

KSIĘŻYC

d	Wsch.	Kulm.	Zach.	A _W	A _Z	α	δ	D	F
	λ=0°		φ=50°			0 ^h UT			
GRUDZIEŃ 2012									
	h m	h m	h m	-°	+°	h m s	° ' "	' "	
1	18 42	1 44	9 37	120	121	6 21 13	20 01.3	29.5	-0.95
2	19 43	2 31	10 12	116	117	7 11 17	18 17.7	29.7	-0.90
3	20 48	3 18	10 42	110	113	8 00 35	15 45.0	29.8	-0.84
4	21 54	4 04	11 08	104	107	8 49 07	12 29.3	30.1	-0.76
5	23 02	4 49	11 33	97	100	9 37 12	8 37.7	30.4	-0.67
6	—	5 35	11 56	—	93	10 25 18	4 18.5	30.8	-0.57
7	0 12	6 22	12 19	89	86	11 14 10	- 0 19.4	31.3	-0.46
8	1 25	7 10	12 44	81	78	12 04 35	- 5 04.8	31.8	-0.36
9	2 41	8 02	13 13	74	71	12 57 26	- 9 43.9	32.3	-0.25
10	3 59	8 57	13 47	67	64	13 53 29	-13 59.3	32.7	-0.16
11	5 18	9 57	14 30	61	59	14 53 05	-17 30.1	33.1	-0.08
12	6 34	10 59	15 22	57	56	15 55 59	-19 54.5	33.4	-0.03
13	7 42	12 03	16 27	56	56	17 00 59	-20 54.7	33.5	-0.00
14	8 38	13 07	17 40	58	59	18 06 10	-20 22.7	33.4	0.01
15	9 24	14 07	18 57	62	64	19 09 34	-18 23.6	33.1	0.04
16	10 00	15 03	20 15	68	71	20 09 45	-15 13.3	32.7	0.10
17	10 30	15 55	21 31	75	79	21 06 14	-11 13.2	32.2	0.18
18	10 56	16 44	22 43	83	86	21 59 16	- 6 44.5	31.7	0.28
19	11 19	17 30	23 53	90	94	22 49 30	- 2 04.9	31.1	0.38
20	11 42	18 15	—	97	—	23 37 50	2 31.3	30.7	0.48
21	12 05	18 59	1 00	104	101	0 25 06	6 53.4	30.3	0.58
22	12 29	19 44	2 06	110	107	1 12 06	10 52.4	29.9	0.67
23	12 57	20 29	3 10	115	113	1 59 26	14 20.7	29.7	0.76
24	13 28	21 16	4 12	119	118	2 47 33	17 11.3	29.5	0.84
25	14 05	22 03	5 11	122	121	3 36 40	19 17.5	29.4	0.90
26	14 49	22 52	6 05	124	123	4 26 42	20 33.6	29.4	0.95
27	15 39	23 40	6 54	123	123	5 17 22	20 55.4	29.5	0.98
28	16 35	—	7 37	121	122	6 08 14	20 21.2	29.5	1.00
29	17 35	0 28	8 14	117	119	6 58 48	18 51.9	29.7	-1.00
30	18 39	1 16	8 46	112	114	7 48 42	16 31.3	29.8	-0.98
31	19 45	2 02	9 14	106	109	8 37 44	13 25.5	30.0	-0.94

ostatnia kwadra:	6 XII	15 ^h 31 ^m		10 XII	12.5 ^h	Saturn	4°N
nów	13 XII	8 ^h 41 ^m		11 XII	13.9 ^h	Wenus	2°N
pierwsza kwadra	20 XII	5 ^h 19 ^m		12 XII	0.8 ^h	Merkury	1°N
pełnia:	28 XII	10 ^h 21 ^m		15 XII	9.9 ^h	Mars	6°S
				18 XII	6.1 ^h	Neptun	6°S
perygeum:	12 XII	23 ^h 15 ^m		20 XII	20.5 ^h	Uran	5°S
apogeum:	25 XII	21 ^h 21 ^m		26 XII	0.2 ^h	Jowisz	0.4°N