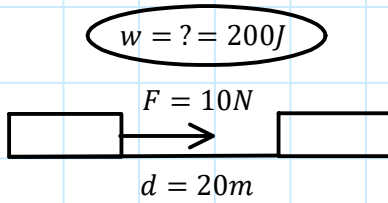


# P11 - 6.1 - Work $W = Fd$ Notes

What is the work done on an Object with a Force of 10 N over a distance of 20 m.



$$W = F_{\parallel} d$$

$$W = 10 \times 20$$

$$W = 200 \text{ Nm}$$

$$1\text{ J} = 1\text{ Nm} \quad \text{Joules (J)}$$

$$W = F_{\parallel} d \quad \text{Work} = \text{Force} \times \text{Distance}$$

How much energy was exerted?

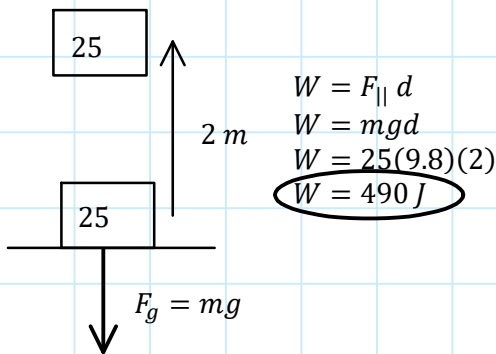
$$W = \Delta E$$

$$\Delta E = W$$

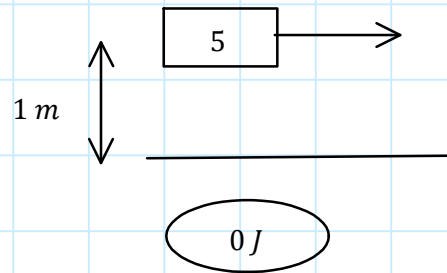
$$\Delta E = 200\text{ J}$$

$$W = \Delta E$$

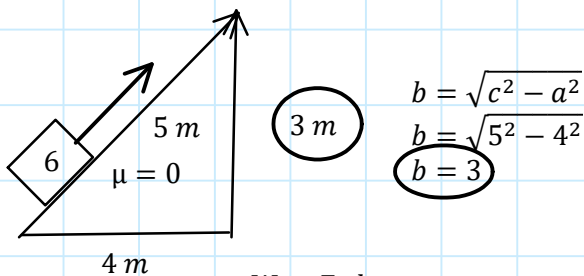
Find the work done lifting an Object with a Mass of 25 kg straight up a distance of 2 m.



How much work is done on a book with  $m = 5\text{ kg}$  carried at a constant  $h = 1\text{ m}$ .



A 6 kg Case is carried up a 5 m ramp over a length of 4 m. Find the Work done on the Case.  $\mu = 0$ !



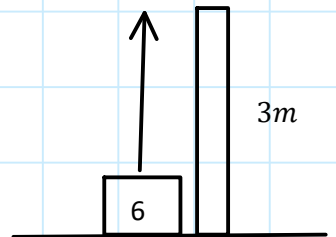
$$W = F_{\parallel} d$$

$$W = mgd$$

$$W = 6(9.8)(3)$$

$$W = 176.4\text{ J}$$

A 6 kg Case is carried straight up 3 m. What is the Work done on the Case?



$$W = 176.4\text{ J}$$