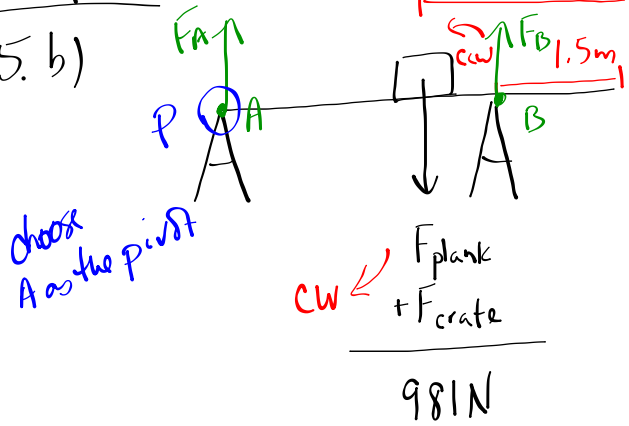


FOP (96-3)

5. b)



choose A as the pivot

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

$$\tau_B = \tau_{\text{plank} + \text{crate}}$$

$$F_B (4.5\text{m}) = (981\text{N})(3.0\text{m})$$

$$F_B = 6.5 \times 10^2 \text{ N}$$

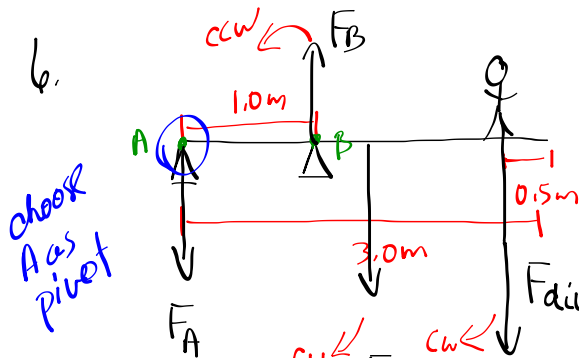
Vertically

$$F_A + F_B = F_{\text{plank}} + F_{\text{crate}}$$

$$F_A + 654\text{N} = 981\text{N}$$

$$F_A = 3.3 \times 10^2 \text{ N}$$

6.



choose A as pivot

$$F_{\text{diver}} = (46\text{kg})(9.81\text{m/s}^2) = 451.26\text{N}$$

$$F_{\text{board}} = (26\text{kg})(9.81\text{m/s}^2)$$

$$F_{\text{board}} = 255.06\text{N}$$

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

$$\tau_B = \tau_{\text{diver}} + \tau_{\text{board}}$$