

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Period: \_\_\_\_\_

### Gravity

1. Using Newton's Law of Universal Gravity, determine the gravitational force between a 45kg mass and a 30kg mass held 200 meters apart. Show your Math.
2. What would be the gravitational force between the above objects if the distance between the objects were doubled? Show any calculations.
3. What would be the gravitational force between the above objects if the distance between the objects were cut to 100meters? Show any calculations.
4. What would be the gravitational force between the above objects if the mass of either of the objects were doubled? Show any calculations.
5. Why does Newton's law use the word "Universal"? \_\_\_\_\_
6. The units of measurement for the force of gravity in the English system are? \_\_\_\_\_  
\_\_\_\_\_ And in the metric system? \_\_\_\_\_
7. **Diagram & Explain** how your weight varies at three different places in the US: Windsor Locks; Denver, Colorado; and at the bottom of Carlsbad Caverns in New Mexico. Look up these locations if you need to!