

A crate of tomatoes weighs 200N.
Elise lifts the box 0.75m.
How much work was done?

#5
Justin

$$200\text{ N} \cdot 0.75\text{ m} = 150\text{ J}$$

Dec 14 - 4:19 PM

What is the force required to cause
an acceleration of 5 m/s^2 on a 5 kg mass?

#6
Tyler J

$$F = mA$$
$$25\text{ N}$$

$$5 \cdot 5 = 25$$

Dec 14 - 4:19 PM

Which has done more work, something that lifted an 8kg box a distance of 2m or something that lifted a 2kg box a distance of 8m?

$W = F \cdot D$
 $8 \cdot 9.8 = 78.4$
 $78.4 \text{ N} \cdot 2 \text{ m} = 156.8 \text{ J}$
~~More work~~

$2 \cdot 9.8 = 19.6$
 $19.6 \text{ N} \cdot 8 \text{ m} = 156.8 \text{ J}$
 same

Erica
 2m = 392 J
 156.8 J

Dec 14 - 4:19 PM

A sled and a child have a combined mass of 20kg. They are traveling downhill at 10m/s. What is their kinetic energy?

$\frac{1}{2}mv^2$
 $10^2 = 100$
 $100 \cdot 20$
 $2000 \cdot .5 = 1000 \text{ J}$

Jake

Dec 14 - 4:20 PM

How much work is done when a 600N box is lifted 7m high?

#9
Ken

$$W = Fd$$

$$600 \cdot 7 = 4200 \text{ J}$$

Dec 14 - 4:20 PM

A 6 kg dog climbs 11 meters up a tree. When he stops to have a look around, what is the dog's potential energy?

#10
Derek

$$E_p = mH$$

$$E_p = 6 \times 11$$

$$E_p = 66 \text{ J}$$

$$6 \cdot 9.8$$

$$58.8$$

$$646.8 \text{ J}$$

Dec 14 - 4:20 PM

Paul is skier. He has a mass of 75kg.
He is skiing down the hill at a velocity of 22m/s.
What is his kinetic energy.?

$$E_k = \frac{1}{2} m v^2$$
$$E_k = \frac{1}{2} 75 \cdot 22^2$$
$$E_k = \frac{1}{2} 75 \cdot 484$$
$$= \frac{1}{2} 36,300$$
$$= 18,150 \text{ J}$$

#5 Sage

Dec 14 - 4:21 PM

What is the gravitation potential energy of an
object weighting 7N that is lifted 9m
off the ground?

$$E_p = w h$$
$$E_p = 7 \cdot 9 = 63 \text{ J}$$

#12
Sasne

Dec 14 - 4:21 PM

A force of 35N acts on a mass and causes an acceleration of 5m/s². What is the object's mass?

$$F = MA$$

$$\frac{35}{5} = \frac{M \cdot 5}{5}$$

$$M = 7 \text{ kg}$$

#13
Shannon

Dec 14 - 4:22 PM

Sam lifts his books (18N) up on the desk. The desk is 1.2m high. How much work was done?

$$W = FD$$

$$W = 18 \text{ N} \cdot 1.2 \text{ m}$$

$$W = 21.6 \text{ J}$$

#14
Tiffany

Dec 14 - 4:22 PM

Carla weighs 700N. She is at the top of a 75m hill which she will soon ski down. What is her potential energy at the top of the hill?

#15
Yael

$$E_p = WH$$

$$E_p = 700\text{N} \cdot 75\text{m}$$

$$52500\text{J}$$

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