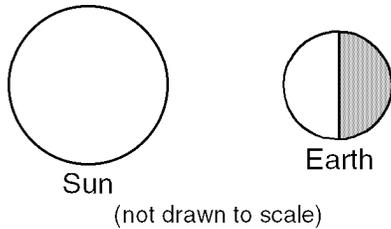


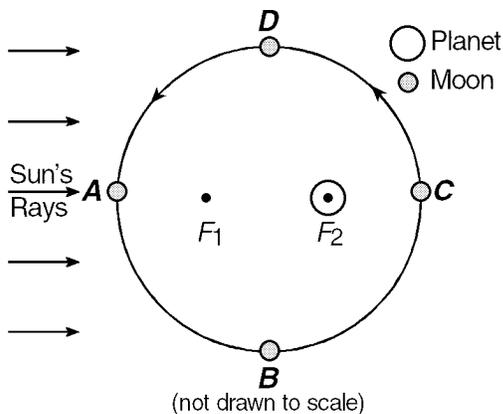
Name: \_\_\_\_\_

- 1) A total solar eclipse was visible to observers in the southeastern United States on February 26, 1998. The diagram below shows the Sun and Earth as they were viewed from space on that date.



Draw the Moon (as a small circle), showing its position at the time of the solar eclipse.

- 2) The phases of the Moon are caused by the
- A) Sun's varying distance from the Moon
  - B) Moon's revolution around the Earth
  - C) Moon's varying distance from the Earth
  - D) Earth's revolution around the Sun
- 3) The diagram below represents a model of the orbit of a moon around a planet.

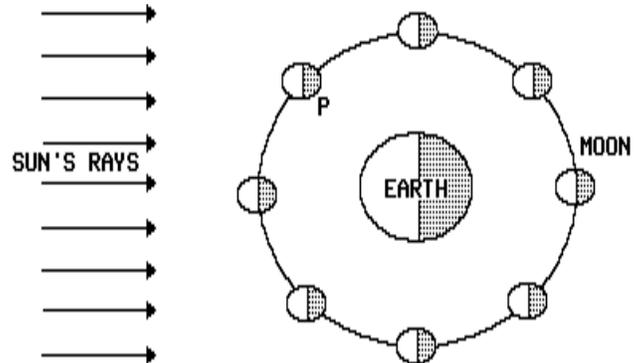


Points *A*, *B*, *C*, and *D* indicate four positions of the moon in its orbit. Points  $F_1$  and  $F_2$  are focal points of the orbit.

For an observer on the planet, at which position in the moon's orbit does the full-moon phase occur?

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

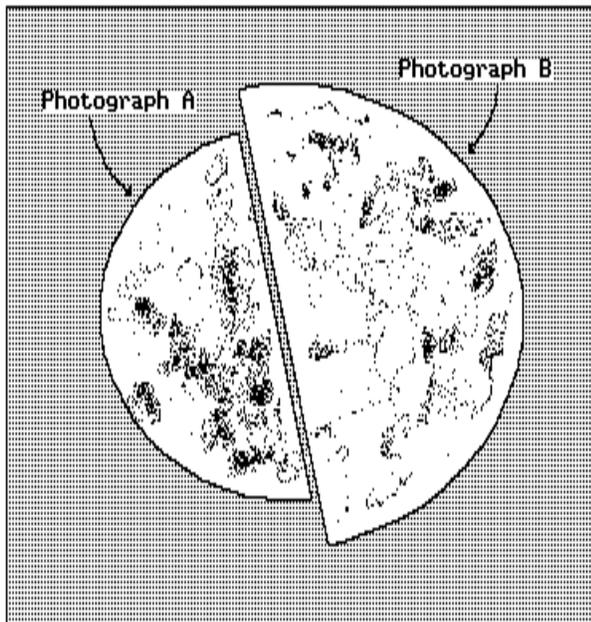
- 4) The diagram below shows the relative positions of the Earth, Moon, and Sun for a 1-month period.



Which diagram best represents the appearance of the Moon at position *P* when viewed from the Earth?

