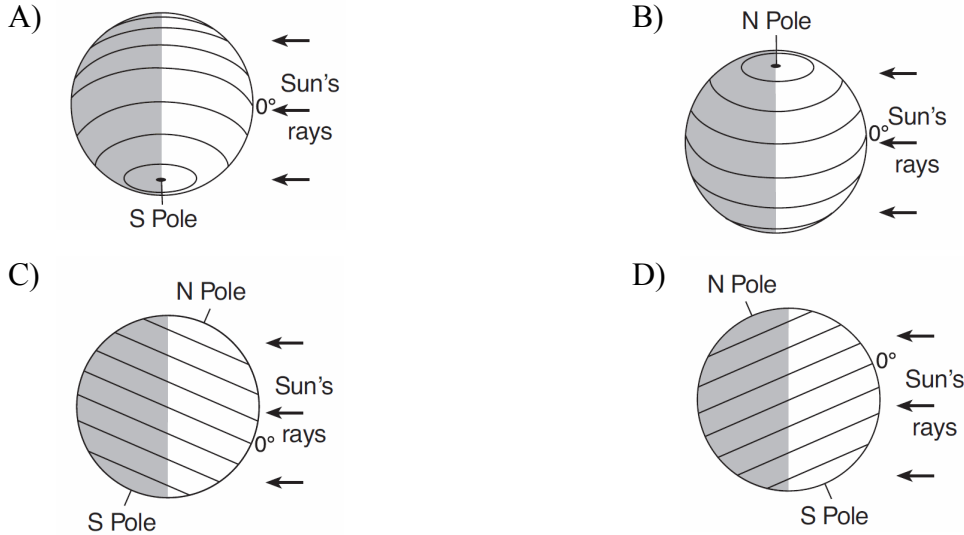
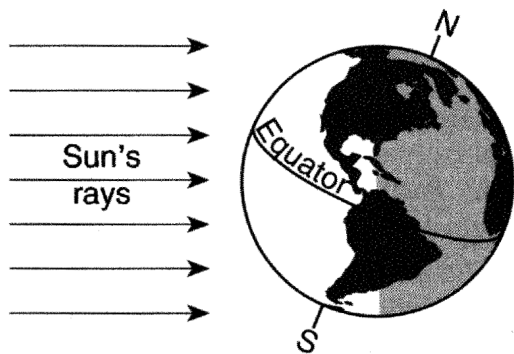


Practice Seasons Moon Quiz

1. Which diagram represents the tilt of Earth's axis relative to the Sun's rays on December 15?



2. The diagram below represents Earth in space on the first day of a season.



Which season is beginning in New York State on the day represented in the diagram?

- A) winter
- B) spring
- C) summer
- D) fall

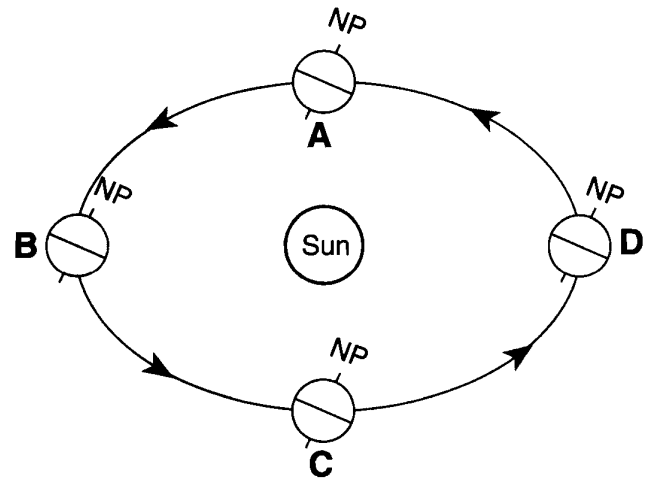
3. Seasonal changes on Earth are primarily caused by the

- A) parallelism of the Sun's axis as the Sun revolves around Earth
- B) changes in distance between Earth and the Sun
- C) elliptical shape of Earth's orbit around the Sun
- D) tilt of Earth's axis as Earth revolves around the Sun

4. On which day of the year does Connecticut have the *fewest* hours of daylight?

- A) April 21
- B) June 21
- C) October 21
- D) December 21

5. Base your answer to the following question on the diagram below, which represents Earth revolving around the Sun. Letters *A*, *B*, *C*, and *D* represent Earth's location in its orbit on the first day of the four seasons. NP represents the North Pole.



