**Physics**

**GQ 7.3 – Orbit and Gravity**

Name

Show your work, circle your answers, and label them with units.

1. What is the force of gravity between a 3.4 kg sphere, and a 8.1 kg sphere if their centers are separated by 4.7 m?

2. What distance from the center of the earth (m = 5.97x1024 kg) is the force of gravity on a 5.00 kg mass

equal to 10.0 N?

3. Your spaceship is orbiting 2.26x107 m from the center of a planet with a velocity of 100. m/s. What is the mass of the planet?

4. At what distance from the center of our 7.35x1022 kg moon is the orbital period equal to 86,164 seconds?

5. Draw the new orbit: (Circle or oval indicates your current orbit)

 Speed up at x: Slow down at x: Slow down at x:

 (elliptical, inside, tangent at x) (more elliptical, outside orbit, tangent at x) (less elliptical, outside orbit, tangent at x)