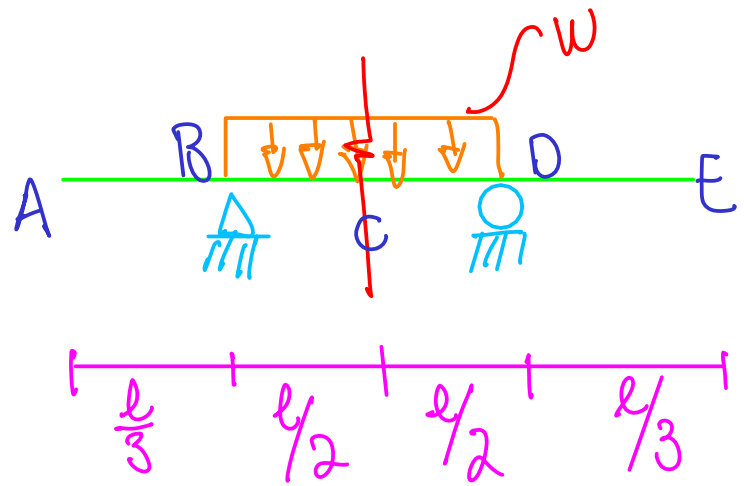
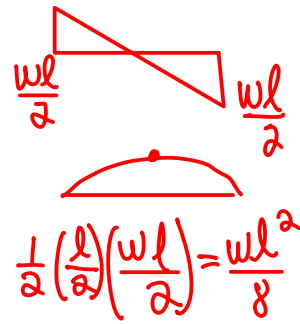
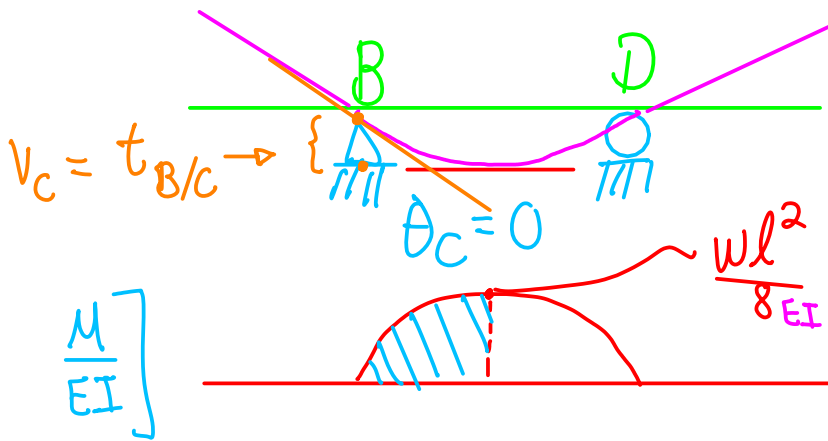


$$\theta_B = \theta_C - \frac{1}{3} (6) \left(\frac{-18}{EI} \right)$$

$$\theta_B = -\frac{432}{EI} + \frac{36}{EI} = -\frac{396}{EI}$$

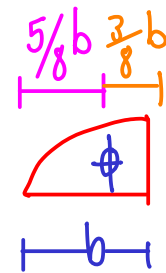


Calcule la pendiente en B, y las deflexiones en el punto A y el centro del claro.



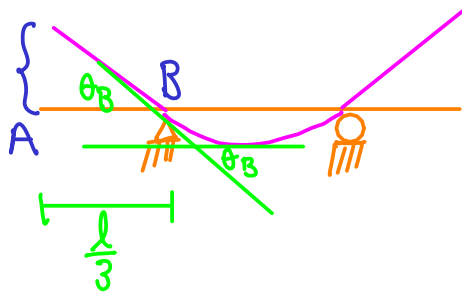
$$\theta_B = \theta_C + \Delta\theta_{CB}$$

$$\theta_B = 0 + \frac{2}{3} \left(\frac{l}{2} \right) \left(\frac{wl^2}{8EI} \right) = \frac{wl^3}{24EI}$$

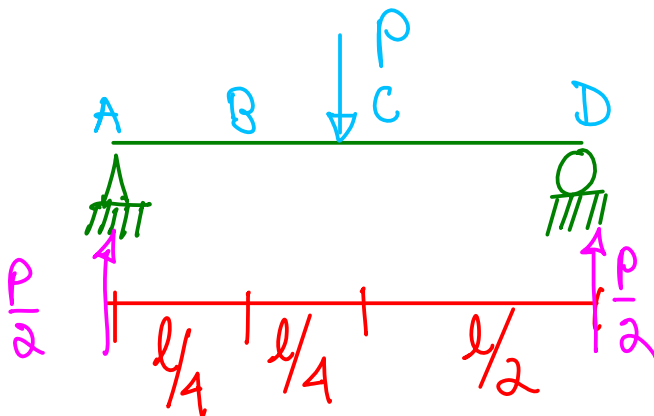


Deflexion en el Centro del claro

$$t_{BC} = V_C = \frac{2}{3} \left(\frac{l}{2} \right) \left(\frac{wl^2}{8EI} \right) \left(\frac{5}{8} \cdot \frac{l}{2} \right) = \frac{5wl^4}{384EI}$$

