14.5429° | 34°57.44' | N 13°21.49' | 13.1203' | 56.1138' | 88°49.01' | **01** |
| **02** | 212°23.92' | 14.9957° | 251°27.55' | S 22°20.64' | 0.3210' | 68°24.11' | 14.5424° | 35°27.36' | N 13°34.54' | 13.0532' | 56.0934' | 103°51.47' | **02** |
| **03** | 227°23.67' | 14.9957° | 251°30.27' | S 22°20.96' | 0.3202' | 82°56.62' | 14.5418° | 35°57.32' | N 13°47.53' | 12.9851' | 56.0730' | 118°53.94' | **03** |
| **04** | 242°23.41' | 14.9957° | 251°32.99' | S 22°21.28' | 0.3195' | 97°29.09' | 14.5412° | 36°27.31' | N 14°00.44' | 12.9160' | 56.0527' | 133°56.40' | **04** |
| **05** | 257°23.16' | 14.9957° | 251°35.71' | S 22°21.60' | 0.3187' | 112°01.52' | 14.5406° | 36°57.34' | N 14°13.29' | 12.8460' | 56.0325' | 148°58.87' | **05** |
| **06** | 272°22.90' | 14.9957° | 251°38.43' | S 22°21.92' | 0.3179' | 126°33.92' | 14.5399° | 37°27.41' | N 14°26.06' | 12.7750' | 56.0123' | 164°01.33' | **06** |
| **07** | 287°22.64' | 14.9957° | 251°41.15' | S 22°22.23' | 0.3172' | 141°06.28' | 14.5393° | 37°57.52' | N 14°38.77' | 12.7031' | 55.9922' | 179°03.79' | **07** |
| **08** | 302°22.39' | 14.9957° | 251°43.87' | S 22°22.55' | 0.3164' | 155°38.60' | 14.5386° | 38°27.66' | N 14°51.40' | 12.6303' | 55.9722' | 194°06.26' | **08** |
| **09** | 317°22.13' | 14.9957° | 251°46.59' | S 22°22.87' | 0.3157' | 170°10.88' | 14.5380° | 38°57.85' | N 15°03.95' | 12.5565' | 55.9523' | 209°08.72' | **09** |
| **10** | 332°21.87' | 14.9957° | 251°49.31' | S 22°23.18' | 0.3149' | 184°43.11' | 14.5373° | 39°28.07' | N 15°16.44' | 12.4817' | 55.9324' | 224°11.19' | **10** |
| **11** | 347°21.62' | 14.9957° | 251°52.04' | S 22°23.50' | 0.3142' | 199°15.31' | 14.5366° | 39°58.34' | N 15°28.84' | 12.4060' | 55.9126' | 239°13.65' | **11** |
| **12** | 2°21.36' | 14.9957° | 251°54.76' | S 22°23.81' | 0.3134' | 213°47.47' | 14.5359° | 40°28.65' | N 15°41.17' | 12.3294' | 55.8929' | 254°16.11' | **12** |
| **13** | 17°21.10' | 14.9957° | 251°57.48' | S 22°24.12' | 0.3127' | 228°19.58' | 14.5352° | 40°58.99' | N 15°53.42' | 12.2518' | 55.8732' | 269°18.58' | **13** |
| **14** | 32°20.84' | 14.9957° | 252°00.20' | S 22°24.43' | 0.3119' | 242°51.66' | 14.5345° | 41°29.39' | N 16°05.60' | 12.1733' | 55.8536' | 284°21.04' | **14** |
| **15** | 47°20.58' | 14.9957° | 252°02.92' | S 22°24.74' | 0.3112' | 257°23.69' | 14.5338° | 41°59.82' | N 16°17.69' | 12.0938' | 55.8341' | 299°23.51' | **15** |
| **16** | 62°20.32' | 14.9957° | 252°05.65' | S 22°25.05' | 0.3104' | 271°55.67' | 14.5331° | 42°30.30' | N 16°29.70' | 12.0134' | 55.8146' | 314°25.97' | **16** |
| **17** | 77°20.07' | 14.9957° | 252°08.37' | S 22°25.36' | 0.3096' | 286°27.61' | 14.5324° | 43°00.82' | N 16°41.64' | 11.9321' | 55.7952' | 329°28.44' | **17** |
| **18** | 92°19.81' | 14.9957° | 252°11.09' | S 22°25.67' | 0.3089' | 300°59.51' | 14.5316° | 43°31.39' | N 16°53.49' | 11.8498' | 55.7759' | 344°30.90' | **18** |
| **19** | 107°19.55' | 14.9957° | 252°13.82' | S 22°25.98' | 0.3081' | 315°31.36' | 14.5309° | 44°02.00' | N 17°05.25' | 11.7666' | 55.7567' | 359°33.36' | **19** |
| **20** | 122°19.29' | 14.9957° | 252°16.54' | S 22°26.29' | 0.3074' | 330°03.17' | 14.5301° | 44°32.66' | N 17°16.93' | 11.6825' | 55.7375' | 14°35.83' | **20** |
| **21** | 137°19.03' | 14.9957° | 252°19.26' | S 22°26.60' | 0.3066' | 344°34.93' | 14.5294° | 45°03.36' | N 17°28.53' | 11.5975' | 55.7184' | 29°38.29' | **21** |
| **22** | 152°18.77' | 14.9957° | 252°21.99' | S 22°26.90' | 0.3058' | 359°06.65' | 14.5286° | 45°34.11' | N 17°40.04' | 11.5115' | 55.6994' | 44°40.76' | **22** |
| **23** | 167°18.51' | 14.9957° | 252°24.71' | S 22°27.21' | 0.3051' | 13°38.32' | 14.5278° | 46°04.90' | N 17°51.47' | 11.4246' | 55.6805' | 59°43.22' | **23** |
| **24** | 182°18.25' | 14.9957° | 252°27.44' | S 22°27.51' | 0.3043' | 28°09.94' | 14.5270° | 46°35.75' | N 18°02.81' | 11.3367' | 55.6616' | 74°45.68' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2295' | hp (π) 0.1487' | ½Ø 15.2298' | 93.1591861733450 5% +gib | |
| EoT at 12:00 UTC : +9m 25s (δ -1.03 s/h) | | Phase at 12:00 UTC : 149.60° | | |
| Meridian Pass. Time : 11:50:34.571 | | Age : 11.6 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.27') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 170°51.49' | 262°55.05' | S 23°48.86' | 357°45.20' | 76°01.34' | N 24°59.59' | 74°07.48' | 359°39.07' | S 1°41.08' | 110°50.46' | 322°56.09' | S 15°58.25' | **00** |
| **01** | 185°50.54' | 262°58.47' | S 23°49.11' | 12°48.74' | 76°00.27' | N 24°59.60' | 89°09.86' | 359°39.15' | S 1°41.03' | 125°52.75' | 322°56.25' | S 15°58.19' | **01** |
| **02** | 200°49.58' | 263°01.89' | S 23°49.36' | 27°52.27' | 75°59.20' | N 24°59.61' | 104°12.24' | 359°39.23' | S 1°40.98' | 140°55.05' | 322°56.42' | S 15°58.13' | **02** |
| **03** | 215°48.63' | 263°05.31' | S 23°49.61' | 42°55.81' | 75°58.13' | N 24°59.62' | 119°14.62' | 359°39.32' | S 1°40.93' | 155°57.34' | 322°56.59' | S 15°58.08' | **03** |
| **04** | 230°47.67' | 263°08.73' | S 23°49.85' | 57°59.34' | 75°57.06' | N 24°59.63' | 134°17.00' | 359°39.40' | S 1°40.88' | 170°59.64' | 322°56.76' | S 15°58.02' | **04** |
| **05** | 245°46.71' | 263°12.15' | S 23°50.10' | 73°02.87' | 75°55.99' | N 24°59.64' | 149°19.38' | 359°39.48' | S 1°40.83' | 186°01.93' | 322°56.93' | S 15°57.96' | **05** |
| **06** | 260°45.76' | 263°15.57' | S 23°50.34' | 88°06.41' | 75°54.92' | N 24°59.65' | 164°21.76' | 359°39.57' | S 1°40.78' | 201°04.23' | 322°57.10' | S 15°57.91' | **06** |
| **07** | 275°44.80' | 263°18.99' | S 23°50.58' | 103°09.94' | 75°53.85' | N 24°59.66' | 179°24.14' | 359°39.65' | S 1°40.73' | 216°06.52' | 322°57.27' | S 15°57.85' | **07** |
| **08** | 290°43.84' | 263°22.41' | S 23°50.82' | 118°13.48' | 75°52.78' | N 24°59.66' | 194°26.52' | 359°39.74' | S 1°40.68' | 231°08.82' | 322°57.44' | S 15°57.79' | **08** |
| **09** | 305°42.89' | 263°25.83' | S 23°51.06' | 133°17.01' | 75°51.71' | N 24°59.67' | 209°28.90' | 359°39.82' | S 1°40.63' | 246°11.11' | 322°57.61' | S 15°57.74' | **09** |
| **10** | 320°41.93' | 263°29.26' | S 23°51.30' | 148°20.55' | 75°50.64' | N 24°59.68' | 224°31.28' | 359°39.91' | S 1°40.58' | 261°13.41' | 322°57.78' | S 15°57.68' | **10** |
| **11** | 335°40.97' | 263°32.68' | S 23°51.54' | 163°24.08' | 75°49.57' | N 24°59.69' | 239°33.66' | 359°39.99' | S 1°40.53' | 276°15.70' | 322°57.95' | S 15°57.62' | **11** |
| **12** | 350°40.02' | 263°36.10' | S 23°51.78' | 178°27.62' | 75°48.50' | N 24°59.70' | 254°36.03' | 359°40.08' | S 1°40.48' | 291°17.99' | 322°58.12' | S 15°57.57' | **12** |
| **13** | 5°39.06' | 263°39.52' | S 23°52.01' | 193°31.15' | 75°47.43' | N 24°59.70' | 269°38.41' | 359°40.17' | S 1°40.43' | 306°20.29' | 322°58.29' | S 15°57.51' | **13** |
| **14** | 20°38.10' | 263°42.94' | S 23°52.24' | 208°34.69' | 75°46.36' | N 24°59.71' | 284°40.79' | 359°40.25' | S 1°40.38' | 321°22.58' | 322°58.46' | S 15°57.45' | **14** |
| **15** | 35°37.14' | 263°46.37' | S 23°52.48' | 223°38.22' | 75°45.28' | N 24°59.72' | 299°43.17' | 359°40.34' | S 1°40.33' | 336°24.87' | 322°58.63' | S 15°57.40' | **15** |
| **16** | 50°36.18' | 263°49.79' | S 23°52.71' | 238°41.76' | 75°44.21' | N 24°59.72' | 314°45.54' | 359°40.43' | S 1°40.28' | 351°27.17' | 322°58.80' | S 15°57.34' | **16** |
| **17** | 65°35.22' | 263°53.21' | S 23°52.94' | 253°45.29' | 75°43.14' | N 24°59.73' | 329°47.92' | 359°40.52' | S 1°40.23' | 6°29.46' | 322°58.98' | S 15°57.28' | **17** |
| **18** | 80°34.27' | 263°56.63' | S 23°53.16' | 268°48.83' | 75°42.07' | N 24°59.74' | 344°50.29' | 359°40.60' | S 1°40.18' | 21°31.75' | 322°59.15' | S 15°57.22' | **18** |
| **19** | 95°33.31' | 264°00.06' | S 23°53.39' | 283°52.36' | 75°41.00' | N 24°59.74' | 359°52.67' | 359°40.69' | S 1°40.13' | 36°34.05' | 322°59.32' | S 15°57.17' | **19** |
| **20** | 110°32.35' | 264°03.48' | S 23°53.62' | 298°55.90' | 75°39.93' | N 24°59.75' | 14°55.05' | 359°40.78' | S 1°40.08' | 51°36.34' | 322°59.49' | S 15°57.11' | **20** |
| **21** | 125°31.39' | 264°06.90' | S 23°53.84' | 313°59.43' | 75°38.86' | N 24°59.75' | 29°57.42' | 359°40.87' | S 1°40.03' | 66°38.63' | 322°59.66' | S 15°57.05' | **21** |
| **22** | 140°30.43' | 264°10.33' | S 23°54.06' | 329°02.97' | 75°37.79' | N 24°59.76' | 44°59.80' | 359°40.96' | S 1°39.97' | 81°40.92' | 322°59.83' | S 15°56.99' | **22** |
| **23** | 155°29.47' | 264°13.75' | S 23°54.29' | 344°06.50' | 75°36.72' | N 24°59.76' | 60°02.17' | 359°41.05' | S 1°39.92' | 96°43.21' | 323°00.01' | S 15°56.94' | **23** |
| **24** | 170°28.51' | 264°17.17' | S 23°54.51' | 359°10.04' | 75°35.65' | N 24°59.77' | 75°04.54' | 359°41.14' | S 1°39.87' | 111°45.51' | 323°00.18' | S 15°56.88' | **24** |
| | δ 14.9841° | | *d* 0.2497' | δ 15.0589° | | *d* 0.0100' | δ 15.0397° | | *d* 0.0486' | δ 15.0383° | | *d* 0.0565' | |

## *Tuesday, December 6th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 182°18.25' | 14.9957° | 252°27.44' | S 22°27.51' | 0.3043' | 28°09.94' | 14.5270° | 46°35.75' | N 18°02.81' | 11.3367' | 55.6616' | 74°45.68' | **00** |
| **01** | 197°17.99' | 14.9957° | 252°30.16' | S 22°27.81' | 0.3036' | 42°41.51' | 14.5262° | 47°06.64' | N 18°14.05' | 11.2480' | 55.6428' | 89°48.15' | **01** |
| **02** | 212°17.73' | 14.9957° | 252°32.89' | S 22°28.12' | 0.3028' | 57°13.04' | 14.5254° | 47°37.57' | N 18°25.21' | 11.1583' | 55.6241' | 104°50.61' | **02** |
| **03** | 227°17.46' | 14.9956° | 252°35.61' | S 22°28.42' | 0.3021' | 71°44.52' | 14.5246° | 48°08.56' | N 18°36.28' | 11.0678' | 55.6054' | 119°53.08' | **03** |
| **04** | 242°17.20' | 14.9956° | 252°38.34' | S 22°28.72' | 0.3013' | 86°15.95' | 14.5238° | 48°39.59' | N 18°47.26' | 10.9763' | 55.5868' | 134°55.54' | **04** |
| **05** | 257°16.94' | 14.9956° | 252°41.06' | S 22°29.02' | 0.3005' | 100°47.33' | 14.5230° | 49°10.67' | N 18°58.14' | 10.8839' | 55.5683' | 149°58.00' | **05** |
| **06** | 272°16.68' | 14.9956° | 252°43.79' | S 22°29.32' | 0.2998' | 115°18.66' | 14.5222° | 49°41.80' | N 19°08.93' | 10.7906' | 55.5499' | 165°00.47' | **06** |
| **07** | 287°16.42' | 14.9956° | 252°46.52' | S 22°29.62' | 0.2990' | 129°49.95' | 14.5214° | 50°12.98' | N 19°19.63' | 10.6964' | 55.5315' | 180°02.93' | **07** |
| **08** | 302°16.16' | 14.9956° | 252°49.24' | S 22°29.92' | 0.2983' | 144°21.18' | 14.5206° | 50°44.21' | N 19°30.23' | 10.6014' | 55.5132' | 195°05.40' | **08** |
| **09** | 317°15.89' | 14.9956° | 252°51.97' | S 22°30.22' | 0.2975' | 158°52.37' | 14.5198° | 51°15.49' | N 19°40.73' | 10.5054' | 55.4950' | 210°07.86' | **09** |
| **10** | 332°15.63' | 14.9956° | 252°54.69' | S 22°30.51' | 0.2967' | 173°23.51' | 14.5189° | 51°46.82' | N 19°51.14' | 10.4085' | 55.4769' | 225°10.33' | **10** |
| **11** | 347°15.37' | 14.9956° | 252°57.42' | S 22°30.81' | 0.2960' | 187°54.59' | 14.5181° | 52°18.20' | N 20°01.45' | 10.3108' | 55.4588' | 240°12.79' | **11** |
| **12** | 2°15.10' | 14.9956° | 253°00.15' | S 22°31.10' | 0.2952' | 202°25.63' | 14.5173° | 52°49.62' | N 20°11.66' | 10.2122' | 55.4408' | 255°15.25' | **12** |
| **13** | 17°14.84' | 14.9956° | 253°02.88' | S 22°31.40' | 0.2944' | 216°56.62' | 14.5165° | 53°21.10' | N 20°21.78' | 10.1127' | 55.4229' | 270°17.72' | **13** |
| **14** | 32°14.58' | 14.9956° | 253°05.60' | S 22°31.69' | 0.2937' | 231°27.56' | 14.5156° | 53°52.63' | N 20°31.79' | 10.0124' | 55.4050' | 285°20.18' | **14** |
| **15** | 47°14.31' | 14.9956° | 253°08.33' | S 22°31.98' | 0.2929' | 245°58.44' | 14.5148° | 54°24.20' | N 20°41.70' | 9.9111' | 55.3873' | 300°22.65' | **15** |
| **16** | 62°14.05' | 14.9956° | 253°11.06' | S 22°32.28' | 0.2922' | 260°29.28' | 14.5140° | 54°55.83' | N 20°51.51' | 9.8091' | 55.3696' | 315°25.11' | **16** |
| **17** | 77°13.79' | 14.9956° | 253°13.79' | S 22°32.57' | 0.2914' | 275°00.07' | 14.5131° | 55°27.50' | N 21°01.22' | 9.7061' | 55.3520' | 330°27.57' | **17** |
| **18** | 92°13.52' | 14.9956° | 253°16.52' | S 22°32.86' | 0.2906' | 289°30.81' | 14.5123° | 55°59.23' | N 21°10.82' | 9.6023' | 55.3344' | 345°30.04' | **18** |
| **19** | 107°13.26' | 14.9956° | 253°19.25' | S 22°33.15' | 0.2899' | 304°01.50' | 14.5115° | 56°31.01' | N 21°20.32' | 9.4977' | 55.3170' | 0°32.50' | **19** |
| **20** | 122°12.99' | 14.9956° | 253°21.98' | S 22°33.44' | 0.2891' | 318°32.14' | 14.5106° | 57°02.83' | N 21°29.71' | 9.3923' | 55.2996' | 15°34.97' | **20** |
| **21** | 137°12.73' | 14.9956° | 253°24.70' | S 22°33.73' | 0.2883' | 333°02.72' | 14.5098° | 57°34.71' | N 21°38.99' | 9.2860' | 55.2823' | 30°37.43' | **21** |
| **22** | 152°12.46' | 14.9956° | 253°27.43' | S 22°34.01' | 0.2876' | 347°33.26' | 14.5090° | 58°06.63' | N 21°48.17' | 9.1789' | 55.2651' | 45°39.90' | **22** |
| **23** | 167°12.20' | 14.9956° | 253°30.16' | S 22°34.30' | 0.2868' | 2°03.75' | 14.5082° | 58°38.61' | N 21°57.24' | 9.0709' | 55.2480' | 60°42.36' | **23** |
| **24** | 182°11.93' | 14.9956° | 253°32.89' | S 22°34.59' | 0.2861' | 16°34.19' | 14.5073° | 59°10.63' | N 22°06.21' | 8.9622' | 55.2309' | 75°44.82' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2318' | hp (π) 0.1487' | ½Ø 15.1066' | 97.3131001773871<br>4% +gib | |
| EoT at 12:00 UTC : +9m 0s (δ -1.05 s/h) | | Phase at 12:00 UTC : 161.11° | | |
| Meridian Pass. Time : 11:50:59.580 | | Age : 12.5 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.27') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 170°28.51' | 264°17.17' | S 23°54.51' | 359°10.04' | 75°35.65' | N 24°59.77' | 75°04.54' | 359°41.14' | S 1°39.87' | 111°45.51' | 323°00.18' | S 15°56.88' | **00** |
| **01** | 185°27.55' | 264°20.60' | S 23°54.73' | 14°13.57' | 75°34.58' | N 24°59.77' | 90°06.92' | 359°41.23' | S 1°39.82' | 126°47.80' | 323°00.35' | S 15°56.82' | **01** |
| **02** | 200°26.59' | 264°24.02' | S 23°54.94' | 29°17.11' | 75°33.51' | N 24°59.77' | 105°09.29' | 359°41.32' | S 1°39.77' | 141°50.09' | 323°00.52' | S 15°56.76' | **02** |
| **03** | 215°25.63' | 264°27.45' | S 23°55.16' | 44°20.64' | 75°32.44' | N 24°59.78' | 120°11.66' | 359°41.41' | S 1°39.71' | 156°52.38' | 323°00.69' | S 15°56.71' | **03** |
| **04** | 230°24.67' | 264°30.87' | S 23°55.38' | 59°24.18' | 75°31.37' | N 24°59.78' | 135°14.04' | 359°41.50' | S 1°39.66' | 171°54.67' | 323°00.87' | S 15°56.65' | **04** |
| **05** | 245°23.71' | 264°34.30' | S 23°55.59' | 74°27.71' | 75°30.30' | N 24°59.79' | 150°16.41' | 359°41.60' | S 1°39.61' | 186°56.96' | 323°01.04' | S 15°56.59' | **05** |
| **06** | 260°22.75' | 264°37.72' | S 23°55.80' | 89°31.24' | 75°29.22' | N 24°59.79' | 165°18.78' | 359°41.69' | S 1°39.56' | 201°59.26' | 323°01.21' | S 15°56.53' | **06** |
| **07** | 275°21.79' | 264°41.15' | S 23°56.02' | 104°34.78' | 75°28.15' | N 24°59.79' | 180°21.15' | 359°41.78' | S 1°39.50' | 217°01.55' | 323°01.39' | S 15°56.47' | **07** |
| **08** | 290°20.83' | 264°44.57' | S 23°56.23' | 119°38.31' | 75°27.08' | N 24°59.79' | 195°23.52' | 359°41.87' | S 1°39.45' | 232°03.84' | 323°01.56' | S 15°56.42' | **08** |
| **09** | 305°19.86' | 264°48.00' | S 23°56.43' | 134°41.85' | 75°26.01' | N 24°59.80' | 210°25.90' | 359°41.97' | S 1°39.40' | 247°06.13' | 323°01.73' | S 15°56.36' | **09** |
| **10** | 320°18.90' | 264°51.42' | S 23°56.64' | 149°45.38' | 75°24.94' | N 24°59.80' | 225°28.27' | 359°42.06' | S 1°39.35' | 262°08.42' | 323°01.91' | S 15°56.30' | **10** |
| **11** | 335°17.94' | 264°54.85' | S 23°56.85' | 164°48.92' | 75°23.87' | N 24°59.80' | 240°30.64' | 359°42.15' | S 1°39.29' | 277°10.71' | 323°02.08' | S 15°56.24' | **11** |
| **12** | 350°16.98' | 264°58.28' | S 23°57.05' | 179°52.45' | 75°22.80' | N 24°59.80' | 255°33.01' | 359°42.25' | S 1°39.24' | 292°13.00' | 323°02.25' | S 15°56.18' | **12** |
| **13** | 5°16.02' | 265°01.70' | S 23°57.26' | 194°55.98' | 75°21.73' | N 24°59.80' | 270°35.38' | 359°42.34' | S 1°39.18' | 307°15.29' | 323°02.43' | S 15°56.13' | **13** |
| **14** | 20°15.05' | 265°05.13' | S 23°57.46' | 209°59.52' | 75°20.66' | N 24°59.81' | 285°37.75' | 359°42.44' | S 1°39.13' | 322°17.58' | 323°02.60' | S 15°56.07' | **14** |
| **15** | 35°14.09' | 265°08.56' | S 23°57.66' | 225°03.05' | 75°19.59' | N 24°59.81' | 300°40.12' | 359°42.53' | S 1°39.08' | 337°19.87' | 323°02.78' | S 15°56.01' | **15** |
| **16** | 50°13.13' | 265°11.98' | S 23°57.86' | 240°06.59' | 75°18.52' | N 24°59.81' | 315°42.48' | 359°42.63' | S 1°39.02' | 352°22.16' | 323°02.95' | S 15°55.95' | **16** |
| **17** | 65°12.17' | 265°15.41' | S 23°58.06' | 255°10.12' | 75°17.46' | N 24°59.81' | 330°44.85' | 359°42.72' | S 1°38.97' | 7°24.45' | 323°03.12' | S 15°55.89' | **17** |
| **18** | 80°11.20' | 265°18.84' | S 23°58.26' | 270°13.65' | 75°16.39' | N 24°59.81' | 345°47.22' | 359°42.82' | S 1°38.92' | 22°26.74' | 323°03.30' | S 15°55.84' | **18** |
| **19** | 95°10.24' | 265°22.26' | S 23°58.46' | 285°17.19' | 75°15.32' | N 24°59.81' | 0°49.59' | 359°42.91' | S 1°38.86' | 37°29.03' | 323°03.47' | S 15°55.78' | **19** |
| **20** | 110°09.28' | 265°25.69' | S 23°58.65' | 300°20.72' | 75°14.25' | N 24°59.81' | 15°51.96' | 359°43.01' | S 1°38.81' | 52°31.32' | 323°03.65' | S 15°55.72' | **20** |
| **21** | 125°08.31' | 265°29.12' | S 23°58.85' | 315°24.25' | 75°13.18' | N 24°59.81' | 30°54.32' | 359°43.11' | S 1°38.75' | 67°33.61' | 323°03.82' | S 15°55.66' | **21** |
| **22** | 140°07.35' | 265°32.55' | S 23°59.04' | 330°27.79' | 75°12.11' | N 24°59.81' | 45°56.69' | 359°43.20' | S 1°38.70' | 82°35.90' | 323°04.00' | S 15°55.60' | **22** |
| **23** | 155°06.38' | 265°35.98' | S 23°59.23' | 345°31.32' | 75°11.04' | N 24°59.81' | 60°59.06' | 359°43.30' | S 1°38.64' | 97°38.19' | 323°04.17' | S 15°55.54' | **23** |
| **24** | 170°05.42' | 265°39.40' | S 23°59.42' | 0°34.85' | 75°09.97' | N 24°59.81' | 76°01.42' | 359°43.40' | S 1°38.59' | 112°40.47' | 323°04.35' | S 15°55.48' | **24** |
| | δ 14.9840° | | *d* 0.2193' | δ 15.0589° | | *d* 0.0044' | δ 15.0396° | | *d* 0.0519' | δ 15.0382° | | *d* 0.0576' | |

## *Wednesday, December 7th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 182°11.93' | 14.9956° | 253°32.89' | S 22°34.59' | 0.2861' | 16°34.19' | 14.5073° | 59°10.63' | N 22°06.21' | 8.9622' | 55.2309' | 75°44.82' | **00** |
| **01** | 197°11.66' | 14.9956° | 253°35.62' | S 22°34.87' | 0.2853' | 31°04.59' | 14.5065° | 59°42.70' | N 22°15.06' | 8.8527' | 55.2139' | 90°47.29' | **01** |
| **02** | 212°11.40' | 14.9956° | 253°38.35' | S 22°35.16' | 0.2845' | 45°34.93' | 14.5057° | 60°14.82' | N 22°23.80' | 8.7423' | 55.1970' | 105°49.75' | **02** |
| **03** | 227°11.13' | 14.9956° | 253°41.09' | S 22°35.44' | 0.2838' | 60°05.22' | 14.5049° | 60°46.99' | N 22°32.43' | 8.6312' | 55.1802' | 120°52.22' | **03** |
| **04** | 242°10.86' | 14.9956° | 253°43.82' | S 22°35.72' | 0.2830' | 74°35.47' | 14.5041° | 61°19.21' | N 22°40.95' | 8.5193' | 55.1635' | 135°54.68' | **04** |
| **05** | 257°10.60' | 14.9956° | 253°46.55' | S 22°36.01' | 0.2822' | 89°05.67' | 14.5033° | 61°51.48' | N 22°49.36' | 8.4067' | 55.1468' | 150°57.15' | **05** |
| **06** | 272°10.33' | 14.9955° | 253°49.28' | S 22°36.29' | 0.2815' | 103°35.82' | 14.5025° | 62°23.79' | N 22°57.65' | 8.2932' | 55.1302' | 165°59.61' | **06** |
| **07** | 287°10.06' | 14.9955° | 253°52.01' | S 22°36.57' | 0.2807' | 118°05.92' | 14.5017° | 62°56.15' | N 23°05.83' | 8.1790' | 55.1137' | 181°02.07' | **07** |
| **08** | 302°09.80' | 14.9955° | 253°54.74' | S 22°36.85' | 0.2799' | 132°35.98' | 14.5009° | 63°28.56' | N 23°13.90' | 8.0641' | 55.0973' | 196°04.54' | **08** |
| **09** | 317°09.53' | 14.9955° | 253°57.47' | S 22°37.13' | 0.2792' | 147°05.99' | 14.5002° | 64°01.02' | N 23°21.84' | 7.9484' | 55.0810' | 211°07.00' | **09** |
| **10** | 332°09.26' | 14.9955° | 254°00.21' | S 22°37.41' | 0.2784' | 161°35.95' | 14.4994° | 64°33.52' | N 23°29.68' | 7.8320' | 55.0648' | 226°09.47' | **10** |
| **11** | 347°08.99' | 14.9955° | 254°02.94' | S 22°37.68' | 0.2776' | 176°05.87' | 14.4986° | 65°06.06' | N 23°37.39' | 7.7149' | 55.0486' | 241°11.93' | **11** |
| **12** | 2°08.72' | 14.9955° | 254°05.67' | S 22°37.96' | 0.2769' | 190°35.74' | 14.4979° | 65°38.65' | N 23°44.99' | 7.5971' | 55.0326' | 256°14.39' | **12** |
| **13** | 17°08.46' | 14.9955° | 254°08.40' | S 22°38.24' | 0.2761' | 205°05.57' | 14.4971° | 66°11.29' | N 23°52.47' | 7.4785' | 55.0166' | 271°16.86' | **13** |
| **14** | 32°08.19' | 14.9955° | 254°11.14' | S 22°38.51' | 0.2753' | 219°35.35' | 14.4964° | 66°43.97' | N 23°59.83' | 7.3593' | 55.0007' | 286°19.32' | **14** |
| **15** | 47°07.92' | 14.9955° | 254°13.87' | S 22°38.79' | 0.2746' | 234°05.09' | 14.4957° | 67°16.70' | N 24°07.06' | 7.2394' | 54.9849' | 301°21.79' | **15** |
| **16** | 62°07.65' | 14.9955° | 254°16.60' | S 22°39.06' | 0.2738' | 248°34.79' | 14.4949° | 67°49.46' | N 24°14.18' | 7.1189' | 54.9692' | 316°24.25' | **16** |
| **17** | 77°07.38' | 14.9955° | 254°19.34' | S 22°39.33' | 0.2730' | 263°04.44' | 14.4942° | 68°22.27' | N 24°21.18' | 6.9976' | 54.9536' | 331°26.72' | **17** |
| **18** | 92°07.11' | 14.9955° | 254°22.07' | S 22°39.60' | 0.2722' | 277°34.05' | 14.4935° | 68°55.13' | N 24°28.06' | 6.8758' | 54.9380' | 346°29.18' | **18** |
| **19** | 107°06.84' | 14.9955° | 254°24.80' | S 22°39.88' | 0.2715' | 292°03.62' | 14.4928° | 69°28.02' | N 24°34.81' | 6.7533' | 54.9226' | 1°31.64' | **19** |
| **20** | 122°06.57' | 14.9955° | 254°27.54' | S 22°40.15' | 0.2707' | 306°33.15' | 14.4922° | 70°00.95' | N 24°41.44' | 6.6301' | 54.9073' | 16°34.11' | **20** |
| **21** | 137°06.30' | 14.9955° | 254°30.27' | S 22°40.42' | 0.2699' | 321°02.64' | 14.4915° | 70°33.93' | N 24°47.95' | 6.5064' | 54.8920' | 31°36.57' | **21** |
| **22** | 152°06.03' | 14.9955° | 254°33.01' | S 22°40.69' | 0.2692' | 335°32.10' | 14.4908° | 71°06.94' | N 24°54.33' | 6.3821' | 54.8768' | 46°39.04' | **22** |
| **23** | 167°05.76' | 14.9955° | 254°35.74' | S 22°40.95' | 0.2684' | 350°01.51' | 14.4902° | 71°39.99' | N 25°00.59' | 6.2571' | 54.8618' | 61°41.50' | **23** |
| **24** | 182°05.49' | 14.9955° | 254°38.48' | S 22°41.22' | 0.2676' | 4°30.88' | 14.4896° | 72°13.08' | N 25°06.72' | 6.1316' | 54.8468' | 76°43.96' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2341' | hp (π) 0.1488' | ½Ø 14.9954' | 99.5344250379814<br>6% +gib |
| | EoT at 12:00 UTC : +8m 34s (δ -1.07 s/h) | | Phase at 12:00 UTC : 172.46° | |
| | Meridian Pass. Time : 11:51:25.105 | | Age : 13.4 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.27') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 170°05.42' | 265°39.40' | S 23°59.42' | 0°34.85' | 75°09.97' | N 24°59.81' | 76°01.42' | 359°43.40' | S 1°38.59' | 112°40.47' | 323°04.35' | S 15°55.48' | **00** |
| **01** | 185°04.46' | 265°42.83' | S 23°59.61' | 15°38.39' | 75°08.90' | N 24°59.81' | 91°03.79' | 359°43.50' | S 1°38.53' | 127°42.76' | 323°04.53' | S 15°55.43' | **01** |
| **02** | 200°03.49' | 265°46.26' | S 23°59.80' | 30°41.92' | 75°07.83' | N 24°59.80' | 106°06.16' | 359°43.60' | S 1°38.48' | 142°45.05' | 323°04.70' | S 15°55.37' | **02** |
| **03** | 215°02.53' | 265°49.69' | S 23°59.98' | 45°45.45' | 75°06.77' | N 24°59.80' | 121°08.52' | 359°43.70' | S 1°38.42' | 157°47.34' | 323°04.88' | S 15°55.31' | **03** |
| **04** | 230°01.56' | 265°53.12' | S 24°00.17' | 60°48.98' | 75°05.70' | N 24°59.80' | 136°10.89' | 359°43.79' | S 1°38.36' | 172°49.63' | 323°05.05' | S 15°55.25' | **04** |
| **05** | 245°00.60' | 265°56.55' | S 24°00.35' | 75°52.52' | 75°04.63' | N 24°59.80' | 151°13.25' | 359°43.89' | S 1°38.31' | 187°51.92' | 323°05.23' | S 15°55.19' | **05** |
| **06** | 259°59.63' | 265°59.98' | S 24°00.53' | 90°56.05' | 75°03.56' | N 24°59.80' | 166°15.62' | 359°43.99' | S 1°38.25' | 202°54.20' | 323°05.41' | S 15°55.13' | **06** |
| **07** | 274°58.67' | 266°03.41' | S 24°00.71' | 105°59.58' | 75°02.49' | N 24°59.79' | 181°17.98' | 359°44.09' | S 1°38.20' | 217°56.49' | 323°05.58' | S 15°55.07' | **07** |
| **08** | 289°57.70' | 266°06.83' | S 24°00.89' | 121°03.11' | 75°01.43' | N 24°59.79' | 196°20.34' | 359°44.19' | S 1°38.14' | 232°58.78' | 323°05.76' | S 15°55.01' | **08** |
| **09** | 304°56.74' | 266°10.26' | S 24°01.07' | 136°06.64' | 75°00.36' | N 24°59.79' | 211°22.71' | 359°44.29' | S 1°38.08' | 248°01.07' | 323°05.94' | S 15°54.95' | **09** |
| **10** | 319°55.77' | 266°13.69' | S 24°01.25' | 151°10.17' | 74°59.29' | N 24°59.78' | 226°25.07' | 359°44.40' | S 1°38.03' | 263°03.35' | 323°06.11' | S 15°54.90' | **10** |
| **11** | 334°54.81' | 266°17.12' | S 24°01.43' | 166°13.71' | 74°58.22' | N 24°59.78' | 241°27.43' | 359°44.50' | S 1°37.97' | 278°05.64' | 323°06.29' | S 15°54.84' | **11** |
| **12** | 349°53.84' | 266°20.55' | S 24°01.60' | 181°17.24' | 74°57.16' | N 24°59.78' | 256°29.80' | 359°44.60' | S 1°37.91' | 293°07.93' | 323°06.47' | S 15°54.78' | **12** |
| **13** | 4°52.87' | 266°23.98' | S 24°01.77' | 196°20.77' | 74°56.09' | N 24°59.77' | 271°32.16' | 359°44.70' | S 1°37.86' | 308°10.22' | 323°06.64' | S 15°54.72' | **13** |
| **14** | 19°51.91' | 266°27.41' | S 24°01.95' | 211°24.30' | 74°55.02' | N 24°59.77' | 286°34.52' | 359°44.80' | S 1°37.80' | 323°12.50' | 323°06.82' | S 15°54.66' | **14** |
| **15** | 34°50.94' | 266°30.84' | S 24°02.12' | 226°27.83' | 74°53.96' | N 24°59.77' | 301°36.88' | 359°44.91' | S 1°37.74' | 338°14.79' | 323°07.00' | S 15°54.60' | **15** |
| **16** | 49°49.98' | 266°34.28' | S 24°02.29' | 241°31.36' | 74°52.89' | N 24°59.76' | 316°39.24' | 359°45.01' | S 1°37.69' | 353°17.08' | 323°07.18' | S 15°54.54' | **16** |
| **17** | 64°49.01' | 266°37.71' | S 24°02.45' | 256°34.89' | 74°51.83' | N 24°59.76' | 331°41.60' | 359°45.11' | S 1°37.63' | 8°19.36' | 323°07.35' | S 15°54.48' | **17** |
| **18** | 79°48.04' | 266°41.14' | S 24°02.62' | 271°38.42' | 74°50.76' | N 24°59.75' | 346°43.96' | 359°45.22' | S 1°37.57' | 23°21.65' | 323°07.53' | S 15°54.42' | **18** |
| **19** | 94°47.08' | 266°44.57' | S 24°02.79' | 286°41.95' | 74°49.69' | N 24°59.75' | 1°46.32' | 359°45.32' | S 1°37.51' | 38°23.93' | 323°07.71' | S 15°54.36' | **19** |
| **20** | 109°46.11' | 266°48.00' | S 24°02.95' | 301°45.48' | 74°48.63' | N 24°59.74' | 16°48.68' | 359°45.42' | S 1°37.46' | 53°26.22' | 323°07.89' | S 15°54.30' | **20** |
| **21** | 124°45.14' | 266°51.43' | S 24°03.11' | 316°49.01' | 74°47.56' | N 24°59.73' | 31°51.04' | 359°45.53' | S 1°37.40' | 68°28.51' | 323°08.07' | S 15°54.24' | **21** |
| **22** | 139°44.17' | 266°54.86' | S 24°03.28' | 331°52.54' | 74°46.50' | N 24°59.73' | 46°53.40' | 359°45.63' | S 1°37.34' | 83°30.79' | 323°08.24' | S 15°54.18' | **22** |
| **23** | 154°43.21' | 266°58.29' | S 24°03.44' | 346°56.07' | 74°45.43' | N 24°59.72' | 61°55.76' | 359°45.74' | S 1°37.28' | 98°33.08' | 323°08.42' | S 15°54.12' | **23** |
| **24** | 169°42.24' | 267°01.73' | S 24°03.60' | 1°59.60' | 74°44.37' | N 24°59.72' | 76°58.12' | 359°45.84' | S 1°37.22' | 113°35.36' | 323°08.60' | S 15°54.06' | **24** |
| | δ 14.9839° | | *d* 0.1888' | δ 15.0589° | | *d* 0.0012' | δ 15.0394° | | *d* 0.0552' | δ 15.0381° | | *d* 0.0587' | |

