Physics 112: Force Practice

1. A 25 kg crate is pulled at a constant velocity with an applied force of 125 N.
    a. Calculate the force of friction. (-125 N)
    b. Calculate the normal force on the crate. (245 N)
    c. Calculate the coefficient of kinetic friction. (0.51).

2. A sled has a weight of 75 N and is being pulled with a net force of 15 N. The coefficient of kinetic friction is 0.19.
    a. What is the mass of the sled? (7.6 kg)
    b. What is the force of friction? (14.25 N)
    c. What is the applied force? (29.25 N)

3. A 55 kg box is moved with a net force of 28 N. The applied force necessary is 185 N.
    a. What is the force of friction? (-157 N)
    b. What is the normal force? (540 N)
    c. What is the coefficient of kinetic friction? (0.29)

4. A box is being pulled across the floor at a constant velocity with an applied force of 184 N. The coefficient of kinetic friction is 0.26.
    a. What is the force of friction? (-184 N)
    b. What is the force of gravity on the box? (708 N)
    c. What is the mass of the box? (72.2 kg)

5. A 46 kg object is being pulled with an applied force of 200 N. The coefficient of kinetic friction is 0.18.
    a. What is the force of gravity on the object? (451 N)
    b. What is the force of friction acting on the object? (81 N)
    c. What is the net force acting on the object? (119 N)

6. A box is being pulled across the floor at a constant velocity with an applied force of 250 N. The coefficient of kinetic friction is 0.16. What is the mass of the box? (159 kg)

7. A 37 kg crate is pulled at a constant velocity with an applied force of 145 N. Calculate the coefficient of kinetic friction. (0.40)

8. A 39 kg object is being pulled with an applied force of 133 N. The coefficient of kinetic friction is 0.25. What is the net force acting on the object? (37 N)

9. A 42 kg box is moved with a net force of 52 N. The applied force necessary is 210 N. What is the coefficient of kinetic friction? (0.38)

10. A sled has a weight of 166 N and is being pulled with a net force of 27 N. The coefficient of kinetic friction is 0.24. What is the applied force? (67 N)