$N(z) = 0$

$T(z) = q\left(\frac{l}{2} - z\right)$

$M(z) = \frac{qz}{2}(l - z)$ ← 2° grado

$\frac{ql^2}{8} = N_{MAX}$ (Δ)

Trave semipl. app., carico unif. q

$\Rightarrow$ $N_{mezz} = \frac{ql^2}{8}$ (mezzeria)

Trucco mnemonico

$[ql^2] = FL^{-1}L^2 = FL = [M]$

$\frac{1}{8}$

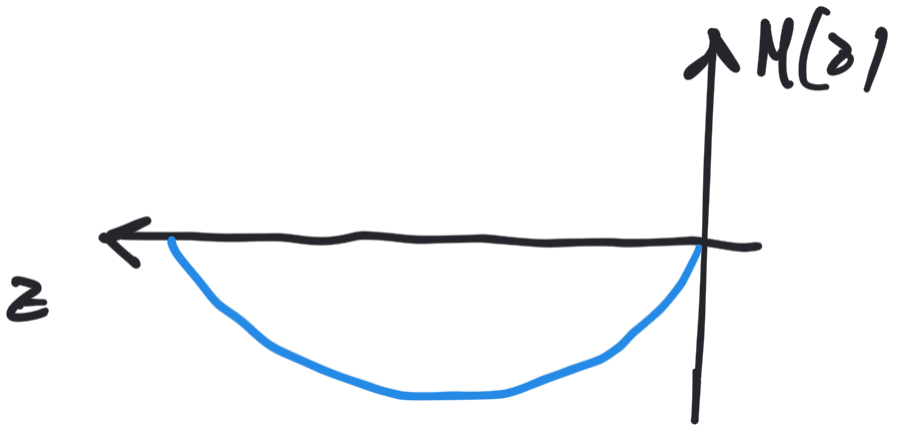
$M>0 \Leftrightarrow$ tese fibre sup.

Regola fibre tese

$\Rightarrow M>0$ diapr.

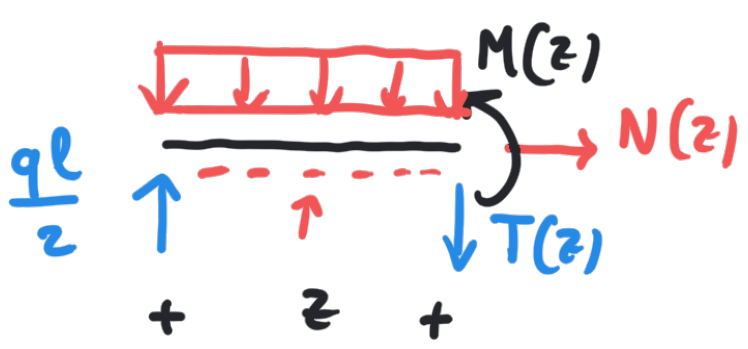
fibra

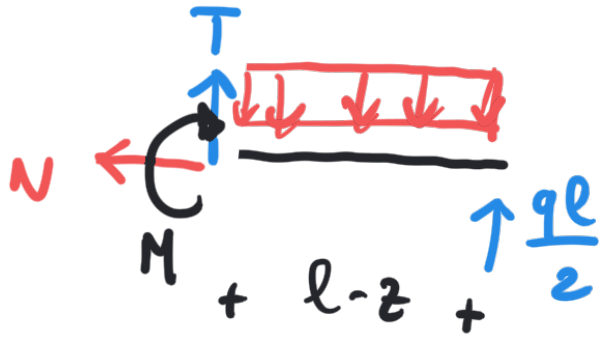
linea guida.



la convenzione adoperata per N non dipende da come abbiamo orientato l'asse.

OSSERV. : le CdS si possono determinare indifferentemente imponendo l'equilibrio della pa





$N(z) = 0$ ✓

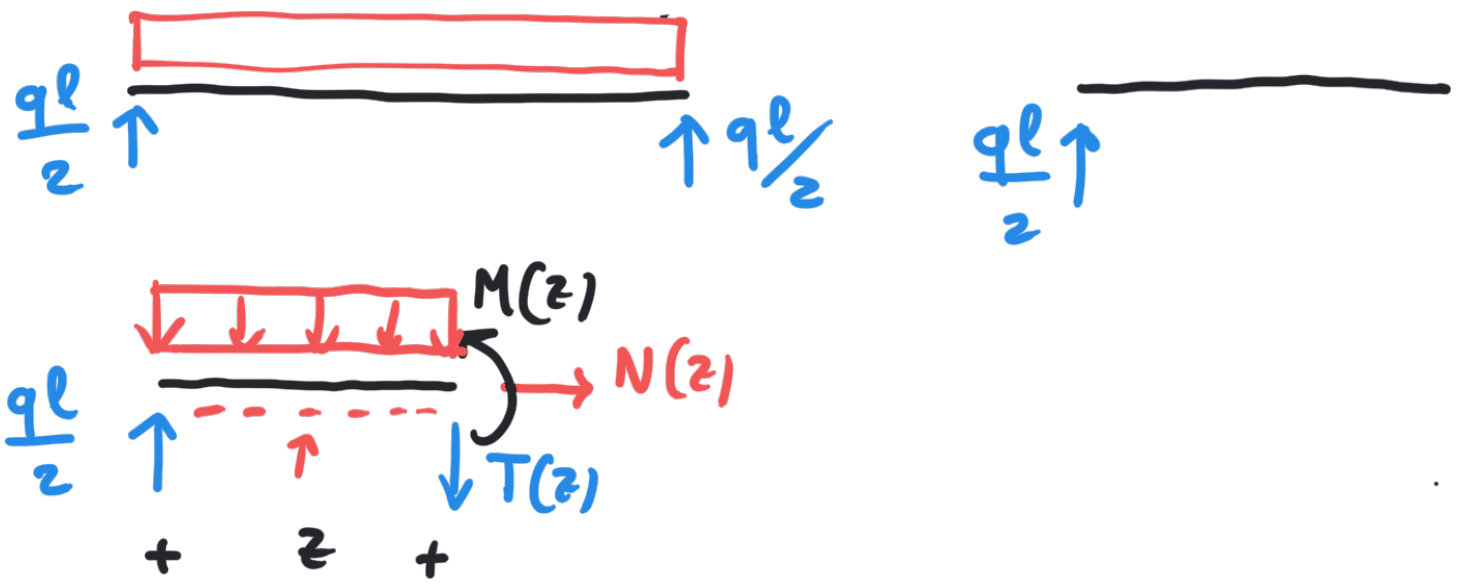
$T(z) = q\left(\frac{l}{2} - z\right)$ ✓