## *Thursday, December 8th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 182°05.49' | 14.9955° | 254°38.48' | S 22°41.22' | 0.2676' | 4°30.88' | 14.4896° | 72°13.08' | N 25°06.72' | 6.1316' | 54.8468' | 76°43.96' | **00** |
| **01** | 197°05.22' | 14.9955° | 254°41.21' | S 22°41.49' | 0.2669' | 19°00.22' | 14.4890° | 72°46.21' | N 25°12.72' | 6.0056' | 54.8319' | 91°46.43' | **01** |
| **02** | 212°04.94' | 14.9955° | 254°43.95' | S 22°41.75' | 0.2661' | 33°29.52' | 14.4884° | 73°19.37' | N 25°18.60' | 5.8790' | 54.8171' | 106°48.89' | **02** |
| **03** | 227°04.67' | 14.9955° | 254°46.68' | S 22°42.02' | 0.2653' | 47°58.79' | 14.4878° | 73°52.57' | N 25°24.35' | 5.7518' | 54.8025' | 121°51.36' | **03** |
| **04** | 242°04.40' | 14.9955° | 254°49.42' | S 22°42.28' | 0.2645' | 62°28.02' | 14.4872° | 74°25.80' | N 25°29.98' | 5.6241' | 54.7879' | 136°53.82' | **04** |
| **05** | 257°04.13' | 14.9955° | 254°52.16' | S 22°42.55' | 0.2638' | 76°57.22' | 14.4866° | 74°59.07' | N 25°35.47' | 5.4960' | 54.7734' | 151°56.29' | **05** |
| **06** | 272°03.86' | 14.9955° | 254°54.89' | S 22°42.81' | 0.2630' | 91°26.38' | 14.4861° | 75°32.37' | N 25°40.84' | 5.3673' | 54.7590' | 166°58.75' | **06** |
| **07** | 287°03.58' | 14.9955° | 254°57.63' | S 22°43.07' | 0.2622' | 105°55.51' | 14.4855° | 76°05.70' | N 25°46.08' | 5.2381' | 54.7447' | 182°01.21' | **07** |
| **08** | 302°03.31' | 14.9955° | 255°00.37' | S 22°43.34' | 0.2615' | 120°24.62' | 14.4850° | 76°39.06' | N 25°51.19' | 5.1085' | 54.7306' | 197°03.68' | **08** |
| **09** | 317°03.04' | 14.9955° | 255°03.10' | S 22°43.60' | 0.2607' | 134°53.69' | 14.4845° | 77°12.45' | N 25°56.17' | 4.9784' | 54.7165' | 212°06.14' | **09** |
| **10** | 332°02.77' | 14.9955° | 255°05.84' | S 22°43.86' | 0.2599' | 149°22.73' | 14.4840° | 77°45.88' | N 26°01.01' | 4.8479' | 54.7025' | 227°08.61' | **10** |
| **11** | 347°02.49' | 14.9954° | 255°08.58' | S 22°44.11' | 0.2591' | 163°51.75' | 14.4836° | 78°19.33' | N 26°05.73' | 4.7170' | 54.6887' | 242°11.07' | **11** |
| **12** | 2°02.22' | 14.9954° | 255°11.32' | S 22°44.37' | 0.2584' | 178°20.73' | 14.4831° | 78°52.80' | N 26°10.32' | 4.5856' | 54.6749' | 257°13.54' | **12** |
| **13** | 17°01.95' | 14.9954° | 255°14.05' | S 22°44.63' | 0.2576' | 192°49.69' | 14.4827° | 79°26.30' | N 26°14.77' | 4.4539' | 54.6613' | 272°16.00' | **13** |
| **14** | 32°01.67' | 14.9954° | 255°16.79' | S 22°44.89' | 0.2568' | 207°18.63' | 14.4823° | 79°59.83' | N 26°19.09' | 4.3218' | 54.6477' | 287°18.46' | **14** |
| **15** | 47°01.40' | 14.9954° | 255°19.53' | S 22°45.14' | 0.2560' | 221°47.54' | 14.4819° | 80°33.39' | N 26°23.28' | 4.1893' | 54.6343' | 302°20.93' | **15** |
| **16** | 62°01.12' | 14.9954° | 255°22.27' | S 22°45.40' | 0.2553' | 236°16.43' | 14.4815° | 81°06.96' | N 26°27.34' | 4.0564' | 54.6210' | 317°23.39' | **16** |
| **17** | 77°00.85' | 14.9954° | 255°25.01' | S 22°45.65' | 0.2545' | 250°45.30' | 14.4811° | 81°40.56' | N 26°31.26' | 3.9233' | 54.6078' | 332°25.86' | **17** |
| **18** | 92°00.58' | 14.9954° | 255°27.75' | S 22°45.91' | 0.2537' | 265°14.15' | 14.4808° | 82°14.18' | N 26°35.05' | 3.7898' | 54.5947' | 347°28.32' | **18** |
| **19** | 107°00.30' | 14.9954° | 255°30.48' | S 22°46.16' | 0.2530' | 279°42.97' | 14.4804° | 82°47.81' | N 26°38.71' | 3.6560' | 54.5817' | 2°30.78' | **19** |
| **20** | 122°00.03' | 14.9954° | 255°33.22' | S 22°46.41' | 0.2522' | 294°11.78' | 14.4801° | 83°21.47' | N 26°42.23' | 3.5219' | 54.5688' | 17°33.25' | **20** |
| **21** | 136°59.75' | 14.9954° | 255°35.96' | S 22°46.66' | 0.2514' | 308°40.57' | 14.4798° | 83°55.14' | N 26°45.62' | 3.3876' | 54.5560' | 32°35.71' | **21** |
| **22** | 151°59.47' | 14.9954° | 255°38.70' | S 22°46.91' | 0.2506' | 323°09.34' | 14.4796° | 84°28.83' | N 26°48.87' | 3.2530' | 54.5434' | 47°38.18' | **22** |
| **23** | 166°59.20' | 14.9954° | 255°41.44' | S 22°47.16' | 0.2499' | 337°38.10' | 14.4793° | 85°02.54' | N 26°51.99' | 3.1182' | 54.5309' | 62°40.64' | **23** |
| **24** | 181°58.92' | 14.9954° | 255°44.18' | S 22°47.41' | 0.2491' | 352°06.85' | 14.4791° | 85°36.26' | N 26°54.97' | 2.9832' | 54.5185' | 77°43.11' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2363' | hp (π) 0.1488' | ½Ø 14.8980' | 99.8253914951225<br>3% -gib | |
| EoT at 12:00 UTC : +8m 8s (δ -1.09 s/h) | | Phase at 12:00 UTC : 183.65° | | |
| Meridian Pass. Time : 11:51:51.121 | | Age : 14.3 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.27') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 169°42.24' | 267°01.73' | S 24°03.60' | 1°59.60' | 74°44.37' | N 24°59.72' | 76°58.12' | 359°45.84' | S 1°37.22' | 113°35.36' | 323°08.60' | S 15°54.06' | **00** |
| **01** | 184°41.27' | 267°05.16' | S 24°03.75' | 17°03.12' | 74°43.30' | N 24°59.71' | 92°00.48' | 359°45.95' | S 1°37.16' | 128°37.65' | 323°08.78' | S 15°54.00' | **01** |
| **02** | 199°40.30' | 267°08.59' | S 24°03.91' | 32°06.65' | 74°42.24' | N 24°59.70' | 107°02.84' | 359°46.05' | S 1°37.11' | 143°39.93' | 323°08.96' | S 15°53.94' | **02** |
| **03** | 214°39.34' | 267°12.02' | S 24°04.07' | 47°10.18' | 74°41.18' | N 24°59.70' | 122°05.20' | 359°46.16' | S 1°37.05' | 158°42.22' | 323°09.14' | S 15°53.88' | **03** |
| **04** | 229°38.37' | 267°15.45' | S 24°04.22' | 62°13.71' | 74°40.11' | N 24°59.69' | 137°07.55' | 359°46.27' | S 1°36.99' | 173°44.50' | 323°09.32' | S 15°53.82' | **04** |
| **05** | 244°37.40' | 267°18.89' | S 24°04.37' | 77°17.24' | 74°39.05' | N 24°59.68' | 152°09.91' | 359°46.38' | S 1°36.93' | 188°46.79' | 323°09.50' | S 15°53.76' | **05** |
| **06** | 259°36.43' | 267°22.32' | S 24°04.53' | 92°20.76' | 74°37.99' | N 24°59.67' | 167°12.27' | 359°46.48' | S 1°36.87' | 203°49.07' | 323°09.68' | S 15°53.70' | **06** |
| **07** | 274°35.46' | 267°25.75' | S 24°04.68' | 107°24.29' | 74°36.92' | N 24°59.67' | 182°14.62' | 359°46.59' | S 1°36.81' | 218°51.36' | 323°09.86' | S 15°53.64' | **07** |
| **08** | 289°34.49' | 267°29.18' | S 24°04.82' | 122°27.82' | 74°35.86' | N 24°59.66' | 197°16.98' | 359°46.70' | S 1°36.75' | 233°53.64' | 323°10.04' | S 15°53.58' | **08** |
| **09** | 304°33.52' | 267°32.62' | S 24°04.97' | 137°31.34' | 74°34.80' | N 24°59.65' | 212°19.34' | 359°46.81' | S 1°36.69' | 248°55.93' | 323°10.22' | S 15°53.52' | **09** |
| **10** | 319°32.56' | 267°36.05' | S 24°05.12' | 152°34.87' | 74°33.74' | N 24°59.64' | 227°21.69' | 359°46.91' | S 1°36.63' | 263°58.21' | 323°10.40' | S 15°53.46' | **10** |
| **11** | 334°31.59' | 267°39.48' | S 24°05.26' | 167°38.40' | 74°32.67' | N 24°59.63' | 242°24.05' | 359°47.02' | S 1°36.57' | 279°00.49' | 323°10.58' | S 15°53.40' | **11** |
| **12** | 349°30.62' | 267°42.92' | S 24°05.41' | 182°41.92' | 74°31.61' | N 24°59.62' | 257°26.40' | 359°47.13' | S 1°36.51' | 294°02.78' | 323°10.76' | S 15°53.34' | **12** |
| **13** | 4°29.65' | 267°46.35' | S 24°05.55' | 197°45.45' | 74°30.55' | N 24°59.61' | 272°28.76' | 359°47.24' | S 1°36.45' | 309°05.06' | 323°10.94' | S 15°53.28' | **13** |
| **14** | 19°28.68' | 267°49.78' | S 24°05.69' | 212°48.97' | 74°29.49' | N 24°59.60' | 287°31.11' | 359°47.35' | S 1°36.39' | 324°07.35' | 323°11.12' | S 15°53.22' | **14** |
| **15** | 34°27.71' | 267°53.22' | S 24°05.83' | 227°52.50' | 74°28.43' | N 24°59.59' | 302°33.47' | 359°47.46' | S 1°36.33' | 339°09.63' | 323°11.30' | S 15°53.16' | **15** |
| **16** | 49°26.74' | 267°56.65' | S 24°05.97' | 242°56.02' | 74°27.37' | N 24°59.58' | 317°35.82' | 359°47.57' | S 1°36.27' | 354°11.91' | 323°11.48' | S 15°53.10' | **16** |
| **17** | 64°25.77' | 268°00.09' | S 24°06.11' | 257°59.55' | 74°26.31' | N 24°59.57' | 332°38.17' | 359°47.68' | S 1°36.21' | 9°14.20' | 323°11.66' | S 15°53.04' | **17** |
| **18** | 79°24.80' | 268°03.52' | S 24°06.24' | 273°03.07' | 74°25.25' | N 24°59.56' | 347°40.53' | 359°47.80' | S 1°36.15' | 24°16.48' | 323°11.84' | S 15°52.98' | **18** |
| **19** | 94°23.83' | 268°06.95' | S 24°06.38' | 288°06.60' | 74°24.19' | N 24°59.55' | 2°42.88' | 359°47.91' | S 1°36.09' | 39°18.76' | 323°12.02' | S 15°52.92' | **19** |
| **20** | 109°22.86' | 268°10.39' | S 24°06.51' | 303°10.12' | 74°23.13' | N 24°59.54' | 17°45.23' | 359°48.02' | S 1°36.03' | 54°21.05' | 323°12.20' | S 15°52.86' | **20** |
| **21** | 124°21.89' | 268°13.82' | S 24°06.65' | 318°13.64' | 74°22.07' | N 24°59.53' | 32°47.58' | 359°48.13' | S 1°35.97' | 69°23.33' | 323°12.39' | S 15°52.80' | **21** |
| **22** | 139°20.92' | 268°17.26' | S 24°06.78' | 333°17.17' | 74°21.01' | N 24°59.52' | 47°49.93' | 359°48.24' | S 1°35.90' | 84°25.61' | 323°12.57' | S 15°52.74' | **22** |
| **23** | 154°19.95' | 268°20.69' | S 24°06.91' | 348°20.69' | 74°19.95' | N 24°59.51' | 62°52.29' | 359°48.36' | S 1°35.84' | 99°27.89' | 323°12.75' | S 15°52.68' | **23** |
| **24** | 169°18.98' | 268°24.13' | S 24°07.03' | 3°24.21' | 74°18.89' | N 24°59.50' | 77°54.64' | 359°48.47' | S 1°35.78' | 114°30.17' | 323°12.93' | S 15°52.62' | **24** |
| | δ 14.9839° | | *d* 0.1580' | δ 15.0588° | | *d* 0.0066' | δ 15.0393° | | *d* 0.0585' | δ 15.0381° | | *d* 0.0598' | |

## *Friday, December 9th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 181°58.92' | 14.9954° | 255°44.18' | S 22°47.41' | 0.2491' | 352°06.85' | 14.4791° | 85°36.26' | N 26°54.97' | 2.9832' | 54.5185' | 77°43.11' | **00** |
| **01** | 196°58.65' | 14.9954° | 255°46.92' | S 22°47.66' | 0.2483' | 6°35.58' | 14.4789° | 86°09.99' | N 26°57.82' | 2.8479' | 54.5062' | 92°45.57' | **01** |
| **02** | 211°58.37' | 14.9954° | 255°49.66' | S 22°47.91' | 0.2475' | 21°04.30' | 14.4787° | 86°43.73' | N 27°00.53' | 2.7125' | 54.4941' | 107°48.03' | **02** |
| **03** | 226°58.09' | 14.9954° | 255°52.40' | S 22°48.16' | 0.2467' | 35°33.01' | 14.4785° | 87°17.49' | N 27°03.11' | 2.5769' | 54.4820' | 122°50.50' | **03** |
| **04** | 241°57.82' | 14.9954° | 255°55.14' | S 22°48.40' | 0.2460' | 50°01.71' | 14.4783° | 87°51.25' | N 27°05.55' | 2.4411' | 54.4701' | 137°52.96' | **04** |
| **05** | 256°57.54' | 14.9954° | 255°57.89' | S 22°48.65' | 0.2452' | 64°30.40' | 14.4782° | 88°25.02' | N 27°07.86' | 2.3053' | 54.4583' | 152°55.43' | **05** |
| **06** | 271°57.26' | 14.9954° | 256°00.63' | S 22°48.89' | 0.2444' | 78°59.09' | 14.4781° | 88°58.80' | N 27°10.02' | 2.1693' | 54.4467' | 167°57.89' | **06** |
| **07** | 286°56.99' | 14.9954° | 256°03.37' | S 22°49.14' | 0.2436' | 93°27.77' | 14.4780° | 89°32.59' | N 27°12.06' | 2.0331' | 54.4351' | 183°00.36' | **07** |
| **08** | 301°56.71' | 14.9954° | 256°06.11' | S 22°49.38' | 0.2429' | 107°56.45' | 14.4779° | 90°06.37' | N 27°13.95' | 1.8970' | 54.4237' | 198°02.82' | **08** |
| **09** | 316°56.43' | 14.9954° | 256°08.85' | S 22°49.62' | 0.2421' | 122°25.12' | 14.4779° | 90°40.17' | N 27°15.72' | 1.7607' | 54.4125' | 213°05.28' | **09** |
| **10** | 331°56.15' | 14.9954° | 256°11.59' | S 22°49.86' | 0.2413' | 136°53.79' | 14.4778° | 91°13.96' | N 27°17.34' | 1.6244' | 54.4013' | 228°07.75' | **10** |
| **11** | 346°55.88' | 14.9954° | 256°14.34' | S 22°50.10' | 0.2405' | 151°22.46' | 14.4778° | 91°47.75' | N 27°18.83' | 1.4881' | 54.3903' | 243°10.21' | **11** |
| **12** | 1°55.60' | 14.9954° | 256°17.08' | S 22°50.34' | 0.2397' | 165°51.13' | 14.4778° | 92°21.55' | N 27°20.18' | 1.3517' | 54.3794' | 258°12.68' | **12** |
| **13** | 16°55.32' | 14.9954° | 256°19.82' | S 22°50.58' | 0.2390' | 180°19.80' | 14.4779° | 92°55.34' | N 27°21.39' | 1.2153' | 54.3687' | 273°15.14' | **13** |
| **14** | 31°55.04' | 14.9954° | 256°22.56' | S 22°50.82' | 0.2382' | 194°48.48' | 14.4779° | 93°29.13' | N 27°22.47' | 1.0790' | 54.3581' | 288°17.60' | **14** |
| **15** | 46°54.76' | 14.9954° | 256°25.31' | S 22°51.06' | 0.2374' | 209°17.16' | 14.4780° | 94°02.91' | N 27°23.42' | 0.9427' | 54.3476' | 303°20.07' | **15** |
| **16** | 61°54.48' | 14.9954° | 256°28.05' | S 22°51.29' | 0.2366' | 223°45.85' | 14.4781° | 94°36.69' | N 27°24.22' | 0.8064' | 54.3373' | 318°22.53' | **16** |
| **17** | 76°54.21' | 14.9953° | 256°30.79' | S 22°51.53' | 0.2359' | 238°14.54' | 14.4782° | 95°10.46' | N 27°24.89' | 0.6702' | 54.3271' | 333°25.00' | **17** |
| **18** | 91°53.93' | 14.9953° | 256°33.54' | S 22°51.76' | 0.2351' | 252°43.24' | 14.4783° | 95°44.22' | N 27°25.43' | 0.5341' | 54.3171' | 348°27.46' | **18** |
| **19** | 106°53.65' | 14.9953° | 256°36.28' | S 22°52.00' | 0.2343' | 267°11.95' | 14.4785° | 96°17.98' | N 27°25.83' | 0.3981' | 54.3072' | 3°29.93' | **19** |
| **20** | 121°53.37' | 14.9953° | 256°39.02' | S 22°52.23' | 0.2335' | 281°40.67' | 14.4787° | 96°51.72' | N 27°26.09' | 0.2622' | 54.2974' | 18°32.39' | **20** |
| **21** | 136°53.09' | 14.9953° | 256°41.77' | S 22°52.46' | 0.2327' | 296°09.40' | 14.4789° | 97°25.45' | N 27°26.21' | 0.1265' | 54.2878' | 33°34.85' | **21** |
| **22** | 151°52.81' | 14.9953° | 256°44.51' | S 22°52.70' | 0.2320' | 310°38.15' | 14.4791° | 97°59.17' | N 27°26.21' | 0.0091' | 54.2784' | 48°37.32' | **22** |
| **23** | 166°52.53' | 14.9953° | 256°47.26' | S 22°52.93' | 0.2312' | 325°06.91' | 14.4793° | 98°32.87' | N 27°26.06' | 0.1445' | 54.2691' | 63°39.78' | **23** |
| **24** | 181°52.25' | 14.9953° | 256°50.00' | S 22°53.16' | 0.2304' | 339°35.69' | 14.4796° | 99°06.56' | N 27°25.78' | 0.2798' | 54.2599' | 78°42.25' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2384' | hp (π) 0.1488' | ½Ø 14.8175' | 98.2550342682443 3% -gib | |
| EoT at 12:00 UTC : +7m 42s (δ -1.11 s/h) | | Phase at 12:00 UTC : 194.72° | | |
| Meridian Pass. Time : 11:52:17.605 | | Age : 15.1 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.27') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 169°18.98' | 268°24.13' | S 24°07.03' | 3°24.21' | 74°18.89' | N 24°59.50' | 77°54.64' | 359°48.47' | S 1°35.78' | 114°30.17' | 323°12.93' | S 15°52.62' | **00** |
| **01** | 184°18.01' | 268°27.56' | S 24°07.16' | 18°27.73' | 74°17.84' | N 24°59.49' | 92°56.99' | 359°48.58' | S 1°35.72' | 129°32.46' | 323°13.11' | S 15°52.56' | **01** |
| **02** | 199°17.04' | 268°31.00' | S 24°07.29' | 33°31.26' | 74°16.78' | N 24°59.47' | 107°59.34' | 359°48.70' | S 1°35.66' | 144°34.74' | 323°13.29' | S 15°52.49' | **02** |
| **03** | 214°16.07' | 268°34.43' | S 24°07.41' | 48°34.78' | 74°15.72' | N 24°59.46' | 123°01.69' | 359°48.81' | S 1°35.60' | 159°37.02' | 323°13.48' | S 15°52.43' | **03** |
| **04** | 229°15.10' | 268°37.87' | S 24°07.54' | 63°38.30' | 74°14.66' | N 24°59.45' | 138°04.04' | 359°48.92' | S 1°35.53' | 174°39.30' | 323°13.66' | S 15°52.37' | **04** |
| **05** | 244°14.13' | 268°41.30' | S 24°07.66' | 78°41.82' | 74°13.61' | N 24°59.44' | 153°06.39' | 359°49.04' | S 1°35.47' | 189°41.58' | 323°13.84' | S 15°52.31' | **05** |
| **06** | 259°13.15' | 268°44.74' | S 24°07.78' | 93°45.34' | 74°12.55' | N 24°59.42' | 168°08.74' | 359°49.15' | S 1°35.41' | 204°43.87' | 323°14.03' | S 15°52.25' | **06** |
| **07** | 274°12.18' | 268°48.17' | S 24°07.90' | 108°48.86' | 74°11.50' | N 24°59.41' | 183°11.09' | 359°49.27' | S 1°35.35' | 219°46.15' | 323°14.21' | S 15°52.19' | **07** |
| **08** | 289°11.21' | 268°51.61' | S 24°08.02' | 123°52.38' | 74°10.44' | N 24°59.40' | 198°13.44' | 359°49.38' | S 1°35.28' | 234°48.43' | 323°14.39' | S 15°52.13' | **08** |
| **09** | 304°10.24' | 268°55.04' | S 24°08.13' | 138°55.90' | 74°09.39' | N 24°59.38' | 213°15.78' | 359°49.50' | S 1°35.22' | 249°50.71' | 323°14.57' | S 15°52.07' | **09** |
| **10** | 319°09.27' | 268°58.48' | S 24°08.25' | 153°59.42' | 74°08.33' | N 24°59.37' | 228°18.13' | 359°49.62' | S 1°35.16' | 264°52.99' | 323°14.76' | S 15°52.01' | **10** |
| **11** | 334°08.30' | 269°01.92' | S 24°08.36' | 169°02.94' | 74°07.28' | N 24°59.36' | 243°20.48' | 359°49.73' | S 1°35.10' | 279°55.27' | 323°14.94' | S 15°51.95' | **11** |
| **12** | 349°07.32' | 269°05.35' | S 24°08.48' | 184°06.45' | 74°06.22' | N 24°59.34' | 258°22.83' | 359°49.85' | S 1°35.03' | 294°57.55' | 323°15.12' | S 15°51.88' | **12** |
| **13** | 4°06.35' | 269°08.79' | S 24°08.59' | 199°09.97' | 74°05.17' | N 24°59.33' | 273°25.17' | 359°49.97' | S 1°34.97' | 309°59.83' | 323°15.31' | S 15°51.82' | **13** |
| **14** | 19°05.38' | 269°12.22' | S 24°08.70' | 214°13.49' | 74°04.11' | N 24°59.31' | 288°27.52' | 359°50.08' | S 1°34.90' | 325°02.11' | 323°15.49' | S 15°51.76' | **14** |
| **15** | 34°04.41' | 269°15.66' | S 24°08.81' | 229°17.01' | 74°03.06' | N 24°59.30' | 303°29.87' | 359°50.20' | S 1°34.84' | 340°04.39' | 323°15.68' | S 15°51.70' | **15** |
| **16** | 49°03.44' | 269°19.10' | S 24°08.91' | 244°20.52' | 74°02.01' | N 24°59.28' | 318°32.21' | 359°50.32' | S 1°34.78' | 355°06.67' | 323°15.86' | S 15°51.64' | **16** |
| **17** | 64°02.46' | 269°22.53' | S 24°09.02' | 259°24.04' | 74°00.96' | N 24°59.27' | 333°34.56' | 359°50.44' | S 1°34.71' | 10°08.95' | 323°16.04' | S 15°51.58' | **17** |
| **18** | 79°01.49' | 269°25.97' | S 24°09.13' | 274°27.56' | 73°59.90' | N 24°59.25' | 348°36.90' | 359°50.56' | S 1°34.65' | 25°11.23' | 323°16.23' | S 15°51.52' | **18** |
| **19** | 94°00.52' | 269°29.41' | S 24°09.23' | 289°31.07' | 73°58.85' | N 24°59.24' | 3°39.25' | 359°50.68' | S 1°34.59' | 40°13.51' | 323°16.41' | S 15°51.45' | **19** |
| **20** | 108°59.55' | 269°32.84' | S 24°09.33' | 304°34.59' | 73°57.80' | N 24°59.22' | 18°41.59' | 359°50.79' | S 1°34.52' | 55°15.79' | 323°16.60' | S 15°51.39' | **20** |
| **21** | 123°58.58' | 269°36.28' | S 24°09.43' | 319°38.10' | 73°56.75' | N 24°59.20' | 33°43.94' | 359°50.91' | S 1°34.46' | 70°18.07' | 323°16.78' | S 15°51.33' | **21** |
| **22** | 138°57.60' | 269°39.72' | S 24°09.53' | 334°41.62' | 73°55.70' | N 24°59.19' | 48°46.28' | 359°51.03' | S 1°34.39' | 85°20.35' | 323°16.97' | S 15°51.27' | **22** |
| **23** | 153°56.63' | 269°43.15' | S 24°09.63' | 349°45.13' | 73°54.65' | N 24°59.17' | 63°48.63' | 359°51.15' | S 1°34.33' | 100°22.63' | 323°17.15' | S 15°51.21' | **23** |
| **24** | 168°55.66' | 269°46.59' | S 24°09.73' | 4°48.65' | 73°53.60' | N 24°59.15' | 78°50.97' | 359°51.28' | S 1°34.26' | 115°24.91' | 323°17.34' | S 15°51.14' | **24** |
| | δ 14.9838° | | *d* 0.1272' | δ 15.0587° | | *d* 0.0118' | δ 15.0392° | | *d* 0.0618' | δ 15.0380° | | *d* 0.0608' | |

## *Saturday, December 10th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 181°52.25' | 14.9953° | 256°50.00' | S 22°53.16' | 0.2304' | 339°35.69' | 14.4796° | 99°06.56' | N 27°25.78' | 0.2798' | 54.2599' | 78°42.25' | **00** |
| **01** | 196°51.97' | 14.9953° | 256°52.75' | S 22°53.39' | 0.2296' | 354°04.48' | 14.4799° | 99°40.23' | N 27°25.37' | 0.4148' | 54.2509' | 93°44.71' | **01** |
| **02** | 211°51.68' | 14.9953° | 256°55.49' | S 22°53.62' | 0.2288' | 8°33.29' | 14.4802° | 100°13.89' | N 27°24.82' | 0.5497' | 54.2420' | 108°47.18' | **02** |
| **03** | 226°51.40' | 14.9953° | 256°58.24' | S 22°53.84' | 0.2280' | 23°02.12' | 14.4805° | 100°47.52' | N 27°24.13' | 0.6843' | 54.2333' | 123°49.64' | **03** |
| **04** | 241°51.12' | 14.9953° | 257°00.98' | S 22°54.07' | 0.2273' | 37°30.97' | 14.4808° | 101°21.13' | N 27°23.31' | 0.8187' | 54.2248' | 138°52.10' | **04** |
| **05** | 256°50.84' | 14.9953° | 257°03.73' | S 22°54.30' | 0.2265' | 51°59.84' | 14.4812° | 101°54.73' | N 27°22.36' | 0.9528' | 54.2164' | 153°54.57' | **05** |
| **06** | 271°50.56' | 14.9953° | 257°06.47' | S 22°54.52' | 0.2257' | 66°28.74' | 14.4816° | 102°28.29' | N 27°21.27' | 1.0866' | 54.2082' | 168°57.03' | **06** |
| **07** | 286°50.28' | 14.9953° | 257°09.22' | S 22°54.75' | 0.2249' | 80°57.66' | 14.4820° | 103°01.84' | N 27°20.05' | 1.2201' | 54.2001' | 183°59.50' | **07** |
| **08** | 301°50.00' | 14.9953° | 257°11.96' | S 22°54.97' | 0.2241' | 95°26.60' | 14.4824° | 103°35.36' | N 27°18.70' | 1.3533' | 54.1922' | 199°01.96' | **08** |
| **09** | 316°49.71' | 14.9953° | 257°14.71' | S 22°55.20' | 0.2234' | 109°55.57' | 14.4828° | 104°08.85' | N 27°17.21' | 1.4862' | 54.1845' | 214°04.42' | **09** |
| **10** | 331°49.43' | 14.9953° | 257°17.46' | S 22°55.42' | 0.2226' | 124°24.57' | 14.4833° | 104°42.32' | N 27°15.60' | 1.6188' | 54.1769' | 229°06.89' | **10** |
| **11** | 346°49.15' | 14.9953° | 257°20.20' | S 22°55.64' | 0.2218' | 138°53.59' | 14.4838° | 105°15.76' | N 27°13.84' | 1.7510' | 54.1695' | 244°09.35' | **11** |
| **12** | 1°48.87' | 14.9953° | 257°22.95' | S 22°55.86' | 0.2210' | 153°22.65' | 14.4843° | 105°49.17' | N 27°11.96' | 1.8829' | 54.1622' | 259°11.82' | **12** |
| **13** | 16°48.58' | 14.9953° | 257°25.70' | S 22°56.08' | 0.2202' | 167°51.74' | 14.4848° | 106°22.55' | N 27°09.95' | 2.0143' | 54.1551' | 274°14.28' | **13** |
| **14** | 31°48.30' | 14.9953° | 257°28.44' | S 22°56.30' | 0.2194' | 182°20.85' | 14.4853° | 106°55.89' | N 27°07.80' | 2.1454' | 54.1482' | 289°16.75' | **14** |
| **15** | 46°48.02' | 14.9953° | 257°31.19' | S 22°56.52' | 0.2186' | 196°50.01' | 14.4859° | 107°29.20' | N 27°05.53' | 2.2761' | 54.1415' | 304°19.21' | **15** |
| **16** | 61°47.73' | 14.9953° | 257°33.94' | S 22°56.74' | 0.2179' | 211°19.19' | 14.4864° | 108°02.48' | N 27°03.12' | 2.4064' | 54.1349' | 319°21.67' | **16** |
| **17** | 76°47.45' | 14.9953° | 257°36.69' | S 22°56.95' | 0.2171' | 225°48.41' | 14.4870° | 108°35.73' | N 27°00.58' | 2.5362' | 54.1286' | 334°24.14' | **17** |
| **18** | 91°47.17' | 14.9953° | 257°39.43' | S 22°57.17' | 0.2163' | 240°17.67' | 14.4876° | 109°08.94' | N 26°57.92' | 2.6656' | 54.1223' | 349°26.60' | **18** |
| **19** | 106°46.88' | 14.9953° | 257°42.18' | S 22°57.39' | 0.2155' | 254°46.96' | 14.4882° | 109°42.11' | N 26°55.12' | 2.7945' | 54.1163' | 4°29.07' | **19** |
| **20** | 121°46.60' | 14.9953° | 257°44.93' | S 22°57.60' | 0.2147' | 269°16.29' | 14.4888° | 110°15.24' | N 26°52.20' | 2.9229' | 54.1105' | 19°31.53' | **20** |
| **21** | 136°46.32' | 14.9953° | 257°47.68' | S 22°57.82' | 0.2139' | 283°45.66' | 14.4895° | 110°48.34' | N 26°49.15' | 3.0509' | 54.1048' | 34°34.00' | **21** |
| **22** | 151°46.03' | 14.9953° | 257°50.43' | S 22°58.03' | 0.2132' | 298°15.07' | 14.4902° | 111°21.39' | N 26°45.97' | 3.1784' | 54.0993' | 49°36.46' | **22** |
| **23** | 166°45.75' | 14.9953° | 257°53.18' | S 22°58.24' | 0.2124' | 312°44.52' | 14.4908° | 111°54.40' | N 26°42.67' | 3.3054' | 54.0940' | 64°38.92' | **23** |
| **24** | 181°45.46' | 14.9953° | 257°55.93' | S 22°58.45' | 0.2116' | 327°14.01' | 14.4915° | 112°27.38' | N 26°39.23' | 3.4318' | 54.0889' | 79°41.39' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2404' | hp (π) 0.1488' | ½Ø 14.7583' | 94.9459549510688<br>3% -gib | |
| EoT at 12:00 UTC : +7m 15s (δ -1.13 s/h) | | Phase at 12:00 UTC : 205.68° | | |
| Meridian Pass. Time : 11:52:44.532 | | Age : 16.0 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.27') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 168°55.66' | 269°46.59' | S 24°09.73' | 4°48.65' | 73°53.60' | N 24°59.15' | 78°50.97' | 359°51.28' | S 1°34.26' | 115°24.91' | 323°17.34' | S 15°51.14' | **00** |
| **01** | 183°54.68' | 269°50.03' | S 24°09.83' | 19°52.16' | 73°52.55' | N 24°59.14' | 93°53.31' | 359°51.40' | S 1°34.20' | 130°27.19' | 323°17.52' | S 15°51.08' | **01** |
| **02** | 198°53.71' | 269°53.46' | S 24°09.92' | 34°55.67' | 73°51.50' | N 24°59.12' | 108°55.66' | 359°51.52' | S 1°34.13' | 145°29.47' | 323°17.71' | S 15°51.02' | **02** |
| **03** | 213°52.74' | 269°56.90' | S 24°10.01' | 49°59.18' | 73°50.46' | N 24°59.10' | 123°58.00' | 359°51.64' | S 1°34.07' | 160°31.75' | 323°17.89' | S 15°50.96' | **03** |
| **04** | 228°51.77' | 270°00.34' | S 24°10.11' | 65°02.70' | 73°49.41' | N 24°59.09' | 139°00.34' | 359°51.76' | S 1°34.00' | 175°34.03' | 323°18.08' | S 15°50.90' | **04** |
| **05** | 243°50.79' | 270°03.78' | S 24°10.20' | 80°06.21' | 73°48.36' | N 24°59.07' | 154°02.69' | 359°51.88' | S 1°33.94' | 190°36.30' | 323°18.26' | S 15°50.84' | **05** |
| **06** | 258°49.82' | 270°07.21' | S 24°10.29' | 95°09.72' | 73°47.31' | N 24°59.05' | 169°05.03' | 359°52.01' | S 1°33.87' | 205°38.58' | 323°18.45' | S 15°50.77' | **06** |
| **07** | 273°48.85' | 270°10.65' | S 24°10.38' | 110°13.23' | 73°46.27' | N 24°59.03' | 184°07.37' | 359°52.13' | S 1°33.80' | 220°40.86' | 323°18.64' | S 15°50.71' | **07** |
| **08** | 288°47.87' | 270°14.09' | S 24°10.46' | 125°16.74' | 73°45.22' | N 24°59.01' | 199°09.71' | 359°52.25' | S 1°33.74' | 235°43.14' | 323°18.82' | S 15°50.65' | **08** |
| **09** | 303°46.90' | 270°17.53' | S 24°10.55' | 140°20.25' | 73°44.17' | N 24°58.99' | 214°12.05' | 359°52.37' | S 1°33.67' | 250°45.42' | 323°19.01' | S 15°50.59' | **09** |
| **10** | 318°45.93' | 270°20.96' | S 24°10.63' | 155°23.76' | 73°43.13' | N 24°58.98' | 229°14.39' | 359°52.50' | S 1°33.61' | 265°47.69' | 323°19.19' | S 15°50.52' | **10** |
| **11** | 333°44.95' | 270°24.40' | S 24°10.72' | 170°27.27' | 73°42.08' | N 24°58.96' | 244°16.73' | 359°52.62' | S 1°33.54' | 280°49.97' | 323°19.38' | S 15°50.46' | **11** |
| **12** | 348°43.98' | 270°27.84' | S 24°10.80' | 185°30.78' | 73°41.04' | N 24°58.94' | 259°19.07' | 359°52.75' | S 1°33.47' | 295°52.25' | 323°19.57' | S 15°50.40' | **12** |
| **13** | 3°43.00' | 270°31.28' | S 24°10.88' | 200°34.29' | 73°40.00' | N 24°58.92' | 274°21.41' | 359°52.87' | S 1°33.41' | 310°54.53' | 323°19.75' | S 15°50.34' | **13** |
| **14** | 18°42.03' | 270°34.72' | S 24°10.96' | 215°37.79' | 73°38.95' | N 24°58.90' | 289°23.75' | 359°53.00' | S 1°33.34' | 325°56.80' | 323°19.94' | S 15°50.27' | **14** |
| **15** | 33°41.06' | 270°38.15' | S 24°11.04' | 230°41.30' | 73°37.91' | N 24°58.88' | 304°26.09' | 359°53.12' | S 1°33.27' | 340°59.08' | 323°20.13' | S 15°50.21' | **15** |
| **16** | 48°40.08' | 270°41.59' | S 24°11.11' | 245°44.81' | 73°36.87' | N 24°58.86' | 319°28.43' | 359°53.25' | S 1°33.21' | 356°01.36' | 323°20.32' | S 15°50.15' | **16** |
| **17** | 63°39.11' | 270°45.03' | S 24°11.19' | 260°48.31' | 73°35.82' | N 24°58.84' | 334°30.77' | 359°53.37' | S 1°33.14' | 11°03.63' | 323°20.50' | S 15°50.09' | **17** |
| **18** | 78°38.13' | 270°48.47' | S 24°11.26' | 275°51.82' | 73°34.78' | N 24°58.82' | 349°33.10' | 359°53.50' | S 1°33.07' | 26°05.91' | 323°20.69' | S 15°50.02' | **18** |
| **19** | 93°37.16' | 270°51.91' | S 24°11.34' | 290°55.32' | 73°33.74' | N 24°58.80' | 4°35.44' | 359°53.62' | S 1°33.00' | 41°08.19' | 323°20.88' | S 15°49.96' | **19** |
| **20** | 108°36.19' | 270°55.34' | S 24°11.41' | 305°58.83' | 73°32.70' | N 24°58.78' | 19°37.78' | 359°53.75' | S 1°32.94' | 56°10.46' | 323°21.07' | S 15°49.90' | **20** |
| **21** | 123°35.21' | 270°58.78' | S 24°11.48' | 321°02.33' | 73°31.66' | N 24°58.76' | 34°40.12' | 359°53.88' | S 1°32.87' | 71°12.74' | 323°21.25' | S 15°49.84' | **21** |
| **22** | 138°34.24' | 271°02.22' | S 24°11.55' | 336°05.84' | 73°30.62' | N 24°58.74' | 49°42.45' | 359°54.01' | S 1°32.80' | 86°15.02' | 323°21.44' | S 15°49.77' | **22** |
| **23** | 153°33.26' | 271°05.66' | S 24°11.61' | 351°09.34' | 73°29.58' | N 24°58.71' | 64°44.79' | 359°54.13' | S 1°32.73' | 101°17.29' | 323°21.63' | S 15°49.71' | **23** |
| **24** | 168°32.29' | 271°09.10' | S 24°11.68' | 6°12.84' | 73°28.54' | N 24°58.69' | 79°47.13' | 359°54.26' | S 1°32.67' | 116°19.57' | 323°21.82' | S 15°49.65' | **24** |
| | δ 14.9838° | | *d* 0.0962' | δ 15.0586° | | *d* 0.0169' | δ 15.0391° | | *d* 0.0650' | δ 15.0380° | | *d* 0.0619' | |

## *Sunday, December 11th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 181°45.46' | 14.9953° | 257°55.93' | S 22°58.45' | 0.2116' | 327°14.01' | 14.4915° | 112°27.38' | N 26°39.23' | 3.4318' | 54.0889' | 79°41.39' | **00** |
| **01** | 196°45.18' | 14.9953° | 257°58.67' | S 22°58.66' | 0.2108' | 341°43.54' | 14.4922° | 113°00.31' | N 26°35.68' | 3.5578' | 54.0839' | 94°43.85' | **01** |
| **02** | 211°44.89' | 14.9952° | 258°01.42' | S 22°58.87' | 0.2100' | 356°13.12' | 14.4930° | 113°33.19' | N 26°31.99' | 3.6831' | 54.0792' | 109°46.32' | **02** |
| **03** | 226°44.61' | 14.9952° | 258°04.17' | S 22°59.08' | 0.2092' | 10°42.74' | 14.4937° | 114°06.04' | N 26°28.18' | 3.8080' | 54.0746' | 124°48.78' | **03** |
| **04** | 241°44.32' | 14.9952° | 258°06.92' | S 22°59.29' | 0.2084' | 25°12.41' | 14.4944° | 114°38.83' | N 26°24.25' | 3.9323' | 54.0703' | 139°51.24' | **04** |
| **05** | 256°44.04' | 14.9952° | 258°09.67' | S 22°59.50' | 0.2076' | 39°42.12' | 14.4952° | 115°11.59' | N 26°20.20' | 4.0560' | 54.0661' | 154°53.71' | **05** |
| **06** | 271°43.75' | 14.9952° | 258°12.42' | S 22°59.71' | 0.2069' | 54°11.88' | 14.4960° | 115°44.29' | N 26°16.02' | 4.1791' | 54.0621' | 169°56.17' | **06** |
| **07** | 286°43.46' | 14.9952° | 258°15.17' | S 22°59.91' | 0.2061' | 68°41.69' | 14.4968° | 116°16.95' | N 26°11.72' | 4.3017' | 54.0583' | 184°58.64' | **07** |
| **08** | 301°43.18' | 14.9952° | 258°17.92' | S 23°00.12' | 0.2053' | 83°11.54' | 14.4976° | 116°49.56' | N 26°07.29' | 4.4236' | 54.0548' | 200°01.10' | **08** |
| **09** | 316°42.89' | 14.9952° | 258°20.67' | S 23°00.32' | 0.2045' | 97°41.45' | 14.4984° | 117°22.12' | N 26°02.75' | 4.5450' | 54.0514' | 215°03.57' | **09** |
| **10** | 331°42.60' | 14.9952° | 258°23.42' | S 23°00.52' | 0.2037' | 112°11.40' | 14.4992° | 117°54.63' | N 25°58.08' | 4.6657' | 54.0482' | 230°06.03' | **10** |
| **11** | 346°42.32' | 14.9952° | 258°26.18' | S 23°00.73' | 0.2029' | 126°41.40' | 14.5000° | 118°27.09' | N 25°53.30' | 4.7858' | 54.0452' | 245°08.49' | **11** |
| **12** | 1°42.03' | 14.9952° | 258°28.93' | S 23°00.93' | 0.2021' | 141°11.46' | 14.5009° | 118°59.50' | N 25°48.39' | 4.9053' | 54.0424' | 260°10.96' | **12** |
| **13** | 16°41.74' | 14.9952° | 258°31.68' | S 23°01.13' | 0.2013' | 155°41.56' | 14.5018° | 119°31.86' | N 25°43.37' | 5.0241' | 54.0399' | 275°13.42' | **13** |
| **14** | 31°41.46' | 14.9952° | 258°34.43' | S 23°01.33' | 0.2006' | 170°11.72' | 14.5026° | 120°04.17' | N 25°38.22' | 5.1423' | 54.0375' | 290°15.89' | **14** |
| **15** | 46°41.17' | 14.9952° | 258°37.18' | S 23°01.53' | 0.1998' | 184°41.93' | 14.5035° | 120°36.42' | N 25°32.96' | 5.2599' | 54.0353' | 305°18.35' | **15** |
| **16** | 61°40.88' | 14.9952° | 258°39.93' | S 23°01.73' | 0.1990' | 199°12.19' | 14.5044° | 121°08.62' | N 25°27.59' | 5.3767' | 54.0334' | 320°20.81' | **16** |
| **17** | 76°40.59' | 14.9952° | 258°42.68' | S 23°01.93' | 0.1982' | 213°42.51' | 14.5053° | 121°40.77' | N 25°22.09' | 5.4930' | 54.0316' | 335°23.28' | **17** |
| **18** | 91°40.31' | 14.9952° | 258°45.44' | S 23°02.13' | 0.1974' | 228°12.88' | 14.5062° | 122°12.87' | N 25°16.49' | 5.6085' | 54.0301' | 350°25.74' | **18** |
| **19** | 106°40.02' | 14.9952° | 258°48.19' | S 23°02.32' | 0.1966' | 242°43.30' | 14.5071° | 122°44.90' | N 25°10.76' | 5.7234' | 54.0288' | 5°28.21' | **19** |
| **20** | 121°39.73' | 14.9952° | 258°50.94' | S 23°02.52' | 0.1958' | 257°13.78' | 14.5080° | 123°16.89' | N 25°04.92' | 5.8375' | 54.0277' | 20°30.67' | **20** |
| **21** | 136°39.44' | 14.9952° | 258°53.69' | S 23°02.71' | 0.1950' | 271°44.32' | 14.5089° | 123°48.82' | N 24°58.97' | 5.9510' | 54.0268' | 35°33.14' | **21** |
| **22** | 151°39.15' | 14.9952° | 258°56.45' | S 23°02.91' | 0.1942' | 286°14.91' | 14.5099° | 124°20.69' | N 24°52.91' | 6.0638' | 54.0261' | 50°35.60' | **22** |
| **23** | 166°38.87' | 14.9952° | 258°59.20' | S 23°03.10' | 0.1934' | 300°45.56' | 14.5108° | 124°52.51' | N 24°46.73' | 6.1759' | 54.0257' | 65°38.06' | **23** |
| **24** | 181°38.58' | 14.9952° | 259°01.95' | S 23°03.29' | 0.1927' | 315°16.26' | 14.5117° | 125°24.27' | N 24°40.45' | 6.2873' | 54.0255' | 80°40.53' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2424' | hp (π) 0.1488' | ½Ø 14.7256' | 90.0590941769352 % -gib | |
| EoT at 12:00 UTC : +6m 48s (δ -1.15 s/h) | | Phase at 12:00 UTC : 216.56° | | |
| Meridian Pass. Time : 11:53:11.875 | | Age : 16.8 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.26') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 168°32.29' | 271°09.10' | S 24°11.68' | 6°12.84' | 73°28.54' | N 24°58.69' | 79°47.13' | 359°54.26' | S 1°32.67' | 116°19.57' | 323°21.82' | S 15°49.65' | **00** |
| **01** | 183°31.31' | 271°12.54' | S 24°11.75' | 21°16.35' | 73°27.51' | N 24°58.67' | 94°49.46' | 359°54.39' | S 1°32.60' | 131°21.85' | 323°22.01' | S 15°49.59' | **01** |
| **02** | 198°30.34' | 271°15.98' | S 24°11.81' | 36°19.85' | 73°26.47' | N 24°58.65' | 109°51.80' | 359°54.52' | S 1°32.53' | 146°24.12' | 323°22.20' | S 15°49.52' | **02** |
| **03** | 213°29.37' | 271°19.41' | S 24°11.87' | 51°23.35' | 73°25.43' | N 24°58.63' | 124°54.13' | 359°54.65' | S 1°32.46' | 161°26.40' | 323°22.38' | S 15°49.46' | **03** |
| **04** | 228°28.39' | 271°22.85' | S 24°11.93' | 66°26.85' | 73°24.39' | N 24°58.60' | 139°56.47' | 359°54.78' | S 1°32.39' | 176°28.67' | 323°22.57' | S 15°49.40' | **04** |
| **05** | 243°27.42' | 271°26.29' | S 24°11.99' | 81°30.35' | 73°23.36' | N 24°58.58' | 154°58.80' | 359°54.91' | S 1°32.32' | 191°30.95' | 323°22.76' | S 15°49.33' | **05** |
| **06** | 258°26.44' | 271°29.73' | S 24°12.05' | 96°33.85' | 73°22.32' | N 24°58.56' | 170°01.14' | 359°55.04' | S 1°32.25' | 206°33.22' | 323°22.95' | S 15°49.27' | **06** |
| **07** | 273°25.47' | 271°33.17' | S 24°12.11' | 111°37.35' | 73°21.29' | N 24°58.54' | 185°03.47' | 359°55.17' | S 1°32.19' | 221°35.50' | 323°23.14' | S 15°49.21' | **07** |
| **08** | 288°24.49' | 271°36.61' | S 24°12.17' | 126°40.85' | 73°20.25' | N 24°58.51' | 200°05.80' | 359°55.30' | S 1°32.12' | 236°37.77' | 323°23.33' | S 15°49.14' | **08** |
| **09** | 303°23.52' | 271°40.05' | S 24°12.22' | 141°44.35' | 73°19.22' | N 24°58.49' | 215°08.14' | 359°55.43' | S 1°32.05' | 251°40.05' | 323°23.52' | S 15°49.08' | **09** |
| **10** | 318°22.54' | 271°43.49' | S 24°12.27' | 156°47.85' | 73°18.18' | N 24°58.47' | 230°10.47' | 359°55.56' | S 1°31.98' | 266°42.32' | 323°23.71' | S 15°49.02' | **10** |
| **11** | 333°21.57' | 271°46.93' | S 24°12.33' | 171°51.34' | 73°17.15' | N 24°58.44' | 245°12.80' | 359°55.69' | S 1°31.91' | 281°44.60' | 323°23.90' | S 15°48.95' | **11** |
| **12** | 348°20.59' | 271°50.37' | S 24°12.38' | 186°54.84' | 73°16.12' | N 24°58.42' | 260°15.14' | 359°55.82' | S 1°31.84' | 296°46.87' | 323°24.09' | S 15°48.89' | **12** |
| **13** | 3°19.62' | 271°53.80' | S 24°12.43' | 201°58.34' | 73°15.09' | N 24°58.39' | 275°17.47' | 359°55.95' | S 1°31.77' | 311°49.15' | 323°24.28' | S 15°48.83' | **13** |
| **14** | 18°18.64' | 271°57.24' | S 24°12.47' | 217°01.83' | 73°14.06' | N 24°58.37' | 290°19.80' | 359°56.09' | S 1°31.70' | 326°51.42' | 323°24.47' | S 15°48.76' | **14** |
| **15** | 33°17.67' | 272°00.68' | S 24°12.52' | 232°05.33' | 73°13.02' | N 24°58.35' | 305°22.13' | 359°56.22' | S 1°31.63' | 341°53.69' | 323°24.66' | S 15°48.70' | **15** |
| **16** | 48°16.69' | 272°04.12' | S 24°12.57' | 247°08.82' | 73°11.99' | N 24°58.32' | 320°24.46' | 359°56.35' | S 1°31.56' | 356°55.97' | 323°24.85' | S 15°48.64' | **16** |
| **17** | 63°15.72' | 272°07.56' | S 24°12.61' | 262°12.31' | 73°10.96' | N 24°58.30' | 335°26.79' | 359°56.49' | S 1°31.49' | 11°58.24' | 323°25.04' | S 15°48.57' | **17** |
| **18** | 78°14.74' | 272°11.00' | S 24°12.65' | 277°15.81' | 73°09.94' | N 24°58.27' | 350°29.12' | 359°56.62' | S 1°31.42' | 27°00.51' | 323°25.23' | S 15°48.51' | **18** |
| **19** | 93°13.77' | 272°14.44' | S 24°12.70' | 292°19.30' | 73°08.91' | N 24°58.25' | 5°31.45' | 359°56.75' | S 1°31.35' | 42°02.79' | 323°25.42' | S 15°48.45' | **19** |
| **20** | 108°12.79' | 272°17.88' | S 24°12.74' | 307°22.79' | 73°07.88' | N 24°58.22' | 20°33.78' | 359°56.89' | S 1°31.28' | 57°05.06' | 323°25.61' | S 15°48.38' | **20** |
| **21** | 123°11.82' | 272°21.32' | S 24°12.78' | 322°26.28' | 73°06.85' | N 24°58.20' | 35°36.11' | 359°57.02' | S 1°31.21' | 72°07.34' | 323°25.80' | S 15°48.32' | **21** |
| **22** | 138°10.84' | 272°24.76' | S 24°12.81' | 337°29.78' | 73°05.82' | N 24°58.17' | 50°38.44' | 359°57.16' | S 1°31.14' | 87°09.61' | 323°25.99' | S 15°48.25' | **22** |
| **23** | 153°09.87' | 272°28.20' | S 24°12.85' | 352°33.27' | 73°04.80' | N 24°58.14' | 65°40.77' | 359°57.29' | S 1°31.06' | 102°11.88' | 323°26.18' | S 15°48.19' | **23** |
| **24** | 168°08.89' | 272°31.64' | S 24°12.89' | 7°36.76' | 73°03.77' | N 24°58.12' | 80°43.10' | 359°57.43' | S 1°30.99' | 117°14.15' | 323°26.37' | S 15°48.13' | **24** |
| | δ 14.9838° | | *d* 0.0651' | δ 15.0584° | | *d* 0.0217' | δ 15.0389° | | *d* 0.0682' | δ 15.0379° | | *d* 0.0629' | |

