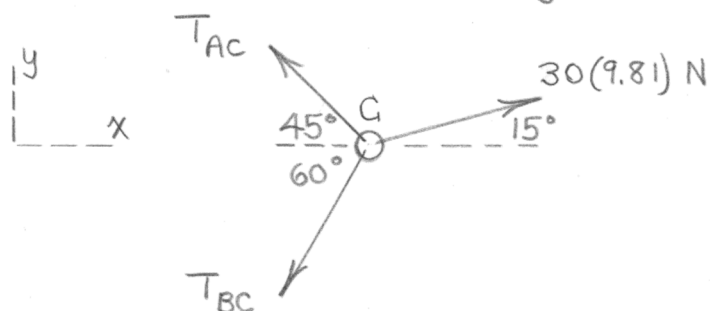


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FBD of junction ring C:



$$\begin{cases} \sum F_x = 0 : -T_{AC} \cos 45^\circ - T_{BC} \cos 60^\circ + 30(9.81) \cos 15^\circ = 0 \\ \sum F_y = 0 : T_{AC} \sin 45^\circ - T_{BC} \sin 60^\circ + 30(9.81) \sin 15^\circ = 0 \end{cases}$$

Solve simultaneously to obtain

$$\begin{cases} T_{AC} = 215 \text{ N} \\ T_{BC} = 264 \text{ N} \end{cases}$$

WILEY