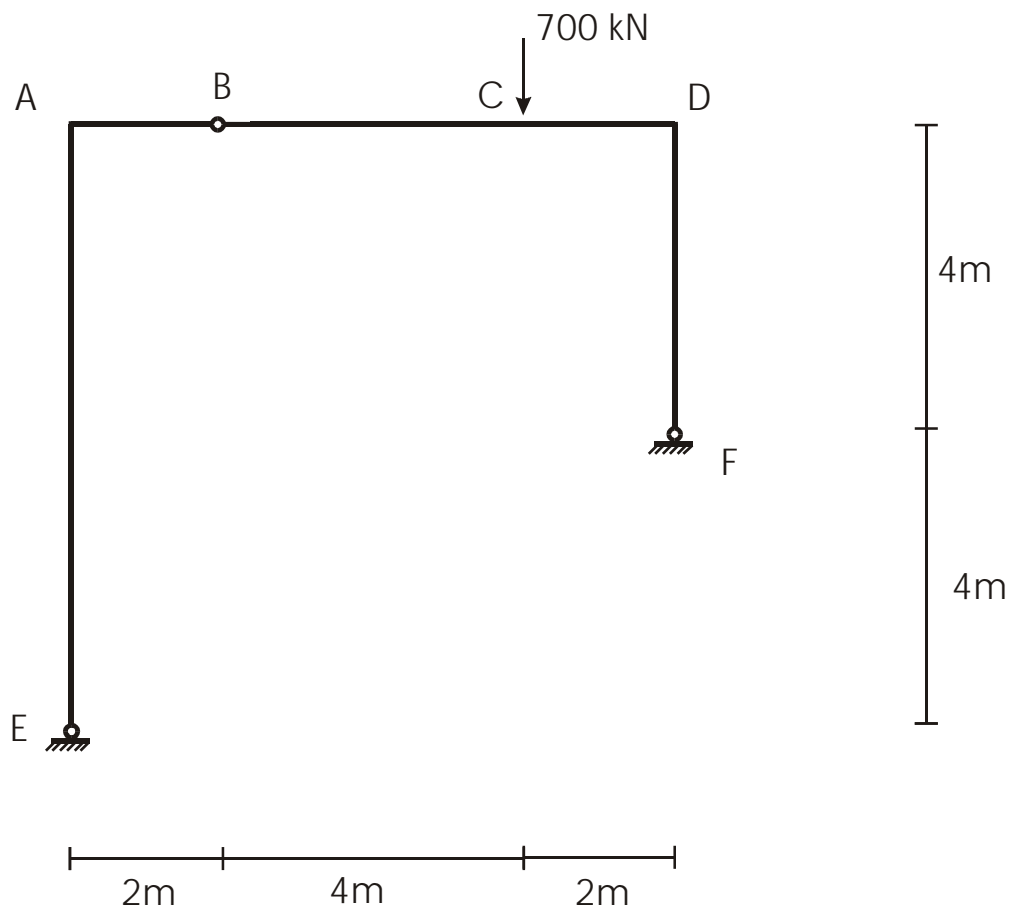


Nº USP: _____ Nome: _____

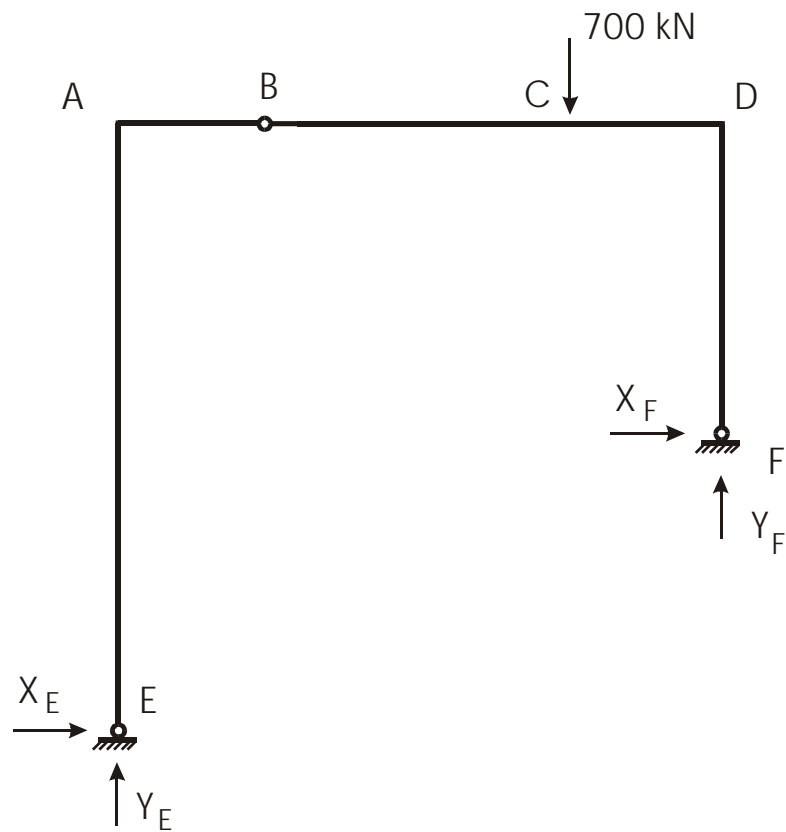
2ª Questão (3,0 pontos)

