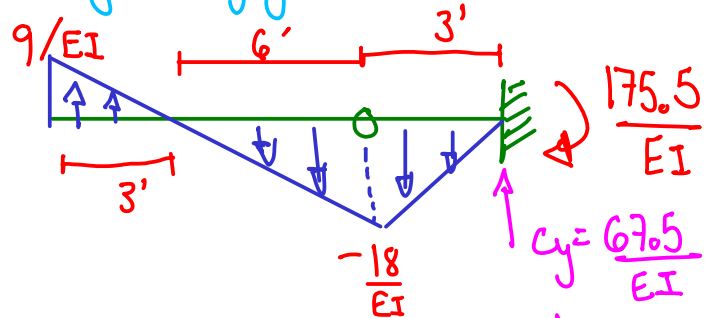


Calcule la pendiente y la deflexión en el punto C, así como la deflexión máxima entre A y B.

$EI = \text{Constante.}$

Viga Conjugada

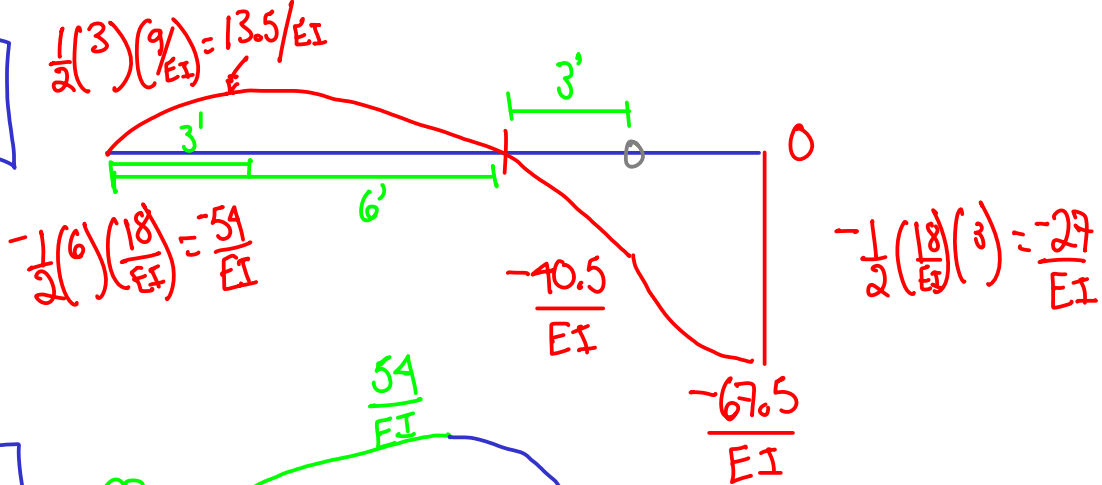


$$\sum F_y = \frac{1}{2}(3)\left(\frac{9}{EI}\right) - \frac{1}{2}(6)\left(\frac{18}{EI}\right) - \frac{1}{2}(3)\left(\frac{18}{EI}\right) + C_y = 0 \rightarrow C_y = \frac{670.5}{EI}$$

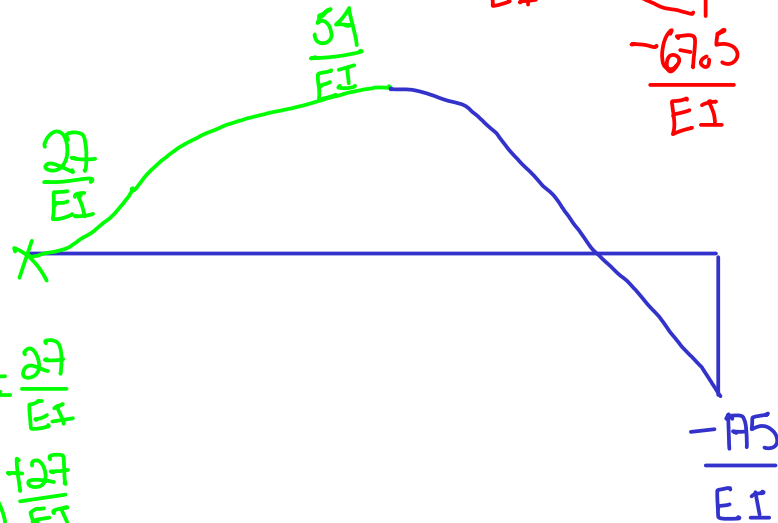
$$\sum M_C = \frac{1}{2}(3)\left(\frac{9}{EI}\right)\left(9 + \frac{2 \cdot 3}{3}\right) - \frac{1}{2}(6)\left(\frac{18}{EI}\right)\left(3 + \frac{1}{3} \cdot 6\right)$$

$$- \frac{1}{2}(3)\left(\frac{18}{EI}\right)\left(\frac{2}{3} \cdot 3\right) + M_C = 0 \rightarrow M_C = \frac{175.5}{EI}$$

$$V_{VC} = \theta_{VR}$$



$$M_{VC} = \delta_{VR}$$



$$\frac{-67.5}{\frac{\text{kip} \cdot \text{in}^3}{\text{in}^2}} = \frac{-67.5 \text{ kip} \cdot \text{in}^2}{\text{kip} \cdot \text{in}^2}$$

