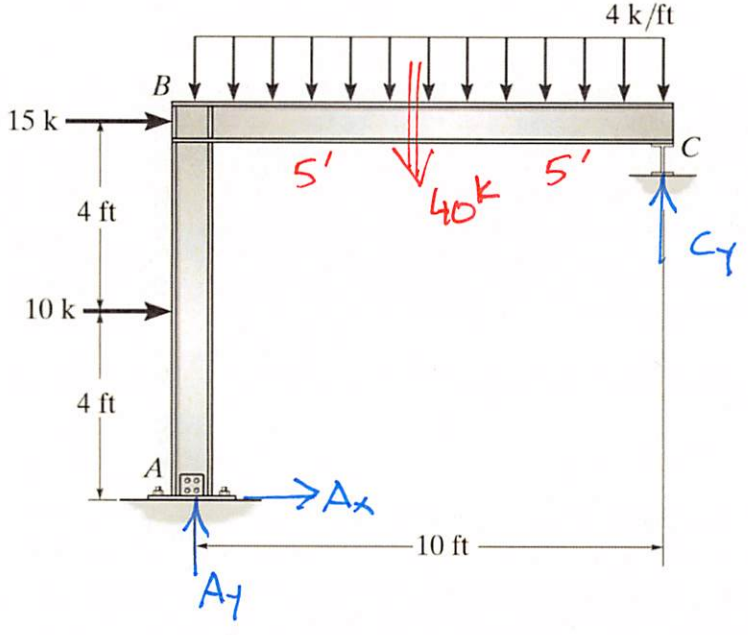
Example 4d-2: Draw the shear and moment diagrams for the following frame: **1/2**



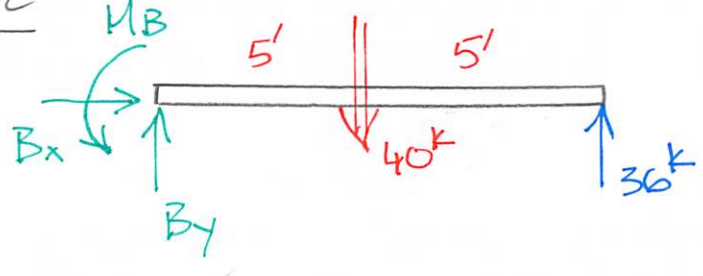
$$\circlearrowleft +\Sigma M_A = 0 = -10^k(4') - 40^k(5') + C_y(10') - 15^k(8')$$

$$C_y = 36^k$$

$$+\uparrow \Sigma F_y = 0 = A_y + C_y - 40^k \qquad A_y = 4^k$$

$$\xrightarrow{+} \Sigma F_x = 0 = A_x + 10^k + 15^k \qquad A_x = -25^k$$

FBD BC



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

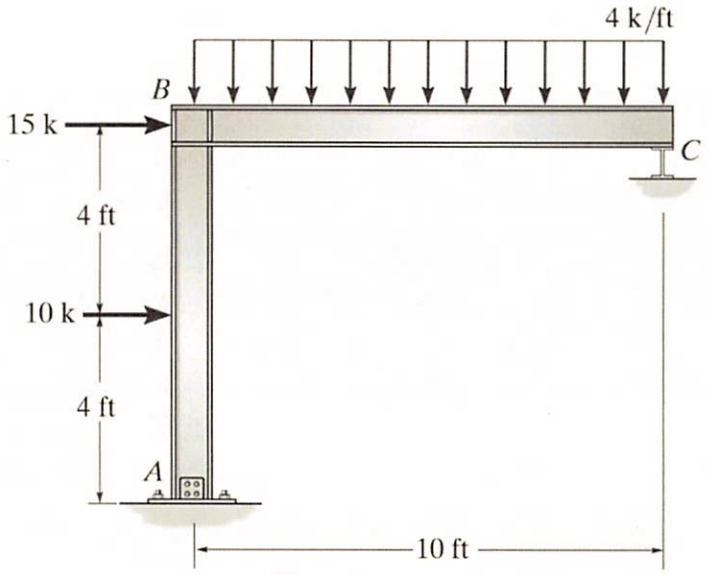
$$M_B = -160\ k\,ft$$

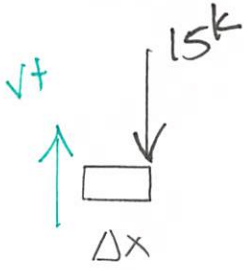
$$+\uparrow \Sigma F_y = 0 = B_y - 40^k + 36^k$$

