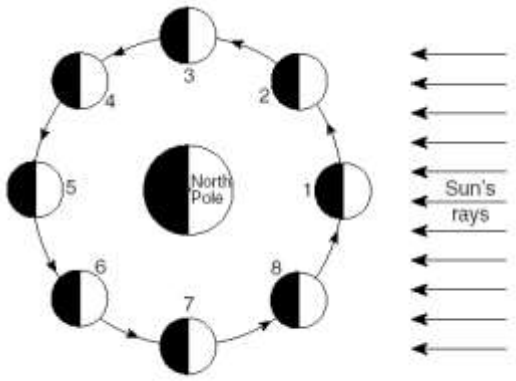
because you asked for it …
just one more set of

MOON REVIEW

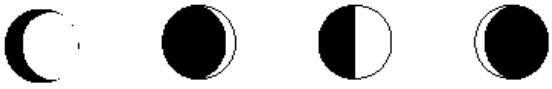
questions

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



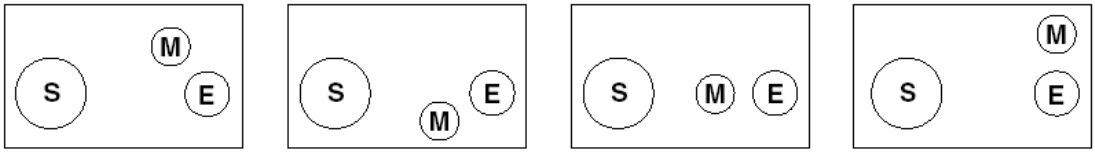
(Not drawn to scale)

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



(1) (2) (3) (4)

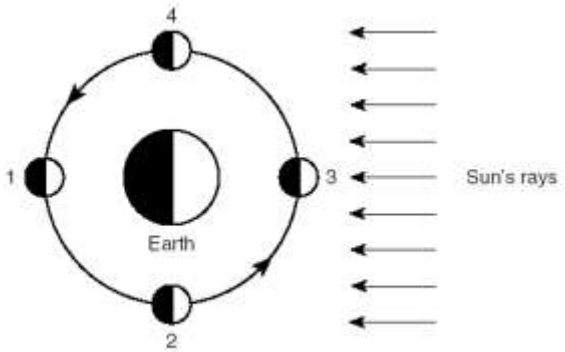
2. Which arrangement of the Sun, the Moon, and Earth results in a neap tide?



(1) (2) (3) (4)

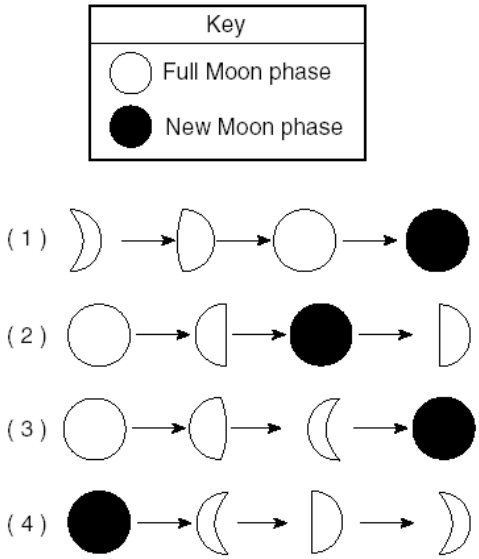
3. The diagram below represents the Sun' Sun's rays striking Earth and the Moon. Numbers 1 through 4 represent positions of the Moon in its orbit around Earth.

The highest tides on Earth occur when the Moon is in positions
(1) 1 and 3
(2) 2 and 4
(3) 3 and 2
(4) 4 and 1



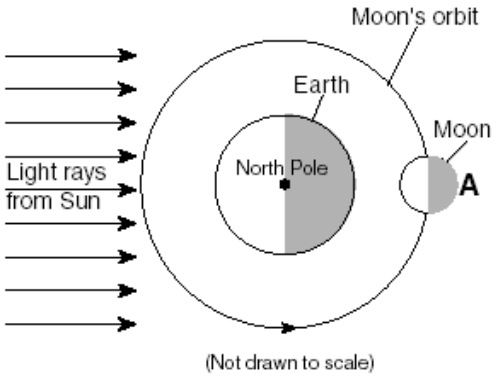
(Not drawn to scale)

