Work done examples

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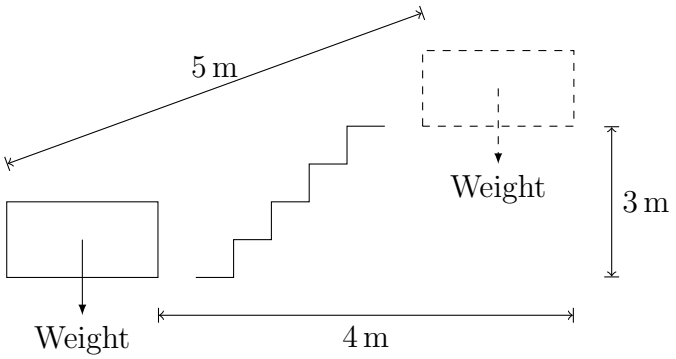
1. How much work is done (= energy transferred) when a force of 2000 N pulls a truck a distance of 40 m in the direction of the force?

2. Calculate the work done then a force of 20 N makes an object move 4.8 m in the direction of the force.

3. Calculate the work done if an object weighing 80 N is raised 1.2 m.

4. A box of mass 4 kg is lifted up a set of stairs as shown.



5. A car of mass 800 kg is pushed with a constant force of 450 N a distance of 12 m. There is a constant frictional force of 60 N.

   (a) How much work is done by the person pushing the car?

   (b) How much of this energy is done against friction?

   (c) What speed does the car end up going?

6. A tennis ball weighing 0.5 N is dropped from a height of 1 m. It only bounces to a height of 0.6 m.

   (a) How much gravitational potential energy did it have at the start?

   (b) With what speed did it hit the floor?

   (c) How much gravitational potential energy did it have at the end?

   (d) Where did the extra energy go?