## *Monday, December 12th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 181°38.58' | 14.9952° | 259°01.95' | S 23°03.29' | 0.1927' | 315°16.26' | 14.5117° | 125°24.27' | N 24°40.45' | 6.2873' | 54.0255' | 80°40.53' | **00** |
| **01** | 196°38.29' | 14.9952° | 259°04.70' | S 23°03.49' | 0.1919' | 329°47.02' | 14.5127° | 125°55.97' | N 24°34.05' | 6.3980' | 54.0255' | 95°42.99' | **01** |
| **02** | 211°38.00' | 14.9952° | 259°07.46' | S 23°03.68' | 0.1911' | 344°17.84' | 14.5136° | 126°27.62' | N 24°27.54' | 6.5079' | 54.0257' | 110°45.46' | **02** |
| **03** | 226°37.71' | 14.9952° | 259°10.21' | S 23°03.87' | 0.1903' | 358°48.72' | 14.5146° | 126°59.20' | N 24°20.92' | 6.6172' | 54.0261' | 125°47.92' | **03** |
| **04** | 241°37.42' | 14.9952° | 259°12.97' | S 23°04.06' | 0.1895' | 13°19.65' | 14.5156° | 127°30.73' | N 24°14.20' | 6.7257' | 54.0268' | 140°50.38' | **04** |
| **05** | 256°37.13' | 14.9952° | 259°15.72' | S 23°04.25' | 0.1887' | 27°50.64' | 14.5165° | 128°02.21' | N 24°07.36' | 6.8335' | 54.0277' | 155°52.85' | **05** |
| **06** | 271°36.84' | 14.9952° | 259°18.47' | S 23°04.43' | 0.1879' | 42°21.69' | 14.5175° | 128°33.62' | N 24°00.42' | 6.9405' | 54.0289' | 170°55.31' | **06** |
| **07** | 286°36.55' | 14.9952° | 259°21.23' | S 23°04.62' | 0.1871' | 56°52.80' | 14.5185° | 129°04.98' | N 23°53.38' | 7.0469' | 54.0302' | 185°57.78' | **07** |
| **08** | 301°36.26' | 14.9952° | 259°23.98' | S 23°04.81' | 0.1863' | 71°23.97' | 14.5195° | 129°36.27' | N 23°46.22' | 7.1525' | 54.0318' | 201°00.24' | **08** |
| **09** | 316°35.97' | 14.9952° | 259°26.74' | S 23°04.99' | 0.1855' | 85°55.20' | 14.5204° | 130°07.51' | N 23°38.97' | 7.2573' | 54.0336' | 216°02.71' | **09** |
| **10** | 331°35.68' | 14.9952° | 259°29.49' | S 23°05.18' | 0.1847' | 100°26.48' | 14.5214° | 130°38.69' | N 23°31.61' | 7.3615' | 54.0357' | 231°05.17' | **10** |
| **11** | 346°35.39' | 14.9952° | 259°32.25' | S 23°05.36' | 0.1839' | 114°57.82' | 14.5224° | 131°09.81' | N 23°24.14' | 7.4648' | 54.0380' | 246°07.63' | **11** |
| **12** | 1°35.10' | 14.9952° | 259°35.00' | S 23°05.54' | 0.1831' | 129°29.23' | 14.5234° | 131°40.87' | N 23°16.57' | 7.5675' | 54.0405' | 261°10.10' | **12** |
| **13** | 16°34.81' | 14.9952° | 259°37.76' | S 23°05.73' | 0.1824' | 144°00.69' | 14.5244° | 132°11.87' | N 23°08.90' | 7.6694' | 54.0433' | 276°12.56' | **13** |
| **14** | 31°34.52' | 14.9951° | 259°40.51' | S 23°05.91' | 0.1816' | 158°32.21' | 14.5254° | 132°42.82' | N 23°01.13' | 7.7705' | 54.0463' | 291°15.03' | **14** |
| **15** | 46°34.23' | 14.9951° | 259°43.27' | S 23°06.09' | 0.1808' | 173°03.79' | 14.5263° | 133°13.70' | N 22°53.26' | 7.8709' | 54.0496' | 306°17.49' | **15** |
| **16** | 61°33.93' | 14.9951° | 259°46.02' | S 23°06.27' | 0.1800' | 187°35.43' | 14.5273° | 133°44.53' | N 22°45.29' | 7.9705' | 54.0531' | 321°19.95' | **16** |
| **17** | 76°33.64' | 14.9951° | 259°48.78' | S 23°06.45' | 0.1792' | 202°07.13' | 14.5283° | 134°15.29' | N 22°37.22' | 8.0694' | 54.0568' | 336°22.42' | **17** |
| **18** | 91°33.35' | 14.9951° | 259°51.53' | S 23°06.63' | 0.1784' | 216°38.88' | 14.5293° | 134°46.00' | N 22°29.06' | 8.1676' | 54.0608' | 351°24.88' | **18** |
| **19** | 106°33.06' | 14.9951° | 259°54.29' | S 23°06.80' | 0.1776' | 231°10.70' | 14.5303° | 135°16.65' | N 22°20.79' | 8.2650' | 54.0651' | 6°27.35' | **19** |
| **20** | 121°32.77' | 14.9951° | 259°57.04' | S 23°06.98' | 0.1768' | 245°42.58' | 14.5313° | 135°47.23' | N 22°12.43' | 8.3616' | 54.0695' | 21°29.81' | **20** |
| **21** | 136°32.47' | 14.9951° | 259°59.80' | S 23°07.16' | 0.1760' | 260°14.51' | 14.5322° | 136°17.77' | N 22°03.97' | 8.4575' | 54.0743' | 36°32.28' | **21** |
| **22** | 151°32.18' | 14.9951° | 260°02.56' | S 23°07.33' | 0.1752' | 274°46.50' | 14.5332° | 136°48.24' | N 21°55.42' | 8.5526' | 54.0793' | 51°34.74' | **22** |
| **23** | 166°31.89' | 14.9951° | 260°05.31' | S 23°07.51' | 0.1744' | 289°18.55' | 14.5342° | 137°18.65' | N 21°46.77' | 8.6470' | 54.0845' | 66°37.20' | **23** |
| **24** | 181°31.60' | 14.9951° | 260°08.07' | S 23°07.68' | 0.1736' | 303°50.66' | 14.5352° | 137°49.01' | N 21°38.03' | 8.7406' | 54.0900' | 81°39.67' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2442' | hp (π) 0.1489' | ½Ø 14.7251' | 83.7793751061155 7% -gib | |
| EoT at 12:00 UTC : +6m 20s (δ -1.16 s/h) | | Phase at 12:00 UTC : 227.40° | | |
| Meridian Pass. Time : 11:53:39.607 | | Age : 17.7 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.26') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 168°08.89' | 272°31.64' | S 24°12.89' | 7°36.76' | 73°03.77' | N 24°58.12' | 80°43.10' | 359°57.43' | S 1°30.99' | 117°14.15' | 323°26.37' | S 15°48.13' | **00** |
| **01** | 183°07.91' | 272°35.08' | S 24°12.92' | 22°40.25' | 73°02.75' | N 24°58.09' | 95°45.43' | 359°57.56' | S 1°30.92' | 132°16.43' | 323°26.57' | S 15°48.06' | **01** |
| **02** | 198°06.94' | 272°38.52' | S 24°12.95' | 37°43.73' | 73°01.72' | N 24°58.06' | 110°47.76' | 359°57.70' | S 1°30.85' | 147°18.70' | 323°26.76' | S 15°48.00' | **02** |
| **03** | 213°05.96' | 272°41.96' | S 24°12.98' | 52°47.22' | 73°00.70' | N 24°58.04' | 125°50.09' | 359°57.83' | S 1°30.78' | 162°20.97' | 323°26.95' | S 15°47.94' | **03** |
| **04** | 228°04.99' | 272°45.40' | S 24°13.01' | 67°50.71' | 72°59.67' | N 24°58.01' | 140°52.41' | 359°57.97' | S 1°30.71' | 177°23.24' | 323°27.14' | S 15°47.87' | **04** |
| **05** | 243°04.01' | 272°48.84' | S 24°13.04' | 82°54.20' | 72°58.65' | N 24°57.98' | 155°54.74' | 359°58.11' | S 1°30.63' | 192°25.52' | 323°27.33' | S 15°47.81' | **05** |
| **06** | 258°03.04' | 272°52.28' | S 24°13.07' | 97°57.68' | 72°57.63' | N 24°57.96' | 170°57.07' | 359°58.25' | S 1°30.56' | 207°27.79' | 323°27.52' | S 15°47.74' | **06** |
| **07** | 273°02.06' | 272°55.72' | S 24°13.10' | 113°01.17' | 72°56.61' | N 24°57.93' | 185°59.39' | 359°58.38' | S 1°30.49' | 222°30.06' | 323°27.72' | S 15°47.68' | **07** |
| **08** | 288°01.09' | 272°59.15' | S 24°13.12' | 128°04.65' | 72°55.59' | N 24°57.90' | 201°01.72' | 359°58.52' | S 1°30.42' | 237°32.33' | 323°27.91' | S 15°47.61' | **08** |
| **09** | 303°00.11' | 273°02.59' | S 24°13.14' | 143°08.14' | 72°54.57' | N 24°57.87' | 216°04.05' | 359°58.66' | S 1°30.35' | 252°34.60' | 323°28.10' | S 15°47.55' | **09** |
| **10** | 317°59.14' | 273°06.03' | S 24°13.17' | 158°11.62' | 72°53.55' | N 24°57.85' | 231°06.37' | 359°58.80' | S 1°30.27' | 267°36.88' | 323°28.29' | S 15°47.49' | **10** |
| **11** | 332°58.16' | 273°09.47' | S 24°13.19' | 173°15.11' | 72°52.53' | N 24°57.82' | 246°08.70' | 359°58.94' | S 1°30.20' | 282°39.15' | 323°28.49' | S 15°47.42' | **11** |
| **12** | 347°57.18' | 273°12.91' | S 24°13.21' | 188°18.59' | 72°51.51' | N 24°57.79' | 261°11.02' | 359°59.08' | S 1°30.13' | 297°41.42' | 323°28.68' | S 15°47.36' | **12** |
| **13** | 2°56.21' | 273°16.35' | S 24°13.23' | 203°22.07' | 72°50.49' | N 24°57.76' | 276°13.35' | 359°59.22' | S 1°30.05' | 312°43.69' | 323°28.87' | S 15°47.29' | **13** |
| **14** | 17°55.23' | 273°19.79' | S 24°13.24' | 218°25.55' | 72°49.47' | N 24°57.73' | 291°15.67' | 359°59.35' | S 1°29.98' | 327°45.96' | 323°29.07' | S 15°47.23' | **14** |
| **15** | 32°54.26' | 273°23.23' | S 24°13.26' | 233°29.03' | 72°48.46' | N 24°57.70' | 306°18.00' | 359°59.50' | S 1°29.91' | 342°48.23' | 323°29.26' | S 15°47.16' | **15** |
| **16** | 47°53.28' | 273°26.67' | S 24°13.27' | 248°32.51' | 72°47.44' | N 24°57.67' | 321°20.32' | 359°59.64' | S 1°29.84' | 357°50.50' | 323°29.45' | S 15°47.10' | **16** |
| **17** | 62°52.31' | 273°30.11' | S 24°13.29' | 263°35.99' | 72°46.43' | N 24°57.64' | 336°22.64' | 359°59.78' | S 1°29.76' | 12°52.77' | 323°29.65' | S 15°47.03' | **17** |
| **18** | 77°51.33' | 273°33.55' | S 24°13.30' | 278°39.47' | 72°45.41' | N 24°57.62' | 351°24.97' | 359°59.92' | S 1°29.69' | 27°55.04' | 323°29.84' | S 15°46.97' | **18** |
| **19** | 92°50.36' | 273°36.99' | S 24°13.31' | 293°42.95' | 72°44.40' | N 24°57.59' | 6°27.29' | 0°00.06' | S 1°29.61' | 42°57.31' | 323°30.03' | S 15°46.91' | **19** |
| **20** | 107°49.38' | 273°40.43' | S 24°13.32' | 308°46.43' | 72°43.38' | N 24°57.56' | 21°29.61' | 0°00.20' | S 1°29.54' | 57°59.59' | 323°30.23' | S 15°46.84' | **20** |
| **21** | 122°48.40' | 273°43.87' | S 24°13.33' | 323°49.90' | 72°42.37' | N 24°57.53' | 36°31.93' | 0°00.34' | S 1°29.47' | 73°01.86' | 323°30.42' | S 15°46.78' | **21** |
| **22** | 137°47.43' | 273°47.31' | S 24°13.33' | 338°53.38' | 72°41.36' | N 24°57.50' | 51°34.26' | 0°00.48' | S 1°29.39' | 88°04.13' | 323°30.61' | S 15°46.71' | **22** |
| **23** | 152°46.45' | 273°50.75' | S 24°13.34' | 353°56.86' | 72°40.35' | N 24°57.47' | 66°36.58' | 0°00.63' | S 1°29.32' | 103°06.40' | 323°30.81' | S 15°46.65' | **23** |
| **24** | 167°45.48' | 273°54.19' | S 24°13.34' | 9°00.33' | 72°39.34' | N 24°57.43' | 81°38.90' | 0°00.77' | S 1°29.24' | 118°08.67' | 323°31.00' | S 15°46.58' | **24** |
| | δ 14.9837° | | *d* 0.0340' | δ 15.0582° | | *d* 0.0263' | δ 15.0388° | | *d* 0.0714' | δ 15.0379° | | *d* 0.0639' | |

## *Tuesday, December 13th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 181°31.60' | 14.9951° | 260°08.07' | S 23°07.68' | 0.1736' | 303°50.66' | 14.5352° | 137°49.01' | N 21°38.03' | 8.7406' | 54.0900' | 81°39.67' | **00** |
| **01** | 196°31.30' | 14.9951° | 260°10.83' | S 23°07.85' | 0.1728' | 318°22.83' | 14.5361° | 138°19.30' | N 21°29.20' | 8.8335' | 54.0957' | 96°42.13' | **01** |
| **02** | 211°31.01' | 14.9951° | 260°13.58' | S 23°08.02' | 0.1720' | 332°55.05' | 14.5371° | 138°49.54' | N 21°20.27' | 8.9256' | 54.1017' | 111°44.60' | **02** |
| **03** | 226°30.72' | 14.9951° | 260°16.34' | S 23°08.20' | 0.1712' | 347°27.34' | 14.5380° | 139°19.72' | N 21°11.26' | 9.0170' | 54.1080' | 126°47.06' | **03** |
| **04** | 241°30.43' | 14.9951° | 260°19.10' | S 23°08.37' | 0.1704' | 1°59.68' | 14.5390° | 139°49.85' | N 21°02.15' | 9.1076' | 54.1145' | 141°49.52' | **04** |
| **05** | 256°30.13' | 14.9951° | 260°21.86' | S 23°08.54' | 0.1696' | 16°32.07' | 14.5399° | 140°19.92' | N 20°52.95' | 9.1975' | 54.1213' | 156°51.99' | **05** |
| **06** | 271°29.84' | 14.9951° | 260°24.61' | S 23°08.70' | 0.1688' | 31°04.53' | 14.5409° | 140°49.93' | N 20°43.66' | 9.2866' | 54.1283' | 171°54.45' | **06** |
| **07** | 286°29.55' | 14.9951° | 260°27.37' | S 23°08.87' | 0.1680' | 45°37.04' | 14.5418° | 141°19.88' | N 20°34.29' | 9.3749' | 54.1356' | 186°56.92' | **07** |
| **08** | 301°29.25' | 14.9951° | 260°30.13' | S 23°09.04' | 0.1672' | 60°09.60' | 14.5428° | 141°49.78' | N 20°24.83' | 9.4626' | 54.1431' | 201°59.38' | **08** |
| **09** | 316°28.96' | 14.9951° | 260°32.89' | S 23°09.21' | 0.1664' | 74°42.22' | 14.5437° | 142°19.62' | N 20°15.28' | 9.5494' | 54.1510' | 217°01.85' | **09** |
| **10** | 331°28.66' | 14.9951° | 260°35.65' | S 23°09.37' | 0.1656' | 89°14.90' | 14.5446° | 142°49.41' | N 20°05.64' | 9.6356' | 54.1590' | 232°04.31' | **10** |
| **11** | 346°28.37' | 14.9951° | 260°38.40' | S 23°09.54' | 0.1648' | 103°47.63' | 14.5455° | 143°19.14' | N 19°55.92' | 9.7210' | 54.1674' | 247°06.77' | **11** |
| **12** | 1°28.07' | 14.9951° | 260°41.16' | S 23°09.70' | 0.1641' | 118°20.42' | 14.5464° | 143°48.82' | N 19°46.11' | 9.8056' | 54.1760' | 262°09.24' | **12** |
| **13** | 16°27.78' | 14.9951° | 260°43.92' | S 23°09.86' | 0.1633' | 132°53.26' | 14.5473° | 144°18.44' | N 19°36.22' | 9.8895' | 54.1849' | 277°11.70' | **13** |
| **14** | 31°27.49' | 14.9951° | 260°46.68' | S 23°10.03' | 0.1625' | 147°26.15' | 14.5482° | 144°48.01' | N 19°26.25' | 9.9727' | 54.1940' | 292°14.17' | **14** |
| **15** | 46°27.19' | 14.9951° | 260°49.44' | S 23°10.19' | 0.1617' | 161°59.10' | 14.5491° | 145°17.53' | N 19°16.20' | 10.0551' | 54.2034' | 307°16.63' | **15** |
| **16** | 61°26.90' | 14.9951° | 260°52.20' | S 23°10.35' | 0.1609' | 176°32.10' | 14.5500° | 145°47.00' | N 19°06.06' | 10.1369' | 54.2131' | 322°19.09' | **16** |
| **17** | 76°26.60' | 14.9951° | 260°54.96' | S 23°10.51' | 0.1601' | 191°05.15' | 14.5509° | 146°16.41' | N 18°55.84' | 10.2178' | 54.2231' | 337°21.56' | **17** |
| **18** | 91°26.31' | 14.9951° | 260°57.72' | S 23°10.67' | 0.1593' | 205°38.25' | 14.5517° | 146°45.77' | N 18°45.54' | 10.2981' | 54.2333' | 352°24.02' | **18** |
| **19** | 106°26.01' | 14.9951° | 261°00.48' | S 23°10.83' | 0.1585' | 220°11.41' | 14.5526° | 147°15.08' | N 18°35.17' | 10.3776' | 54.2438' | 7°26.49' | **19** |
| **20** | 121°25.71' | 14.9951° | 261°03.24' | S 23°10.98' | 0.1577' | 234°44.61' | 14.5534° | 147°44.34' | N 18°24.71' | 10.4564' | 54.2546' | 22°28.95' | **20** |
| **21** | 136°25.42' | 14.9951° | 261°06.00' | S 23°11.14' | 0.1569' | 249°17.87' | 14.5542° | 148°13.55' | N 18°14.18' | 10.5344' | 54.2656' | 37°31.42' | **21** |
| **22** | 151°25.12' | 14.9951° | 261°08.76' | S 23°11.30' | 0.1561' | 263°51.17' | 14.5551° | 148°42.71' | N 18°03.56' | 10.6118' | 54.2769' | 52°33.88' | **22** |
| **23** | 166°24.83' | 14.9951° | 261°11.52' | S 23°11.45' | 0.1553' | 278°24.52' | 14.5559° | 149°11.82' | N 17°52.88' | 10.6884' | 54.2885' | 67°36.34' | **23** |
| **24** | 181°24.53' | 14.9951° | 261°14.28' | S 23°11.61' | 0.1545' | 292°57.92' | 14.5567° | 149°40.88' | N 17°42.11' | 10.7643' | 54.3004' | 82°38.81' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2459' | hp (π) 0.1489' | ½Ø 14.7620' | 76.3051070592705<br>3% -gib |
| | EoT at 12:00 UTC : +5m 52s (δ -1.18 s/h) | | Phase at 12:00 UTC : 238.25° | |
| | Meridian Pass. Time : 11:54:07.701 | | Age : 18.5 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.26') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 167°45.48' | 273°54.19' | S 24°13.34' | 9°00.33' | 72°39.34' | N 24°57.43' | 81°38.90' | 0°00.77' | S 1°29.24' | 118°08.67' | 323°31.00' | S 15°46.58' | **00** |
| **01** | 182°44.50' | 273°57.63' | S 24°13.34' | 24°03.80' | 72°38.33' | N 24°57.40' | 96°41.22' | 0°00.91' | S 1°29.17' | 133°10.93' | 323°31.20' | S 15°46.52' | **01** |
| **02** | 197°43.53' | 274°01.07' | S 24°13.35' | 39°07.28' | 72°37.32' | N 24°57.37' | 111°43.54' | 0°01.06' | S 1°29.09' | 148°13.20' | 323°31.39' | S 15°46.45' | **02** |
| **03** | 212°42.55' | 274°04.51' | S 24°13.35' | 54°10.75' | 72°36.31' | N 24°57.34' | 126°45.86' | 0°01.20' | S 1°29.02' | 163°15.47' | 323°31.59' | S 15°46.39' | **03** |
| **04** | 227°41.57' | 274°07.95' | S 24°13.35' | 69°14.22' | 72°35.30' | N 24°57.31' | 141°48.18' | 0°01.34' | S 1°28.95' | 178°17.74' | 323°31.78' | S 15°46.32' | **04** |
| **05** | 242°40.60' | 274°11.39' | S 24°13.34' | 84°17.69' | 72°34.29' | N 24°57.28' | 156°50.50' | 0°01.49' | S 1°28.87' | 193°20.01' | 323°31.98' | S 15°46.26' | **05** |
| **06** | 257°39.62' | 274°14.83' | S 24°13.34' | 99°21.17' | 72°33.29' | N 24°57.25' | 171°52.82' | 0°01.63' | S 1°28.80' | 208°22.28' | 323°32.17' | S 15°46.19' | **06** |
| **07** | 272°38.65' | 274°18.27' | S 24°13.33' | 114°24.64' | 72°32.28' | N 24°57.22' | 186°55.14' | 0°01.78' | S 1°28.72' | 223°24.55' | 323°32.37' | S 15°46.13' | **07** |
| **08** | 287°37.67' | 274°21.71' | S 24°13.33' | 129°28.11' | 72°31.28' | N 24°57.18' | 201°57.46' | 0°01.92' | S 1°28.64' | 238°26.82' | 323°32.56' | S 15°46.06' | **08** |
| **09** | 302°36.70' | 274°25.15' | S 24°13.32' | 144°31.57' | 72°30.27' | N 24°57.15' | 216°59.78' | 0°02.07' | S 1°28.57' | 253°29.09' | 323°32.76' | S 15°46.00' | **09** |
| **10** | 317°35.72' | 274°28.59' | S 24°13.31' | 159°35.04' | 72°29.27' | N 24°57.12' | 232°02.10' | 0°02.21' | S 1°28.49' | 268°31.36' | 323°32.95' | S 15°45.93' | **10** |
| **11** | 332°34.75' | 274°32.03' | S 24°13.30' | 174°38.51' | 72°28.26' | N 24°57.09' | 247°04.41' | 0°02.36' | S 1°28.42' | 283°33.63' | 323°33.15' | S 15°45.87' | **11** |
| **12** | 347°33.77' | 274°35.47' | S 24°13.29' | 189°41.98' | 72°27.26' | N 24°57.06' | 262°06.73' | 0°02.51' | S 1°28.34' | 298°35.89' | 323°33.34' | S 15°45.80' | **12** |
| **13** | 2°32.79' | 274°38.91' | S 24°13.28' | 204°45.44' | 72°26.26' | N 24°57.02' | 277°09.05' | 0°02.65' | S 1°28.27' | 313°38.16' | 323°33.54' | S 15°45.73' | **13** |
| **14** | 17°31.82' | 274°42.35' | S 24°13.26' | 219°48.91' | 72°25.26' | N 24°56.99' | 292°11.37' | 0°02.80' | S 1°28.19' | 328°40.43' | 323°33.74' | S 15°45.67' | **14** |
| **15** | 32°30.84' | 274°45.79' | S 24°13.25' | 234°52.37' | 72°24.26' | N 24°56.96' | 307°13.68' | 0°02.95' | S 1°28.11' | 343°42.70' | 323°33.93' | S 15°45.60' | **15** |
| **16** | 47°29.87' | 274°49.23' | S 24°13.23' | 249°55.83' | 72°23.26' | N 24°56.92' | 322°16.00' | 0°03.10' | S 1°28.04' | 358°44.97' | 323°34.13' | S 15°45.54' | **16** |
| **17** | 62°28.89' | 274°52.67' | S 24°13.21' | 264°59.30' | 72°22.26' | N 24°56.89' | 337°18.32' | 0°03.24' | S 1°27.96' | 13°47.23' | 323°34.33' | S 15°45.47' | **17** |
| **18** | 77°27.92' | 274°56.10' | S 24°13.19' | 280°02.76' | 72°21.26' | N 24°56.86' | 352°20.63' | 0°03.39' | S 1°27.88' | 28°49.50' | 323°34.52' | S 15°45.41' | **18** |
| **19** | 92°26.94' | 274°59.54' | S 24°13.17' | 295°06.22' | 72°20.27' | N 24°56.82' | 7°22.95' | 0°03.54' | S 1°27.81' | 43°51.77' | 323°34.72' | S 15°45.34' | **19** |
| **20** | 107°25.97' | 275°02.98' | S 24°13.15' | 310°09.68' | 72°19.27' | N 24°56.79' | 22°25.26' | 0°03.69' | S 1°27.73' | 58°54.04' | 323°34.92' | S 15°45.28' | **20** |
| **21** | 122°24.99' | 275°06.42' | S 24°13.13' | 325°13.14' | 72°18.27' | N 24°56.76' | 37°27.58' | 0°03.84' | S 1°27.65' | 73°56.30' | 323°35.11' | S 15°45.21' | **21** |
| **22** | 137°24.02' | 275°09.86' | S 24°13.10' | 340°16.60' | 72°17.28' | N 24°56.72' | 52°29.89' | 0°03.99' | S 1°27.57' | 88°58.57' | 323°35.31' | S 15°45.14' | **22** |
| **23** | 152°23.04' | 275°13.30' | S 24°13.08' | 355°20.06' | 72°16.28' | N 24°56.69' | 67°32.21' | 0°04.14' | S 1°27.50' | 104°00.84' | 323°35.51' | S 15°45.08' | **23** |
| **24** | 167°22.07' | 275°16.74' | S 24°13.05' | 10°23.52' | 72°15.29' | N 24°56.65' | 82°34.52' | 0°04.29' | S 1°27.42' | 119°03.10' | 323°35.70' | S 15°45.01' | **24** |
| | δ 14.9837° | | *d* 0.0028' | δ 15.0579° | | *d* 0.0307' | δ 15.0387° | | *d* 0.0745' | δ 15.0378° | | *d* 0.0649' | |

## *Wednesday, December 14th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 181°24.53' | 14.9951° | 261°14.28' | S 23°11.61' | 0.1545' | 292°57.92' | 14.5567° | 149°40.88' | N 17°42.11' | 10.7643' | 54.3004' | 82°38.81' | **00** |
| **01** | 196°24.24' | 14.9951° | 261°17.04' | S 23°11.76' | 0.1537' | 307°31.37' | 14.5575° | 150°09.90' | N 17°31.27' | 10.8395' | 54.3126' | 97°41.27' | **01** |
| **02** | 211°23.94' | 14.9951° | 261°19.80' | S 23°11.91' | 0.1529' | 322°04.87' | 14.5583° | 150°38.87' | N 17°20.36' | 10.9139' | 54.3250' | 112°43.74' | **02** |
| **03** | 226°23.64' | 14.9951° | 261°22.56' | S 23°12.07' | 0.1521' | 336°38.41' | 14.5590° | 151°07.79' | N 17°09.37' | 10.9877' | 54.3377' | 127°46.20' | **03** |
| **04** | 241°23.35' | 14.9951° | 261°25.32' | S 23°12.22' | 0.1513' | 351°12.00' | 14.5598° | 151°36.67' | N 16°58.31' | 11.0607' | 54.3507' | 142°48.66' | **04** |
| **05** | 256°23.05' | 14.9951° | 261°28.08' | S 23°12.37' | 0.1505' | 5°45.63' | 14.5605° | 152°05.50' | N 16°47.18' | 11.1331' | 54.3639' | 157°51.13' | **05** |
| **06** | 271°22.75' | 14.9951° | 261°30.84' | S 23°12.52' | 0.1497' | 20°19.31' | 14.5613° | 152°34.28' | N 16°35.97' | 11.2047' | 54.3775' | 172°53.59' | **06** |
| **07** | 286°22.46' | 14.9950° | 261°33.60' | S 23°12.67' | 0.1489' | 34°53.03' | 14.5620° | 153°03.03' | N 16°24.70' | 11.2757' | 54.3913' | 187°56.06' | **07** |
| **08** | 301°22.16' | 14.9950° | 261°36.36' | S 23°12.81' | 0.1481' | 49°26.79' | 14.5627° | 153°31.73' | N 16°13.35' | 11.3459' | 54.4054' | 202°58.52' | **08** |
| **09** | 316°21.86' | 14.9950° | 261°39.12' | S 23°12.96' | 0.1473' | 64°00.60' | 14.5634° | 154°00.39' | N 16°01.93' | 11.4154' | 54.4198' | 218°00.98' | **09** |
| **10** | 331°21.56' | 14.9950° | 261°41.89' | S 23°13.11' | 0.1465' | 78°34.44' | 14.5641° | 154°29.00' | N 15°50.45' | 11.4843' | 54.4345' | 233°03.45' | **10** |
| **11** | 346°21.27' | 14.9950° | 261°44.65' | S 23°13.25' | 0.1457' | 93°08.33' | 14.5648° | 154°57.58' | N 15°38.90' | 11.5524' | 54.4494' | 248°05.91' | **11** |
| **12** | 1°20.97' | 14.9950° | 261°47.41' | S 23°13.40' | 0.1449' | 107°42.26' | 14.5655° | 155°26.12' | N 15°27.28' | 11.6199' | 54.4647' | 263°08.38' | **12** |
| **13** | 16°20.67' | 14.9950° | 261°50.17' | S 23°13.54' | 0.1441' | 122°16.23' | 14.5661° | 155°54.61' | N 15°15.59' | 11.6866' | 54.4802' | 278°10.84' | **13** |
| **14** | 31°20.37' | 14.9950° | 261°52.93' | S 23°13.69' | 0.1433' | 136°50.23' | 14.5668° | 156°23.07' | N 15°03.84' | 11.7527' | 54.4960' | 293°13.31' | **14** |
| **15** | 46°20.07' | 14.9950° | 261°55.69' | S 23°13.83' | 0.1424' | 151°24.27' | 14.5674° | 156°51.49' | N 14°52.02' | 11.8181' | 54.5121' | 308°15.77' | **15** |
| **16** | 61°19.78' | 14.9950° | 261°58.46' | S 23°13.97' | 0.1416' | 165°58.35' | 14.5680° | 157°19.88' | N 14°40.14' | 11.8828' | 54.5285' | 323°18.23' | **16** |
| **17** | 76°19.48' | 14.9950° | 262°01.22' | S 23°14.11' | 0.1408' | 180°32.47' | 14.5686° | 157°48.23' | N 14°28.19' | 11.9468' | 54.5452' | 338°20.70' | **17** |
| **18** | 91°19.18' | 14.9950° | 262°03.98' | S 23°14.25' | 0.1400' | 195°06.62' | 14.5692° | 158°16.54' | N 14°16.18' | 12.0101' | 54.5621' | 353°23.16' | **18** |
| **19** | 106°18.88' | 14.9950° | 262°06.74' | S 23°14.39' | 0.1392' | 209°40.80' | 14.5697° | 158°44.82' | N 14°04.11' | 12.0728' | 54.5794' | 8°25.63' | **19** |
| **20** | 121°18.58' | 14.9950° | 262°09.51' | S 23°14.53' | 0.1384' | 224°15.02' | 14.5703° | 159°13.07' | N 13°51.97' | 12.1348' | 54.5969' | 23°28.09' | **20** |
| **21** | 136°18.28' | 14.9950° | 262°12.27' | S 23°14.67' | 0.1376' | 238°49.27' | 14.5708° | 159°41.28' | N 13°39.78' | 12.1961' | 54.6147' | 38°30.55' | **21** |
| **22** | 151°17.98' | 14.9950° | 262°15.03' | S 23°14.80' | 0.1368' | 253°23.55' | 14.5714° | 160°09.46' | N 13°27.52' | 12.2567' | 54.6328' | 53°33.02' | **22** |
| **23** | 166°17.69' | 14.9950° | 262°17.80' | S 23°14.94' | 0.1360' | 267°57.87' | 14.5719° | 160°37.61' | N 13°15.20' | 12.3167' | 54.6512' | 68°35.48' | **23** |
| **24** | 181°17.39' | 14.9950° | 262°20.56' | S 23°15.07' | 0.1352' | 282°32.21' | 14.5724° | 161°05.74' | N 13°02.83' | 12.3759' | 54.6698' | 83°37.95' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2475' | hp (π) 0.1489' | ½Ø 14.8407' | 67.8437905632654 9% -gib | |
| EoT at 12:00 UTC : +5m 23s (δ -1.19 s/h) | | Phase at 12:00 UTC : 249.16° | | |
| Meridian Pass. Time : 11:54:36.127 | | Age : 19.4 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.26') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 167°22.07' | 275°16.74' | S 24°13.05' | 10°23.52' | 72°15.29' | N 24°56.65' | 82°34.52' | 0°04.29' | S 1°27.42' | 119°03.10' | 323°35.70' | S 15°45.01' | **00** |
| **01** | 182°21.09' | 275°20.18' | S 24°13.02' | 25°26.97' | 72°14.30' | N 24°56.62' | 97°36.83' | 0°04.44' | S 1°27.34' | 134°05.37' | 323°35.90' | S 15°44.95' | **01** |
| **02** | 197°20.12' | 275°23.62' | S 24°12.99' | 40°30.43' | 72°13.30' | N 24°56.58' | 112°39.15' | 0°04.59' | S 1°27.26' | 149°07.64' | 323°36.10' | S 15°44.88' | **02** |
| **03** | 212°19.14' | 275°27.06' | S 24°12.96' | 55°33.89' | 72°12.31' | N 24°56.55' | 127°41.46' | 0°04.74' | S 1°27.19' | 164°09.90' | 323°36.30' | S 15°44.81' | **03** |
| **04** | 227°18.17' | 275°30.50' | S 24°12.93' | 70°37.34' | 72°11.32' | N 24°56.51' | 142°43.77' | 0°04.89' | S 1°27.11' | 179°12.17' | 323°36.49' | S 15°44.75' | **04** |
| **05** | 242°17.19' | 275°33.94' | S 24°12.89' | 85°40.80' | 72°10.33' | N 24°56.48' | 157°46.09' | 0°05.04' | S 1°27.03' | 194°14.44' | 323°36.69' | S 15°44.68' | **05** |
| **06** | 257°16.22' | 275°37.38' | S 24°12.86' | 100°44.25' | 72°09.34' | N 24°56.44' | 172°48.40' | 0°05.19' | S 1°26.95' | 209°16.70' | 323°36.89' | S 15°44.62' | **06** |
| **07** | 272°15.24' | 275°40.82' | S 24°12.82' | 115°47.70' | 72°08.36' | N 24°56.41' | 187°50.71' | 0°05.35' | S 1°26.87' | 224°18.97' | 323°37.09' | S 15°44.55' | **07** |
| **08** | 287°14.27' | 275°44.26' | S 24°12.79' | 130°51.15' | 72°07.37' | N 24°56.37' | 202°53.02' | 0°05.50' | S 1°26.80' | 239°21.23' | 323°37.29' | S 15°44.48' | **08** |
| **09** | 302°13.29' | 275°47.69' | S 24°12.75' | 145°54.60' | 72°06.38' | N 24°56.33' | 217°55.33' | 0°05.65' | S 1°26.72' | 254°23.50' | 323°37.49' | S 15°44.42' | **09** |
| **10** | 317°12.32' | 275°51.13' | S 24°12.71' | 160°58.05' | 72°05.40' | N 24°56.30' | 232°57.64' | 0°05.81' | S 1°26.64' | 269°25.76' | 323°37.68' | S 15°44.35' | **10** |
| **11** | 332°11.34' | 275°54.57' | S 24°12.67' | 176°01.50' | 72°04.41' | N 24°56.26' | 247°59.95' | 0°05.96' | S 1°26.56' | 284°28.03' | 323°37.88' | S 15°44.28' | **11** |
| **12** | 347°10.37' | 275°58.01' | S 24°12.62' | 191°04.95' | 72°03.43' | N 24°56.23' | 263°02.26' | 0°06.11' | S 1°26.48' | 299°30.30' | 323°38.08' | S 15°44.22' | **12** |
| **13** | 2°09.39' | 276°01.45' | S 24°12.58' | 206°08.40' | 72°02.44' | N 24°56.19' | 278°04.57' | 0°06.27' | S 1°26.40' | 314°32.56' | 323°38.28' | S 15°44.15' | **13** |
| **14** | 17°08.42' | 276°04.89' | S 24°12.53' | 221°11.85' | 72°01.46' | N 24°56.15' | 293°06.88' | 0°06.42' | S 1°26.32' | 329°34.83' | 323°38.48' | S 15°44.09' | **14** |
| **15** | 32°07.44' | 276°08.33' | S 24°12.49' | 236°15.29' | 72°00.48' | N 24°56.12' | 308°09.19' | 0°06.58' | S 1°26.24' | 344°37.09' | 323°38.68' | S 15°44.02' | **15** |
| **16** | 47°06.47' | 276°11.77' | S 24°12.44' | 251°18.74' | 71°59.50' | N 24°56.08' | 323°11.50' | 0°06.73' | S 1°26.16' | 359°39.36' | 323°38.88' | S 15°43.95' | **16** |
| **17** | 62°05.49' | 276°15.20' | S 24°12.39' | 266°22.18' | 71°58.52' | N 24°56.04' | 338°13.81' | 0°06.89' | S 1°26.08' | 14°41.62' | 323°39.08' | S 15°43.89' | **17** |
| **18** | 77°04.52' | 276°18.64' | S 24°12.34' | 281°25.63' | 71°57.54' | N 24°56.00' | 353°16.12' | 0°07.04' | S 1°26.00' | 29°43.88' | 323°39.28' | S 15°43.82' | **18** |
| **19** | 92°03.54' | 276°22.08' | S 24°12.29' | 296°29.07' | 71°56.56' | N 24°55.97' | 8°18.43' | 0°07.20' | S 1°25.92' | 44°46.15' | 323°39.48' | S 15°43.75' | **19** |
| **20** | 107°02.57' | 276°25.52' | S 24°12.23' | 311°32.51' | 71°55.58' | N 24°55.93' | 23°20.74' | 0°07.35' | S 1°25.84' | 59°48.41' | 323°39.68' | S 15°43.69' | **20** |
| **21** | 122°01.60' | 276°28.96' | S 24°12.18' | 326°35.95' | 71°54.60' | N 24°55.89' | 38°23.04' | 0°07.51' | S 1°25.76' | 74°50.68' | 323°39.88' | S 15°43.62' | **21** |
| **22** | 137°00.62' | 276°32.40' | S 24°12.12' | 341°39.39' | 71°53.63' | N 24°55.85' | 53°25.35' | 0°07.67' | S 1°25.68' | 89°52.94' | 323°40.08' | S 15°43.55' | **22** |
| **23** | 151°59.65' | 276°35.84' | S 24°12.07' | 356°42.83' | 71°52.65' | N 24°55.81' | 68°27.66' | 0°07.82' | S 1°25.60' | 104°55.21' | 323°40.28' | S 15°43.49' | **23** |
| **24** | 166°58.67' | 276°39.27' | S 24°12.01' | 11°46.27' | 71°51.68' | N 24°55.78' | 83°29.97' | 0°07.98' | S 1°25.52' | 119°57.47' | 323°40.48' | S 15°43.42' | **24** |
| | δ 14.9837° | | *d* 0.0284' | δ 15.0576° | | *d* 0.0347' | δ 15.0386° | | *d* 0.0776' | δ 15.0378° | | *d* 0.0659' | |

