

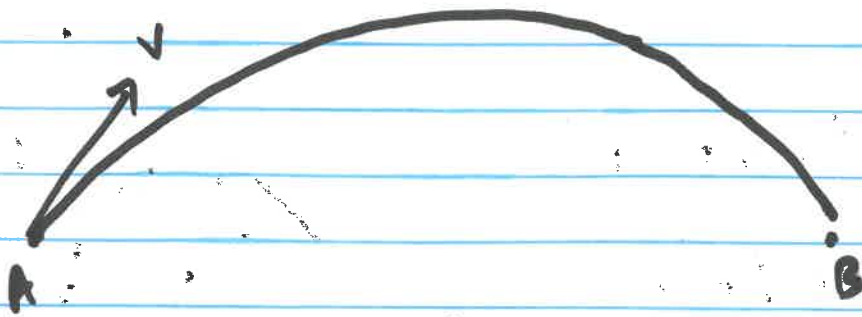
$$\tan 45^\circ = \frac{7}{a}$$

$$1 = \frac{7}{a}$$

$$a = \frac{7}{1} \quad \boxed{a = 7 \text{ ft.}}$$

$$c^2 = 7^2 + 7^2$$

$$c = \sqrt{7^2 + 7^2}$$



$$v_x + v_y$$

$$x = v_0 (\cos \theta) t$$

$$30 = v_0 (\cos 35^\circ) t \quad t = \frac{30}{v_0 \cos 35^\circ} \quad \text{--- ①}$$

$$v_0$$

$$\begin{array}{l} 10 : 20 \\ 1 : 2 \end{array}$$

$$\begin{array}{l} 7 : 11 \\ 7 : 11 \end{array}$$

$$\begin{array}{l} 15 : 20 \\ 3 : 4 \end{array}$$

$$\begin{array}{l} M : W \\ 2 : 3 \end{array}$$

$$\begin{array}{l} A : C \\ 4 : 5 \end{array}$$

$$6 : 9$$

$$12$$

$$15$$

$$10 : 15$$

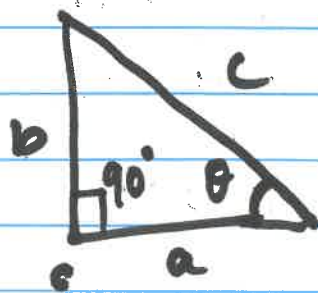
$$20$$

$$25$$

$$3$$

$$:$$

$$5$$



$$c^2 = a^2 + b^2$$

$$c = \sqrt{a^2 + b^2}$$

Sin  $\theta$ , Cos  $\theta$ , Tan  $\theta$ .

$$\sin \theta \rightarrow \frac{\text{opp}}{\text{hyp}}$$

$$\cos \theta \rightarrow \frac{\text{adj}}{\text{hyp}}$$

$$\tan \theta \rightarrow \frac{\text{opp}}{\text{adj}}$$

$$v = 4 \text{ mph.}$$

$$D = 2 \text{ hrs}$$

$$u = 4 \text{ hrs.}$$

d from start - 12 miles

$$s \rightarrow d/t. \quad d \rightarrow s/A. \quad D = s \times t$$

$$\text{(Downstr)} \quad D \rightarrow 2 \times (v+4) \quad \text{--- (1)}$$

$$\text{(Upstr)} \quad D - 12 \rightarrow 4 \times (v - 4) \quad \text{--- (2)}$$

$$(2) \quad (v+4) - 12 \rightarrow 4(v-4)$$

$$2v + 8 - 12 \rightarrow 4v - 16.$$

$$2v - 4 = 4v - 16.$$

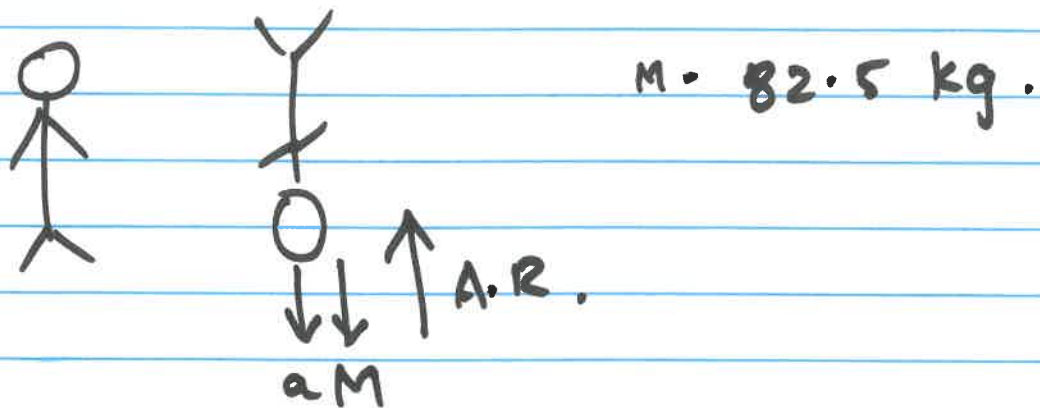
$$16 - 4 = 4v - 2v.$$

$$12 = 2v$$

$$v = 6 \text{ m/s.}$$

$$\underline{D = s \times t.} \quad t = \frac{D}{s}$$

$$t = \frac{12}{6-4} \quad \therefore \quad t = \frac{12}{2} \quad t = 6 \text{ hrs.}$$



$$(F_{\text{net}}) \cdot mg = 118 \text{ N}$$

$$82.5 \times 9.81 = 118.$$

$$(F_{\text{net}}) \ 690.5$$

$$a = \frac{F_{\text{net}}}{m} = \frac{690.5}{82.5}$$

$$a = 8.36 \text{ m/s}^2.$$