Review Quiz: Newton’s Second Law of Motion and Gravity

Directions: For all multiple choice questions, circle the correct answer

1. What is Newton's Second Law of Motion?

_______________________________________________________________________
_______________________________________________________________________

2. True / False Mass does not have a direct effect on the force needed to move an object.

3. True / False Force does not have a direct effect on the acceleration of an object.

4. Objects of __________________________ mass have a greater acceleration.
   A) greater    B) smaller    C) equal

5. If you are ice skating, what type of friction exists between your skates and the ice?
   A) static    B) sliding    C) rolling

6. The amount of ____________ between two surfaces depends on mass and acceleration.

7. Give an example of a surface that might have a lot of friction.
   _____________________________________________________________________
   _____________________________________________________________________

8) Which would cause the gravitational force between Planet A and Planet B to DECREASE?

   a) increase the distance between them    c) decrease the mass of Planet A
   b) decrease the distance between them    d) decrease the mass of both planets

9) How would your weight on the Earth compare to your weight on the moon?
   a) it is greater on the Earth    b) it is less on the Earth    c) it is the same

10) Gravity pulls objects up or down, on Earth? ___________________________
BE SURE TO WRITE THE FORMULA, SHOW YOUR WORK, CIRCLE YOUR ANSWER, AND INCLUDE UNITS FOR FULL CREDIT.

11) How much force is required to accelerate a 12 kg mass at 10 m/s²?

12) Given a force of 150 N and an acceleration of 10 m/s², what is the mass?

13) What is the acceleration of a 70 kg mass pushed by a 5 N force?

14) What is the weight of a 66KG person on Earth?

15) What is the mass of a person on Neptune, where their weight is 87N and the acceleration of gravity is 13.3 m/s²?

16) What is the acceleration of gravity of a person on Jupiter? The person’s weight is 104N and their mass is 4 kg.