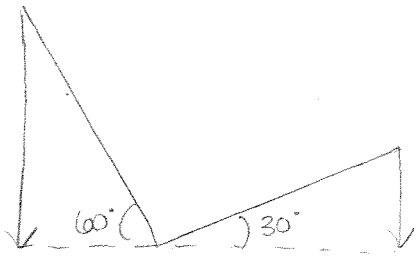
P #B

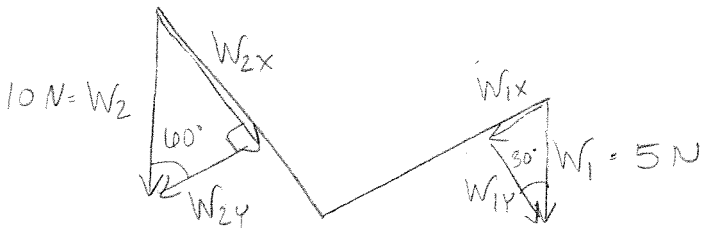
Ch 8 - Worksheet

$W_1 = 5\ N$
$\theta_1 = 30°$

$W_2 = 10\ N$
$\theta_2 = 60°$



Resolve Weights into components:



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

$W_{1y} = W_1 \cdot \cos\theta$
$= (5\ N) \cdot \cos 30°$
$= 4.3\ N$

$W_{2y} = W_2 \cdot \cos\theta$
$= (10\ N) \cdot \cos 60°$
$= 5\ N$

a) $W_{1y} = 4.3\ N$
$r = .75\ m$

$\tau = W_{1y} \cdot r$
$= (4.3\ N)(.75\ m)$

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

b) $W_{2y} = 5\ N$
$r = .75\ m$

$\tau = W_{2y} \cdot r$
$= (5\ N)(.75\ m)$

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