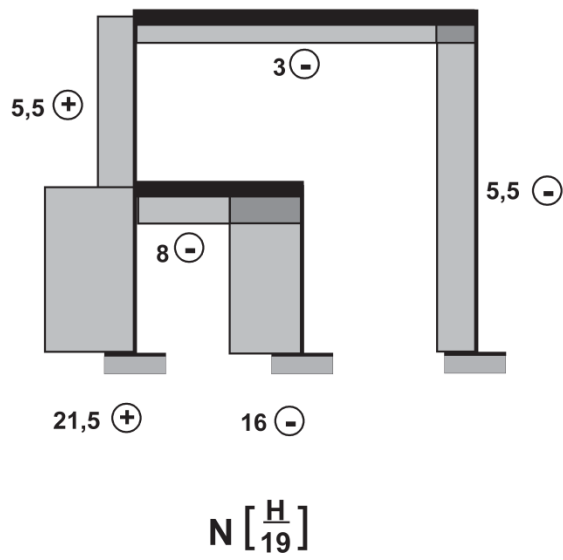
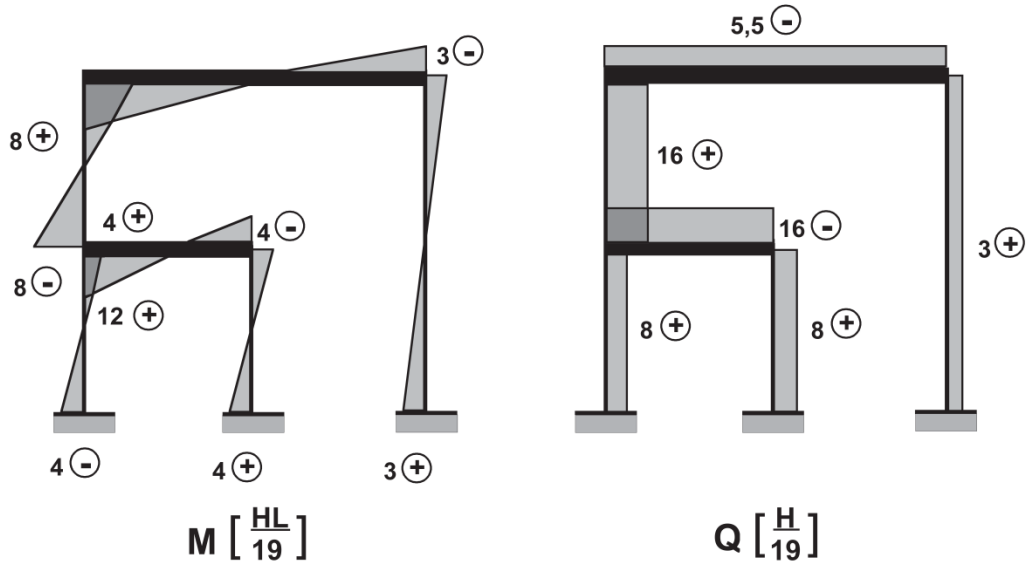


Causes	$X_1 = 1$	$X_2 = 1$	H
Effets			
Forces selon X_1			
Forces selon X_2			

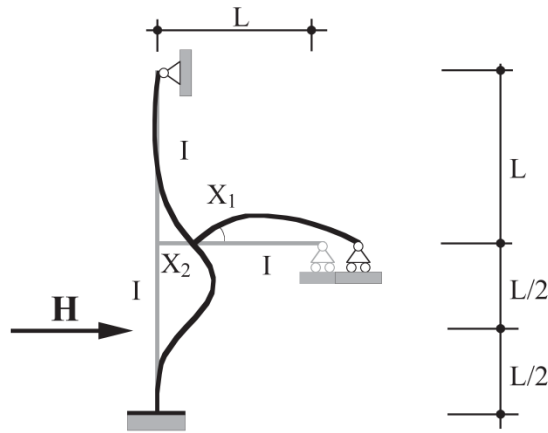
Conditions d'équilibre : $\frac{27 EI}{2 L^3} X_1 - \frac{12 EI}{L^3} X_2 - H = 0$

$-\frac{12 EI}{L^3} X_1 + \frac{36 EI}{L^3} X_2 = 0$

$X_1 = \frac{6 HL^3}{57 EI} \quad X_2 = \frac{2 HL^3}{57 EI}$



2.



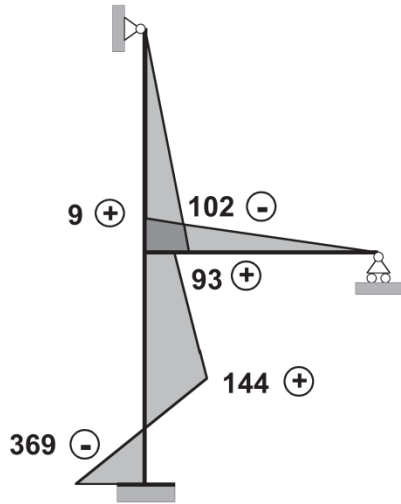
Causes			
Effets	$X_1 = 1$	$X_2 = 1$	H
Moments selon X_1			
Forces selon X_2			

Conditions d'équilibre : $\frac{10 EI}{L} X_1 + \frac{3 EI}{L^2} X_2 - \frac{HL}{8} = 0$