(Not drawn to scale)

Which location in Earth's orbit represents the first day of summer in New York State?

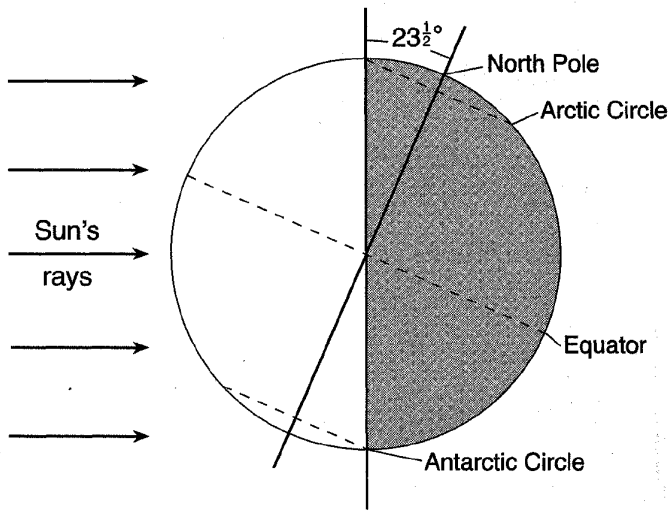
- A) *A*
- B) *B*
- C) *C*
- D) *D*

6. Which location on the Earth would the Sun's vertical rays strike on December 21?

- A) Tropic of Cancer ($23\frac{1}{2}^{\circ}$ N)
- B) Equator (0°)
- C) Tropic of Capricorn ($23\frac{1}{2}^{\circ}$ S)
- D) South Pole (90° S)

Practice Seasons Moon Quiz

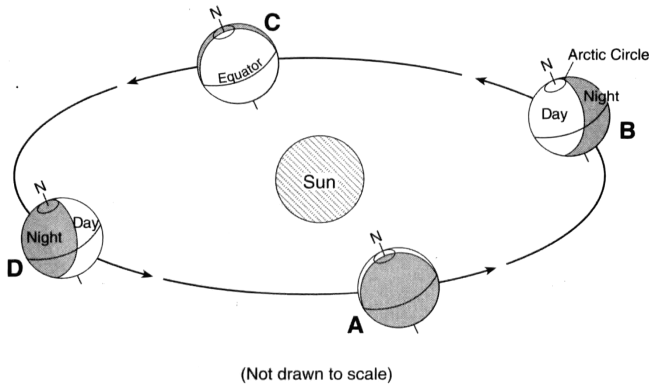
7. The diagram below shows Earth as viewed from space.



Which season is beginning in the Northern Hemisphere?

- A) spring B) summer
C) fall D) winter

8. The diagram below shows Earth's orbit around the Sun. Locations *A*, *B*, *C*, and *D* represent Earth on the first day of each season.



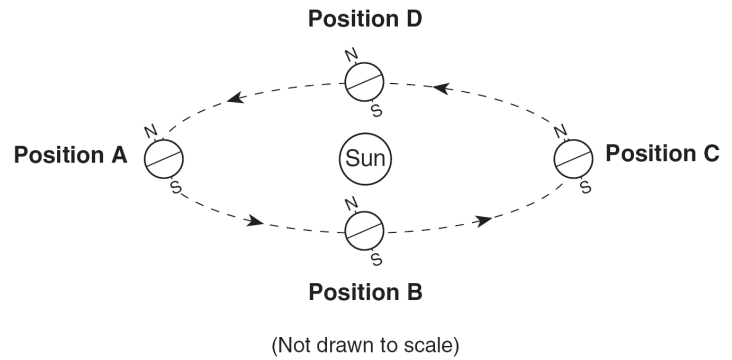
Which location represents March 21?

