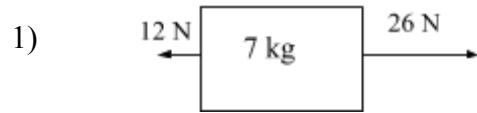


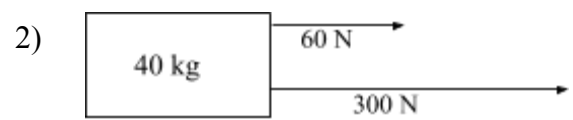
Name: _____ Date: _____ Period: _____

For each of the following problems, give the net force on the block, and the acceleration, including units.

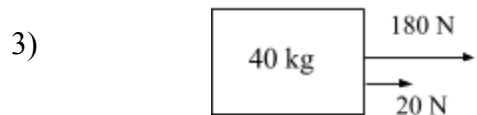


Net Force = _____ a = _____

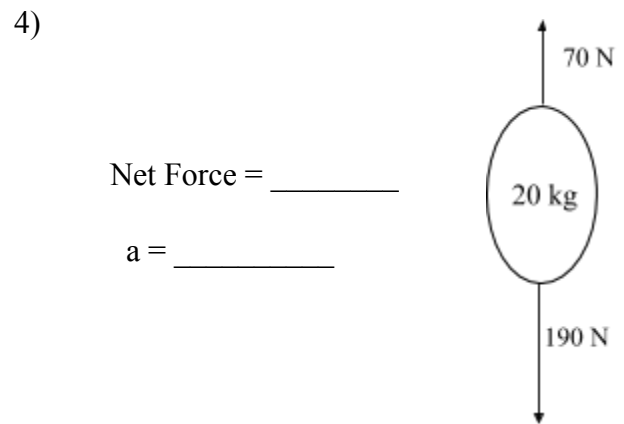
Hint: determine the net force. Then use the net force to find acceleration using $F_{\text{net}} = ma$



Net Force = _____ a = _____

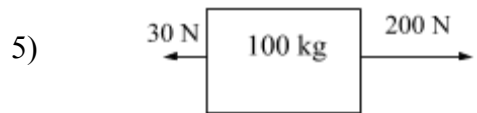


Net Force = _____ a = _____



Net Force = _____

a = _____



Net Force = _____ a = _____

Directions: Draw a free body diagram. Determine the Net Force (F_{net}) and use Newton's Second Law ($F = ma$) to calculate your answer

Section I: Complete 4 of these.

- 1) A block has a normal force of 20N and a coefficient of friction of 0.4. What is the static friction force?

- 2) An object of mass 300 kg is observed to accelerate to the right at the rate of 4 m/s^2 . The coefficient of friction is 0.2.
- Draw the free body diagram
 - What is the weight of the object (Force of gravity)
 - What is the Normal Force of the object?
 - What is the frictional force?
 - Calculate the net force required to produce this acceleration.
- 3) A 5 kg block is pulled across a table by a horizontal force of 40 N with a frictional force of 8 N opposing the motion.
- Draw the free body diagram of the block being pulled?
 - What is the weight of the object?
 - What is the Normal Force of the object?
 - What is the coefficient of friction?
 - What is the Net force?
 - What is the object's acceleration?
- 4) An object of mass 30 kg is falling in air and experiences a force due to air resistance of 50 newtons.
- Determine the net force acting on the object and
 - Calculate the acceleration of the object.