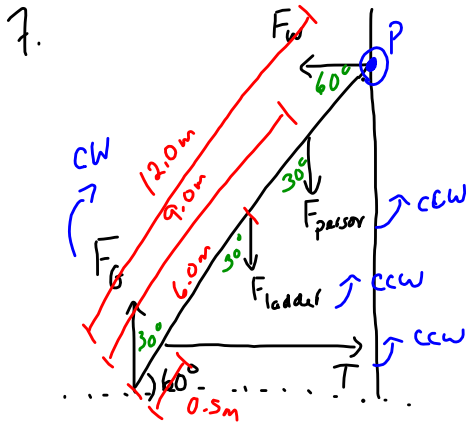


86-3 FOP/PP

Choose the top as the pivot:



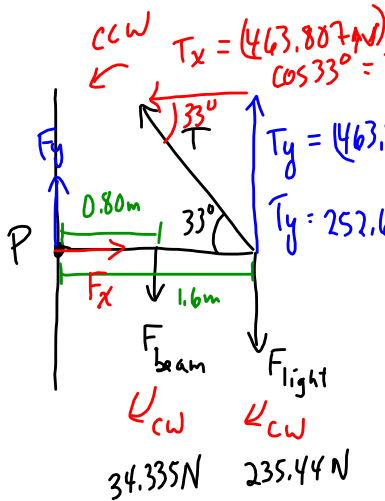
$$\sum \tau_{ccw} = \sum \tau_{cw}$$

$$\tau_T + \tau_{ladder} + \tau_{person} = \tau_G$$

PP/501

a) Find the tension:

33.



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

$$\tau_T = \tau_{beam} + \tau_{light}$$

$$(1.6m)T(\sin 33^\circ) = (0.80m)(34.335N) + (1.6m)(235.44N)$$

$$T = 463.807N$$

$$T = 4.6 \times 10^2 N$$

Vertically: $F_y + T_y = F_{beam} + F_{light}$

$$F_y = 34.335N + 235.44N - 252.608N$$

$$F_y = 17.167N$$

Horizontally:

$$F_x = T_x$$

$$F_x = 388.981N$$

