Name _____ Date _____ Period _____

Worksheet: Equation Review

CHAPTER 6: NEWTON'S SECOND LAW

Directions: *Answer the following questions based on reading from Chapter 3 (pgs. 68-85) and/or from notes in class.*

EQUATIONS: $F = ma$ $a = \frac{F}{m}$ $F_g = mg$

QUESTIONS:

1. A girl pulls on a m-kg wagon with a constant force of f N. What is the wagon's acceleration?

2. A 12-N falling object encounters 5 N of air resistance. The magnitude of the net force on the object is?

3. A car has a mass of 1500 kg and accelerates at 5 meters per second squared. What is the magnitude of the force acting on the car?

4. A tow truck exerts a force of 2000 N on a car, accelerating it at 1 m/s/s. What is the mass of the car?

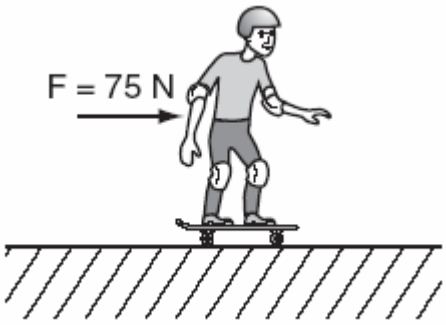
5. You pull horizontally on a 50-kg crate with a force of 450 N and the friction force on the crate is 250 N. The acceleration of the crate is?

6. How much force is needed to accelerate a 4-kg physics book to an acceleration of 2 m/s^2?

7. You push with 10 N on a 5-kg block and there are no opposing forces. How fast will the block accelerate?

8. The figure shows a block that is being pulled along the floor. According to the figure, what is the acceleration of the block?

9. A 50-kg child on a skateboard experiences a 75-N force as shown.



10. You push with a 20 N horizontal force on a 2 kg mass resting on a horizontal surface against a horizontal friction force of 12 N. What is the acceleration?