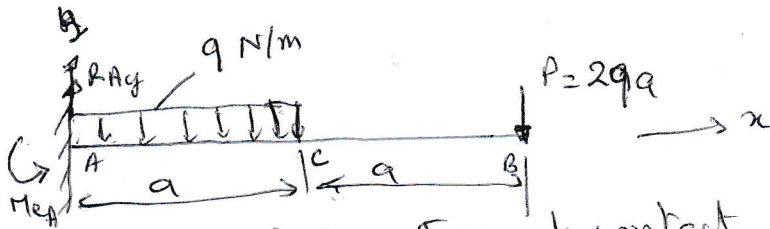


## Exercice N° 2



calcul des actions de contact à l'encastrement A.

cad :  $R_{Ay}$ , ( $R_{Ax}=0$ ) et  $M_{eA}$  = moment d'encastrement en A

$$\sum F_x = 0 \Rightarrow R_{Ax} = 0$$

$$\sum F_y = 0 \Rightarrow R_{Ay} - q \cdot a - P = 0$$

$$\Rightarrow R_{Ay} = qa + P = qa + 2qa = 3qa$$

$$\sum M_A = 0 \Leftrightarrow +M_{eA} + qa \left( \frac{a}{2} \right) + P \times 2a = 0$$

$$\Rightarrow M_{eA} = -\frac{qa^2}{2} + P \times 2a = -\frac{qa^2}{2} + 2q \cdot a \times 2a$$

$$= -\frac{qa^2}{2} + 4qa^2 = \frac{7qa^2}{2}$$

$$R_{Ay} = 3qa$$

$$M_{eA} = \frac{7qa^2}{2}$$