

POWER

1. Define power and give its SI unit.
2. To lift a baby from a crib, 100 J of work is done. How much power is needed if the baby is lifted in 0.5 seconds?
3. If a runner's power is 250 Watts, how much work is done by the runner in 30 minutes?
4. The power produced by an electric motor is 700 W. How long will it take the motor to do a 10, 000 J of work?
5. Find the force a person exerts in pulling a wagon 20 m if 1500 J of work is done?
6. A car's engine produces 100kw of power. How much work does the engine do in 5 seconds?
7. A color TV uses 120 W of power. How much energy does the TV use in 1 hour?
8. A machine is able to do 30 Joules of work in 6.0 seconds. What is the power developed by the machine?
9. Rebecca is 42 kg. She takes 10 seconds to run up two flights of stairs to a landing, a total of 5.0 metres vertically above her starting point. What power does the girl develop during her run?
10. Student A lifts a 50 N box from the floor to a height of 0.40 metres in 2.0 seconds. Student B lifts a 40 N box from the floor to a height of 0.50 metres in 1.0 second. Which student has more power than the other?