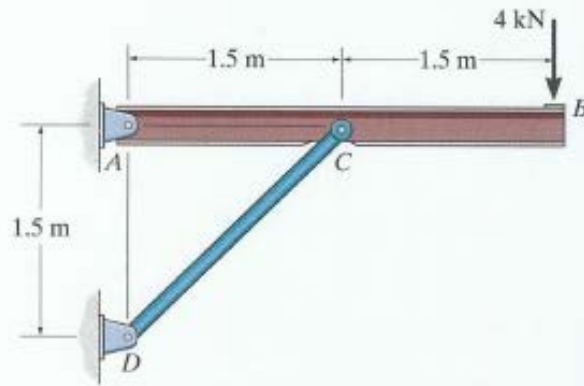
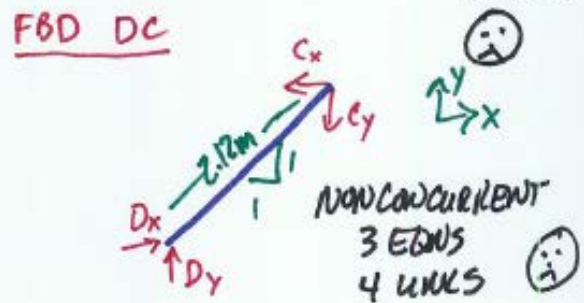
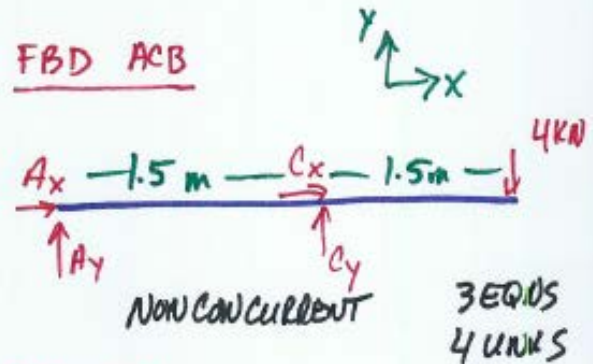


2D Equilibrium of a Body III

Determine the horizontal and vertical components of the reaction at A and the reaction on the beam at C.



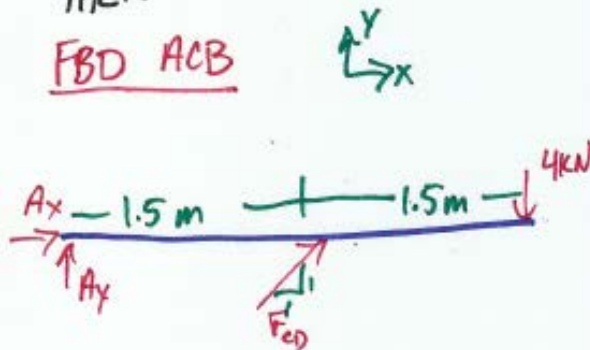
FP05_02.jpg
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BUT CONSIDER DC AS
A 2-FORCE MEMBER!

THEN

FBD ACB



NON CONCURRENT
3 EQNS
3 UNKS
😊

$$\begin{aligned} \sum M_A &= 0 \\ F_{cd} \frac{1}{\sqrt{2}} (1.5) - 3(4) &= 0 \\ F_{cd} &= 11.31 \text{ kN } \angle 45^\circ \end{aligned}$$

$$\begin{aligned} \sum F_x &= 0 \\ A_x + F_{cd} \frac{1}{\sqrt{2}} &= 0 \\ A_x &= -8 \text{ kN} = 8 \text{ kN} \leftarrow \end{aligned}$$

$$\begin{aligned} \sum F_y &= 0 \\ A_y + F_{cd} \frac{1}{\sqrt{2}} - 4 &= 0 \\ A_y &= -4 \text{ kN} = 4 \text{ kN} \downarrow \end{aligned}$$