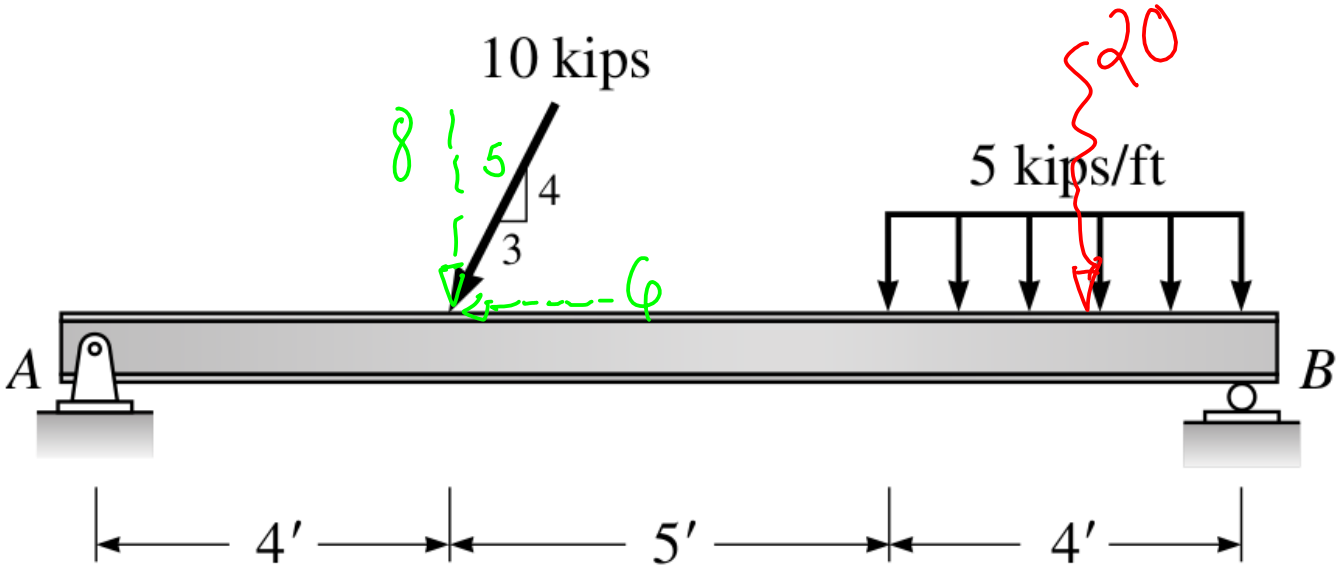
Reacciones



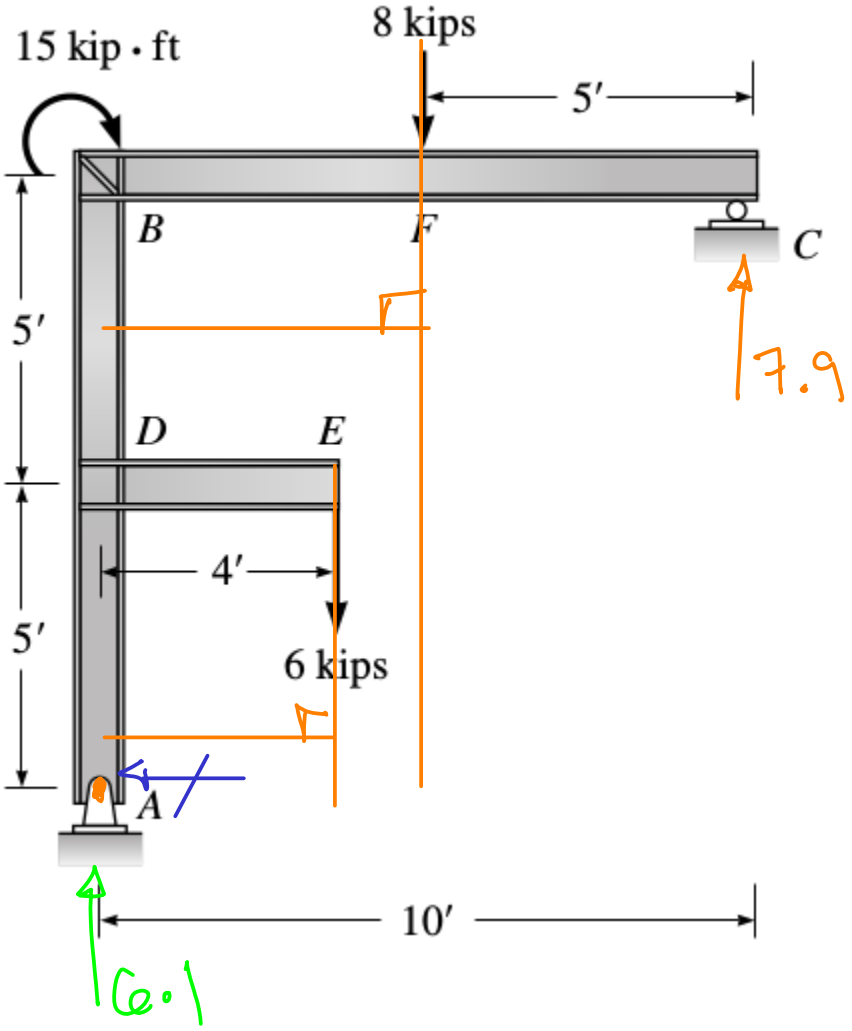
$$\Sigma M_{A_z} = 8(4) + 20(11) - B_y(13) = 0$$