## *Thursday, December 15th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 181°17.39' | 14.9950° | 262°20.56' | S 23°15.07' | 0.1352' | 282°32.21' | 14.5724° | 161°05.74' | N 13°02.83' | 12.3759' | 54.6698' | 83°37.95' | **00** |
| **01** | 196°17.09' | 14.9950° | 262°23.32' | S 23°15.21' | 0.1344' | 297°06.58' | 14.5729° | 161°33.83' | N 12°50.39' | 12.4346' | 54.6888' | 98°40.41' | **01** |
| **02** | 211°16.79' | 14.9950° | 262°26.09' | S 23°15.34' | 0.1336' | 311°40.98' | 14.5733° | 162°01.89' | N 12°37.90' | 12.4925' | 54.7080' | 113°42.87' | **02** |
| **03** | 226°16.49' | 14.9950° | 262°28.85' | S 23°15.47' | 0.1328' | 326°15.41' | 14.5738° | 162°29.93' | N 12°25.35' | 12.5498' | 54.7276' | 128°45.34' | **03** |
| **04** | 241°16.19' | 14.9950° | 262°31.61' | S 23°15.61' | 0.1320' | 340°49.86' | 14.5742° | 162°57.94' | N 12°12.74' | 12.6064' | 54.7474' | 143°47.80' | **04** |
| **05** | 256°15.89' | 14.9950° | 262°34.38' | S 23°15.74' | 0.1312' | 355°24.34' | 14.5746° | 163°25.93' | N 12°00.08' | 12.6623' | 54.7675' | 158°50.27' | **05** |
| **06** | 271°15.59' | 14.9950° | 262°37.14' | S 23°15.87' | 0.1304' | 9°58.84' | 14.5750° | 163°53.89' | N 11°47.37' | 12.7176' | 54.7879' | 173°52.73' | **06** |
| **07** | 286°15.29' | 14.9950° | 262°39.91' | S 23°16.00' | 0.1296' | 24°33.37' | 14.5754° | 164°21.82' | N 11°34.59' | 12.7722' | 54.8086' | 188°55.20' | **07** |
| **08** | 301°14.99' | 14.9950° | 262°42.67' | S 23°16.13' | 0.1288' | 39°07.92' | 14.5758° | 164°49.74' | N 11°21.77' | 12.8261' | 54.8295' | 203°57.66' | **08** |
| **09** | 316°14.69' | 14.9950° | 262°45.44' | S 23°16.25' | 0.1280' | 53°42.49' | 14.5762° | 165°17.63' | N 11°08.89' | 12.8794' | 54.8508' | 219°00.12' | **09** |
| **10** | 331°14.39' | 14.9950° | 262°48.20' | S 23°16.38' | 0.1272' | 68°17.08' | 14.5765° | 165°45.51' | N 10°55.96' | 12.9320' | 54.8723' | 234°02.59' | **10** |
| **11** | 346°14.09' | 14.9950° | 262°50.96' | S 23°16.51' | 0.1264' | 82°51.69' | 14.5768° | 166°13.36' | N 10°42.97' | 12.9840' | 54.8942' | 249°05.05' | **11** |
| **12** | 1°13.79' | 14.9950° | 262°53.73' | S 23°16.63' | 0.1256' | 97°26.32' | 14.5771° | 166°41.20' | N 10°29.94' | 13.0353' | 54.9163' | 264°07.52' | **12** |
| **13** | 16°13.49' | 14.9950° | 262°56.49' | S 23°16.76' | 0.1248' | 112°00.96' | 14.5774° | 167°09.01' | N 10°16.85' | 13.0859' | 54.9387' | 279°09.98' | **13** |
| **14** | 31°13.18' | 14.9950° | 262°59.26' | S 23°16.88' | 0.1240' | 126°35.63' | 14.5777° | 167°36.82' | N 10°03.71' | 13.1358' | 54.9613' | 294°12.44' | **14** |
| **15** | 46°12.88' | 14.9950° | 263°02.02' | S 23°17.01' | 0.1232' | 141°10.31' | 14.5780° | 168°04.60' | N 9°50.53' | 13.1851' | 54.9843' | 309°14.91' | **15** |
| **16** | 61°12.58' | 14.9950° | 263°04.79' | S 23°17.13' | 0.1223' | 155°45.00' | 14.5782° | 168°32.37' | N 9°37.30' | 13.2337' | 55.0075' | 324°17.37' | **16** |
| **17** | 76°12.28' | 14.9950° | 263°07.55' | S 23°17.25' | 0.1215' | 170°19.70' | 14.5784° | 169°00.13' | N 9°24.01' | 13.2817' | 55.0311' | 339°19.84' | **17** |
| **18** | 91°11.98' | 14.9950° | 263°10.32' | S 23°17.37' | 0.1207' | 184°54.42' | 14.5786° | 169°27.88' | N 9°10.68' | 13.3290' | 55.0549' | 354°22.30' | **18** |
| **19** | 106°11.68' | 14.9950° | 263°13.09' | S 23°17.49' | 0.1199' | 199°29.15' | 14.5788° | 169°55.61' | N 8°57.31' | 13.3756' | 55.0790' | 9°24.76' | **19** |
| **20** | 121°11.38' | 14.9950° | 263°15.85' | S 23°17.61' | 0.1191' | 214°03.89' | 14.5790° | 170°23.34' | N 8°43.89' | 13.4216' | 55.1034' | 24°27.23' | **20** |
| **21** | 136°11.07' | 14.9950° | 263°18.62' | S 23°17.73' | 0.1183' | 228°38.64' | 14.5791° | 170°51.05' | N 8°30.42' | 13.4669' | 55.1280' | 39°29.69' | **21** |
| **22** | 151°10.77' | 14.9950° | 263°21.38' | S 23°17.85' | 0.1175' | 243°13.40' | 14.5793° | 171°18.76' | N 8°16.91' | 13.5115' | 55.1529' | 54°32.16' | **22** |
| **23** | 166°10.47' | 14.9950° | 263°24.15' | S 23°17.96' | 0.1167' | 257°48.16' | 14.5794° | 171°46.46' | N 8°03.35' | 13.5555' | 55.1782' | 69°34.62' | **23** |
| **24** | 181°10.17' | 14.9950° | 263°26.92' | S 23°18.08' | 0.1159' | 272°22.93' | 14.5795° | 172°14.16' | N 7°49.76' | 13.5987' | 55.2037' | 84°37.08' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2491' | hp (π) 0.1489' | ½Ø 14.9637' | 58.6163614686729 9% -gib | |
| EoT at 12:00 UTC : +4m 55s (δ -1.20 s/h) | | Phase at 12:00 UTC : 260.20° | | |
| Meridian Pass. Time : 11:55:04.855 | | Age : 20.2 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.26') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 166°58.67' | 276°39.27' | S 24°12.01' | 11°46.27' | 71°51.68' | N 24°55.78' | 83°29.97' | 0°07.98' | S 1°25.52' | 119°57.47' | 323°40.48' | S 15°43.42' | **00** |
| **01** | 181°57.70' | 276°42.71' | S 24°11.95' | 26°49.71' | 71°50.70' | N 24°55.74' | 98°32.27' | 0°08.14' | S 1°25.44' | 134°59.73' | 323°40.68' | S 15°43.35' | **01** |
| **02** | 196°56.72' | 276°46.15' | S 24°11.89' | 41°53.14' | 71°49.73' | N 24°55.70' | 113°34.58' | 0°08.30' | S 1°25.36' | 150°02.00' | 323°40.88' | S 15°43.28' | **02** |
| **03** | 211°55.75' | 276°49.59' | S 24°11.83' | 56°56.58' | 71°48.76' | N 24°55.66' | 128°36.88' | 0°08.45' | S 1°25.28' | 165°04.26' | 323°41.08' | S 15°43.22' | **03** |
| **04** | 226°54.78' | 276°53.03' | S 24°11.76' | 72°00.02' | 71°47.79' | N 24°55.62' | 143°39.19' | 0°08.61' | S 1°25.20' | 180°06.52' | 323°41.28' | S 15°43.15' | **04** |
| **05** | 241°53.80' | 276°56.46' | S 24°11.70' | 87°03.45' | 71°46.82' | N 24°55.58' | 158°41.49' | 0°08.77' | S 1°25.12' | 195°08.79' | 323°41.48' | S 15°43.08' | **05** |
| **06** | 256°52.83' | 276°59.90' | S 24°11.63' | 102°06.88' | 71°45.85' | N 24°55.54' | 173°43.80' | 0°08.93' | S 1°25.03' | 210°11.05' | 323°41.68' | S 15°43.02' | **06** |
| **07** | 271°51.86' | 277°03.34' | S 24°11.56' | 117°10.32' | 71°44.88' | N 24°55.50' | 188°46.10' | 0°09.09' | S 1°24.95' | 225°13.31' | 323°41.88' | S 15°42.95' | **07** |
| **08** | 286°50.88' | 277°06.78' | S 24°11.49' | 132°13.75' | 71°43.91' | N 24°55.47' | 203°48.41' | 0°09.25' | S 1°24.87' | 240°15.58' | 323°42.08' | S 15°42.88' | **08** |
| **09** | 301°49.91' | 277°10.22' | S 24°11.42' | 147°17.18' | 71°42.94' | N 24°55.43' | 218°50.71' | 0°09.41' | S 1°24.79' | 255°17.84' | 323°42.28' | S 15°42.81' | **09** |
| **10** | 316°48.93' | 277°13.65' | S 24°11.35' | 162°20.61' | 71°41.98' | N 24°55.39' | 233°53.02' | 0°09.57' | S 1°24.71' | 270°20.10' | 323°42.49' | S 15°42.75' | **10** |
| **11** | 331°47.96' | 277°17.09' | S 24°11.28' | 177°24.04' | 71°41.01' | N 24°55.35' | 248°55.32' | 0°09.73' | S 1°24.63' | 285°22.36' | 323°42.69' | S 15°42.68' | **11** |
| **12** | 346°46.99' | 277°20.53' | S 24°11.21' | 192°27.47' | 71°40.05' | N 24°55.31' | 263°57.62' | 0°09.89' | S 1°24.54' | 300°24.63' | 323°42.89' | S 15°42.61' | **12** |
| **13** | 1°46.01' | 277°23.97' | S 24°11.13' | 207°30.90' | 71°39.08' | N 24°55.27' | 278°59.93' | 0°10.05' | S 1°24.46' | 315°26.89' | 323°43.09' | S 15°42.55' | **13** |
| **14** | 16°45.04' | 277°27.40' | S 24°11.05' | 222°34.32' | 71°38.12' | N 24°55.23' | 294°02.23' | 0°10.22' | S 1°24.38' | 330°29.15' | 323°43.29' | S 15°42.48' | **14** |
| **15** | 31°44.07' | 277°30.84' | S 24°10.98' | 237°37.75' | 71°37.16' | N 24°55.19' | 309°04.53' | 0°10.38' | S 1°24.30' | 345°31.41' | 323°43.49' | S 15°42.41' | **15** |
| **16** | 46°43.10' | 277°34.28' | S 24°10.90' | 252°41.17' | 71°36.20' | N 24°55.14' | 324°06.83' | 0°10.54' | S 1°24.21' | 0°33.67' | 323°43.70' | S 15°42.34' | **16** |
| **17** | 61°42.12' | 277°37.71' | S 24°10.82' | 267°44.60' | 71°35.24' | N 24°55.10' | 339°09.13' | 0°10.70' | S 1°24.13' | 15°35.94' | 323°43.90' | S 15°42.28' | **17** |
| **18** | 76°41.15' | 277°41.15' | S 24°10.74' | 282°48.02' | 71°34.28' | N 24°55.06' | 354°11.43' | 0°10.87' | S 1°24.05' | 30°38.20' | 323°44.10' | S 15°42.21' | **18** |
| **19** | 91°40.18' | 277°44.59' | S 24°10.65' | 297°51.44' | 71°33.32' | N 24°55.02' | 9°13.74' | 0°11.03' | S 1°23.97' | 45°40.46' | 323°44.30' | S 15°42.14' | **19** |
| **20** | 106°39.20' | 277°48.02' | S 24°10.57' | 312°54.86' | 71°32.36' | N 24°54.98' | 24°16.04' | 0°11.19' | S 1°23.88' | 60°42.72' | 323°44.51' | S 15°42.07' | **20** |
| **21** | 121°38.23' | 277°51.46' | S 24°10.48' | 327°58.28' | 71°31.41' | N 24°54.94' | 39°18.34' | 0°11.36' | S 1°23.80' | 75°44.98' | 323°44.71' | S 15°42.00' | **21** |
| **22** | 136°37.26' | 277°54.90' | S 24°10.39' | 343°01.70' | 71°30.45' | N 24°54.90' | 54°20.64' | 0°11.52' | S 1°23.72' | 90°47.24' | 323°44.91' | S 15°41.94' | **22** |
| **23** | 151°36.29' | 277°58.33' | S 24°10.31' | 358°05.12' | 71°29.50' | N 24°54.86' | 69°22.94' | 0°11.68' | S 1°23.63' | 105°49.50' | 323°45.12' | S 15°41.87' | **23** |
| **24** | 166°35.31' | 278°01.77' | S 24°10.22' | 13°08.54' | 71°28.54' | N 24°54.82' | 84°25.24' | 0°11.85' | S 1°23.55' | 120°51.77' | 323°45.32' | S 15°41.80' | **24** |
| | δ 14.9838° | | *d* 0.0597' | δ 15.0573° | | *d* 0.0384' | δ 15.0384° | | *d* 0.0807' | δ 15.0377° | | *d* 0.0669' | |

## *Friday, December 16th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 181°10.17' | 14.9950° | 263°26.92' | S 23°18.08' | 0.1159' | 272°22.93' | 14.5795° | 172°14.16' | N 7°49.76' | 13.5987' | 55.2037' | 84°37.08' | **00** |
| **01** | 196°09.87' | 14.9950° | 263°29.68' | S 23°18.19' | 0.1151' | 286°57.70' | 14.5796° | 172°41.85' | N 7°36.11' | 13.6413' | 55.2294' | 99°39.55' | **01** |
| **02** | 211°09.56' | 14.9950° | 263°32.45' | S 23°18.31' | 0.1143' | 301°32.48' | 14.5796° | 173°09.53' | N 7°22.43' | 13.6833' | 55.2555' | 114°42.01' | **02** |
| **03** | 226°09.26' | 14.9950° | 263°35.21' | S 23°18.42' | 0.1135' | 316°07.26' | 14.5797° | 173°37.21' | N 7°08.71' | 13.7245' | 55.2818' | 129°44.48' | **03** |
| **04** | 241°08.96' | 14.9950° | 263°37.98' | S 23°18.53' | 0.1127' | 330°42.04' | 14.5797° | 174°04.90' | N 6°54.94' | 13.7651' | 55.3084' | 144°46.94' | **04** |
| **05** | 256°08.66' | 14.9950° | 263°40.75' | S 23°18.65' | 0.1119' | 345°16.83' | 14.5797° | 174°32.58' | N 6°41.14' | 13.8049' | 55.3353' | 159°49.41' | **05** |
| **06** | 271°08.35' | 14.9950° | 263°43.51' | S 23°18.76' | 0.1110' | 359°51.61' | 14.5797° | 175°00.26' | N 6°27.29' | 13.8441' | 55.3624' | 174°51.87' | **06** |
| **07** | 286°08.05' | 14.9950° | 263°46.28' | S 23°18.87' | 0.1102' | 14°26.39' | 14.5797° | 175°27.94' | N 6°13.41' | 13.8826' | 55.3898' | 189°54.33' | **07** |
| **08** | 301°07.75' | 14.9950° | 263°49.05' | S 23°18.98' | 0.1094' | 29°01.17' | 14.5796° | 175°55.63' | N 5°59.49' | 13.9205' | 55.4175' | 204°56.80' | **08** |
| **09** | 316°07.45' | 14.9949° | 263°51.82' | S 23°19.08' | 0.1086' | 43°35.94' | 14.5795° | 176°23.32' | N 5°45.53' | 13.9576' | 55.4455' | 219°59.26' | **09** |
| **10** | 331°07.14' | 14.9949° | 263°54.58' | S 23°19.19' | 0.1078' | 58°10.71' | 14.5795° | 176°51.02' | N 5°31.54' | 13.9940' | 55.4737' | 235°01.73' | **10** |
| **11** | 346°06.84' | 14.9949° | 263°57.35' | S 23°19.30' | 0.1070' | 72°45.47' | 14.5793° | 177°18.72' | N 5°17.51' | 14.0297' | 55.5022' | 250°04.19' | **11** |
| **12** | 1°06.54' | 14.9949° | 264°00.12' | S 23°19.41' | 0.1062' | 87°20.22' | 14.5792° | 177°46.43' | N 5°03.44' | 14.0647' | 55.5310' | 265°06.65' | **12** |
| **13** | 16°06.23' | 14.9949° | 264°02.88' | S 23°19.51' | 0.1054' | 101°54.96' | 14.5791° | 178°14.15' | N 4°49.34' | 14.0990' | 55.5600' | 280°09.12' | **13** |
| **14** | 31°05.93' | 14.9949° | 264°05.65' | S 23°19.62' | 0.1046' | 116°29.70' | 14.5789° | 178°41.88' | N 4°35.21' | 14.1326' | 55.5893' | 295°11.58' | **14** |
| **15** | 46°05.63' | 14.9949° | 264°08.42' | S 23°19.72' | 0.1038' | 131°04.42' | 14.5787° | 179°09.63' | N 4°21.05' | 14.1655' | 55.6188' | 310°14.05' | **15** |
| **16** | 61°05.32' | 14.9949° | 264°11.19' | S 23°19.82' | 0.1030' | 145°39.13' | 14.5785° | 179°37.38' | N 4°06.85' | 14.1977' | 55.6486' | 325°16.51' | **16** |
| **17** | 76°05.02' | 14.9949° | 264°13.96' | S 23°19.92' | 0.1022' | 160°13.83' | 14.5783° | 180°05.15' | N 3°52.62' | 14.2291' | 55.6787' | 340°18.97' | **17** |
| **18** | 91°04.71' | 14.9949° | 264°16.72' | S 23°20.03' | 0.1013' | 174°48.51' | 14.5780° | 180°32.93' | N 3°38.36' | 14.2598' | 55.7090' | 355°21.44' | **18** |
| **19** | 106°04.41' | 14.9949° | 264°19.49' | S 23°20.13' | 0.1005' | 189°23.17' | 14.5778° | 181°00.73' | N 3°24.07' | 14.2898' | 55.7395' | 10°23.90' | **19** |
| **20** | 121°04.11' | 14.9949° | 264°22.26' | S 23°20.23' | 0.0997' | 203°57.82' | 14.5775° | 181°28.54' | N 3°09.75' | 14.3190' | 55.7704' | 25°26.37' | **20** |
| **21** | 136°03.80' | 14.9949° | 264°25.03' | S 23°20.33' | 0.0989' | 218°32.45' | 14.5772° | 181°56.38' | N 2°55.40' | 14.3475' | 55.8014' | 40°28.83' | **21** |
| **22** | 151°03.50' | 14.9949° | 264°27.80' | S 23°20.42' | 0.0981' | 233°07.06' | 14.5768° | 182°24.23' | N 2°41.03' | 14.3752' | 55.8328' | 55°31.29' | **22** |
| **23** | 166°03.19' | 14.9949° | 264°30.57' | S 23°20.52' | 0.0973' | 247°41.65' | 14.5765° | 182°52.11' | N 2°26.63' | 14.4022' | 55.8643' | 70°33.76' | **23** |
| **24** | 181°02.89' | 14.9949° | 264°33.33' | S 23°20.62' | 0.0965' | 262°16.22' | 14.5761° | 183°20.00' | N 2°12.20' | 14.4284' | 55.8961' | 85°36.22' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2506' | hp (π) 0.1489' | ½Ø 15.1312' | 48.8703813429267<br>7% -cre |
| | EoT at 12:00 UTC : +4m 26s (δ -1.21 s/h) | | Phase at 12:00 UTC : 271.45° | |
| | Meridian Pass. Time : 11:55:33.855 | | Age : 21.1 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.26') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 166°35.31' | 278°01.77' | S 24°10.22' | 13°08.54' | 71°28.54' | N 24°54.82' | 84°25.24' | 0°11.85' | S 1°23.55' | 120°51.77' | 323°45.32' | S 15°41.80' | **00** |
| **01** | 181°34.34' | 278°05.21' | S 24°10.13' | 28°11.96' | 71°27.59' | N 24°54.77' | 99°27.54' | 0°12.01' | S 1°23.46' | 135°54.03' | 323°45.52' | S 15°41.73' | **01** |
| **02** | 196°33.37' | 278°08.64' | S 24°10.03' | 43°15.37' | 71°26.64' | N 24°54.73' | 114°29.83' | 0°12.18' | S 1°23.38' | 150°56.29' | 323°45.73' | S 15°41.67' | **02** |
| **03** | 211°32.40' | 278°12.08' | S 24°09.94' | 58°18.79' | 71°25.69' | N 24°54.69' | 129°32.13' | 0°12.34' | S 1°23.30' | 165°58.55' | 323°45.93' | S 15°41.60' | **03** |
| **04** | 226°31.42' | 278°15.52' | S 24°09.85' | 73°22.20' | 71°24.74' | N 24°54.65' | 144°34.43' | 0°12.51' | S 1°23.21' | 181°00.81' | 323°46.13' | S 15°41.53' | **04** |
| **05** | 241°30.45' | 278°18.95' | S 24°09.75' | 88°25.62' | 71°23.79' | N 24°54.61' | 159°36.73' | 0°12.68' | S 1°23.13' | 196°03.07' | 323°46.34' | S 15°41.46' | **05** |
| **06** | 256°29.48' | 278°22.39' | S 24°09.65' | 103°29.03' | 71°22.84' | N 24°54.56' | 174°39.03' | 0°12.84' | S 1°23.04' | 211°05.33' | 323°46.54' | S 15°41.39' | **06** |
| **07** | 271°28.51' | 278°25.82' | S 24°09.55' | 118°32.44' | 71°21.89' | N 24°54.52' | 189°41.32' | 0°13.01' | S 1°22.96' | 226°07.59' | 323°46.74' | S 15°41.33' | **07** |
| **08** | 286°27.54' | 278°29.26' | S 24°09.45' | 133°35.85' | 71°20.95' | N 24°54.48' | 204°43.62' | 0°13.18' | S 1°22.87' | 241°09.85' | 323°46.95' | S 15°41.26' | **08** |
| **09** | 301°26.57' | 278°32.70' | S 24°09.35' | 148°39.26' | 71°20.00' | N 24°54.43' | 219°45.92' | 0°13.34' | S 1°22.79' | 256°12.11' | 323°47.15' | S 15°41.19' | **09** |
| **10** | 316°25.59' | 278°36.13' | S 24°09.25' | 163°42.67' | 71°19.06' | N 24°54.39' | 234°48.21' | 0°13.51' | S 1°22.70' | 271°14.37' | 323°47.36' | S 15°41.12' | **10** |
| **11** | 331°24.62' | 278°39.57' | S 24°09.15' | 178°46.07' | 71°18.12' | N 24°54.35' | 249°50.51' | 0°13.68' | S 1°22.62' | 286°16.63' | 323°47.56' | S 15°41.05' | **11** |
| **12** | 346°23.65' | 278°43.00' | S 24°09.04' | 193°49.48' | 71°17.17' | N 24°54.31' | 264°52.81' | 0°13.85' | S 1°22.53' | 301°18.89' | 323°47.77' | S 15°40.98' | **12** |
| **13** | 1°22.68' | 278°46.44' | S 24°08.93' | 208°52.89' | 71°16.23' | N 24°54.26' | 279°55.10' | 0°14.02' | S 1°22.45' | 316°21.15' | 323°47.97' | S 15°40.92' | **13** |
| **14** | 16°21.71' | 278°49.87' | S 24°08.83' | 223°56.29' | 71°15.29' | N 24°54.22' | 294°57.40' | 0°14.18' | S 1°22.36' | 331°23.41' | 323°48.18' | S 15°40.85' | **14** |
| **15** | 31°20.74' | 278°53.31' | S 24°08.72' | 238°59.69' | 71°14.35' | N 24°54.18' | 309°59.69' | 0°14.35' | S 1°22.28' | 346°25.66' | 323°48.38' | S 15°40.78' | **15** |
| **16** | 46°19.77' | 278°56.74' | S 24°08.61' | 254°03.10' | 71°13.41' | N 24°54.13' | 325°01.99' | 0°14.52' | S 1°22.19' | 1°27.92' | 323°48.59' | S 15°40.71' | **16** |
| **17** | 61°18.80' | 279°00.18' | S 24°08.50' | 269°06.50' | 71°12.47' | N 24°54.09' | 340°04.28' | 0°14.69' | S 1°22.11' | 16°30.18' | 323°48.79' | S 15°40.64' | **17** |
| **18** | 76°17.83' | 279°03.61' | S 24°08.38' | 284°09.90' | 71°11.54' | N 24°54.04' | 355°06.58' | 0°14.86' | S 1°22.02' | 31°32.44' | 323°49.00' | S 15°40.57' | **18** |
| **19** | 91°16.86' | 279°07.05' | S 24°08.27' | 299°13.30' | 71°10.60' | N 24°54.00' | 10°08.87' | 0°15.03' | S 1°21.93' | 46°34.70' | 323°49.20' | S 15°40.50' | **19** |
| **20** | 106°15.89' | 279°10.48' | S 24°08.15' | 314°16.70' | 71°09.67' | N 24°53.96' | 25°11.16' | 0°15.20' | S 1°21.85' | 61°36.96' | 323°49.41' | S 15°40.44' | **20** |
| **21** | 121°14.92' | 279°13.92' | S 24°08.04' | 329°20.10' | 71°08.73' | N 24°53.91' | 40°13.46' | 0°15.37' | S 1°21.76' | 76°39.22' | 323°49.61' | S 15°40.37' | **21** |
| **22** | 136°13.95' | 279°17.35' | S 24°07.92' | 344°23.49' | 71°07.80' | N 24°53.87' | 55°15.75' | 0°15.55' | S 1°21.68' | 91°41.47' | 323°49.82' | S 15°40.30' | **22** |
| **23** | 151°12.97' | 279°20.78' | S 24°07.80' | 359°26.89' | 71°06.87' | N 24°53.82' | 70°18.04' | 0°15.72' | S 1°21.59' | 106°43.73' | 323°50.03' | S 15°40.23' | **23** |
| **24** | 166°12.01' | 279°24.22' | S 24°07.68' | 14°30.28' | 71°05.94' | N 24°53.78' | 85°20.33' | 0°15.89' | S 1°21.50' | 121°45.99' | 323°50.23' | S 15°40.16' | **24** |
| | δ 14.9838° | | *d* 0.0909' | δ 15.0569° | | *d* 0.0418' | δ 15.0383° | | *d* 0.0838' | δ 15.0377° | | *d* 0.0679' | |

## *Saturday, December 17th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 181°02.89' | 14.9949° | 264°33.33' | S 23°20.62' | 0.0965' | 262°16.22' | 14.5761° | 183°20.00' | N 2°12.20' | 14.4284' | 55.8961' | 85°36.22' | **00** |
| **01** | 196°02.58' | 14.9949° | 264°36.10' | S 23°20.71' | 0.0957' | 276°50.76' | 14.5757° | 183°47.92' | N 1°57.74' | 14.4538' | 55.9282' | 100°38.69' | **01** |
| **02** | 211°02.28' | 14.9949° | 264°38.87' | S 23°20.81' | 0.0949' | 291°25.28' | 14.5753° | 184°15.87' | N 1°43.26' | 14.4785' | 55.9605' | 115°41.15' | **02** |
| **03** | 226°01.97' | 14.9949° | 264°41.64' | S 23°20.90' | 0.0941' | 305°59.77' | 14.5749° | 184°43.84' | N 1°28.76' | 14.5024' | 55.9930' | 130°43.61' | **03** |
| **04** | 241°01.67' | 14.9949° | 264°44.41' | S 23°20.99' | 0.0932' | 320°34.24' | 14.5744° | 185°11.84' | N 1°14.24' | 14.5255' | 56.0258' | 145°46.08' | **04** |
| **05** | 256°01.36' | 14.9949° | 264°47.18' | S 23°21.09' | 0.0924' | 335°08.68' | 14.5740° | 185°39.87' | N 0°59.69' | 14.5478' | 56.0588' | 160°48.54' | **05** |
| **06** | 271°01.06' | 14.9949° | 264°49.95' | S 23°21.18' | 0.0916' | 349°43.08' | 14.5735° | 186°07.92' | N 0°45.12' | 14.5693' | 56.0920' | 175°51.01' | **06** |
| **07** | 286°00.75' | 14.9949° | 264°52.72' | S 23°21.27' | 0.0908' | 4°17.46' | 14.5729° | 186°36.01' | N 0°30.53' | 14.5899' | 56.1255' | 190°53.47' | **07** |
| **08** | 301°00.45' | 14.9949° | 264°55.49' | S 23°21.36' | 0.0900' | 18°51.80' | 14.5724° | 187°04.13' | N 0°15.92' | 14.6098' | 56.1592' | 205°55.94' | **08** |
| **09** | 316°00.14' | 14.9949° | 264°58.26' | S 23°21.45' | 0.0892' | 33°26.11' | 14.5718° | 187°32.28' | N 0°01.29' | 14.6288' | 56.1931' | 220°58.40' | **09** |
| **10** | 330°59.84' | 14.9949° | 265°01.03' | S 23°21.54' | 0.0884' | 48°00.39' | 14.5713° | 188°00.47' | S 0°13.36' | 14.6470' | 56.2272' | 236°00.86' | **10** |
| **11** | 345°59.53' | 14.9949° | 265°03.80' | S 23°21.62' | 0.0876' | 62°34.63' | 14.5706° | 188°28.70' | S 0°28.02' | 14.6644' | 56.2616' | 251°03.33' | **11** |
| **12** | 0°59.23' | 14.9949° | 265°06.57' | S 23°21.71' | 0.0868' | 77°08.83' | 14.5700° | 188°56.96' | S 0°42.70' | 14.6809' | 56.2962' | 266°05.79' | **12** |
| **13** | 15°58.92' | 14.9949° | 265°09.34' | S 23°21.80' | 0.0859' | 91°42.99' | 14.5694° | 189°25.26' | S 0°57.40' | 14.6965' | 56.3309' | 281°08.26' | **13** |
| **14** | 30°58.61' | 14.9949° | 265°12.11' | S 23°21.88' | 0.0851' | 106°17.11' | 14.5687° | 189°53.61' | S 1°12.11' | 14.7113' | 56.3659' | 296°10.72' | **14** |
| **15** | 45°58.31' | 14.9949° | 265°14.88' | S 23°21.97' | 0.0843' | 120°51.19' | 14.5680° | 190°21.99' | S 1°26.83' | 14.7252' | 56.4011' | 311°13.18' | **15** |
| **16** | 60°58.00' | 14.9949° | 265°17.65' | S 23°22.05' | 0.0835' | 135°25.23' | 14.5673° | 190°50.42' | S 1°41.57' | 14.7382' | 56.4365' | 326°15.65' | **16** |
| **17** | 75°57.70' | 14.9949° | 265°20.42' | S 23°22.13' | 0.0827' | 149°59.23' | 14.5666° | 191°18.89' | S 1°56.32' | 14.7503' | 56.4721' | 341°18.11' | **17** |
| **18** | 90°57.39' | 14.9949° | 265°23.19' | S 23°22.22' | 0.0819' | 164°33.17' | 14.5658° | 191°47.40' | S 2°11.08' | 14.7615' | 56.5080' | 356°20.58' | **18** |
| **19** | 105°57.08' | 14.9949° | 265°25.96' | S 23°22.30' | 0.0811' | 179°07.07' | 14.5650° | 192°15.97' | S 2°25.86' | 14.7717' | 56.5440' | 11°23.04' | **19** |
| **20** | 120°56.78' | 14.9949° | 265°28.73' | S 23°22.38' | 0.0803' | 193°40.93' | 14.5642° | 192°44.58' | S 2°40.64' | 14.7811' | 56.5801' | 26°25.50' | **20** |
| **21** | 135°56.47' | 14.9949° | 265°31.50' | S 23°22.46' | 0.0794' | 208°14.73' | 14.5634° | 193°13.24' | S 2°55.43' | 14.7895' | 56.6165' | 41°27.97' | **21** |
| **22** | 150°56.16' | 14.9949° | 265°34.27' | S 23°22.53' | 0.0786' | 222°48.48' | 14.5625° | 193°41.95' | S 3°10.22' | 14.7969' | 56.6531' | 56°30.43' | **22** |
| **23** | 165°55.86' | 14.9949° | 265°37.04' | S 23°22.61' | 0.0778' | 237°22.18' | 14.5617° | 194°10.71' | S 3°25.03' | 14.8034' | 56.6898' | 71°32.90' | **23** |
| **24** | 180°55.55' | 14.9949° | 265°39.81' | S 23°22.69' | 0.0770' | 251°55.83' | 14.5608° | 194°39.53' | S 3°39.84' | 14.8089' | 56.7268' | 86°35.36' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2520' | hp (π) 0.1489' | ½Ø 15.3397' | 38.9003196025969<br>2% -cre |
| | EoT at 12:00 UTC : +3m 56s (δ -1.22 s/h) | | Phase at 12:00 UTC : 282.99° | |
| | Meridian Pass. Time : 11:56:03.095 | | Age : 22.0 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.26') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 166°12.01' | 279°24.22' | S 24°07.68' | 14°30.28' | 71°05.94' | N 24°53.78' | 85°20.33' | 0°15.89' | S 1°21.50' | 121°45.99' | 323°50.23' | S 15°40.16' | **00** |
| **01** | 181°11.04' | 279°27.65' | S 24°07.56' | 29°33.68' | 71°05.01' | N 24°53.73' | 100°22.63' | 0°16.06' | S 1°21.41' | 136°48.25' | 323°50.44' | S 15°40.09' | **01** |
| **02** | 196°10.07' | 279°31.09' | S 24°07.43' | 44°37.07' | 71°04.08' | N 24°53.69' | 115°24.92' | 0°16.23' | S 1°21.33' | 151°50.51' | 323°50.64' | S 15°40.02' | **02** |
| **03** | 211°09.10' | 279°34.52' | S 24°07.31' | 59°40.46' | 71°03.15' | N 24°53.64' | 130°27.21' | 0°16.41' | S 1°21.24' | 166°52.76' | 323°50.85' | S 15°39.95' | **03** |
| **04** | 226°08.13' | 279°37.95' | S 24°07.18' | 74°43.85' | 71°02.22' | N 24°53.60' | 145°29.50' | 0°16.58' | S 1°21.15' | 181°55.02' | 323°51.06' | S 15°39.88' | **04** |
| **05** | 241°07.16' | 279°41.39' | S 24°07.06' | 89°47.24' | 71°01.30' | N 24°53.55' | 160°31.79' | 0°16.75' | S 1°21.07' | 196°57.28' | 323°51.26' | S 15°39.82' | **05** |
| **06** | 256°06.19' | 279°44.82' | S 24°06.93' | 104°50.63' | 71°00.37' | N 24°53.51' | 175°34.08' | 0°16.93' | S 1°20.98' | 211°59.54' | 323°51.47' | S 15°39.75' | **06** |
| **07** | 271°05.22' | 279°48.25' | S 24°06.80' | 119°54.02' | 70°59.45' | N 24°53.46' | 190°36.37' | 0°17.10' | S 1°20.89' | 227°01.79' | 323°51.68' | S 15°39.68' | **07** |
| **08** | 286°04.25' | 279°51.69' | S 24°06.67' | 134°57.41' | 70°58.53' | N 24°53.42' | 205°38.66' | 0°17.27' | S 1°20.80' | 242°04.05' | 323°51.88' | S 15°39.61' | **08** |
| **09** | 301°03.28' | 279°55.12' | S 24°06.53' | 150°00.79' | 70°57.60' | N 24°53.37' | 220°40.95' | 0°17.45' | S 1°20.72' | 257°06.31' | 323°52.09' | S 15°39.54' | **09** |
| **10** | 316°02.31' | 279°58.55' | S 24°06.40' | 165°04.18' | 70°56.68' | N 24°53.32' | 235°43.24' | 0°17.62' | S 1°20.63' | 272°08.56' | 323°52.30' | S 15°39.47' | **10** |
| **11** | 331°01.34' | 280°01.98' | S 24°06.26' | 180°07.56' | 70°55.76' | N 24°53.28' | 250°45.53' | 0°17.80' | S 1°20.54' | 287°10.82' | 323°52.51' | S 15°39.40' | **11** |
| **12** | 346°00.37' | 280°05.42' | S 24°06.13' | 195°10.95' | 70°54.85' | N 24°53.23' | 265°47.82' | 0°17.97' | S 1°20.45' | 302°13.08' | 323°52.71' | S 15°39.33' | **12** |
| **13** | 0°59.41' | 280°08.85' | S 24°05.99' | 210°14.33' | 70°53.93' | N 24°53.19' | 280°50.11' | 0°18.15' | S 1°20.36' | 317°15.33' | 323°52.92' | S 15°39.26' | **13** |
| **14** | 15°58.44' | 280°12.28' | S 24°05.85' | 225°17.71' | 70°53.01' | N 24°53.14' | 295°52.39' | 0°18.33' | S 1°20.27' | 332°17.59' | 323°53.13' | S 15°39.19' | **14** |
| **15** | 30°57.47' | 280°15.71' | S 24°05.71' | 240°21.09' | 70°52.09' | N 24°53.09' | 310°54.68' | 0°18.50' | S 1°20.19' | 347°19.85' | 323°53.34' | S 15°39.12' | **15** |
| **16** | 45°56.50' | 280°19.15' | S 24°05.57' | 255°24.47' | 70°51.18' | N 24°53.05' | 325°56.97' | 0°18.68' | S 1°20.10' | 2°22.10' | 323°53.54' | S 15°39.05' | **16** |
| **17** | 60°55.53' | 280°22.58' | S 24°05.43' | 270°27.85' | 70°50.27' | N 24°53.00' | 340°59.26' | 0°18.85' | S 1°20.01' | 17°24.36' | 323°53.75' | S 15°38.98' | **17** |
| **18** | 75°54.57' | 280°26.01' | S 24°05.28' | 285°31.22' | 70°49.35' | N 24°52.95' | 356°01.54' | 0°19.03' | S 1°19.92' | 32°26.62' | 323°53.96' | S 15°38.91' | **18** |
| **19** | 90°53.60' | 280°29.44' | S 24°05.14' | 300°34.60' | 70°48.44' | N 24°52.91' | 11°03.83' | 0°19.21' | S 1°19.83' | 47°28.87' | 323°54.17' | S 15°38.84' | **19** |
| **20** | 105°52.63' | 280°32.87' | S 24°04.99' | 315°37.97' | 70°47.53' | N 24°52.86' | 26°06.12' | 0°19.39' | S 1°19.74' | 62°31.13' | 323°54.38' | S 15°38.77' | **20** |
| **21** | 120°51.66' | 280°36.30' | S 24°04.84' | 330°41.35' | 70°46.62' | N 24°52.81' | 41°08.40' | 0°19.57' | S 1°19.65' | 77°33.38' | 323°54.59' | S 15°38.71' | **21** |
| **22** | 135°50.70' | 280°39.74' | S 24°04.69' | 345°44.72' | 70°45.71' | N 24°52.77' | 56°10.69' | 0°19.74' | S 1°19.56' | 92°35.64' | 323°54.79' | S 15°38.64' | **22** |
| **23** | 150°49.73' | 280°43.17' | S 24°04.54' | 0°48.09' | 70°44.81' | N 24°52.72' | 71°12.97' | 0°19.92' | S 1°19.47' | 107°37.89' | 323°55.00' | S 15°38.57' | **23** |
| **24** | 165°48.76' | 280°46.60' | S 24°04.39' | 15°51.46' | 70°43.90' | N 24°52.67' | 86°15.26' | 0°20.10' | S 1°19.38' | 122°40.15' | 323°55.21' | S 15°38.50' | **24** |
| | δ 14.9838° | | *d* 0.1220' | δ 15.0566° | | *d* 0.0448' | δ 15.0382° | | *d* 0.0869' | δ 15.0376° | | *d* 0.0689' | |

## *Sunday, December 18th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°55.55' | 14.9949° | 265°39.81' | S 23°22.69' | 0.0770' | 251°55.83' | 14.5608° | 194°39.53' | S 3°39.84' | 14.8089' | 56.7268' | 86°35.36' | **00** |
| **01** | 195°55.24' | 14.9949° | 265°42.58' | S 23°22.77' | 0.0762' | 266°29.42' | 14.5599° | 195°08.41' | S 3°54.65' | 14.8134' | 56.7639' | 101°37.82' | **01** |
| **02** | 210°54.94' | 14.9949° | 265°45.35' | S 23°22.84' | 0.0754' | 281°02.95' | 14.5589° | 195°37.34' | S 4°09.47' | 14.8170' | 56.8011' | 116°40.29' | **02** |
| **03** | 225°54.63' | 14.9949° | 265°48.12' | S 23°22.92' | 0.0746' | 295°36.43' | 14.5579° | 196°06.32' | S 4°24.29' | 14.8195' | 56.8386' | 131°42.75' | **03** |
| **04** | 240°54.32' | 14.9949° | 265°50.89' | S 23°22.99' | 0.0738' | 310°09.85' | 14.5570° | 196°35.37' | S 4°39.11' | 14.8210' | 56.8762' | 146°45.22' | **04** |
| **05** | 255°54.02' | 14.9949° | 265°53.66' | S 23°23.06' | 0.0729' | 324°43.21' | 14.5560° | 197°04.48' | S 4°53.93' | 14.8214' | 56.9140' | 161°47.68' | **05** |
| **06** | 270°53.71' | 14.9949° | 265°56.44' | S 23°23.13' | 0.0721' | 339°16.50' | 14.5549° | 197°33.64' | S 5°08.75' | 14.8208' | 56.9519' | 176°50.15' | **06** |
| **07** | 285°53.40' | 14.9949° | 265°59.21' | S 23°23.21' | 0.0713' | 353°49.73' | 14.5539° | 198°02.88' | S 5°23.57' | 14.8191' | 56.9900' | 191°52.61' | **07** |
| **08** | 300°53.09' | 14.9949° | 266°01.98' | S 23°23.28' | 0.0705' | 8°22.90' | 14.5528° | 198°32.17' | S 5°38.38' | 14.8164' | 57.0282' | 206°55.07' | **08** |
| **09** | 315°52.79' | 14.9949° | 266°04.75' | S 23°23.35' | 0.0697' | 22°56.00' | 14.5517° | 199°01.54' | S 5°53.20' | 14.8125' | 57.0665' | 221°57.54' | **09** |
| **10** | 330°52.48' | 14.9949° | 266°07.52' | S 23°23.41' | 0.0689' | 37°29.03' | 14.5506° | 199°30.97' | S 6°08.00' | 14.8076' | 57.1051' | 237°00.00' | **10** |
| **11** | 345°52.17' | 14.9949° | 266°10.29' | S 23°23.48' | 0.0681' | 52°02.00' | 14.5494° | 200°00.47' | S 6°22.81' | 14.8015' | 57.1437' | 252°02.47' | **11** |
| **12** | 0°51.86' | 14.9949° | 266°13.06' | S 23°23.55' | 0.0673' | 66°34.89' | 14.5482° | 200°30.04' | S 6°37.60' | 14.7943' | 57.1825' | 267°04.93' | **12** |
| **13** | 15°51.56' | 14.9949° | 266°15.84' | S 23°23.62' | 0.0664' | 81°07.71' | 14.5470° | 200°59.68' | S 6°52.39' | 14.7860' | 57.2214' | 282°07.39' | **13** |
| **14** | 30°51.25' | 14.9949° | 266°18.61' | S 23°23.68' | 0.0656' | 95°40.46' | 14.5458° | 201°29.39' | S 7°07.16' | 14.7765' | 57.2604' | 297°09.86' | **14** |
| **15** | 45°50.94' | 14.9949° | 266°21.38' | S 23°23.75' | 0.0648' | 110°13.14' | 14.5446° | 201°59.18' | S 7°21.93' | 14.7658' | 57.2995' | 312°12.32' | **15** |
| **16** | 60°50.63' | 14.9949° | 266°24.15' | S 23°23.81' | 0.0640' | 124°45.74' | 14.5433° | 202°29.05' | S 7°36.68' | 14.7539' | 57.3388' | 327°14.79' | **16** |
| **17** | 75°50.33' | 14.9949° | 266°26.92' | S 23°23.87' | 0.0632' | 139°18.26' | 14.5420° | 202°58.99' | S 7°51.42' | 14.7408' | 57.3782' | 342°17.25' | **17** |
| **18** | 90°50.02' | 14.9949° | 266°29.70' | S 23°23.94' | 0.0624' | 153°50.70' | 14.5407° | 203°29.01' | S 8°06.15' | 14.7265' | 57.4176' | 357°19.71' | **18** |
| **19** | 105°49.71' | 14.9949° | 266°32.47' | S 23°24.00' | 0.0616' | 168°23.07' | 14.5394° | 203°59.11' | S 8°20.86' | 14.7109' | 57.4572' | 12°22.18' | **19** |
| **20** | 120°49.40' | 14.9949° | 266°35.24' | S 23°24.06' | 0.0607' | 182°55.35' | 14.5380° | 204°29.30' | S 8°35.55' | 14.6941' | 57.4969' | 27°24.64' | **20** |
| **21** | 135°49.09' | 14.9949° | 266°38.01' | S 23°24.12' | 0.0599' | 197°27.55' | 14.5366° | 204°59.56' | S 8°50.23' | 14.6760' | 57.5366' | 42°27.11' | **21** |
| **22** | 150°48.78' | 14.9949° | 266°40.79' | S 23°24.18' | 0.0591' | 211°59.66' | 14.5352° | 205°29.91' | S 9°04.89' | 14.6566' | 57.5765' | 57°29.57' | **22** |
| **23** | 165°48.48' | 14.9949° | 266°43.56' | S 23°24.24' | 0.0583' | 226°31.69' | 14.5338° | 206°00.35' | S 9°19.52' | 14.6359' | 57.6164' | 72°32.03' | **23** |
| **24** | 180°48.17' | 14.9949° | 266°46.33' | S 23°24.29' | 0.0575' | 241°03.63' | 14.5324° | 206°30.87' | S 9°34.14' | 14.6139' | 57.6564' | 87°34.50' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2533' | hp (π) 0.1489' | ½Ø 15.5812' | 29.0705782022169 % -cre |
| | EoT at 12:00 UTC : +3m 27s (δ -1.23 s/h) | | Phase at 12:00 UTC : 294.90° | |
| | Meridian Pass. Time : 11:56:32.541 | | Age : 22.9 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.26') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 165°48.76' | 280°46.60' | S 24°04.39' | 15°51.46' | 70°43.90' | N 24°52.67' | 86°15.26' | 0°20.10' | S 1°19.38' | 122°40.15' | 323°55.21' | S 15°38.50' | **00** |
| **01** | 180°47.80' | 280°50.03' | S 24°04.24' | 30°54.83' | 70°42.99' | N 24°52.62' | 101°17.54' | 0°20.28' | S 1°19.29' | 137°42.40' | 323°55.42' | S 15°38.43' | **01** |
| **02** | 195°46.83' | 280°53.46' | S 24°04.08' | 45°58.20' | 70°42.09' | N 24°52.58' | 116°19.83' | 0°20.46' | S 1°19.20' | 152°44.66' | 323°55.63' | S 15°38.36' | **02** |
| **03** | 210°45.86' | 280°56.89' | S 24°03.93' | 61°01.57' | 70°41.19' | N 24°52.53' | 131°22.11' | 0°20.64' | S 1°19.11' | 167°46.91' | 323°55.84' | S 15°38.29' | **03** |
| **04** | 225°44.90' | 281°00.32' | S 24°03.77' | 76°04.93' | 70°40.29' | N 24°52.48' | 146°24.40' | 0°20.82' | S 1°19.02' | 182°49.17' | 323°56.05' | S 15°38.22' | **04** |
| **05** | 240°43.93' | 281°03.75' | S 24°03.61' | 91°08.30' | 70°39.38' | N 24°52.43' | 161°26.68' | 0°21.00' | S 1°18.93' | 197°51.42' | 323°56.26' | S 15°38.15' | **05** |
| **06** | 255°42.96' | 281°07.18' | S 24°03.45' | 106°11.66' | 70°38.48' | N 24°52.39' | 176°28.96' | 0°21.18' | S 1°18.84' | 212°53.68' | 323°56.47' | S 15°38.08' | **06** |
| **07** | 270°42.00' | 281°10.61' | S 24°03.29' | 121°15.02' | 70°37.59' | N 24°52.34' | 191°31.25' | 0°21.36' | S 1°18.75' | 227°55.93' | 323°56.68' | S 15°38.01' | **07** |
| **08** | 285°41.03' | 281°14.04' | S 24°03.13' | 136°18.39' | 70°36.69' | N 24°52.29' | 206°33.53' | 0°21.54' | S 1°18.66' | 242°58.19' | 323°56.89' | S 15°37.94' | **08** |
| **09** | 300°40.07' | 281°17.47' | S 24°02.97' | 151°21.75' | 70°35.79' | N 24°52.24' | 221°35.81' | 0°21.72' | S 1°18.57' | 258°00.44' | 323°57.10' | S 15°37.87' | **09** |
| **10** | 315°39.10' | 281°20.90' | S 24°02.80' | 166°25.11' | 70°34.89' | N 24°52.19' | 236°38.09' | 0°21.91' | S 1°18.48' | 273°02.69' | 323°57.31' | S 15°37.80' | **10** |
| **11** | 330°38.14' | 281°24.33' | S 24°02.64' | 181°28.47' | 70°34.00' | N 24°52.14' | 251°40.38' | 0°22.09' | S 1°18.39' | 288°04.95' | 323°57.52' | S 15°37.73' | **11** |
| **12** | 345°37.17' | 281°27.76' | S 24°02.47' | 196°31.82' | 70°33.11' | N 24°52.10' | 266°42.66' | 0°22.27' | S 1°18.29' | 303°07.20' | 323°57.73' | S 15°37.65' | **12** |
| **13** | 0°36.21' | 281°31.19' | S 24°02.30' | 211°35.18' | 70°32.21' | N 24°52.05' | 281°44.94' | 0°22.45' | S 1°18.20' | 318°09.45' | 323°57.94' | S 15°37.58' | **13** |
| **14** | 15°35.24' | 281°34.62' | S 24°02.13' | 226°38.53' | 70°31.32' | N 24°52.00' | 296°47.22' | 0°22.64' | S 1°18.11' | 333°11.71' | 323°58.15' | S 15°37.51' | **14** |
| **15** | 30°34.28' | 281°38.04' | S 24°01.96' | 241°41.89' | 70°30.43' | N 24°51.95' | 311°49.50' | 0°22.82' | S 1°18.02' | 348°13.96' | 323°58.36' | S 15°37.44' | **15** |
| **16** | 45°33.31' | 281°41.47' | S 24°01.79' | 256°45.24' | 70°29.54' | N 24°51.90' | 326°51.78' | 0°23.00' | S 1°17.93' | 3°16.21' | 323°58.57' | S 15°37.37' | **16** |
| **17** | 60°32.35' | 281°44.90' | S 24°01.61' | 271°48.59' | 70°28.66' | N 24°51.85' | 341°54.06' | 0°23.19' | S 1°17.84' | 18°18.47' | 323°58.78' | S 15°37.30' | **17** |
| **18** | 75°31.38' | 281°48.33' | S 24°01.44' | 286°51.95' | 70°27.77' | N 24°51.80' | 356°56.34' | 0°23.37' | S 1°17.74' | 33°20.72' | 323°58.99' | S 15°37.23' | **18** |
| **19** | 90°30.42' | 281°51.76' | S 24°01.26' | 301°55.29' | 70°26.88' | N 24°51.75' | 11°58.62' | 0°23.56' | S 1°17.65' | 48°22.97' | 323°59.20' | S 15°37.16' | **19** |
| **20** | 105°29.46' | 281°55.19' | S 24°01.09' | 316°58.64' | 70°26.00' | N 24°51.70' | 27°00.90' | 0°23.74' | S 1°17.56' | 63°25.23' | 323°59.42' | S 15°37.09' | **20** |
| **21** | 120°28.49' | 281°58.61' | S 24°00.91' | 332°01.99' | 70°25.12' | N 24°51.66' | 42°03.18' | 0°23.93' | S 1°17.47' | 78°27.48' | 323°59.63' | S 15°37.02' | **21** |
| **22** | 135°27.53' | 282°02.04' | S 24°00.73' | 347°05.34' | 70°24.23' | N 24°51.61' | 57°05.46' | 0°24.11' | S 1°17.37' | 93°29.73' | 323°59.84' | S 15°36.95' | **22** |
| **23** | 150°26.57' | 282°05.47' | S 24°00.54' | 2°08.68' | 70°23.35' | N 24°51.56' | 72°07.74' | 0°24.30' | S 1°17.28' | 108°31.98' | 324°00.05' | S 15°36.88' | **23** |
| **24** | 165°25.60' | 282°08.90' | S 24°00.36' | 17°12.03' | 70°22.47' | N 24°51.51' | 87°10.01' | 0°24.48' | S 1°17.19' | 123°34.24' | 324°00.26' | S 15°36.81' | **24** |
| | δ 14.9839° | | *d* 0.1531' | δ 15.0562° | | *d* 0.0474' | δ 15.0381° | | *d* 0.0899' | δ 15.0376° | | *d* 0.0699' | |

