

46. We compute the torques using  $\tau = rF \sin \phi$ .

$$\tau_a = (0.152 \text{ m})(111 \text{ N}) \sin 30^\circ = 8.4 \text{ N}\cdot\text{m}$$

$$\tau_b = (0.152 \text{ m})(111 \text{ N}) \sin 90^\circ = 17 \text{ N}\cdot\text{m}$$

$$\tau_c = (0.152 \text{ m})(111 \text{ N}) \sin 180^\circ = 0$$