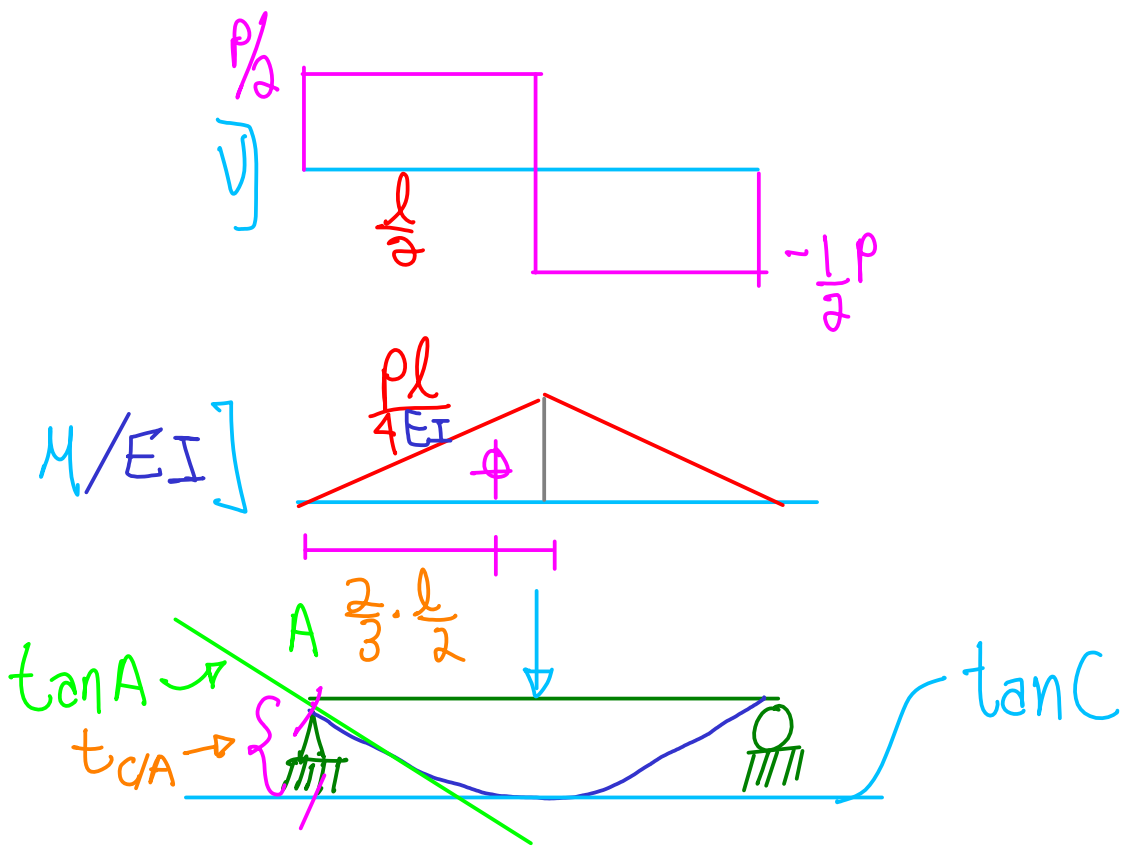


$$V_A = \theta_B \frac{l}{3} = \frac{wl^3}{24EI} \frac{l}{3} = \frac{wl^4}{72EI}$$



La viga soporta una carga concentrada en el centro del claro (punto C). Calcule las deflexiones en los puntos B y C.

Asimismo, calcule la pendiente en A. El es constante.

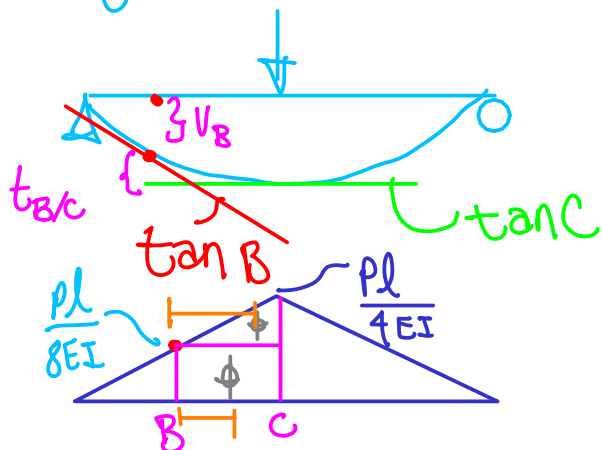


$$\theta_A = \theta_C + \Delta\theta_{CA} = 0 + \frac{1}{2} \left(\frac{l}{2} \right) \left(\frac{pl}{4EI} \right) = \frac{pl^2}{16EI}$$

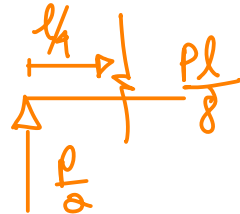
Deflexion en C

$$V_C = \frac{1}{2} \left(\frac{l}{2} \right) \left(\frac{pl}{4EI} \right) \left(\frac{2}{3} \cdot \frac{l}{2} \right) = \frac{pl^3}{48EI}$$

Deflexion en B



$$V_B = V_C - t_{B/C}$$



$$V_B = \frac{Pl^3}{48EI} - \left[\left(\frac{l}{4} \right) \left(\frac{Pl}{8EI} \right) \cdot \left(\frac{l}{4 \cdot 2} \right) + \left(\frac{l}{2} \right) \left(\frac{l}{4} \right) \left(\frac{Pl}{8EI} \right) \cdot \left(\frac{2}{3} \cdot \frac{l}{4} \right) \right]$$

$$V_B = \frac{11 Pl^3}{768 EI}$$