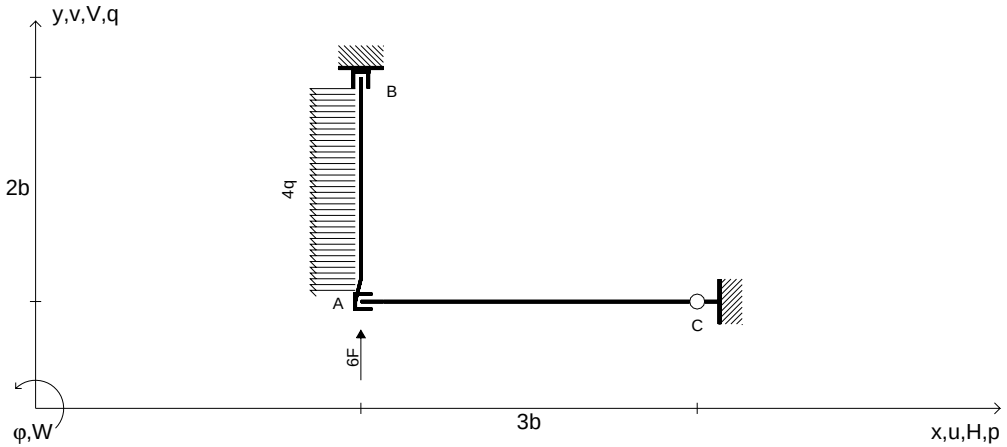
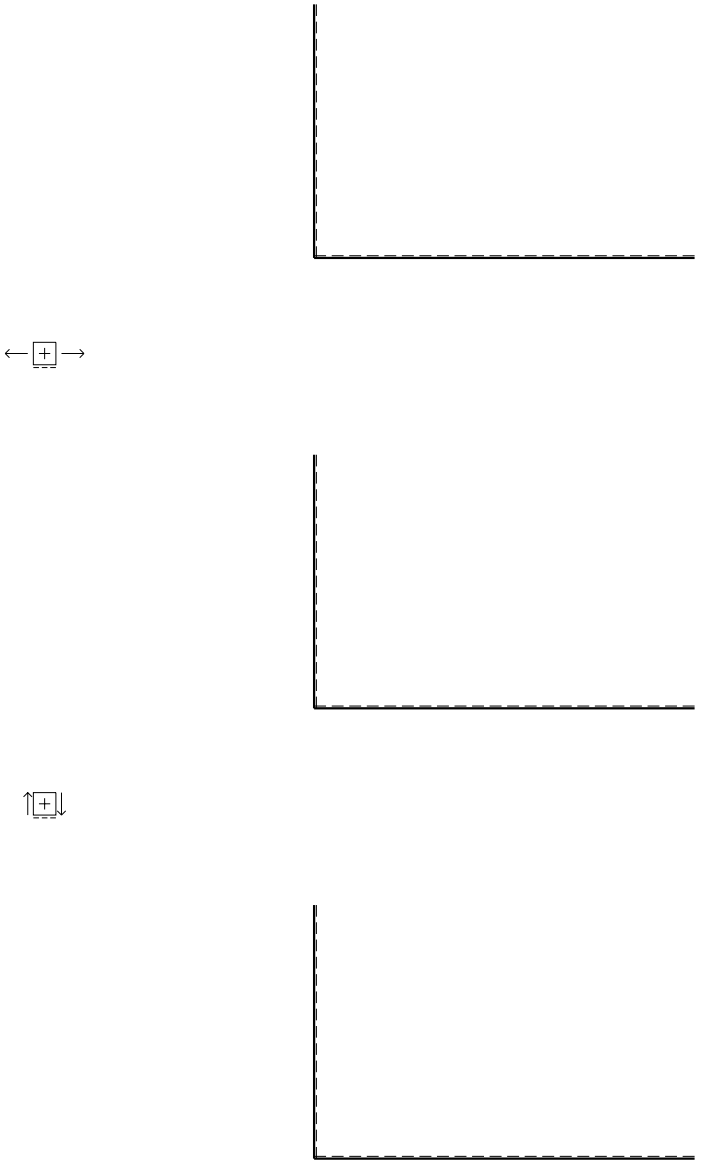
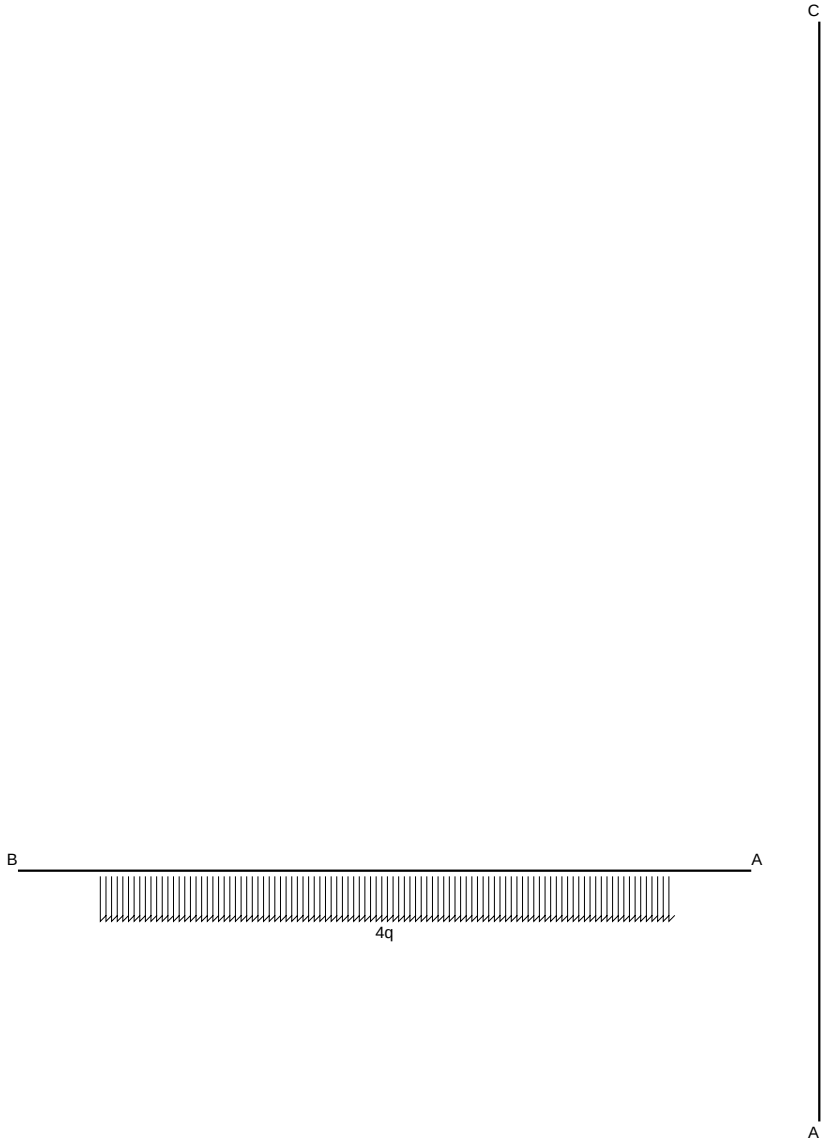


$V_A = 6F$ $p_{AB} = -4q = -4F/b$

Svolgere l'analisi cinematica.
Determinare matrice di congruenza e di equilibrio.
Determinare le reazioni vincolari a terra col PLV (Le=0).
Determinare le azioni interne in B col PLV (Le=0).
Carichi e deformazioni date hanno verso efficace in disegno.
Calcolare reazioni vincolari della struttura e delle aste.
Tracciare i diagrammi delle azioni interne nelle aste.





