Physics Universal Gravitation – Evaluation Mr. McMullen

Name _____ Date _____ Period _____

Universal Gravitation – Evaluation

In the space to the left, write the letter of the answer to each question.

1. _____ During its orbital period, as a planet moves closer to the sun, the orbital velocity of the planet…
   a. increases b. decreases c. remains the same

2. _____ According to Newton's law of gravitation, the force of attraction between any two masses is directly related to…
   a. the distance between the masses b. the product of the two masses
   c. the velocity of the two masses d. the sum of the two masses.

3. _____ As the distance between two bodies increases, the force of attraction between the bodies…
   a. increases b. decreases c. remains the same.

4. _____ In the experiment, Cavendish was able to determine…
   a. the mass of several lead spheres b. the value of G
   c. the period of Io d. the mass of Io.

5. _____ Astronauts in an orbiting space shuttle experience a sensation of weightlessness because…
   a. the space shuttle is free falling to the earth
   b. the shuttle is not affected by the earth's gravity
   c. the mass of the space shuttle decreases as the distance from the earth increases
   d. the space shuttle is moving away from the earth.

6. _____ According to Einstein's general theory of relativity..
   A. mass causes space to be curved
   b. gravity is a contact force
   c. the gravitational force between two bodies is not affected by the distance between the bodies
   d. all of the above.

6. _____ According to _____, an imaginary line from the sun to a planet sweeps out equal areas in equal time intervals…
   a. Newton's law of universal gravitation b. Newton's third law of motion
   c. Kepler's second law of planetary motion d. Cavendish's experiment.

7. _____ Anything that has mass is surrounded by…
   a. a satellite in orbit b. a magnetic field c. a gravitational field d. all of these.

8. _____ The force of attraction will be equal between which two pairs of spheres?
   a. 1 and 2 b. 2 and 3 c. 1 and 3