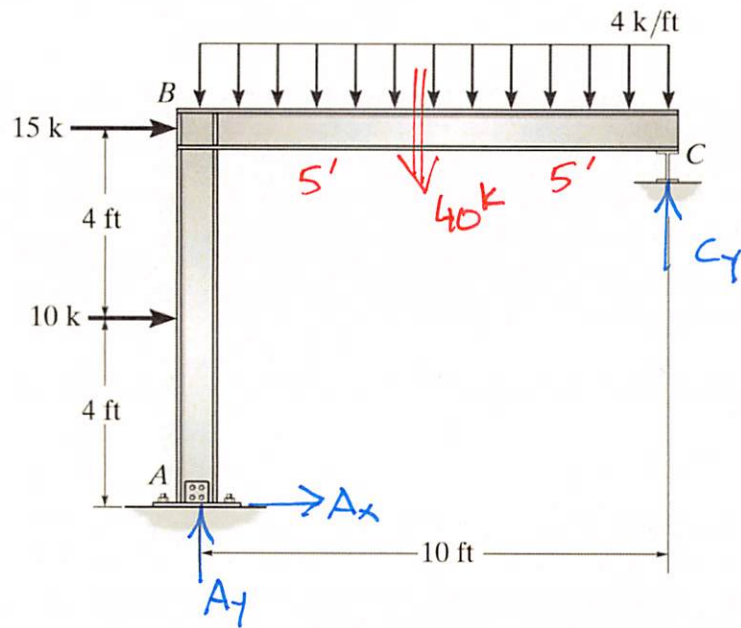


Example 4d-2: Draw the shear and moment diagrams for the following frame:

1/2



$$\sum M_A = 0 = -10^k(4') - 40^k(5') + C_y(10') - 15^k(8')$$

$$\underline{C_y = 36^k}$$

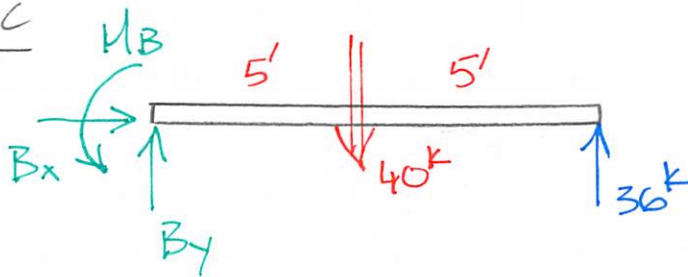
$$+\uparrow \sum F_y = 0 = A_y + C_y - 40^k$$