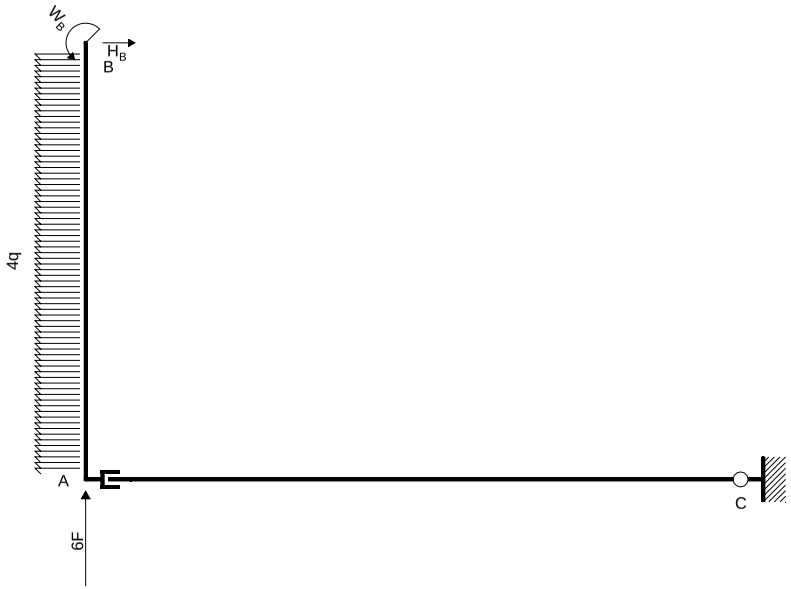
REAZIONI

H_B =
W_B =

H_C =
V_C =

H_{AB} =
V_{AB} =
W_{AB} =
H_{BA} =
V_{BA} =
W_{BA} =

H_{CA} =
V_{CA} =
W_{CA} =
H_{AC} =
V_{AC} =
W_{AC} =



EQUAZIONI DI EQUILIBRIO

Rotazione globale intorno a C

$-2H_B b + W_B = 18Fb - 8qb^2$

Traslazione orizzontale: aste AB

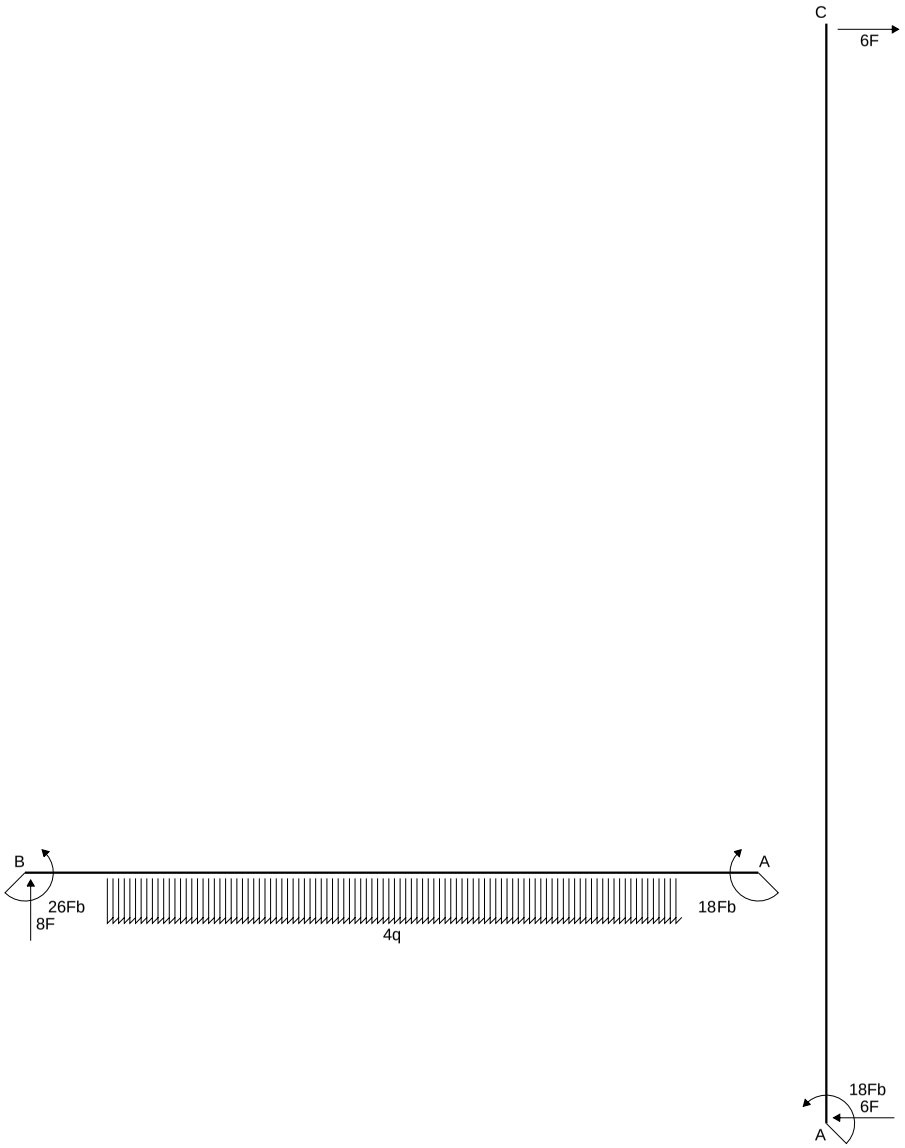
$H_B = 8qb$

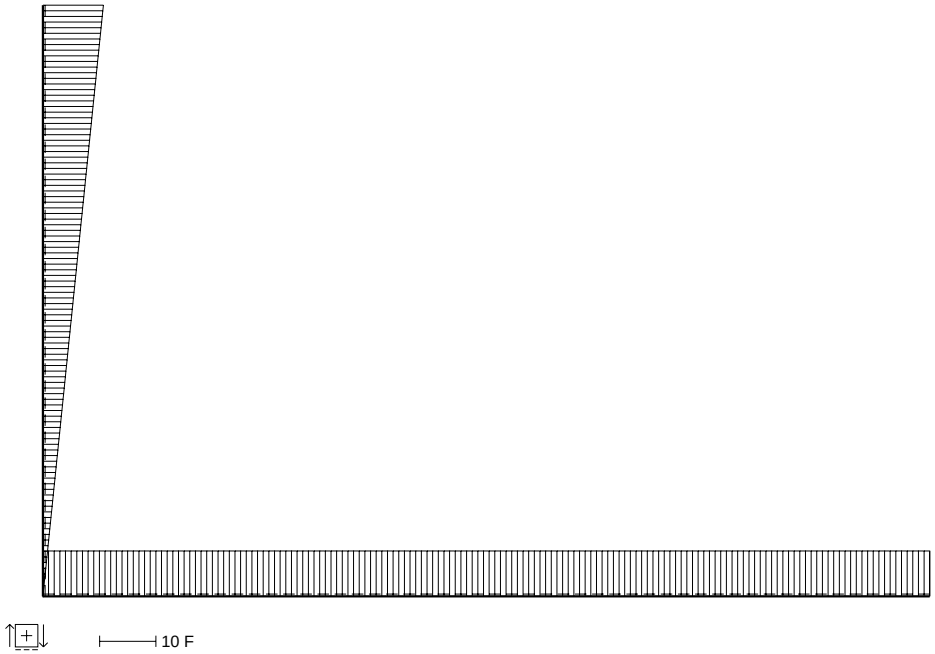
Matrice di equilibrio

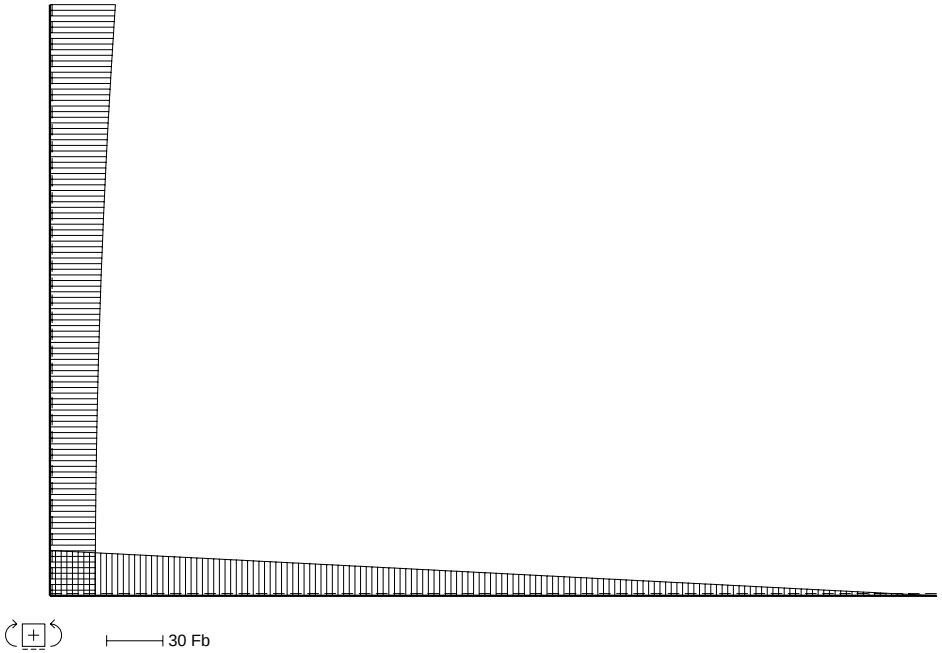
$$\begin{matrix} & [H_B b & W_B] \\ \varphi_C & \begin{bmatrix} -2 & 1 \end{bmatrix} \\ u_{AC} & \begin{bmatrix} 1 & 0 \end{bmatrix} \end{matrix} = \begin{bmatrix} 18 & -8 \\ 0 & 8 \end{bmatrix} \begin{matrix} [Fb & qb^2] \end{matrix}$$