- A) *A* B) *B* C) *C* D) *D*

9. During which season in the Northern Hemisphere is the Earth closest to the Sun?

- A) spring B) summer
C) fall D) winter

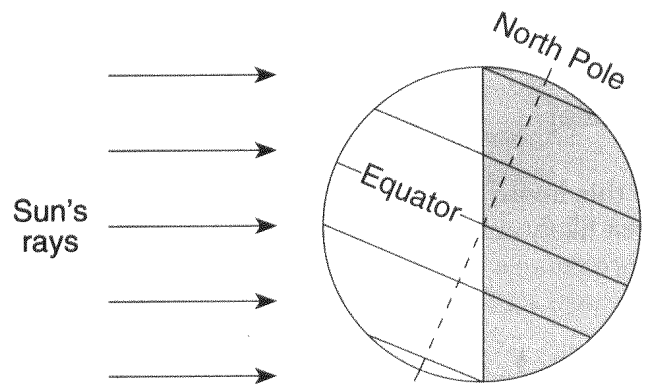
10. The diagram below shows Earth in its orbit around the Sun. Positions *A*, *B*, *C*, and *D* represent Earth at the beginning of each season.



At which lettered position of Earth does New York State experience the first day of summer?

- A) *A* B) *B* C) *C* D) *D*

11. The diagram below shows Earth on a particular day in its orbit around the Sun. The dashed line represents Earth's axis.



Which date is represented by the diagram?

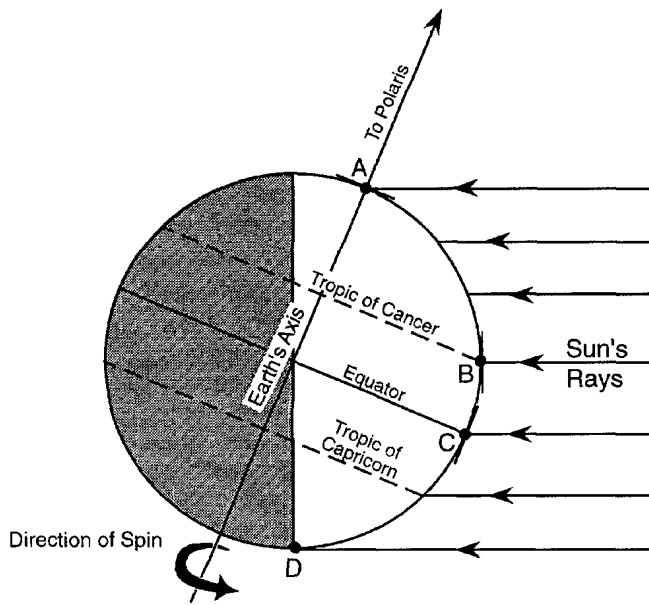
- A) March 21 B) June 21
C) September 23 D) December 21

12. A cycle of Moon phases can be seen from Earth because the

- A) Moon's distance from Earth changes at a predictable rate
B) Moon's axis is tilted
C) Moon spins on its axis
D) Moon revolves around Earth

Practice Seasons Moon Quiz

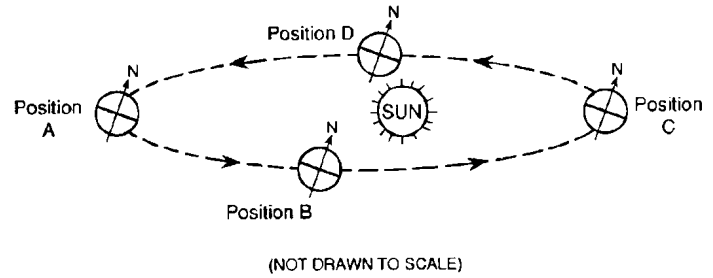
Base your answers to questions 13 through 16 on the diagram below. The diagram represents the Earth at a position in orbit around the Sun, the Sun's rays at solar noon, and the direction to *Polaris*. Letters *A* through *D* represent positions on the Earth's surface.



13. During one complete rotation of the Earth on its axis, which position receives the *least* number of hours of daylight?
A) *A* B) *B* C) *C* D) *D*
14. Which date is represented by the diagram?
A) March 21 B) June 21
C) September 23 D) December 21
15. Which position is receiving the Sun's rays from directly overhead at solar noon?
A) *A* B) *B* C) *C* D) *D*
16. What is the latitude of position *A*?
A) $23\frac{1}{2}^{\circ}$ N B) 47° N
C) $66\frac{1}{2}^{\circ}$ N D) 90° N