Para a estrutura da figura:

- a) Determinar as reações de apoio;
- b) Traçar o diagrama de momentos fletores.



Solução:



$$\begin{aligned} \sum X = 0 & \quad X_E + X_F = 0 \\ & \quad X_E = - X_F \end{aligned} \quad \underline{1}$$

$$\sum Y = 0 \quad Y_E + Y_F = 700 \quad \underline{2}$$

$$\sum M_E = 0 \quad -700 \cdot 6 - X_F \cdot 4 + Y_F \cdot 8 = 0 \quad \underline{3}$$

$$M_{\text{fletor em B}} = 0 \quad -700 \cdot 4 + X_F \cdot 4 + Y_F \cdot 6 = 0 \quad \underline{4}$$

$$\underline{3} + \underline{4}$$

$$-700 \cdot 10 + Y_F \cdot 14 = 0 \quad Y_F = \frac{7000}{14} = 500 \text{ kN}$$

$$\text{De } \underline{2}: \quad Y_E = 700 - 500 = 200 \text{ kN}$$

$$\text{De } \underline{4}: \quad X_F = \frac{2800 - 3000}{4} = -50 \text{ kN}$$

$$\text{De } \underline{1}: \quad X_E = 50 \text{ kN}$$

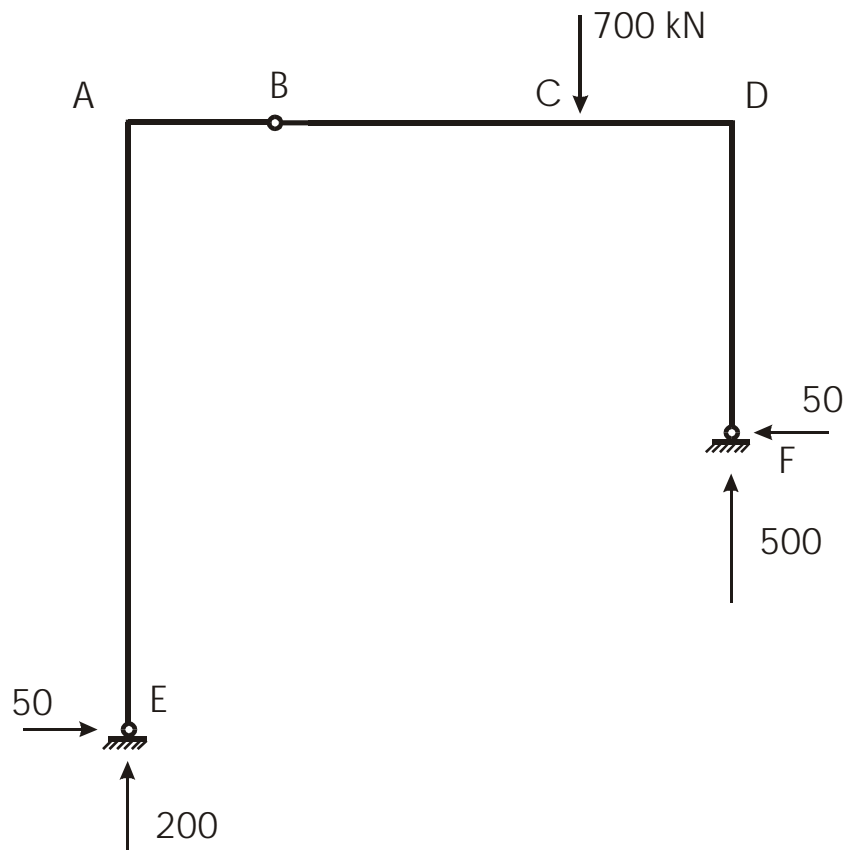


Diagrama de momentos fletores