Soluzione del sistema

$$\begin{bmatrix} H_B b \\ W_B \end{bmatrix} = \begin{bmatrix} 0 & 8 \\ 18 & 8 \end{bmatrix} \begin{matrix} [Fb & qb^2] \end{matrix}$$







REAZIONI

$H_B = 8qb = 8F$ $H_C = 0$

$W_B = 18Fb + 8qb^2 = 26Fb$ $V_C = -6F = -6F$

$H_{AB} = 0$ $H_{CA} = 0$

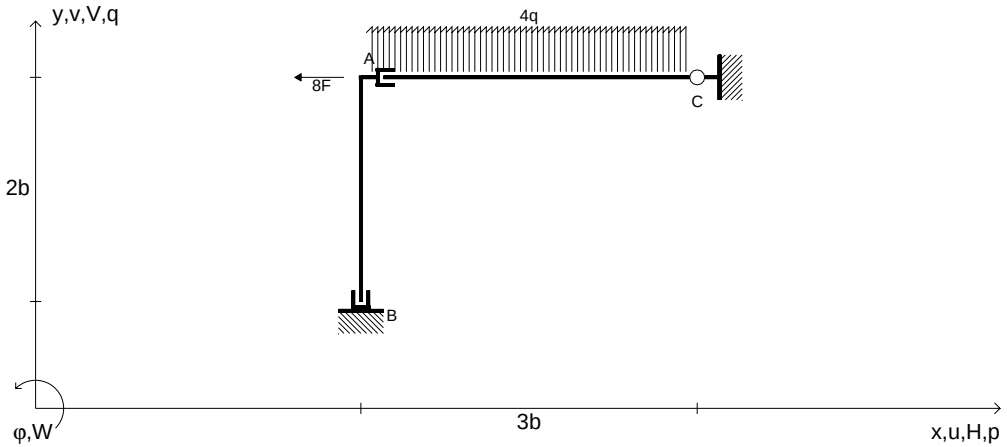
$V_{AB} = 0$ $V_{CA} = -6F = -6F$

$W_{AB} = -18Fb = -18Fb$ $W_{CA} = 0$

$H_{BA} = 8qb = 8F$ $H_{AC} = 0$

$V_{BA} = 0$ $V_{AC} = 6F = 6F$

$W_{BA} = 18Fb + 8qb^2 = 26Fb$ $W_{AC} = 18Fb = 18Fb$



$H_A = -8F$ $q_{CA} = 4q = 4F/b$

Svolgere l'analisi cinematica.
Determinare matrice di congruenza e di equilibrio.
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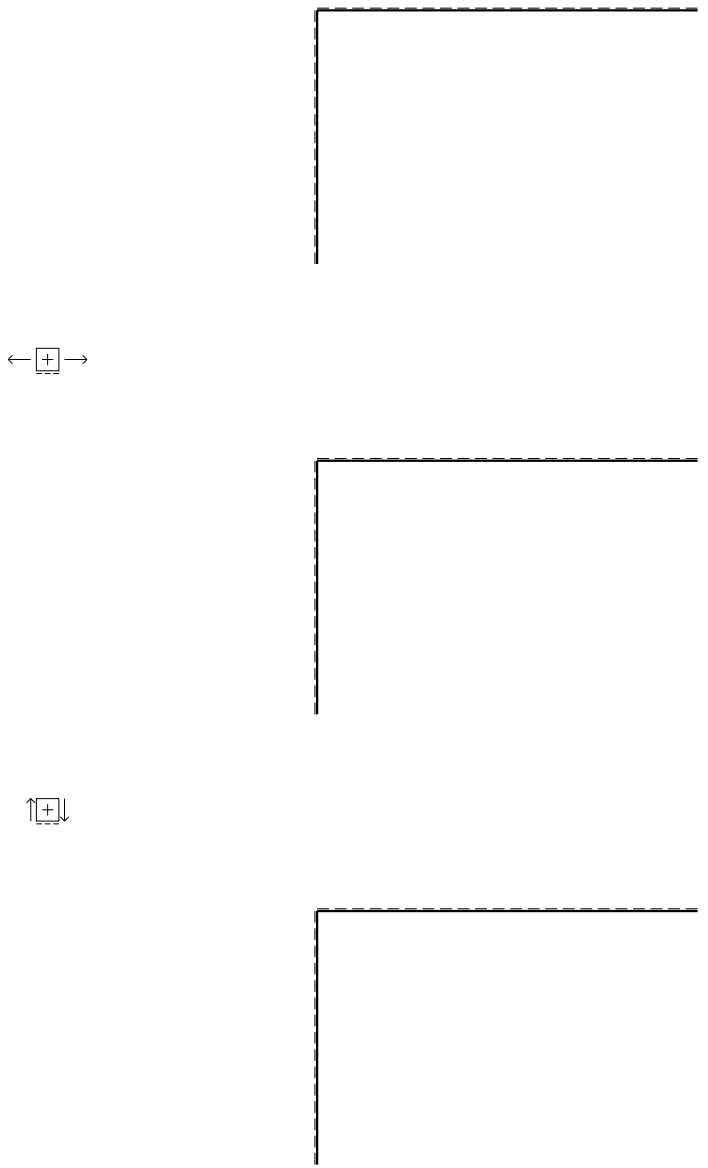
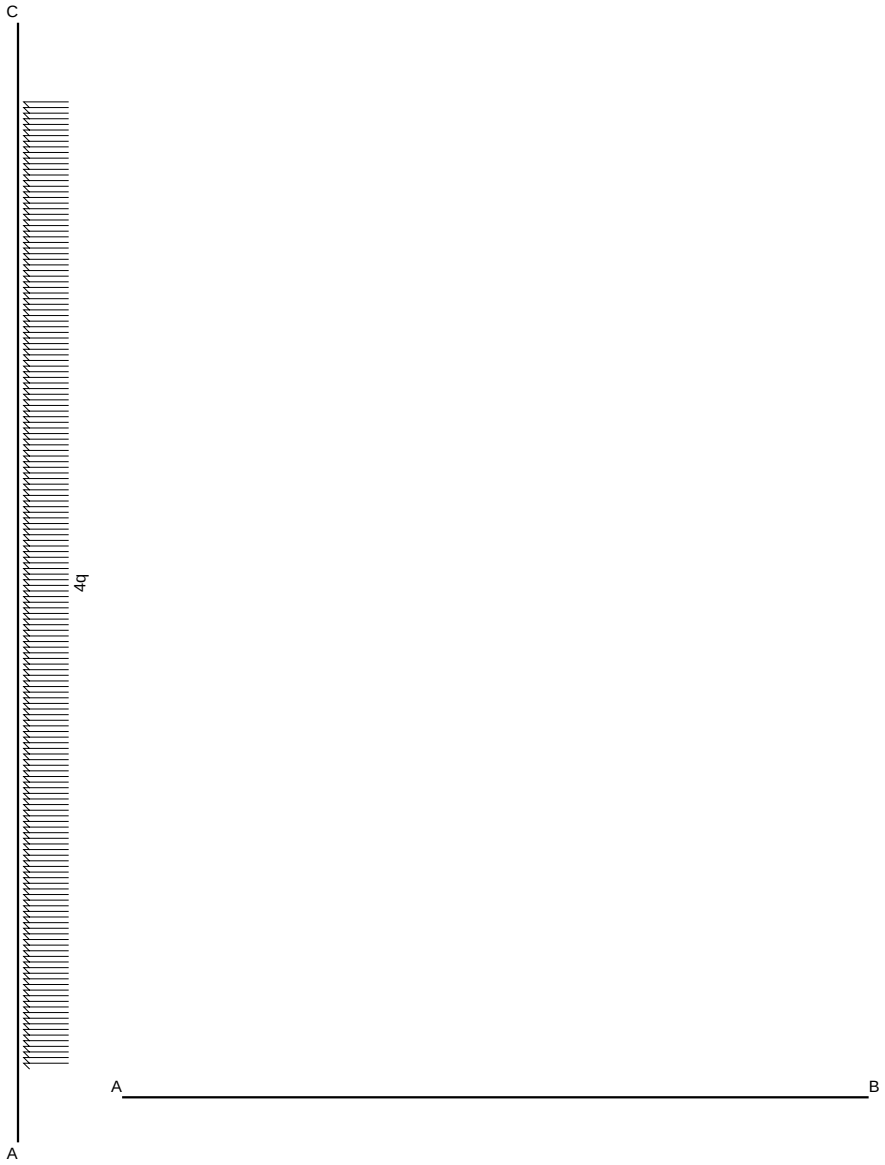