$M(z) = \frac{qz}{2}(l - z)$

$T + \frac{ql}{2} - q(l - z) = 0$

$T = \underbrace{ql - \frac{ql}{2}}_{ql/2} - qz$

OSSERV. : le CdS si possono determinare indifferentemente imponendo l'equilibrio della parte che precede o della parte che segue.

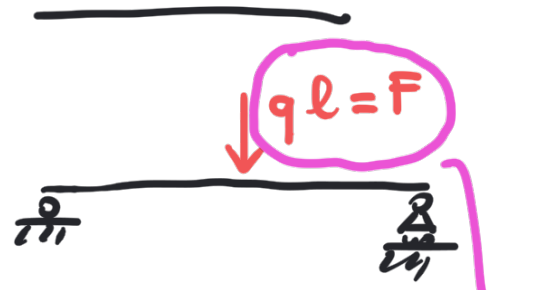


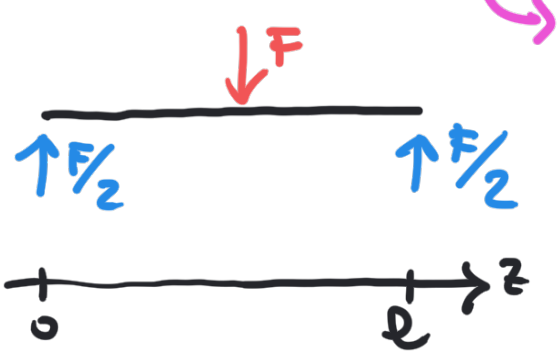
$$N(z) = 0$$

$$T(z) = q\left(\frac{l}{2} - z\right)$$

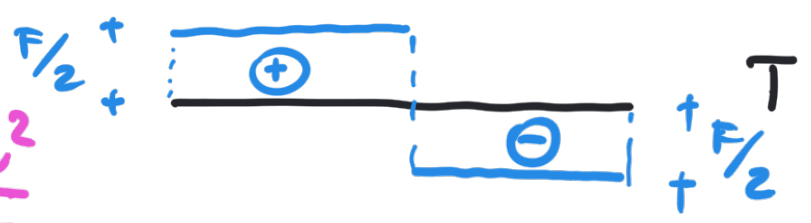
$$M(z) = \frac{qz}{2}(l - z)$$

ESEMPIO 2

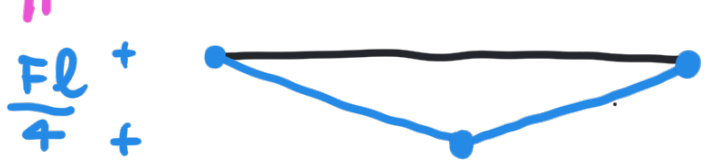




$= ql^2/8 \cdot 2$ → vedi (Δ)



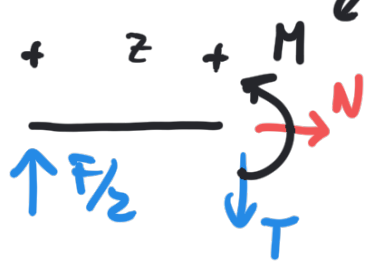
$\frac{ql^2}{4} = \frac{Fl}{4}$



NB: concentrando il carico in mezzeria Mmax raddoppia!

2 casi:

① $z < l/2$



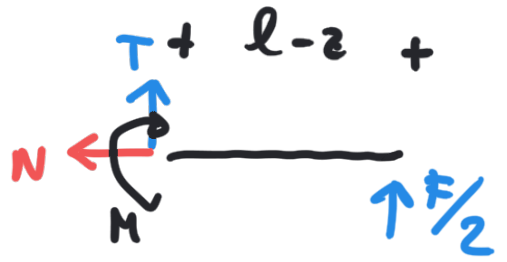
parte che precede

$N = 0$

$T = F/2$

$M = F/2\, z$

② $z > l/2$

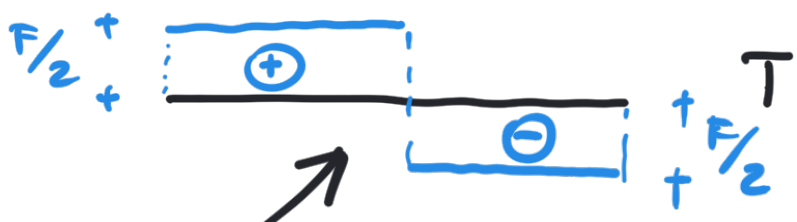


↑ parte che segue

$N = 0$

$T = -F/2$

$M = F/2\,(l - z)$



diagr. deve evidenz. discont.

OSSERVAZIONE:

NB: concentrand
il carico
nella mezzeria
il momento
flettente mass.
raddoppia!