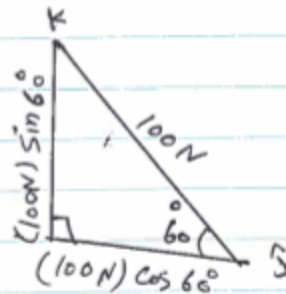
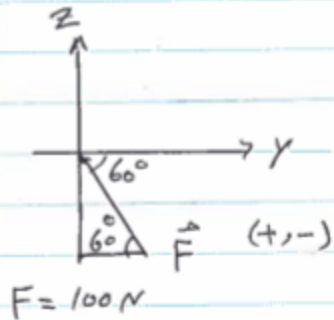
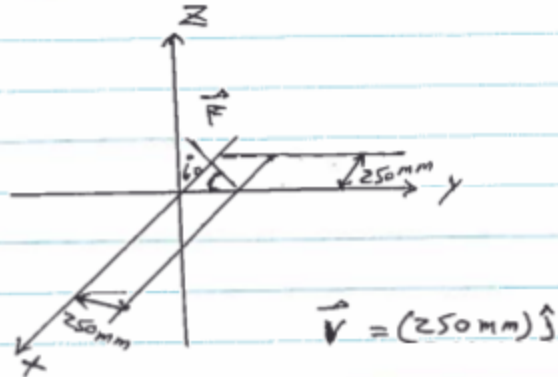


METC-50-III Juddo Abaker
H-W #4-58



$$\vec{F} = (50\text{ N})\hat{j} - (50\sqrt{3}\text{ N})\hat{k}$$

$$\frac{250\text{ mm}}{1000\text{ m}} = 0.25\text{ m}$$

$$\vec{T} = \vec{r} \times \vec{F}$$

$$= (0.25\text{ m})(+50\sqrt{3}\text{ N})\hat{k}$$

$$= 21.65\text{ N}\cdot\text{m}$$

$$= 21.7\text{ N}\cdot\text{m}$$

$$\vec{\tau}_B = \vec{r}_B \cdot \vec{F}_B$$

$$= \begin{vmatrix} \hat{i} & \hat{j} & \hat{k} \\ 0 & 0.25 \text{ m} & 0 \\ 0 & 50 \text{ N} & -50\sqrt{3} \text{ N} \end{vmatrix}$$

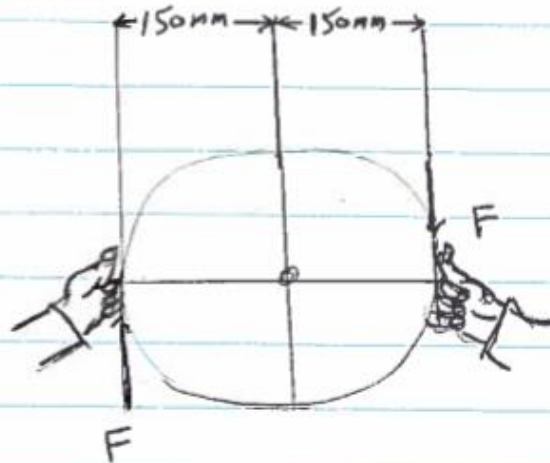
$$\hat{i} = (50 \text{ N})$$

$$\hat{j} = (0.25 \text{ m})(-50\sqrt{3}) \text{ N} - (0)(50 \text{ N}) - (0)(-50\sqrt{3} \text{ N})$$

$$+ (0)(50 \text{ N}) - (0)(0.25 \text{ m})$$

$$\hat{j} = (0.25 \text{ m})(-50\sqrt{3}) \text{ N} = -21.65 \text{ N}\cdot\text{m}$$

H-W # 4.75



$$d = 300 \text{ mm} \quad \frac{300 \text{ mm}}{1000 \text{ m}} = 0.3 \text{ m} \rightarrow 0.3 \text{ m}$$

$$M = 25 \text{ N}\cdot\text{m}$$

$$M = dF$$

$$F = \frac{M}{d}$$

$$F = \frac{25 \text{ N}\cdot\text{m}}{0.3 \text{ m}} = 83.33 \text{ N}$$