REAZIONI

H_B = H_C =

W_B = V_C =

H_{AB} = H_{CA} =

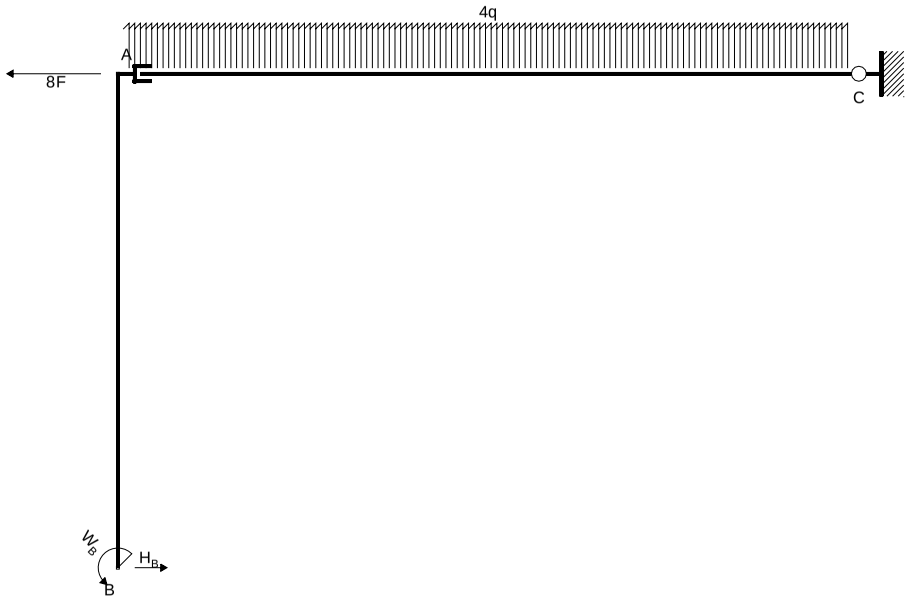
V_{AB} = V_{CA} =

W_{AB} = W_{CA} =

H_{BA} = H_{AC} =

V_{BA} = V_{AC} =

W_{BA} = W_{AC} =



EQUAZIONI DI EQUILIBRIO

Rotazione globale intorno a C

$2H_Bb + W_B = 18qb^2$

Traslazione orizzontale: aste AB

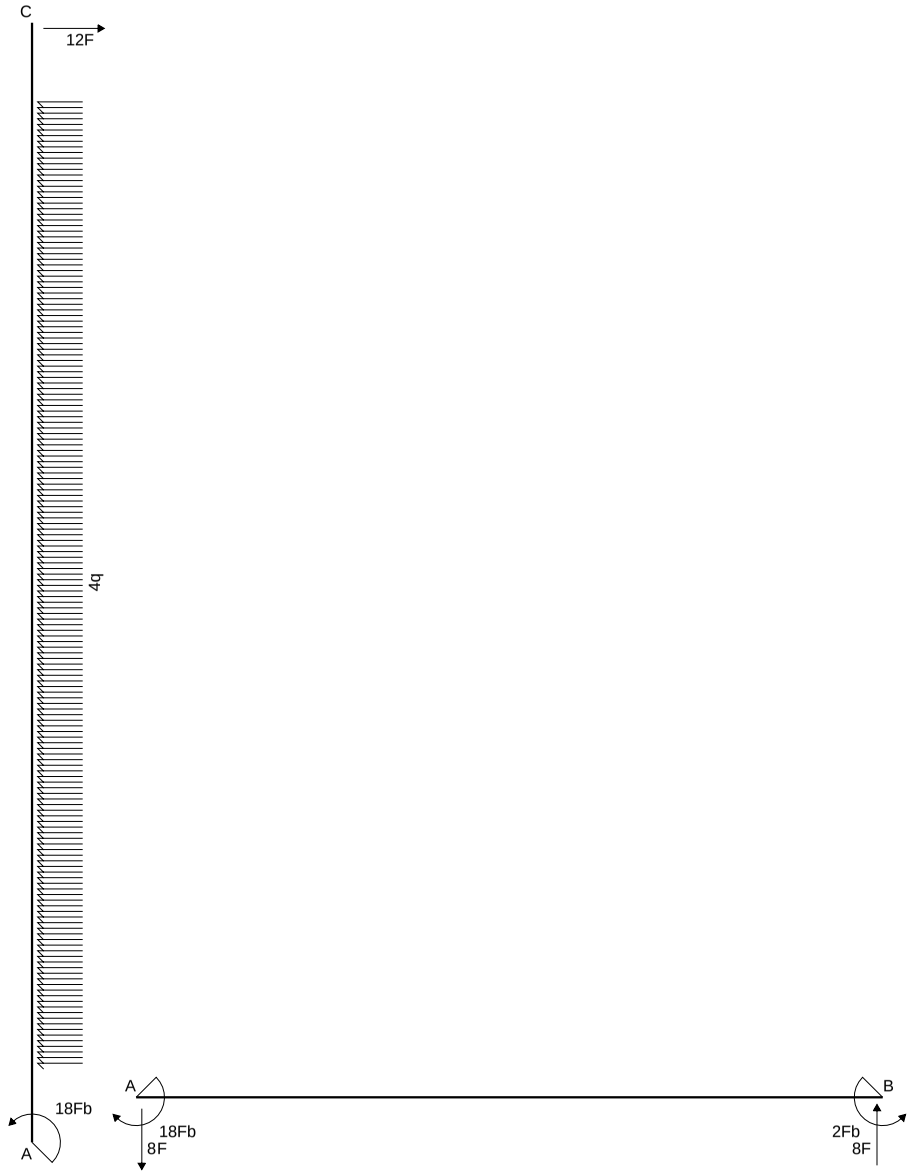
$H_B = 8F$

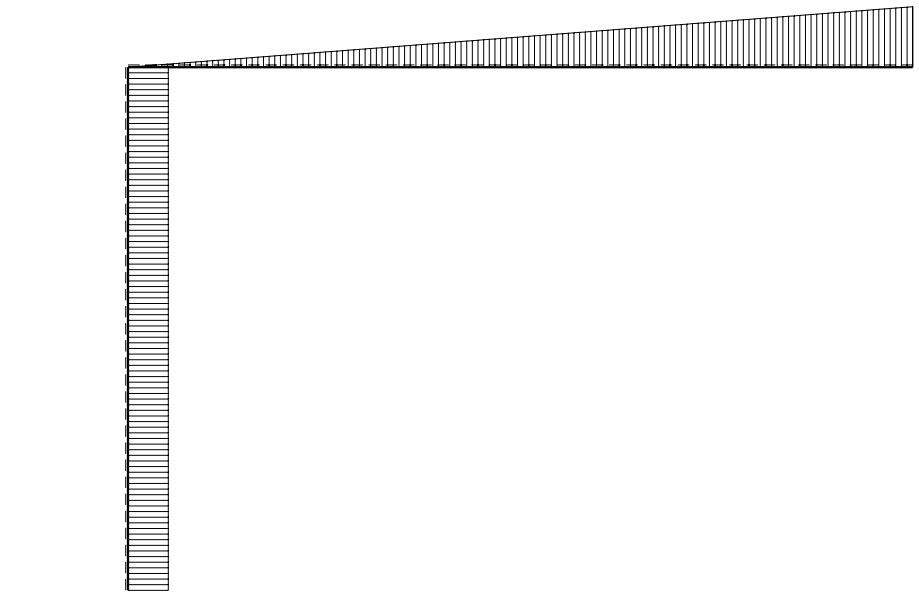
Matrice di equilibrio

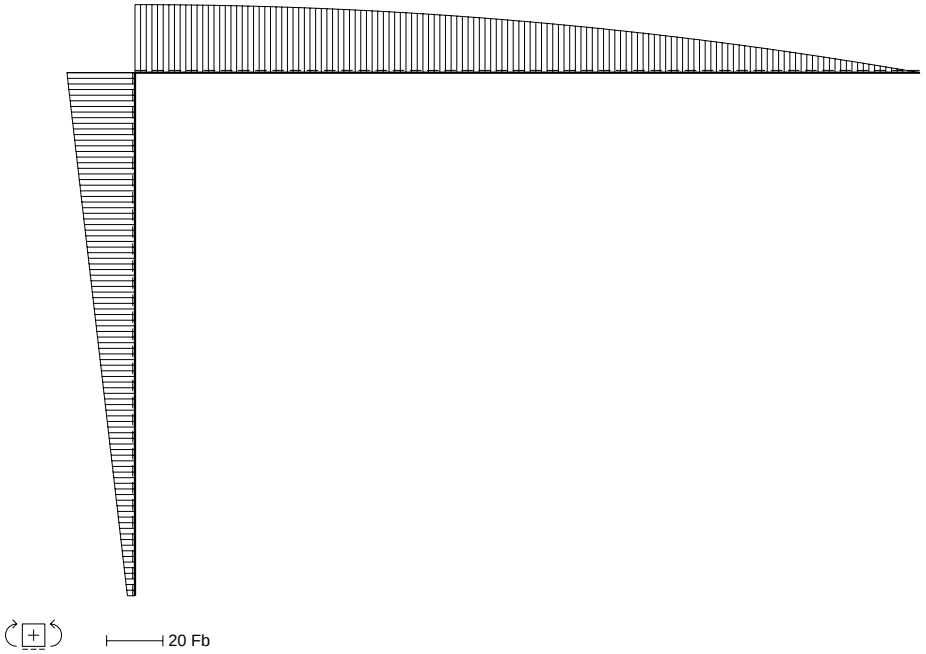
$$\begin{matrix} & [H_Bb & W_B] \\ \varphi_C & \\ u_{AC} & \end{matrix} \begin{bmatrix} 2 & 1 \\ 1 & 0 \end{bmatrix} = \begin{matrix} [Fb & qb^2] \\ & \\ & \end{matrix} \begin{bmatrix} 0 & 18 \\ 8 & 0 \end{bmatrix}$$

Soluzione del sistema

