Worksheet: Friction **Name**_____

1. A force of 42 N is needed to start a box sliding across the floor. The weight of the box is 55 N. Draw all the forces acting on the box.

   a. How large is the force of friction?

   b. Is the frictional force static or kinetic?

   c. What is the coefficient of friction?

2. If the coefficient of kinetic friction between a crate and the floor is 0.20, how much force is needed to slide a 92 kg crate uniformly across the floor?

3. Why is it more difficult to lean over and push a heavy box across the floor than it is to attach a rope and pull the box at the same angle? Draw a force diagram for each situation and resolve the applied force into its components. Concentrate on the normal force and its effect on friction.

© 2004, GPB

LIVEWORKSHEETS

4. A hockey puck has a mass of 1.0 kg. The coefficient of kinetic friction between the puck and ice is 0.15. A force of 2.6 N is applied horizontally to the puck to push it to the right. Draw and label all the forces acting on the puck.

a. The normal force acting on the puck is _____ N.

b. The force of kinetic friction is _____N.

c. The net force acting on the puck horizontally is _____N.

d. The acceleration of the puck will be _____m/s^2.

© 2004, GPB

LIVEWORKSHEETS