

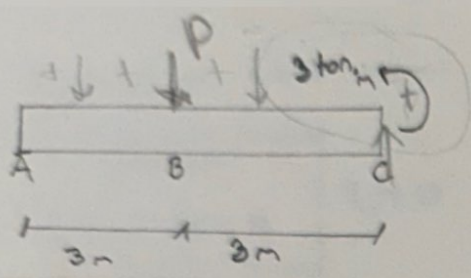
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5

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$$\sum M_A = 0$$

$$C_D(6m) + 3 \text{ ton} \cdot m - P(3m) = 0$$

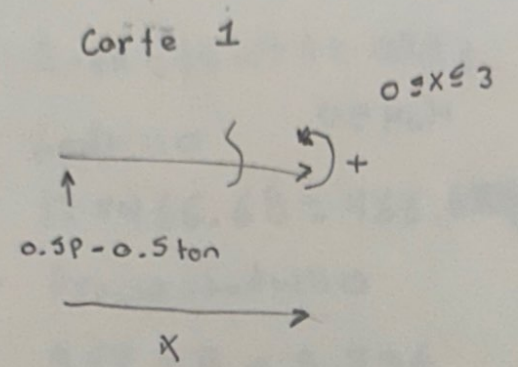
$$C_D = \frac{-3 \text{ ton} \cdot m}{6m} + P \frac{3m}{6m}$$

$$C_D = -0.5 \text{ ton} + 0.5P$$

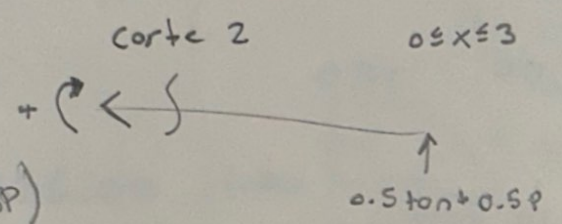
$$A_D - P + C_D = 0$$

$$A_D = P + (-0.5 \text{ ton} + 0.5P)$$

$$A_D = -0.5 \text{ ton} + 0.5P$$



$$M_1 = 0.5P(x) - 0.5 \text{ ton}(x)$$



$$M_2 = 0.5 \text{ ton}(x) + 0.5P(x) - x$$

Deflexión en el punto "B" en la viga

$$M_1 = \frac{am}{aP} = 0.5x$$

$$M_2 = \frac{am}{aP} = 0.5x$$

$$\Delta_{vB} = \int_0^3 \frac{(-0.5x)(0.5x)}{EI} dx = \frac{1}{EI} \int_0^3 \frac{(-0.25x^2)}{EI} dx = \frac{1}{EI} \left[-0.25 \frac{x^{n+1}}{n+1} \right] \Big|_0^3 = \frac{1}{EI} \left[-0.25 \frac{x^{2+1}}{2+1} \right] \Big|_0^3$$

$$\frac{1}{EI} \left[\frac{-0.25x^3}{3} \right] \Big|_0^3 = \frac{-0.0833x^3}{1} \Big|_0^3 = \frac{0.0833x^3}{EI} \Big|_0^3 = \frac{-0.0833(9)^3}{EI} - \frac{0.0833(0)^3}{EI} = \frac{-0.0833(27)}{EI} = \frac{2.2491}{EI}$$

$$\Delta_{vB} = \int_0^3 0.5$$

$$\Delta v_B = \int_0^3 (9) (0.5x) dx = \int_0^3 \frac{(1.5x)}{EI} = \frac{1}{EI} \left[\frac{1.5(x^{n+1})}{n+1} \right]_0^3 = \frac{1}{EI} \left[\frac{1.5x^2}{2} \right]_0^3 = \frac{1}{EI} \left[\frac{0.75x^2}{1} \right]$$

$$\frac{0.75x^2}{EI} = \frac{0.75(3)^2}{EI} = \frac{6.75}{EI}$$

$$A_{V0} = \int_0^2 \frac{I_B}{EI} (0.6x) dx = \frac{I_B}{EI} \int_0^2 (x \cdot 1.7) dx = \frac{I_B}{EI} \left[\frac{1.7x^2}{2} \right]_0^2 = \frac{I_B}{EI} \left[\frac{1.7 \cdot 4}{2} \right] = \frac{I_B}{EI} [3.4] = 3.4 \frac{I_B}{EI}$$

$$= -0.6 \frac{I_B}{EI} \int_0^2 \frac{I_B}{EI} dx = -0.6 \frac{I_B}{EI} \left[\frac{I_B x}{1} \right]_0^2 = -0.6 \frac{I_B}{EI} [2 I_B] = -1.2 \frac{I_B^2}{EI}$$

$$= 161.4 - 1.2 \frac{I_B}{EI} = -3.191 \frac{I_B}{EI}$$