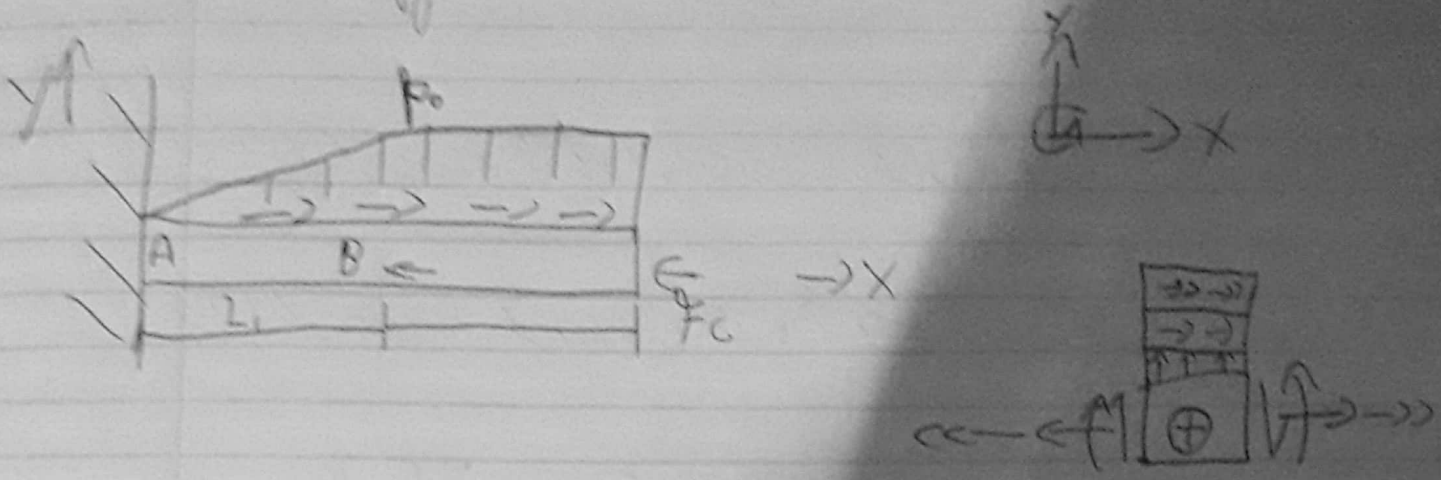
Parte 1 figura ubaora - 061



$$AE\frac{d^2u(x)}{dx^2} = \frac{dN(x)}{dx} = -p(x)$$

$$\sigma_{xx} = \frac{N(x)}{A} \; ; \; X = L_1 + L_2 \rightarrow N(X) = -F_C$$

$$p(x) = \frac{p_0}{L_1}\langle x-0\rangle - \frac{p_0}{L_1}\langle x-L_1\rangle^1 - F_B\langle x-L_1\rangle^{-1}$$

$$N(x) = +\int -p(x)\,dx = \frac{-p_0}{2L_1}\langle x-0\rangle^2 + \frac{p_0}{2L_1}\langle x-L_1\rangle^2 + F_B\langle x-L_1\rangle^0 + C_1$$

$$-F_C = \frac{2p_0 L_1 (L_1+L_2)}{2L_1} + \frac{p_0}{2L_1}L_1^2 + F_B + C_1 \Rightarrow$$

$$C_1 = p_0(L_1+L_2) - \frac{p_0 L_1^2}{2L_1} - F_B - F_C = 0\,N$$

$$N(x) = \frac{-p_0}{2L_1}\langle x-0\rangle^2 + \frac{p_0}{2L_1}\langle x-L_1\rangle^2 + F_B\langle x-L_1\rangle^0$$

$$\sigma_{xx} = \frac{1}{A}\left(\frac{-p_0}{2L_1}\langle x-0\rangle^2 + \frac{p_0}{2L_1}\langle x-L_1\rangle^2 + F_B\langle x-L_1\rangle^0\right)$$

$$N(x) = -250\langle x-0\rangle^2 + 250\langle x-2\rangle^2 + 1000\langle x-2\rangle$$

$$\sigma_{xx} = \frac{1}{0,18}\left(-250\langle x-0\rangle^2 + 250\langle x-2\rangle^2 + 1000\langle x-2\rangle\right)$$