The History of Modern Astronomy.

1. Which of the following was NOT an essential piece of information in Eratosthenes' determination of the Earth's radius?
   a) there are 360 degrees in a circle
   b) the distance from Alexandria to Syene
   c) that the cosine of an angle is equal to the adjacent/hypoteneuse
   d) that the circumference of a circle is $2\pi r$

2. Which of the following would upset the Ptolemaic view of the solar system?
   a) the detection of craters and volcanoes on the surface of Venus
   b) perfectly circular rings around Saturn
   c) retrograde motion of the planet Mars
   d) the lack of moons around Mercury

3. Which of the following locations would show the largest parallaxes if you were standing on its surface (apparent shifts of nearby stars relative to those in the background as measured half an orbit apart)?
   a) the sun
   b) Neptune (the most distant planet from the sun)
   c) Mercury (the closest planet to the sun)
   d) the moon

4. Which of the following can NOT be achieved using Kepler's 3rd law?
   a) Measuring the mass of Jupiter from its motion around the sun
   b) Measuring the mass of the earth from the moon's motion around it
   c) Measuring the mass of the sun from Mercury's orbit
   d) Measuring the mass of the sun from Pluto's orbit

5. The escape velocity of the moon is lower than that of Earth because of the moon's
   a) lower mass
   b) smaller radius
   c) both a) and b)
   d) larger distance from the sun

6. If the radius of the Earth were to double, but its mass stay the same, the gravitational attraction between the Sun and the Earth would
   a) not change
   b) double
   c) increase by a factor of 4
   d) decrease by a factor of 4