4. Which sequence of Moon phases could be observed from Earth during a 2-week period?



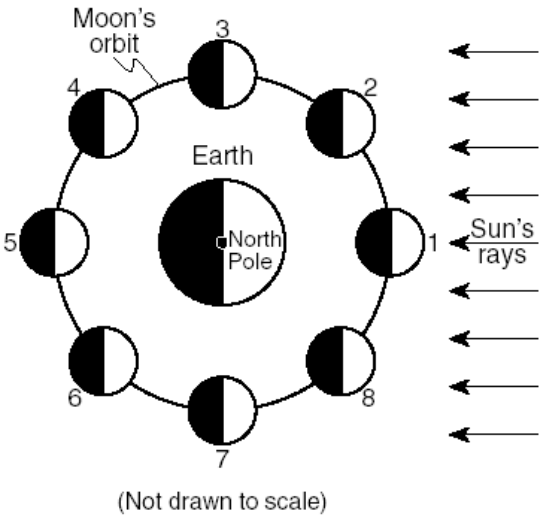
5. The same side of the Moon always faces Earth because the
   (1) Moon's period of rotation is longer than its period of revolution around Earth
   (2) Moon's period of rotation is shorter than its period of revolution around Earth
   (3) Moon rotates once as it completes one revolution around Earth
   (4) Moon does not rotate as it completes one revolution around Earth

6. Which diagram correctly shows the direction of Earth's rotation and revolution?



Which diagram represents the phase of the Moon, as seen by an observer on Earth, when the Moon is located at position *A* in its orbit?

7. The diagram below shows the Moon orbiting Earth, as viewed from space above Earth's North Pole. The Moon is shown at eight positions in its orbit.

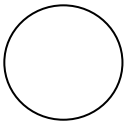


(Not drawn to scale)

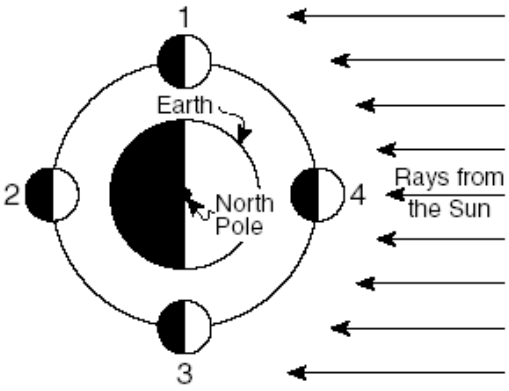
Which of the following is true of position 5?
(1) full Moon, neap tide, possible solar eclipse
(2) new Moon, spring tide, possible lunar eclipse
(3) new Moon, neap tide, possible solar eclipse
(4) full Moon, spring tide, possible lunar eclipse

8. A high tide at Jones Beach occurred at 2:00pm. If the tides follow the usual pattern, at approximately what time would the next low tide occur?
(1) 2:00am
(2) 2:30am
(3) 6pm
(4) 8:15pm

9. Shade in the circle correctly to show a waning gibbous Moon



10. The diagram below shows the Moon at four positions in its orbit around Earth.



(Not drawn to scale)

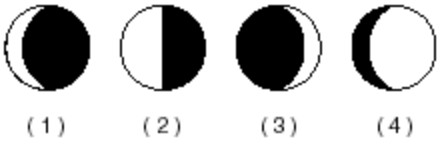
An observer on Earth could see a solar eclipse when the Moon is at position
(1) 1
(2) 2
(3) 3
(4) 4

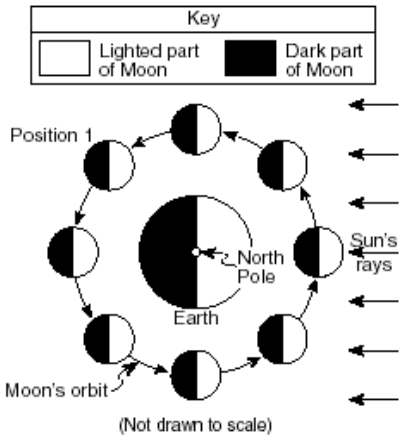
11. Why would an observer on Earth see a complete cycle of phases of the Moon in approximately 1 month?
(1) The Moon rotates on its axis.
(2) The Moon revolves around the Earth.
(3) The Earth rotates on its axis.
(4) The Earth revolves around the Sun.

12. One complete cycle of the phases of the Moon takes
(1) 24 hours
(2) 27.3 days
(3) 29.5 days
(4) 15 days

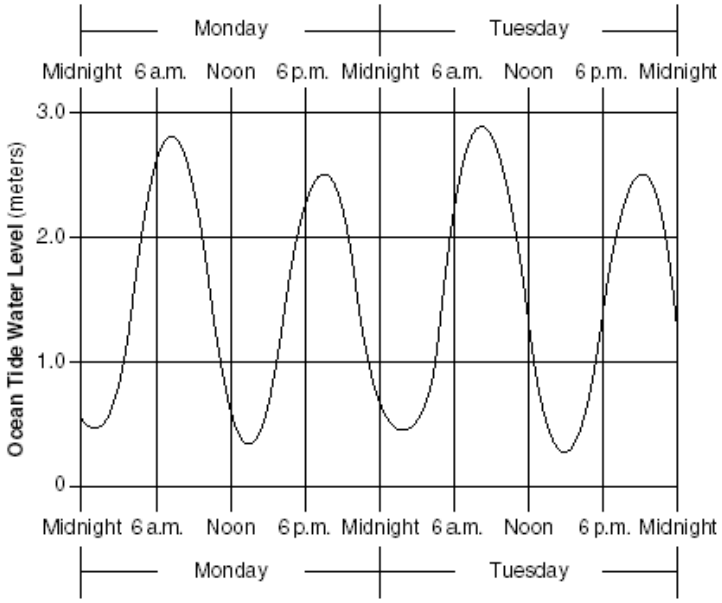
13. The diagram below represents the Moon in its orbit, as viewed from above Earth's North Pole. Position 1 represents a specific location of the Moon in its orbit.