## *Monday, December 19th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°48.17' | 14.9949° | 266°46.33' | S 23°24.29' | 0.0575' | 241°03.63' | 14.5324° | 206°30.87' | S 9°34.14' | 14.6139' | 57.6564' | 87°34.50' | **00** |
| **01** | 195°47.86' | 14.9949° | 266°49.10' | S 23°24.35' | 0.0567' | 255°35.48' | 14.5309° | 207°01.48' | S 9°48.73' | 14.5905' | 57.6965' | 102°36.96' | **01** |
| **02** | 210°47.55' | 14.9949° | 266°51.88' | S 23°24.41' | 0.0558' | 270°07.24' | 14.5294° | 207°32.18' | S 10°03.29' | 14.5658' | 57.7366' | 117°39.43' | **02** |
| **03** | 225°47.24' | 14.9949° | 266°54.65' | S 23°24.46' | 0.0550' | 284°38.92' | 14.5279° | 208°02.97' | S 10°17.83' | 14.5397' | 57.7768' | 132°41.89' | **03** |
| **04** | 240°46.93' | 14.9949° | 266°57.42' | S 23°24.52' | 0.0542' | 299°10.50' | 14.5263° | 208°33.86' | S 10°32.35' | 14.5121' | 57.8170' | 147°44.36' | **04** |
| **05** | 255°46.62' | 14.9949° | 267°00.20' | S 23°24.57' | 0.0534' | 313°41.98' | 14.5248° | 209°04.84' | S 10°46.83' | 14.4832' | 57.8573' | 162°46.82' | **05** |
| **06** | 270°46.31' | 14.9949° | 267°02.97' | S 23°24.62' | 0.0526' | 328°13.37' | 14.5232° | 209°35.91' | S 11°01.28' | 14.4529' | 57.8977' | 177°49.28' | **06** |
| **07** | 285°46.01' | 14.9949° | 267°05.74' | S 23°24.67' | 0.0518' | 342°44.66' | 14.5216° | 210°07.08' | S 11°15.70' | 14.4210' | 57.9380' | 192°51.75' | **07** |
| **08** | 300°45.70' | 14.9948° | 267°08.52' | S 23°24.72' | 0.0510' | 357°15.86' | 14.5199° | 210°38.35' | S 11°30.09' | 14.3878' | 57.9784' | 207°54.21' | **08** |
| **09** | 315°45.39' | 14.9948° | 267°11.29' | S 23°24.77' | 0.0501' | 11°46.95' | 14.5183° | 211°09.72' | S 11°44.44' | 14.3530' | 58.0189' | 222°56.68' | **09** |
| **10** | 330°45.08' | 14.9948° | 267°14.06' | S 23°24.82' | 0.0493' | 26°17.95' | 14.5166° | 211°41.19' | S 11°58.76' | 14.3167' | 58.0593' | 237°59.14' | **10** |
| **11** | 345°44.77' | 14.9948° | 267°16.83' | S 23°24.87' | 0.0485' | 40°48.84' | 14.5149° | 212°12.76' | S 12°13.04' | 14.2789' | 58.0998' | 253°01.60' | **11** |
| **12** | 0°44.46' | 14.9948° | 267°19.61' | S 23°24.92' | 0.0477' | 55°19.63' | 14.5132° | 212°44.44' | S 12°27.28' | 14.2395' | 58.1403' | 268°04.07' | **12** |
| **13** | 15°44.15' | 14.9948° | 267°22.38' | S 23°24.97' | 0.0469' | 69°50.32' | 14.5114° | 213°16.22' | S 12°41.48' | 14.1986' | 58.1808' | 283°06.53' | **13** |
| **14** | 30°43.84' | 14.9948° | 267°25.16' | S 23°25.01' | 0.0461' | 84°20.89' | 14.5096° | 213°48.10' | S 12°55.63' | 14.1561' | 58.2213' | 298°09.00' | **14** |
| **15** | 45°43.53' | 14.9948° | 267°27.93' | S 23°25.06' | 0.0452' | 98°51.37' | 14.5079° | 214°20.10' | S 13°09.75' | 14.1120' | 58.2617' | 313°11.46' | **15** |
| **16** | 60°43.22' | 14.9948° | 267°30.70' | S 23°25.10' | 0.0444' | 113°21.73' | 14.5060° | 214°52.20' | S 13°23.81' | 14.0663' | 58.3022' | 328°13.92' | **16** |
| **17** | 75°42.91' | 14.9948° | 267°33.48' | S 23°25.15' | 0.0436' | 127°51.98' | 14.5042° | 215°24.41' | S 13°37.83' | 14.0189' | 58.3426' | 343°16.39' | **17** |
| **18** | 90°42.60' | 14.9948° | 267°36.25' | S 23°25.19' | 0.0428' | 142°22.12' | 14.5024° | 215°56.73' | S 13°51.80' | 13.9699' | 58.3831' | 358°18.85' | **18** |
| **19** | 105°42.29' | 14.9948° | 267°39.02' | S 23°25.23' | 0.0420' | 156°52.15' | 14.5005° | 216°29.16' | S 14°05.72' | 13.9192' | 58.4234' | 13°21.32' | **19** |
| **20** | 120°41.98' | 14.9948° | 267°41.80' | S 23°25.27' | 0.0412' | 171°22.07' | 14.4986° | 217°01.71' | S 14°19.59' | 13.8668' | 58.4638' | 28°23.78' | **20** |
| **21** | 135°41.67' | 14.9948° | 267°44.57' | S 23°25.31' | 0.0403' | 185°51.87' | 14.4967° | 217°34.38' | S 14°33.40' | 13.8126' | 58.5041' | 43°26.25' | **21** |
| **22** | 150°41.36' | 14.9948° | 267°47.35' | S 23°25.35' | 0.0395' | 200°21.56' | 14.4948° | 218°07.15' | S 14°47.16' | 13.7568' | 58.5443' | 58°28.71' | **22** |
| **23** | 165°41.05' | 14.9948° | 267°50.12' | S 23°25.39' | 0.0387' | 214°51.12' | 14.4928° | 218°40.05' | S 15°00.85' | 13.6991' | 58.5845' | 73°31.17' | **23** |
| **24** | 180°40.74' | 14.9948° | 267°52.89' | S 23°25.43' | 0.0379' | 229°20.57' | 14.4908° | 219°13.06' | S 15°14.49' | 13.6397' | 58.6246' | 88°33.64' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2545' | hp (π) 0.1490' | ½Ø 15.8421' | 19.8340427261475<br>72% -cre |
| | EoT at 12:00 UTC : +2m 57s (δ -1.24 s/h) | | Phase at 12:00 UTC : 307.23° | |
| | Meridian Pass. Time : 11:57:02.160 | | Age : 23.9 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.25') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 165°25.60' | 282°08.90' | S 24°00.36' | 17°12.03' | 70°22.47' | N 24°51.51' | 87°10.01' | 0°24.48' | S 1°17.19' | 123°34.24' | 324°00.26' | S 15°36.81' | **00** |
| **01** | 180°24.64' | 282°12.32' | S 24°00.18' | 32°15.37' | 70°21.59' | N 24°51.46' | 102°12.29' | 0°24.67' | S 1°17.10' | 138°36.49' | 324°00.47' | S 15°36.74' | **01** |
| **02** | 195°23.68' | 282°15.75' | S 23°59.99' | 47°18.71' | 70°20.71' | N 24°51.41' | 117°14.57' | 0°24.86' | S 1°17.00' | 153°38.74' | 324°00.69' | S 15°36.67' | **02** |
| **03** | 210°22.72' | 282°19.18' | S 23°59.81' | 62°22.05' | 70°19.84' | N 24°51.36' | 132°16.85' | 0°25.04' | S 1°16.91' | 168°40.99' | 324°00.90' | S 15°36.60' | **03** |
| **04** | 225°21.75' | 282°22.60' | S 23°59.62' | 77°25.39' | 70°18.96' | N 24°51.31' | 147°19.12' | 0°25.23' | S 1°16.82' | 183°43.25' | 324°01.11' | S 15°36.52' | **04** |
| **05** | 240°20.79' | 282°26.03' | S 23°59.43' | 92°28.73' | 70°18.09' | N 24°51.26' | 162°21.40' | 0°25.42' | S 1°16.72' | 198°45.50' | 324°01.32' | S 15°36.45' | **05** |
| **06** | 255°19.83' | 282°29.46' | S 23°59.24' | 107°32.07' | 70°17.21' | N 24°51.21' | 177°23.68' | 0°25.61' | S 1°16.63' | 213°47.75' | 324°01.54' | S 15°36.38' | **06** |
| **07** | 270°18.87' | 282°32.88' | S 23°59.05' | 122°35.41' | 70°16.34' | N 24°51.16' | 192°25.95' | 0°25.80' | S 1°16.54' | 228°50.00' | 324°01.75' | S 15°36.31' | **07** |
| **08** | 285°17.91' | 282°36.31' | S 23°58.85' | 137°38.74' | 70°15.47' | N 24°51.11' | 207°28.23' | 0°25.98' | S 1°16.44' | 243°52.25' | 324°01.96' | S 15°36.24' | **08** |
| **09** | 300°16.94' | 282°39.73' | S 23°58.66' | 152°42.08' | 70°14.60' | N 24°51.06' | 222°30.50' | 0°26.17' | S 1°16.35' | 258°54.50' | 324°02.17' | S 15°36.17' | **09** |
| **10** | 315°15.98' | 282°43.16' | S 23°58.46' | 167°45.41' | 70°13.73' | N 24°51.01' | 237°32.78' | 0°26.36' | S 1°16.25' | 273°56.75' | 324°02.39' | S 15°36.10' | **10** |
| **11** | 330°15.02' | 282°46.58' | S 23°58.27' | 182°48.74' | 70°12.86' | N 24°50.96' | 252°35.05' | 0°26.55' | S 1°16.16' | 288°59.01' | 324°02.60' | S 15°36.03' | **11** |
| **12** | 345°14.06' | 282°50.01' | S 23°58.07' | 197°52.07' | 70°12.00' | N 24°50.91' | 267°37.33' | 0°26.74' | S 1°16.07' | 304°01.26' | 324°02.81' | S 15°35.95' | **12** |
| **13** | 0°13.10' | 282°53.43' | S 23°57.87' | 212°55.40' | 70°11.13' | N 24°50.85' | 282°39.60' | 0°26.93' | S 1°15.97' | 319°03.51' | 324°03.03' | S 15°35.88' | **13** |
| **14** | 15°12.14' | 282°56.86' | S 23°57.67' | 227°58.73' | 70°10.27' | N 24°50.80' | 297°41.88' | 0°27.12' | S 1°15.88' | 334°05.76' | 324°03.24' | S 15°35.81' | **14** |
| **15** | 30°11.18' | 283°00.28' | S 23°57.47' | 243°02.06' | 70°09.41' | N 24°50.75' | 312°44.15' | 0°27.31' | S 1°15.78' | 349°08.01' | 324°03.45' | S 15°35.74' | **15** |
| **16** | 45°10.22' | 283°03.71' | S 23°57.26' | 258°05.38' | 70°08.54' | N 24°50.70' | 327°46.42' | 0°27.50' | S 1°15.69' | 4°10.26' | 324°03.67' | S 15°35.67' | **16** |
| **17** | 60°09.26' | 283°07.13' | S 23°57.06' | 273°08.71' | 70°07.68' | N 24°50.65' | 342°48.70' | 0°27.69' | S 1°15.59' | 19°12.51' | 324°03.88' | S 15°35.60' | **17** |
| **18** | 75°08.30' | 283°10.56' | S 23°56.85' | 288°12.03' | 70°06.82' | N 24°50.60' | 357°50.97' | 0°27.88' | S 1°15.50' | 34°14.76' | 324°04.09' | S 15°35.53' | **18** |
| **19** | 90°07.34' | 283°13.98' | S 23°56.64' | 303°15.35' | 70°05.97' | N 24°50.55' | 12°53.24' | 0°28.08' | S 1°15.40' | 49°17.01' | 324°04.31' | S 15°35.45' | **19** |
| **20** | 105°06.38' | 283°17.40' | S 23°56.44' | 318°18.67' | 70°05.11' | N 24°50.50' | 27°55.51' | 0°28.27' | S 1°15.31' | 64°19.26' | 324°04.52' | S 15°35.38' | **20** |
| **21** | 120°05.42' | 283°20.83' | S 23°56.23' | 333°21.99' | 70°04.25' | N 24°50.45' | 42°57.79' | 0°28.46' | S 1°15.21' | 79°21.51' | 324°04.74' | S 15°35.31' | **21** |
| **22** | 135°04.46' | 283°24.25' | S 23°56.02' | 348°25.31' | 70°03.40' | N 24°50.40' | 58°00.06' | 0°28.65' | S 1°15.12' | 94°23.76' | 324°04.95' | S 15°35.24' | **22** |
| **23** | 150°03.50' | 283°27.67' | S 23°55.80' | 3°28.63' | 70°02.54' | N 24°50.34' | 73°02.33' | 0°28.85' | S 1°15.02' | 109°26.01' | 324°05.16' | S 15°35.17' | **23** |
| **24** | 165°02.54' | 283°31.10' | S 23°55.59' | 18°31.95' | 70°01.69' | N 24°50.29' | 88°04.60' | 0°29.04' | S 1°14.92' | 124°28.26' | 324°05.38' | S 15°35.10' | **24** |
| | δ 14.9840° | | *d* 0.1841' | δ 15.0557° | | *d* 0.0497' | δ 15.0380° | | *d* 0.0929' | δ 15.0375° | | *d* 0.0708' | |

## *Tuesday, December 20th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°40.74' | 14.9948° | 267°52.89' | S 23°25.43' | 0.0379' | 229°20.57' | 14.4908° | 219°13.06' | S 15°14.49' | 13.6397' | 58.6246' | 88°33.64' | **00** |
| **01** | 195°40.43' | 14.9948° | 267°55.67' | S 23°25.47' | 0.0371' | 243°49.91' | 14.4888° | 219°46.20' | S 15°28.07' | 13.5785' | 58.6647' | 103°36.10' | **01** |
| **02** | 210°40.12' | 14.9948° | 267°58.44' | S 23°25.50' | 0.0363' | 258°19.12' | 14.4868° | 220°19.45' | S 15°41.59' | 13.5155' | 58.7047' | 118°38.57' | **02** |
| **03** | 225°39.81' | 14.9948° | 268°01.22' | S 23°25.54' | 0.0355' | 272°48.20' | 14.4848° | 220°52.83' | S 15°55.04' | 13.4507' | 58.7446' | 133°41.03' | **03** |
| **04** | 240°39.50' | 14.9948° | 268°03.99' | S 23°25.57' | 0.0346' | 287°17.17' | 14.4828° | 221°26.32' | S 16°08.42' | 13.3840' | 58.7844' | 148°43.49' | **04** |
| **05** | 255°39.19' | 14.9948° | 268°06.77' | S 23°25.61' | 0.0338' | 301°46.01' | 14.4807° | 221°59.95' | S 16°21.74' | 13.3154' | 58.8241' | 163°45.96' | **05** |
| **06** | 270°38.88' | 14.9948° | 268°09.54' | S 23°25.64' | 0.0330' | 316°14.73' | 14.4786° | 222°33.69' | S 16°34.98' | 13.2450' | 58.8637' | 178°48.42' | **06** |
| **07** | 285°38.57' | 14.9948° | 268°12.31' | S 23°25.67' | 0.0322' | 330°43.32' | 14.4765° | 223°07.56' | S 16°48.16' | 13.1726' | 58.9032' | 193°50.89' | **07** |
| **08** | 300°38.26' | 14.9948° | 268°15.09' | S 23°25.70' | 0.0314' | 345°11.79' | 14.4744° | 223°41.56' | S 17°01.25' | 13.0983' | 58.9425' | 208°53.35' | **08** |
| **09** | 315°37.95' | 14.9948° | 268°17.86' | S 23°25.73' | 0.0306' | 359°40.13' | 14.4723° | 224°15.69' | S 17°14.28' | 13.0221' | 58.9818' | 223°55.82' | **09** |
| **10** | 330°37.64' | 14.9948° | 268°20.64' | S 23°25.76' | 0.0297' | 14°08.34' | 14.4702° | 224°49.94' | S 17°27.22' | 12.9439' | 59.0209' | 238°58.28' | **10** |
| **11** | 345°37.33' | 14.9948° | 268°23.41' | S 23°25.79' | 0.0289' | 28°36.42' | 14.4680° | 225°24.32' | S 17°40.08' | 12.8638' | 59.0599' | 254°00.74' | **11** |
| **12** | 0°37.02' | 14.9948° | 268°26.19' | S 23°25.82' | 0.0281' | 43°04.37' | 14.4658° | 225°58.84' | S 17°52.87' | 12.7816' | 59.0987' | 269°03.21' | **12** |
| **13** | 15°36.71' | 14.9948° | 268°28.96' | S 23°25.85' | 0.0273' | 57°32.19' | 14.4637° | 226°33.48' | S 18°05.56' | 12.6974' | 59.1374' | 284°05.67' | **13** |
| **14** | 30°36.40' | 14.9948° | 268°31.74' | S 23°25.87' | 0.0265' | 71°59.88' | 14.4615° | 227°08.26' | S 18°18.17' | 12.6113' | 59.1759' | 299°08.14' | **14** |
| **15** | 45°36.09' | 14.9948° | 268°34.51' | S 23°25.90' | 0.0256' | 86°27.43' | 14.4593° | 227°43.17' | S 18°30.70' | 12.5230' | 59.2143' | 314°10.60' | **15** |
| **16** | 60°35.78' | 14.9948° | 268°37.29' | S 23°25.92' | 0.0248' | 100°54.86' | 14.4570° | 228°18.21' | S 18°43.13' | 12.4328' | 59.2525' | 329°13.06' | **16** |
| **17** | 75°35.47' | 14.9948° | 268°40.06' | S 23°25.95' | 0.0240' | 115°22.15' | 14.4548° | 228°53.38' | S 18°55.47' | 12.3404' | 59.2905' | 344°15.53' | **17** |
| **18** | 90°35.16' | 14.9948° | 268°42.84' | S 23°25.97' | 0.0232' | 129°49.30' | 14.4526° | 229°28.69' | S 19°07.72' | 12.2460' | 59.3284' | 359°17.99' | **18** |
| **19** | 105°34.85' | 14.9948° | 268°45.61' | S 23°25.99' | 0.0224' | 144°16.32' | 14.4503° | 230°04.14' | S 19°19.87' | 12.1495' | 59.3660' | 14°20.46' | **19** |
| **20** | 120°34.54' | 14.9948° | 268°48.39' | S 23°26.01' | 0.0216' | 158°43.21' | 14.4481° | 230°39.72' | S 19°31.92' | 12.0508' | 59.4034' | 29°22.92' | **20** |
| **21** | 135°34.22' | 14.9948° | 268°51.16' | S 23°26.04' | 0.0207' | 173°09.95' | 14.4458° | 231°15.43' | S 19°43.87' | 11.9501' | 59.4407' | 44°25.39' | **21** |
| **22** | 150°33.91' | 14.9948° | 268°53.94' | S 23°26.06' | 0.0199' | 187°36.57' | 14.4435° | 231°51.28' | S 19°55.71' | 11.8472' | 59.4777' | 59°27.85' | **22** |
| **23** | 165°33.60' | 14.9948° | 268°56.71' | S 23°26.07' | 0.0191' | 202°03.04' | 14.4413° | 232°27.27' | S 20°07.46' | 11.7421' | 59.5145' | 74°30.31' | **23** |
| **24** | 180°33.29' | 14.9948° | 268°59.49' | S 23°26.09' | 0.0183' | 216°29.38' | 14.4390° | 233°03.40' | S 20°19.09' | 11.6349' | 59.5511' | 89°32.78' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2557' | hp (π) 0.1490' | ½Ø 16.1033' | 11.7345304021321<br>16% -cre | |
| EoT at 12:00 UTC : +2m 28s (δ -1.24 s/h) | | Phase at 12:00 UTC : 320.03° | | |
| Meridian Pass. Time : 11:57:31.916 | | Age : 24.9 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.25') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 165°02.54' | 283°31.10' | S 23°55.59' | 18°31.95' | 70°01.69' | N 24°50.29' | 88°04.60' | 0°29.04' | S 1°14.92' | 124°28.26' | 324°05.38' | S 15°35.10' | **00** |
| **01** | 180°01.58' | 283°34.52' | S 23°55.37' | 33°35.26' | 70°00.84' | N 24°50.24' | 103°06.87' | 0°29.23' | S 1°14.83' | 139°30.51' | 324°05.59' | S 15°35.02' | **01** |
| **02** | 195°00.63' | 283°37.94' | S 23°55.16' | 48°38.58' | 69°59.99' | N 24°50.19' | 118°09.14' | 0°29.43' | S 1°14.73' | 154°32.76' | 324°05.81' | S 15°34.95' | **02** |
| **03** | 209°59.67' | 283°41.36' | S 23°54.94' | 63°41.89' | 69°59.14' | N 24°50.14' | 133°11.41' | 0°29.62' | S 1°14.64' | 169°35.01' | 324°06.02' | S 15°34.88' | **03** |
| **04** | 224°58.71' | 283°44.78' | S 23°54.72' | 78°45.20' | 69°58.29' | N 24°50.09' | 148°13.68' | 0°29.81' | S 1°14.54' | 184°37.26' | 324°06.24' | S 15°34.81' | **04** |
| **05** | 239°57.75' | 283°48.21' | S 23°54.50' | 93°48.51' | 69°57.45' | N 24°50.03' | 163°15.95' | 0°30.01' | S 1°14.44' | 199°39.50' | 324°06.45' | S 15°34.74' | **05** |
| **06** | 254°56.80' | 283°51.63' | S 23°54.28' | 108°51.82' | 69°56.60' | N 24°49.98' | 178°18.22' | 0°30.20' | S 1°14.35' | 214°41.75' | 324°06.67' | S 15°34.66' | **06** |
| **07** | 269°55.84' | 283°55.05' | S 23°54.06' | 123°55.13' | 69°55.76' | N 24°49.93' | 193°20.49' | 0°30.40' | S 1°14.25' | 229°44.00' | 324°06.88' | S 15°34.59' | **07** |
| **08** | 284°54.88' | 283°58.47' | S 23°53.83' | 138°58.44' | 69°54.92' | N 24°49.88' | 208°22.76' | 0°30.59' | S 1°14.15' | 244°46.25' | 324°07.10' | S 15°34.52' | **08** |
| **09** | 299°53.92' | 284°01.89' | S 23°53.61' | 154°01.74' | 69°54.07' | N 24°49.83' | 223°25.03' | 0°30.79' | S 1°14.06' | 259°48.50' | 324°07.32' | S 15°34.45' | **09** |
| **10** | 314°52.97' | 284°05.31' | S 23°53.38' | 169°05.05' | 69°53.23' | N 24°49.77' | 238°27.29' | 0°30.99' | S 1°13.96' | 274°50.75' | 324°07.53' | S 15°34.38' | **10** |
| **11** | 329°52.01' | 284°08.73' | S 23°53.15' | 184°08.35' | 69°52.39' | N 24°49.72' | 253°29.56' | 0°31.18' | S 1°13.86' | 289°53.00' | 324°07.75' | S 15°34.30' | **11** |
| **12** | 344°51.05' | 284°12.15' | S 23°52.93' | 199°11.65' | 69°51.56' | N 24°49.67' | 268°31.83' | 0°31.38' | S 1°13.76' | 304°55.24' | 324°07.96' | S 15°34.23' | **12** |
| **13** | 359°50.10' | 284°15.57' | S 23°52.70' | 214°14.95' | 69°50.72' | N 24°49.62' | 283°34.10' | 0°31.58' | S 1°13.67' | 319°57.49' | 324°08.18' | S 15°34.16' | **13** |
| **14** | 14°49.14' | 284°18.99' | S 23°52.46' | 229°18.25' | 69°49.88' | N 24°49.57' | 298°36.36' | 0°31.77' | S 1°13.57' | 334°59.74' | 324°08.40' | S 15°34.09' | **14** |
| **15** | 29°48.19' | 284°22.41' | S 23°52.23' | 244°21.55' | 69°49.05' | N 24°49.51' | 313°38.63' | 0°31.97' | S 1°13.47' | 350°01.99' | 324°08.61' | S 15°34.02' | **15** |
| **16** | 44°47.23' | 284°25.83' | S 23°52.00' | 259°24.85' | 69°48.22' | N 24°49.46' | 328°40.90' | 0°32.17' | S 1°13.37' | 5°04.24' | 324°08.83' | S 15°33.94' | **16** |
| **17** | 59°46.28' | 284°29.25' | S 23°51.76' | 274°28.14' | 69°47.38' | N 24°49.41' | 343°43.16' | 0°32.37' | S 1°13.28' | 20°06.48' | 324°09.04' | S 15°33.87' | **17** |
| **18** | 74°45.32' | 284°32.67' | S 23°51.52' | 289°31.44' | 69°46.55' | N 24°49.36' | 358°45.43' | 0°32.57' | S 1°13.18' | 35°08.73' | 324°09.26' | S 15°33.80' | **18** |
| **19** | 89°44.37' | 284°36.09' | S 23°51.29' | 304°34.73' | 69°45.73' | N 24°49.30' | 13°47.69' | 0°32.76' | S 1°13.08' | 50°10.98' | 324°09.48' | S 15°33.73' | **19** |
| **20** | 104°43.41' | 284°39.51' | S 23°51.05' | 319°38.02' | 69°44.90' | N 24°49.25' | 28°49.96' | 0°32.96' | S 1°12.98' | 65°13.23' | 324°09.69' | S 15°33.65' | **20** |
| **21** | 119°42.46' | 284°42.93' | S 23°50.81' | 334°41.32' | 69°44.07' | N 24°49.20' | 43°52.22' | 0°33.16' | S 1°12.88' | 80°15.47' | 324°09.91' | S 15°33.58' | **21** |
| **22** | 134°41.50' | 284°46.35' | S 23°50.57' | 349°44.61' | 69°43.24' | N 24°49.14' | 58°54.49' | 0°33.36' | S 1°12.78' | 95°17.72' | 324°10.13' | S 15°33.51' | **22** |
| **23** | 149°40.55' | 284°49.76' | S 23°50.32' | 4°47.89' | 69°42.42' | N 24°49.09' | 73°56.75' | 0°33.56' | S 1°12.69' | 110°19.97' | 324°10.35' | S 15°33.43' | **23** |
| **24** | 164°39.60' | 284°53.18' | S 23°50.08' | 19°51.18' | 69°41.60' | N 24°49.04' | 88°59.02' | 0°33.76' | S 1°12.59' | 125°22.21' | 324°10.56' | S 15°33.36' | **24** |
| | δ 14.9840° | | *d* 0.2149' | δ 15.0553° | | *d* 0.0515' | δ 15.0378° | | *d* 0.0959' | δ 15.0375° | | *d* 0.0718' | |

## *Wednesday, December 21st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°33.29' | 14.9948° | 268°59.49' | S 23°26.09' | 0.0183' | 216°29.38' | 14.4390° | 233°03.40' | S 20°19.09' | 11.6349' | 59.5511' | 89°32.78' | **00** |
| **01** | 195°32.98' | 14.9948° | 269°02.26' | S 23°26.11' | 0.0175' | 230°55.58' | 14.4367° | 233°39.66' | S 20°30.62' | 11.5256' | 59.5874' | 104°35.24' | **01** |
| **02** | 210°32.67' | 14.9948° | 269°05.04' | S 23°26.13' | 0.0167' | 245°21.65' | 14.4344° | 234°16.06' | S 20°42.03' | 11.4140' | 59.6235' | 119°37.71' | **02** |
| **03** | 225°32.36' | 14.9948° | 269°07.81' | S 23°26.14' | 0.0158' | 259°47.57' | 14.4321° | 234°52.60' | S 20°53.33' | 11.3003' | 59.6593' | 134°40.17' | **03** |
| **04** | 240°32.05' | 14.9948° | 269°10.59' | S 23°26.16' | 0.0150' | 274°13.36' | 14.4298° | 235°29.28' | S 21°04.52' | 11.1844' | 59.6949' | 149°42.63' | **04** |
| **05** | 255°31.74' | 14.9948° | 269°13.36' | S 23°26.17' | 0.0142' | 288°39.01' | 14.4275° | 236°06.09' | S 21°15.58' | 11.0663' | 59.7303' | 164°45.10' | **05** |
| **06** | 270°31.42' | 14.9948° | 269°16.14' | S 23°26.19' | 0.0134' | 303°04.52' | 14.4252° | 236°43.04' | S 21°26.53' | 10.9460' | 59.7653' | 179°47.56' | **06** |
| **07** | 285°31.11' | 14.9948° | 269°18.91' | S 23°26.20' | 0.0126' | 317°29.90' | 14.4229° | 237°20.13' | S 21°37.35' | 10.8235' | 59.8001' | 194°50.03' | **07** |
| **08** | 300°30.80' | 14.9948° | 269°21.69' | S 23°26.21' | 0.0118' | 331°55.13' | 14.4206° | 237°57.36' | S 21°48.05' | 10.6988' | 59.8346' | 209°52.49' | **08** |
| **09** | 315°30.49' | 14.9948° | 269°24.47' | S 23°26.22' | 0.0109' | 346°20.23' | 14.4183° | 238°34.73' | S 21°58.62' | 10.5719' | 59.8688' | 224°54.96' | **09** |
| **10** | 330°30.18' | 14.9948° | 269°27.24' | S 23°26.23' | 0.0101' | 0°45.19' | 14.4160° | 239°12.23' | S 22°09.06' | 10.4427' | 59.9027' | 239°57.42' | **10** |
| **11** | 345°29.87' | 14.9948° | 269°30.02' | S 23°26.24' | 0.0093' | 15°10.01' | 14.4137° | 239°49.87' | S 22°19.38' | 10.3113' | 59.9364' | 254°59.88' | **11** |
| **12** | 0°29.56' | 14.9948° | 269°32.79' | S 23°26.25' | 0.0085' | 29°34.70' | 14.4114° | 240°27.65' | S 22°29.55' | 10.1778' | 59.9697' | 270°02.35' | **12** |
| **13** | 15°29.25' | 14.9948° | 269°35.57' | S 23°26.26' | 0.0077' | 43°59.25' | 14.4092° | 241°05.56' | S 22°39.60' | 10.0420' | 60.0027' | 285°04.81' | **13** |
| **14** | 30°28.93' | 14.9948° | 269°38.34' | S 23°26.26' | 0.0068' | 58°23.67' | 14.4069° | 241°43.61' | S 22°49.50' | 9.9040' | 60.0353' | 300°07.28' | **14** |
| **15** | 45°28.62' | 14.9948° | 269°41.12' | S 23°26.27' | 0.0060' | 72°47.95' | 14.4047° | 242°21.80' | S 22°59.26' | 9.7637' | 60.0677' | 315°09.74' | **15** |
| **16** | 60°28.31' | 14.9948° | 269°43.89' | S 23°26.27' | 0.0052' | 87°12.09' | 14.4024° | 243°00.12' | S 23°08.88' | 9.6213' | 60.0997' | 330°12.21' | **16** |
| **17** | 75°28.00' | 14.9948° | 269°46.67' | S 23°26.28' | 0.0044' | 101°36.10' | 14.4002° | 243°38.57' | S 23°18.36' | 9.4767' | 60.1313' | 345°14.67' | **17** |
| **18** | 90°27.69' | 14.9948° | 269°49.45' | S 23°26.28' | 0.0036' | 115°59.98' | 14.3979° | 244°17.16' | S 23°27.69' | 9.3299' | 60.1626' | 0°17.13' | **18** |
| **19** | 105°27.38' | 14.9948° | 269°52.22' | S 23°26.29' | 0.0028' | 130°23.72' | 14.3957° | 244°55.88' | S 23°36.87' | 9.1809' | 60.1936' | 15°19.60' | **19** |
| **20** | 120°27.06' | 14.9948° | 269°55.00' | S 23°26.29' | 0.0019' | 144°47.33' | 14.3935° | 245°34.73' | S 23°45.90' | 9.0297' | 60.2242' | 30°22.06' | **20** |
| **21** | 135°26.75' | 14.9948° | 269°57.77' | S 23°26.29' | 0.0011' | 159°10.81' | 14.3914° | 246°13.71' | S 23°54.78' | 8.8764' | 60.2544' | 45°24.53' | **21** |
| **22** | 150°26.44' | 14.9948° | 270°00.55' | S 23°26.29' | 0.0003' | 173°34.17' | 14.3892° | 246°52.82' | S 24°03.50' | 8.7209' | 60.2842' | 60°26.99' | **22** |
| **23** | 165°26.13' | 14.9948° | 270°03.33' | S 23°26.29' | 0.0005' | 187°57.39' | 14.3871° | 247°32.07' | S 24°12.06' | 8.5633' | 60.3137' | 75°29.45' | **23** |
| **24** | 180°25.82' | 14.9948° | 270°06.10' | S 23°26.29' | 0.0013' | 202°20.49' | 14.3849° | 248°11.43' | S 24°20.47' | 8.4036' | 60.3427' | 90°31.92' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2568' | hp (π) 0.1490' | ½Ø 16.3406' | 5.37709004740205<br>55% -cre |
| | EoT at 12:00 UTC : +1m 58s (δ -1.25 s/h) | | Phase at 12:00 UTC : 333.30° | |
| | Meridian Pass. Time : 11:58:01.773 | | Age : 25.9 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.25') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 164°39.60' | 284°53.18' | S 23°50.08' | 19°51.18' | 69°41.60' | N 24°49.04' | 88°59.02' | 0°33.76' | S 1°12.59' | 125°22.21' | 324°10.56' | S 15°33.36' | **00** |
| **01** | 179°38.64' | 284°56.60' | S 23°49.83' | 34°54.47' | 69°40.78' | N 24°48.99' | 104°01.28' | 0°33.96' | S 1°12.49' | 140°24.46' | 324°10.78' | S 15°33.29' | **01** |
| **02** | 194°37.69' | 285°00.02' | S 23°49.59' | 49°57.75' | 69°39.95' | N 24°48.93' | 119°03.54' | 0°34.16' | S 1°12.39' | 155°26.71' | 324°11.00' | S 15°33.22' | **02** |
| **03** | 209°36.74' | 285°03.43' | S 23°49.34' | 65°01.04' | 69°39.14' | N 24°48.88' | 134°05.81' | 0°34.36' | S 1°12.29' | 170°28.95' | 324°11.22' | S 15°33.14' | **03** |
| **04** | 224°35.78' | 285°06.85' | S 23°49.09' | 80°04.32' | 69°38.32' | N 24°48.83' | 149°08.07' | 0°34.57' | S 1°12.19' | 185°31.20' | 324°11.43' | S 15°33.07' | **04** |
| **05** | 239°34.83' | 285°10.27' | S 23°48.84' | 95°07.60' | 69°37.50' | N 24°48.77' | 164°10.33' | 0°34.77' | S 1°12.09' | 200°33.45' | 324°11.65' | S 15°33.00' | **05** |
| **06** | 254°33.88' | 285°13.68' | S 23°48.59' | 110°10.88' | 69°36.68' | N 24°48.72' | 179°12.59' | 0°34.97' | S 1°11.99' | 215°35.69' | 324°11.87' | S 15°32.92' | **06** |
| **07** | 269°32.93' | 285°17.10' | S 23°48.33' | 125°14.16' | 69°35.87' | N 24°48.67' | 194°14.86' | 0°35.17' | S 1°11.89' | 230°37.94' | 324°12.09' | S 15°32.85' | **07** |
| **08** | 284°31.98' | 285°20.52' | S 23°48.08' | 140°17.43' | 69°35.06' | N 24°48.61' | 209°17.12' | 0°35.37' | S 1°11.79' | 245°40.19' | 324°12.31' | S 15°32.78' | **08** |
| **09** | 299°31.02' | 285°23.93' | S 23°47.82' | 155°20.71' | 69°34.25' | N 24°48.56' | 224°19.38' | 0°35.58' | S 1°11.69' | 260°42.43' | 324°12.52' | S 15°32.71' | **09** |
| **10** | 314°30.07' | 285°27.35' | S 23°47.56' | 170°23.99' | 69°33.43' | N 24°48.51' | 239°21.64' | 0°35.78' | S 1°11.59' | 275°44.68' | 324°12.74' | S 15°32.63' | **10** |
| **11** | 329°29.12' | 285°30.76' | S 23°47.31' | 185°27.26' | 69°32.63' | N 24°48.45' | 254°23.90' | 0°35.98' | S 1°11.49' | 290°46.92' | 324°12.96' | S 15°32.56' | **11** |
| **12** | 344°28.17' | 285°34.18' | S 23°47.05' | 200°30.53' | 69°31.82' | N 24°48.40' | 269°26.16' | 0°36.19' | S 1°11.39' | 305°49.17' | 324°13.18' | S 15°32.49' | **12** |
| **13** | 359°27.22' | 285°37.59' | S 23°46.79' | 215°33.80' | 69°31.01' | N 24°48.35' | 284°28.42' | 0°36.39' | S 1°11.29' | 320°51.41' | 324°13.40' | S 15°32.41' | **13** |
| **14** | 14°26.27' | 285°41.01' | S 23°46.52' | 230°37.07' | 69°30.21' | N 24°48.29' | 299°30.68' | 0°36.59' | S 1°11.19' | 335°53.66' | 324°13.62' | S 15°32.34' | **14** |
| **15** | 29°25.32' | 285°44.42' | S 23°46.26' | 245°40.34' | 69°29.40' | N 24°48.24' | 314°32.94' | 0°36.80' | S 1°11.09' | 350°55.90' | 324°13.84' | S 15°32.27' | **15** |
| **16** | 44°24.37' | 285°47.83' | S 23°46.00' | 260°43.61' | 69°28.60' | N 24°48.19' | 329°35.20' | 0°37.00' | S 1°10.99' | 5°58.15' | 324°14.06' | S 15°32.19' | **16** |
| **17** | 59°23.42' | 285°51.25' | S 23°45.73' | 275°46.87' | 69°27.80' | N 24°48.13' | 344°37.46' | 0°37.21' | S 1°10.89' | 21°00.39' | 324°14.28' | S 15°32.12' | **17** |
| **18** | 74°22.47' | 285°54.66' | S 23°45.46' | 290°50.14' | 69°27.00' | N 24°48.08' | 359°39.72' | 0°37.41' | S 1°10.79' | 36°02.64' | 324°14.49' | S 15°32.05' | **18** |
| **19** | 89°21.52' | 285°58.08' | S 23°45.19' | 305°53.40' | 69°26.20' | N 24°48.02' | 14°41.98' | 0°37.62' | S 1°10.69' | 51°04.88' | 324°14.71' | S 15°31.97' | **19** |
| **20** | 104°20.57' | 286°01.49' | S 23°44.92' | 320°56.66' | 69°25.40' | N 24°47.97' | 29°44.24' | 0°37.83' | S 1°10.59' | 66°07.13' | 324°14.93' | S 15°31.90' | **20** |
| **21** | 119°19.62' | 286°04.90' | S 23°44.65' | 335°59.92' | 69°24.60' | N 24°47.92' | 44°46.49' | 0°38.03' | S 1°10.48' | 81°09.37' | 324°15.15' | S 15°31.83' | **21** |
| **22** | 134°18.68' | 286°08.31' | S 23°44.38' | 351°03.18' | 69°23.81' | N 24°47.86' | 59°48.75' | 0°38.24' | S 1°10.38' | 96°11.62' | 324°15.37' | S 15°31.75' | **22** |
| **23** | 149°17.73' | 286°11.73' | S 23°44.11' | 6°06.44' | 69°23.01' | N 24°47.81' | 74°51.01' | 0°38.45' | S 1°10.28' | 111°13.86' | 324°15.59' | S 15°31.68' | **23** |
| **24** | 164°16.78' | 286°15.14' | S 23°43.83' | 21°09.70' | 69°22.22' | N 24°47.76' | 89°53.27' | 0°38.65' | S 1°10.18' | 126°16.11' | 324°15.81' | S 15°31.60' | **24** |
| | δ 14.9841° | | *d* 0.2456' | δ 15.0548° | | *d* 0.0530' | δ 15.0377° | | *d* 0.0989' | δ 15.0374° | | *d* 0.0728' | |