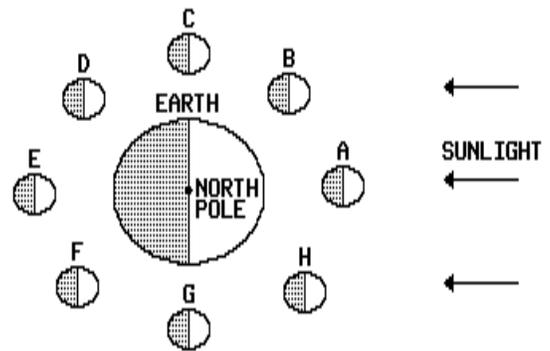
- A)                       C) 
  - B)                       D) 
- 5) The new-moon phase occurs when the Moon is positioned between the Earth and the Sun. However, these positions do *not* always cause an eclipse (blocking) of the Sun because the
- A) Moon's orbit is tilted relative to the Earth's orbit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

- 6) The diagram below represents two photographs of the moon, *A* and *B*, taken at full moon phase several months apart. The photographs were taken using the same magnification. Each photograph was cut in half and the halves placed next to each other.

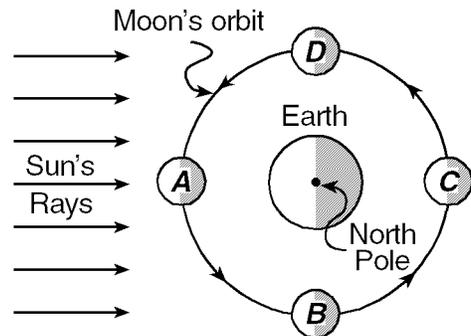


- What most likely caused the difference in the apparent size of the Moon in photographs *A* and *B*?
- The phases of the Moon changed.
  - The Moon expanded.
  - The Moon rotated.
  - The distance from the Earth to the Moon changed.
- 7) The Moon has more surface craters than Earth does because the Moon has
- a surface more sensitive to impacts
  - no significant atmosphere
  - a stronger gravitational force
  - a smaller diameter than Earth
- 8) Which is the best indication that the Moon's distance from the Earth varies?
- the apparent change in the diameter of the Moon
  - the apparent change in the shape of the Moon
  - the apparent change in the altitude of the Moon
  - the apparent change in the color of the Moon

- 9) The diagram below represents eight positions of the Moon as it revolves around the Earth.

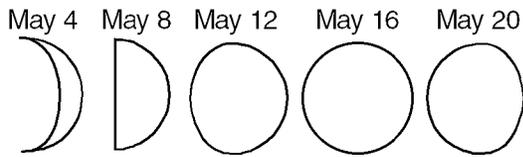


- When viewed from the Earth, which phase of the Moon will be seen when the Moon is at point *E*?
- first quarter
  - last quarter
  - new moon
  - full moon
- 10) The diagram below shows a model of the Moon's orbit around Earth. Letters *A*, *B*, *C*, and *D* represent four positions in the Moon's orbit.

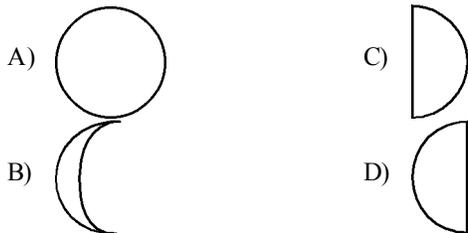


- What is the approximate length of time the Moon takes to travel from position *A* to position *C*?
- 1 day
  - 15 days
  - 30 days
  - 365 days
- 11) Which motion causes the Moon to show phases when viewed from the Earth?
- the rotation of the Earth on its axis
  - the revolution of the Moon around the Earth
  - the rotation of the Sun on its axis
  - the revolution of the Sun around the Moon

- 12) A student drew the phase of the Moon observed from one location on the Earth on each of the dates shown.