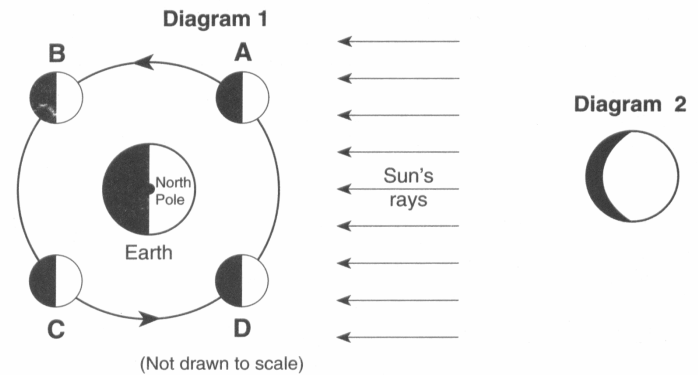
17. The new-moon phase occurs when the Moon is positioned between the Earth and the Sun. However, these positions do not always cause an eclipse (blocking) of the Sun because the
A) Moon's orbit is tilted relative to the Earth's orbit
B) new-moon phase is visible only at night
C) night side of the Moon faces toward the Earth
D) apparent diameter of the Moon is greatest during the new-moon phase

18. The diagram below represents four positions of the Earth as it revolves around the Sun.



At which position is the Earth located on December 21?
A) *A* B) *B* C) *C* D) *D*

19. Diagram 1 shows the Moon in its orbit at four positions labeled A, B, C, and D. Diagram 2 shows a phase of the Moon as viewed from New York State.



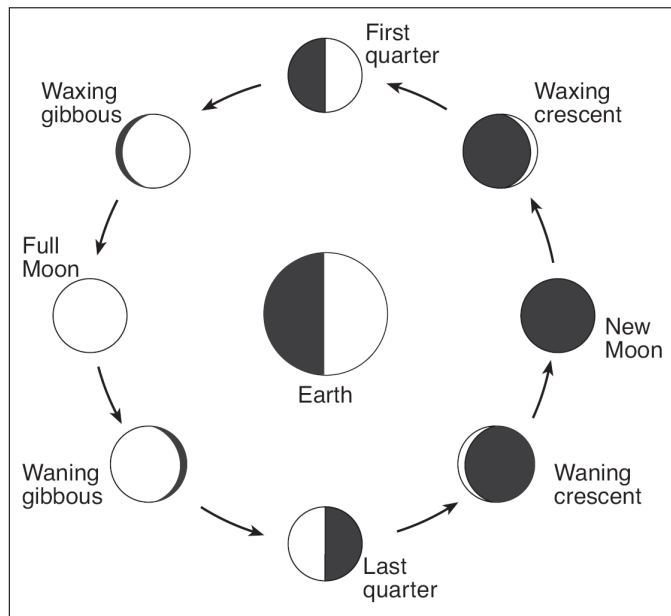
At which labeled Moon position would the phase of the Moon shown in diagram 2 be observed from New York State?

- A) *A* B) *B* C) *C* D) *D*

Practice Seasons Moon Quiz

Base your answers to questions 20 through 22 on

the diagram below, which shows positions of the Moon in its orbit and phases of the Moon as viewed from New York State.








(Not drawn to scale)





20. Approximately how many days occur between the Moon's first-quarter phase and the Moon's last-quarter phase?
- A) 7 d B) 15 d C) 29.5 d D) 365.26 d
21. During which Moon phase might a solar eclipse be viewed on Earth?
- A) new Moon B) first quarter C) full Moon D) last quarter
22. Which statement best explains why the same side of the Moon is viewed from Earth as the Moon goes through its phases?
- A) The Moon does not rotate as it revolves around Earth.
B) The Moon's period of rotation equals Earth's period of rotation.
C) The Moon's period of rotation equals Earth's period of revolution around the Sun.
D) The Moon's period of rotation equals the Moon's period of revolution around Earth.

Practice Seasons Moon Quiz

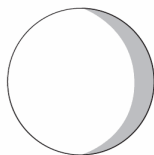
Base your answers to questions 23 through 25 on the calendar below, which shows the month of July of a recent year. The dates of major Moon phases, as seen in New York State, are shown.