$$B_y = 19.38\ K \uparrow$$

$$\Sigma F_y = -8 - 20 + 19.38 + A_y = 0$$

$$A_y = 8.62\ K \uparrow$$

$$\Sigma F_x = -6 + A_x = 0 \quad \therefore A_x = 6 \rightarrow$$



$\circlearrowleft \Sigma M_{A_z} = 15 + 6(4)$

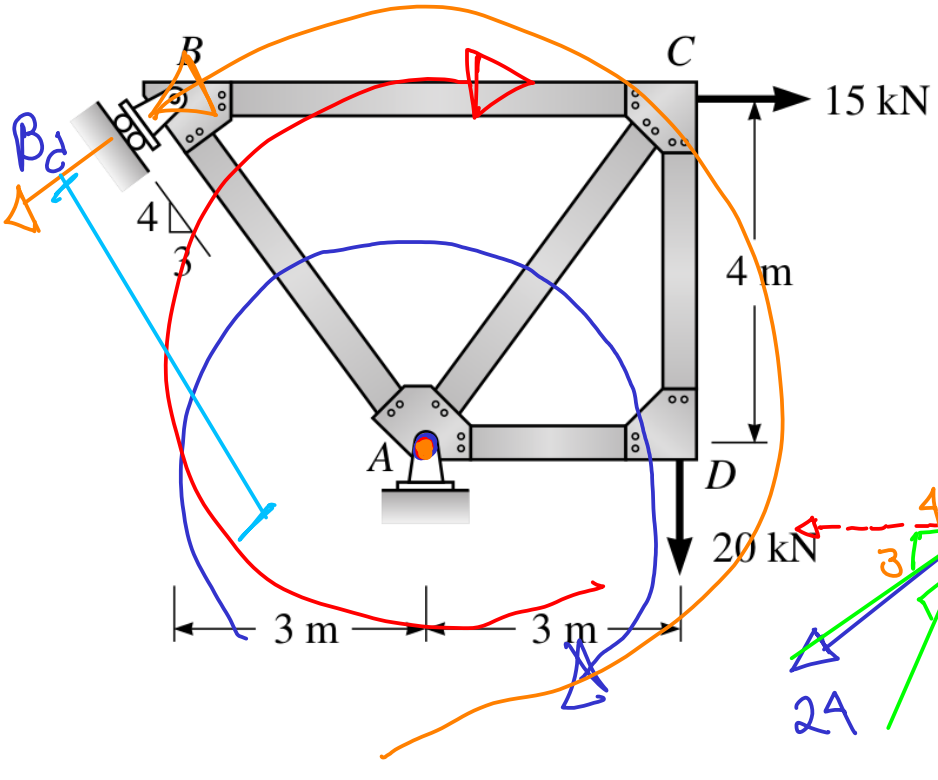
$+8(5) - C_y(10) = 0$

$C_y = 7.9\,K\uparrow$

