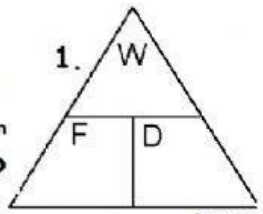
Work = Force x Distance practice problems:

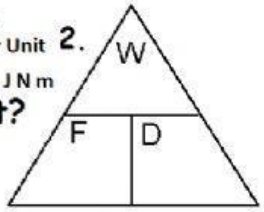
1. Daniel pushed a desk, a distance of 5 meters and did 600 J of work, how much force did he use?

Answer Unit
J N m



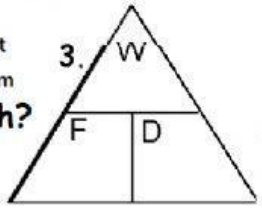
2. Brianne did 12 J of work when she lifted her 60 N suitcase off the ground. How high did she lift it?

Answer Unit
J N m



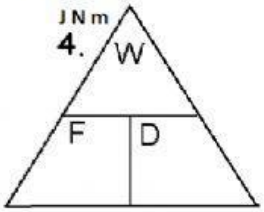
3. 195 Joules of work was done to lift a concrete block 1.5 m. How much did the block weigh?

Answer Unit
J N m



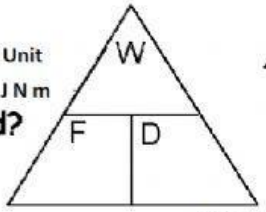
4. The grandfather held his 30 N toaster for an hour. How much work was done?

Answer Unit
J N m



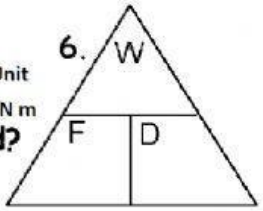
5. It took 60 joules to push a chair 6 meters across the floor. With what force was the chair pushed?

Answer Unit
J N m



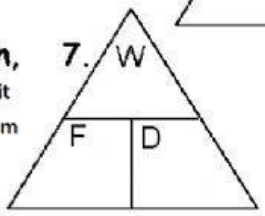
6. Tommy used a force of 100 N was necessary to lift a rock. A total of 150 joules of work was done. How far was the rock lifted?

Answer Unit
J N m



7. When Constanza and Sathyanarayan (aka: Seth) made a snowman, they lifted a 200-N block of snow 1.8m off the ground. How much work did they do?

Answer Unit
J N m



Levers

1. Should the dirt in a wheelbarrow be placed nearer the wheels or the handle?

A wheelbarrow is a 1st 2nd 3rd class lever, which means as the dirt is moved **closer to farther from** the the wheels the effort arm gets **longer shorter** and the resistance arm gets **longer shorter**, this would mean that the mechanical advantage would increase since

IMA = length of _____ arm ÷ length of _____ arm

2. Hunter uses an iron bar to raise a manhole cover weighing 65 N. The effort arm of the lever is 60 cm long. The resistance arm is 10 cm long. What is the IMA of the bar?

IMA: _____ ÷ _____ = _____

3. Kelsey used a crowbar 140 cm long as a lever to lift a large rock. Her IMA using that lever was 7. What was the length of the resistance arm?

IMA: _____ ÷ _____ = _____

4. Nicole used an oar to row a boat that had a handle 50 cm from the fulcrum and the blade 125 cm from the fulcrum. What is the IMA of the oar?

IMA: _____ ÷ _____ = _____