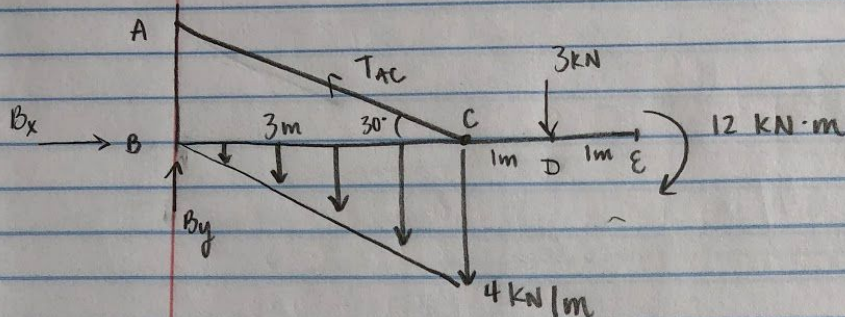


## Quiz #4



Moment about B

$$\sum M_B = 0$$

$$T_{AC} \sin 30^\circ (3) + 3(4) - 12 - 4(3) = 0$$

$$T_{AC} = \frac{4}{\sin 30^\circ} = \boxed{24 \text{ kN}} \leftarrow \text{tension in cable}$$

$$B_y + \sum F_y = 0$$

$$B_y + T_{AC} \sin 30^\circ - 3 - \left(\frac{1}{2}(4)(3)\right) = 0$$

$$B_y + 24 \sin 30^\circ - 3 - 6 = 0$$

$$B_y = -3 \text{ kN} \Rightarrow \boxed{3 \text{ kN}} (\downarrow)$$

$$B_x + \sum F_x = 0$$

$$B_x - T_{AC} \cos 30^\circ = 0$$

$$B_x = 24 \cos 30^\circ = \boxed{20.784 \text{ kN}} (\rightarrow)$$