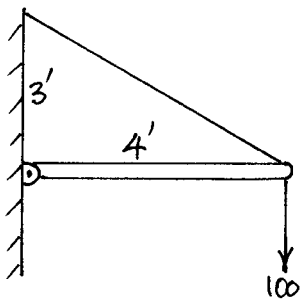
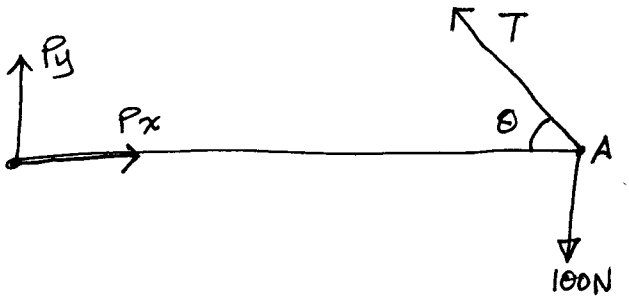
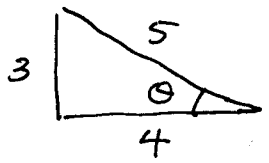
2.





To get θ, we notice a 3,4,5 right triangle:



$$\Rightarrow \begin{cases} \sin\theta = \frac{3}{5} \\ \cos\theta = \frac{4}{5} \end{cases}$$

$$\Sigma F_x = 0 \Rightarrow P_x - T\cos\theta = 0$$

$$P_x - \frac{4}{5}T = 0$$

$$P_x = \frac{4}{5}T \quad (1)$$

$$\Sigma \tau_A = 0 \Rightarrow -P_y(4) = 0$$

$$\boxed{P_y = 0}$$

This result makes sense because the bar is weightless.

$$\Sigma F_y = 0 \Rightarrow \cancel{P_y}^{\,0} + T\sin\theta - 100 = 0$$

$$\frac{3}{5}T = 100$$

$$\boxed{T = \frac{500}{3}\text{ N}}$$

Combining (1) & (2):

$$P_x = \frac{4}{5}\left(\frac{500}{3}\right) = \boxed{\frac{400}{3}\text{ N}}$$

Note: Try re-doing this problem by taking torques about the other end of the bar.