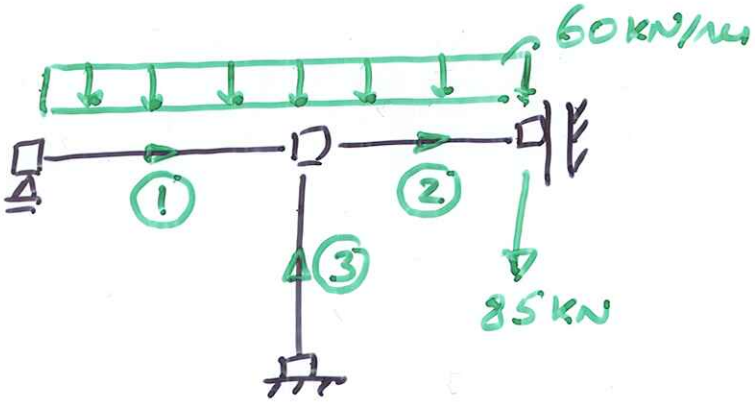
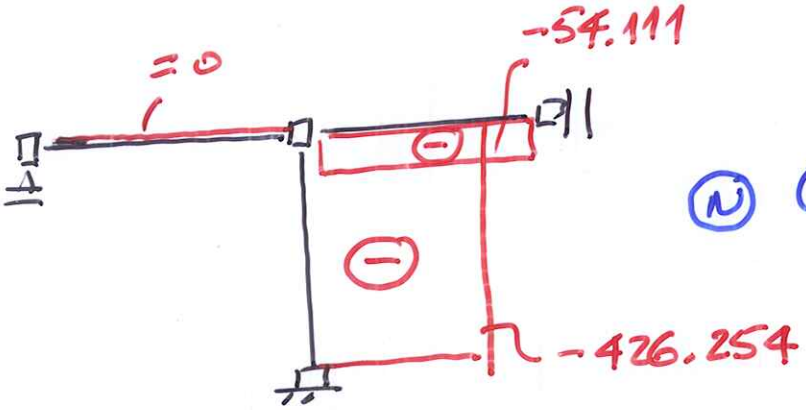
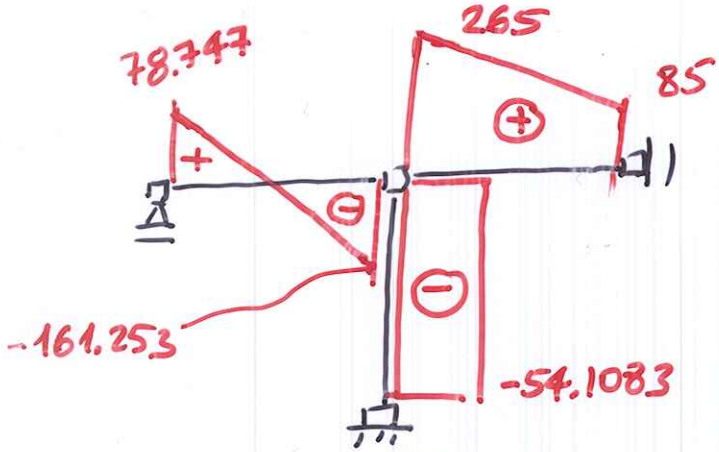


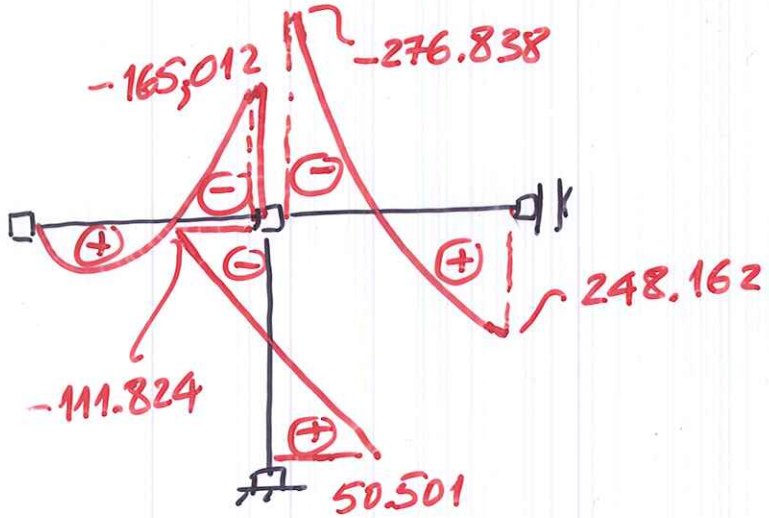
$$\underline{X}_f = \begin{bmatrix} 0 \\ -165.012 \\ 0 \end{bmatrix} \underline{X}_1 \quad \begin{bmatrix} -276.838 \\ 248.162 \\ -54.111 \end{bmatrix} \underline{X}_2 \quad \begin{bmatrix} 50.501 \\ -111.824 \\ -426.254 \end{bmatrix} \underline{X}_3$$



(N) (kN)

