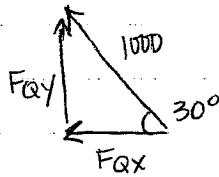
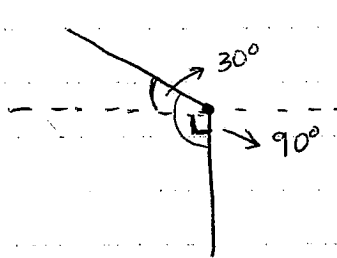


$$\theta = 120^\circ$$

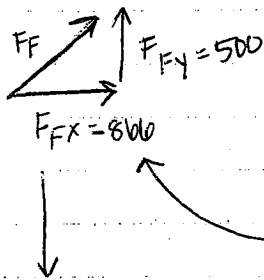
$$\sum F_x = 0 = F_{Qx} + F_{Px} + F_{Fx} = 0$$

$$\sum F_y = 0 = F_{Qy} + F_{Py} + F_{Fy} = 0$$



$$F_{Qy} = \sin 30 \times 1000 \text{ N} = 500 \text{ N}$$

$$F_{Qx} = \cos 30 \times 1000 \text{ N} = 866 \text{ N}$$



$$\sum F_x = 0 = -866 + F_{Fx} = 0$$

$$\sum F_y = 0 = 500 - 1000 + F_{Fy} = 0$$

$$\left\{ \begin{array}{l} F_{Qy} = \sin 30 \times 1000 \text{ N} = 500 \text{ N} \\ F_{Qx} = \cos 30 \times 1000 \text{ N} = 866 \text{ N} \end{array} \right.$$

$$500^2 + 866^2 = F_F^2$$

$$F_F = 999.97 \approx 1000$$