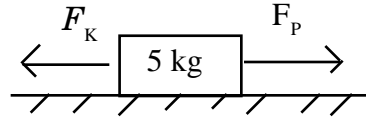


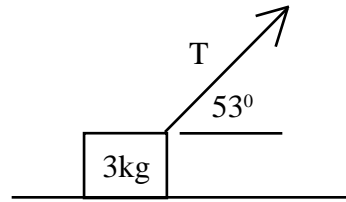
## Work Quiz 10.0

1. A pulling force ( $F_p$ ) of 8N drags a block of mass 5kg along the floor for 4m. The kinetic friction force is 3N in magnitude.



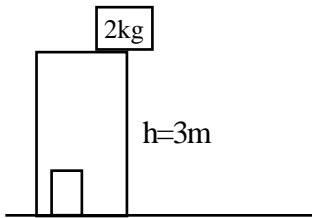
- (a) What is the work done by the pulling force?
- (b) What is the work done by the friction force?
- (c) What is the work done by the normal force?

2. A rope pulls a 3kg block along the floor at a  $53^\circ$  angle with the horizontal. The tension in the rope is 20N. What is the work done by the pulling rope if the block is displaced 7m to the right?

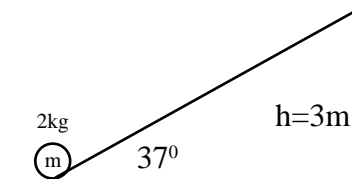


3. What is the work done by the force of gravity ( $F_g$ ) in each of the three cases below?

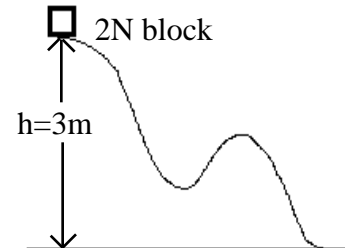
(a) As the block falls from the top of a building.



(b) As the ball is rolled to the top of the incline shown here.



(c) As the block slides down.



4. How much work does Atlas do as he holds up the earth? The weight of the earth (if it were placed on the surface of the earth) is  $1.32 \times 10^{25}$  lb and the height of Atlas, a Titan, was perhaps 15 ft. (The American unit for work or energy is the ft-lb.)

5. (T/F) Work is the transfer of energy by mechanical means.