

KSIĘŻYC

d	Wsch.	Kulm.	Zach.	A _w	A _z	α	δ	D	F
	λ=0°		φ=50°			0 ^h UT			
GRUDZIEŃ 2020									
	h m	h m	h m	-°	+°	h m s	° ' "	' "	
1	16 46	0 19	8 37	129	127	4 59 09	22 20.1	29.8	-1.00
2	17 31	1 09	9 38	131	130	5 52 01	24 11.3	30.0	-0.98
3	18 26	2 02	10 33	130	131	6 46 38	24 52.9	30.3	-0.94
4	19 31	2 55	11 18	127	128	7 42 07	24 18.8	30.5	-0.88
5	20 43	3 49	11 54	122	124	8 37 26	22 28.3	30.8	-0.80
6	21 58	4 41	12 24	115	118	9 31 48	19 25.8	31.1	-0.71
7	23 16	5 31	12 48	106	110	10 24 54	15 20.0	31.5	-0.61
8	—	6 21	13 09	—	101	11 16 52	10 22.5	31.8	-0.50
9	0 35	7 10	13 29	97	92	12 08 16	4 47.2	32.2	-0.39
10	1 56	7 59	13 48	87	83	12 59 58	- 1 10.2	32.5	-0.28
11	3 19	8 51	14 10	77	73	13 52 57	- 7 11.0	32.8	-0.18
12	4 44	9 45	14 35	68	64	14 48 10	-12 53.5	33.0	-0.10
13	6 10	10 43	15 07	59	57	15 46 17	-17 53.3	33.0	-0.04
14	7 34	11 44	15 48	53	51	16 47 21	-21 45.3	32.9	-0.01
15	8 49	12 46	16 41	49	49	17 50 30	-24 08.8	32.7	0.00
16	9 52	13 47	17 45	49	50	18 54 00	-24 52.6	32.3	0.02
17	10 39	14 45	18 57	52	54	19 55 47	-23 58.5	31.9	0.07
18	11 15	15 39	20 12	57	60	20 54 14	-21 39.5	31.4	0.14
19	11 42	16 29	21 25	64	67	21 48 36	-18 14.8	30.9	0.22
20	12 03	17 14	22 36	71	75	22 39 01	-14 03.9	30.5	0.31
21	12 21	17 57	23 44	79	83	23 26 10	- 9 23.8	30.1	0.41
22	12 37	18 38	—	87	—	0 10 59	- 4 28.1	29.8	0.50
23	12 53	19 18	0 51	95	91	0 54 28	0 32.6	29.6	0.60
24	13 09	19 59	1 56	103	99	1 37 36	5 29.3	29.5	0.69
25	13 27	20 41	3 02	110	107	2 21 20	10 13.6	29.5	0.77
26	13 47	21 25	4 09	117	114	3 06 30	14 36.2	29.6	0.85
27	14 13	22 13	5 17	123	121	3 53 49	18 27.0	29.7	0.91
28	14 45	23 03	6 25	127	126	4 43 43	21 34.1	29.9	0.96
29	15 26	23 55	7 29	130	129	5 36 18	23 45.0	30.1	0.99
30	16 18	—	8 27	131	131	6 31 08	24 47.8	30.4	1.00
31	17 21	0 50	9 16	128	129	7 27 18	24 34.2	30.7	-0.99

ostatnia kwadra:	8 XII	0 ^h 37 ^m	12 XII	20.7 ^h	Wenus 0.8°S
nów:	14 XII	16 ^h 17 ^m	14 XII	10.6 ^h	Merkury 1°S
pierwsza kwadra:	21 XII	23 ^h 41 ^m	17 XII	4.5 ^h	Jowisz 3°N
pełnia:	30 XII	3 ^h 28 ^m	17 XII	5.4 ^h	Saturn 3°N
			20 XII	20.2 ^h	Neptun 5°N
perygeum:	12 XII	20 ^h 42 ^m	23 XII	18.6 ^h	Mars 6°N
apogeum:	24 XII	16 ^h 33 ^m	24 XII	22.7 ^h	Uran 3°N