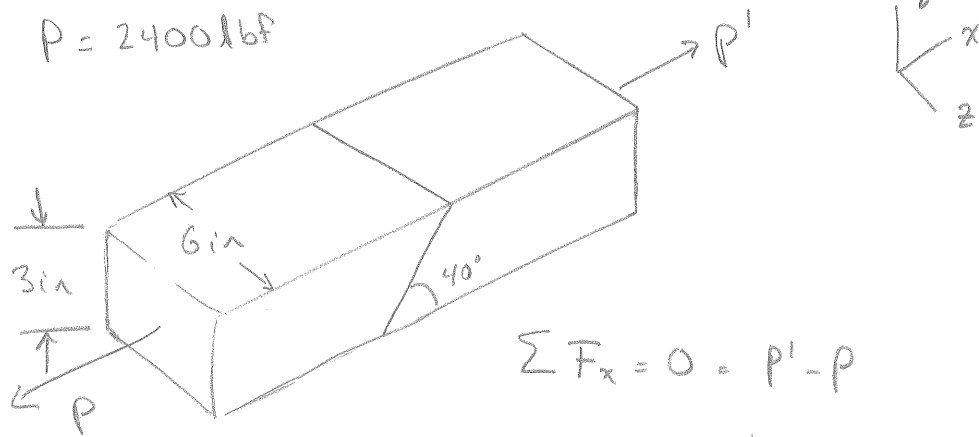


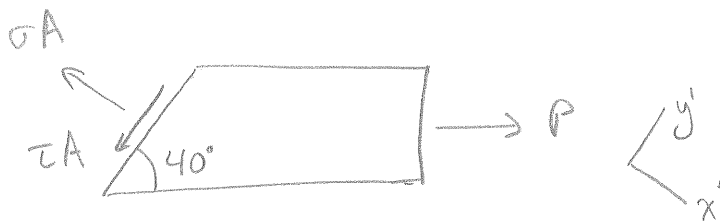
8.25)

$$P = 2400 \text{ lbf}$$



$$\sum F_x = 0 = P' - P$$

$$\Rightarrow P' = P$$



$$\sum F_{x'} = -\sigma A + P \sin 40^\circ = 0$$

$$\sum F_{y'} = -\tau A + P \cos 40^\circ = 0$$

$$A = \left( \frac{3 \text{ in}}{\sin 40^\circ} \right) (6 \text{ in})$$

$$\sigma = \frac{P}{A} \sin 40^\circ = \frac{2400 \text{ lbf}}{(3 \text{ in})(6 \text{ in})} \sin^2 40^\circ$$

$$\tau = \frac{P}{A} \cos 40^\circ = \frac{2400 \text{ lbf}}{(3 \text{ in})(6 \text{ in})} \sin 40^\circ \cos 40^\circ$$

$$\sigma = 55.1 \text{ psi} \quad \tau = 65.7 \text{ psi}$$