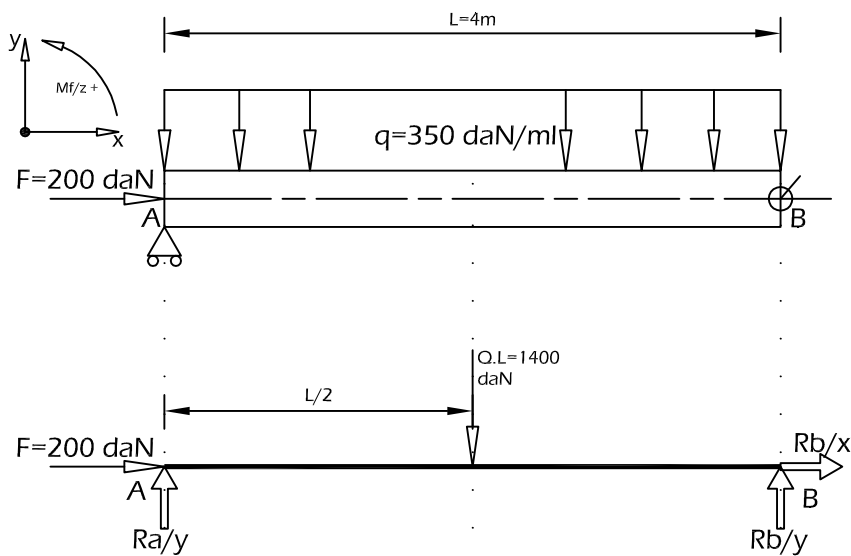


Diagramme des efforts internes

Cas d'une charge uniformément répartie



Somme des forces /x = 0

$F + R_{b/x} = 0$ d'où $R_{b/x} = -200 \text{ daN}$

Somme des forces /y = 0

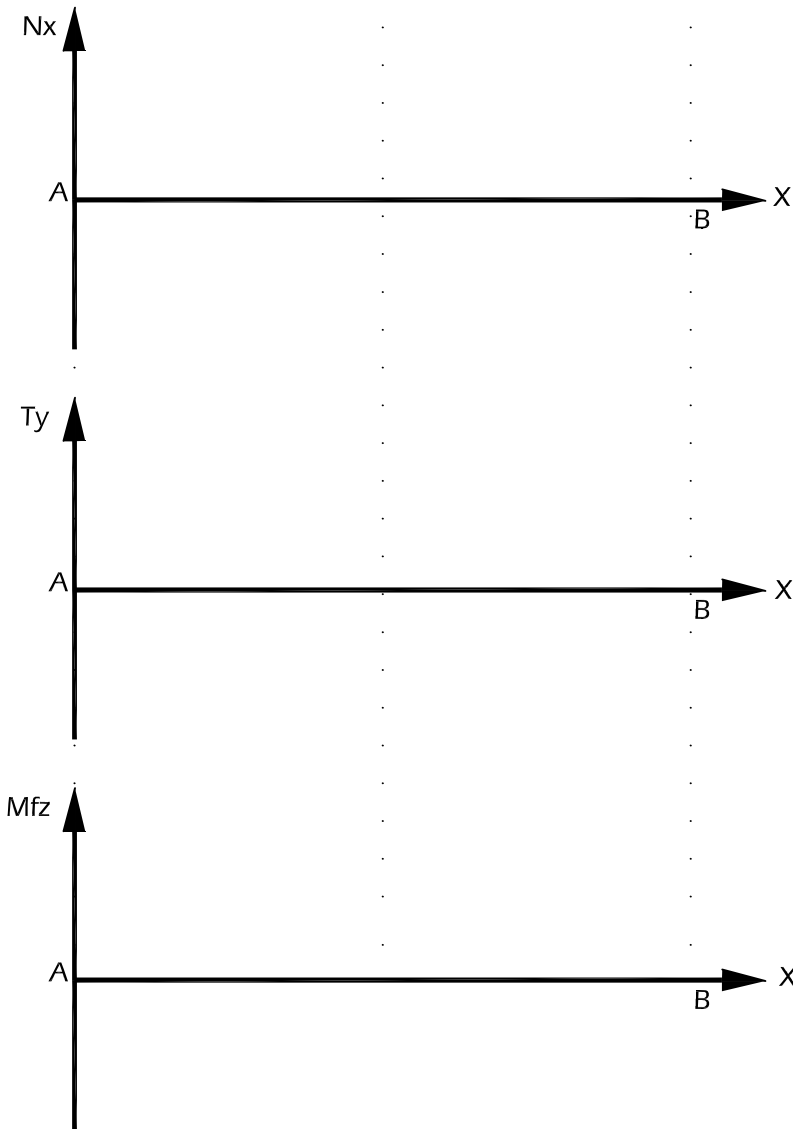
$R_{a/y} - Q.L + R_{b/y} = 0$ d'où $R_{a/y} + R_{b/y} = 1400 \text{ daN}$

