

Worksheet 7.1: Work

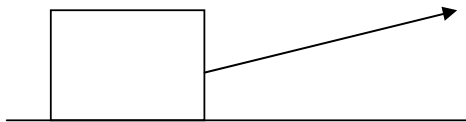
1. A 20.0 N pomegranate is lifted at a constant velocity from the floor to a height of 1.50 m. How much work is done on the object?

2. A 15.0 N potato is moved horizontally 3.00 m across a level floor using a horizontal force of 6.00 N. How much work is done on the potato?

3. A 2.20 N pear is held 2.20 m above the floor for 10.0 s. How much work is done on the pear?

4. A 10.0 kg pink grapefruit is accelerated horizontally from rest to a velocity of 11.0 m/s in 5.00 s by a horizontal force. How much work is done on the pink grapefruit assuming no friction?

5.

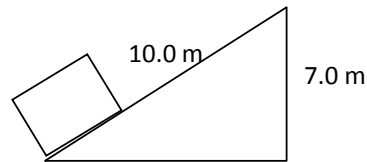


A 90.0 N box of papayas is pulled 10.0 m along a level surface by a rope. If the rope makes an angle of  $20.0^\circ$  with the surface, and the force in the rope is 75.0 N, how much work is done on the box?

6. A 60.0 kg student runs at a constant velocity up a flight of stairs. If the height of the stairs is 3.2 m, what is the work done against gravity?

7. A 20.0 kg passionfruit is pulled horizontally 9.0 m along a level frictionless surface at a constant velocity. How much work is done on the passionfruit?

8.



An 80.0 kg pumpkin is pushed up at a constant velocity along a frictionless incline as shown in the diagram. How much work is done on the pumpkin in moving it up the incline?

9. A 25.0 kg pickle is accelerated from rest through a distance of 6.0 m in 4.0 s across a level floor. If the friction force between the pickle and the floor is 3.8 N, what is the work done to move the object?

10. A 1165 kg car traveling at 55 km/h is brought to a stop while skidding 38 m. Calculate the work done on the car by the friction forces.