

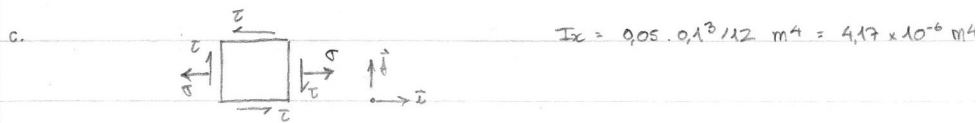
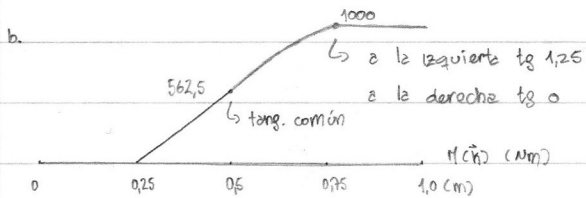
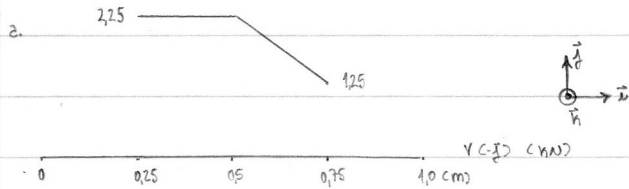
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considero P_{Ev} y P_{Dv} positivas hacia arriba, y P_{EH} positiva hacia la derecha

$$\sum F_H = 0 \rightarrow P_{EH} = 0$$

$$\sum M_e = 0 \rightarrow 4 \text{ kN/m} \cdot 0,25 \text{ m} \cdot 0,375 \text{ m} = 1 \text{ kNm} + 0,5 \text{ m} \cdot P_{Dv} \rightarrow P_{Dv} = -1,25 \text{ kN}$$

$$\sum F_v = 0 \rightarrow 1 \text{ kN} + 4 \text{ kN/m} \cdot 0,25 \text{ m} = -1,25 \text{ kN} + P_{Ev} \rightarrow P_{Ev} = 3,25 \text{ kN}$$



en 1: $\sigma_1 = -1000 \text{ Nm} \cdot 0,05 \text{ m} / 4,17 \times 10^{-6} \text{ m}^4 = 12 \text{ MPa}$

$$\tau_1 = 0$$

en 2: $\sigma_2 = 0$

$$\tau_2 = 0$$

d.

en 2: $\sigma_2 = 0$

$$\tau_2 = 3,225 \text{ kN} / 2 \cdot (0,05 \cdot 0,1) = 675 \text{ kPa}$$

en 3: $\sigma_3 = 562,5 \text{ Nm} \cdot 0,05 \text{ m} / 4,17 \times 10^{-6} \text{ m}^4 = 6,74 \text{ MPa}$

$$\tau_3 = 0$$