$$\underline{A_y = 4^k}$$

$$+\rightarrow \sum F_x = 0 = A_x + 10^k + 15^k$$

$$\underline{A_x = -25^k}$$

FBD BC



$$\sum M_B = 0 = M_B - 40^k(5') + 36^k(10')$$

$$\underline{M_B = -160 \text{ k ft}}$$

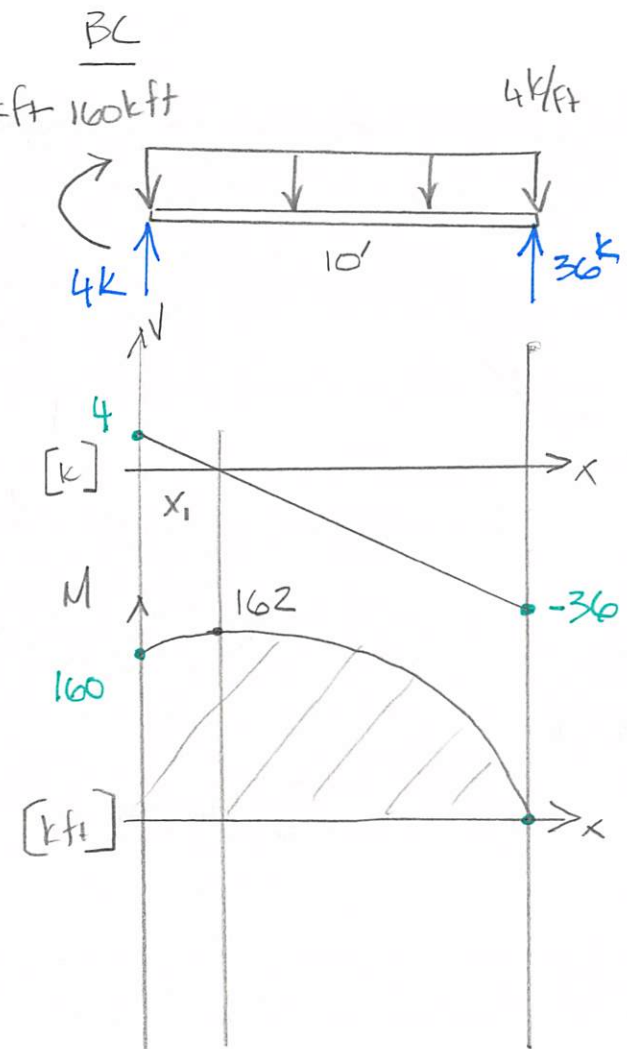
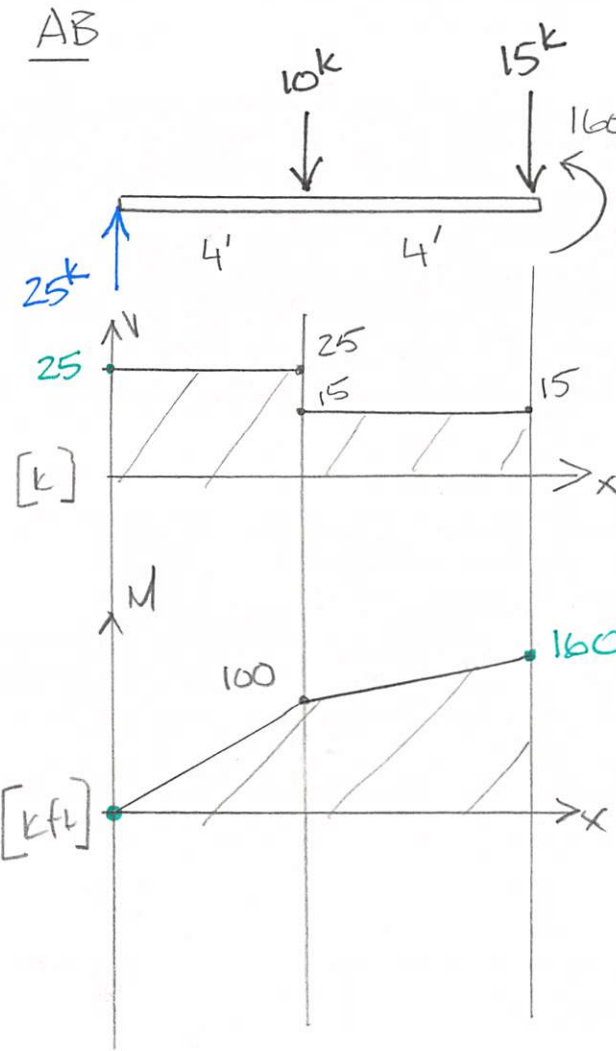
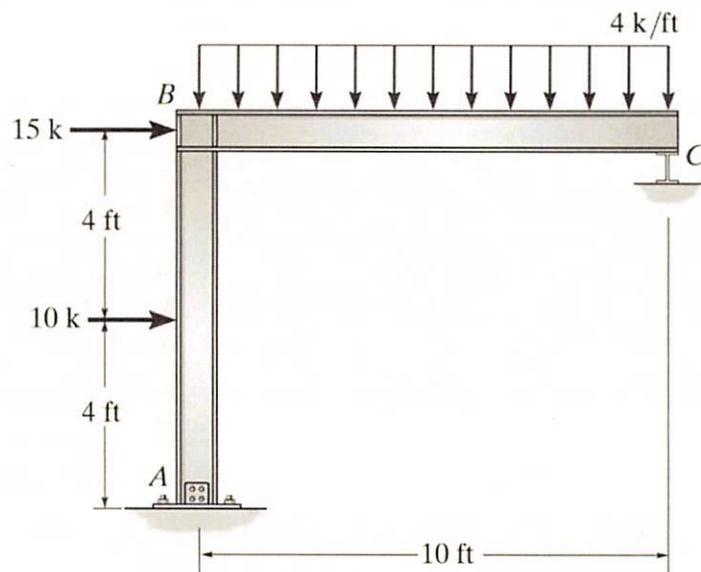
$$+\uparrow \sum F_y = 0 = B_y - 40^k + 36^k$$

$$\underline{B_y = 4^k}$$

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

Example 4d-2: Draw the shear and moment diagrams for the following frame:

2/2



Free body diagram of a vertical member segment of length Δx with an upward shear force V and a downward point load of 15 k .

$$+\uparrow \sum F_y = 0 = V - 15\text{ k}$$

$$V = 15\text{ k}$$

$$x_1 = \frac{4\text{ k}}{4\text{ k/ft}} = 1\text{ ft}$$