$\Sigma F_y = -6 - 8 + 7.9 + A_y = 0$

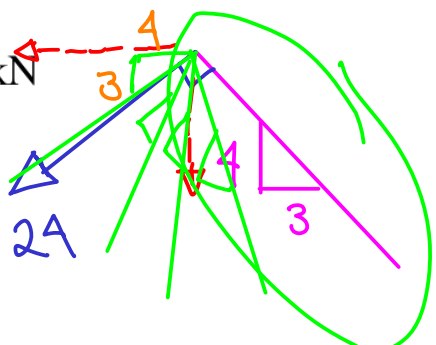
$A_y = 6.1\,K\uparrow$

$\Sigma F_x = A_x = 0$

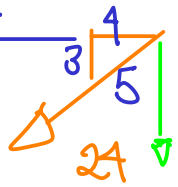


$\circlearrowleft \Sigma M_{A_z} = 20(3) + 15(4) - B_d(5) = 0$

$B_d = 24\,kN$



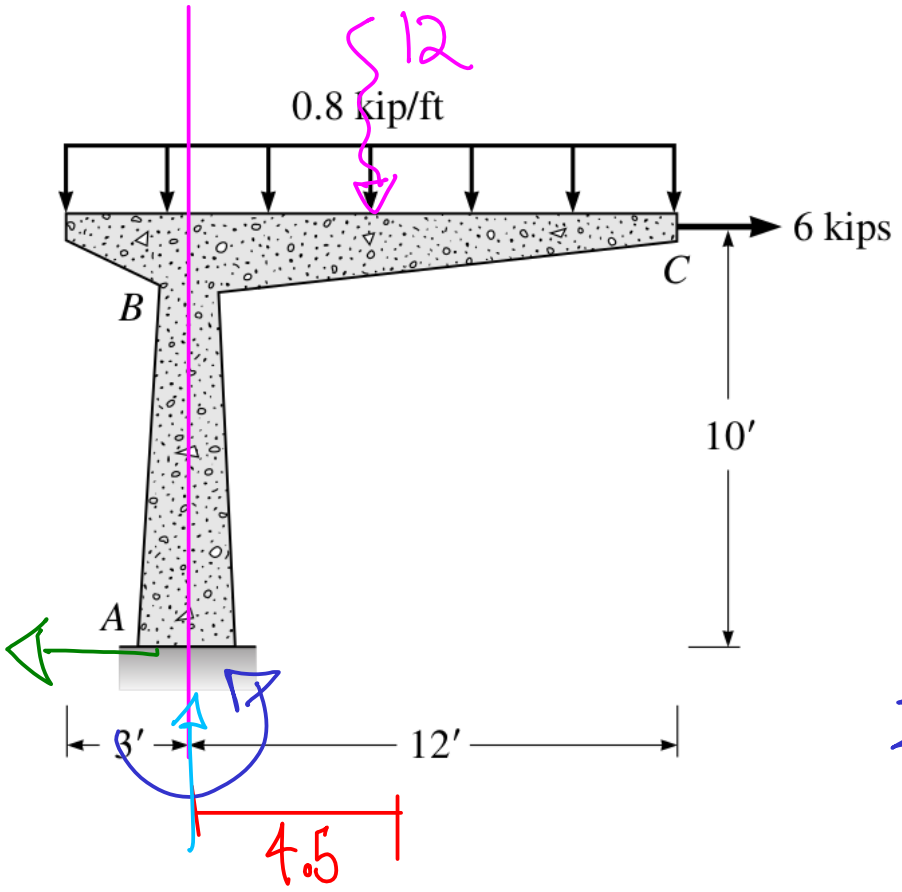
$24\left(\frac{4}{5}\right) = 19.2$

