Student Name: _____ Date: _____

Module Test: The Sun-Earth-Moon System

1) Daylight hours are shorter for the hemisphere that is tilted toward the Sun during the solstice.

- ○ True
- ○ False

2) When it is summer in the United States, Earth is closest to the Sun.

- ○ True
- ○ False

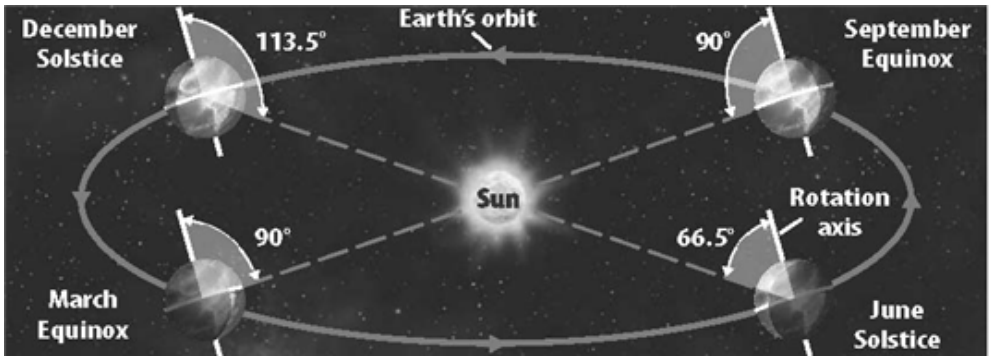
3) The Sun's rays strike Earth at their northernmost and southernmost positions during _____.

- ○ **A)** winter and summer solstices
- ○ **B)** spring and fall equinoxes
- ○ **C)** lunar eclipses
- ○ **D)** solar eclipses

Student Name: _____ Date: _____

Module Test: The Sun-Earth-Moon System

4) Which statement is true about both the September equinox and the March equinox shown below?



- **A)** There are about 12 hours of daylight and 12 hours of darkness everywhere on Earth.
- **B)** Spring is starting for the southern hemisphere.
- **C)** Spring is starting for the northern hemisphere.
- **D)** They are the longest days of the year.

5) When the north end of Earth's rotation axis is pointing toward the Sun, which statement is true?

- **A)** The southern hemisphere receives more energy from the Sun.
- **B)** Temperatures decrease in the northern hemisphere.
- **C)** The northern hemisphere receives more energy from the Sun.
- **D)** Temperatures increase in the southern hemisphere.

6) A *solstice* is a day when _____.

- **A)** Earth's rotation axis is most toward the Sun.
- **B)** Earth's rotation axis is most away from the Sun.
- **C)** Earth's rotation axis is neither leaning toward or away from the Sun.
- **D)** Both a and b are correct.

Module Test: The Sun-Earth-Moon System

7) The seasons are caused by _____.

- **A)** the tilt of Earth's axis as Earth orbits the Sun
- **B)** Earth's distance from the Sun
- **C)** the shape of Earth’s orbit
- **D)** the tides of the ocean

8) Why do solar eclipses happen only during a new moon?

- **A)** A new moon occurs when the Sun, the Moon, and Earth are all aligned. This allows the Moon to appear to cover the Sun.
- **B)** A new moon occurs when the Sun, the Moon, and Earth are all in a 90-degree angle. This allows the Moon to appear to cover the Sun.
- **C)** A new moon occurs when the Sun, the Moon, and Earth are all aligned. This allows the Sun to appear to cover the Moon.
- **D)** A new moon occurs when the Sun, the Moon, and Earth are all in a 90-degree angle. This allows the Sun to appear to cover the Moon.

9) A lunar eclipse can only occur during which type of moon phase?

- **A)** first quarter moon
- **B)** full moon
- **C)** new moon
- **D)** third quarter moon

10) Why don’t lunar eclipses occur every full moon?

- **A)** The temperature is not always right for an eclipse.
- **B)** The Moon’s orbit around Earth and Earth’s orbit around the Sun are not in the same plane, so the three bodies only line up occasionally.
- **C)** The Moon’s orbit around the Sun and Earth’s orbit around the Sun are not in the same plane, so the three bodies only line up occasionally.
- **D)** The Moon’s orbit around Earth and the Sun’s orbit around Earth are not in the same plane, so the three bodies only line up occasionally.

Module Test: The Sun-Earth-Moon System

11) Hours of daylight and nighttime are equal during a(n) _____.

12) Earth is closest to the Sun during the month of _____.

13) Earth _____ on its axis and _____ around the Sun.

14) The Sun, the Moon, and the stars appear to move from east to west across the sky because Earth rotates from _____ to _____.

15) What may happen when the Moon enters Earth's umbra during a total lunar eclipse?

