1. Determine the attractive force between the Moon and the Earth. [Hint: Use your reference tables for values.]

2. It takes Jon 10. minutes to run around the circular track at the high school. If Jon can run 2.5 m/s, what is the radius of the circle? [Hint: Convert time to seconds.]

3. A 500. kg car enters a traffic circle with a radius of 23 meters at a speed of 17 m/s. Determine the frictional force that keeps the car in its circular path.

4. An object of mass m is traveling in a circle of radius r with a speed v.
   a. What happens to the centripetal force when the speed doubles?

   b. What happens to the centripetal acceleration when the radius is cut in third?

Name _____

Definitions

1. Law of Gravitation - _____

   _____

   _____

2. Uniform Circular Motion - _____

   _____

3. Period - _____

4. Linear (tangential) velocity - _____

   _____

5. Centripetal - _____

6. Centrifugal - _____

7. Torque - _____

   _____

8. Kepler's 1st Law - _____

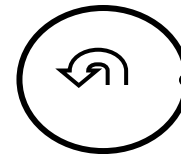   _____

9. Kepler's 2nd Law - _____

   _____

10. Kepler's 3rd Law - _____

   _____

Equations (on Reference Tables)

1.	2.

3.

Equations (NOT on Reference Tables)

4.	5.
6.	7.
8.	9.

10.

On the diagram below, draw arrows to represent the direction of the rubber stopper's velocity, acceleration, and centripetal force.

Sketch in the shapes of the graphs below.

Gravitational Force vs. mass

Gravitational Force vs. distance

Centripetal acceleration vs. speed

Centripetal acceleration vs. radius