## KSIĘŻYC

| d | Wsch. | Kulm. | Zach. | $A_W$ | $A_Z$ | α | δ | D | F |
|---|---|---|---|---|---|---|---|---|---|
| | λ=0° | | φ=50° | | | $0^h$UT | | | |
| **PAZDZIERNIK 2017** | | | | | | | | | |
| | h m | h m | h m | –° | +° | h m s | ° ' | ' | |
| 1 | 15 54 | 20 49 | 0 46 | 66 | 64 | 20 47 49 | -16 36.5 | 30.2 | 0.76 |
| 2 | 16 25 | 21 37 | 1 50 | 71 | 68 | 21 38 37 | -13 58.4 | 30.5 | 0.84 |
| 3 | 16 54 | 22 26 | 2 58 | 78 | 74 | 22 29 28 | -10 35.9 | 30.9 | 0.91 |
| 4 | 17 21 | 23 15 | 4 08 | 84 | 81 | 23 20 32 | - 6 36.5 | 31.3 | 0.96 |
| 5 | 17 47 | — | 5 21 | 92 | 88 | 0 12 06 | - 2 10.7 | 31.7 | 0.99 |
| 6 | 18 15 | 0 05 | 6 36 | 99 | 96 | 1 04 36 | 2 28.4 | 32.1 | -1.00 |
| 7 | 18 45 | 0 57 | 7 52 | 106 | 103 | 1 58 27 | 7 04.8 | 32.3 | -0.98 |
| 8 | 19 20 | 1 51 | 9 09 | 112 | 110 | 2 54 02 | 11 20.7 | 32.5 | -0.93 |
| 9 | 20 00 | 2 47 | 10 24 | 117 | 116 | 3 51 28 | 14 58.1 | 32.6 | -0.86 |
| 10 | 20 48 | 3 44 | 11 36 | 120 | 120 | 4 50 36 | 17 40.2 | 32.5 | -0.78 |
| 11 | 21 43 | 4 43 | 12 41 | 121 | 121 | 5 50 49 | 19 14.6 | 32.4 | -0.67 |
| 12 | 22 46 | 5 41 | 13 37 | 120 | 121 | 6 51 11 | 19 34.7 | 32.3 | -0.56 |
| 13 | 23 55 | 6 39 | 14 24 | 116 | 118 | 7 50 40 | 18 40.9 | 32.1 | -0.45 |
| 14 | — | 7 34 | 15 03 | — | 113 | 8 48 24 | 16 40.1 | 31.9 | -0.34 |
| 15 | 1 05 | 8 27 | 15 36 | 111 | 108 | 9 43 55 | 13 43.7 | 31.6 | -0.24 |
| 16 | 2 17 | 9 17 | 16 05 | 105 | 101 | 10 37 10 | 10 05.5 | 31.4 | -0.15 |
| 17 | 3 27 | 10 05 | 16 31 | 98 | 95 | 11 28 24 | 5 59.7 | 31.1 | -0.08 |
| 18 | 4 37 | 10 52 | 16 56 | 91 | 88 | 12 18 05 | 1 40.3 | 30.9 | -0.04 |
| 19 | 5 45 | 11 38 | 17 20 | 84 | 81 | 13 06 44 | - 2 39.8 | 30.6 | -0.01 |
| 20 | 6 52 | 12 23 | 17 45 | 77 | 75 | 13 54 53 | - 6 48.7 | 30.3 | 0.00 |
| 21 | 7 57 | 13 09 | 18 13 | 71 | 69 | 14 42 59 | -10 36.0 | 30.1 | 0.02 |
| 22 | 9 01 | 13 55 | 18 43 | 66 | 64 | 15 31 23 | -13 52.5 | 29.8 | 0.05 |
| 23 | 10 01 | 14 42 | 19 18 | 62 | 61 | 16 20 16 | -16 30.7 | 29.7 | 0.10 |
| 24 | 10 58 | 15 29 | 19 58 | 59 | 59 | 17 09 42 | -18 24.4 | 29.5 | 0.16 |
| 25 | 11 50 | 16 17 | 20 43 | 58 | 58 | 17 59 35 | -19 29.3 | 29.5 | 0.24 |
| 26 | 12 36 | 17 04 | 21 34 | 59 | 59 | 18 49 44 | -19 42.9 | 29.5 | 0.32 |
| 27 | 13 17 | 17 52 | 22 31 | 61 | 62 | 19 39 58 | -19 04.2 | 29.7 | 0.41 |
| 28 | 13 53 | 18 40 | 23 32 | 64 | 66 | 20 30 05 | -17 34.0 | 29.9 | 0.51 |
| 29 | 14 25 | 19 27 | — | 69 | — | 21 20 04 | -15 14.8 | 30.2 | 0.60 |
| 30 | 14 54 | 20 15 | 0 37 | 74 | 71 | 22 09 57 | -12 10.3 | 30.6 | 0.70 |
| 31 | 15 20 | 21 03 | 1 45 | 81 | 77 | 23 00 02 | - 8 26.3 | 31.0 | 0.79 |

| | | | | | |
|---|---|---|---|---|---|
| pełnia: | 5 X | $18^h40^m$ | 3 X | $12.3^h$ | Neptun 0.7ºN |
| ostatnia kwadra: | 12 X | $12^h26^m$ | 6 X | $16.5^h$ | Uran 4ºN |
| nów: | 19 X | $19^h12^m$ | 17 X | $10.2^h$ | Mars 2ºS |
| pierwsza kwadra: | 27 X | $22^h22^m$ | 18 X | $0.4^h$ | Wenus 2ºS |
| | | | 20 X | $3.1^h$ | Jowisz 4ºS |
| perygeum: | 9 X | $5^h53^m$ | 20 X | $7.6^h$ | Merkury 5ºS |
| apogeum: | 25 X | $2^h27^m$ | 24 X | $11.6^h$ | Saturn 3ºS |
| | | | 30 X | $21.4^h$ | Neptun 0.8ºN |