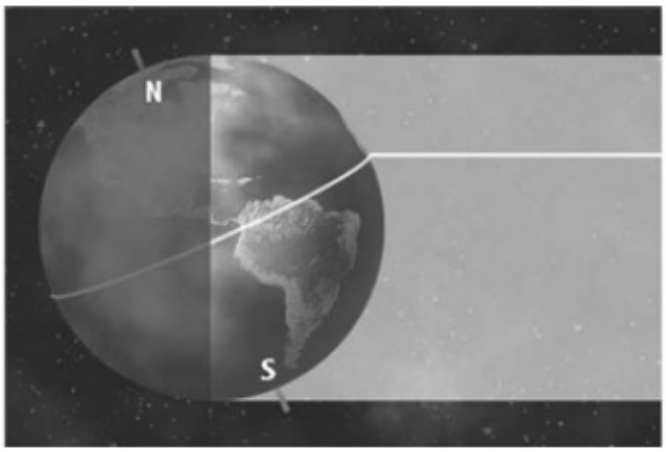
Module Test: The Sun-Earth-Moon System

16) Why have only a few people ever seen a total solar eclipse?

Student Name: _____ Date: _____

Module Test: The Sun-Earth-Moon System

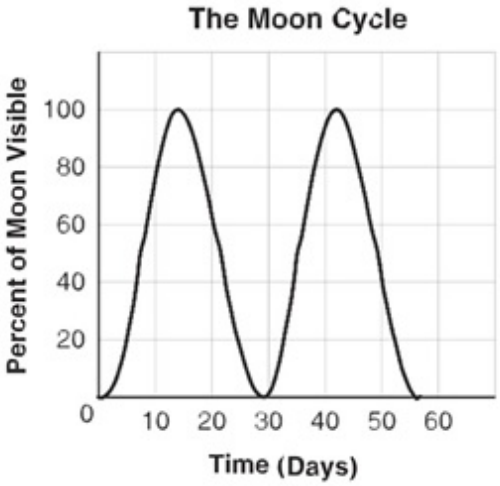
17) What season is shown for the northern hemisphere? Explain your answer.



Student Name: _____ Date: _____

Module Test: The Sun-Earth-Moon System

18) For a 60-day period, Amy observes how much of the lit side of the moon is visible each night. She starts her observations on a night when 0 percent of the lit side of the Moon is visible. This is a line graph that represents how much of the Moon is visible to Amy each night of the 60-day period.



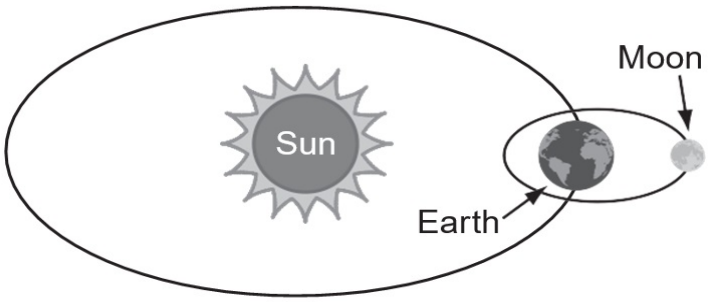
Predict the night when the next full moon will occur after Amy's 60 days of observations. Explain your answer.

Module Test: The Sun-Earth-Moon System

Student Name: _____ Date: _____

Module Test: The Sun-Earth-Moon System

19) Molly researched the lunar eclipses that had been observed in her city. She found that all of them occurred during the full moon phase. She then drew a model to show the positions of the Sun, Earth, and the Moon during lunar eclipses. The diagram shows the model that Molly created.



a. Explain why the model shows that all lunar eclipses occur during the full moon phase.

Molly knows that lunar eclipses do not occur every full moon. In reality, lunar eclipses occur less often.

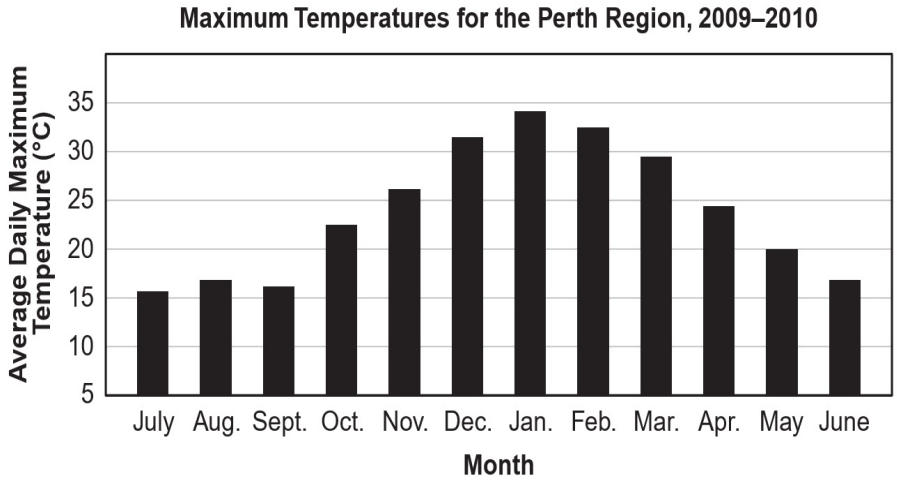
Module Test: The Sun-Earth-Moon System

b. Describe how the model could be changed to show why lunar eclipses do not occur every full moon.

Student Name: _____ Date: _____

Module Test: The Sun-Earth-Moon System

20) The graph shows the average daily maximum temperature each month for one year in the Perth region of Australia. Australia is located in the southern hemisphere, between Antarctica and Indonesia.



a. Explain the temperature pattern shown in the graph by describing Earth's movement around the Sun.

b. The Perth region has four seasons; each season is three months long. Identify the months of each season in the Perth region. Explain your answer using data from the table.