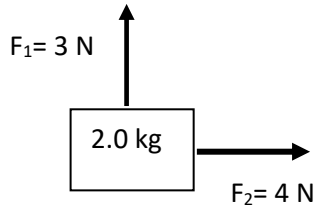
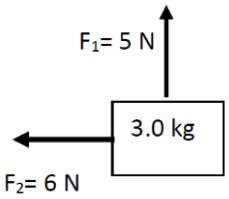
Friction Practice #2 **Name**_____

Honors Physics

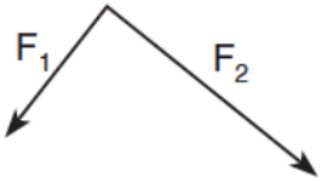
1. What is the resultant force on the box? magnitude and direction (θ)



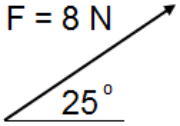
2. What is the resultant force on the box? magnitude and direction (θ)



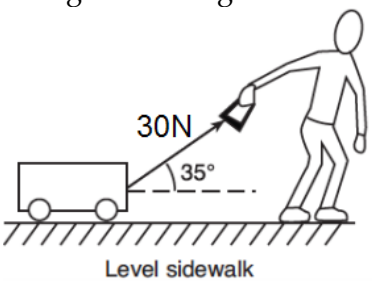
3. Two forces act on a single particle as shown in the diagram. Use a ruler and/or protractor to determine the resultant vector.



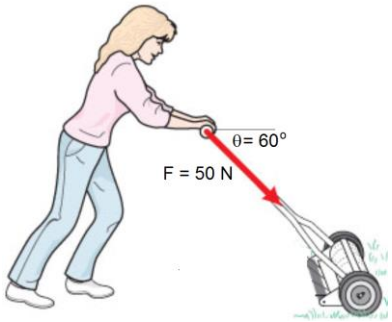
4. Determine the x and y components of the following force vector.

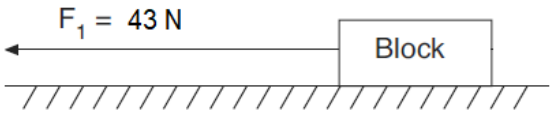


5. A child pulls a wagon as shown with a force of 30 N at an angle of 35° above the horizontal. The wagon is moving at a constant velocity. Determine the x and y components of the pulling force. What is the force of friction acting on the wagon?



6. A woman pushes a lawn mower at a constant velocity with a force of 50 N at an angle of 60° below horizontal. Determine the x and y components of the pushing force. If the mower weighs 68 N, what is μ_k?





One force, F_1 , is applied to a 8.0 kg block on a horizontal surface where there is friction. The block is speeding up at a rate of 2.50 m/s^2. Determine all of the values below.

weight = _____

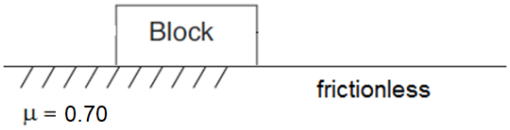
Normal force= _____

a = _____

ΣF_x = _____

Frictional force = _____

μ = _____



A 3.5 kg block is initially sliding to the left with a velocity of 2.0 m/s on a frictionless surface when it hits a patch of asphalt where the coefficient of friction is 0.70 . Determine all of the values below.

weight = _____

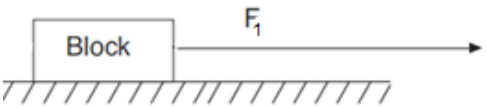
Normal force= _____

Frictional force = _____

ΣF_x = _____

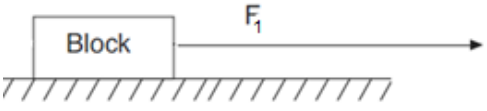
a = _____

One force, F_1= 25 N, is applied to a 4.8 kg block on a horizontal surface where there is friction. The block is being dragged along at a constant velocity of 2.0 m/s. What is the coefficient of friction?



One force, F_1 = 35 N, is applied to a 6.3 kg block on a horizontal surface where the coefficient of friction is 0.25. Determine the acceleration of the block.

One force, F_1= 5 N, is applied to a 0.8 kg block on a horizontal surface where there is friction. The block is being dragged along at a constant velocity of 2.8 m/s. What is the coefficient of friction?



One force, F_1 = 27 N, is applied to a 4.1 kg block on a horizontal surface where the coefficient of friction is 0.3. Determine the acceleration of the block.