

7 The Laws of Motion

Name _____

Worksheet C: Review Problems

Inquiry Physics

1. A 12.0 g bullet is accelerated from rest to a speed of 700.0 m/s as it travels 20.0 cm in a gun barrel. Assuming the acceleration to be constant, how large was the accelerating force? (Be careful to use proper units!)
14,700 N

2. A 900 kg car is going 20.0 m/s along a level road. How large of a constant retarding force is required to stop it in a distance of 30.0 m?
6000 N

3. A block of wood weighing 20.0 N is lifted by an upward force of 30.0 N. How much will the block accelerate?
INCLUDE A FREE-BODY DIAGRAM OF ALL FORCES

4. A truck weighing 25,000 N was traveling along the highway at 35.0 m/s when the driver applied a braking force of 12,000 N and brought the truck to a halt. What was the truck's braking distance?
INCLUDE A FREE-BODY DIAGRAM OF ALL FORCES

5. A boy pulled a wagon along the street with a horizontal pulling force of 22.0 N. The 7.00 kg wagon accelerated at 2.50 m/s^2 . How much opposing frictional force was acting?
INCLUDE A FREE-BODY DIAGRAM OF ALL FORCES

6. A 950 kg car accelerated from rest to 25.0 m/s over a distance of 35.0 m. What amount of force did the engine exert to cause this acceleration?