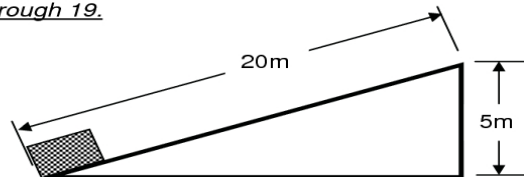


### Work and Power Worksheet #1

1. How much work is done when a 5 N force moves a block 4 m?
2. How much work is done when a 100 N force moves a block 59 m?
3. Fred applies 350 N force to move his stalled car 40 m, how much work did Fred do?
4. How far will 350 J raise a block weighing 7 N?
5. How far will 350 J raise a 7 Kg mass?
6. How much power does it take to do 500 J of work in 10 sec?
7. How much power does it take to do 104 J of work in 8 sec?
8. How much work can be done by a 300 W motor in 60 sec?
9. How much work can be done by a 20 W motor in 5 sec?
10. How much power does it take to lift 30 N 10 m high in 5 sec?
11. How much power does it take to lift 30 Kg 10 m high in 5 sec?
12. How much power does it take to lift 250 N 40 m high in 2 sec?
13. Which is more work, pushing with 115 N over 15 m or lifting 20 N 10 m?
14. Which is more work, pushing with 115 N over 15 m or lifting 20 Kg 10 m?
15. If you put 500 J into a machine but only get 400 J out, how efficient is the machine?

Consider a 10 kg mass sitting on the ramp shown below then use the following diagram for questions 16 through 19.



16. If it takes 25 N to slide the box on the ramp, how much work will it take to slide the box up the ramp?
17. Instead of sliding, how much work will it take to lift the box to the top of the ramp?
18. Which way takes more work? If you could only use 50 N which way would you use?
19. What is the efficiency of the ramp?