Physics: Gravitation **#3** Name:_____

Objectives: P3.1b, 3.1A, P3.6A,B,C,d

Directions: Please show knowns, formula and solutions for full credit.

1. The gravitational force between two identical masses 35cm apart is 7.42 E -2 n. Find the mass of the objects.

Knowns **formula** **Solution**

_____

2. What would be the value of gravity(g) on a 105kg astronaut who is two earth radius above the earth's surface?

Knowns **formula** **Solution**

_____

3. If the mass of Mercury is 5.6E22 kg and its gravity is 2.7m/s/s, what is the radius of Mercury?

Knowns **formula** **Solution**

_____

4. A 55 kg object is 501 km above the earth's surface. Find

Knowns **formula** **Solution**

_____ mass _____ weight at that height

5. If the radius of a planet is 5500km and an object weighs 850n on the surface, what is its weight when it is located at…..(Assume g is 15 m/s/s.)

_____ 19km above the surface _____ 401 km above the surface

Knowns **formula** **Solution**

6. Two spheres of 95kg and 55kg are 3.5 E -4m apart. Find the

_____ force between them

_____ acceleration of large mass

_____ acceleration of small mass

Knowns **formula** **Solution**