Newton's 1st & 2nd Law Study Guide

Name _____

Period _____

1. State Newton's 1st Law of Inertia

2. How much force is needed to keep an already moving object going in space?

3. Why were the dishes left on the table after the tablecloth was jerked quickly?

4. How is acceleration produced?

5. State Newton's 2nd Law.

6. What is the relationship between acceleration and mass?

   acceleration and force?

7. Suppose the force of friction on a sliding object is 10 N. The force needed to maintain a constant velocity is ....

8. When an object reaches terminal velocity its acceleration is ......

9. A 60 kg man has a weight of ....   Compared to his weight on the moon, it would be ......

10. What equation do you use to solve for force?   Acceleration?

11. What is the SI unit for mass?

    force?

12. Motion is relative to ......

13. Draw a FBD of your backpack sitting on the floor. Label the type of forces.

14. Ariahna pushes her 3N milk across the table with a continuous force of 1.5 N. The frictional force is 1 N.

   a. Draw a FBD of the situation. Label the type and amount of the forces.

   b. Calculate the net force on the milk.

   c. What happens to the speed of the milk?

15. Nick likes to slide on our wood floor at home. Nick has a mass of 44 kg. The coefficient of friction between Nick and the wood floor is .11.

   a. Calculate the frictional force.

   b. Calculate the acceleration.

16. Livi whose mass is 70 kg is skydiving. As Livi begins to fall, air resistance builds up to 400 N.

   a. Draw a FBD of the situation. Label the type and amount of the forces.

   b. Calculate the acceleration of Livi.

   c. Would Livi be speeding up, down or has she reached terminal velocity?