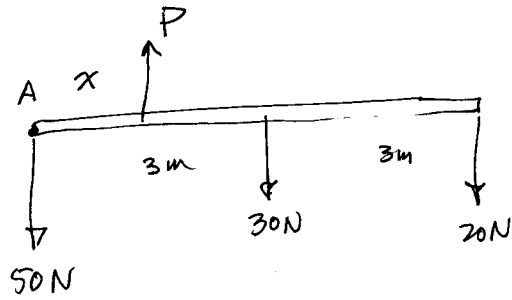


5.31



$$\sum F_y = 0 \Rightarrow P = 50 + 30 + 20 = 100 \text{ N}$$

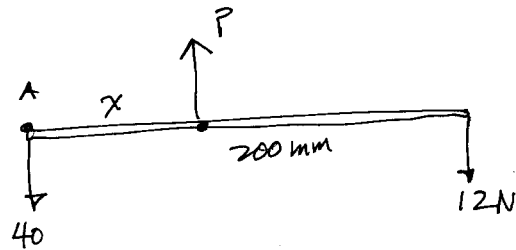
$$+\curvearrowleft \sum \tau_A = 0 \Rightarrow P(x) - 3(30) - 6(20) = 0$$

$$100x = 90 + 120$$

$$100x = 210$$

$$x = 2.1 \text{ m}$$

5.32



$$\sum F_y = 0 \Rightarrow P = 40 + 12 = 52 \text{ N}$$

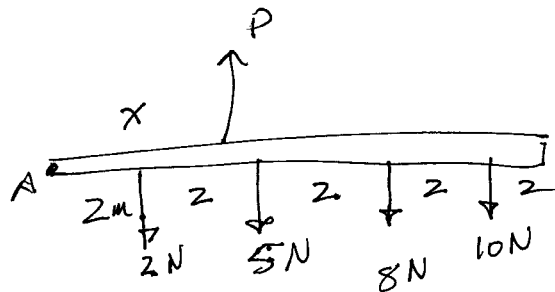
$$\sum \tau_A = 0 \Rightarrow +Px - 200(12) = 0$$

$$52x = (200)(12)$$

$$52x = 2400$$

$$x = \frac{2400}{52} = 46.2 \text{ mm}$$

5.33



$$\sum F_y = 0 \Rightarrow P = 2 + 5 + 8 + 10 = 25 \text{ N}$$

$$\sum \tau_A = 0 \Rightarrow xP = 2(2) + 4(5) + 6(8) + 8(10)$$

$$25x = 4 + 20 + 48 + 80$$

$$25x = 152$$

$$x = 6.08 \text{ m}$$