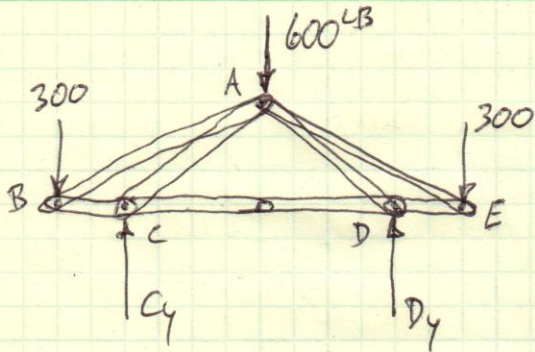


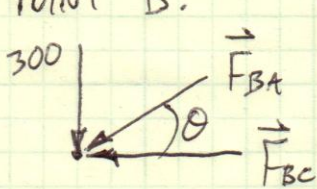
PROB. 6-5



$$C_y = D_y = \frac{1}{2}(300 + 600 + 300)$$

$$C_y = 600 \text{ lb} = D_y$$

POINT B:



$$\theta = \text{TAN}^{-1}\left(\frac{6}{12}\right) = 26.56^\circ$$

$$\vec{F}_{BA} = (-F_{BA} \cdot \cos 26.56^\circ) \hat{i} + (-F_{BA} \cdot \sin 26.56^\circ) \hat{j}$$

$$\vec{F}_{BA} = (-0.8944 F_{BA}) \hat{i} + (-0.4471 F_{BA}) \hat{j} \text{ lb}$$

$$\sum F_x = 0: -0.8944 F_{BA} - F_{BC} = 0$$

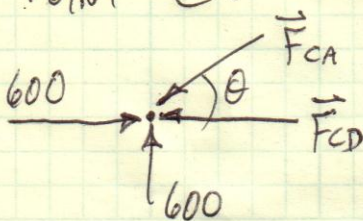
$$\sum F_y = 0: -300 - 0.4471 F_{BA} = 0$$

$$F_{BA} = -671 \text{ lb } (\text{T}) = F_{AE}$$

$$F_{BC} = -0.8944(-671)$$

$$F_{BC} = 600 \text{ lb } (\text{C}) = F_{DE}$$

POINT C:



$$\theta = \text{TAN}^{-1}\left(\frac{6}{8}\right) = 36.87^\circ$$

PROB. 6-5 CONT.

$$\vec{F}_{CA} = (-F_{CA} \cos 36.87^\circ) \hat{i} + (-F_{CA} \sin 36.87^\circ) \hat{j}$$

$$\vec{F}_{CA} = (-0.8 F_{CA}) \hat{i} + (-0.6 F_{CA}) \hat{j} \quad \text{LB}$$

$$\sum F_x = 0: 600 - F_{CD} - 0.8 F_{CA} = 0$$

$$\sum F_y = 0: 600 - 0.6 F_{CA} = 0$$

$$F_{CA} = 1000 \text{ LB } \textcircled{C} = F_{DA}$$

$$F_{CD} = 600 - 0.8(1000)$$

$$F_{CD} = -200 \text{ LB } \textcircled{T}$$