

NAME: \_\_\_\_\_ PERIOD: \_\_\_\_\_ LAB NUMBER: \_\_\_\_\_

## **LUNAR PHASES**

1. Based on the appearance of your graph, what type of relationship do moon phases demonstrate?

**DIRECT**

**INDIRECT**

**CYCLIC**

**STATIC**

2. Explain how it is possible for us to know what moon phase will appear on some future date.

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3. Describe the two ways the Moon moves. Be sure to include how long it takes to complete each of these motions.

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4. Which of these motions do you think is the cause of the phases? \_\_\_\_\_

5. Based on your graph, how many days pass from one full moon to the next? \_\_\_\_\_

6. Why might the length of time between full moons be slightly different from the Moon's period of revolution?

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7. How many full moons do you think typically occur during the course of one year? \_\_\_\_\_  
Could this number vary? Explain.

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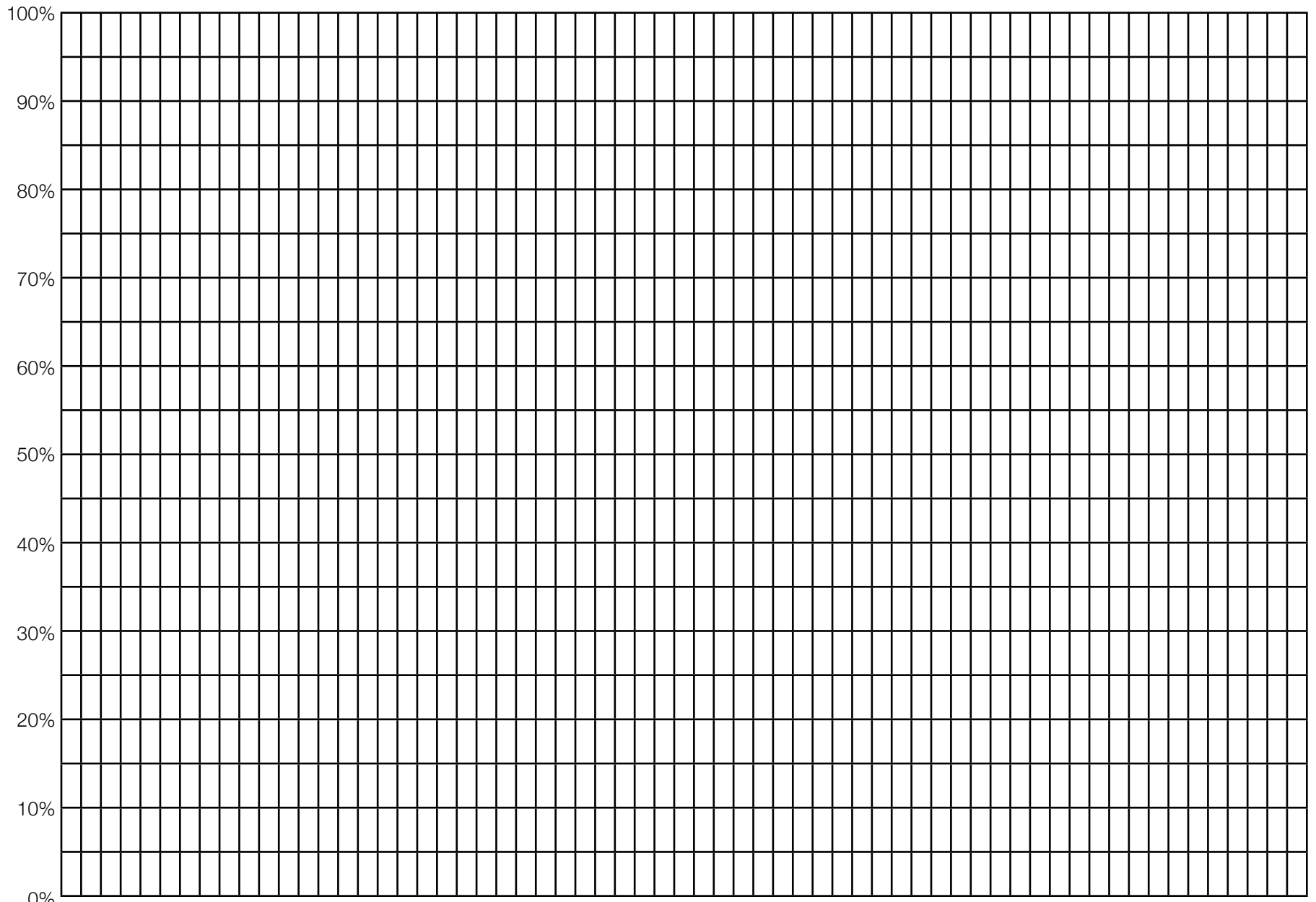
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8. Does the apparent size (diameter) of the Moon remain constant throughout its orbit around Earth? Explain.

