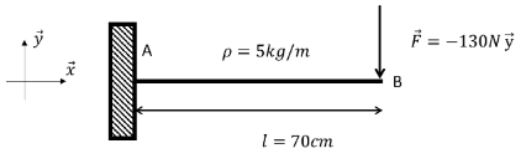

① Bilan : (problème 2D) → encastrement (X_A, Y_A, M_{zA})

$\rightarrow \vec{F} = -F\vec{y}$ $(F = 130N)$

$\rightarrow \vec{P} = -\rho l g \vec{y}$ $(\rho l g = 5.70.10 = 35N)$

② degré d'hyperstatisme : $h = k - 3m = 3 - 3.1 = 0 \Rightarrow$ Isostatique

encastrement : 3 ↳ 1 solide

③ PFS :

$$X_A = 0$$
$$Y_A - F - \rho g l = 0$$
$$M_{zA} - Fl - \rho g l . \frac{l}{2} = 0$$

Donc $X_A = 0$

$$Y_A = F + \rho g l$$
$$M_{zA} = Fl + \rho g \frac{l^2}{2}$$

④ $X_A = 0$

$$Y_A = 130 + \overbrace{35}^{\text{Poids}} = 165\ N$$

$$M_{zA} = \underbrace{130.70.10^{-2}}_{91} + \underbrace{35.\frac{70}{2}.10^{-2}}_{12,25} = 103,25\ N.m$$