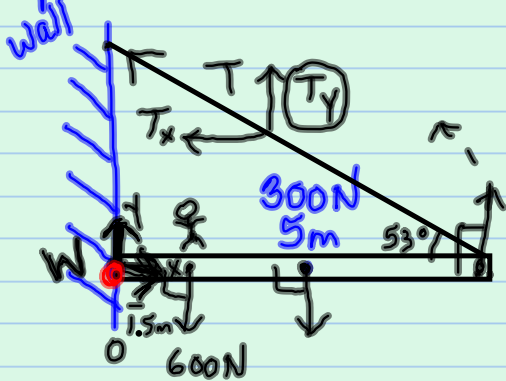


p 227 Ex. 8.5



equil. = 0

$$\begin{aligned} \textcircled{1} \sum F_x &= W_x - T \cos 53 = 0 \\ W_x - 413 \cos 53 &= 0 \\ W_x &= 249 \text{ N} \\ \textcircled{2} \sum F_y &= W_y + T \sin 53 - 600 - 300 = 0 \\ W_y &= 900 - 413 (.8) = 570 \text{ N} \\ \textcircled{3} \sum \tau_w &= -600(1.5) - 300(2.5) \\ &\quad + T \sin 53 (5) = 0 \\ -900 - 750 + T(4) &= 0 \\ T &= \frac{1650}{4} = 413 \text{ N} \end{aligned}$$

$$\tau \text{ torque} = F \cdot r$$

pin
x & y comp
of F

draw x →
y ↑

Free Body
Diagram

$$F \cdot r = \tau$$

CCW +
CW -

use ⊥
comp.