Part A

Answer all questions in this part.

Directions (1–35): For each statement or question, write on your separate answer sheet the number of the word or expression that, of those given, best completes the statement or answers the question. Some questions may require the use of the Earth Science Reference Tables.

1. Scientists can plan to photograph a solar eclipse because most astronomical events are
   (1) cyclic and predictable
   (2) cyclic and unpredictable
   (3) random and predictable
   (4) random and unpredictable

2. The Coriolis effect causes winds in New York State to generally curve
   (1) to the right of the direction of travel
   (2) to the left of the direction of travel
   (3) upward away from Earth's surface
   (4) downward toward Earth's surface

3. In New York State, the constellation Pisces can be seen in the night sky between the middle of summer and the middle of winter. The constellation Scorpio can be seen in the night sky between early spring and early fall. The reason these two constellations can be viewed only at these times is a direct result of Earth's
   (1) spin on its axis
   (2) movement around the Sun
   (3) axis having a 23.5° tilt
   (4) distance from the Sun

4. Approximately how many degrees per day does Earth revolve in its orbit around the Sun?
   (1) 1°
   (2) 13°
   (3) 15°
   (4) 23.5°

5. Compared with our Sun, the star Betelgeuse is
   (1) smaller, hotter, and less luminous
   (2) smaller, cooler, and more luminous
   (3) larger, hotter, and less luminous
   (4) larger, cooler, and more luminous

6. Astronomers viewing light from distant galaxies observe a shift of spectral lines toward the red end of the visible spectrum. This shift provides evidence that
   (1) orbital velocities of stars are decreasing
   (2) Earth's atmosphere is warming
   (3) the Sun is cooling
   (4) the universe is expanding

7. How many calories are required to evaporate 1 gram of boiling water?
   (1) 1
   (2) 80
   (3) 540
   (4) 620

8. A weather instrument is shown below.

   Which weather variable is measured by this instrument?
   (1) wind speed
   (2) precipitation
   (3) cloud cover
   (4) air pressure

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