July

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
 1	2	3	4	5	6	7
 8	9	10	11	12	13	14
15	 16	17	18	19	20	21
22	 23	24	25	26	27	28
29	 30	31				

Key	
	New Moon
	First-quarter Moon
	Full Moon
	Last-quarter Moon

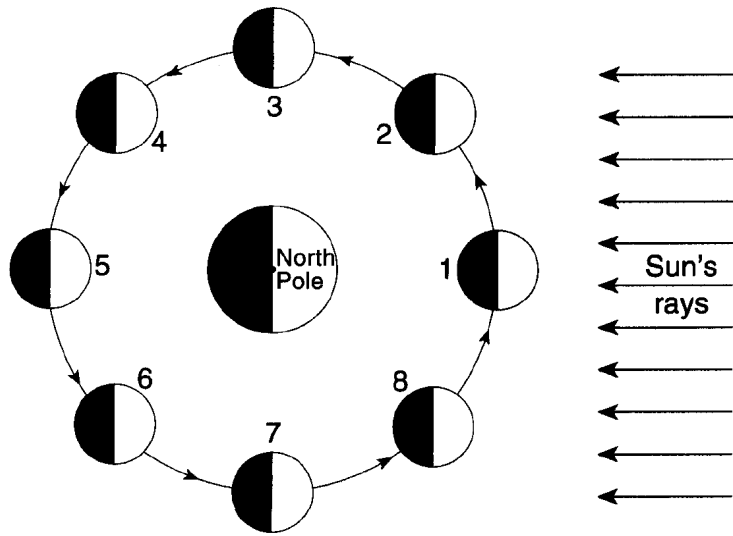
The diagram below represents the phase of the Moon observed from New York State one night during the month of July.



23. On which date was this phase of the Moon visible from New York State?
- A) July 4 B) July 11 C) July 19 D) July 26
24. On which date will the next first-quarter Moon phase occur?
- A) August 6 B) August 10 C) August 16 D) August 22
25. Eclipses do *not* occur every month because the Moon's
- A) rate of rotation is 15° each hour
 B) orbit is inclined to Earth's orbit
 C) period of revolution is 27.3 days
 D) period of rotation and period of revolution are the same

Practice Seasons Moon Quiz

26. The diagram below shows the Moon as it revolves around Earth. The numbered locations represent different positions of the Moon in its orbit.

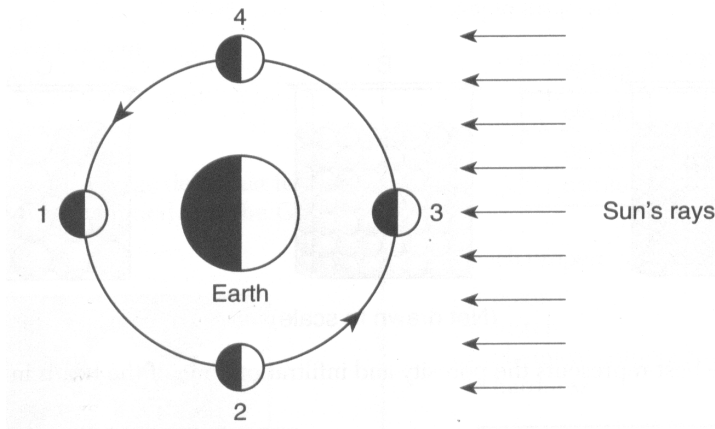


(Not drawn to scale)

Which Moon phase would be seen by an observer in New York State when the Moon is at position 2?

- A) B) C) D)

27. The diagram below represents the Sun's rays striking Earth and the Moon. Numbers 1 through 4 represent positions of the Moon in its orbit around Earth.

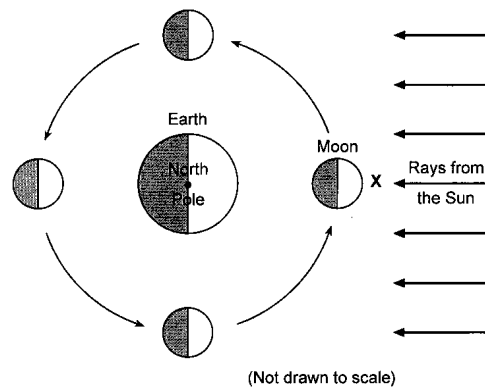


(Not drawn to scale)