$$\begin{bmatrix} H_Bb \\ W_B \end{bmatrix} = \begin{matrix} [Fb \\ \\ \end{matrix} \begin{matrix} qb^2] \\ \\ \end{matrix} \begin{bmatrix} 8 & 0 \\ -16 & 18 \end{bmatrix}$$







REAZIONI

$H_B = 8F = 8F$ $H_C = 0$

$W_B = -16Fb + 18qb^2 = 2Fb$ $V_C = -12qb = -12F$

$H_{AB} = -8F = -8F$ $H_{CA} = 0$

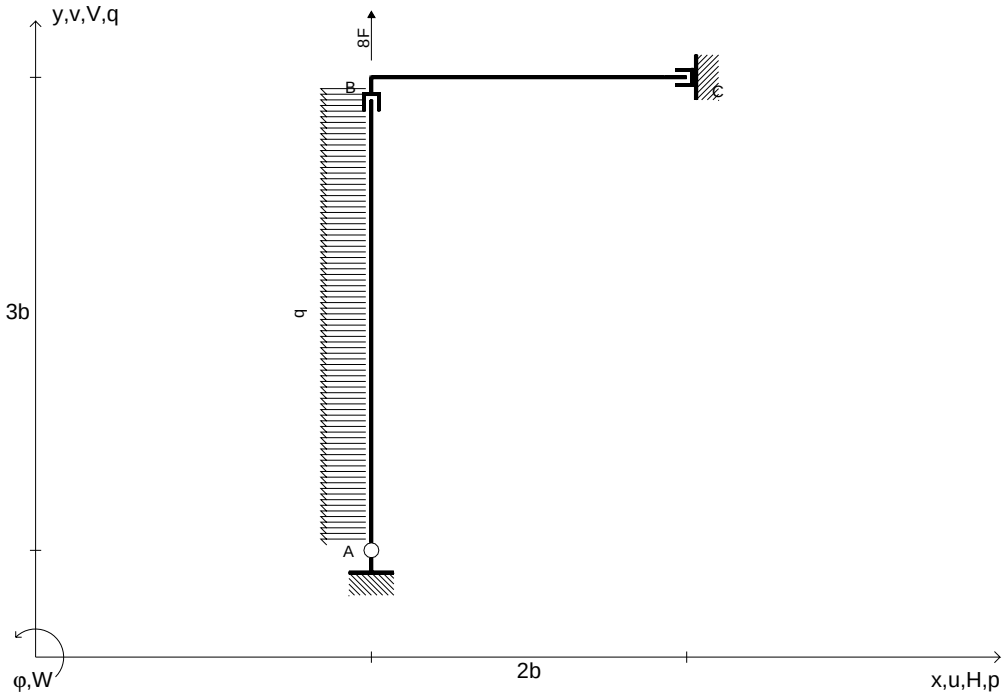
$V_{AB} = 0$ $V_{CA} = -12qb = -12F$

$W_{AB} = -18qb^2 = -18Fb$ $W_{CA} = 0$

$H_{BA} = 8F = 8F$ $H_{AC} = 0$

$V_{BA} = 0$ $V_{AC} = 0$

$W_{BA} = -16Fb + 18qb^2 = 2Fb$ $W_{AC} = 18qb^2 = 18Fb$



$V_B = 8F$ $p_{AB} = -q = -F/b$

Svolgere l'analisi cinematica.
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Determinare le reazioni vincolari a terra col PLV (Le=0).
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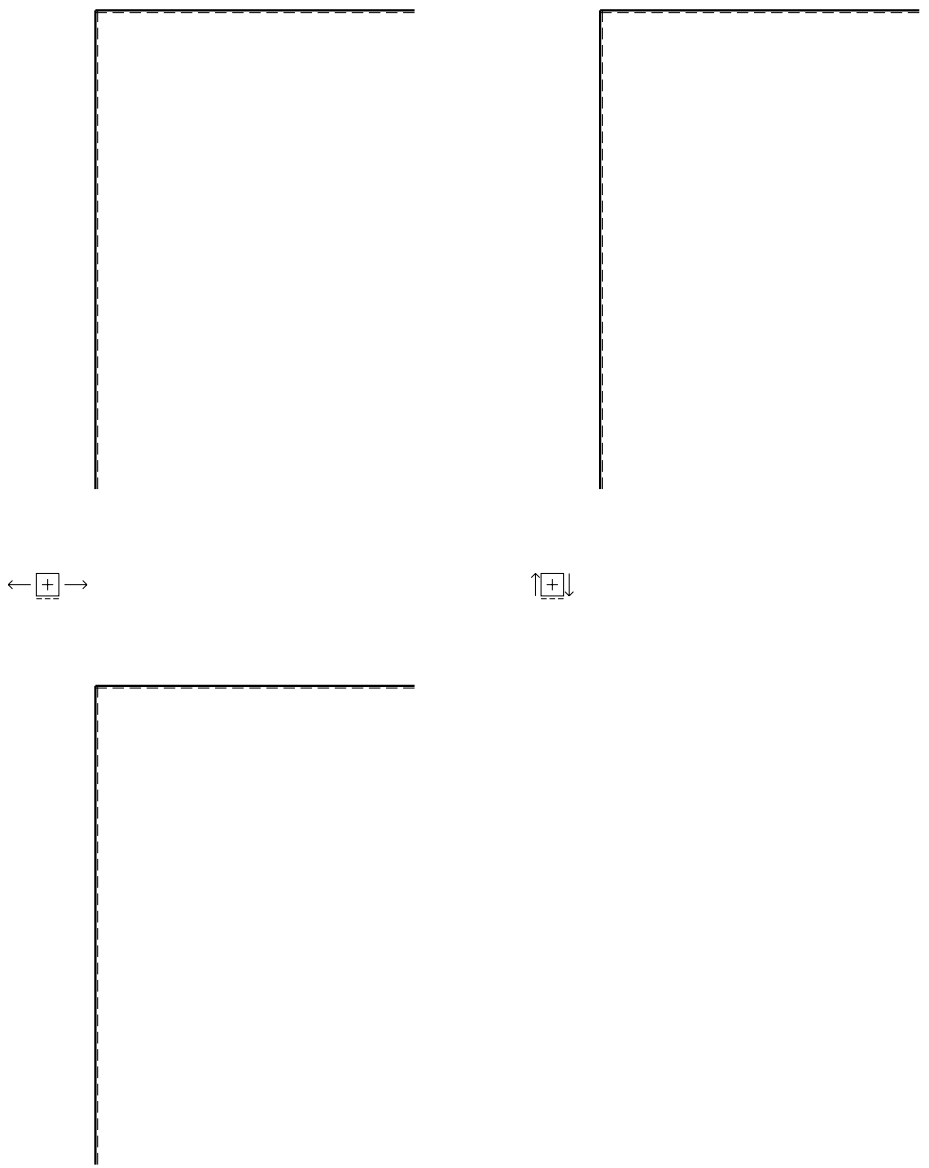

