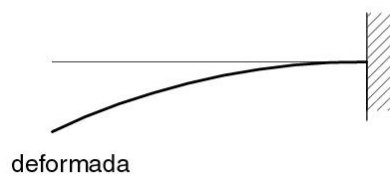
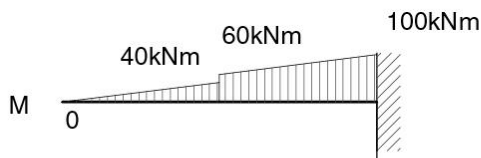
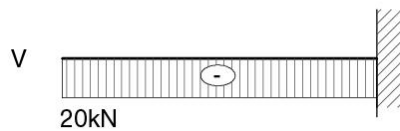
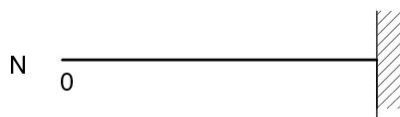
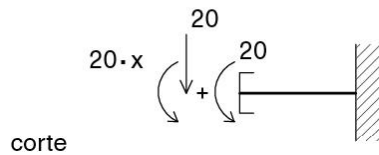
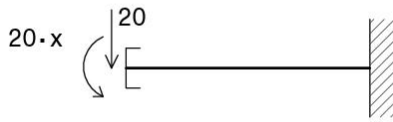
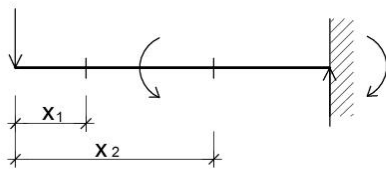
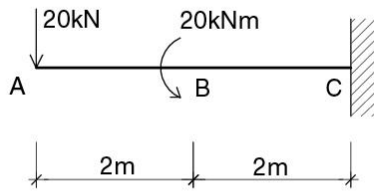


Resolução:

7



$$N(x) = 0$$

$$V(x) = -P = -20\text{kN (sentido anti-horário)}$$

$$M(x) =$$

$$x_1(0-2) M = (P \cdot x)$$

$$M(0) = 20 \cdot 0 = 0$$

$$M(2) = 20 \cdot 2 = 40 \text{ kNm}$$

(tracionando as fibras superiores)

$$x_2(2-4) M = (P \cdot x) + M^*$$

$$M(2) = 20 \cdot 2 + 20 = 60 \text{ kNm}$$

(tracionando as fibras superiores)

$$M(4) = 20 \cdot 4 + 20 = 100 \text{ kNm}$$

(tracionando as fibras superiores)

a concavidade da linha elástica é voltada para o lado comprimido da barra

e a tangente à linha elástica no engastamento é horizontal.