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°25.82' | 14.9948° | 270°06.10' | S 23°26.29' | 0.0013' | 202°20.49' | 14.3849° | 248°11.43' | S 24°20.47' | 8.4036' | 60.3427' | 90°31.92' | **00** |
| **01** | 195°25.51' | 14.9948° | 270°08.88' | S 23°26.28' | 0.0021' | 216°43.46' | 14.3828° | 248°50.93' | S 24°28.71' | 8.2417' | 60.3714' | 105°34.38' | **01** |
| **02** | 210°25.19' | 14.9948° | 270°11.65' | S 23°26.28' | 0.0030' | 231°06.30' | 14.3808° | 249°30.55' | S 24°36.79' | 8.0778' | 60.3997' | 120°36.85' | **02** |
| **03** | 225°24.88' | 14.9948° | 270°14.43' | S 23°26.28' | 0.0038' | 245°29.02' | 14.3787° | 250°10.29' | S 24°44.70' | 7.9118' | 60.4276' | 135°39.31' | **03** |
| **04** | 240°24.57' | 14.9948° | 270°17.20' | S 23°26.27' | 0.0046' | 259°51.62' | 14.3767° | 250°50.15' | S 24°52.44' | 7.7437' | 60.4550' | 150°41.78' | **04** |
| **05** | 255°24.26' | 14.9948° | 270°19.98' | S 23°26.27' | 0.0054' | 274°14.10' | 14.3747° | 251°30.14' | S 25°00.02' | 7.5736' | 60.4821' | 165°44.24' | **05** |
| **06** | 270°23.95' | 14.9948° | 270°22.76' | S 23°26.26' | 0.0062' | 288°36.46' | 14.3727° | 252°10.24' | S 25°07.42' | 7.4016' | 60.5087' | 180°46.70' | **06** |
| **07** | 285°23.64' | 14.9948° | 270°25.53' | S 23°26.25' | 0.0071' | 302°58.71' | 14.3707° | 252°50.46' | S 25°14.64' | 7.2275' | 60.5349' | 195°49.17' | **07** |
| **08** | 300°23.32' | 14.9948° | 270°28.31' | S 23°26.25' | 0.0079' | 317°20.84' | 14.3688° | 253°30.80' | S 25°21.70' | 7.0515' | 60.5607' | 210°51.63' | **08** |
| **09** | 315°23.01' | 14.9948° | 270°31.08' | S 23°26.24' | 0.0087' | 331°42.85' | 14.3669° | 254°11.25' | S 25°28.57' | 6.8736' | 60.5860' | 225°54.10' | **09** |
| **10** | 330°22.70' | 14.9948° | 270°33.86' | S 23°26.23' | 0.0095' | 346°04.76' | 14.3651° | 254°51.81' | S 25°35.26' | 6.6937' | 60.6109' | 240°56.56' | **10** |
| **11** | 345°22.39' | 14.9948° | 270°36.64' | S 23°26.22' | 0.0103' | 0°26.55' | 14.3633° | 255°32.47' | S 25°41.77' | 6.5120' | 60.6353' | 255°59.03' | **11** |
| **12** | 0°22.08' | 14.9948° | 270°39.41' | S 23°26.21' | 0.0111' | 14°48.24' | 14.3615° | 256°13.25' | S 25°48.10' | 6.3285' | 60.6593' | 271°01.49' | **12** |
| **13** | 15°21.77' | 14.9948° | 270°42.19' | S 23°26.19' | 0.0120' | 29°09.82' | 14.3597° | 256°54.13' | S 25°54.25' | 6.1432' | 60.6828' | 286°03.95' | **13** |
| **14** | 30°21.45' | 14.9948° | 270°44.97' | S 23°26.18' | 0.0128' | 43°31.30' | 14.3580° | 257°35.11' | S 26°00.20' | 5.9561' | 60.7058' | 301°06.42' | **14** |
| **15** | 45°21.14' | 14.9948° | 270°47.74' | S 23°26.17' | 0.0136' | 57°52.68' | 14.3563° | 258°16.20' | S 26°05.97' | 5.7673' | 60.7284' | 316°08.88' | **15** |
| **16** | 60°20.83' | 14.9948° | 270°50.52' | S 23°26.15' | 0.0144' | 72°13.97' | 14.3547° | 258°57.38' | S 26°11.55' | 5.5768' | 60.7505' | 331°11.35' | **16** |
| **17** | 75°20.52' | 14.9948° | 270°53.29' | S 23°26.14' | 0.0152' | 86°35.15' | 14.3531° | 259°38.66' | S 26°16.93' | 5.3846' | 60.7721' | 346°13.81' | **17** |
| **18** | 90°20.21' | 14.9948° | 270°56.07' | S 23°26.12' | 0.0161' | 100°56.25' | 14.3516° | 260°20.03' | S 26°22.12' | 5.1909' | 60.7932' | 1°16.28' | **18** |
| **19** | 105°19.89' | 14.9948° | 270°58.85' | S 23°26.11' | 0.0169' | 115°17.25' | 14.3501° | 261°01.49' | S 26°27.12' | 4.9956' | 60.8138' | 16°18.74' | **19** |
| **20** | 120°19.58' | 14.9948° | 271°01.62' | S 23°26.09' | 0.0177' | 129°38.17' | 14.3486° | 261°43.04' | S 26°31.92' | 4.7987' | 60.8340' | 31°21.20' | **20** |
| **21** | 135°19.27' | 14.9948° | 271°04.40' | S 23°26.07' | 0.0185' | 143°59.00' | 14.3472° | 262°24.67' | S 26°36.52' | 4.6004' | 60.8536' | 46°23.67' | **21** |
| **22** | 150°18.96' | 14.9948° | 271°07.17' | S 23°26.05' | 0.0193' | 158°19.75' | 14.3458° | 263°06.39' | S 26°40.92' | 4.4007' | 60.8728' | 61°26.13' | **22** |
| **23** | 165°18.65' | 14.9948° | 271°09.95' | S 23°26.03' | 0.0201' | 172°40.42' | 14.3445° | 263°48.18' | S 26°45.12' | 4.1995' | 60.8914' | 76°28.60' | **23** |
| **24** | 180°18.33' | 14.9948° | 271°12.73' | S 23°26.01' | 0.0210' | 187°01.01' | 14.3432° | 264°30.05' | S 26°49.11' | 3.9971' | 60.9095' | 91°31.06' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 16.2579' | hp (π) 0.1490' | ½Ø 16.5284' | 1.35316921296022<br>57% -cre | |
| | EoT at 12:00 UTC : +1m 28s (δ -1.25 s/h) | | Phase at 12:00 UTC : 347.00° | | |
| | Meridian Pass. Time : 11:58:31.692 | | Age : 27.0 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.25') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 164°16.78' | 286°15.14' | S 23°43.83' | 21°09.70' | 69°22.22' | N 24°47.76' | 89°53.27' | 0°38.65' | S 1°10.18' | 126°16.11' | 324°15.81' | S 15°31.60' | **00** |
| **01** | 179°15.83' | 286°18.55' | S 23°43.56' | 36°12.95' | 69°21.43' | N 24°47.70' | 104°55.52' | 0°38.86' | S 1°10.08' | 141°18.35' | 324°16.03' | S 15°31.53' | **01** |
| **02** | 194°14.89' | 286°21.96' | S 23°43.28' | 51°16.21' | 69°20.64' | N 24°47.65' | 119°57.78' | 0°39.07' | S 1°09.98' | 156°20.59' | 324°16.25' | S 15°31.46' | **02** |
| **03** | 209°13.94' | 286°25.37' | S 23°43.00' | 66°19.46' | 69°19.85' | N 24°47.59' | 135°00.04' | 0°39.28' | S 1°09.87' | 171°22.84' | 324°16.47' | S 15°31.38' | **03** |
| **04** | 224°12.99' | 286°28.78' | S 23°42.72' | 81°22.71' | 69°19.07' | N 24°47.54' | 150°02.29' | 0°39.48' | S 1°09.77' | 186°25.08' | 324°16.69' | S 15°31.31' | **04** |
| **05** | 239°12.05' | 286°32.20' | S 23°42.44' | 96°25.96' | 69°18.28' | N 24°47.49' | 165°04.55' | 0°39.69' | S 1°09.67' | 201°27.32' | 324°16.92' | S 15°31.24' | **05** |
| **06** | 254°11.10' | 286°35.61' | S 23°42.16' | 111°29.21' | 69°17.49' | N 24°47.43' | 180°06.80' | 0°39.90' | S 1°09.57' | 216°29.57' | 324°17.14' | S 15°31.16' | **06** |
| **07** | 269°10.15' | 286°39.02' | S 23°41.87' | 126°32.46' | 69°16.71' | N 24°47.38' | 195°09.06' | 0°40.11' | S 1°09.46' | 231°31.81' | 324°17.36' | S 15°31.09' | **07** |
| **08** | 284°09.21' | 286°42.43' | S 23°41.59' | 141°35.70' | 69°15.93' | N 24°47.32' | 210°11.31' | 0°40.32' | S 1°09.36' | 246°34.06' | 324°17.58' | S 15°31.01' | **08** |
| **09** | 299°08.26' | 286°45.84' | S 23°41.30' | 156°38.95' | 69°15.15' | N 24°47.27' | 225°13.57' | 0°40.53' | S 1°09.26' | 261°36.30' | 324°17.80' | S 15°30.94' | **09** |
| **10** | 314°07.32' | 286°49.25' | S 23°41.01' | 171°42.19' | 69°14.37' | N 24°47.21' | 240°15.82' | 0°40.74' | S 1°09.15' | 276°38.54' | 324°18.02' | S 15°30.87' | **10** |
| **11** | 329°06.37' | 286°52.65' | S 23°40.72' | 186°45.43' | 69°13.59' | N 24°47.16' | 255°18.08' | 0°40.95' | S 1°09.05' | 291°40.78' | 324°18.24' | S 15°30.79' | **11** |
| **12** | 344°05.43' | 286°56.06' | S 23°40.43' | 201°48.68' | 69°12.81' | N 24°47.11' | 270°20.33' | 0°41.16' | S 1°08.95' | 306°43.03' | 324°18.46' | S 15°30.72' | **12** |
| **13** | 359°04.48' | 286°59.47' | S 23°40.14' | 216°51.91' | 69°12.04' | N 24°47.05' | 285°22.58' | 0°41.37' | S 1°08.85' | 321°45.27' | 324°18.68' | S 15°30.64' | **13** |
| **14** | 14°03.54' | 287°02.88' | S 23°39.85' | 231°55.15' | 69°11.27' | N 24°47.00' | 300°24.84' | 0°41.58' | S 1°08.74' | 336°47.51' | 324°18.91' | S 15°30.57' | **14** |
| **15** | 29°02.59' | 287°06.29' | S 23°39.56' | 246°58.39' | 69°10.49' | N 24°46.94' | 315°27.09' | 0°41.79' | S 1°08.64' | 351°49.75' | 324°19.13' | S 15°30.50' | **15** |
| **16** | 44°01.65' | 287°09.70' | S 23°39.26' | 262°01.63' | 69°09.72' | N 24°46.89' | 330°29.34' | 0°42.01' | S 1°08.53' | 6°52.00' | 324°19.35' | S 15°30.42' | **16** |
| **17** | 59°00.71' | 287°13.10' | S 23°38.97' | 277°04.86' | 69°08.95' | N 24°46.83' | 345°31.59' | 0°42.22' | S 1°08.43' | 21°54.24' | 324°19.57' | S 15°30.35' | **17** |
| **18** | 73°59.76' | 287°16.51' | S 23°38.67' | 292°08.09' | 69°08.18' | N 24°46.78' | 0°33.84' | 0°42.43' | S 1°08.33' | 36°56.48' | 324°19.79' | S 15°30.27' | **18** |
| **19** | 88°58.82' | 287°19.92' | S 23°38.37' | 307°11.32' | 69°07.42' | N 24°46.73' | 15°36.10' | 0°42.64' | S 1°08.22' | 51°58.72' | 324°20.02' | S 15°30.20' | **19** |
| **20** | 103°57.88' | 287°23.33' | S 23°38.07' | 322°14.55' | 69°06.65' | N 24°46.67' | 30°38.35' | 0°42.86' | S 1°08.12' | 67°00.97' | 324°20.24' | S 15°30.12' | **20** |
| **21** | 118°56.94' | 287°26.73' | S 23°37.77' | 337°17.78' | 69°05.88' | N 24°46.62' | 45°40.60' | 0°43.07' | S 1°08.01' | 82°03.21' | 324°20.46' | S 15°30.05' | **21** |
| **22** | 133°55.99' | 287°30.14' | S 23°37.46' | 352°21.01' | 69°05.12' | N 24°46.56' | 60°42.85' | 0°43.28' | S 1°07.91' | 97°05.45' | 324°20.68' | S 15°29.97' | **22** |
| **23** | 148°55.05' | 287°33.55' | S 23°37.16' | 7°24.24' | 69°04.36' | N 24°46.51' | 75°45.10' | 0°43.50' | S 1°07.80' | 112°07.69' | 324°20.91' | S 15°29.90' | **23** |
| **24** | 163°54.11' | 287°36.95' | S 23°36.86' | 22°27.46' | 69°03.60' | N 24°46.45' | 90°47.35' | 0°43.71' | S 1°07.70' | 127°09.93' | 324°21.13' | S 15°29.83' | **24** |
| | δ 14.9842° | | *d* 0.2761' | δ 15.0543° | | *d* 0.0540' | δ 15.0376° | | *d* 0.1019' | δ 15.0374° | | *d* 0.0737' | |

## *Friday, December 23rd, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°18.33' | 14.9948° | 271°12.73' | S 23°26.01' | 0.0210' | 187°01.01' | 14.3432° | 264°30.05' | S 26°49.11' | 3.9971' | 60.9095' | 91°31.06' | **00** |
| **01** | 195°18.02' | 14.9948° | 271°15.50' | S 23°25.99' | 0.0218' | 201°21.53' | 14.3420° | 265°11.99' | S 26°52.91' | 3.7933' | 60.9272' | 106°33.53' | **01** |
| **02** | 210°17.71' | 14.9948° | 271°18.28' | S 23°25.96' | 0.0226' | 215°41.98' | 14.3408° | 265°54.01' | S 26°56.50' | 3.5884' | 60.9442' | 121°35.99' | **02** |
| **03** | 225°17.40' | 14.9948° | 271°21.06' | S 23°25.94' | 0.0234' | 230°02.36' | 14.3397° | 266°36.09' | S 26°59.88' | 3.3822' | 60.9608' | 136°38.45' | **03** |
| **04** | 240°17.09' | 14.9948° | 271°23.83' | S 23°25.92' | 0.0242' | 244°22.68' | 14.3387° | 267°18.23' | S 27°03.05' | 3.1750' | 60.9769' | 151°40.92' | **04** |
| **05** | 255°16.78' | 14.9948° | 271°26.61' | S 23°25.89' | 0.0250' | 258°42.94' | 14.3376° | 268°00.44' | S 27°06.02' | 2.9666' | 60.9924' | 166°43.38' | **05** |
| **06** | 270°16.46' | 14.9948° | 271°29.38' | S 23°25.87' | 0.0259' | 273°03.14' | 14.3367° | 268°42.70' | S 27°08.78' | 2.7573' | 61.0074' | 181°45.85' | **06** |
| **07** | 285°16.15' | 14.9948° | 271°32.16' | S 23°25.84' | 0.0267' | 287°23.29' | 14.3358° | 269°25.02' | S 27°11.32' | 2.5470' | 61.0218' | 196°48.31' | **07** |
| **08** | 300°15.84' | 14.9948° | 271°34.94' | S 23°25.81' | 0.0275' | 301°43.39' | 14.3349° | 270°07.39' | S 27°13.66' | 2.3358' | 61.0358' | 211°50.78' | **08** |
| **09** | 315°15.53' | 14.9948° | 271°37.71' | S 23°25.78' | 0.0283' | 316°03.44' | 14.3341° | 270°49.80' | S 27°15.78' | 2.1237' | 61.0492' | 226°53.24' | **09** |
| **10** | 330°15.22' | 14.9948° | 271°40.49' | S 23°25.75' | 0.0291' | 330°23.44' | 14.3334° | 271°32.26' | S 27°17.69' | 1.9109' | 61.0620' | 241°55.70' | **10** |
| **11** | 345°14.90' | 14.9948° | 271°43.26' | S 23°25.72' | 0.0300' | 344°43.41' | 14.3327° | 272°14.76' | S 27°19.39' | 1.6974' | 61.0743' | 256°58.17' | **11** |
| **12** | 0°14.59' | 14.9948° | 271°46.04' | S 23°25.69' | 0.0308' | 359°03.33' | 14.3321° | 272°57.30' | S 27°20.87' | 1.4832' | 61.0860' | 272°00.63' | **12** |
| **13** | 15°14.28' | 14.9948° | 271°48.82' | S 23°25.66' | 0.0316' | 13°23.23' | 14.3316° | 273°39.87' | S 27°22.14' | 1.2684' | 61.0972' | 287°03.10' | **13** |
| **14** | 30°13.97' | 14.9948° | 271°51.59' | S 23°25.63' | 0.0324' | 27°43.09' | 14.3311° | 274°22.47' | S 27°23.20' | 1.0530' | 61.1079' | 302°05.56' | **14** |
| **15** | 45°13.66' | 14.9948° | 271°54.37' | S 23°25.60' | 0.0332' | 42°02.93' | 14.3306° | 275°05.10' | S 27°24.03' | 0.8372' | 61.1180' | 317°08.03' | **15** |
| **16** | 60°13.34' | 14.9948° | 271°57.14' | S 23°25.56' | 0.0340' | 56°22.74' | 14.3303° | 275°47.74' | S 27°24.65' | 0.6210' | 61.1275' | 332°10.49' | **16** |
| **17** | 75°13.03' | 14.9948° | 271°59.92' | S 23°25.53' | 0.0349' | 70°42.54' | 14.3299° | 276°30.41' | S 27°25.06' | 0.4045' | 61.1365' | 347°12.95' | **17** |
| **18** | 90°12.72' | 14.9948° | 272°02.70' | S 23°25.49' | 0.0357' | 85°02.32' | 14.3297° | 277°13.10' | S 27°25.25' | 0.1876' | 61.1449' | 2°15.42' | **18** |
| **19** | 105°12.41' | 14.9948° | 272°05.47' | S 23°25.46' | 0.0365' | 99°22.09' | 14.3295° | 277°55.79' | S 27°25.22' | 0.0294' | 61.1528' | 17°17.88' | **19** |
| **20** | 120°12.10' | 14.9948° | 272°08.25' | S 23°25.42' | 0.0373' | 113°41.85' | 14.3293° | 278°38.50' | S 27°24.97' | 0.2466' | 61.1601' | 32°20.35' | **20** |
| **21** | 135°11.79' | 14.9948° | 272°11.03' | S 23°25.38' | 0.0381' | 128°01.61' | 14.3293° | 279°21.20' | S 27°24.51' | 0.4639' | 61.1669' | 47°22.81' | **21** |
| **22** | 150°11.47' | 14.9948° | 272°13.80' | S 23°25.34' | 0.0390' | 142°21.36' | 14.3293° | 280°03.91' | S 27°23.83' | 0.6812' | 61.1731' | 62°25.28' | **22** |
| **23** | 165°11.16' | 14.9948° | 272°16.58' | S 23°25.30' | 0.0398' | 156°41.12' | 14.3293° | 280°46.62' | S 27°22.93' | 0.8984' | 61.1787' | 77°27.74' | **23** |
| **24** | 180°10.85' | 14.9948° | 272°19.35' | S 23°25.26' | 0.0406' | 171°00.88' | 14.3294° | 281°29.32' | S 27°21.81' | 1.1156' | 61.1837' | 92°30.20' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | ½Ø 16.2589' | hp (π) 0.1490' | ½Ø 16.6447' | 0.12632601509142694% +cre | [redacted] | |
| | EoT at 12:00 UTC : +58s (δ -1.25 s/h) | | Phase at 12:00 UTC : 1.01° | | | |
| | Meridian Pass. Time : 11:59:01.632 | | Age : 0.1 day(s) | | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.25') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 163°54.11' | 287°36.95' | S 23°36.86' | 22°27.46' | 69°03.60' | N 24°46.45' | 90°47.35' | 0°43.71' | S 1°07.70' | 127°09.93' | 324°21.13' | S 15°29.83' | **00** |
| **01** | 178°53.17' | 287°40.36' | S 23°36.55' | 37°30.69' | 69°02.84' | N 24°46.40' | 105°49.60' | 0°43.92' | S 1°07.60' | 142°12.17' | 324°21.35' | S 15°29.75' | **01** |
| **02** | 193°52.23' | 287°43.76' | S 23°36.24' | 52°33.91' | 69°02.08' | N 24°46.34' | 120°51.85' | 0°44.14' | S 1°07.49' | 157°14.42' | 324°21.57' | S 15°29.68' | **02** |
| **03** | 208°51.29' | 287°47.17' | S 23°35.93' | 67°37.13' | 69°01.33' | N 24°46.29' | 135°54.10' | 0°44.35' | S 1°07.39' | 172°16.66' | 324°21.80' | S 15°29.60' | **03** |
| **04** | 223°50.35' | 287°50.57' | S 23°35.62' | 82°40.35' | 69°00.57' | N 24°46.23' | 150°56.35' | 0°44.57' | S 1°07.28' | 187°18.90' | 324°22.02' | S 15°29.53' | **04** |
| **05** | 238°49.41' | 287°53.98' | S 23°35.31' | 97°43.57' | 68°59.82' | N 24°46.18' | 165°58.60' | 0°44.79' | S 1°07.18' | 202°21.14' | 324°22.24' | S 15°29.45' | **05** |
| **06** | 253°48.47' | 287°57.38' | S 23°35.00' | 112°46.78' | 68°59.06' | N 24°46.12' | 181°00.85' | 0°45.00' | S 1°07.07' | 217°23.38' | 324°22.47' | S 15°29.38' | **06** |
| **07** | 268°47.53' | 288°00.78' | S 23°34.68' | 127°50.00' | 68°58.31' | N 24°46.07' | 196°03.09' | 0°45.22' | S 1°06.96' | 232°25.62' | 324°22.69' | S 15°29.30' | **07** |
| **08** | 283°46.59' | 288°04.19' | S 23°34.37' | 142°53.21' | 68°57.56' | N 24°46.02' | 211°05.34' | 0°45.43' | S 1°06.86' | 247°27.86' | 324°22.91' | S 15°29.23' | **08** |
| **09** | 298°45.65' | 288°07.59' | S 23°34.05' | 157°56.42' | 68°56.82' | N 24°45.96' | 226°07.59' | 0°45.65' | S 1°06.75' | 262°30.10' | 324°23.14' | S 15°29.15' | **09** |
| **10** | 313°44.71' | 288°10.99' | S 23°33.73' | 172°59.64' | 68°56.07' | N 24°45.91' | 241°09.84' | 0°45.87' | S 1°06.65' | 277°32.34' | 324°23.36' | S 15°29.08' | **10** |
| **11** | 328°43.77' | 288°14.40' | S 23°33.42' | 188°02.85' | 68°55.32' | N 24°45.85' | 256°12.08' | 0°46.08' | S 1°06.54' | 292°34.58' | 324°23.59' | S 15°29.00' | **11** |
| **12** | 343°42.83' | 288°17.80' | S 23°33.10' | 203°06.05' | 68°54.58' | N 24°45.80' | 271°14.33' | 0°46.30' | S 1°06.43' | 307°36.82' | 324°23.81' | S 15°28.93' | **12** |
| **13** | 358°41.90' | 288°21.20' | S 23°32.77' | 218°09.26' | 68°53.84' | N 24°45.74' | 286°16.58' | 0°46.52' | S 1°06.33' | 322°39.06' | 324°24.03' | S 15°28.85' | **13** |
| **14** | 13°40.96' | 288°24.60' | S 23°32.45' | 233°12.47' | 68°53.09' | N 24°45.69' | 301°18.82' | 0°46.74' | S 1°06.22' | 337°41.30' | 324°24.26' | S 15°28.78' | **14** |
| **15** | 28°40.02' | 288°28.00' | S 23°32.13' | 248°15.67' | 68°52.35' | N 24°45.63' | 316°21.07' | 0°46.96' | S 1°06.12' | 352°43.54' | 324°24.48' | S 15°28.70' | **15** |
| **16** | 43°39.09' | 288°31.40' | S 23°31.80' | 263°18.87' | 68°51.62' | N 24°45.58' | 331°23.32' | 0°47.17' | S 1°06.01' | 7°45.78' | 324°24.71' | S 15°28.63' | **16** |
| **17** | 58°38.15' | 288°34.81' | S 23°31.48' | 278°22.08' | 68°50.88' | N 24°45.52' | 346°25.56' | 0°47.39' | S 1°05.90' | 22°48.02' | 324°24.93' | S 15°28.55' | **17** |
| **18** | 73°37.21' | 288°38.21' | S 23°31.15' | 293°25.28' | 68°50.14' | N 24°45.47' | 1°27.81' | 0°47.61' | S 1°05.80' | 37°50.26' | 324°25.16' | S 15°28.48' | **18** |
| **19** | 88°36.28' | 288°41.61' | S 23°30.82' | 308°28.47' | 68°49.41' | N 24°45.41' | 16°30.05' | 0°47.83' | S 1°05.69' | 52°52.50' | 324°25.38' | S 15°28.40' | **19** |
| **20** | 103°35.34' | 288°45.01' | S 23°30.49' | 323°31.67' | 68°48.67' | N 24°45.36' | 31°32.30' | 0°48.05' | S 1°05.58' | 67°54.74' | 324°25.61' | S 15°28.33' | **20** |
| **21** | 118°34.41' | 288°48.41' | S 23°30.16' | 338°34.87' | 68°47.94' | N 24°45.30' | 46°34.54' | 0°48.27' | S 1°05.47' | 82°56.98' | 324°25.83' | S 15°28.25' | **21** |
| **22** | 133°33.47' | 288°51.80' | S 23°29.82' | 353°38.06' | 68°47.21' | N 24°45.25' | 61°36.78' | 0°48.49' | S 1°05.37' | 97°59.22' | 324°26.06' | S 15°28.18' | **22** |
| **23** | 148°32.54' | 288°55.20' | S 23°29.49' | 8°41.26' | 68°46.48' | N 24°45.19' | 76°39.03' | 0°48.71' | S 1°05.26' | 113°01.46' | 324°26.28' | S 15°28.10' | **23** |
| **24** | 163°31.60' | 288°58.60' | S 23°29.15' | 23°44.45' | 68°45.76' | N 24°45.14' | 91°41.27' | 0°48.93' | S 1°05.15' | 128°03.70' | 324°26.51' | S 15°28.02' | **24** |
| | δ 14.9843° | | *d* 0.3064' | δ 15.0537° | | *d* 0.0546' | δ 15.0375° | | *d* 0.1048' | δ 15.0374° | | *d* 0.0746' | |

## *Saturday, December 24th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°10.85' | 14.9948° | 272°19.35' | S 23°25.26' | 0.0406' | 171°00.88' | 14.3294° | 281°29.32' | S 27°21.81' | 1.1156' | 61.1837' | 92°30.20' | **00** |
| **01** | 195°10.54' | 14.9948° | 272°22.13' | S 23°25.22' | 0.0414' | 185°20.66' | 14.3296° | 282°12.01' | S 27°20.48' | 1.3325' | 61.1882' | 107°32.67' | **01** |
| **02** | 210°10.23' | 14.9948° | 272°24.91' | S 23°25.18' | 0.0422' | 199°40.45' | 14.3298° | 282°54.69' | S 27°18.93' | 1.5493' | 61.1922' | 122°35.13' | **02** |
| **03** | 225°09.92' | 14.9948° | 272°27.68' | S 23°25.13' | 0.0430' | 214°00.25' | 14.3301° | 283°37.35' | S 27°17.16' | 1.7657' | 61.1955' | 137°37.60' | **03** |
| **04** | 240°09.60' | 14.9948° | 272°30.46' | S 23°25.09' | 0.0439' | 228°20.08' | 14.3304° | 284°19.98' | S 27°15.18' | 1.9818' | 61.1984' | 152°40.06' | **04** |
| **05** | 255°09.29' | 14.9948° | 272°33.23' | S 23°25.05' | 0.0447' | 242°39.93' | 14.3308° | 285°02.60' | S 27°12.98' | 2.1974' | 61.2006' | 167°42.52' | **05** |
| **06** | 270°08.98' | 14.9948° | 272°36.01' | S 23°25.00' | 0.0455' | 256°59.80' | 14.3313° | 285°45.18' | S 27°10.57' | 2.4125' | 61.2023' | 182°44.99' | **06** |
| **07** | 285°08.67' | 14.9948° | 272°38.78' | S 23°24.95' | 0.0463' | 271°19.71' | 14.3318° | 286°27.74' | S 27°07.95' | 2.6271' | 61.2034' | 197°47.45' | **07** |
| **08** | 300°08.36' | 14.9948° | 272°41.56' | S 23°24.91' | 0.0471' | 285°39.66' | 14.3324° | 287°10.26' | S 27°05.10' | 2.8411' | 61.2040' | 212°49.92' | **08** |
| **09** | 315°08.05' | 14.9948° | 272°44.34' | S 23°24.86' | 0.0479' | 299°59.64' | 14.3330° | 287°52.74' | S 27°02.05' | 3.0543' | 61.2040' | 227°52.38' | **09** |
| **10** | 330°07.73' | 14.9948° | 272°47.11' | S 23°24.81' | 0.0488' | 314°19.66' | 14.3337° | 288°35.18' | S 26°58.78' | 3.2669' | 61.2034' | 242°54.85' | **10** |
| **11** | 345°07.42' | 14.9948° | 272°49.89' | S 23°24.76' | 0.0496' | 328°39.73' | 14.3345° | 289°17.58' | S 26°55.30' | 3.4786' | 61.2023' | 257°57.31' | **11** |
| **12** | 0°07.11' | 14.9948° | 272°52.66' | S 23°24.71' | 0.0504' | 342°59.85' | 14.3353° | 289°59.92' | S 26°51.61' | 3.6895' | 61.2006' | 272°59.77' | **12** |
| **13** | 15°06.80' | 14.9948° | 272°55.44' | S 23°24.66' | 0.0512' | 357°20.02' | 14.3362° | 290°42.22' | S 26°47.72' | 3.8994' | 61.1983' | 288°02.24' | **13** |
| **14** | 30°06.49' | 14.9948° | 272°58.21' | S 23°24.61' | 0.0520' | 11°40.24' | 14.3371° | 291°24.46' | S 26°43.61' | 4.1084' | 61.1955' | 303°04.70' | **14** |
| **15** | 45°06.18' | 14.9948° | 273°00.99' | S 23°24.55' | 0.0528' | 26°00.53' | 14.3380° | 292°06.64' | S 26°39.29' | 4.3163' | 61.1922' | 318°07.17' | **15** |
| **16** | 60°05.87' | 14.9948° | 273°03.77' | S 23°24.50' | 0.0537' | 40°20.87' | 14.3391° | 292°48.76' | S 26°34.77' | 4.5232' | 61.1883' | 333°09.63' | **16** |
| **17** | 75°05.55' | 14.9948° | 273°06.54' | S 23°24.45' | 0.0545' | 54°41.28' | 14.3401° | 293°30.82' | S 26°30.04' | 4.7289' | 61.1839' | 348°12.10' | **17** |
| **18** | 90°05.24' | 14.9948° | 273°09.32' | S 23°24.39' | 0.0553' | 69°01.75' | 14.3412° | 294°12.81' | S 26°25.11' | 4.9334' | 61.1789' | 3°14.56' | **18** |
| **19** | 105°04.93' | 14.9948° | 273°12.09' | S 23°24.33' | 0.0561' | 83°22.30' | 14.3424° | 294°54.73' | S 26°19.97' | 5.1366' | 61.1733' | 18°17.02' | **19** |
| **20** | 120°04.62' | 14.9948° | 273°14.87' | S 23°24.28' | 0.0569' | 97°42.91' | 14.3436° | 295°36.57' | S 26°14.63' | 5.3386' | 61.1672' | 33°19.49' | **20** |
| **21** | 135°04.31' | 14.9948° | 273°17.64' | S 23°24.22' | 0.0578' | 112°03.61' | 14.3449° | 296°18.34' | S 26°09.09' | 5.5392' | 61.1606' | 48°21.95' | **21** |
| **22** | 150°04.00' | 14.9948° | 273°20.42' | S 23°24.16' | 0.0586' | 126°24.38' | 14.3462° | 297°00.04' | S 26°03.35' | 5.7384' | 61.1534' | 63°24.42' | **22** |
| **23** | 165°03.69' | 14.9948° | 273°23.19' | S 23°24.10' | 0.0594' | 140°45.23' | 14.3476° | 297°41.65' | S 25°57.42' | 5.9362' | 61.1457' | 78°26.88' | **23** |
| **24** | 180°03.38' | 14.9948° | 273°25.97' | S 23°24.04' | 0.0602' | 155°06.17' | 14.3490° | 298°23.17' | S 25°51.28' | 6.1324' | 61.1375' | 93°29.35' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2599' | hp (π) 0.1490' | ½Ø 16.6759' | 1.91361309887608<br>24% +cre |
| | EoT at 12:00 UTC : +28s (δ -1.25 s/h) | | Phase at 12:00 UTC : 15.18° | |
| | Meridian Pass. Time : 11:59:31.554 | | Age : 1.2 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.25') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 163°31.60' | 288°58.60' | S 23°29.15' | 23°44.45' | 68°45.76' | N 24°45.14' | 91°41.27' | 0°48.93' | S 1°05.15' | 128°03.70' | 324°26.51' | S 15°28.02' | **00** |
| **01** | 178°30.67' | 289°02.00' | S 23°28.82' | 38°47.64' | 68°45.03' | N 24°45.08' | 106°43.51' | 0°49.15' | S 1°05.04' | 143°05.94' | 324°26.73' | S 15°27.95' | **01** |
| **02** | 193°29.73' | 289°05.40' | S 23°28.48' | 53°50.83' | 68°44.31' | N 24°45.03' | 121°45.76' | 0°49.38' | S 1°04.94' | 158°08.17' | 324°26.96' | S 15°27.87' | **02** |
| **03** | 208°28.80' | 289°08.80' | S 23°28.14' | 68°54.01' | 68°43.58' | N 24°44.97' | 136°48.00' | 0°49.60' | S 1°04.83' | 173°10.41' | 324°27.18' | S 15°27.80' | **03** |
| **04** | 223°27.87' | 289°12.19' | S 23°27.80' | 83°57.20' | 68°42.86' | N 24°44.92' | 151°50.24' | 0°49.82' | S 1°04.72' | 188°12.65' | 324°27.41' | S 15°27.72' | **04** |
| **05** | 238°26.93' | 289°15.59' | S 23°27.46' | 99°00.39' | 68°42.14' | N 24°44.87' | 166°52.48' | 0°50.04' | S 1°04.61' | 203°14.89' | 324°27.63' | S 15°27.65' | **05** |
| **06** | 253°26.00' | 289°18.99' | S 23°27.12' | 114°03.57' | 68°41.42' | N 24°44.81' | 181°54.73' | 0°50.26' | S 1°04.50' | 218°17.13' | 324°27.86' | S 15°27.57' | **06** |
| **07** | 268°25.07' | 289°22.38' | S 23°26.77' | 129°06.75' | 68°40.70' | N 24°44.76' | 196°56.97' | 0°50.49' | S 1°04.40' | 233°19.37' | 324°28.09' | S 15°27.50' | **07** |
| **08** | 283°24.14' | 289°25.78' | S 23°26.43' | 144°09.93' | 68°39.99' | N 24°44.70' | 211°59.21' | 0°50.71' | S 1°04.29' | 248°21.60' | 324°28.31' | S 15°27.42' | **08** |
| **09** | 298°23.20' | 289°29.18' | S 23°26.08' | 159°13.11' | 68°39.27' | N 24°44.65' | 227°01.45' | 0°50.93' | S 1°04.18' | 263°23.84' | 324°28.54' | S 15°27.34' | **09** |
| **10** | 313°22.27' | 289°32.57' | S 23°25.73' | 174°16.29' | 68°38.56' | N 24°44.59' | 242°03.69' | 0°51.16' | S 1°04.07' | 278°26.08' | 324°28.77' | S 15°27.27' | **10** |
| **11** | 328°21.34' | 289°35.97' | S 23°25.38' | 189°19.46' | 68°37.85' | N 24°44.54' | 257°05.93' | 0°51.38' | S 1°03.96' | 293°28.32' | 324°28.99' | S 15°27.19' | **11** |
| **12** | 343°20.41' | 289°39.36' | S 23°25.03' | 204°22.64' | 68°37.14' | N 24°44.48' | 272°08.17' | 0°51.61' | S 1°03.85' | 308°30.56' | 324°29.22' | S 15°27.12' | **12** |
| **13** | 358°19.48' | 289°42.76' | S 23°24.68' | 219°25.81' | 68°36.43' | N 24°44.43' | 287°10.41' | 0°51.83' | S 1°03.74' | 323°32.79' | 324°29.45' | S 15°27.04' | **13** |
| **14** | 13°18.55' | 289°46.15' | S 23°24.33' | 234°28.98' | 68°35.72' | N 24°44.37' | 302°12.65' | 0°52.05' | S 1°03.63' | 338°35.03' | 324°29.67' | S 15°26.96' | **14** |
| **15** | 28°17.62' | 289°49.55' | S 23°23.98' | 249°32.16' | 68°35.01' | N 24°44.32' | 317°14.89' | 0°52.28' | S 1°03.52' | 353°37.27' | 324°29.90' | S 15°26.89' | **15** |
| **16** | 43°16.69' | 289°52.94' | S 23°23.62' | 264°35.32' | 68°34.31' | N 24°44.26' | 332°17.13' | 0°52.50' | S 1°03.41' | 8°39.51' | 324°30.13' | S 15°26.81' | **16** |
| **17** | 58°15.76' | 289°56.33' | S 23°23.26' | 279°38.49' | 68°33.60' | N 24°44.21' | 347°19.37' | 0°52.73' | S 1°03.31' | 23°41.74' | 324°30.35' | S 15°26.74' | **17** |
| **18** | 73°14.83' | 289°59.73' | S 23°22.91' | 294°41.66' | 68°32.90' | N 24°44.15' | 2°21.60' | 0°52.96' | S 1°03.20' | 38°43.98' | 324°30.58' | S 15°26.66' | **18** |
| **19** | 88°13.91' | 290°03.12' | S 23°22.55' | 309°44.82' | 68°32.20' | N 24°44.10' | 17°23.84' | 0°53.18' | S 1°03.09' | 53°46.22' | 324°30.81' | S 15°26.58' | **19** |
| **20** | 103°12.98' | 290°06.51' | S 23°22.19' | 324°47.99' | 68°31.50' | N 24°44.04' | 32°26.08' | 0°53.41' | S 1°02.98' | 68°48.45' | 324°31.04' | S 15°26.51' | **20** |
| **21** | 118°12.05' | 290°09.90' | S 23°21.83' | 339°51.15' | 68°30.80' | N 24°43.99' | 47°28.32' | 0°53.64' | S 1°02.87' | 83°50.69' | 324°31.26' | S 15°26.43' | **21** |
| **22** | 133°11.12' | 290°13.29' | S 23°21.46' | 354°54.31' | 68°30.11' | N 24°43.93' | 62°30.55' | 0°53.86' | S 1°02.76' | 98°52.93' | 324°31.49' | S 15°26.36' | **22** |
| **23** | 148°10.20' | 290°16.69' | S 23°21.10' | 9°57.47' | 68°29.41' | N 24°43.88' | 77°32.79' | 0°54.09' | S 1°02.65' | 113°55.16' | 324°31.72' | S 15°26.28' | **23** |
| **24** | 163°09.27' | 290°20.08' | S 23°20.73' | 25°00.63' | 68°28.72' | N 24°43.83' | 92°35.03' | 0°54.32' | S 1°02.53' | 128°57.40' | 324°31.95' | S 15°26.20' | **24** |
| | δ 14.9844° | | *d* 0.3365' | δ 15.0532° | | *d* 0.0548' | δ 15.0374° | | *d* 0.1077' | δ 15.0373° | | *d* 0.0755' | |

