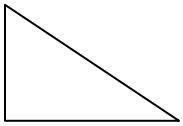
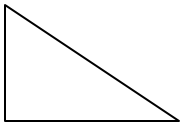
Work Worksheet

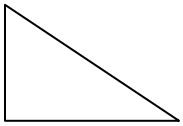
1. A mother is pulling her baby carriage over a distance of 2.0 km with a force of 70.0 N at a 15° angle. What is the work accomplished?



2. How much work is done when a boy pulls a sled over a distance of 20.0 m with an effective force of 30.0 N at a 50.0° angle?

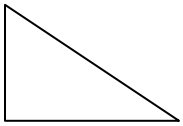


3. What is the distance travelled if a girl uses 1 500 J of energy with an effective force of 25 N for a walk in the park?

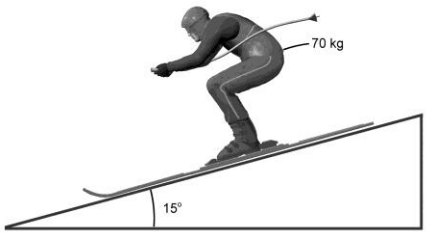


4. A girl is pushing a suitcase with an effective force of 100.0 N. If the work applied to the suitcase is 1200 J, over what distance has she been applying this force?

5. A person who is rollerblading applies a force of 45 N over a distance of 125 m at a 55° angle. What is the amount of work accomplished?

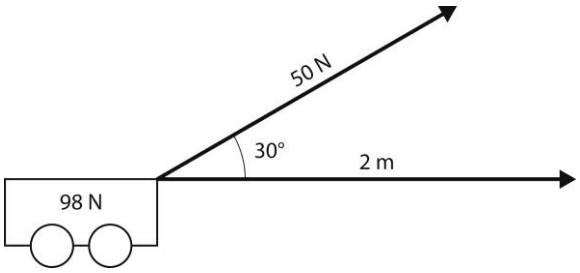


6. How much work does the gravitational force acting on this skier represent if the skier travels 4 m?

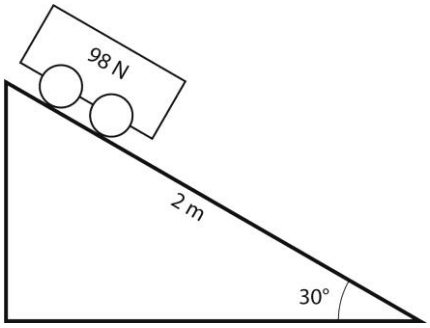


7. If each of the carts illustrated below travels a distance of 2 m, in which situation will the energy gained by the cart be greater? Show your calculations.

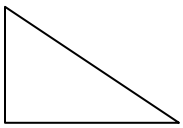
a)



b)

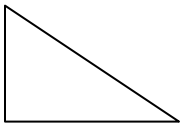


8. a- The effective force of a man pulling a cart is 75 N. The handle is at a 25° angle. If the maximum force he should apply is 50.0 N, is he using too much force?

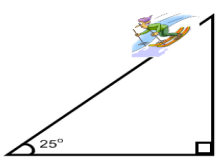


b- Using the results above, what is the work accomplished by the man if he is pulling the cart for 10 m?

9. What is the distance travelled if a boy uses 1 500 J of work as he pulls a cart with a force of 85 N at a 35° angle?

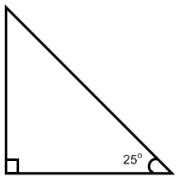


10. How much work is done if a skier with a mass of 90.0 kg is skiing down a hill at a 25° angle for 5 km?

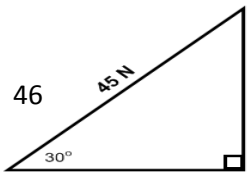


11. You are pushing your lawnmower for 3.0 m with an effective force of 35 N. What is the work accomplished?

12. How much work does the gravitational force acting on a skier represent if the skier's mass is 75 kg and he travels 7.0 km down a hill at a 25° angle?



13. How much work is done when a man pulls his luggage at the airport for 255 m with a force of 45 N at a 30.0° angle?



14. Which person does more work?
    a- A boy pulls his sister on a sled at a 45° angle for 105 m with a force of 25 N.
    b- A man skiing down a hill at a 25° angle for 3.0 km with a mass of 85 kg.
    c- A girl walks 2.0 km with an effective force of 25 N.

15. What is the distance travelled when a girl pulls her little brother for 15 minutes and uses 1 900 J of work with a force of 89 N at a 40° angle?