

Name: _____

Date: _____

Period: _____

Review #3 – Gravity

$$F_g = m_1 m_2 / d^2$$

1. Why did Newton call his law the Law of Universal Gravity? _____

2. Which of the following has Zero Gravity?
 - a. International Space Station
 - b. The Center of a Black Hole
 - c. On top of Mount Everest
 - d. Trick Question – no place has zero gravity
3. There are two objects in space, what will happen
 - a. The heavier object will pull the lighter one to it
 - b. They will pull each other to each other
 - c. Both will be pulled somewhere else. Where: _____
 - d. Neither will be pulled, because there is no gravity in space.
4. An astronaut is working on the International Space Station (ISS) during a spacewalk. She places a wrench half way between herself and the ISS. What will happen to the wrench? Explain. _____

5. Using the formula at the top of the page, calculate the force of gravity between two objects 10 meters apart. One object has a mass of 30kg, the other's mass is 5kg. Show your Math.
6. If 2 objects are 1000 meters apart and have a force of gravity between them of 20 Newtons, what will happen to the force when the objects are moved to 500 meters apart?
7. Gravity on the moon is $1/6^{\text{th}}$ that of earth. What happens to an astronaut when they walk on the moon?
 - a. They weigh less
 - b. Nothing
 - c. Their mass increases
 - d. They weigh more
8. Why does the sun have more gravity than the moon? _____
9. Why does the moon have a stronger gravitational pull on earth? _____