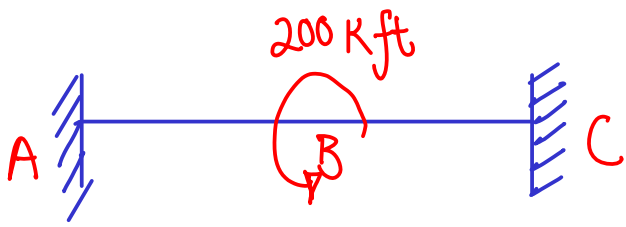
$$\frac{2}{3}(3)\left(\frac{13.5}{EI}\right) = \frac{27}{EI}$$

$$+ \frac{2}{3}(3)\left(\frac{13.5}{EI}\right) + \frac{27}{EI}$$

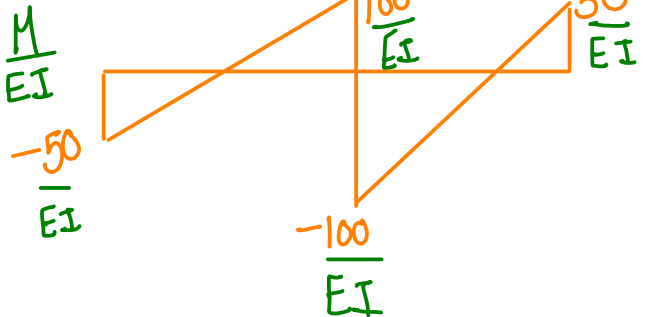
$$-\frac{67.5 \cdot 12^2}{29000 \cdot 100} = -0.0034$$

$$-\frac{175 \cdot 12^3}{29000 \cdot 100} = -0.1043$$

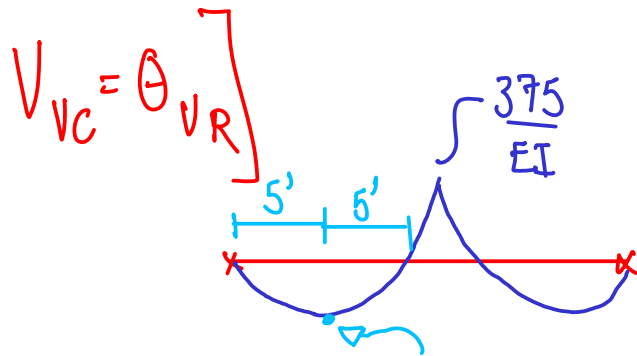
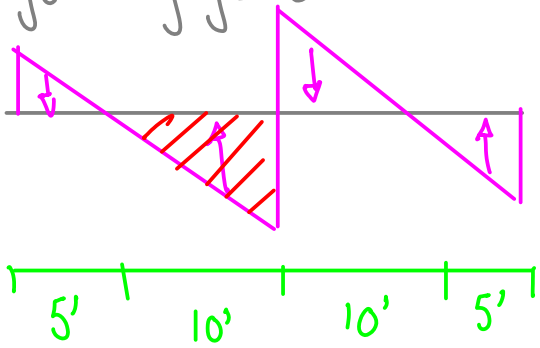
$$-\frac{54 \cdot 12^3}{29000 \cdot 100} = -0.0322$$



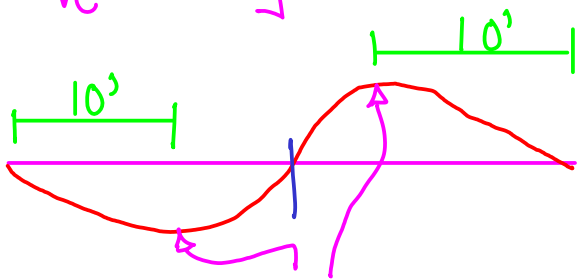
$(\delta \text{ \& } \theta)_{\text{máx}}$
&
Ubicación



Viga Conjugada



$$M_{VC} = \int V_R$$



$$\frac{2}{3}(10)\left(\frac{-125}{EI}\right) = \frac{-833}{EI}$$

$$\frac{1}{2}(5)\left(\frac{-50}{EI}\right) = \frac{-125}{EI}$$

$$\frac{1}{2}(10)\left(\frac{-100}{EI}\right) = \frac{500}{EI}$$

$$\frac{-125}{EI} + \frac{500}{EI} = \frac{375}{EI} = \theta_{\text{máx}}$$

$$\theta_{\text{máx}} = \frac{375}{EI} \text{ \& } \phi$$

$$\delta_{\text{máx}} = \frac{-833}{EI} \text{ a } 10' \text{ de cada extremo.}$$