Name *Period* *Date*

1. The mass of an object is 82.0 kg. Jason pushes the object across the floor at constant velocity with a force of 320 N.
    a. Draw a free-body diagram showing all the forces acting on the object.

    b. What is the force of sliding friction (F_f)?

    c. What is the coefficient of sliding friction (μ_k)?

2. You push a 25.0-kg wooden box across a wooden floor at a constant speed of 1.00 m/s. Coefficient of sliding friction (μ_k) is 0.20.
    a. Draw a free-body diagram showing all the forces acting on the box.

    b. How much force do you exert on the box?

    c. If the force that you exert on the 25.0-kg box in "b" above is doubled, what is the resulting acceleration?

    d. If you apply this force for 0.500 seconds, how fast will the box be going?