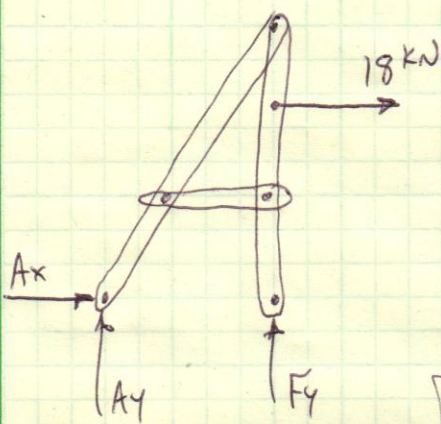


FBD: ENTIRE FRAME



$$\sum F_x = 0: 18 + A_x = 0$$

$$A_x = -18 \text{ kN} \leftarrow$$

$$\sum F_y = 0: F_y + A_y = 0 \quad \text{EQN. (1)}$$

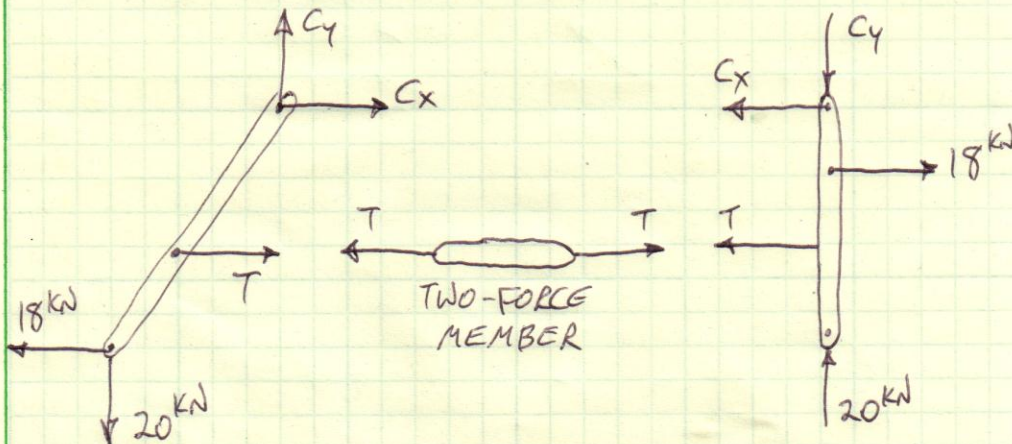
$$\sum M_A = 0 \curvearrowright:$$

$$-(18 \text{ kN})(4 \text{ m}) + F_y(3.6 \text{ m}) = 0$$

$$F_y = 20 \text{ kN} \uparrow$$

$$A_y = -20 \text{ kN} \downarrow$$

FBD: DISASSEMBLE FRAME



ABC:

$$\Sigma F_x = 0: C_x - 18 + T = 0, \quad \boxed{C_x = 18 - T} \quad \text{EQN. (2)}$$

$$\Sigma F_y = 0: C_y - 20 = 0, \quad \boxed{C_y = 20 \text{ kN} \uparrow}$$

$$\Sigma M_c = 0 \uparrow: T(4 \text{ m}) + (20 \text{ kN})(3.6 \text{ m}) - (18 \text{ kN})(6 \text{ m}) = 0$$

$$\boxed{T = 9 \text{ kN} \rightarrow}$$

$$\text{EQN. (2): } \boxed{C_x = 18 - 9 = 9 \text{ kN} \rightarrow}$$

CHECK: CDEF

$$\Sigma F_x = 0: 18 - 9 - 9 \stackrel{\checkmark}{=} 0$$

$$\Sigma F_y = 0: 20 - 20 \stackrel{\checkmark}{=} 0$$

$$\Sigma M_c = 0 \uparrow: (18 \text{ kN})(2 \text{ m}) - (9 \text{ kN})(4 \text{ m}) \stackrel{\checkmark}{=} 0$$