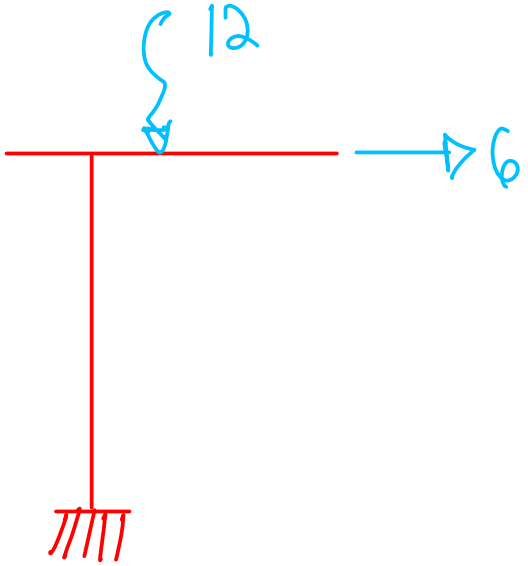


$24\left(\frac{3}{5}\right) = 14.4\ \text{kN}$

$\Sigma F_y = -14.4 - 20 + A_y = 0 \rightarrow A_y = 34.4 \uparrow$

$\Sigma F_x = -19.2 + 15 + A_x = 0 \rightarrow A_x = 4.2 \rightarrow$





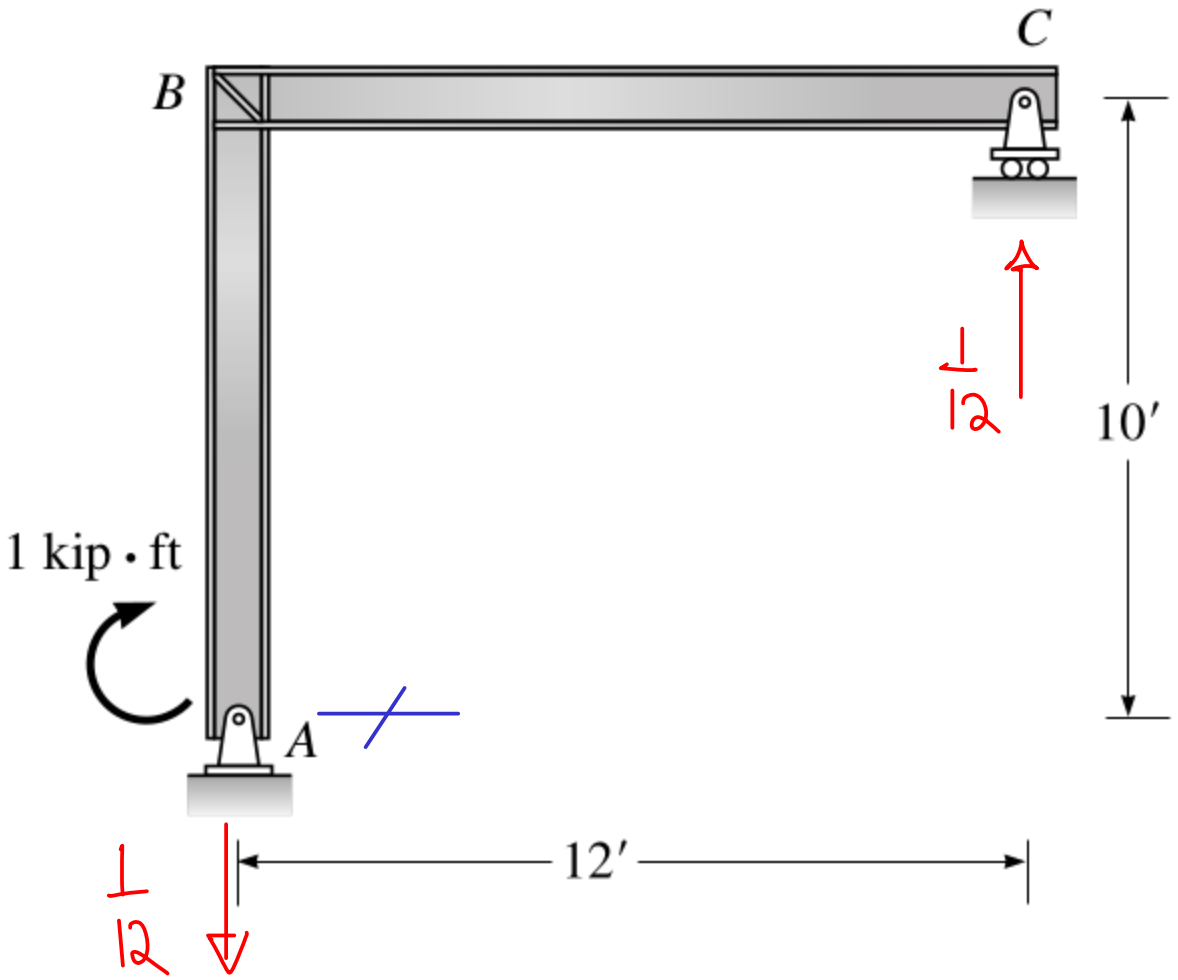
$\Sigma M_A = -M_A + 12(4.5) + 6(10) = 0$

