

KSIĘŻYC

d	Wsch.	Kulm.	Zach.	A _w	A _z	α	δ	D	F
	λ=0°		φ=50°			0 ^h UT			
GRUDZIEŃ 2024									
	h m	h m	h m	-°	+°	h m s	° ' "	' "	
1	8 18	11 58	15 33	46	44	16 14 07	-25 43.7	30.1	-0.00
2	9 25	12 53	16 19	42	42	17 09 22	-27 48.1	30.3	0.01
3	10 22	13 49	17 19	42	43	18 06 54	-28 27.6	30.6	0.03
4	11 05	14 45	18 31	46	47	19 05 13	-27 34.5	30.8	0.08
5	11 37	15 39	19 52	51	54	20 02 42	-25 09.5	31.1	0.14
6	12 00	16 31	21 14	59	63	20 58 12	-21 21.2	31.4	0.23
7	12 18	17 21	22 37	69	73	21 51 19	-16 23.4	31.7	0.32
8	12 33	18 08	—	79	—	22 42 24	-10 32.4	31.9	0.43
9	12 47	18 56	0 01	89	83	23 32 17	- 4 05.7	32.2	0.54
10	13 01	19 44	1 22	100	95	0 22 07	2 38.5	32.4	0.65
11	13 17	20 35	2 46	110	106	1 13 12	9 20.5	32.6	0.76
12	13 37	21 29	4 14	120	116	2 06 46	15 37.7	32.7	0.85
13	14 03	22 28	5 44	128	126	3 03 48	21 04.7	32.7	0.92
14	14 40	23 30	7 12	135	133	4 04 31	25 15.3	32.6	0.97
15	15 31	—	8 31	138	137	5 08 04	27 46.3	32.4	1.00
16	16 38	0 33	9 33	136	137	6 12 23	28 25.0	32.1	-0.99
17	17 56	1 34	10 17	131	133	7 14 56	27 13.3	31.7	-0.96
18	19 16	2 31	10 48	124	127	8 13 41	24 26.6	31.2	-0.92
19	20 34	3 22	11 09	116	119	9 07 45	20 27.3	30.8	-0.85
20	21 48	4 09	11 25	107	111	9 57 20	15 38.0	30.4	-0.77
21	22 58	4 51	11 38	98	102	10 43 17	10 17.9	30.1	-0.68
22	—	5 31	11 50	—	93	11 26 43	4 41.8	29.8	-0.59
23	0 06	6 10	12 01	88	84	12 08 47	- 0 58.9	29.6	-0.49
24	1 14	6 50	12 12	79	75	12 50 39	- 6 34.9	29.5	-0.40
25	2 23	7 30	12 25	70	67	13 33 24	-11 57.1	29.6	-0.31
26	3 34	8 13	12 41	62	59	14 18 04	-16 55.7	29.7	-0.23
27	4 48	8 59	13 02	54	52	15 05 35	-21 18.9	29.9	-0.15
28	6 01	9 49	13 31	48	46	15 56 33	-24 52.1	30.1	-0.09
29	7 12	10 43	14 11	43	43	16 51 08	-27 19.1	30.4	-0.04
30	8 14	11 40	15 07	42	42	17 48 41	-28 24.2	30.7	-0.01
31	9 02	12 37	16 17	44	45	18 47 49	-27 56.0	31.0	0.00

nów:	1 XII	6 ^h 21 ^m	2 XII	2.2 ^h	Merkury	5°N
pierwsza kwadra:	8 XII	15 ^h 26 ^m	4 XII	22.7 ^h	Wenus	2°N
pełnia:	15 XII	9 ^h 02 ^m	8 XII	9.0 ^h	Saturn	0.3°S
ostatnia kwadra:	22 XII	22 ^h 18 ^m	9 XII	9.4 ^h	Neptun	0.8°S
nów:	30 XII	22 ^h 27 ^m	13 XII	9.6 ^h	Uran	4°S
			14 XII	19.8 ^h	Jowisz	6°S
perygeum:	12 XII	13 ^h 23 ^m	18 XII	8.9 ^h	Mars	1°S
apogeum:	24 XII	7 ^h 24 ^m	29 XII	4.2 ^h	Merkury	6°N