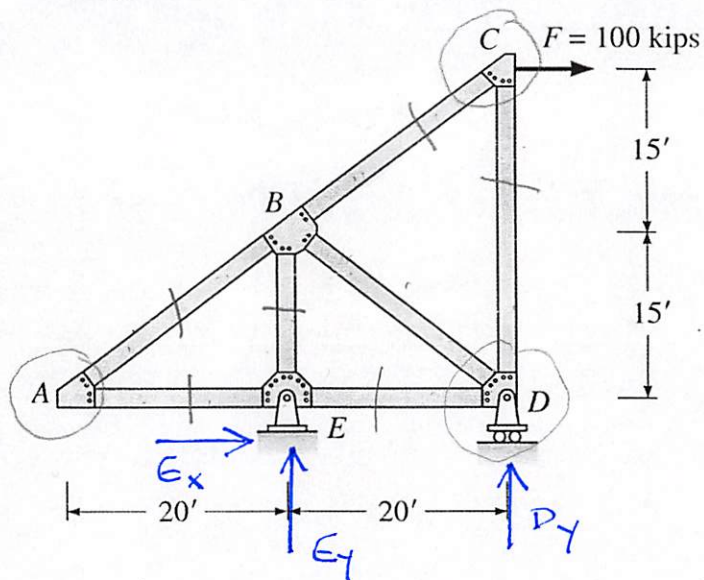


Example 3b-3. Determine all the forces in the following truss.



$$\sum M_E = 0 = -100^k(30\text{ft}) + D_y(20\text{ft}) \quad \underline{D_y = 150^k}$$

$$+\uparrow \sum F_y = 0 = E_y + D_y \quad \underline{E_y = -D_y = -150^k}$$

$$+\rightarrow \sum F_x = 0 = E_x + 100^k \quad \underline{E_x = -100^k}$$

JOINT A

$$+\uparrow \sum F_y = 0$$

$$= \frac{4}{5} F_{AB} = 0$$

$$\underline{F_{AB} = 0}$$

$$+\rightarrow \sum F_x = 0$$

$$= F_{AE} + \frac{3}{5} F_{AB}$$

$$\underline{F_{AE} = 0}$$

JOINT C

$$+\rightarrow \sum F_x = 0$$

$$= -\frac{3}{5} F_{BC} + 100^k$$

$$\underline{F_{BC} = 125^k}$$

$$+\uparrow \sum F_y = 0$$

$$= -F_{CD} - \frac{4}{5} F_{BC}$$

$$\underline{F_{CD} = -75^k}$$

JOINT E

$$+\uparrow \sum F_y = 0$$

$$= F_{BE} - 150^k$$

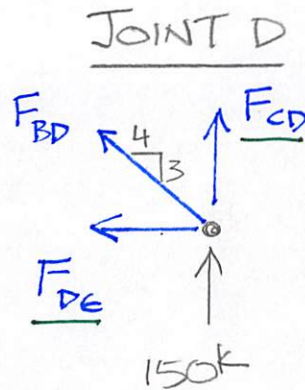
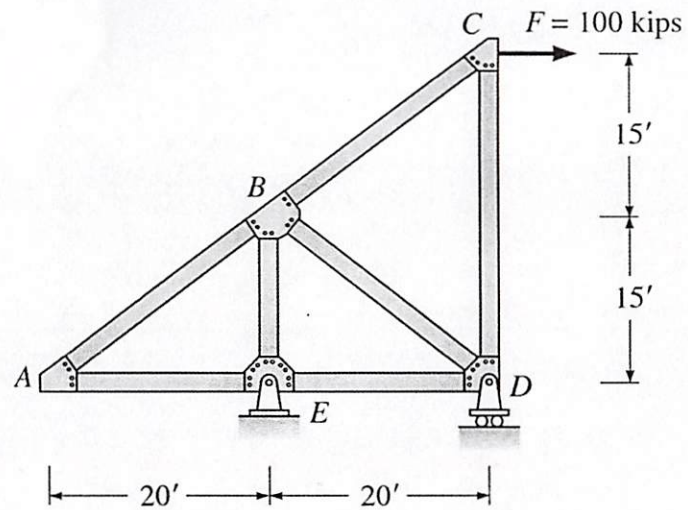
$$\underline{F_{BE} = 150^k}$$

$$+\rightarrow \sum F_x = 0$$

$$= F_{DE} - 100^k$$

$$\underline{F_{DE} = 100^k}$$

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



$$+\rightarrow \sum F_x = 0 = -F_{DE} - \frac{4}{5} F_{BD}$$

$$100^k = -\frac{4}{5} F_{BD}$$

$$\underline{F_{BD} = -125^k}$$