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$$\underline{F} = 400(-\cos 30^\circ \underline{i} + \sin 30^\circ \underline{j})$$

$$= -346\underline{i} + 200\underline{j} \text{ N}$$

Scalar components: $F_x = -346$ N, $F_y = 200$ N

Vector components: $\underline{F}_x = -346\underline{i}$ N, $\underline{F}_y = 200\underline{j}$ N

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$$\underline{F} = F\underline{n}_{AB} = 34\left[\frac{15\underline{i} + 8\underline{j}}{\sqrt{15^2+8^2}}\right]$$

$$= 30\underline{i} + 16\underline{j} \text{ kN}$$

Scalar components: $\begin{cases} F_x = 30 \text{ kN} \\ F_y = 16 \text{ kN} \end{cases}$

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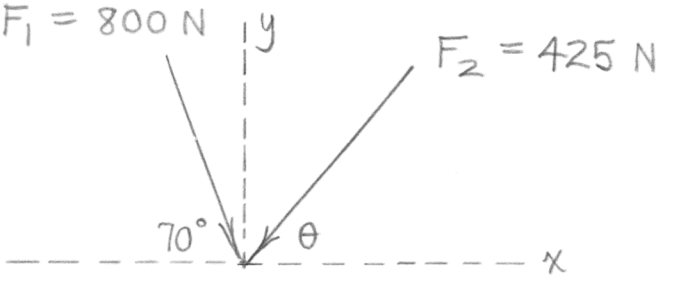

$$R_x = \Sigma F_x = 800 \cos 70^\circ - 425 \cos\theta = 0$$

$$\theta = 49.9^\circ$$

$$R_y = \Sigma F_y = -800 \sin 70^\circ - 425 \sin 49.9^\circ$$

$$= -1077 \text{ N}$$

So $R = 1077$ N

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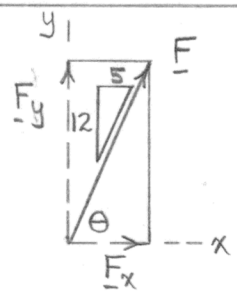

$\cos\theta = \frac{5}{13}$, $\sin\theta = \frac{12}{13}$

$F_y = F\sin\theta = F\frac{12}{13} = 320$ N

$F = 347$ N

$F_x = F\cos\theta = 347\left(\frac{5}{13}\right) = 133.3$ N

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$$R_x = \Sigma F_x = 400 + 400 \cos 60^\circ = 600 \text{ N}$$

$$R_y = \Sigma F_y = 400 \sin 60^\circ = 346 \text{ N}$$

$$\Rightarrow \underline{R} = 600\underline{i} + 346\underline{j} \text{ N}$$

$$R = \sqrt{600^2 + 346^2} = \underline{693 \text{ N}}$$

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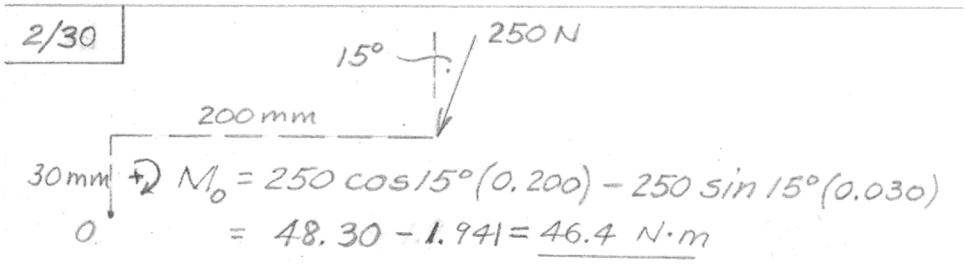

$$\curvearrowright + \quad M_O = 250\cos 15°(0.200) - 250\sin 15°(0.030)$$

$$= 48.30 - 1.941 = \underline{46.4\ \text{N}\cdot\text{m}}$$

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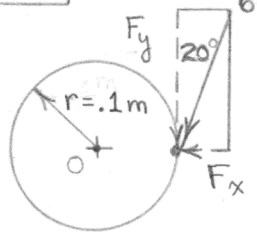

$$60\,\text{N} + \circlearrowleft M_O = r F_y$$
$$= (0.1)(60 \cos 20°)$$
$$= 5.64\ \text{N}\cdot\text{m}$$

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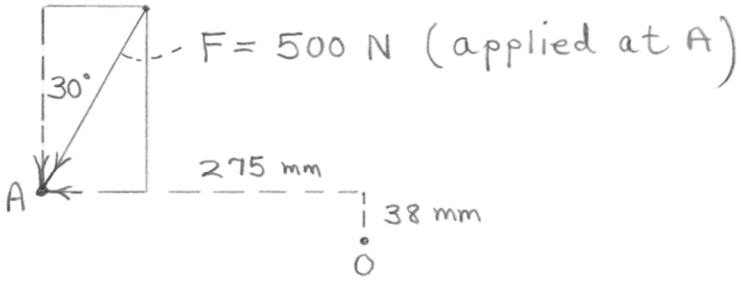

$$\curvearrowleft M_O = 500 \cos 30^\circ (0.275) + 500 \sin 30^\circ (0.038)$$

$$= \underline{128.6 \text{ N·m} \quad \text{CCW}}$$