

Name _____
Chapter 4 Forces:

Regents Physics

Friction and the Net Force Worksheet 1

Directions: Solve the following problems showing all your work.

1. A student moves a box of books by pulling on a rope attached to a box. The student pulls with a force of 185N horizontally. The box has a mass of 35.0kg, and the coefficient of kinetic friction between the box and the floor is 0.27. Find the acceleration of the box.

2. A 75 kg box encounters 10 N of friction and slides down a hall with an acceleration of 3.60 m/s^2 .

a. Find the coefficient of kinetic between the box and the floor.

b. What is the weight of this box?

3. An applied force of 50 N is used to accelerate a 25 N object to the right across a frictional surface. The object encounters 10 N of friction. Create a diagram to determine the normal force, the mass and the acceleration of the object (Neglect air resistance).

4. A 5-kg object is sliding to the right and encountering a friction force which slows it down. The coefficient of friction between the object and the surface is 0.1. Determine the force of gravity, the normal force, the force of friction, and the acceleration. (Neglect air resistance)