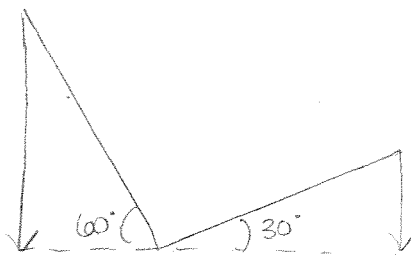


$$W_1 = 5 \text{ N}$$

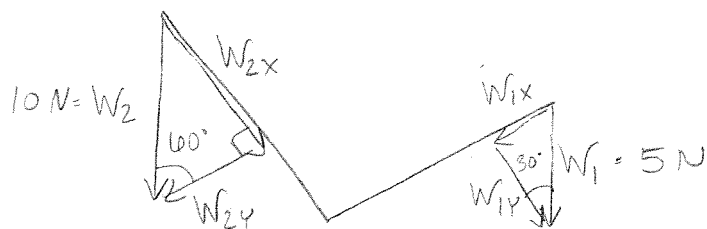
$$\theta_1 = 30^\circ$$

$$W_2 = 10 \text{ N}$$

$$\theta_2 = 60^\circ$$



Resolve Weights into components:



W_{2x} and W_{1x} are parallel and not needed

$$\begin{aligned} W_{1y} &= W_1 \cdot \cos \theta \\ &= (5 \text{ N}) \cdot \cos 30^\circ \\ &= 4.3 \text{ N} \end{aligned}$$

$$\begin{aligned} W_{2y} &= W_2 \cdot \cos \theta \\ &= (10 \text{ N}) \cdot \cos 60^\circ \\ &= 5 \text{ N} \end{aligned}$$

$$\begin{aligned} \text{a) } W_{1y} &= 4.3 \text{ N} \\ r &= .75 \text{ m} \end{aligned}$$

$$\begin{aligned} \tau &= W_{1y} \cdot r \\ &= (4.3 \text{ N}) \cdot (.75 \text{ m}) \end{aligned}$$

$$\boxed{\tau = 3.25 \text{ N}\cdot\text{m}} \quad (\text{cw})$$

$$\begin{aligned} \text{b) } W_{2y} &= 5 \text{ N} \\ r &= .75 \text{ m} \end{aligned}$$

$$\begin{aligned} \tau &= W_{2y} \cdot r \\ &= (5 \text{ N}) \cdot (.75 \text{ m}) \end{aligned}$$

$$\boxed{\tau = 3.75 \text{ N}\cdot\text{m}} \quad (\text{ccw})$$