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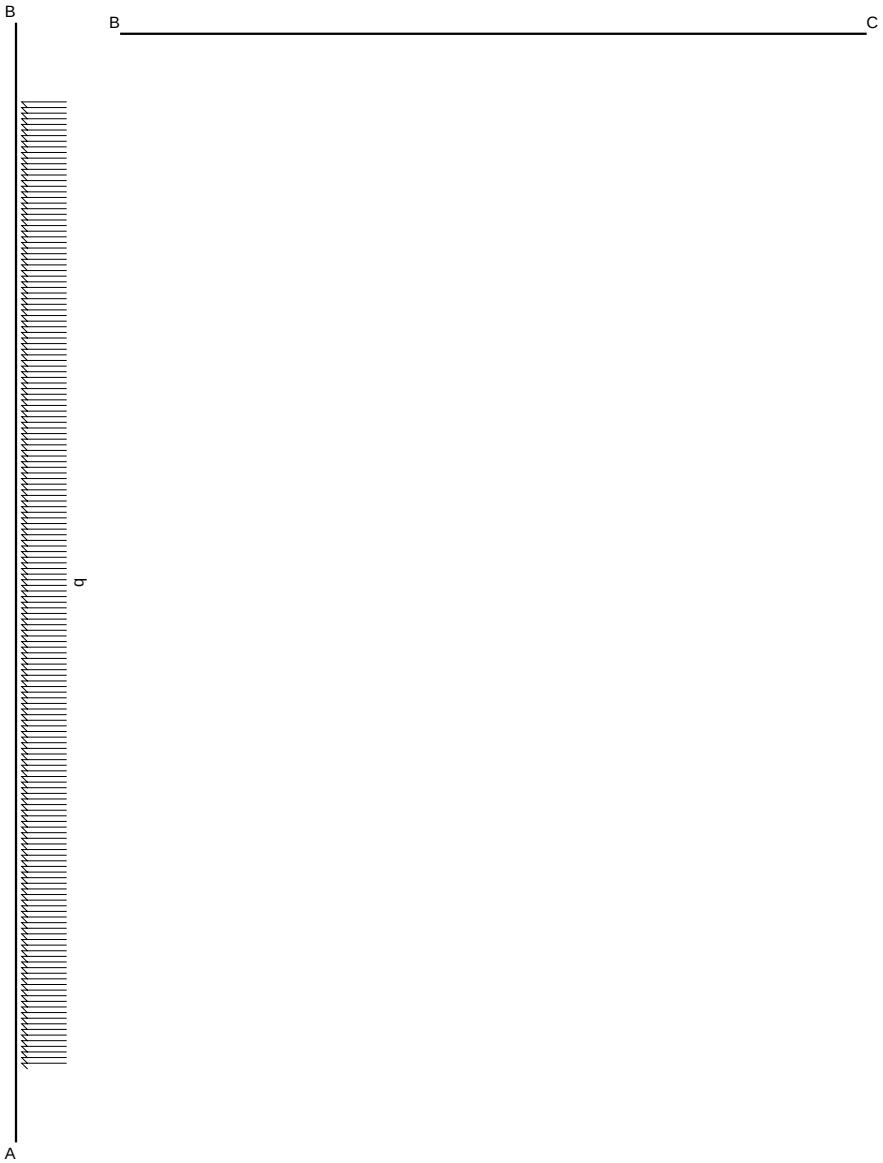
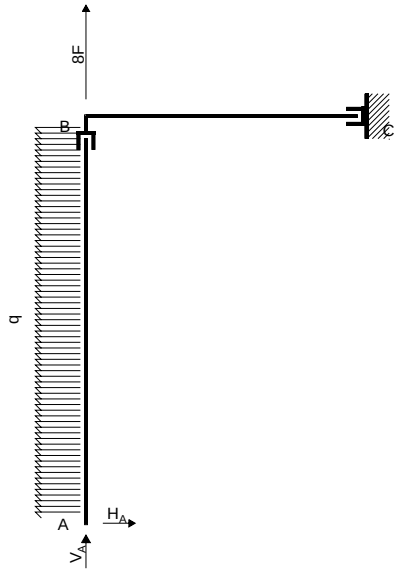


REAZIONI

H_A =
V_A =
V_C =
W_C =

H_{AB} =
V_{AB} =
W_{AB} =
H_{BA} =
V_{BA} =
W_{BA} =
H_{BC} =
V_{BC} =
W_{BC} =
H_{CB} =
V_{CB} =
W_{CB} =



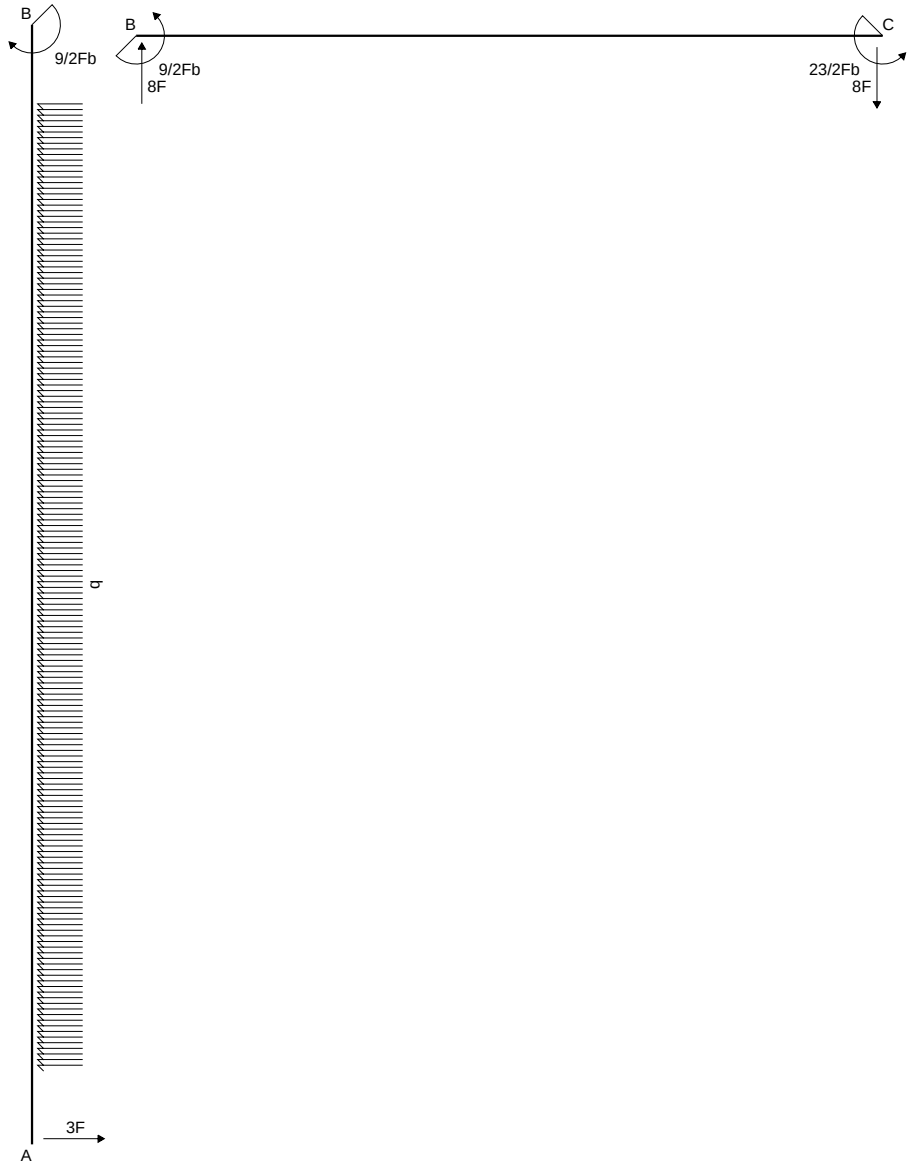
EQUAZIONI DI EQUILIBRIO
Traslazione orizzontale globale
$H_A = 3qb$
Traslazione verticale: aste BA
$V_A = 0$

