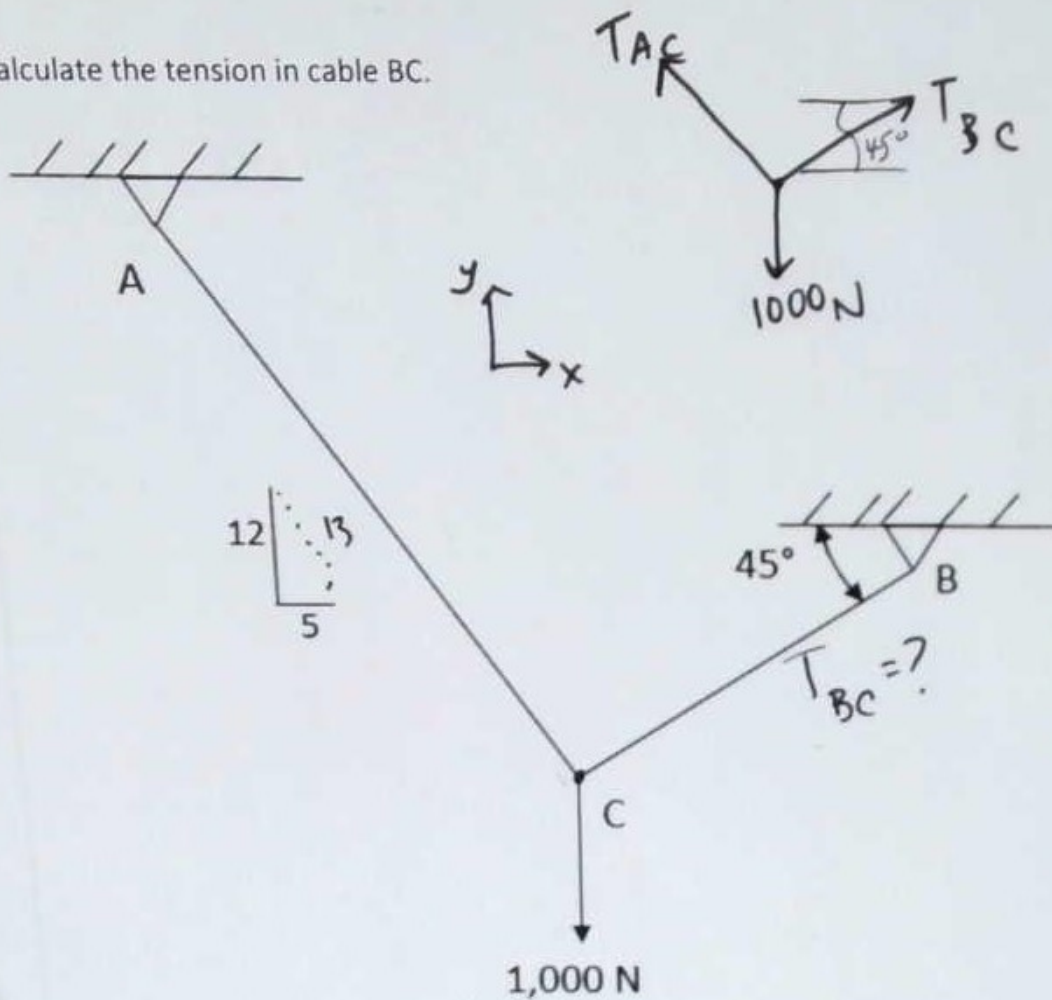


Calculate the tension in cable BC.



$$\sum F_x = 0 = -T_{Ac} \left(\frac{5}{13}\right) + T_{Bc} \cos 45^\circ$$

re arrange

$$T_{Ac} = (T_{Bc} \cos 45^\circ) \left(\frac{13}{5}\right)$$

$$\sum F_y = 0 = -1000 + T_{Ac} \left(\frac{12}{13}\right) + T_{Bc} \sin 45^\circ$$

notice
 $\cos 45^\circ = \sin 45^\circ$

$$1000 = \left[T_{Bc} (\cos 45^\circ) \left(\frac{13}{5}\right) \right] \left(\frac{12}{13}\right) + T_{Bc} \cos 45^\circ$$

$$1000 = T_{Bc} \left[(\cos 45^\circ) \left(\frac{12}{5} + 1\right) \right]$$

$$T_{Bc} = \frac{1000}{(\cos 45^\circ) \left(\frac{12}{5} + 1\right)} = 415.94 \text{ N}$$

$$\boxed{T_{Bc} = 416 \text{ N}}$$