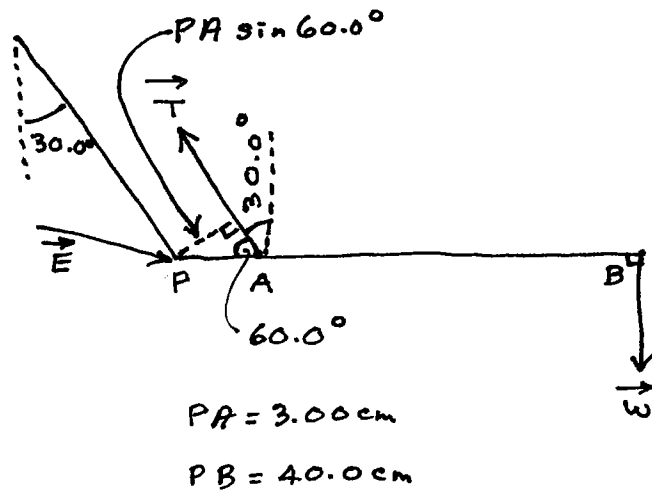


Exercise 9-12

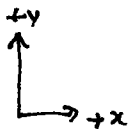


$$\sum \tau = 0 \text{ about } P. \quad \curvearrowright +$$

$$\therefore E(0) + (T)(PA \sin 60.0^\circ) - w(PB) = 0$$

$$\therefore T = \frac{w(PB)}{PA \sin 60.0^\circ} = \frac{150(40.0)}{3.00 \sin 60.0^\circ} = 2.31 \times 10^3 \text{ N}$$

(2,309 N)



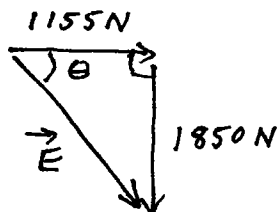
$$\sum F_x = 0 \text{ and } \sum F_y = 0$$

$$\therefore E_x - T \cos 60.0^\circ = 0$$

$$\Rightarrow E_x = 1155 \text{ N}$$

$$\sum F_y = 0 \Rightarrow E_y + T \sin 60.0^\circ - w = 0$$

$$\Rightarrow E_y = -1850 \text{ N}$$



$$\Rightarrow E = 2.18 \times 10^3 \text{ N}$$

$$\Theta = 58.0^\circ$$