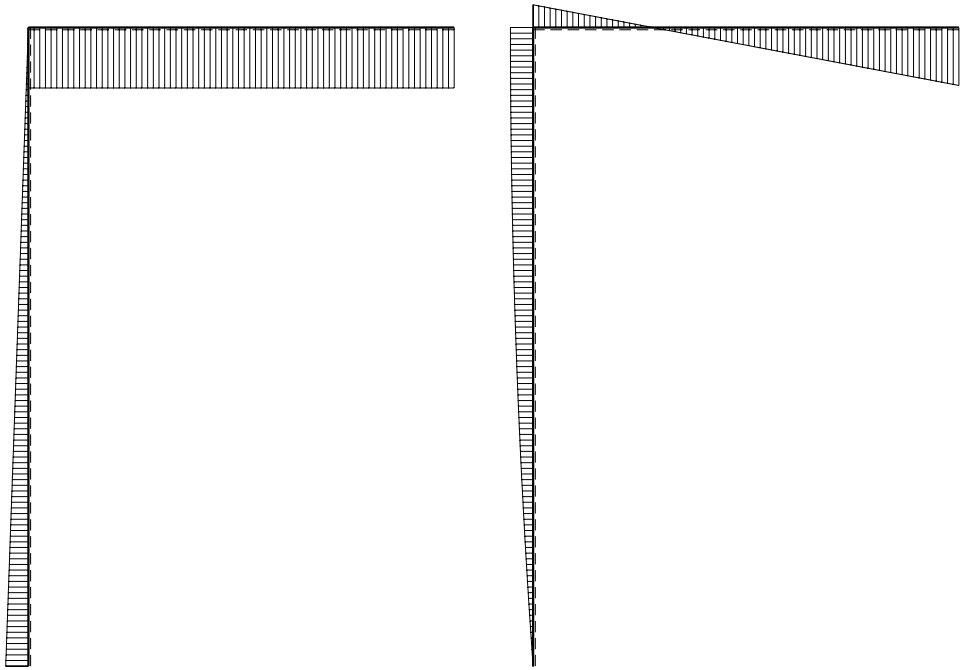
Matrice di equilibrio

$$\begin{matrix} & [H_A b & V_A b] \\ u_C & \begin{bmatrix} 1 & 0 \end{bmatrix} \\ v_{BA} & \begin{bmatrix} 0 & 1 \end{bmatrix} \end{matrix} = \begin{matrix} [Fb & qb^2] \\ \begin{bmatrix} 0 & 3 \end{bmatrix} \\ \begin{bmatrix} 0 & 0 \end{bmatrix} \end{matrix}$$

Soluzione del sistema

$$\begin{bmatrix} H_A b \\ V_A b \end{bmatrix} = \begin{matrix} [Fb & qb^2] \\ \begin{bmatrix} 0 & 3 \end{bmatrix} \\ \begin{bmatrix} 0 & 0 \end{bmatrix} \end{matrix}$$





10 F

15 Fb

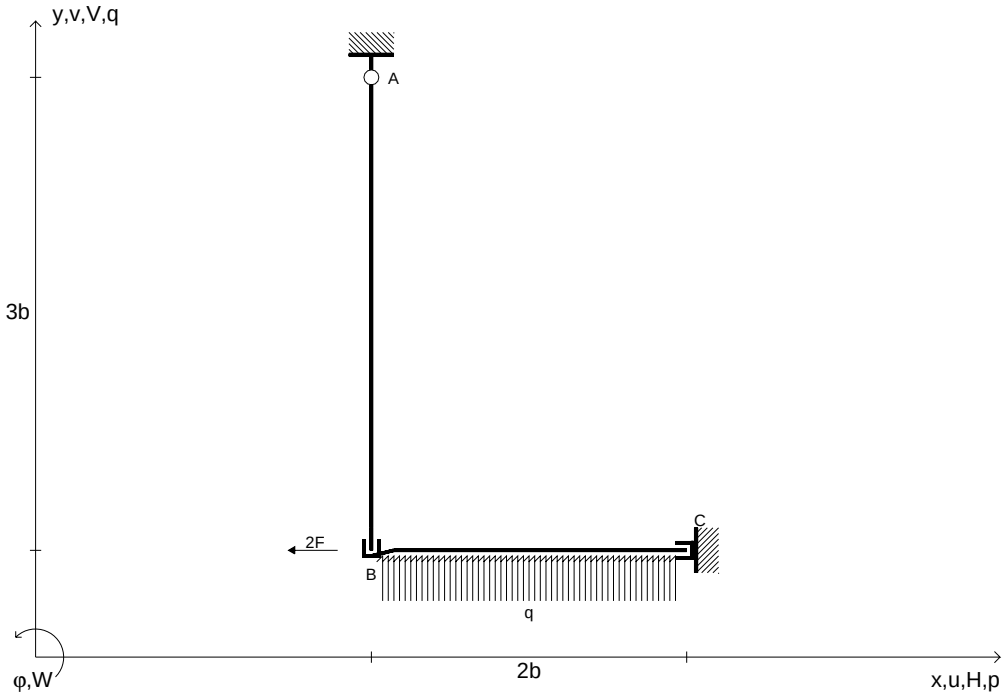
REAZIONI

$H_A = 3qb = 3F$
$V_A = 0$

$V_C = -8F = -8F$
$W_C = 16Fb - 9/2qb^2 = 23/2Fb$

$H_{AB} = 3qb = 3F$
$V_{AB} = 0$
$W_{AB} = 0$
$H_{BA} = 0$
$V_{BA} = 0$
$W_{BA} = -9/2qb^2 = -9/2Fb$

$H_{BC} = 0$
$V_{BC} = 8F = 8F$
$W_{BC} = 9/2qb^2 = 9/2Fb$
$H_{CB} = 0$
$V_{CB} = -8F = -8F$
$W_{CB} = 16Fb - 9/2qb^2 = 23/2Fb$