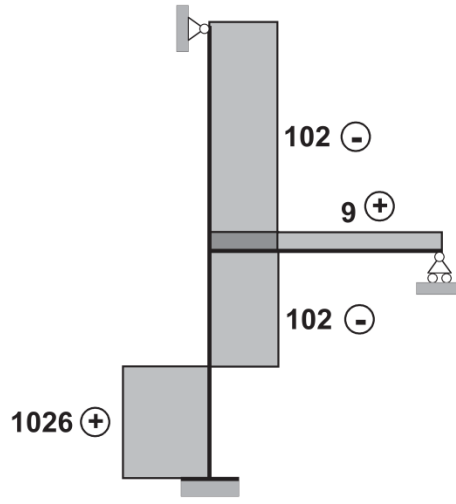
$$\frac{3 EI}{L^2} X_1 + \frac{15 EI}{L^3} X_2 - \frac{H}{2} = 0$$

$$\Rightarrow X_1 = \frac{3 HL^2}{1128 EI}$$

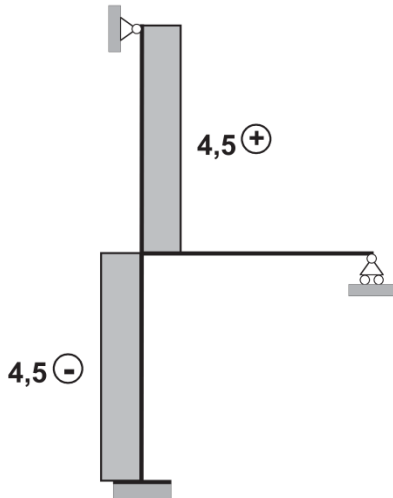
$$X_2 = \frac{37 HL^3}{1128 EI}$$



$M \left[\frac{HL}{1128} \right]$

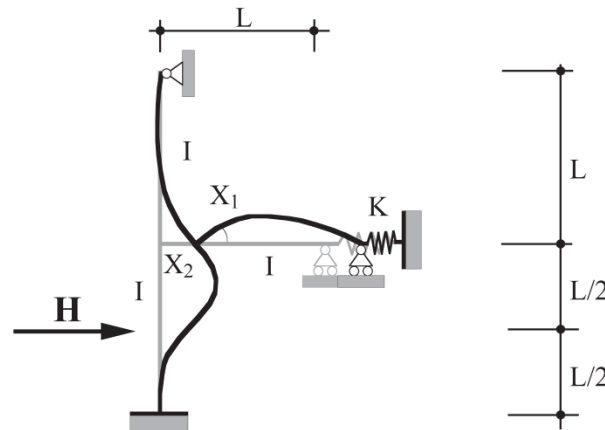


$Q \left[\frac{H}{1128} \right]$



$N \left[\frac{H}{1128} \right]$

3.



Causes Effets			
Moments selon X1			
Forces selon X2			

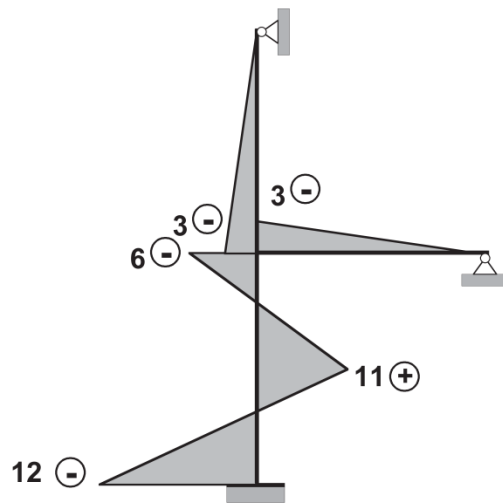
Conditions d'équilibre :

$$\frac{10 EI}{L} X_1 + \frac{3 EI}{L^2} X_2 - \frac{HL}{8} = 0$$

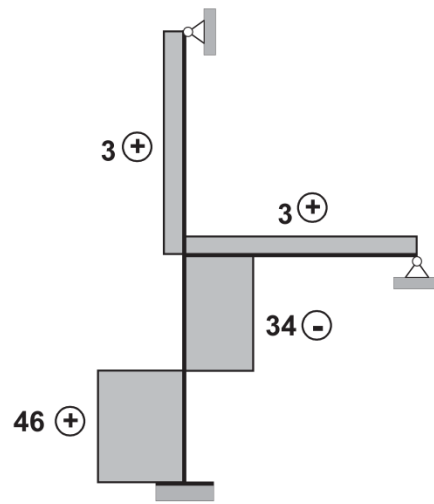
$$\frac{3 EI}{L^2} X_1 + \left(\frac{15 EI}{L^3} + K\right) X_2 - \frac{H}{2} = 0$$

$$\Rightarrow X_1 = \frac{3 H + \frac{K HL^3}{EI}}{80 L \left(\frac{141 EI}{10 L^3} + K\right)} \quad X_2 = \frac{37 H}{80 \left(\frac{141 EI}{10 L^3} + K\right)}$$

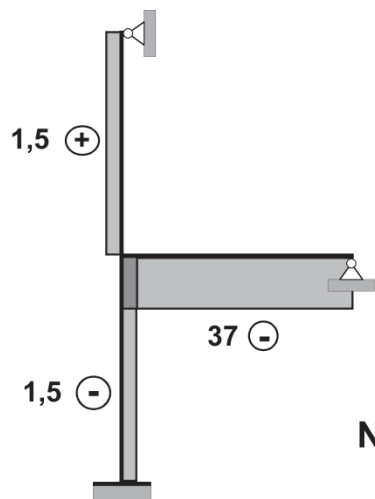
si $K = \infty \Rightarrow X_1 = \frac{HL^2}{80EI}$ $X_2 = 0$



$M \left[\frac{HL}{80} \right]$



$Q \left[\frac{H}{80} \right]$



$N \left[\frac{H}{80} \right]$