Honors Physics: Gravitation **#2**   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 electrons 1m apart is 5.42 E -71n. Find the mass of an electron.

    Knowns   **formula**   **Solution**

_____

2. What would be the earth's gravitational attraction(g) on a 75kg astronaut who is one earth radius above the earth's surface?

    Knowns   **formula**   **Solution**

_____

3. If the mass of Mars is 6.6E23kg and its gravity is 3.7m/s/s, what is the radius of Mars?

    Knowns   **formula**   **Solution**

_____

4. A 25 kg object is 201 km above the earth's surface. Find

    Knowns   **formula**   **Solution**

_____ mass   _____ weight at that height

5. If the radius of a planet is 3400km and an object weighs 550n on the surface, what is its weight when it is located at…..(Assume g is 15 m/s/s.)

_____ 12km above the surface   _____ 201 km above the surface

    Knowns   **formula**   **Solution**

6. Two spheres of 85kg and 65kg are 12m apart. Find the

_____ force between them

_____ acceleration of large mass

_____ acceleration of small mass

    Knowns   **formula**   **Solution**