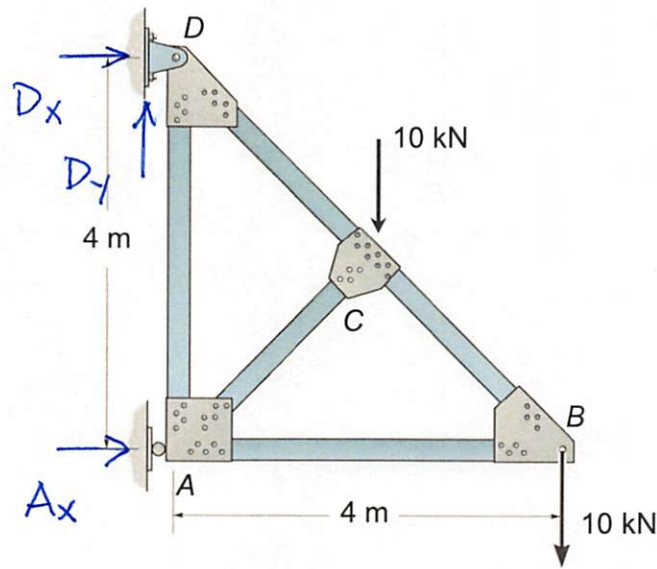


Determine all the bar forces in the truss.



$$\sum M_D = 0 = A_x(4m) - 10kN(2m + 4m)$$

$$A_x = 15kN$$

$$\sum F_x = 0 = A_x + D_x \quad D_x = -15kN$$

$$\sum F_y = 0 = D_y - 10kN - 10kN$$

$$D_y = 20kN$$

JOINT B

$$\sum F_y = 0$$

$$= \frac{1}{\sqrt{2}} F_{BC} - 10kN$$

$$F_{BC} = 14.14kN$$

$$\sum F_x = 0$$

$$= -F_{AB} - \frac{1}{\sqrt{2}} F_{BC}$$

$$F_{AB} = -10kN$$

JOINT D

$$\sum F_x = 0$$

$$= \frac{1}{\sqrt{2}} F_{CD} - 15kN$$

$$F_{CD} = 21.21kN$$

$$\sum F_y = 0$$

$$= -F_{AD} - \frac{1}{\sqrt{2}} F_{CD} + 20kN$$

$$F_{AD} = 5kN$$

JOINT A

$$\sum F_y = 0$$

$$= F_{AD} + \frac{1}{\sqrt{2}} F_{AC}$$

$$F_{AC} = -7.07kN$$