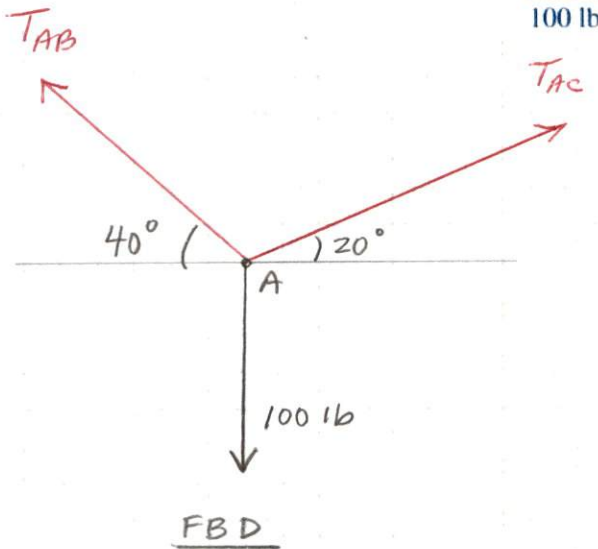
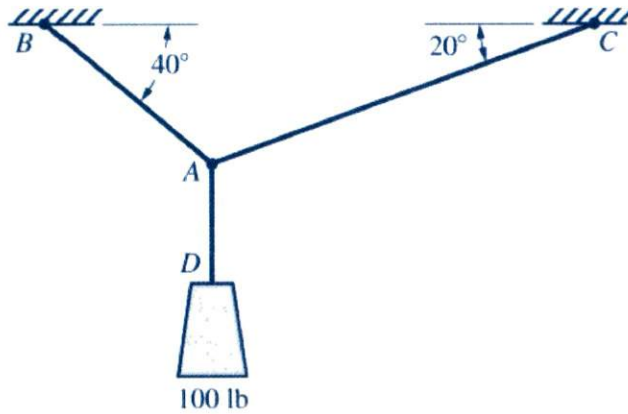


3-24

A 100-lb block is suspended by cables AB and AC as shown in Fig. P3-24. Determine the tension in each cable.

Solution.

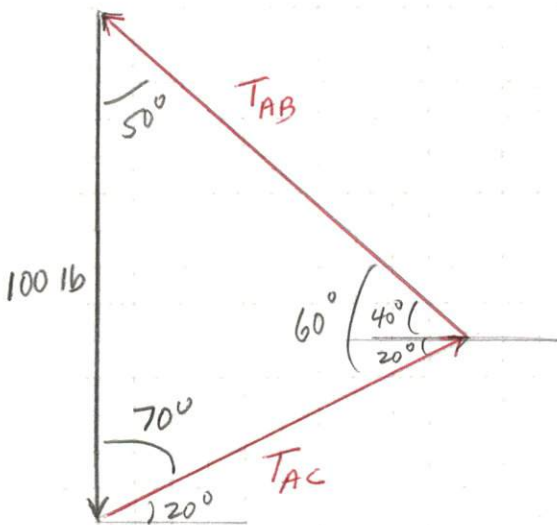


Law of Sines

$$\frac{T_{AB}}{\sin 70^\circ} = \frac{T_{AC}}{\sin 50^\circ} = \frac{100 \text{ lb}}{\sin 60^\circ}$$

$$T_{AB} = \frac{\sin 70^\circ (100 \text{ lb})}{\sin 60^\circ} = 109 \text{ lb}$$

$$T_{AC} = \frac{\sin 50^\circ (100 \text{ lb})}{\sin 60^\circ} = 88.5 \text{ lb}$$



Force-Triangle