

Write down givens, show work, and circle final answer.

1. How much work is done when a man applies a 40 N force over a distance of 38 meters?
2. How much force is required to do 800 J of work when pushing a box 108 meters?
3. A man exerts 6800 J of work to move a box 33 meters. How much force was he applying?
4. How much power is exerted by a person exerts 66 J of work in 88 seconds?
5. A woman exerts 90000 W of power while doing 333 J of work. How long is she working?
6. **Challenge.** A boy exerts 7890 N of force to move a box 50 meters in 30 seconds. How much power does he exert?

1. How much power does it take to move a box if you apply 3000 J of work over 1 minute?
2. How much power does it take to move a stone if you apply 450 J of work over 0.2 minutes?
3. How long does it take you to move a car if you apply 34567 W of power and 456 J of work? (I want the answer in hours)
4. You apply a 4500 N force over 3000 cm in 30 seconds. How much power did you produce?

9. You are pushing your friend on the Merry-go-round. If the merry-go-round is attached to a center axle with a radius of 11 cm and you are 3.6 meters away from the center of the merry-go-round. What is the MA of the merry-go-round?
10. A bicycle tire has a diameter of 86 cm and a mechanical advantage of 19. What is the radius of the axle?
11. You incorrectly build a teeter-totter. One side is 5 meters away from the axle and the other side is 4.5 meters away from the axle. What is the MA of the teeter-totter? Does it matter which side you push down on? If it does, show how you know (back it up with math).
12. What is an example of a 1st, 2nd, and 3rd class lever? (Make sure to label each one)