

Work

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

- units J (N·m)
- scalar
- transfer energy

PP/221

3. $m = 0.100 \text{ kg}$

$\Delta d = 10.0 \text{ cm}$

$W = 0.0230 \text{ J}$

$a = ?$

$F = ma$

$a = \frac{F}{m}$

$a = \frac{0.230 \text{ N}}{0.100 \text{ kg}}$

$a = 2.3 \text{ m/s}^2$

$$\left. \begin{array}{l} \Delta d = 10.0 \text{ cm} \\ W = 0.0230 \text{ J} \end{array} \right\} \rightarrow F = ?$$

$W = F \Delta d$

(OR)

$F = \frac{W}{\Delta d}$

$F = \frac{0.0230 \text{ J}}{0.100 \text{ m}}$

$F = 0.230 \text{ N}$

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

$W = ma \Delta d$

$a = \frac{W}{m \Delta d}$

$a = \frac{0.0230 \text{ J}}{(0.100 \text{ kg})(0.100 \text{ m})}$

$a = 2.3 \text{ m/s}^2$