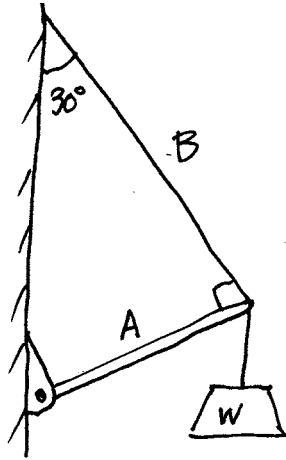
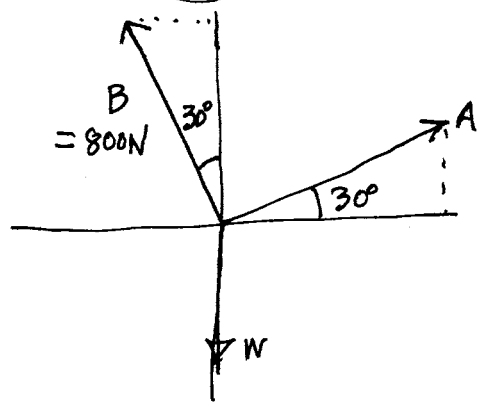


4.9

Free-body diagram:Solving Analytically:

$$\begin{aligned}\sum F_x = 0 &\Rightarrow -800 \sin 30^\circ + A \cos 30^\circ = 0 \\ A \cos 30^\circ &= 800 \sin 30^\circ \\ \frac{\sqrt{3}}{2} A &= \frac{1}{2} 800 \\ \boxed{A = \frac{800}{\sqrt{3}}} &\quad (1)\end{aligned}$$

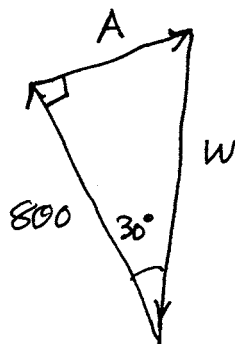
$$\sum F_y = 0 \Rightarrow 800 \cos 30^\circ + A \sin 30^\circ - W = 0$$

$$W = 800 \cos 30^\circ + A \sin 30^\circ$$

$$\text{subst. (1): } W = 800 \left(\frac{\sqrt{3}}{2} \right) + \frac{800}{\sqrt{3}} \left(\frac{1}{2} \right)$$

$$\text{Note that } \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{\sqrt{3}\sqrt{3}} = \frac{\sqrt{3}}{3}$$

$$\begin{aligned}W &= \frac{800}{2} \left(\sqrt{3} + \frac{\sqrt{3}}{3} \right) = \frac{800}{2} \left[\frac{4\sqrt{3}}{3} \right] \\ &= \boxed{924 \text{ N}}\end{aligned}$$

Solving Geometrically:

$$\frac{800}{W} = \cos 30^\circ = \frac{\sqrt{3}}{2}$$

$$800 = \frac{W\sqrt{3}}{2}$$

$$W = \frac{1600}{\sqrt{3}} = \boxed{924 \text{ N}}$$