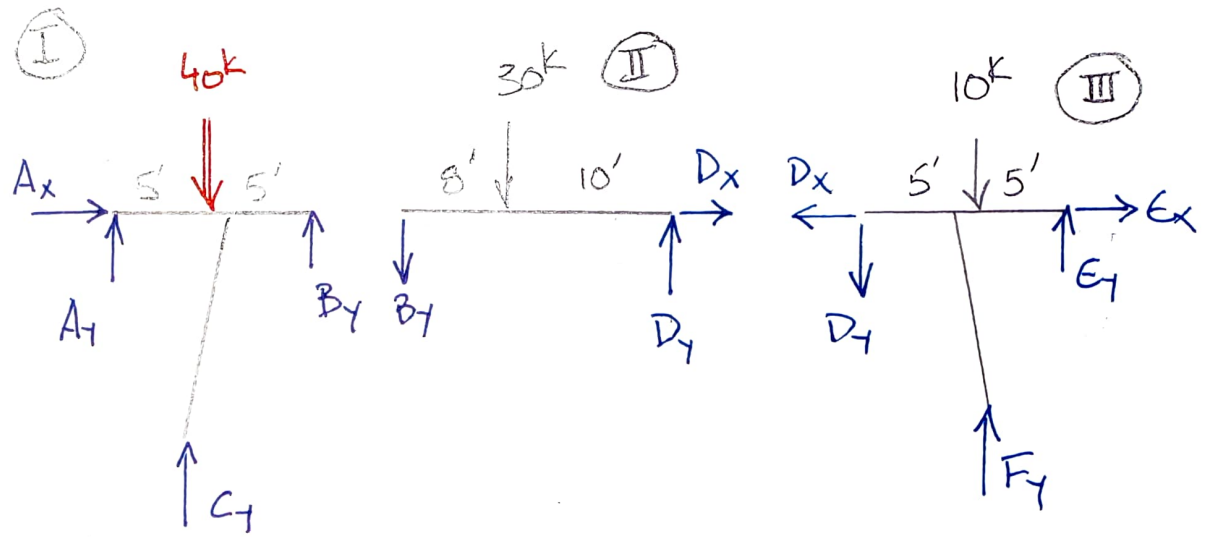
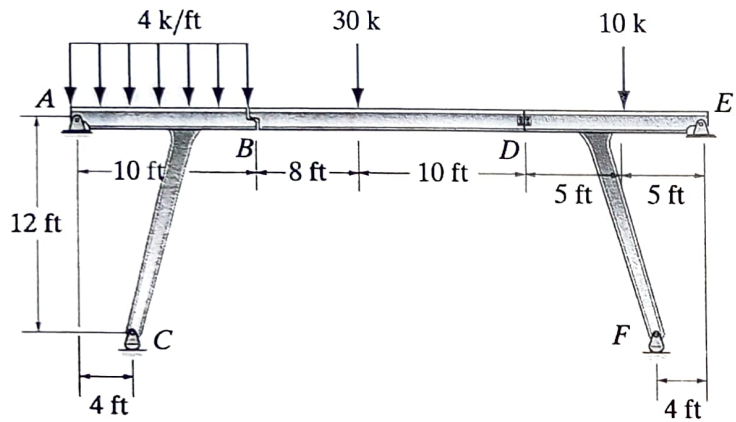


Problem 2a-7: Find the reactions at A and D.



$$\textcircled{\text{II}} \quad \sum M_D = 0$$

$$= 30k(10') + B_y(18')$$

$$\underline{\underline{B_y = -16.67k}}$$

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

$$= -30k - B_y + D_y$$

$$\underline{\underline{D_y = 13.33k}}$$

$$\rightarrow \sum F_x = 0 = D_x$$

$$\textcircled{\text{I}} \quad \sum M_A = 0$$

$$= -40k(5') + C_y(4')$$

$$+ B_y(10')$$

$$\underline{\underline{C_y = 91.68k}}$$

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

$$= B_y + C_y + A_y - 40k$$

$$\underline{\underline{A_y = 35k}}$$

$$\rightarrow \sum F_x = 0 = A_x$$

$$\textcircled{\text{III}} \quad \sum M_E = 0$$

$$= 10k(5') + D_y(10') - F_y(4')$$

$$\underline{\underline{F_y = 45.02k}}$$

$$+\uparrow \sum F_y = 0 = -D_y + F_y + E_y - 10k$$

$$\underline{\underline{E_y = -22.5k}}$$

$$\rightarrow \sum F_x = 0 = -D_x + E_x$$

$$\underline{\underline{E_x = 0}}$$