The highest tides on Earth occur when the Moon is in positions

- A) 1 and 3 B) 2 and 4
C) 3 and 2 D) 4 and 1

28. The diagram below shows the Moon at four positions in its orbit around Earth as viewed from above the North Pole.



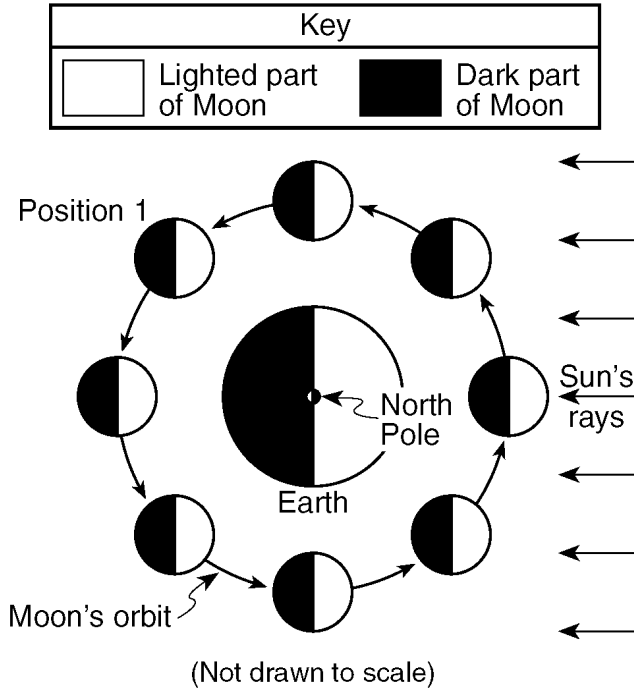
(Not drawn to scale)

Beginning with the Moon at position X (the new-Moon phase), which sequence of Moon phases would be seen by an observer on Earth during 1 month?

- A) B) C) D)

Practice Seasons Moon Quiz

29. The diagram below represents the Moon in its orbit, as viewed from above Earth's North Pole. Position 1 represents a specific location of the Moon in its orbit.

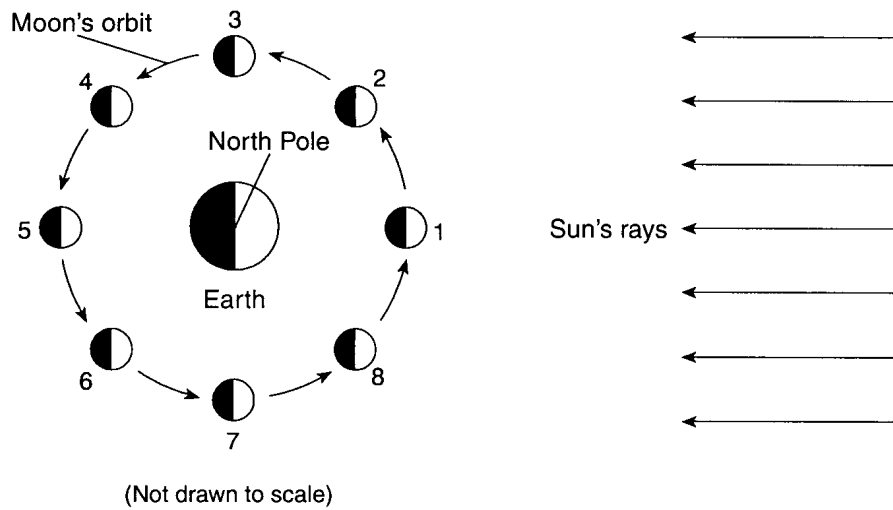


Which phase of the Moon will be seen from Earth when the Moon is at position 1?

- | | |
|------------|------------|
| <p>A) </p> | <p>B) </p> |
| <p>C) </p> | <p>D) </p> |

Practice Seasons Moon Quiz

Base your answers to questions 30 through 33 on the diagram below, which represents the Moon orbiting Earth as viewed from space above the North Pole. The Moon is shown at eight different positions in its orbit.



Key	
◻	Lighted, visible part of the Moon
◼	Dark, invisible part of the Moon

30. The approximate time required for the Moon to move from position 3 to position 7 is
- A) 1 hour B) 2 weeks C) 3 months D) 4 days
31. As the Moon changes location from position 2 to position 6, the visible portion of the Moon as observed from Earth
- A) decreases, only B) increases, only
 C) decreases, then increases D) increases, then decreases
32. Which motion causes the Moon to show phases when viewed from Earth?
- A) rotation of Earth B) rotation of the Sun
 C) revolution of Earth D) revolution of the Moon
33. When the Moon is in position 2, which phase would be visible to an observer in Maine?
- A) B) C) D)
-