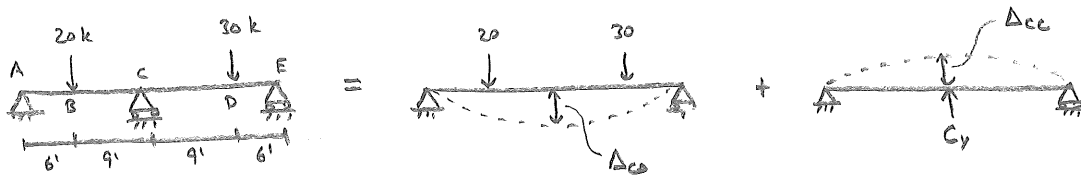
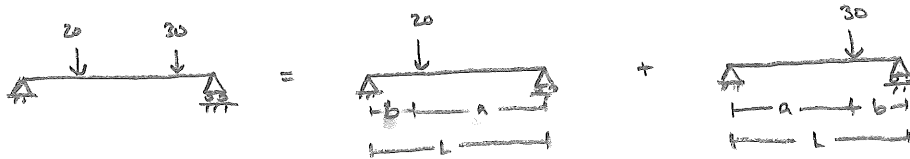


Homework 7



a) $\Delta_c = \Delta_{co} + \Delta_{cc} \Rightarrow \Delta_{co} + \Delta_{cc} = 0 \Rightarrow C_y f_{cc} = -\Delta_{co} \Rightarrow C_y = -\frac{\Delta_{co}}{f_{cc}}$

Δ_{co}



$$\Delta_{co} = -\frac{20(6)(15)}{6(30)EI} (30^2 - 6^2 - 15^2) - \frac{30(6)(15)}{6(30)EI} (30^2 - 6^2 - 15^2)$$

$$\Delta_{co} = \frac{-15975}{EI}$$

f_{cc}



$$f_{cc} = \frac{(1)(30)^2}{48EI} = \frac{562.5}{EI}$$

$$C_y = -\frac{-15975}{562.5} = 28.4 \text{ k}$$

$$\Rightarrow A_x = 0 \quad A_y = 7.8 \text{ k} \quad C_y = 28.4 \text{ k} \quad E_y = 13.8 \text{ k}$$

b)