Somme des moments /A = 0

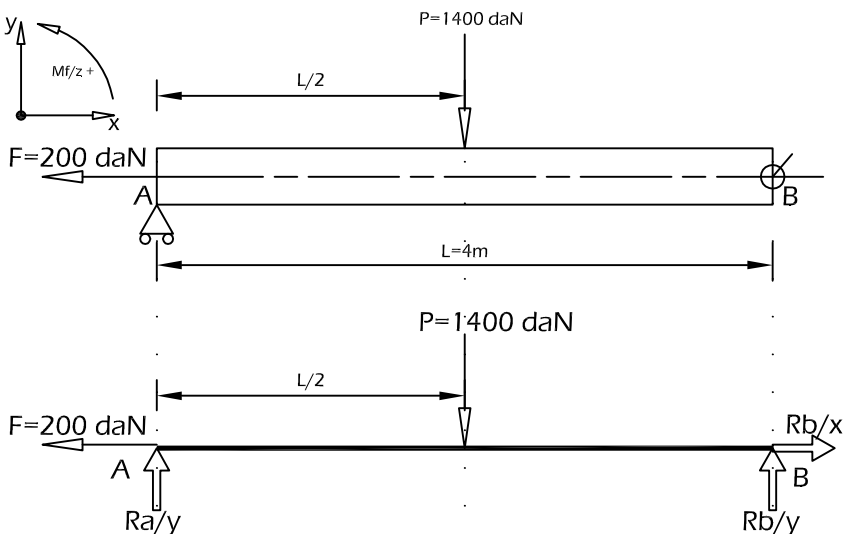
$-Q.L*(L/2) + R_{b/y}*L = 0$ d'où $R_{b/y}*L = Q.L^2/2$
d'où $R_{b/y} = Q.L/2 = 700 \text{ daN}$
d'où $R_{a/y} = 1400 - R_{b/y} = 700 \text{ daN}$

$R_{b/x} = -200 \text{ daN}$
 $R_{a/y} = R_{b/y} = 700 \text{ daN}$

Moment fléchissant (Mfz) max. à $L/2 = Q.L^2/8$
 $M_{fz} = -700 \text{ daN.m}$



Cas d'une charge ponctuelle



Somme des forces /x = 0

$-F + R_{b/x} = 0$ d'où $R_{b/x} = 200 \text{ daN}$

Somme des forces /y = 0

$R_{a/y} - P + R_{b/y} = 0$ d'où $R_{a/y} + R_{b/y} = 1400 \text{ daN}$

Somme des moments /A = 0

$-P*(L/2) + R_{b/y}*L = 0$ d'où $R_{b/y}*L = P.L/2$
d'où $R_{b/y} = P/2 = 700 \text{ daN}$
d'où $R_{a/y} = 1400 - R_{b/y} = 700 \text{ daN}$

$R_{b/x} = 700 \text{ daN}$
 $R_{a/y} = R_{b/y} = 700 \text{ daN}$

Moment fléchissant (Mfz) max. à $l/2 = P.L/4$
 $M_{fz} = -1400 \text{ daN.m}$