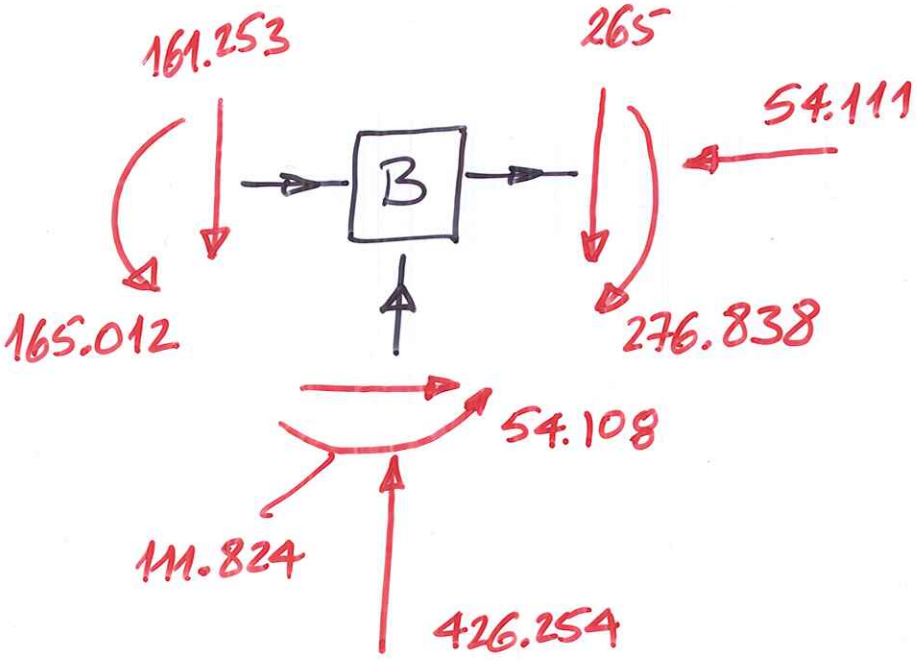


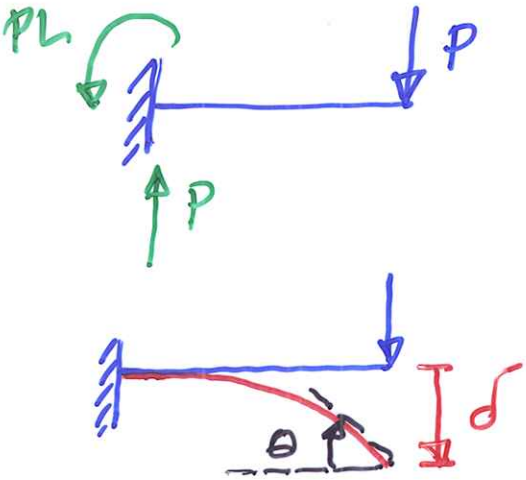
(V) (kN)

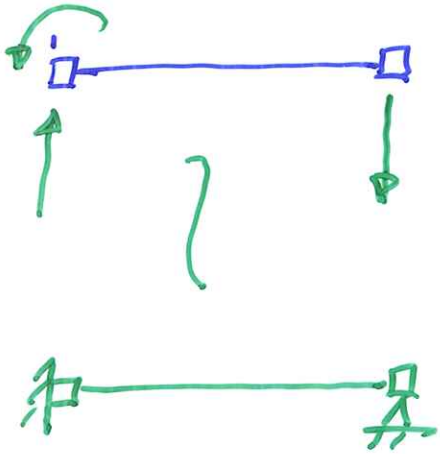


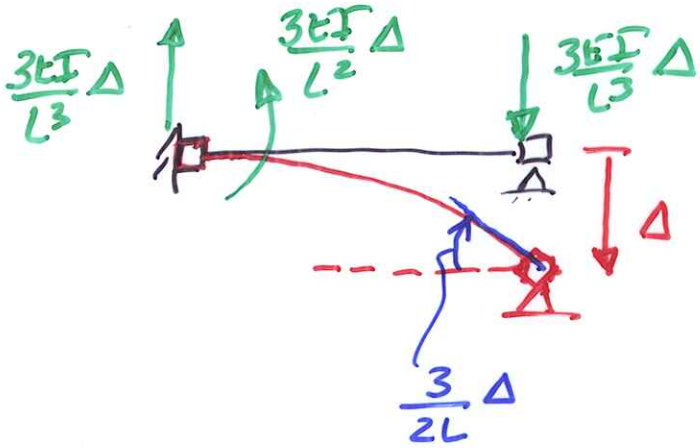
(M) (kNm)

VERIFICAÇÃO DO EQUILÍBRIO NO NÓ B









$$P = \frac{3EI}{L^3}\Delta$$

$$\boxed{\Delta = \frac{PL^3}{3EI}}$$

$$\theta = \frac{3}{2L}\left(\frac{PL^3}{3EI}\right) = \frac{PL^2}{2EI}$$

$$\delta = \frac{PL^3}{3EI}$$

$$\theta = \frac{PL^2}{2EI}$$