## *Sunday, December 25th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 180°03.38' | 14.9948° | 273°25.97' | S 23°24.04' | 0.0602' | 155°06.17' | 14.3490° | 298°23.17' | S 25°51.28' | 6.1324' | 61.1375' | 93°29.35' | **00** |
| **01** | 195°03.07' | 14.9948° | 273°28.74' | S 23°23.98' | 0.0610' | 169°27.20' | 14.3504° | 299°04.61' | S 25°44.96' | 6.3271' | 61.1288' | 108°31.81' | **01** |
| **02** | 210°02.75' | 14.9948° | 273°31.52' | S 23°23.92' | 0.0618' | 183°48.31' | 14.3519° | 299°45.96' | S 25°38.44' | 6.5203' | 61.1195' | 123°34.27' | **02** |
| **03** | 225°02.44' | 14.9948° | 273°34.30' | S 23°23.86' | 0.0627' | 198°09.52' | 14.3534° | 300°27.22' | S 25°31.72' | 6.7118' | 61.1097' | 138°36.74' | **03** |
| **04** | 240°02.13' | 14.9948° | 273°37.07' | S 23°23.79' | 0.0635' | 212°30.81' | 14.3550° | 301°08.39' | S 25°24.82' | 6.9016' | 61.0993' | 153°39.20' | **04** |
| **05** | 255°01.82' | 14.9948° | 273°39.85' | S 23°23.73' | 0.0643' | 226°52.21' | 14.3566° | 301°49.46' | S 25°17.73' | 7.0898' | 61.0885' | 168°41.67' | **05** |
| **06** | 270°01.51' | 14.9948° | 273°42.62' | S 23°23.66' | 0.0651' | 241°13.70' | 14.3582° | 302°30.43' | S 25°10.46' | 7.2762' | 61.0771' | 183°44.13' | **06** |
| **07** | 285°01.20' | 14.9948° | 273°45.40' | S 23°23.60' | 0.0659' | 255°35.29' | 14.3599° | 303°11.30' | S 25°03.00' | 7.4608' | 61.0653' | 198°46.60' | **07** |
| **08** | 300°00.89' | 14.9948° | 273°48.17' | S 23°23.53' | 0.0667' | 269°56.99' | 14.3616° | 303°52.07' | S 24°55.35' | 7.6436' | 61.0529' | 213°49.06' | **08** |
| **09** | 315°00.58' | 14.9948° | 273°50.95' | S 23°23.46' | 0.0676' | 284°18.79' | 14.3633° | 304°32.73' | S 24°47.53' | 7.8245' | 61.0400' | 228°51.52' | **09** |
| **10** | 330°00.27' | 14.9948° | 273°53.72' | S 23°23.39' | 0.0684' | 298°40.70' | 14.3651° | 305°13.29' | S 24°39.52' | 8.0036' | 61.0266' | 243°53.99' | **10** |
| **11** | 344°59.96' | 14.9948° | 273°56.50' | S 23°23.33' | 0.0692' | 313°02.71' | 14.3669° | 305°53.74' | S 24°31.34' | 8.1808' | 61.0128' | 258°56.45' | **11** |
| **12** | 359°59.65' | 14.9948° | 273°59.27' | S 23°23.26' | 0.0700' | 327°24.84' | 14.3687° | 306°34.08' | S 24°22.99' | 8.3560' | 60.9984' | 273°58.92' | **12** |
| **13** | 14°59.34' | 14.9948° | 274°02.05' | S 23°23.18' | 0.0708' | 341°47.07' | 14.3706° | 307°14.31' | S 24°14.46' | 8.5293' | 60.9836' | 289°01.38' | **13** |
| **14** | 29°59.02' | 14.9948° | 274°04.82' | S 23°23.11' | 0.0716' | 356°09.42' | 14.3725° | 307°54.42' | S 24°05.76' | 8.7005' | 60.9683' | 304°03.84' | **14** |
| **15** | 44°58.71' | 14.9948° | 274°07.59' | S 23°23.04' | 0.0725' | 10°31.88' | 14.3744° | 308°34.42' | S 23°56.89' | 8.8697' | 60.9525' | 319°06.31' | **15** |
| **16** | 59°58.40' | 14.9948° | 274°10.37' | S 23°22.97' | 0.0733' | 24°54.46' | 14.3763° | 309°14.31' | S 23°47.85' | 9.0369' | 60.9362' | 334°08.77' | **16** |
| **17** | 74°58.09' | 14.9948° | 274°13.14' | S 23°22.89' | 0.0741' | 39°17.16' | 14.3783° | 309°54.08' | S 23°38.65' | 9.2021' | 60.9195' | 349°11.24' | **17** |
| **18** | 89°57.78' | 14.9948° | 274°15.92' | S 23°22.82' | 0.0749' | 53°39.98' | 14.3803° | 310°33.72' | S 23°29.28' | 9.3651' | 60.9023' | 4°13.70' | **18** |
| **19** | 104°57.47' | 14.9948° | 274°18.69' | S 23°22.74' | 0.0757' | 68°02.91' | 14.3823° | 311°13.25' | S 23°19.76' | 9.5260' | 60.8847' | 19°16.17' | **19** |
| **20** | 119°57.16' | 14.9948° | 274°21.47' | S 23°22.67' | 0.0765' | 82°25.97' | 14.3843° | 311°52.66' | S 23°10.07' | 9.6848' | 60.8666' | 34°18.63' | **20** |
| **21** | 134°56.85' | 14.9948° | 274°24.24' | S 23°22.59' | 0.0774' | 96°49.15' | 14.3863° | 312°31.95' | S 23°00.23' | 9.8415' | 60.8480' | 49°21.09' | **21** |
| **22** | 149°56.54' | 14.9948° | 274°27.02' | S 23°22.51' | 0.0782' | 111°12.45' | 14.3884° | 313°11.11' | S 22°50.24' | 9.9960' | 60.8290' | 64°23.56' | **22** |
| **23** | 164°56.23' | 14.9948° | 274°29.79' | S 23°22.43' | 0.0790' | 125°35.88' | 14.3904° | 313°50.15' | S 22°40.09' | 10.1483' | 60.8096' | 79°26.02' | **23** |
| **24** | 179°55.92' | 14.9948° | 274°32.57' | S 23°22.35' | 0.0798' | 139°59.43' | 14.3925° | 314°29.06' | S 22°29.79' | 10.2985' | 60.7898' | 94°28.49' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | | |
|---|---|---|---|---|---|
| | ½Ø 16.2607' | hp (π) 0.1490' | ½Ø 16.6209' | 6.61518920186658 9% +cre | |
| | EoT at 12:00 UTC : -1s (δ -1.24 s/h) | | Phase at 12:00 UTC : 29.35° | | |
| | Meridian Pass. Time : 12:00:01.417 | | Age : 2.3 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.24') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 163°09.27' | 290°20.08' | S 23°20.73' | 25°00.63' | 68°28.72' | N 24°43.83' | 92°35.03' | 0°54.32' | S 1°02.53' | 128°57.40' | 324°31.95' | S 15°26.20' | **00** |
| **01** | 178°08.34' | 290°23.47' | S 23°20.37' | 40°03.78' | 68°28.03' | N 24°43.77' | 107°37.26' | 0°54.55' | S 1°02.42' | 143°59.64' | 324°32.17' | S 15°26.13' | **01** |
| **02** | 193°07.42' | 290°26.86' | S 23°20.00' | 55°06.94' | 68°27.34' | N 24°43.72' | 122°39.50' | 0°54.77' | S 1°02.31' | 159°01.87' | 324°32.40' | S 15°26.05' | **02** |
| **03** | 208°06.49' | 290°30.25' | S 23°19.63' | 70°10.09' | 68°26.65' | N 24°43.66' | 137°41.74' | 0°55.00' | S 1°02.20' | 174°04.11' | 324°32.63' | S 15°25.97' | **03** |
| **04** | 223°05.56' | 290°33.64' | S 23°19.26' | 85°13.24' | 68°25.96' | N 24°43.61' | 152°43.97' | 0°55.23' | S 1°02.09' | 189°06.34' | 324°32.86' | S 15°25.90' | **04** |
| **05** | 238°04.64' | 290°37.03' | S 23°18.89' | 100°16.39' | 68°25.27' | N 24°43.55' | 167°46.21' | 0°55.46' | S 1°01.98' | 204°08.58' | 324°33.09' | S 15°25.82' | **05** |
| **06** | 253°03.71' | 290°40.42' | S 23°18.52' | 115°19.54' | 68°24.59' | N 24°43.50' | 182°48.44' | 0°55.69' | S 1°01.87' | 219°10.82' | 324°33.32' | S 15°25.74' | **06** |
| **07** | 268°02.79' | 290°43.81' | S 23°18.14' | 130°22.69' | 68°23.91' | N 24°43.44' | 197°50.68' | 0°55.92' | S 1°01.76' | 234°13.05' | 324°33.54' | S 15°25.67' | **07** |
| **08** | 283°01.87' | 290°47.19' | S 23°17.77' | 145°25.84' | 68°23.22' | N 24°43.39' | 212°52.91' | 0°56.15' | S 1°01.65' | 249°15.29' | 324°33.77' | S 15°25.59' | **08** |
| **09** | 298°00.94' | 290°50.58' | S 23°17.39' | 160°28.98' | 68°22.54' | N 24°43.33' | 227°55.15' | 0°56.38' | S 1°01.54' | 264°17.52' | 324°34.00' | S 15°25.51' | **09** |
| **10** | 313°00.02' | 290°53.97' | S 23°17.01' | 175°32.12' | 68°21.86' | N 24°43.28' | 242°57.38' | 0°56.61' | S 1°01.42' | 279°19.76' | 324°34.23' | S 15°25.44' | **10** |
| **11** | 327°59.10' | 290°57.36' | S 23°16.64' | 190°35.27' | 68°21.19' | N 24°43.23' | 257°59.61' | 0°56.84' | S 1°01.31' | 294°21.99' | 324°34.46' | S 15°25.36' | **11** |
| **12** | 342°58.17' | 291°00.74' | S 23°16.26' | 205°38.41' | 68°20.51' | N 24°43.17' | 273°01.85' | 0°57.07' | S 1°01.20' | 309°24.23' | 324°34.69' | S 15°25.28' | **12** |
| **13** | 357°57.25' | 291°04.13' | S 23°15.87' | 220°41.54' | 68°19.84' | N 24°43.12' | 288°04.08' | 0°57.30' | S 1°01.09' | 324°26.46' | 324°34.92' | S 15°25.21' | **13** |
| **14** | 12°56.33' | 291°07.52' | S 23°15.49' | 235°44.68' | 68°19.16' | N 24°43.06' | 303°06.31' | 0°57.53' | S 1°00.98' | 339°28.70' | 324°35.15' | S 15°25.13' | **14** |
| **15** | 27°55.41' | 291°10.90' | S 23°15.11' | 250°47.82' | 68°18.49' | N 24°43.01' | 318°08.55' | 0°57.76' | S 1°00.86' | 354°30.93' | 324°35.38' | S 15°25.05' | **15** |
| **16** | 42°54.49' | 291°14.29' | S 23°14.72' | 265°50.95' | 68°17.82' | N 24°42.95' | 333°10.78' | 0°58.00' | S 1°00.75' | 9°33.17' | 324°35.61' | S 15°24.98' | **16** |
| **17** | 57°53.56' | 291°17.67' | S 23°14.34' | 280°54.09' | 68°17.15' | N 24°42.90' | 348°13.01' | 0°58.23' | S 1°00.64' | 24°35.40' | 324°35.83' | S 15°24.90' | **17** |
| **18** | 72°52.64' | 291°21.06' | S 23°13.95' | 295°57.22' | 68°16.48' | N 24°42.85' | 3°15.24' | 0°58.46' | S 1°00.53' | 39°37.64' | 324°36.06' | S 15°24.82' | **18** |
| **19** | 87°51.72' | 291°24.44' | S 23°13.56' | 311°00.35' | 68°15.82' | N 24°42.79' | 18°17.47' | 0°58.69' | S 1°00.41' | 54°39.87' | 324°36.29' | S 15°24.75' | **19** |
| **20** | 102°50.80' | 291°27.83' | S 23°13.17' | 326°03.48' | 68°15.15' | N 24°42.74' | 33°19.70' | 0°58.93' | S 1°00.30' | 69°42.11' | 324°36.52' | S 15°24.67' | **20** |
| **21** | 117°49.88' | 291°31.21' | S 23°12.78' | 341°06.60' | 68°14.49' | N 24°42.68' | 48°21.93' | 0°59.16' | S 1°00.19' | 84°44.34' | 324°36.75' | S 15°24.59' | **21** |
| **22** | 132°48.96' | 291°34.59' | S 23°12.39' | 356°09.73' | 68°13.83' | N 24°42.63' | 63°24.16' | 0°59.39' | S 1°00.08' | 99°46.57' | 324°36.98' | S 15°24.52' | **22** |
| **23** | 147°48.05' | 291°37.98' | S 23°12.00' | 11°12.85' | 68°13.17' | N 24°42.57' | 78°26.40' | 0°59.63' | S 0°59.96' | 114°48.81' | 324°37.21' | S 15°24.44' | **23** |
| **24** | 162°47.13' | 291°41.36' | S 23°11.60' | 26°15.98' | 68°12.51' | N 24°42.52' | 93°28.63' | 0°59.86' | S 0°59.85' | 129°51.04' | 324°37.44' | S 15°24.36' | **24** |
| | δ 14.9846° | | *d* 0.3664' | δ 15.0526° | | *d* 0.0546' | δ 15.0373° | | *d* 0.1105' | δ 15.0373° | | *d* 0.0764' | |

## *Monday, December 26th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°55.92' | 14.9948° | 274°32.57' | S 23°22.35' | 0.0798' | 139°59.43' | 14.3925° | 314°29.06' | S 22°29.79' | 10.2985' | 60.7898' | 94°28.49' | **00** |
| **01** | 194°55.61' | 14.9948° | 274°35.34' | S 23°22.27' | 0.0806' | 154°23.10' | 14.3946° | 315°07.85' | S 22°19.34' | 10.4464' | 60.7695' | 109°30.95' | **01** |
| **02** | 209°55.30' | 14.9948° | 274°38.11' | S 23°22.19' | 0.0814' | 168°46.90' | 14.3967° | 315°46.51' | S 22°08.75' | 10.5922' | 60.7488' | 124°33.42' | **02** |
| **03** | 224°54.99' | 14.9948° | 274°40.89' | S 23°22.11' | 0.0823' | 183°10.83' | 14.3988° | 316°25.05' | S 21°58.01' | 10.7357' | 60.7277' | 139°35.88' | **03** |
| **04** | 239°54.68' | 14.9948° | 274°43.66' | S 23°22.02' | 0.0831' | 197°34.89' | 14.4009° | 317°03.45' | S 21°47.14' | 10.8770' | 60.7062' | 154°38.34' | **04** |
| **05** | 254°54.37' | 14.9948° | 274°46.44' | S 23°21.94' | 0.0839' | 211°59.07' | 14.4031° | 317°41.73' | S 21°36.12' | 11.0161' | 60.6843' | 169°40.81' | **05** |
| **06** | 269°54.06' | 14.9948° | 274°49.21' | S 23°21.86' | 0.0847' | 226°23.39' | 14.4052° | 318°19.89' | S 21°24.97' | 11.1529' | 60.6619' | 184°43.27' | **06** |
| **07** | 284°53.75' | 14.9948° | 274°51.98' | S 23°21.77' | 0.0855' | 240°47.83' | 14.4074° | 318°57.91' | S 21°13.68' | 11.2875' | 60.6392' | 199°45.74' | **07** |
| **08** | 299°53.44' | 14.9948° | 274°54.76' | S 23°21.68' | 0.0863' | 255°12.40' | 14.4095° | 319°35.80' | S 21°02.26' | 11.4199' | 60.6162' | 214°48.20' | **08** |
| **09** | 314°53.13' | 14.9948° | 274°57.53' | S 23°21.60' | 0.0871' | 269°37.10' | 14.4117° | 320°13.57' | S 20°50.71' | 11.5500' | 60.5927' | 229°50.66' | **09** |
| **10** | 329°52.82' | 14.9948° | 275°00.30' | S 23°21.51' | 0.0880' | 284°01.93' | 14.4138° | 320°51.20' | S 20°39.03' | 11.6779' | 60.5688' | 244°53.13' | **10** |
| **11** | 344°52.51' | 14.9948° | 275°03.08' | S 23°21.42' | 0.0888' | 298°26.88' | 14.4160° | 321°28.71' | S 20°27.23' | 11.8035' | 60.5446' | 259°55.59' | **11** |
| **12** | 359°52.21' | 14.9948° | 275°05.85' | S 23°21.33' | 0.0896' | 312°51.97' | 14.4181° | 322°06.09' | S 20°15.30' | 11.9269' | 60.5201' | 274°58.06' | **12** |
| **13** | 14°51.90' | 14.9948° | 275°08.63' | S 23°21.24' | 0.0904' | 327°17.19' | 14.4203° | 322°43.33' | S 20°03.26' | 12.0480' | 60.4951' | 290°00.52' | **13** |
| **14** | 29°51.59' | 14.9948° | 275°11.40' | S 23°21.15' | 0.0912' | 341°42.53' | 14.4224° | 323°20.45' | S 19°51.09' | 12.1669' | 60.4698' | 305°02.99' | **14** |
| **15** | 44°51.28' | 14.9948° | 275°14.17' | S 23°21.06' | 0.0920' | 356°08.01' | 14.4246° | 323°57.44' | S 19°38.80' | 12.2835' | 60.4442' | 320°05.45' | **15** |
| **16** | 59°50.97' | 14.9948° | 275°16.95' | S 23°20.96' | 0.0929' | 10°33.61' | 14.4267° | 324°34.30' | S 19°26.41' | 12.3979' | 60.4183' | 335°07.91' | **16** |
| **17** | 74°50.66' | 14.9948° | 275°19.72' | S 23°20.87' | 0.0937' | 24°59.35' | 14.4289° | 325°11.03' | S 19°13.90' | 12.5101' | 60.3920' | 350°10.38' | **17** |
| **18** | 89°50.35' | 14.9948° | 275°22.49' | S 23°20.78' | 0.0945' | 39°25.21' | 14.4310° | 325°47.64' | S 19°01.28' | 12.6201' | 60.3654' | 5°12.84' | **18** |
| **19** | 104°50.04' | 14.9949° | 275°25.27' | S 23°20.68' | 0.0953' | 53°51.20' | 14.4332° | 326°24.11' | S 18°48.55' | 12.7279' | 60.3384' | 20°15.31' | **19** |
| **20** | 119°49.73' | 14.9949° | 275°28.04' | S 23°20.58' | 0.0961' | 68°17.31' | 14.4353° | 327°00.46' | S 18°35.72' | 12.8334' | 60.3112' | 35°17.77' | **20** |
| **21** | 134°49.42' | 14.9949° | 275°30.81' | S 23°20.49' | 0.0969' | 82°43.56' | 14.4374° | 327°36.68' | S 18°22.78' | 12.9367' | 60.2836' | 50°20.23' | **21** |
| **22** | 149°49.11' | 14.9949° | 275°33.58' | S 23°20.39' | 0.0977' | 97°09.93' | 14.4395° | 328°12.77' | S 18°09.74' | 13.0379' | 60.2558' | 65°22.70' | **22** |
| **23** | 164°48.81' | 14.9949° | 275°36.36' | S 23°20.29' | 0.0986' | 111°36.43' | 14.4416° | 328°48.74' | S 17°56.60' | 13.1369' | 60.2276' | 80°25.16' | **23** |
| **24** | 179°48.50' | 14.9949° | 275°39.13' | S 23°20.19' | 0.0994' | 126°03.05' | 14.4437° | 329°24.58' | S 17°43.37' | 13.2337' | 60.1992' | 95°27.63' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2616' | hp (π) 0.1490' | ½Ø 16.4905' | 13.8285617764209<br>12% +cre | |
| EoT at 12:00 UTC : -31s (δ -1.24 s/h) | | Phase at 12:00 UTC : 43.33° | | |
| Meridian Pass. Time : 12:00:31.180 | | Age : 3.4 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.24') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 162°47.13' | 291°41.36' | S 23°11.60' | 26°15.98' | 68°12.51' | N 24°42.52' | 93°28.63' | 0°59.86' | S 0°59.85' | 129°51.04' | 324°37.44' | S 15°24.36' | **00** |
| **01** | 177°46.21' | 291°44.74' | S 23°11.20' | 41°19.10' | 68°11.85' | N 24°42.47' | 108°30.85' | 1°00.10' | S 0°59.74' | 144°53.28' | 324°37.67' | S 15°24.28' | **01** |
| **02** | 192°45.29' | 291°48.12' | S 23°10.81' | 56°22.22' | 68°11.20' | N 24°42.41' | 123°33.08' | 1°00.33' | S 0°59.62' | 159°55.51' | 324°37.91' | S 15°24.21' | **02** |
| **03** | 207°44.37' | 291°51.51' | S 23°10.41' | 71°25.33' | 68°10.54' | N 24°42.36' | 138°35.31' | 1°00.57' | S 0°59.51' | 174°57.74' | 324°38.14' | S 15°24.13' | **03** |
| **04** | 222°43.46' | 291°54.89' | S 23°10.01' | 86°28.45' | 68°09.89' | N 24°42.30' | 153°37.54' | 1°00.80' | S 0°59.40' | 189°59.98' | 324°38.37' | S 15°24.05' | **04** |
| **05** | 237°42.54' | 291°58.27' | S 23°09.61' | 101°31.57' | 68°09.24' | N 24°42.25' | 168°39.77' | 1°01.04' | S 0°59.28' | 205°02.21' | 324°38.60' | S 15°23.97' | **05** |
| **06** | 252°41.62' | 292°01.65' | S 23°09.21' | 116°34.68' | 68°08.59' | N 24°42.20' | 183°42.00' | 1°01.27' | S 0°59.17' | 220°04.44' | 324°38.83' | S 15°23.90' | **06** |
| **07** | 267°40.71' | 292°05.03' | S 23°08.80' | 131°37.79' | 68°07.94' | N 24°42.14' | 198°44.23' | 1°01.51' | S 0°59.05' | 235°06.68' | 324°39.06' | S 15°23.82' | **07** |
| **08** | 282°39.79' | 292°08.41' | S 23°08.40' | 146°40.90' | 68°07.30' | N 24°42.09' | 213°46.46' | 1°01.74' | S 0°58.94' | 250°08.91' | 324°39.29' | S 15°23.74' | **08** |
| **09** | 297°38.88' | 292°11.79' | S 23°07.99' | 161°44.01' | 68°06.65' | N 24°42.03' | 228°48.68' | 1°01.98' | S 0°58.83' | 265°11.14' | 324°39.52' | S 15°23.66' | **09** |
| **10** | 312°37.96' | 292°15.17' | S 23°07.59' | 176°47.12' | 68°06.01' | N 24°41.98' | 243°50.91' | 1°02.22' | S 0°58.71' | 280°13.38' | 324°39.75' | S 15°23.59' | **10** |
| **11** | 327°37.05' | 292°18.55' | S 23°07.18' | 191°50.23' | 68°05.37' | N 24°41.93' | 258°53.14' | 1°02.46' | S 0°58.60' | 295°15.61' | 324°39.98' | S 15°23.51' | **11** |
| **12** | 342°36.13' | 292°21.93' | S 23°06.77' | 206°53.33' | 68°04.72' | N 24°41.87' | 273°55.36' | 1°02.69' | S 0°58.48' | 310°17.84' | 324°40.22' | S 15°23.43' | **12** |
| **13** | 357°35.22' | 292°25.30' | S 23°06.36' | 221°56.44' | 68°04.09' | N 24°41.82' | 288°57.59' | 1°02.93' | S 0°58.37' | 325°20.07' | 324°40.45' | S 15°23.35' | **13** |
| **14** | 12°34.30' | 292°28.68' | S 23°05.95' | 236°59.54' | 68°03.45' | N 24°41.77' | 303°59.82' | 1°03.17' | S 0°58.25' | 340°22.31' | 324°40.68' | S 15°23.28' | **14** |
| **15** | 27°33.39' | 292°32.06' | S 23°05.53' | 252°02.64' | 68°02.81' | N 24°41.71' | 319°02.04' | 1°03.41' | S 0°58.14' | 355°24.54' | 324°40.91' | S 15°23.20' | **15** |
| **16** | 42°32.48' | 292°35.43' | S 23°05.12' | 267°05.74' | 68°02.18' | N 24°41.66' | 334°04.27' | 1°03.65' | S 0°58.02' | 10°26.77' | 324°41.14' | S 15°23.12' | **16** |
| **17** | 57°31.57' | 292°38.81' | S 23°04.70' | 282°08.83' | 68°01.54' | N 24°41.60' | 349°06.49' | 1°03.88' | S 0°57.91' | 25°29.00' | 324°41.37' | S 15°23.04' | **17** |
| **18** | 72°30.65' | 292°42.19' | S 23°04.29' | 297°11.93' | 68°00.91' | N 24°41.55' | 4°08.72' | 1°04.12' | S 0°57.79' | 40°31.24' | 324°41.61' | S 15°22.97' | **18** |
| **19** | 87°29.74' | 292°45.56' | S 23°03.87' | 312°15.02' | 68°00.28' | N 24°41.50' | 19°10.94' | 1°04.36' | S 0°57.68' | 55°33.47' | 324°41.84' | S 15°22.89' | **19** |
| **20** | 102°28.83' | 292°48.94' | S 23°03.45' | 327°18.12' | 67°59.65' | N 24°41.44' | 34°13.17' | 1°04.60' | S 0°57.56' | 70°35.70' | 324°42.07' | S 15°22.81' | **20** |
| **21** | 117°27.92' | 292°52.31' | S 23°03.03' | 342°21.21' | 67°59.03' | N 24°41.39' | 49°15.39' | 1°04.84' | S 0°57.45' | 85°37.93' | 324°42.30' | S 15°22.73' | **21** |
| **22** | 132°27.01' | 292°55.69' | S 23°02.61' | 357°24.30' | 67°58.40' | N 24°41.34' | 64°17.62' | 1°05.08' | S 0°57.33' | 100°40.16' | 324°42.54' | S 15°22.65' | **22** |
| **23** | 147°26.10' | 292°59.06' | S 23°02.18' | 12°27.39' | 67°57.78' | N 24°41.28' | 79°19.84' | 1°05.32' | S 0°57.21' | 115°42.39' | 324°42.77' | S 15°22.58' | **23** |
| **24** | 162°25.19' | 293°02.44' | S 23°01.76' | 27°30.47' | 67°57.15' | N 24°41.23' | 94°22.06' | 1°05.56' | S 0°57.10' | 130°44.63' | 324°43.00' | S 15°22.50' | **24** |
| | δ 14.9847° | | *d* 0.3960' | δ 15.0520° | | *d* 0.0541' | δ 15.0372° | | *d* 0.1133' | δ 15.0372° | | *d* 0.0772' | |

## *Tuesday, December 27th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°48.50' | 14.9949° | 275°39.13' | S 23°20.19' | 0.0994' | 126°03.05' | 14.4437° | 329°24.58' | S 17°43.37' | 13.2337' | 60.1992' | 95°27.63' | **00** |
| **01** | 194°48.19' | 14.9949° | 275°41.90' | S 23°20.09' | 0.1002' | 140°29.80' | 14.4458° | 330°00.29' | S 17°30.04' | 13.3283' | 60.1705' | 110°30.09' | **01** |
| **02** | 209°47.88' | 14.9949° | 275°44.68' | S 23°19.99' | 0.1010' | 154°56.67' | 14.4479° | 330°35.88' | S 17°16.62' | 13.4208' | 60.1415' | 125°32.56' | **02** |
| **03** | 224°47.57' | 14.9949° | 275°47.45' | S 23°19.89' | 0.1018' | 169°23.67' | 14.4499° | 331°11.35' | S 17°03.11' | 13.5112' | 60.1123' | 140°35.02' | **03** |
| **04** | 239°47.26' | 14.9949° | 275°50.22' | S 23°19.79' | 0.1026' | 183°50.79' | 14.4520° | 331°46.70' | S 16°49.51' | 13.5994' | 60.0827' | 155°37.48' | **04** |
| **05** | 254°46.95' | 14.9949° | 275°52.99' | S 23°19.68' | 0.1034' | 198°18.03' | 14.4540° | 332°21.92' | S 16°35.83' | 13.6855' | 60.0530' | 170°39.95' | **05** |
| **06** | 269°46.65' | 14.9949° | 275°55.77' | S 23°19.58' | 0.1043' | 212°45.39' | 14.4561° | 332°57.02' | S 16°22.06' | 13.7695' | 60.0230' | 185°42.41' | **06** |
| **07** | 284°46.34' | 14.9949° | 275°58.54' | S 23°19.47' | 0.1051' | 227°12.87' | 14.4581° | 333°32.00' | S 16°08.20' | 13.8515' | 59.9927' | 200°44.88' | **07** |
| **08** | 299°46.03' | 14.9949° | 276°01.31' | S 23°19.37' | 0.1059' | 241°40.48' | 14.4601° | 334°06.86' | S 15°54.27' | 13.9313' | 59.9622' | 215°47.34' | **08** |
| **09** | 314°45.72' | 14.9949° | 276°04.08' | S 23°19.26' | 0.1067' | 256°08.20' | 14.4620° | 334°41.60' | S 15°40.26' | 14.0091' | 59.9315' | 230°49.80' | **09** |
| **10** | 329°45.41' | 14.9949° | 276°06.85' | S 23°19.15' | 0.1075' | 270°36.04' | 14.4640° | 335°16.23' | S 15°26.18' | 14.0849' | 59.9005' | 245°52.27' | **10** |
| **11** | 344°45.11' | 14.9949° | 276°09.63' | S 23°19.04' | 0.1083' | 285°04.00' | 14.4659° | 335°50.74' | S 15°12.02' | 14.1587' | 59.8693' | 260°54.73' | **11** |
| **12** | 359°44.80' | 14.9949° | 276°12.40' | S 23°18.94' | 0.1091' | 299°32.07' | 14.4679° | 336°25.13' | S 14°57.79' | 14.2304' | 59.8380' | 275°57.20' | **12** |
| **13** | 14°44.49' | 14.9949° | 276°15.17' | S 23°18.83' | 0.1100' | 314°00.26' | 14.4698° | 336°59.40' | S 14°43.49' | 14.3001' | 59.8064' | 290°59.66' | **13** |
| **14** | 29°44.18' | 14.9949° | 276°17.94' | S 23°18.72' | 0.1108' | 328°28.56' | 14.4717° | 337°33.57' | S 14°29.12' | 14.3679' | 59.7746' | 306°02.12' | **14** |
| **15** | 44°43.88' | 14.9949° | 276°20.71' | S 23°18.60' | 0.1116' | 342°56.97' | 14.4736° | 338°07.62' | S 14°14.69' | 14.4337' | 59.7426' | 321°04.59' | **15** |
| **16** | 59°43.57' | 14.9949° | 276°23.48' | S 23°18.49' | 0.1124' | 357°25.50' | 14.4754° | 338°41.56' | S 14°00.19' | 14.4975' | 59.7104' | 336°07.05' | **16** |
| **17** | 74°43.26' | 14.9949° | 276°26.26' | S 23°18.38' | 0.1132' | 11°54.13' | 14.4773° | 339°15.38' | S 13°45.63' | 14.5595' | 59.6781' | 351°09.52' | **17** |
| **18** | 89°42.95' | 14.9949° | 276°29.03' | S 23°18.26' | 0.1140' | 26°22.88' | 14.4791° | 339°49.10' | S 13°31.01' | 14.6195' | 59.6456' | 6°11.98' | **18** |
| **19** | 104°42.65' | 14.9949° | 276°31.80' | S 23°18.15' | 0.1148' | 40°51.73' | 14.4809° | 340°22.71' | S 13°16.33' | 14.6776' | 59.6129' | 21°14.45' | **19** |
| **20** | 119°42.34' | 14.9949° | 276°34.57' | S 23°18.03' | 0.1157' | 55°20.69' | 14.4827° | 340°56.22' | S 13°01.60' | 14.7338' | 59.5800' | 36°16.91' | **20** |
| **21** | 134°42.03' | 14.9949° | 276°37.34' | S 23°17.92' | 0.1165' | 69°49.76' | 14.4844° | 341°29.62' | S 12°46.81' | 14.7882' | 59.5470' | 51°19.37' | **21** |
| **22** | 149°41.73' | 14.9949° | 276°40.11' | S 23°17.80' | 0.1173' | 84°18.93' | 14.4862° | 342°02.91' | S 12°31.97' | 14.8408' | 59.5139' | 66°21.84' | **22** |
| **23** | 164°41.42' | 14.9949° | 276°42.88' | S 23°17.68' | 0.1181' | 98°48.20' | 14.4879° | 342°36.10' | S 12°17.08' | 14.8915' | 59.4806' | 81°24.30' | **23** |
| **24** | 179°41.11' | 14.9949° | 276°45.65' | S 23°17.56' | 0.1189' | 113°17.58' | 14.4896° | 343°09.19' | S 12°02.14' | 14.9404' | 59.4471' | 96°26.77' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2623' | hp (π) 0.1490' | ½Ø 16.3047' | 22.9407373968660<br>4% +cre |
| | EoT at 12:00 UTC : -1m 0s (δ -1.23 s/h) | | Phase at 12:00 UTC : 56.99° | |
| | Meridian Pass. Time : 12:01:00.804 | | Age : 4.4 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.24') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 162°25.19' | 293°02.44' | S 23°01.76' | 27°30.47' | 67°57.15' | N 24°41.23' | 94°22.06' | 1°05.56' | S 0°57.10' | 130°44.63' | 324°43.00' | S 15°22.50' | **00** |
| **01** | 177°24.28' | 293°05.81' | S 23°01.33' | 42°33.56' | 67°56.53' | N 24°41.18' | 109°24.29' | 1°05.80' | S 0°56.98' | 145°46.86' | 324°43.23' | S 15°22.42' | **01** |
| **02** | 192°23.37' | 293°09.18' | S 23°00.91' | 57°36.64' | 67°55.91' | N 24°41.12' | 124°26.51' | 1°06.05' | S 0°56.87' | 160°49.09' | 324°43.47' | S 15°22.34' | **02** |
| **03** | 207°22.46' | 293°12.56' | S 23°00.48' | 72°39.73' | 67°55.29' | N 24°41.07' | 139°28.73' | 1°06.29' | S 0°56.75' | 175°51.32' | 324°43.70' | S 15°22.26' | **03** |
| **04** | 222°21.56' | 293°15.93' | S 23°00.05' | 87°42.81' | 67°54.68' | N 24°41.02' | 154°30.95' | 1°06.53' | S 0°56.63' | 190°53.55' | 324°43.93' | S 15°22.19' | **04** |
| **05** | 237°20.65' | 293°19.30' | S 22°59.62' | 102°45.89' | 67°54.06' | N 24°40.97' | 169°33.18' | 1°06.77' | S 0°56.52' | 205°55.78' | 324°44.17' | S 15°22.11' | **05** |
| **06** | 252°19.74' | 293°22.67' | S 22°59.19' | 117°48.96' | 67°53.45' | N 24°40.91' | 184°35.40' | 1°07.01' | S 0°56.40' | 220°58.01' | 324°44.40' | S 15°22.03' | **06** |
| **07** | 267°18.83' | 293°26.04' | S 22°58.76' | 132°52.04' | 67°52.83' | N 24°40.86' | 199°37.62' | 1°07.26' | S 0°56.28' | 236°00.24' | 324°44.63' | S 15°21.95' | **07** |
| **08** | 282°17.93' | 293°29.41' | S 22°58.32' | 147°55.12' | 67°52.22' | N 24°40.81' | 214°39.84' | 1°07.50' | S 0°56.17' | 251°02.47' | 324°44.87' | S 15°21.87' | **08** |
| **09** | 297°17.02' | 293°32.78' | S 22°57.89' | 162°58.19' | 67°51.61' | N 24°40.75' | 229°42.06' | 1°07.74' | S 0°56.05' | 266°04.71' | 324°45.10' | S 15°21.79' | **09** |
| **10** | 312°16.11' | 293°36.15' | S 22°57.45' | 178°01.26' | 67°51.01' | N 24°40.70' | 244°44.28' | 1°07.99' | S 0°55.93' | 281°06.94' | 324°45.33' | S 15°21.72' | **10** |
| **11** | 327°15.21' | 293°39.52' | S 22°57.02' | 193°04.33' | 67°50.40' | N 24°40.65' | 259°46.50' | 1°08.23' | S 0°55.82' | 296°09.17' | 324°45.57' | S 15°21.64' | **11** |
| **12** | 342°14.30' | 293°42.89' | S 22°56.58' | 208°07.40' | 67°49.80' | N 24°40.60' | 274°48.72' | 1°08.47' | S 0°55.70' | 311°11.40' | 324°45.80' | S 15°21.56' | **12** |
| **13** | 357°13.40' | 293°46.26' | S 22°56.14' | 223°10.47' | 67°49.19' | N 24°40.54' | 289°50.94' | 1°08.72' | S 0°55.58' | 326°13.63' | 324°46.03' | S 15°21.48' | **13** |
| **14** | 12°12.49' | 293°49.63' | S 22°55.70' | 238°13.53' | 67°48.59' | N 24°40.49' | 304°53.16' | 1°08.96' | S 0°55.46' | 341°15.86' | 324°46.27' | S 15°21.40' | **14** |
| **15** | 27°11.59' | 293°53.00' | S 22°55.25' | 253°16.60' | 67°47.99' | N 24°40.44' | 319°55.38' | 1°09.21' | S 0°55.35' | 356°18.09' | 324°46.50' | S 15°21.32' | **15** |
| **16** | 42°10.69' | 293°56.37' | S 22°54.81' | 268°19.66' | 67°47.39' | N 24°40.39' | 334°57.60' | 1°09.45' | S 0°55.23' | 11°20.32' | 324°46.74' | S 15°21.25' | **16** |
| **17** | 57°09.78' | 293°59.73' | S 22°54.37' | 283°22.72' | 67°46.80' | N 24°40.33' | 349°59.82' | 1°09.70' | S 0°55.11' | 26°22.55' | 324°46.97' | S 15°21.17' | **17** |
| **18** | 72°08.88' | 294°03.10' | S 22°53.92' | 298°25.78' | 67°46.20' | N 24°40.28' | 5°02.04' | 1°09.94' | S 0°54.99' | 41°24.78' | 324°47.20' | S 15°21.09' | **18** |
| **19** | 87°07.98' | 294°06.47' | S 22°53.47' | 313°28.84' | 67°45.61' | N 24°40.23' | 20°04.26' | 1°10.19' | S 0°54.87' | 56°27.01' | 324°47.44' | S 15°21.01' | **19** |
| **20** | 102°07.08' | 294°09.83' | S 22°53.02' | 328°31.90' | 67°45.01' | N 24°40.18' | 35°06.47' | 1°10.43' | S 0°54.76' | 71°29.24' | 324°47.67' | S 15°20.93' | **20** |
| **21** | 117°06.17' | 294°13.20' | S 22°52.57' | 343°34.95' | 67°44.42' | N 24°40.12' | 50°08.69' | 1°10.68' | S 0°54.64' | 86°31.47' | 324°47.91' | S 15°20.85' | **21** |
| **22** | 132°05.27' | 294°16.56' | S 22°52.12' | 358°38.00' | 67°43.83' | N 24°40.07' | 65°10.91' | 1°10.93' | S 0°54.52' | 101°33.69' | 324°48.14' | S 15°20.77' | **22** |
| **23** | 147°04.37' | 294°19.93' | S 22°51.67' | 13°41.06' | 67°43.24' | N 24°40.02' | 80°13.13' | 1°11.17' | S 0°54.40' | 116°35.92' | 324°48.38' | S 15°20.69' | **23** |
| **24** | 162°03.47' | 294°23.29' | S 22°51.22' | 28°44.11' | 67°42.66' | N 24°39.97' | 95°15.34' | 1°11.42' | S 0°54.28' | 131°38.15' | 324°48.61' | S 15°20.62' | **24** |
| | δ 14.9848° | | *d* 0.4253' | δ 15.0514° | | *d* 0.0532' | δ 15.0371° | | *d* 0.1161' | δ 15.0372° | | *d* 0.0780' | |

## *Wednesday, December 28th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°41.11' | 14.9949° | 276°45.65' | S 23°17.56' | 0.1189' | 113°17.58' | 14.4896° | 343°09.19' | S 12°02.14' | 14.9404' | 59.4471' | 96°26.77' | **00** |
| **01** | 194°40.81' | 14.9949° | 276°48.42' | S 23°17.44' | 0.1197' | 127°47.05' | 14.4913° | 343°42.18' | S 11°47.15' | 14.9875' | 59.4136' | 111°29.23' | **01** |
| **02** | 209°40.50' | 14.9949° | 276°51.20' | S 23°17.32' | 0.1205' | 142°16.63' | 14.4929° | 344°15.06' | S 11°32.12' | 15.0328' | 59.3799' | 126°31.69' | **02** |
| **03** | 224°40.19' | 14.9949° | 276°53.97' | S 23°17.20' | 0.1213' | 156°46.30' | 14.4946° | 344°47.85' | S 11°17.04' | 15.0764' | 59.3460' | 141°34.16' | **03** |
| **04** | 239°39.89' | 14.9949° | 276°56.74' | S 23°17.08' | 0.1222' | 171°16.07' | 14.4962° | 345°20.55' | S 11°01.92' | 15.1183' | 59.3121' | 156°36.62' | **04** |
| **05** | 254°39.58' | 14.9949° | 276°59.51' | S 23°16.96' | 0.1230' | 185°45.94' | 14.4978° | 345°53.15' | S 10°46.77' | 15.1584' | 59.2781' | 171°39.09' | **05** |
| **06** | 269°39.27' | 14.9949° | 277°02.28' | S 23°16.83' | 0.1238' | 200°15.90' | 14.4993° | 346°25.65' | S 10°31.57' | 15.1968' | 59.2439' | 186°41.55' | **06** |
| **07** | 284°38.97' | 14.9949° | 277°05.05' | S 23°16.71' | 0.1246' | 214°45.96' | 14.5009° | 346°58.06' | S 10°16.34' | 15.2336' | 59.2097' | 201°44.01' | **07** |
| **08** | 299°38.66' | 14.9949° | 277°07.82' | S 23°16.58' | 0.1254' | 229°16.10' | 14.5024° | 347°30.38' | S 10°01.07' | 15.2686' | 59.1753' | 216°46.48' | **08** |
| **09** | 314°38.35' | 14.9949° | 277°10.59' | S 23°16.46' | 0.1262' | 243°46.34' | 14.5039° | 348°02.61' | S 9°45.76' | 15.3021' | 59.1409' | 231°48.94' | **09** |
| **10** | 329°38.05' | 14.9949° | 277°13.36' | S 23°16.33' | 0.1270' | 258°16.66' | 14.5054° | 348°34.75' | S 9°30.43' | 15.3339' | 59.1064' | 246°51.41' | **10** |
| **11** | 344°37.74' | 14.9949° | 277°16.13' | S 23°16.20' | 0.1278' | 272°47.07' | 14.5069° | 349°06.80' | S 9°15.07' | 15.3640' | 59.0718' | 261°53.87' | **11** |
| **12** | 359°37.44' | 14.9949° | 277°18.90' | S 23°16.07' | 0.1286' | 287°17.57' | 14.5083° | 349°38.77' | S 8°59.67' | 15.3926' | 59.0372' | 276°56.34' | **12** |
| **13** | 14°37.13' | 14.9949° | 277°21.67' | S 23°15.94' | 0.1295' | 301°48.15' | 14.5097° | 350°10.65' | S 8°44.25' | 15.4196' | 59.0025' | 291°58.80' | **13** |
| **14** | 29°36.83' | 14.9949° | 277°24.44' | S 23°15.81' | 0.1303' | 316°18.81' | 14.5111° | 350°42.45' | S 8°28.81' | 15.4451' | 58.9677' | 307°01.26' | **14** |
| **15** | 44°36.52' | 14.9949° | 277°27.21' | S 23°15.68' | 0.1311' | 330°49.56' | 14.5124° | 351°14.17' | S 8°13.34' | 15.4690' | 58.9328' | 322°03.73' | **15** |
| **16** | 59°36.21' | 14.9949° | 277°29.98' | S 23°15.55' | 0.1319' | 345°20.39' | 14.5138° | 351°45.81' | S 7°57.85' | 15.4913' | 58.8980' | 337°06.19' | **16** |
| **17** | 74°35.91' | 14.9949° | 277°32.75' | S 23°15.42' | 0.1327' | 359°51.29' | 14.5151° | 352°17.36' | S 7°42.34' | 15.5122' | 58.8630' | 352°08.66' | **17** |
| **18** | 89°35.60' | 14.9949° | 277°35.52' | S 23°15.28' | 0.1335' | 14°22.27' | 14.5164° | 352°48.84' | S 7°26.81' | 15.5315' | 58.8281' | 7°11.12' | **18** |
| **19** | 104°35.30' | 14.9949° | 277°38.28' | S 23°15.15' | 0.1343' | 28°53.33' | 14.5177° | 353°20.25' | S 7°11.26' | 15.5494' | 58.7931' | 22°13.58' | **19** |
| **20** | 119°34.99' | 14.9949° | 277°41.05' | S 23°15.01' | 0.1351' | 43°24.47' | 14.5189° | 353°51.58' | S 6°55.69' | 15.5658' | 58.7580' | 37°16.05' | **20** |
| **21** | 134°34.69' | 14.9949° | 277°43.82' | S 23°14.88' | 0.1359' | 57°55.67' | 14.5201° | 354°22.84' | S 6°40.11' | 15.5808' | 58.7230' | 52°18.51' | **21** |
| **22** | 149°34.38' | 14.9949° | 277°46.59' | S 23°14.74' | 0.1368' | 72°26.95' | 14.5213° | 354°54.02' | S 6°24.52' | 15.5943' | 58.6879' | 67°20.98' | **22** |
| **23** | 164°34.08' | 14.9949° | 277°49.36' | S 23°14.60' | 0.1376' | 86°58.30' | 14.5225° | 355°25.14' | S 6°08.91' | 15.6064' | 58.6528' | 82°23.44' | **23** |
| **24** | 179°33.77' | 14.9949° | 277°52.13' | S 23°14.47' | 0.1384' | 101°29.72' | 14.5236° | 355°56.18' | S 5°53.29' | 15.6171' | 58.6177' | 97°25.90' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2630' | hp (π) 0.1490' | ½Ø 16.0865' | 33.2540132783052<br>3% +cre |
| | EoT at 12:00 UTC : -1m 30s (δ -1.22 s/h) | | Phase at 12:00 UTC : 70.24° | |
| | Meridian Pass. Time : 12:01:30.253 | | Age : 5.5 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.24') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 162°03.47' | 294°23.29' | S 22°51.22' | 28°44.11' | 67°42.66' | N 24°39.97' | 95°15.34' | 1°11.42' | S 0°54.28' | 131°38.15' | 324°48.61' | S 15°20.62' | **00** |
| **01** | 177°02.57' | 294°26.66' | S 22°50.77' | 43°47.16' | 67°42.07' | N 24°39.91' | 110°17.56' | 1°11.67' | S 0°54.16' | 146°40.38' | 324°48.85' | S 15°20.54' | **01** |
| **02** | 192°01.67' | 294°30.02' | S 22°50.31' | 58°50.20' | 67°41.49' | N 24°39.86' | 125°19.78' | 1°11.92' | S 0°54.04' | 161°42.61' | 324°49.08' | S 15°20.46' | **02** |
| **03** | 207°00.77' | 294°33.38' | S 22°49.85' | 73°53.25' | 67°40.91' | N 24°39.81' | 140°21.99' | 1°12.16' | S 0°53.93' | 176°44.84' | 324°49.32' | S 15°20.38' | **03** |
| **04** | 221°59.88' | 294°36.75' | S 22°49.40' | 88°56.29' | 67°40.33' | N 24°39.76' | 155°24.21' | 1°12.41' | S 0°53.81' | 191°47.07' | 324°49.55' | S 15°20.30' | **04** |
| **05** | 236°58.98' | 294°40.11' | S 22°48.94' | 103°59.34' | 67°39.75' | N 24°39.71' | 170°26.42' | 1°12.66' | S 0°53.69' | 206°49.30' | 324°49.79' | S 15°20.22' | **05** |
| **06** | 251°58.08' | 294°43.47' | S 22°48.48' | 119°02.38' | 67°39.17' | N 24°39.66' | 185°28.64' | 1°12.91' | S 0°53.57' | 221°51.53' | 324°50.03' | S 15°20.14' | **06** |
| **07** | 266°57.18' | 294°46.83' | S 22°48.01' | 134°05.42' | 67°38.60' | N 24°39.60' | 200°30.86' | 1°13.16' | S 0°53.45' | 236°53.75' | 324°50.26' | S 15°20.06' | **07** |
| **08** | 281°56.28' | 294°50.19' | S 22°47.55' | 149°08.46' | 67°38.02' | N 24°39.55' | 215°33.07' | 1°13.41' | S 0°53.33' | 251°55.98' | 324°50.50' | S 15°19.98' | **08** |
| **09** | 296°55.39' | 294°53.56' | S 22°47.09' | 164°11.49' | 67°37.45' | N 24°39.50' | 230°35.28' | 1°13.66' | S 0°53.21' | 266°58.21' | 324°50.73' | S 15°19.90' | **09** |
| **10** | 311°54.49' | 294°56.92' | S 22°46.62' | 179°14.53' | 67°36.88' | N 24°39.45' | 245°37.50' | 1°13.91' | S 0°53.09' | 282°00.44' | 324°50.97' | S 15°19.83' | **10** |
| **11** | 326°53.60' | 295°00.28' | S 22°46.16' | 194°17.56' | 67°36.31' | N 24°39.40' | 260°39.71' | 1°14.16' | S 0°52.97' | 297°02.67' | 324°51.20' | S 15°19.75' | **11** |
| **12** | 341°52.70' | 295°03.64' | S 22°45.69' | 209°20.59' | 67°35.74' | N 24°39.35' | 275°41.93' | 1°14.41' | S 0°52.85' | 312°04.89' | 324°51.44' | S 15°19.67' | **12** |
| **13** | 356°51.80' | 295°06.99' | S 22°45.22' | 224°23.63' | 67°35.17' | N 24°39.30' | 290°44.14' | 1°14.66' | S 0°52.73' | 327°07.12' | 324°51.68' | S 15°19.59' | **13** |
| **14** | 11°50.91' | 295°10.35' | S 22°44.75' | 239°26.65' | 67°34.61' | N 24°39.24' | 305°46.35' | 1°14.91' | S 0°52.61' | 342°09.35' | 324°51.91' | S 15°19.51' | **14** |
| **15** | 26°50.02' | 295°13.71' | S 22°44.28' | 254°29.68' | 67°34.05' | N 24°39.19' | 320°48.57' | 1°15.16' | S 0°52.49' | 357°11.58' | 324°52.15' | S 15°19.43' | **15** |
| **16** | 41°49.12' | 295°17.07' | S 22°43.81' | 269°32.71' | 67°33.48' | N 24°39.14' | 335°50.78' | 1°15.41' | S 0°52.37' | 12°13.81' | 324°52.39' | S 15°19.35' | **16** |
| **17** | 56°48.23' | 295°20.43' | S 22°43.33' | 284°35.73' | 67°32.92' | N 24°39.09' | 350°52.99' | 1°15.66' | S 0°52.25' | 27°16.03' | 324°52.62' | S 15°19.27' | **17** |
| **18** | 71°47.34' | 295°23.78' | S 22°42.86' | 299°38.76' | 67°32.36' | N 24°39.04' | 5°55.20' | 1°15.92' | S 0°52.13' | 42°18.26' | 324°52.86' | S 15°19.19' | **18** |
| **19** | 86°46.44' | 295°27.14' | S 22°42.38' | 314°41.78' | 67°31.81' | N 24°38.99' | 20°57.41' | 1°16.17' | S 0°52.01' | 57°20.49' | 324°53.10' | S 15°19.11' | **19** |
| **20** | 101°45.55' | 295°30.50' | S 22°41.91' | 329°44.80' | 67°31.25' | N 24°38.94' | 35°59.63' | 1°16.42' | S 0°51.88' | 72°22.72' | 324°53.33' | S 15°19.03' | **20** |
| **21** | 116°44.66' | 295°33.85' | S 22°41.43' | 344°47.81' | 67°30.70' | N 24°38.89' | 51°01.84' | 1°16.67' | S 0°51.76' | 87°24.94' | 324°53.57' | S 15°18.95' | **21** |
| **22** | 131°43.77' | 295°37.21' | S 22°40.95' | 359°50.83' | 67°30.14' | N 24°38.84' | 66°04.05' | 1°16.93' | S 0°51.64' | 102°27.17' | 324°53.81' | S 15°18.87' | **22** |
| **23** | 146°42.88' | 295°40.56' | S 22°40.47' | 14°53.85' | 67°29.59' | N 24°38.79' | 81°06.26' | 1°17.18' | S 0°51.52' | 117°29.40' | 324°54.04' | S 15°18.79' | **23** |
| **24** | 161°41.99' | 295°43.92' | S 22°39.99' | 29°56.86' | 67°29.04' | N 24°38.73' | 96°08.47' | 1°17.43' | S 0°51.40' | 132°31.62' | 324°54.28' | S 15°18.71' | **24** |
| | δ 14.9850° | | *d* 0.4543' | δ 15.0508° | | *d* 0.0520' | δ 15.0369° | | *d* 0.1188' | δ 15.0372° | | *d* 0.0789' | |

