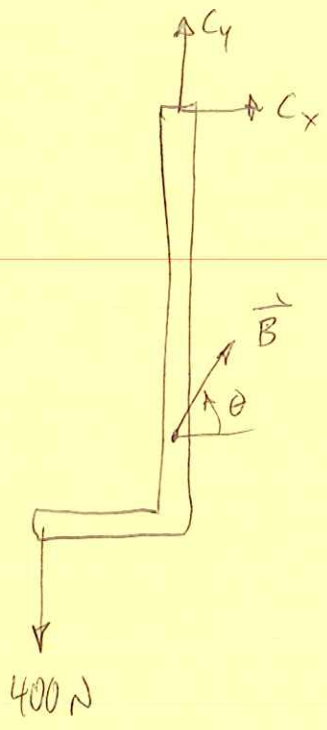
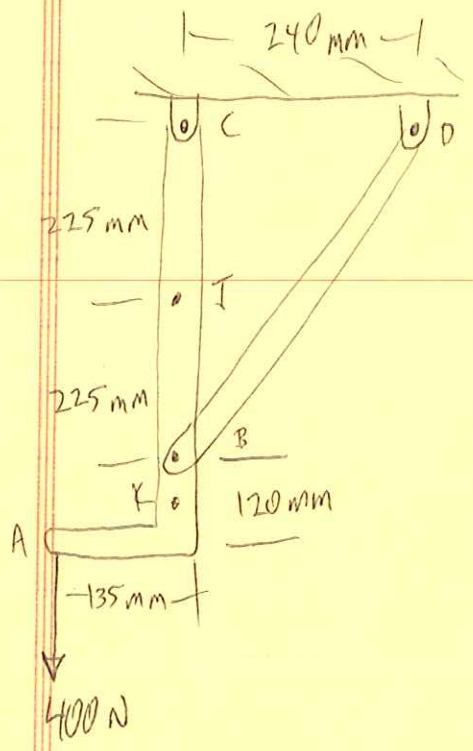


EXAMPLE PROB. 7.5



$$\theta = \text{TAN}^{-1}\left(\frac{450}{240}\right) = 61.9^\circ$$

$$\vec{B} = (\cos 61.9^\circ B) \hat{i} + (\sin 61.9^\circ B) \hat{j} \text{ N}$$

$$\vec{B} = (0.47 B) \hat{i} + (0.882 B) \hat{j}$$

$$\sum M_c = 0 \quad +\uparrow :$$

$$(135 \text{ mm})(400 \text{ N}) + (450 \text{ mm})(0.47 B) = 0$$

$$B = -255 \text{ N}$$

$$\sum F_x = 0 :$$

$$C_x + 0.47B = 0$$

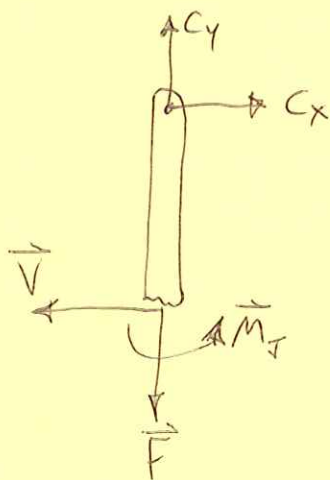
$$C_x = -0.47(-255) = 120 \text{ N}$$

$$\Sigma F_y = 0 :$$

$$C_y + 0.882B - 400 = 0$$

$$C_y = 400 - 0.882(-255) = 625 \text{ N}$$

FBD OF CJ:



$$\Sigma F_y = 0 :$$

$$C_y - F = 0$$

$$F = C_y = 625 \text{ N}$$

$$\Sigma F_x = 0 : C_x - V = 0$$

$$V = C_x = 120 \text{ N}$$

$$\Sigma M_J = 0 : +\curvearrowright$$

$$M_J - 225C_x = 0 \quad M_J = (225)(120) = 2.7 \times 10^4 \text{ N-mm} \\ = 27 \text{ N-m}$$