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PERCENTAGE OF THE ILLUMINATED SIDE OF THE MOON VISIBLE FROM EARTH



10/7

10/14

10/21

10/28

11/4

11/11

11/18

11/25

12/2

12/6

DATE

Fraction of the Moon Illuminated, 2010  
 at Midnight  
 Eastern Standard Time

Astron. Applications Dept.  
 U. S. Naval Observatory  
 Washington, DC 20392-5420

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
01	1.00	0.94	0.99	0.94	0.92	0.83	0.80	0.69	0.55	0.50	0.31	0.24
02	0.97	0.87	0.96	0.88	0.85	0.75	0.72	0.60	0.45	0.39	0.21	0.15
03	0.92	0.79	0.91	0.80	0.77	0.66	0.63	0.50	0.34	0.28	0.12	0.08
04	0.84	0.69	0.83	0.71	0.69	0.57	0.54	0.40	0.24	0.18	0.06	0.03
05	0.74	0.58	0.74	0.62	0.59	0.47	0.44	0.30	0.15	0.10	0.02	0.00
06	0.64	0.48	0.65	0.52	0.50	0.38	0.34	0.20	0.08	0.04	0.00	0.00
07	0.53	0.38	0.55	0.42	0.40	0.29	0.25	0.12	0.02	0.01	0.01	0.03
08	0.42	0.28	0.45	0.33	0.31	0.20	0.16	0.05	0.00	0.00	0.05	0.07
09	0.32	0.20	0.35	0.25	0.23	0.13	0.09	0.01	0.01	0.03	0.11	0.13
10	0.23	0.13	0.26	0.17	0.15	0.06	0.04	0.00	0.05	0.08	0.18	0.20
11	0.15	0.07	0.19	0.11	0.09	0.02	0.01	0.02	0.11	0.15	0.27	0.28
12	0.09	0.03	0.12	0.05	0.04	0.00	0.00	0.07	0.20	0.24	0.36	0.37
13	0.04	0.01	0.06	0.02	0.01	0.01	0.03	0.14	0.29	0.34	0.46	0.47
14	0.01	0.00	0.03	0.00	0.00	0.04	0.08	0.23	0.39	0.43	0.55	0.56
15	0.00	0.01	0.01	0.01	0.02	0.10	0.16	0.33	0.50	0.53	0.64	0.65
16	0.01	0.04	0.00	0.03	0.06	0.18	0.26	0.44	0.60	0.63	0.73	0.74
17	0.03	0.09	0.02	0.08	0.12	0.28	0.37	0.55	0.69	0.72	0.81	0.82
18	0.07	0.15	0.05	0.15	0.20	0.39	0.48	0.65	0.78	0.80	0.88	0.89
19	0.13	0.23	0.11	0.23	0.30	0.50	0.59	0.74	0.85	0.87	0.93	0.95
20	0.20	0.32	0.18	0.33	0.41	0.62	0.69	0.83	0.91	0.92	0.97	0.98
21	0.28	0.41	0.27	0.44	0.53	0.72	0.78	0.89	0.96	0.97	1.00	1.00
22	0.38	0.52	0.37	0.55	0.64	0.81	0.86	0.94	0.99	0.99	1.00	0.99
23	0.48	0.63	0.47	0.66	0.74	0.89	0.92	0.98	1.00	1.00	0.98	0.96
24	0.58	0.73	0.59	0.77	0.84	0.95	0.97	1.00	0.99	0.99	0.93	0.90
25	0.68	0.83	0.69	0.86	0.91	0.98	0.99	1.00	0.97	0.95	0.87	0.82
26	0.78	0.91	0.80	0.93	0.96	1.00	1.00	0.98	0.93	0.90	0.78	0.72
27	0.87	0.97	0.88	0.98	0.99	0.99	0.99	0.94	0.87	0.83	0.68	0.61
28	0.94	1.00	0.95	1.00	1.00	0.97	0.96	0.89	0.79	0.75	0.58	0.50
29	0.98		0.99	0.99	0.98	0.93	0.91	0.83	0.70	0.65	0.46	0.39
30	1.00		1.00	0.96	0.95	0.87	0.85	0.75	0.60	0.54	0.35	0.28
31	0.99		0.98		0.89		0.78	0.65		0.42		0.19