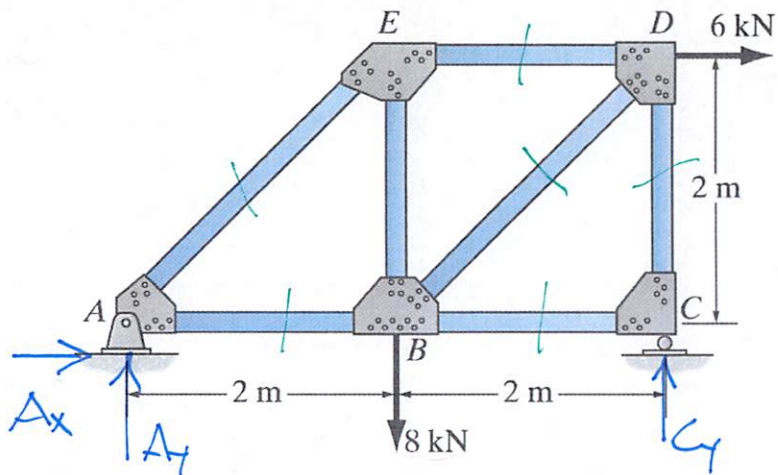


Example 3b-4. Determine all the forces in the following truss.



$$\sum M_A = 0 = -8 \text{ kN}(2 \text{ m}) - 6 \text{ kN}(2 \text{ m}) + C_y(4 \text{ m})$$

$$C_y = 7 \text{ kN}$$

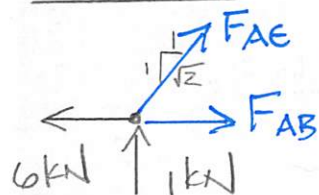
$$\sum F_y = 0 = A_y + C_y - 8 \text{ kN}$$

$$A_y = 1 \text{ kN}$$

$$\sum F_x = 0 = A_x + 6 \text{ kN}$$

$$A_x = -6 \text{ kN}$$

JOINT A



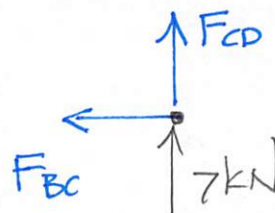
$$\sum F_y = 0 = \frac{1}{\sqrt{2}} F_{AE} + 1 \text{ kN}$$

$$F_{AE} = -1.41 \text{ kN}$$

$$\sum F_x = 0 = F_{AB} + \frac{1}{\sqrt{2}} F_{AE} - 6 \text{ kN}$$

$$F_{AB} = 7 \text{ kN}$$

JOINT C

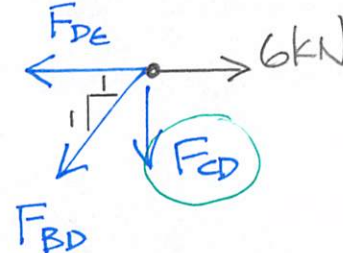


$$\sum F_y = 0 = F_{CD} + 7 \text{ kN}$$

$$F_{CD} = -7 \text{ kN}$$

$$\sum F_x = 0 = -F_{BC}$$

JOINT D



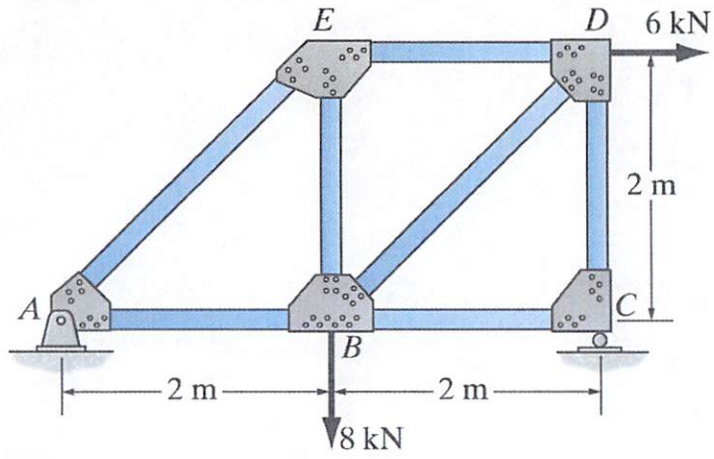
$$\sum F_y = 0 = -F_{CD} - \frac{1}{\sqrt{2}} F_{BD}$$

$$F_{BD} = 9.9 \text{ kN}$$

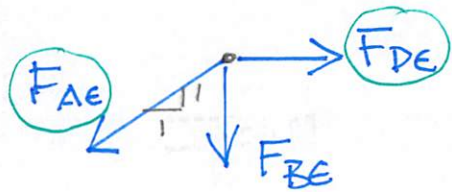
$$\sum F_x = 0 = -F_{DE} + 6 \text{ kN} - \frac{1}{\sqrt{2}} F_{BD}$$

$$F_{DE} = -1 \text{ kN}$$

Example 3b-4. Determine all the forces in the following truss.



JOINT E



$$+\uparrow \sum F_y = 0 = -F_{BE} - \frac{1}{\sqrt{2}} F_{AE}$$

$$\underline{\underline{F_{BE} = 1 \text{ kN}}}$$