$$B_y = 4^k$$

$$\xrightarrow{+} \Sigma F_x = 0 = B_x$$

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

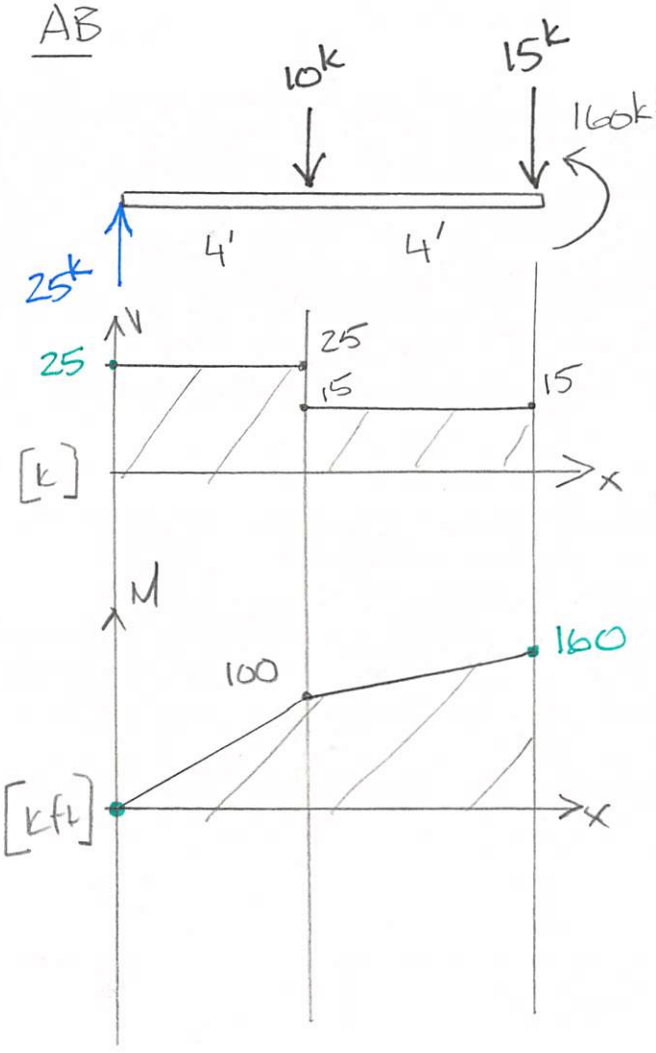




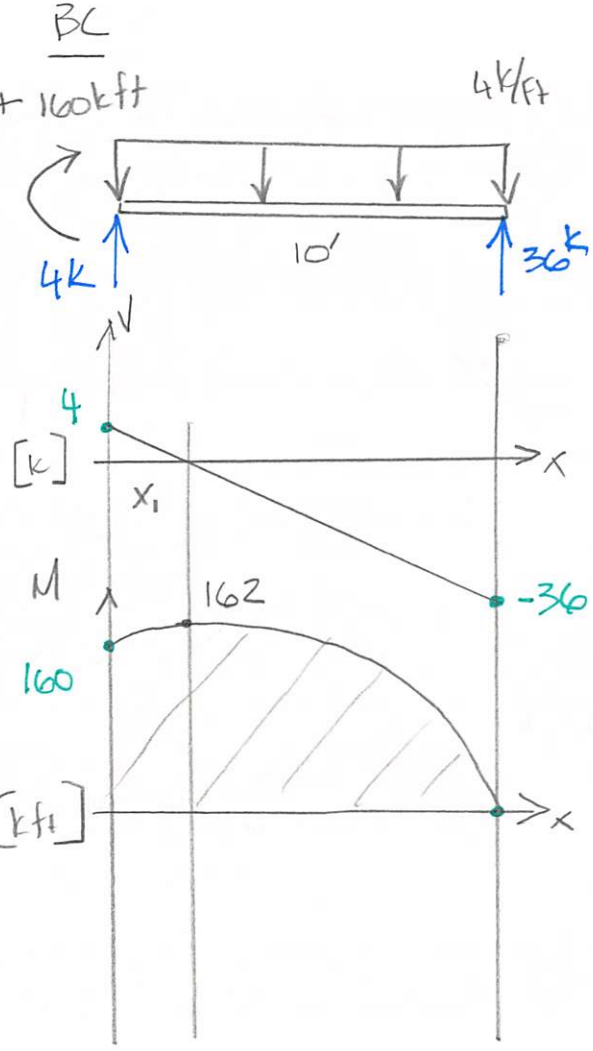
$+\uparrow \Sigma F_y = 0 = V - 15^k$

$V = 15^k$

AB



BC



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