## *Thursday, December 29th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°33.77' | 14.9949° | 277°52.13' | S 23°14.47' | 0.1384' | 101°29.72' | 14.5236° | 355°56.18' | S 5°53.29' | 15.6171' | 58.6177' | 97°25.90' | **00** |
| **01** | 194°33.47' | 14.9949° | 277°54.90' | S 23°14.33' | 0.1392' | 116°01.20' | 14.5248° | 356°27.16' | S 5°37.67' | 15.6265' | 58.5826' | 112°28.37' | **01** |
| **02** | 209°33.17' | 14.9949° | 277°57.67' | S 23°14.19' | 0.1400' | 130°32.76' | 14.5259° | 356°58.08' | S 5°22.03' | 15.6344' | 58.5475' | 127°30.83' | **02** |
| **03** | 224°32.86' | 14.9949° | 278°00.43' | S 23°14.05' | 0.1408' | 145°04.37' | 14.5269° | 357°28.93' | S 5°06.39' | 15.6410' | 58.5124' | 142°33.30' | **03** |
| **04** | 239°32.56' | 14.9949° | 278°03.20' | S 23°13.90' | 0.1416' | 159°36.05' | 14.5280° | 357°59.71' | S 4°50.74' | 15.6463' | 58.4773' | 157°35.76' | **04** |
| **05** | 254°32.25' | 14.9949° | 278°05.97' | S 23°13.76' | 0.1424' | 174°07.79' | 14.5290° | 358°30.43' | S 4°35.09' | 15.6502' | 58.4422' | 172°38.22' | **05** |
| **06** | 269°31.95' | 14.9949° | 278°08.74' | S 23°13.62' | 0.1432' | 188°39.59' | 14.5300° | 359°01.10' | S 4°19.44' | 15.6529' | 58.4072' | 187°40.69' | **06** |
| **07** | 284°31.65' | 14.9949° | 278°11.51' | S 23°13.47' | 0.1440' | 203°11.45' | 14.5310° | 359°31.70' | S 4°03.79' | 15.6542' | 58.3721' | 202°43.15' | **07** |
| **08** | 299°31.34' | 14.9949° | 278°14.28' | S 23°13.33' | 0.1448' | 217°43.37' | 14.5319° | 0°02.25' | S 3°48.13' | 15.6542' | 58.3371' | 217°45.62' | **08** |
| **09** | 314°31.04' | 14.9949° | 278°17.04' | S 23°13.18' | 0.1457' | 232°15.34' | 14.5329° | 0°32.74' | S 3°32.48' | 15.6530' | 58.3021' | 232°48.08' | **09** |
| **10** | 329°30.73' | 14.9949° | 278°19.81' | S 23°13.04' | 0.1465' | 246°47.37' | 14.5338° | 1°03.18' | S 3°16.83' | 15.6505' | 58.2671' | 247°50.54' | **10** |
| **11** | 344°30.43' | 14.9949° | 278°22.58' | S 23°12.89' | 0.1473' | 261°19.45' | 14.5347° | 1°33.56' | S 3°01.18' | 15.6468' | 58.2322' | 262°53.01' | **11** |
| **12** | 359°30.13' | 14.9949° | 278°25.35' | S 23°12.74' | 0.1481' | 275°51.58' | 14.5355° | 2°03.89' | S 2°45.54' | 15.6418' | 58.1973' | 277°55.47' | **12** |
| **13** | 14°29.82' | 14.9949° | 278°28.11' | S 23°12.59' | 0.1489' | 290°23.76' | 14.5364° | 2°34.18' | S 2°29.90' | 15.6356' | 58.1625' | 292°57.94' | **13** |
| **14** | 29°29.52' | 14.9949° | 278°30.88' | S 23°12.44' | 0.1497' | 304°55.99' | 14.5372° | 3°04.41' | S 2°14.28' | 15.6282' | 58.1277' | 308°00.40' | **14** |
| **15** | 44°29.22' | 14.9949° | 278°33.65' | S 23°12.29' | 0.1505' | 319°28.27' | 14.5380° | 3°34.60' | S 1°58.66' | 15.6196' | 58.0929' | 323°02.87' | **15** |
| **16** | 59°28.91' | 14.9950° | 278°36.42' | S 23°12.14' | 0.1513' | 334°00.59' | 14.5387° | 4°04.74' | S 1°43.05' | 15.6099' | 58.0583' | 338°05.33' | **16** |
| **17** | 74°28.61' | 14.9950° | 278°39.18' | S 23°11.99' | 0.1521' | 348°32.96' | 14.5395° | 4°34.83' | S 1°27.45' | 15.5989' | 58.0236' | 353°07.79' | **17** |
| **18** | 89°28.31' | 14.9950° | 278°41.95' | S 23°11.84' | 0.1529' | 3°05.38' | 14.5402° | 5°04.88' | S 1°11.86' | 15.5868' | 57.9891' | 8°10.26' | **18** |
| **19** | 104°28.01' | 14.9950° | 278°44.72' | S 23°11.68' | 0.1537' | 17°37.83' | 14.5409° | 5°34.89' | S 0°56.29' | 15.5736' | 57.9546' | 23°12.72' | **19** |
| **20** | 119°27.70' | 14.9950° | 278°47.48' | S 23°11.53' | 0.1545' | 32°10.32' | 14.5416° | 6°04.86' | S 0°40.73' | 15.5592' | 57.9202' | 38°15.19' | **20** |
| **21** | 134°27.40' | 14.9950° | 278°50.25' | S 23°11.37' | 0.1554' | 46°42.86' | 14.5422° | 6°34.79' | S 0°25.18' | 15.5437' | 57.8858' | 53°17.65' | **21** |
| **22** | 149°27.10' | 14.9950° | 278°53.02' | S 23°11.22' | 0.1562' | 61°15.43' | 14.5429° | 7°04.69' | S 0°09.66' | 15.5271' | 57.8515' | 68°20.11' | **22** |
| **23** | 164°26.80' | 14.9950° | 278°55.78' | S 23°11.06' | 0.1570' | 75°48.04' | 14.5435° | 7°34.54' | N 0°05.85' | 15.5094' | 57.8173' | 83°22.58' | **23** |
| **24** | 179°26.49' | 14.9950° | 278°58.55' | S 23°10.90' | 0.1578' | 90°20.68' | 14.5440° | 8°04.36' | N 0°21.34' | 15.4905' | 57.7832' | 98°25.04' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2637' | hp (π) 0.1490' | ½Ø 15.8577' | 44.0951262601587<br>9% +cre |
| | EoT at 12:00 UTC : -1m 59s (δ -1.21 s/h) | | Phase at 12:00 UTC : 83.06° | |
| | Meridian Pass. Time : 12:01:59.492 | | Age : 6.5 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.24') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 161°41.99' | 295°43.92' | S 22°39.99' | 29°56.86' | 67°29.04' | N 24°38.73' | 96°08.47' | 1°17.43' | S 0°51.40' | 132°31.62' | 324°54.28' | S 15°18.71' | **00** |
| **01** | 176°41.10' | 295°47.27' | S 22°39.50' | 44°59.87' | 67°28.50' | N 24°38.68' | 111°10.68' | 1°17.69' | S 0°51.28' | 147°33.85' | 324°54.52' | S 15°18.63' | **01** |
| **02** | 191°40.21' | 295°50.63' | S 22°39.02' | 60°02.88' | 67°27.95' | N 24°38.63' | 126°12.89' | 1°17.94' | S 0°51.16' | 162°36.08' | 324°54.76' | S 15°18.55' | **02** |
| **03** | 206°39.32' | 295°53.98' | S 22°38.53' | 75°05.89' | 67°27.40' | N 24°38.58' | 141°15.10' | 1°18.20' | S 0°51.04' | 177°38.30' | 324°54.99' | S 15°18.47' | **03** |
| **04** | 221°38.43' | 295°57.33' | S 22°38.05' | 90°08.90' | 67°26.86' | N 24°38.53' | 156°17.31' | 1°18.45' | S 0°50.91' | 192°40.53' | 324°55.23' | S 15°18.39' | **04** |
| **05** | 236°37.54' | 296°00.68' | S 22°37.56' | 105°11.91' | 67°26.32' | N 24°38.48' | 171°19.52' | 1°18.71' | S 0°50.79' | 207°42.76' | 324°55.47' | S 15°18.31' | **05** |
| **06** | 251°36.65' | 296°04.04' | S 22°37.07' | 120°14.91' | 67°25.78' | N 24°38.43' | 186°21.73' | 1°18.96' | S 0°50.67' | 222°44.98' | 324°55.71' | S 15°18.23' | **06** |
| **07** | 266°35.76' | 296°07.39' | S 22°36.58' | 135°17.91' | 67°25.24' | N 24°38.38' | 201°23.94' | 1°19.22' | S 0°50.55' | 237°47.21' | 324°55.94' | S 15°18.15' | **07** |
| **08** | 281°34.88' | 296°10.74' | S 22°36.09' | 150°20.91' | 67°24.70' | N 24°38.33' | 216°26.14' | 1°19.47' | S 0°50.42' | 252°49.43' | 324°56.18' | S 15°18.07' | **08** |
| **09** | 296°33.99' | 296°14.09' | S 22°35.60' | 165°23.91' | 67°24.17' | N 24°38.28' | 231°28.35' | 1°19.73' | S 0°50.30' | 267°51.66' | 324°56.42' | S 15°17.99' | **09** |
| **10** | 311°33.10' | 296°17.44' | S 22°35.10' | 180°26.91' | 67°23.63' | N 24°38.23' | 246°30.56' | 1°19.98' | S 0°50.18' | 282°53.89' | 324°56.66' | S 15°17.91' | **10** |
| **11** | 326°32.22' | 296°20.79' | S 22°34.61' | 195°29.91' | 67°23.10' | N 24°38.18' | 261°32.77' | 1°20.24' | S 0°50.06' | 297°56.11' | 324°56.90' | S 15°17.83' | **11** |
| **12** | 341°31.33' | 296°24.14' | S 22°34.11' | 210°32.90' | 67°22.57' | N 24°38.13' | 276°34.98' | 1°20.50' | S 0°49.93' | 312°58.34' | 324°57.14' | S 15°17.75' | **12** |
| **13** | 356°30.45' | 296°27.49' | S 22°33.62' | 225°35.90' | 67°22.04' | N 24°38.08' | 291°37.18' | 1°20.75' | S 0°49.81' | 328°00.56' | 324°57.37' | S 15°17.67' | **13** |
| **14** | 11°29.56' | 296°30.84' | S 22°33.12' | 240°38.89' | 67°21.51' | N 24°38.03' | 306°39.39' | 1°21.01' | S 0°49.69' | 343°02.79' | 324°57.61' | S 15°17.59' | **14** |
| **15** | 26°28.68' | 296°34.19' | S 22°32.62' | 255°41.88' | 67°20.99' | N 24°37.98' | 321°41.60' | 1°21.27' | S 0°49.57' | 358°05.01' | 324°57.85' | S 15°17.51' | **15** |
| **16** | 41°27.80' | 296°37.53' | S 22°32.12' | 270°44.87' | 67°20.46' | N 24°37.93' | 336°43.80' | 1°21.53' | S 0°49.44' | 13°07.24' | 324°58.09' | S 15°17.43' | **16** |
| **17** | 56°26.91' | 296°40.88' | S 22°31.62' | 285°47.86' | 67°19.94' | N 24°37.89' | 351°46.01' | 1°21.79' | S 0°49.32' | 28°09.46' | 324°58.33' | S 15°17.35' | **17** |
| **18** | 71°26.03' | 296°44.23' | S 22°31.11' | 300°50.84' | 67°19.42' | N 24°37.84' | 6°48.21' | 1°22.04' | S 0°49.20' | 43°11.69' | 324°58.57' | S 15°17.27' | **18** |
| **19** | 86°25.15' | 296°47.57' | S 22°30.61' | 315°53.83' | 67°18.90' | N 24°37.79' | 21°50.42' | 1°22.30' | S 0°49.07' | 58°13.91' | 324°58.81' | S 15°17.19' | **19** |
| **20** | 101°24.27' | 296°50.92' | S 22°30.10' | 330°56.81' | 67°18.38' | N 24°37.74' | 36°52.62' | 1°22.56' | S 0°48.95' | 73°16.14' | 324°59.05' | S 15°17.11' | **20** |
| **21** | 116°23.38' | 296°54.27' | S 22°29.60' | 345°59.79' | 67°17.86' | N 24°37.69' | 51°54.83' | 1°22.82' | S 0°48.83' | 88°18.36' | 324°59.29' | S 15°17.03' | **21** |
| **22** | 131°22.50' | 296°57.61' | S 22°29.09' | 1°02.77' | 67°17.35' | N 24°37.64' | 66°57.03' | 1°23.08' | S 0°48.70' | 103°20.59' | 324°59.52' | S 15°16.95' | **22** |
| **23** | 146°21.62' | 297°00.96' | S 22°28.58' | 16°05.75' | 67°16.83' | N 24°37.59' | 81°59.24' | 1°23.34' | S 0°48.58' | 118°22.81' | 324°59.76' | S 15°16.87' | **23** |
| **24** | 161°20.74' | 297°04.30' | S 22°28.07' | 31°08.72' | 67°16.32' | N 24°37.54' | 97°01.44' | 1°23.60' | S 0°48.45' | 133°25.04' | 325°00.00' | S 15°16.79' | **24** |
| | δ 14.9852° | | *d* 0.4829' | δ 15.0502° | | *d* 0.0505' | δ 15.0368° | | *d* 0.1215' | δ 15.0371° | | *d* 0.0797' | |

## *Friday, December 30th, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°26.49' | 14.9950° | 278°58.55' | S 23°10.90' | 0.1578' | 90°20.68' | 14.5440° | 8°04.36' | N 0°21.34' | 15.4905' | 57.7832' | 98°25.04' | **00** |
| **01** | 194°26.19' | 14.9950° | 279°01.31' | S 23°10.74' | 0.1586' | 104°53.35' | 14.5446° | 8°34.15' | N 0°36.81' | 15.4706' | 57.7492' | 113°27.51' | **01** |
| **02** | 209°25.89' | 14.9950° | 279°04.08' | S 23°10.58' | 0.1594' | 119°26.06' | 14.5451° | 9°03.91' | N 0°52.26' | 15.4497' | 57.7152' | 128°29.97' | **02** |
| **03** | 224°25.59' | 14.9950° | 279°06.85' | S 23°10.42' | 0.1602' | 133°58.80' | 14.5456° | 9°33.63' | N 1°07.69' | 15.4276' | 57.6814' | 143°32.43' | **03** |
| **04** | 239°25.29' | 14.9950° | 279°09.61' | S 23°10.26' | 0.1610' | 148°31.57' | 14.5461° | 10°03.33' | N 1°23.10' | 15.4045' | 57.6476' | 158°34.90' | **04** |
| **05** | 254°24.99' | 14.9950° | 279°12.38' | S 23°10.10' | 0.1618' | 163°04.37' | 14.5466° | 10°33.00' | N 1°38.48' | 15.3803' | 57.6140' | 173°37.36' | **05** |
| **06** | 269°24.68' | 14.9950° | 279°15.14' | S 23°09.94' | 0.1626' | 177°37.19' | 14.5471° | 11°02.64' | N 1°53.83' | 15.3552' | 57.5804' | 188°39.83' | **06** |
| **07** | 284°24.38' | 14.9950° | 279°17.91' | S 23°09.77' | 0.1634' | 192°10.04' | 14.5475° | 11°32.25' | N 2°09.16' | 15.3289' | 57.5470' | 203°42.29' | **07** |
| **08** | 299°24.08' | 14.9950° | 279°20.67' | S 23°09.61' | 0.1642' | 206°42.91' | 14.5479° | 12°01.84' | N 2°24.46' | 15.3017' | 57.5136' | 218°44.75' | **08** |
| **09** | 314°23.78' | 14.9950° | 279°23.44' | S 23°09.45' | 0.1650' | 221°15.81' | 14.5483° | 12°31.41' | N 2°39.73' | 15.2734' | 57.4804' | 233°47.22' | **09** |
| **10** | 329°23.48' | 14.9950° | 279°26.20' | S 23°09.28' | 0.1658' | 235°48.72' | 14.5486° | 13°00.96' | N 2°54.98' | 15.2442' | 57.4473' | 248°49.68' | **10** |
| **11** | 344°23.18' | 14.9950° | 279°28.97' | S 23°09.11' | 0.1666' | 250°21.66' | 14.5490° | 13°30.49' | N 3°10.19' | 15.2139' | 57.4143' | 263°52.15' | **11** |
| **12** | 359°22.88' | 14.9950° | 279°31.73' | S 23°08.95' | 0.1674' | 264°54.62' | 14.5493° | 13°59.99' | N 3°25.38' | 15.1826' | 57.3814' | 278°54.61' | **12** |
| **13** | 14°22.58' | 14.9950° | 279°34.50' | S 23°08.78' | 0.1682' | 279°27.59' | 14.5496° | 14°29.48' | N 3°40.53' | 15.1504' | 57.3486' | 293°57.08' | **13** |
| **14** | 29°22.28' | 14.9950° | 279°37.26' | S 23°08.61' | 0.1690' | 294°00.58' | 14.5498° | 14°58.96' | N 3°55.64' | 15.1172' | 57.3159' | 308°59.54' | **14** |
| **15** | 44°21.98' | 14.9950° | 279°40.03' | S 23°08.44' | 0.1699' | 308°33.59' | 14.5501° | 15°28.42' | N 4°10.73' | 15.0830' | 57.2834' | 324°02.00' | **15** |
| **16** | 59°21.68' | 14.9950° | 279°42.79' | S 23°08.27' | 0.1707' | 323°06.61' | 14.5503° | 15°57.86' | N 4°25.77' | 15.0478' | 57.2510' | 339°04.47' | **16** |
| **17** | 74°21.38' | 14.9950° | 279°45.56' | S 23°08.10' | 0.1715' | 337°39.64' | 14.5505° | 16°27.29' | N 4°40.79' | 15.0117' | 57.2187' | 354°06.93' | **17** |
| **18** | 89°21.08' | 14.9950° | 279°48.32' | S 23°07.92' | 0.1723' | 352°12.68' | 14.5507° | 16°56.71' | N 4°55.76' | 14.9746' | 57.1865' | 9°09.40' | **18** |
| **19** | 104°20.78' | 14.9950° | 279°51.08' | S 23°07.75' | 0.1731' | 6°45.74' | 14.5509° | 17°26.12' | N 5°10.70' | 14.9366' | 57.1545' | 24°11.86' | **19** |
| **20** | 119°20.48' | 14.9950° | 279°53.85' | S 23°07.58' | 0.1739' | 21°18.80' | 14.5510° | 17°55.52' | N 5°25.59' | 14.8976' | 57.1226' | 39°14.32' | **20** |
| **21** | 134°20.18' | 14.9950° | 279°56.61' | S 23°07.40' | 0.1747' | 35°51.87' | 14.5512° | 18°24.92' | N 5°40.45' | 14.8578' | 57.0909' | 54°16.79' | **21** |
| **22** | 149°19.88' | 14.9950° | 279°59.37' | S 23°07.23' | 0.1755' | 50°24.95' | 14.5513° | 18°54.30' | N 5°55.27' | 14.8169' | 57.0592' | 69°19.25' | **22** |
| **23** | 164°19.58' | 14.9950° | 280°02.14' | S 23°07.05' | 0.1763' | 64°58.03' | 14.5514° | 19°23.69' | N 6°10.04' | 14.7752' | 57.0278' | 84°21.72' | **23** |
| **24** | 179°19.28' | 14.9950° | 280°04.90' | S 23°06.87' | 0.1771' | 79°31.12' | 14.5514° | 19°53.06' | N 6°24.78' | 14.7325' | 56.9964' | 99°24.18' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| ½Ø 16.2642' | hp (π) 0.1490' | ½Ø 15.6354' | 54.8797653258068<br>65% +gib | |
| EoT at 12:00 UTC : -2m 28s (δ -1.20 s/h) | | Phase at 12:00 UTC : 95.46° | | |
| Meridian Pass. Time : 12:02:28.488 | | Age : 7.4 day(s) | | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.23') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 161°20.74' | 297°04.30' | S 22°28.07' | 31°08.72' | 67°16.32' | N 24°37.54' | 97°01.44' | 1°23.60' | S 0°48.45' | 133°25.04' | 325°00.00' | S 15°16.79' | **00** |
| **01** | 176°19.86' | 297°07.64' | S 22°27.56' | 46°11.70' | 67°15.81' | N 24°37.49' | 112°03.65' | 1°23.86' | S 0°48.33' | 148°27.26' | 325°00.24' | S 15°16.71' | **01** |
| **02** | 191°18.98' | 297°10.99' | S 22°27.05' | 61°14.67' | 67°15.30' | N 24°37.44' | 127°05.85' | 1°24.12' | S 0°48.21' | 163°29.49' | 325°00.48' | S 15°16.63' | **02** |
| **03** | 206°18.11' | 297°14.33' | S 22°26.53' | 76°17.64' | 67°14.79' | N 24°37.40' | 142°08.05' | 1°24.38' | S 0°48.08' | 178°31.71' | 325°00.72' | S 15°16.55' | **03** |
| **04** | 221°17.23' | 297°17.67' | S 22°26.02' | 91°20.61' | 67°14.29' | N 24°37.35' | 157°10.26' | 1°24.64' | S 0°47.96' | 193°33.94' | 325°00.96' | S 15°16.47' | **04** |
| **05** | 236°16.35' | 297°21.01' | S 22°25.50' | 106°23.58' | 67°13.78' | N 24°37.30' | 172°12.46' | 1°24.90' | S 0°47.83' | 208°36.16' | 325°01.20' | S 15°16.39' | **05** |
| **06** | 251°15.47' | 297°24.36' | S 22°24.98' | 121°26.55' | 67°13.28' | N 24°37.25' | 187°14.66' | 1°25.16' | S 0°47.71' | 223°38.38' | 325°01.44' | S 15°16.31' | **06** |
| **07** | 266°14.59' | 297°27.70' | S 22°24.47' | 136°29.51' | 67°12.78' | N 24°37.20' | 202°16.86' | 1°25.43' | S 0°47.58' | 238°40.61' | 325°01.68' | S 15°16.23' | **07** |
| **08** | 281°13.72' | 297°31.04' | S 22°23.95' | 151°32.48' | 67°12.28' | N 24°37.15' | 217°19.07' | 1°25.69' | S 0°47.46' | 253°42.83' | 325°01.92' | S 15°16.15' | **08** |
| **09** | 296°12.84' | 297°34.38' | S 22°23.43' | 166°35.44' | 67°11.78' | N 24°37.11' | 232°21.27' | 1°25.95' | S 0°47.33' | 268°45.06' | 325°02.16' | S 15°16.07' | **09** |
| **10** | 311°11.97' | 297°37.72' | S 22°22.90' | 181°38.40' | 67°11.28' | N 24°37.06' | 247°23.47' | 1°26.21' | S 0°47.21' | 283°47.28' | 325°02.40' | S 15°15.98' | **10** |
| **11** | 326°11.09' | 297°41.06' | S 22°22.38' | 196°41.36' | 67°10.79' | N 24°37.01' | 262°25.67' | 1°26.48' | S 0°47.08' | 298°49.50' | 325°02.64' | S 15°15.90' | **11** |
| **12** | 341°10.22' | 297°44.40' | S 22°21.86' | 211°44.32' | 67°10.29' | N 24°36.96' | 277°27.87' | 1°26.74' | S 0°46.96' | 313°51.73' | 325°02.89' | S 15°15.82' | **12** |
| **13** | 356°09.34' | 297°47.73' | S 22°21.33' | 226°47.27' | 67°09.80' | N 24°36.91' | 292°30.07' | 1°27.00' | S 0°46.83' | 328°53.95' | 325°03.13' | S 15°15.74' | **13** |
| **14** | 11°08.47' | 297°51.07' | S 22°20.80' | 241°50.23' | 67°09.31' | N 24°36.87' | 307°32.27' | 1°27.27' | S 0°46.71' | 343°56.17' | 325°03.37' | S 15°15.66' | **14** |
| **15** | 26°07.59' | 297°54.41' | S 22°20.28' | 256°53.18' | 67°08.82' | N 24°36.82' | 322°34.47' | 1°27.53' | S 0°46.58' | 358°58.40' | 325°03.61' | S 15°15.58' | **15** |
| **16** | 41°06.72' | 297°57.75' | S 22°19.75' | 271°56.13' | 67°08.33' | N 24°36.77' | 337°36.67' | 1°27.79' | S 0°46.45' | 14°00.62' | 325°03.85' | S 15°15.50' | **16** |
| **17** | 56°05.85' | 298°01.08' | S 22°19.22' | 286°59.08' | 67°07.85' | N 24°36.72' | 352°38.87' | 1°28.06' | S 0°46.33' | 29°02.84' | 325°04.09' | S 15°15.42' | **17** |
| **18** | 71°04.98' | 298°04.42' | S 22°18.69' | 302°02.03' | 67°07.36' | N 24°36.68' | 7°41.07' | 1°28.32' | S 0°46.20' | 44°05.06' | 325°04.33' | S 15°15.34' | **18** |
| **19** | 86°04.10' | 298°07.75' | S 22°18.15' | 317°04.98' | 67°06.88' | N 24°36.63' | 22°43.27' | 1°28.59' | S 0°46.08' | 59°07.29' | 325°04.57' | S 15°15.26' | **19** |
| **20** | 101°03.23' | 298°11.09' | S 22°17.62' | 332°07.92' | 67°06.40' | N 24°36.58' | 37°45.47' | 1°28.85' | S 0°45.95' | 74°09.51' | 325°04.81' | S 15°15.17' | **20** |
| **21** | 116°02.36' | 298°14.42' | S 22°17.09' | 347°10.87' | 67°05.92' | N 24°36.54' | 52°47.67' | 1°29.12' | S 0°45.82' | 89°11.73' | 325°05.06' | S 15°15.09' | **21** |
| **22** | 131°01.49' | 298°17.76' | S 22°16.55' | 2°13.81' | 67°05.44' | N 24°36.49' | 67°49.87' | 1°29.38' | S 0°45.70' | 104°13.96' | 325°05.30' | S 15°15.01' | **22** |
| **23** | 146°00.62' | 298°21.09' | S 22°16.01' | 17°16.75' | 67°04.97' | N 24°36.44' | 82°52.07' | 1°29.65' | S 0°45.57' | 119°16.18' | 325°05.54' | S 15°14.93' | **23** |
| **24** | 160°59.75' | 298°24.43' | S 22°15.48' | 32°19.69' | 67°04.49' | N 24°36.39' | 97°54.26' | 1°29.92' | S 0°45.44' | 134°18.40' | 325°05.78' | S 15°14.85' | **24** |
| | δ 14.9853° | | *d* 0.5113' | δ 15.0496° | | *d* 0.0488' | δ 15.0367° | | *d* 0.1241' | δ 15.0371° | | *d* 0.0805' | |

## *Saturday, December 31st, 2022*

| UT | Sun ☉ | | | | | Moon ☾ | | | | | | Aries ♈ | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | δ *gha* | SHA | Dec | *d* | GHA | δ *gha* | SHA | Dec | *d* | hp (π) | GHA | |
| **00** | 179°19.28' | 14.9950° | 280°04.90' | S 23°06.87' | 0.1771' | 79°31.12' | 14.5514° | 19°53.06' | N 6°24.78' | 14.7325' | 56.9964' | 99°24.18' | **00** |
| **01** | 194°18.98' | 14.9950° | 280°07.66' | S 23°06.70' | 0.1779' | 94°04.21' | 14.5515° | 20°22.44' | N 6°39.47' | 14.6889' | 56.9652' | 114°26.64' | **01** |
| **02** | 209°18.68' | 14.9950° | 280°10.43' | S 23°06.52' | 0.1787' | 108°37.30' | 14.5515° | 20°51.81' | N 6°54.11' | 14.6445' | 56.9342' | 129°29.11' | **02** |
| **03** | 224°18.38' | 14.9950° | 280°13.19' | S 23°06.34' | 0.1795' | 123°10.39' | 14.5515° | 21°21.18' | N 7°08.71' | 14.5991' | 56.9033' | 144°31.57' | **03** |
| **04** | 239°18.08' | 14.9950° | 280°15.95' | S 23°06.16' | 0.1803' | 137°43.48' | 14.5515° | 21°50.56' | N 7°23.26' | 14.5528' | 56.8725' | 159°34.04' | **04** |
| **05** | 254°17.78' | 14.9950° | 280°18.72' | S 23°05.98' | 0.1811' | 152°16.57' | 14.5515° | 22°19.93' | N 7°37.77' | 14.5056' | 56.8419' | 174°36.50' | **05** |
| **06** | 269°17.49' | 14.9950° | 280°21.48' | S 23°05.79' | 0.1819' | 166°49.66' | 14.5514° | 22°49.31' | N 7°52.22' | 14.4575' | 56.8114' | 189°38.96' | **06** |
| **07** | 284°17.19' | 14.9950° | 280°24.24' | S 23°05.61' | 0.1827' | 181°22.74' | 14.5514° | 23°18.69' | N 8°06.63' | 14.4085' | 56.7811' | 204°41.43' | **07** |
| **08** | 299°16.89' | 14.9950° | 280°27.00' | S 23°05.43' | 0.1835' | 195°55.82' | 14.5513° | 23°48.08' | N 8°20.99' | 14.3586' | 56.7509' | 219°43.89' | **08** |
| **09** | 314°16.59' | 14.9950° | 280°29.77' | S 23°05.24' | 0.1843' | 210°28.89' | 14.5512° | 24°17.47' | N 8°35.30' | 14.3079' | 56.7209' | 234°46.36' | **09** |
| **10** | 329°16.29' | 14.9950° | 280°32.53' | S 23°05.06' | 0.1851' | 225°01.95' | 14.5511° | 24°46.87' | N 8°49.56' | 14.2563' | 56.6911' | 249°48.82' | **10** |
| **11** | 344°16.00' | 14.9950° | 280°35.29' | S 23°04.87' | 0.1859' | 239°35.01' | 14.5509° | 25°16.28' | N 9°03.76' | 14.2037' | 56.6614' | 264°51.29' | **11** |
| **12** | 359°15.70' | 14.9950° | 280°38.05' | S 23°04.69' | 0.1867' | 254°08.05' | 14.5508° | 25°45.70' | N 9°17.91' | 14.1504' | 56.6319' | 279°53.75' | **12** |
| **13** | 14°15.40' | 14.9950° | 280°40.81' | S 23°04.50' | 0.1875' | 268°41.09' | 14.5506° | 26°15.13' | N 9°32.01' | 14.0961' | 56.6025' | 294°56.21' | **13** |
| **14** | 29°15.10' | 14.9950° | 280°43.57' | S 23°04.31' | 0.1883' | 283°14.11' | 14.5504° | 26°44.57' | N 9°46.05' | 14.0410' | 56.5733' | 309°58.68' | **14** |
| **15** | 44°14.81' | 14.9950° | 280°46.34' | S 23°04.12' | 0.1891' | 297°47.12' | 14.5502° | 27°14.02' | N 10°00.03' | 13.9850' | 56.5442' | 325°01.14' | **15** |
| **16** | 59°14.51' | 14.9950° | 280°49.10' | S 23°03.93' | 0.1899' | 312°20.12' | 14.5500° | 27°43.48' | N 10°13.96' | 13.9282' | 56.5153' | 340°03.61' | **16** |
| **17** | 74°14.21' | 14.9950° | 280°51.86' | S 23°03.74' | 0.1907' | 326°53.10' | 14.5497° | 28°12.97' | N 10°27.83' | 13.8705' | 56.4866' | 355°06.07' | **17** |
| **18** | 89°13.91' | 14.9951° | 280°54.62' | S 23°03.55' | 0.1915' | 341°26.07' | 14.5495° | 28°42.46' | N 10°41.64' | 13.8119' | 56.4580' | 10°08.53' | **18** |
| **19** | 104°13.62' | 14.9951° | 280°57.38' | S 23°03.36' | 0.1923' | 355°59.02' | 14.5492° | 29°11.98' | N 10°55.40' | 13.7525' | 56.4296' | 25°11.00' | **19** |
| **20** | 119°13.32' | 14.9951° | 281°00.14' | S 23°03.16' | 0.1931' | 10°31.96' | 14.5489° | 29°41.51' | N 11°09.09' | 13.6922' | 56.4013' | 40°13.46' | **20** |
| **21** | 134°13.02' | 14.9951° | 281°02.90' | S 23°02.97' | 0.1939' | 25°04.87' | 14.5486° | 30°11.06' | N 11°22.72' | 13.6311' | 56.3733' | 55°15.93' | **21** |
| **22** | 149°12.73' | 14.9951° | 281°05.66' | S 23°02.78' | 0.1947' | 39°37.77' | 14.5482° | 30°40.62' | N 11°36.29' | 13.5691' | 56.3454' | 70°18.39' | **22** |
| **23** | 164°12.43' | 14.9951° | 281°08.42' | S 23°02.58' | 0.1955' | 54°10.64' | 14.5479° | 31°10.21' | N 11°49.79' | 13.5063' | 56.3176' | 85°20.85' | **23** |
| **24** | 179°12.14' | 14.9951° | 281°11.18' | S 23°02.38' | 0.1963' | 68°43.49' | 14.5475° | 31°39.83' | N 12°03.24' | 13.4427' | 56.2900' | 100°23.32' | **24** |
| | | | | | | | | | | | | δ 15.0411° | |

| | | | | |
|---|---|---|---|---|
| | ½Ø 16.2647' | hp (π) 0.1490' | ½Ø 15.4312' | 65.1327617104393 8% +gib |
| | EoT at 12:00 UTC : -2m 57s (δ -1.19 s/h) | | Phase at 12:00 UTC : 107.48° | |
| | Meridian Pass. Time : 12:02:57.209 | | Age : 8.4 day(s) | |

| UT | Venus ♀ (π 0.09') | | | Mars ♂ (π 0.23') | | | Jupiter ♃ | | | Saturn ♄ | | | UT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | GHA | SHA | Dec | |
| **00** | 160°59.75' | 298°24.43' | S 22°15.48' | 32°19.69' | 67°04.49' | N 24°36.39' | 97°54.26' | 1°29.92' | S 0°45.44' | 134°18.40' | 325°05.78' | S 15°14.85' | **00** |
| **01** | 175°58.88' | 298°27.76' | S 22°14.94' | 47°22.63' | 67°04.02' | N 24°36.35' | 112°56.46' | 1°30.18' | S 0°45.32' | 149°20.62' | 325°06.02' | S 15°14.77' | **01** |
| **02** | 190°58.02' | 298°31.09' | S 22°14.40' | 62°25.56' | 67°03.55' | N 24°36.30' | 127°58.66' | 1°30.45' | S 0°45.19' | 164°22.84' | 325°06.26' | S 15°14.69' | **02** |
| **03** | 205°57.15' | 298°34.42' | S 22°13.85' | 77°28.50' | 67°03.08' | N 24°36.26' | 143°00.86' | 1°30.72' | S 0°45.06' | 179°25.07' | 325°06.51' | S 15°14.61' | **03** |
| **04** | 220°56.28' | 298°37.76' | S 22°13.31' | 92°31.43' | 67°02.61' | N 24°36.21' | 158°03.05' | 1°30.98' | S 0°44.94' | 194°27.29' | 325°06.75' | S 15°14.52' | **04** |
| **05** | 235°55.41' | 298°41.09' | S 22°12.77' | 107°34.36' | 67°02.14' | N 24°36.16' | 173°05.25' | 1°31.25' | S 0°44.81' | 209°29.51' | 325°06.99' | S 15°14.44' | **05** |
| **06** | 250°54.55' | 298°44.42' | S 22°12.22' | 122°37.29' | 67°01.68' | N 24°36.12' | 188°07.45' | 1°31.52' | S 0°44.68' | 224°31.73' | 325°07.23' | S 15°14.36' | **06** |
| **07** | 265°53.68' | 298°47.75' | S 22°11.68' | 137°40.22' | 67°01.21' | N 24°36.07' | 203°09.64' | 1°31.79' | S 0°44.55' | 239°33.95' | 325°07.48' | S 15°14.28' | **07** |
| **08** | 280°52.82' | 298°51.08' | S 22°11.13' | 152°43.14' | 67°00.75' | N 24°36.02' | 218°11.84' | 1°32.05' | S 0°44.43' | 254°36.18' | 325°07.72' | S 15°14.20' | **08** |
| **09** | 295°51.95' | 298°54.41' | S 22°10.58' | 167°46.07' | 67°00.29' | N 24°35.98' | 233°14.03' | 1°32.32' | S 0°44.30' | 269°38.40' | 325°07.96' | S 15°14.12' | **09** |
| **10** | 310°51.09' | 298°57.74' | S 22°10.03' | 182°48.99' | 66°59.83' | N 24°35.93' | 248°16.23' | 1°32.59' | S 0°44.17' | 284°40.62' | 325°08.20' | S 15°14.03' | **10** |
| **11** | 325°50.22' | 299°01.06' | S 22°09.48' | 197°51.91' | 66°59.37' | N 24°35.89' | 263°18.42' | 1°32.86' | S 0°44.04' | 299°42.84' | 325°08.45' | S 15°13.95' | **11** |
| **12** | 340°49.36' | 299°04.39' | S 22°08.93' | 212°54.83' | 66°58.92' | N 24°35.84' | 278°20.62' | 1°33.13' | S 0°43.92' | 314°45.06' | 325°08.69' | S 15°13.87' | **12** |
| **13** | 355°48.49' | 299°07.72' | S 22°08.38' | 227°57.75' | 66°58.46' | N 24°35.79' | 293°22.81' | 1°33.40' | S 0°43.79' | 329°47.28' | 325°08.93' | S 15°13.79' | **13** |
| **14** | 10°47.63' | 299°11.05' | S 22°07.82' | 243°00.67' | 66°58.01' | N 24°35.75' | 308°25.01' | 1°33.67' | S 0°43.66' | 344°49.50' | 325°09.17' | S 15°13.71' | **14** |
| **15** | 25°46.77' | 299°14.37' | S 22°07.27' | 258°03.58' | 66°57.56' | N 24°35.70' | 323°27.20' | 1°33.94' | S 0°43.53' | 359°51.72' | 325°09.42' | S 15°13.63' | **15** |
| **16** | 40°45.91' | 299°17.70' | S 22°06.71' | 273°06.50' | 66°57.11' | N 24°35.66' | 338°29.40' | 1°34.21' | S 0°43.40' | 14°53.94' | 325°09.66' | S 15°13.54' | **16** |
| **17** | 55°45.05' | 299°21.02' | S 22°06.15' | 288°09.41' | 66°56.66' | N 24°35.61' | 353°31.59' | 1°34.48' | S 0°43.27' | 29°56.17' | 325°09.90' | S 15°13.46' | **17** |
| **18** | 70°44.18' | 299°24.35' | S 22°05.59' | 303°12.32' | 66°56.21' | N 24°35.57' | 8°33.78' | 1°34.75' | S 0°43.15' | 44°58.39' | 325°10.15' | S 15°13.38' | **18** |
| **19** | 85°43.32' | 299°27.67' | S 22°05.03' | 318°15.23' | 66°55.77' | N 24°35.52' | 23°35.98' | 1°35.02' | S 0°43.02' | 60°00.61' | 325°10.39' | S 15°13.30' | **19** |
| **20** | 100°42.46' | 299°31.00' | S 22°04.47' | 333°18.14' | 66°55.33' | N 24°35.48' | 38°38.17' | 1°35.29' | S 0°42.89' | 75°02.83' | 325°10.63' | S 15°13.22' | **20** |
| **21** | 115°41.60' | 299°34.32' | S 22°03.91' | 348°21.04' | 66°54.88' | N 24°35.43' | 53°40.36' | 1°35.57' | S 0°42.76' | 90°05.05' | 325°10.88' | S 15°13.13' | **21** |
| **22** | 130°40.75' | 299°37.65' | S 22°03.35' | 3°23.95' | 66°54.44' | N 24°35.39' | 68°42.55' | 1°35.84' | S 0°42.63' | 105°07.27' | 325°11.12' | S 15°13.05' | **22** |
| **23** | 145°39.89' | 299°40.97' | S 22°02.78' | 18°26.85' | 66°54.01' | N 24°35.34' | 83°44.74' | 1°36.11' | S 0°42.50' | 120°09.49' | 325°11.37' | S 15°12.97' | **23** |
| **24** | 160°39.03' | 299°44.29' | S 22°02.22' | 33°29.75' | 66°53.57' | N 24°35.30' | 98°46.94' | 1°36.38' | S 0°42.37' | 135°11.71' | 325°11.61' | S 15°12.89' | **24** |
| | δ 14.9855° | | *d* 0.5393' | δ 15.0490° | | *d* 0.0467' | δ 15.0366° | | *d* 0.1268' | δ 15.0370° | | *d* 0.0813' | |