Name: _____
Date: _____
Period: _____

Newton's Laws Review

$M = mv$ $F=ma$ $Fg = m_1m_2/d^2$

1. Newton's first Law says that a body in motion will _____
   _____
2. You are riding in the front passenger seat of a car at 65 mph. The driver slams on the brakes to avoid another car ahead. What happens to you? _____
   _____Why? _____
   _____
   _____
3. What is the velocity of a body at rest in miles per hour? _____
4. Newton's first law is also known as the Law of _____
5. State Newton's Second Law. _____
   _____
   _____
6. How much Momentum would a 5kg object have if it is traveling at 40m/s? Show Your Math

7. For the following situations, determine which of Newton's laws best applies:
   a. A boulder atop a large cliff _____
   b. A person pushing the boulder, but it not budging _____
   c. Two people pushing the boulder off the cliff _____
   d. The boulder falling _____
   e. The boulder hitting the ground and creating a dent _____
   f. The two people jumping up and down and shouting _____
   g. The police arresting the two people for vandalism _____
8. What is the difference between speed and velocity? _____
   _____
   _____
9. Draw a free body diagram showing the forces on a golf ball just as a golfer tees off.

More on the back

10. Apply Newton's 3 Laws to a basketball Game
    a. Law #1: _____
    b. Law #2: _____
    c. Law #3: _____

11. How much force does the air in a car's tires need to apply to the car to keep from going flat? _____

12. Friction can be described as a force acting _____

13. Based on your experiences with the Shipping and Sliding Lab, what properties of a surface increase its force of friction? _____

14. The acceleration due to gravity is $9.8 m/s^2$. If an object is falling but it has an acceleration of only $8.5 m/s^2$, what must be the acceleration due to friction? Show how you figured this.

15. If the object in the question above has a mass of 50kg, what is the force of friction on the object? Show your Work.