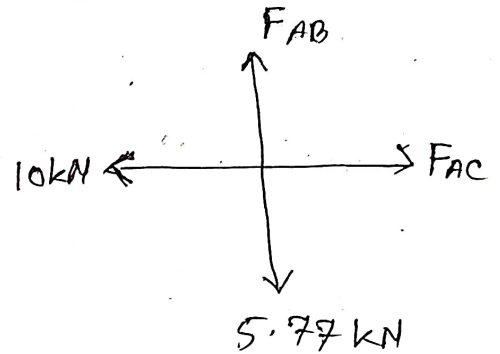


Joint A:



Find Reaction:

$$\sum F_x = 0 (\rightarrow +)$$

$$\Rightarrow 10 + R_{Ax} = 0$$

$$\Rightarrow R_{Ax} = -10 \text{ kN} (\leftarrow)$$

$$\sum M_A = 0 (\uparrow +)$$

$$\Rightarrow 10 \times 3 - R_c \times 5.2 = 0$$

$$\Rightarrow R_c = 5.77 \text{ kN} (\uparrow)$$

$$\sum F_y = 0 (\uparrow +)$$

$$\Rightarrow R_{Ay} + R_c = 0$$

$$\Rightarrow R_{Ay} + 5.77 = 0$$

$$\Rightarrow R_{Ay} = -5.77 \text{ kN} (\downarrow)$$

$$\sum F_x = 0 (\rightarrow +)$$

$$\Rightarrow F_{Ac} - 10 \text{ kN} = 0$$

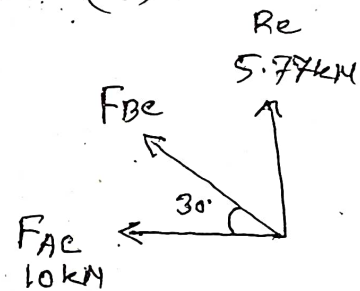
$$\Rightarrow F_{Ac} = 10 \text{ kN} (\text{T})$$

$$\sum F_y = 0 (\uparrow +)$$

$$\Rightarrow F_{AB} - 5.77 = 0$$

$$\Rightarrow F_{AB} = 5.77 \text{ kN} (\text{T})$$

Joint C:



$$\sum F_x = 0 (\rightarrow +)$$

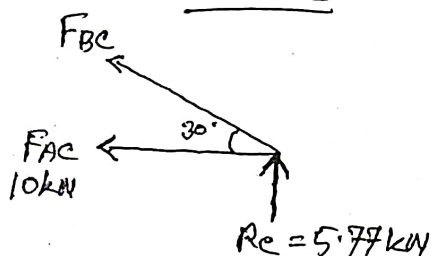
$$\Rightarrow -F_{Ac} - F_{BC} \cos 30^\circ = 0$$

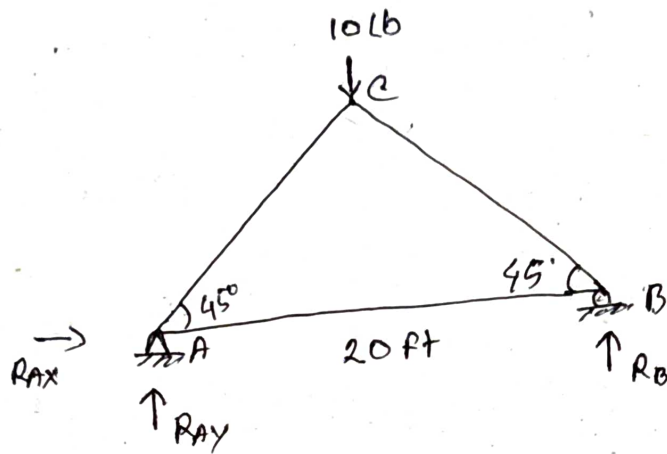
$$\Rightarrow -10 - F_{BC} \cos 30^\circ = 0$$

$$\Rightarrow -F_{BC} = \frac{10}{\cos 30^\circ}$$

$$\Rightarrow F_{BC} = -11.55 \text{ kN} (\text{C})$$

Joint C





$$\sum M_A = 0 (\downarrow +)$$

$$\Rightarrow 10 \times 10 - R_B \times 20 = 0$$

$$\Rightarrow R_B = 5 \text{ lb } (\uparrow)$$

$$\sum F_x = 0 (\rightarrow +)$$

$$\Rightarrow R_{Ax} = 0$$

$$\sum F_y = 0 (\uparrow +)$$

$$\Rightarrow R_{Ay} - 10 + R_B = 0$$

$$\Rightarrow R_{Ay} = 5 \text{ lb } (\uparrow)$$

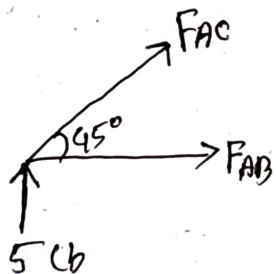
Joint A:

$$\sum F_y = 0 (\uparrow +)$$

$$\Rightarrow 5 + F_{AC} \sin 45^\circ = 0$$

$$\Rightarrow F_{AC} = \frac{-5}{\sin 45^\circ}$$

$$\Rightarrow F_{AC} = -7.07 \text{ lb } (c)$$



$$\sum F_x = 0 (\rightarrow +)$$

$$\Rightarrow F_{AB} + F_{AC} \cos 45^\circ = 0$$

$$\Rightarrow F_{AB} + (-7.07 \cos 45^\circ) = 0$$

$$\Rightarrow F_{AB} = 4.0 \text{ lb } (T)$$

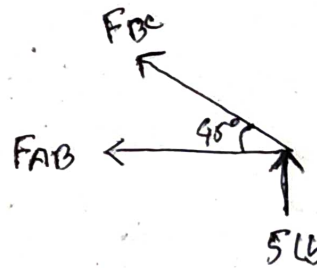
Joint B:

$$\sum F_y = 0 (\uparrow +)$$

$$\Rightarrow 5 + F_{BC} \sin 45^\circ = 0$$

$$\Rightarrow F_{BC} = \frac{-5}{\sin 45^\circ}$$

$$\Rightarrow F_{BC} = -7.07 \text{ lb } (c)$$



member	Force (lb)	Nature
AB	4.0	T
BC	7.07	c
AC	7.07	c