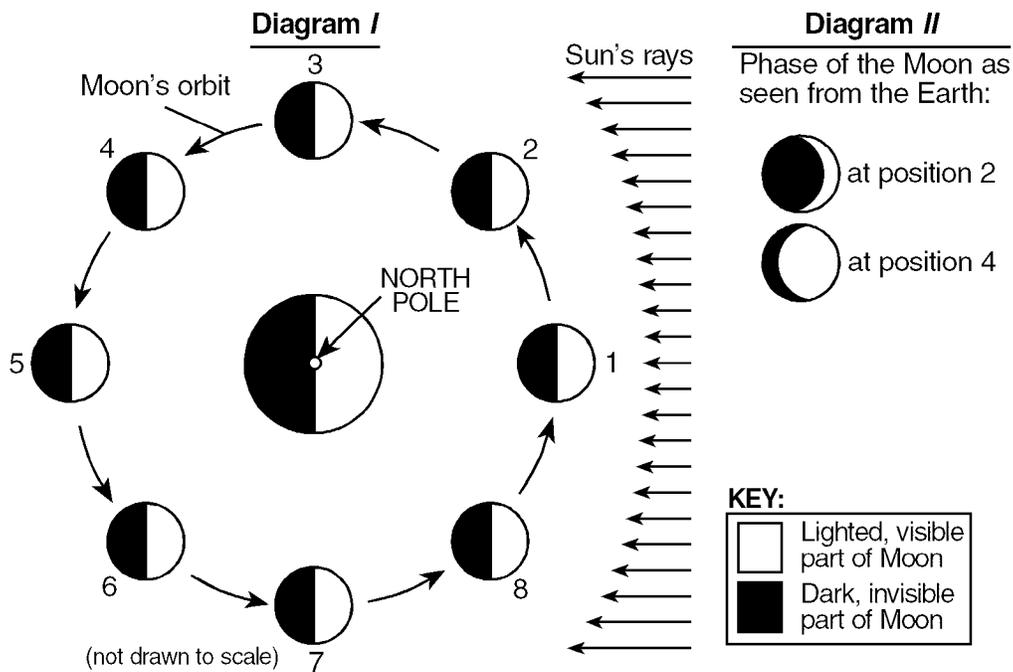


Which diagram *best* shows the Moon's phase on May 24?



Questions 13 through 15 refer to the following:

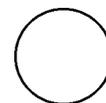
Diagram I below represents the Moon orbiting the Earth as viewed from space above the North Pole. The Moon is shown at 8 different positions in its orbit. Diagram II represents phases of the Moon as seen from the Earth when the Moon is at position 2 and at position 4.



- 13) State the approximate length of time required for one complete revolution of the Moon around the Earth.

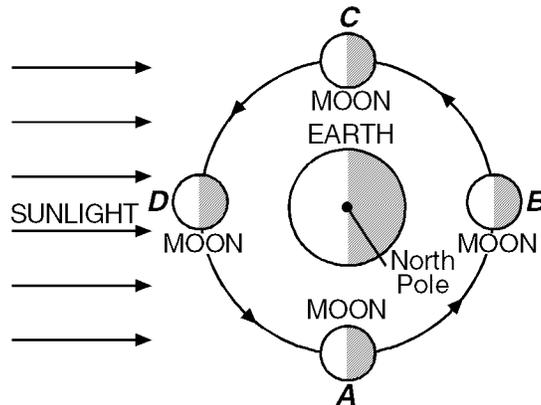
- 14) State the two positions of the Moon at which an eclipse could occur.

- 15) Shade the circle provided below to illustrate the Moon's phase as seen from the Earth when the Moon is at position 7.



Questions 16 and 17 refer to the following:

The diagram below shows the Moon in four different positions, *A*, *B*, *C*, and *D*, as it orbits Earth.

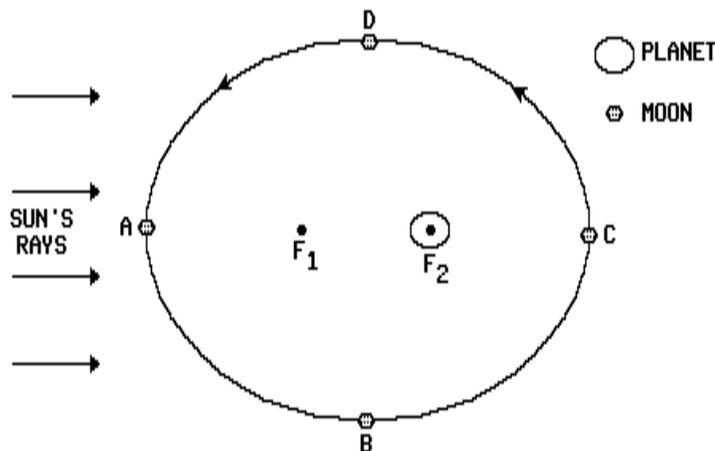


- 16) How does the Moon appear to an observer in New York State when the Moon is located at position *A*?
- A)  B)  C)  D) 
- 17) The cartoon below shows a comical view of an eclipse as viewed from Earth.



The type of eclipse represented in the cartoon might occur when the Moon is located at position

- A) *A* B) *B* C) *C* D) *D*
- 18) The diagram below represents a model of the orbit of a moon around a planet. Points *A*, *B*, *C*, and *D* indicate four positions of the moon in its orbit. Points  $F_1$  and  $F_2$  are focal points of the orbit.



For an observer on the planet, at which position in the moon's orbit does the full-moon phase occur?

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