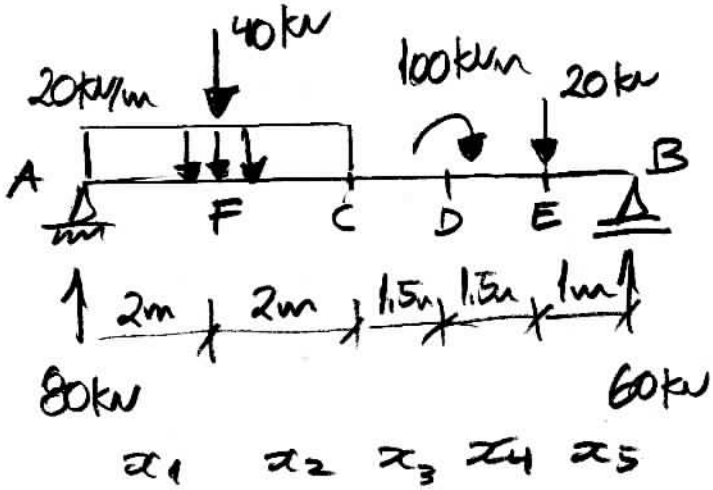
TE1-3.12



5 INTERVALOS DE ANÁLISE

(6 POLOS DE SINGULARIDADE)

$$\begin{cases} M_{AF}(x_1) = 80x_1 - 10x_1^2 \text{ //} \\ Q_{AF}(x_1) = 80 - 20x_1 \text{ //} \end{cases}$$

$M_F^{ESQ} = 80\times2 - 10.2^2 = +120\ kNm$ ↻

$Q_F^{ESQ} = 80 - 20.2 = +40\ kN$ ↑

$$\begin{cases} M_{FC}(x_2) = 120 - 40x_1 + 40x_1 - 10x_1^2 \\ \quad = 120 - 10x_1^2 \text{ //} \\ Q_{FC}(x_2) = -20x \text{ //} \end{cases}$$

$M_C^{ESQ} = 120 - 10.2^2 = 80\ kNm$ ↻

$Q_C^{ESQ} = -20\times2 = -40\ kN$ ↓

$$\begin{cases} M_{CD}(x_3) = 80 - 40x_3 \text{ //} \\ Q_{CD}(x_3) = -40 \text{ //} \end{cases}$$

$M_D^{ESQ} = 80 - 40\times1,5 = 20\ kNm$ ↻

$M_D^{ESQ} = -40\ kN$ ↓

$$\begin{cases} M_{DE}(x_4) = 20 + 100 - 40x_4 \\ \quad = 120 - 40x_4 \text{ //} \\ Q_{DE}(x_4) = -40 \text{ //} \end{cases}$$

$M_E^{ESQ} = 120 - 40\times1,5 = 60\ kNm$ ↻

$Q_E^{ESQ} = -40\ kN$ ↓

$M_{EB}(x_5) = 60 - 20x_5 - 40x_5$

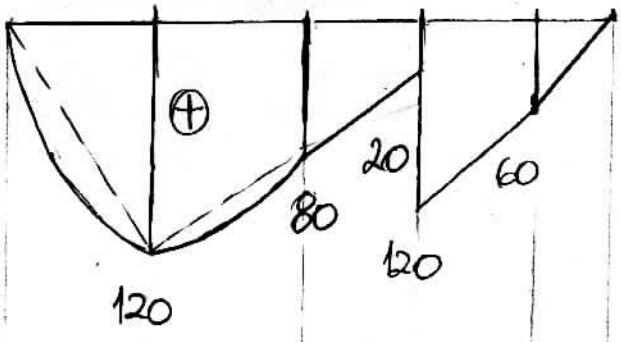
$= 60 - 60x_5$ //

$Q_{EB}(x_5) = -60$ //

$M_B^{ESQ} = 60 - 60\times1 = 0$ ok //

$Q_E^{ESQ} = -60\ kN$ ↓ ok //

(M) kNm



(Q)

