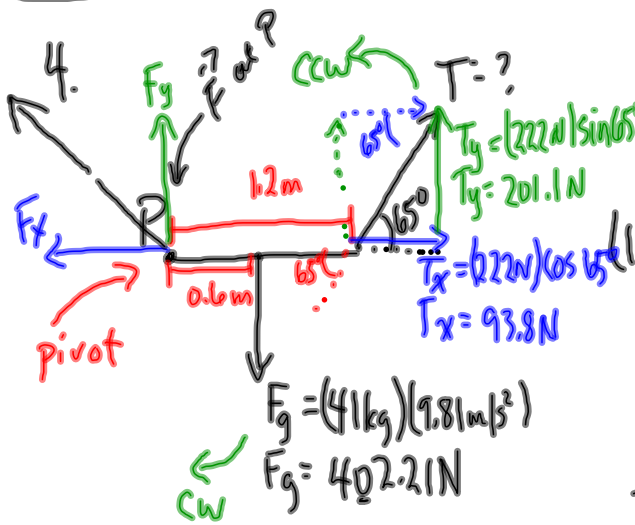


FOP/PP (from HW)



Net Torque = ZERO

$$\sum \tau_{ccw} = \sum \tau_{cw}$$

$$\tau_T = \tau_{door}$$

$$(1.2m)T(\sin 65^\circ) = (0.6m)(402.21N)$$

$$T = \frac{(0.6m)(402.21N)}{(1.2m)(\sin 65^\circ)}$$

$$T = 2.2 \times 10^2 N$$

RECALL:  $\tau = rF \sin \theta$

Vertically:

$$F_y + T_y = F_g$$

$$F_y + 201.1N = 402.21N$$

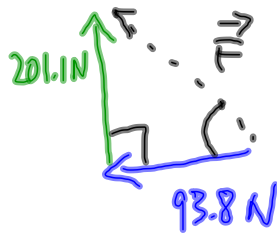
$$F_y = 201.1N \quad \uparrow \text{up}$$

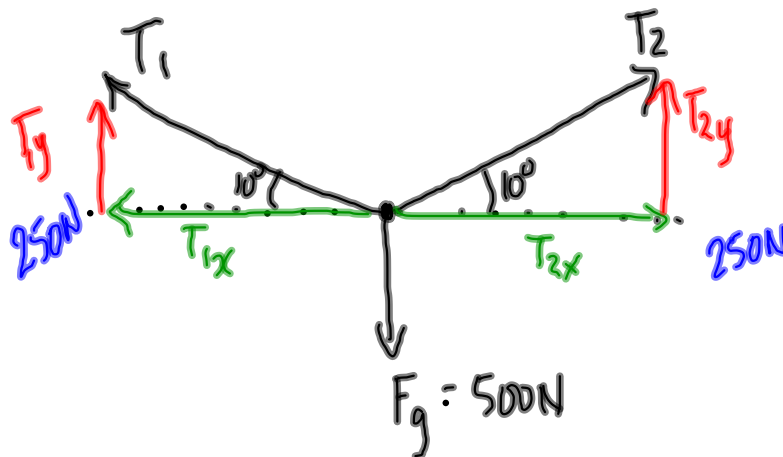
Horizontally:

$$F_x = T_x$$

$$F_x = 93.8N$$

$$9.4 \times 10^1 N \quad \leftarrow \text{left}$$





Not a torque  
problem!  
 $\vec{F}_{net} = 0$

Horizontally:  $T_{1x} = T_{2x}$   
 $T_1 \cos 10^\circ = T_2 \cos 10^\circ$   
 $T_1 = T_2$

Vertically:  $T_{1y} + T_{2y} = F_g$   
 $T_1 \sin 10^\circ + T_2 \sin 10^\circ = 500\text{N}$   
 $T_2 \sin 10^\circ + T_2 \sin 10^\circ = 500\text{N}$   
 $2T_2 \sin 10^\circ = 500\text{N}$

$$T_2 = \frac{500\text{N}}{(2 \sin 10^\circ)}$$

$$T_2 = 1.4 \times 10^3 \text{ N} = T_1$$

### TO DO

- FOP | PP (Finish)
- Assignment
- PP/501 (Torque)