$M_A = 114\ \text{k ft}$ ↺

$\Sigma F_y = -12 + A_y = 0$

$A_y = 12\text{K} \uparrow$

$\Sigma F_x = -A_x + 6 = 0 \rightarrow A_x = 6\text{K} \leftarrow$



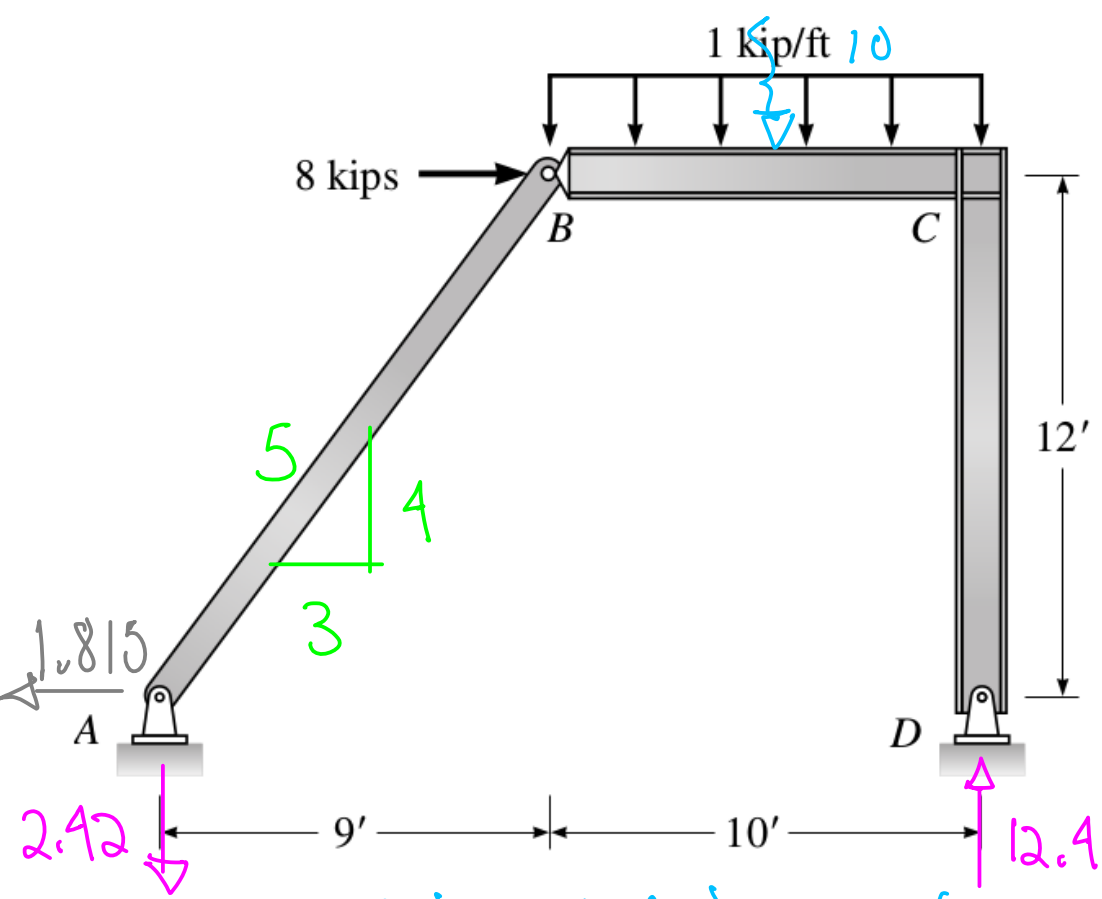
$12x = 1$

$x = \frac{1}{12}$

$\Sigma M_{A_z} = 1 - C_y(12) = 0 \rightarrow C_y = \frac{1}{12}\ k \uparrow$

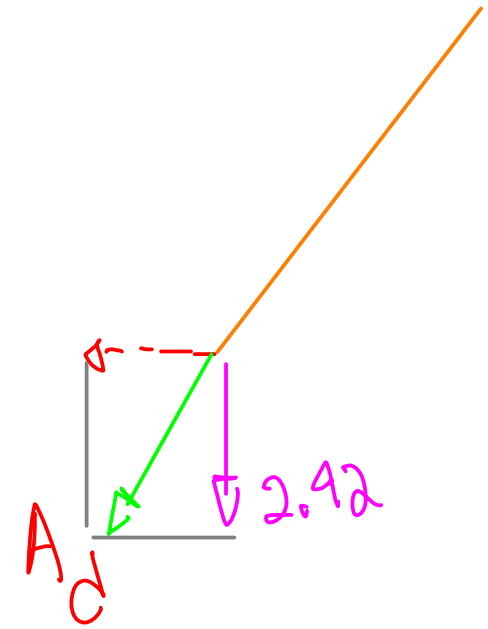
$\Sigma F_y = \frac{1}{12} - A_y = 0 \rightarrow A_y = \frac{1}{12} k \downarrow$

$\Sigma F_x = A_x = 0$



$\Sigma M_A = 8(12) + 10(14) - D_y(19) = 0 \therefore D_y = 12.42K \uparrow$

$\Sigma F_y = -A_y - 10 + 12.42 = 0 \rightarrow A_y = 2.42K \downarrow$



$\frac{4}{5} A_d = 2.42$

$A_d = 3.025$

$A_x = \frac{3}{5}(3.025) = 1.815 \leftarrow$

$\Sigma F_x = -1.815 + 8 - D_x = 0 \therefore D_x = 6.185K \leftarrow$