

حل تمرینات کار و انرژی - فصل ۶ و ۷

$$m = 100 \text{ g} = \frac{1}{10} \text{ kg} \quad \vec{f} \leftarrow \vec{v}$$

$$v_i = 10 \text{ m/s} \quad W_T = \Delta K$$

$$d = 20 \text{ cm} = \frac{1}{10} \text{ m} \quad W_f = \frac{1}{2} m (v_f^2 - v_i^2)$$

$$f = ? \quad W_f = \frac{1}{2} \times \frac{1}{10} (-100)$$

$$W_f = -20 \text{ J}$$

$$W_f = f d \cos(180^\circ)$$

$$-20 = -f \times \frac{1}{10}$$

$$f = 100 \text{ N}$$

حل تمرینات توسط مصطفی کبری موروث
 physics.ir عزیزان

$$m = 20 \text{ g} = \frac{1}{100} \text{ kg}$$

$$v_i = 100 \text{ m/s} \quad W_T = \Delta K = \frac{1}{2} m (v_f^2 - v_i^2)$$

$$v_f = 10 \text{ m/s}$$

$$W_T = \frac{1}{2} \times \frac{1}{100} (1000 - 10000)$$

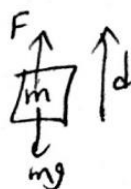
$$W_T = \frac{1}{100} (-1800) = -18 \text{ J}$$

$$W_{mg} = mg d \cos(180^\circ)$$

$$W_{mg} = 2 \times 10 \times 14 \times (-1)$$

$$a = \frac{1}{2} a t^2 + v_i t + \frac{1}{2} a t^2$$

$$a = \frac{1}{2} \times 2 \times (14)^2 = 14 \text{ m/s}^2$$



$$W_{mg} = -280 \text{ J}$$

$$W_T = \Delta K$$

$$W_F + W_{mg} = \frac{1}{2} m (v_f^2 - v_i^2)$$

$$v_f = a t + v_i$$

$$v_f = 2 \times 14 = 28 \text{ m/s}$$

$$W_F - 280 = \frac{1}{2} \times 2 \times (28^2 - 100^2) = 94$$

$$W_F = 94 + 280 = 374 \text{ J}$$