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





Base your answers to questions 14 through 15 on the graph below, which shows the water levels of ocean tides measured in Boston, Massachusetts, for a 2-day period.

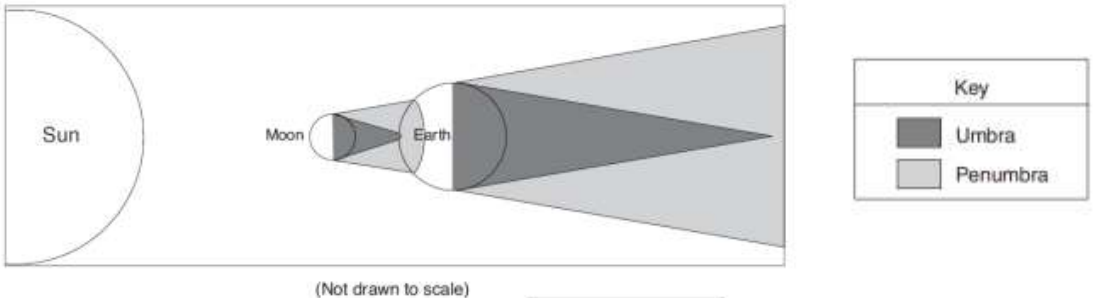


14. The graph shows that high tides at Boston occur approximately every
    (1) 3.5 hours
    (2) 6.0 hours
    (3) 12.5 hours
    (4) 16.0 hours

15.. If the trends shown by the graph continue, which statement best describes the next low tide at Boston that is expected to occur on Wednesday?
    (1) It will occur about 3 a.m. with a 0.4-meter water level.
    (2) It will occur about 6 a.m. with a 0.6-meter water level.
    (3) It will occur about 9 p.m. with a 2.6-meter water level.
    (4) It will occur about 10 p.m. with a 2.8-meter water level.

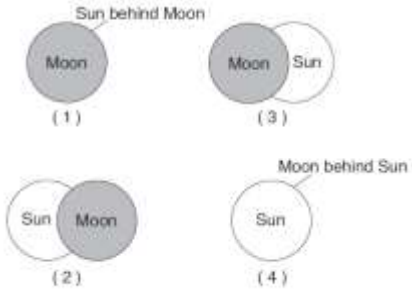
16. The Moon's gravitational force has a greater tide causing effect on bodies of water on the Earth than the Sun's gravitational force. What is one reason for this?
    (1) The Moon's mass is greater than the Sun's mass.
    (2) The Moon is closer to the Earth than the Sun is.
    (3) The Moon's mass is less than the Sun's mass.
    (4) The Moon's gravitational force always attracts while the Sun's sometimes repels.

17. The diagram below shows the position of the Sun, the Moon, and Earth during a solar eclipse. The full shadow (umbra) and partial shadow (penumbra) of the Moon and Earth are shown.



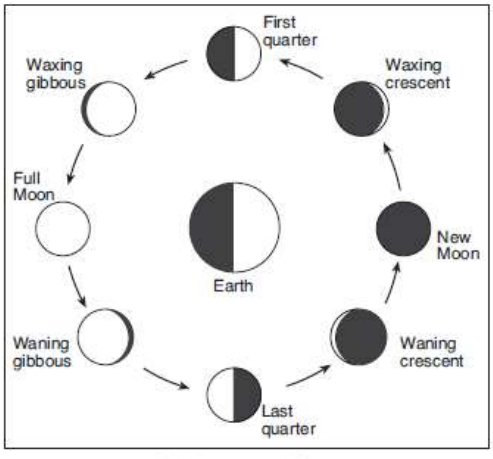
(Not drawn to scale)

Which diagram best represents the appearance of the Sun and the Moon to an observer located within the umbra of the Moon's shadow on Earth's surface?



18. Which of the following events occurs when the Moon moves into the umbra of the Earth?
    (1) a solar eclipse
    (2) a new moon
    (3) a neap tide
    (4) a lunar eclipse

Base your answers to questions 19 and 20 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)

19. Approximately how many days occur between the Moon's first-quarter phase and the Moon's last-quarter phase?
    (1) 7 d
    (2) 15 d
    (3) 29.5 d
    (4) 365.26 d

20. Draw the tidal bulge around the Earth to show the locations of the high and low tides when the Moon is in its waning crescent phase. Label the positions of the direct and indirect high tides.