

WORK-SET-2

1

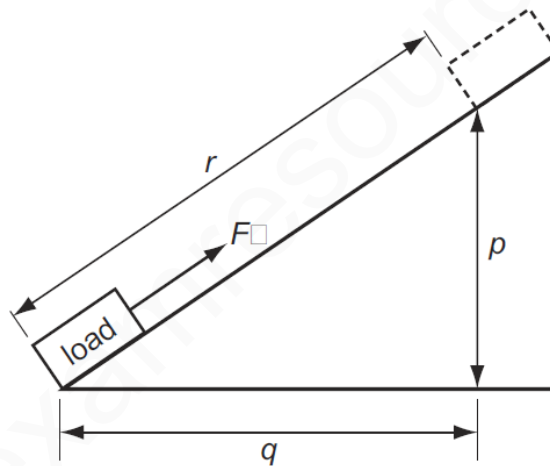
The work done W by a force is related to the magnitude F of the force and the distance d moved in the direction of the force.

Which equation for W is correct?

- A $W = d \div F$
- B $W = d + F$
- C $W = F \div d$
- D $W = F \times d$

2

A force F moves a load from the bottom of a slope to the top.



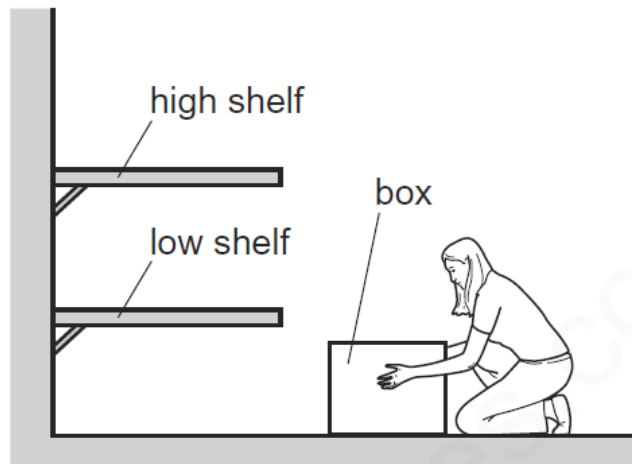
The work done by the force depends on the size of the force, and on a distance.

What is this distance?

- A p
- B q
- C r
- D $p + q$

3

A woman in a factory has to lift a box on to a shelf.



Which action involves the woman in doing the **least** amount of work?

- A lifting the box quickly to the high shelf
- B lifting the box slowly to the high shelf
- C lifting the box to the low shelf first then lifting it to the high shelf
- D lifting the box to the low shelf instead of to the high shelf

4

Which movement will require the greatest amount of work to be done?

- A a force of 10 N moving an object a distance of 3.0 m
- B a force of 10 N moving an object a distance of 5.0 m
- C a force of 15 N moving an object a distance of 3.0 m
- D a force of 15 N moving an object a distance of 5.0 m

5

A student does some work by pulling a suitcase along a corridor.

She now pulls a second suitcase along the corridor.

Which row indicates that the student is now doing twice as much work?

	the force used to pull suitcase	the distance the suitcase is pulled
A	is doubled	is doubled
B	is doubled	is halved
C	stays the same	is doubled
D	stays the same	is halved

6

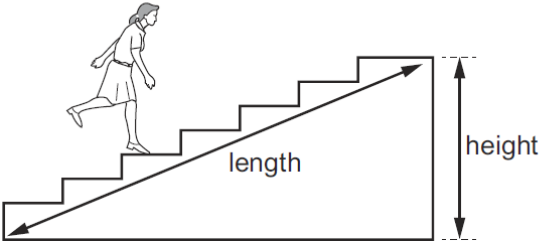
What needs to be known to calculate the work done by a force acting on an object?

	the size of the force	the distance the force moves the object	the time for which the force acts
A	✓	✓	✓
B	✓	✓	x
C	✓	x	✓
D	✓	x	x

key

✓ = needed

x = not needed

7	<p>A student runs up a flight of stairs.</p>  <p>Which information is not needed to calculate the rate at which the student is doing work against gravity?</p> <p>A the height of the flight of stairs B the length of the flight of stairs C the time taken to run up the stairs D the weight of the student</p>
8	<p>A crane on a building site lifts bricks of total mass 200 kg, initially at rest on the ground, with uniform acceleration.</p> <p>When the bricks are 5.0 m from the ground, they have a speed of 5.0 m/s.</p> <p>How much work is done during this process?</p> <p>A 2.5 kJ B 10.0 kJ C 12.5 kJ D 35 kJ</p>
9	<p>A man carries 20 tiles from the ground to the roof of a house. Each tile has a mass of 1.2 kg. The roof of the house is 15 m above the ground.</p> <p>How much work does the man do against gravity on the tiles in carrying them to the roof?</p> <p>A 36 J B 180 J C 360 J D 3600 J</p>
10	<p>A force of 25 N acts on an object. The work done by the force is 400 J.</p> <p>How far does the object move in the direction of the force?</p> <p>A 6.3 cm B 16 cm C 16 m D 10 km</p>