

Name _____ Date _____ Period _____

Practice Quiz: Newton's Second Law

CONCEPTUAL PHYSICS: UNIT 3

Directions: Use the equations below to solve the following problems. **You must show all of your work to receive credit.** This includes: 1) showing what is given, what you are trying solve for (2 points) 2) showing equation (2 points) 2) showing your work (2 points) 3) answer with correct units (2 points). A total of 8 points/question. Total points = 40 points

$$F = ma \quad a = \frac{F}{m} \quad P = \frac{F}{A} \quad F_g = mg$$

1. You pull horizontally on a **100-kg** crate with a force of **500 N** and the **friction force** on the crate is **50 N**. The acceleration of the crate is?

2. A car has a mass of **1000 kg** and accelerates at **3.0 meters per second squared**. What is the magnitude of the **force** acting on the car?

3. A tow truck exerts a force of **800 N** on a car, accelerating it at **2 m/s/s**. What is the **mass** of the car?

4. You are standing on a skateboard and your friend pushes you with a force of **150 N**. If your mass is **100 kg**, what will your **acceleration** be?

5. What is the **acceleration** on the box being pulled below?