$H_B = -2F$ $q_{BC} = q = F/b$

Svolgere l'analisi cinematica.
Determinare matrice di congruenza e di equilibrio.
Determinare le reazioni vincolari a terra col PLV (Le=0).
Determinare le azioni interne in B col PLV (Le=0).
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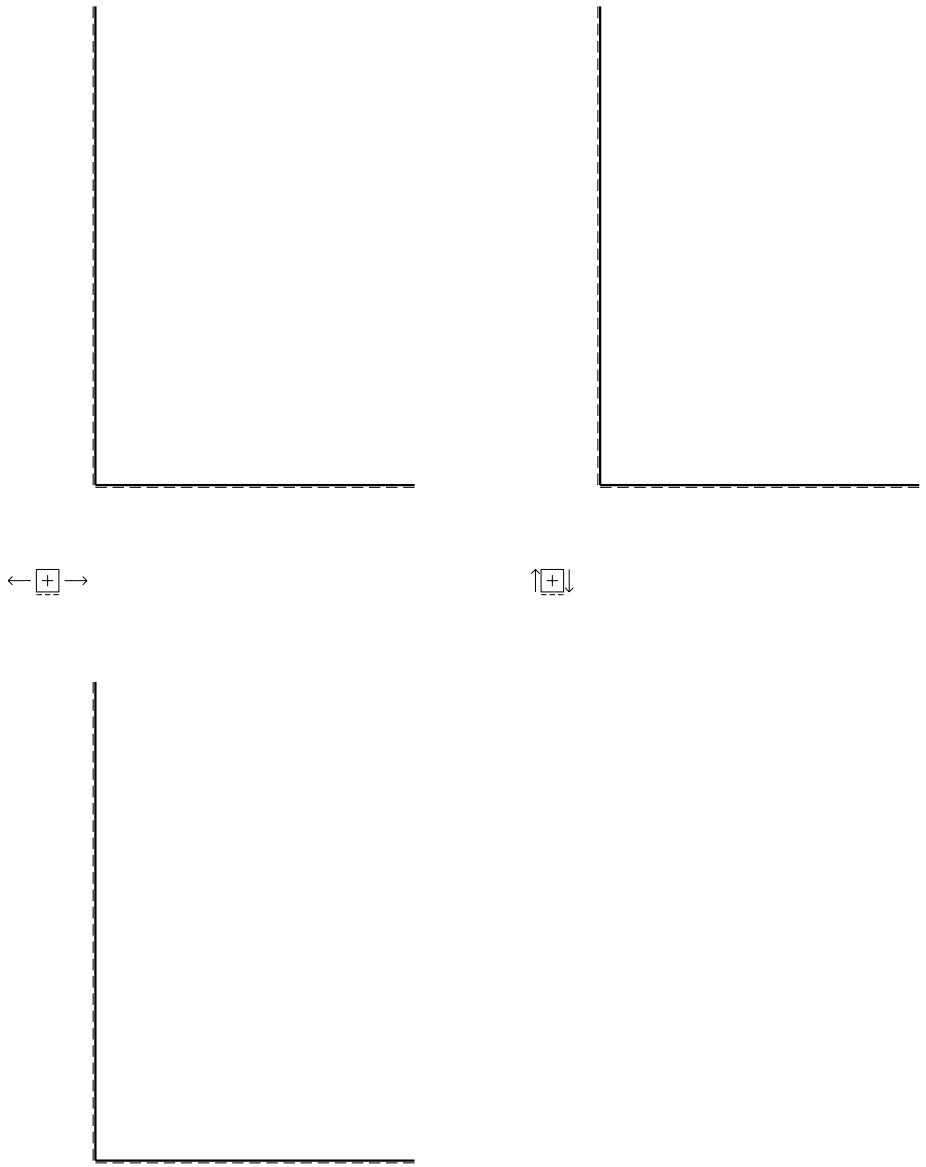
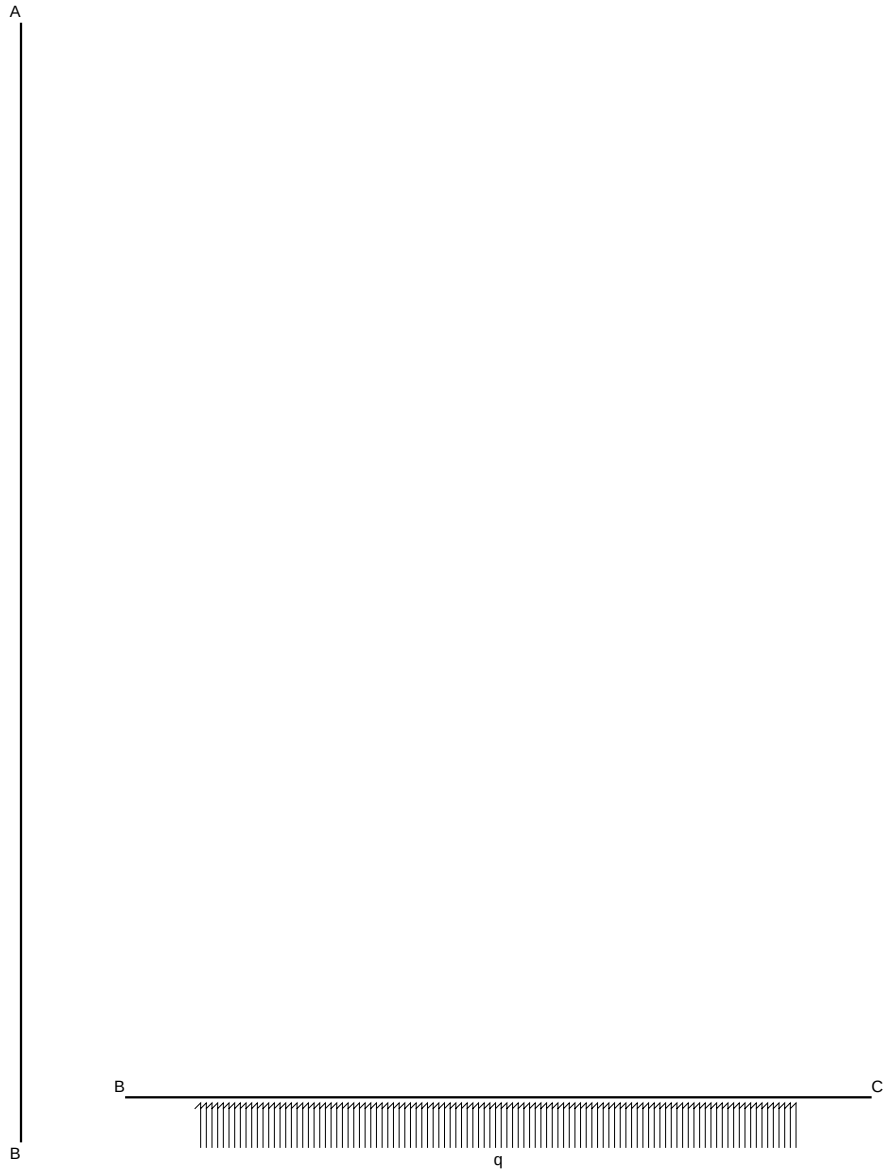
Tracciare i diagrammi delle azioni interne nelle aste.

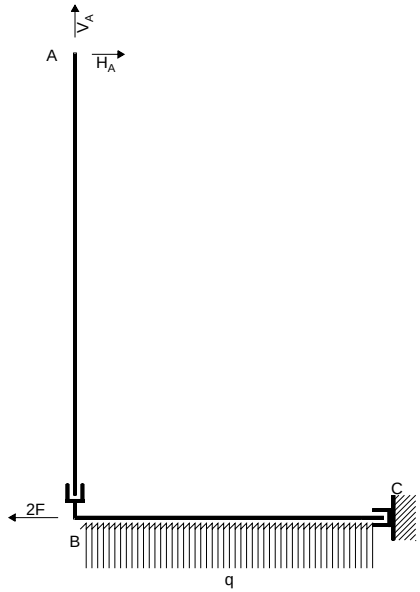




REAZIONI

H_A = V_A = V_C = W_C =

H_{AB} = H_{BC} =
V_{AB} = V_{BC} =
W_{AB} = W_{BC} =
H_{BA} = H_{CB} =
V_{BA} = V_{CB} =
W_{BA} = W_{CB} =



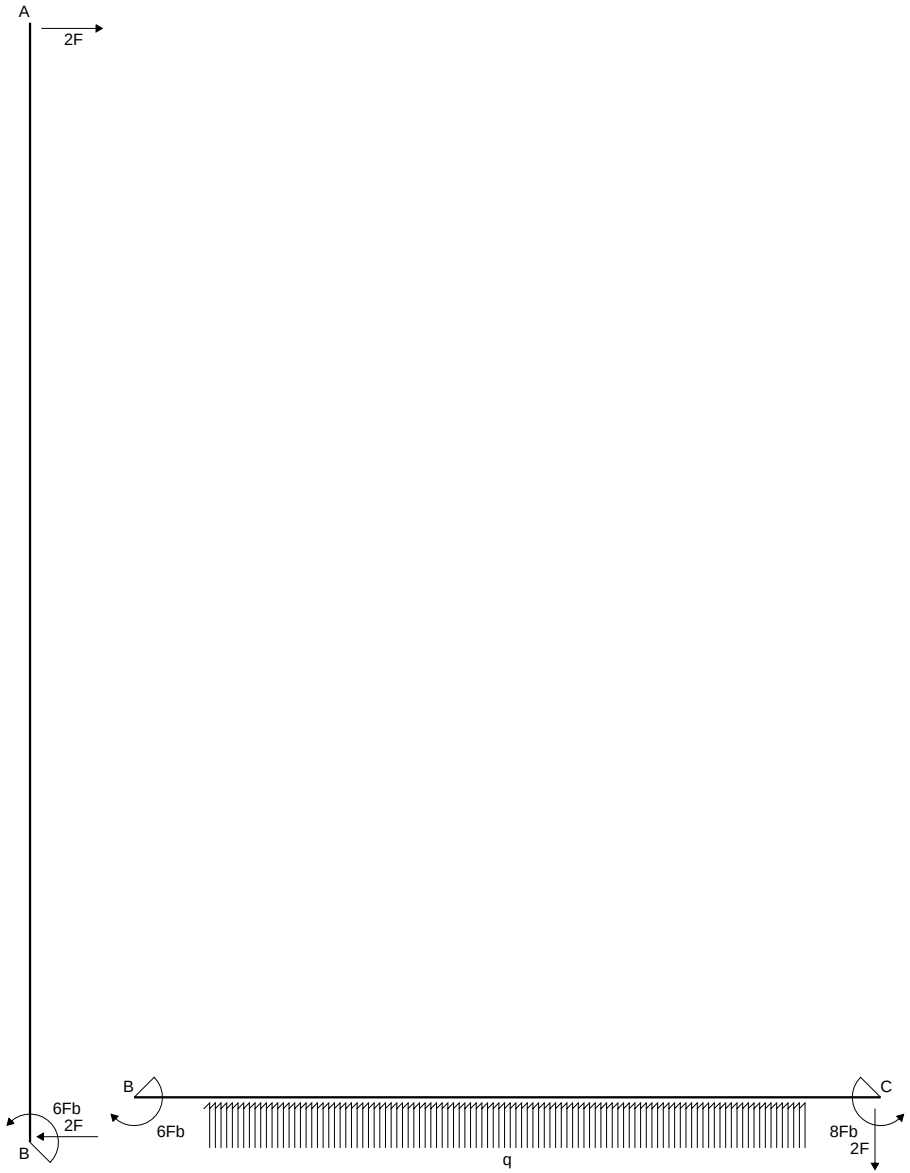
EQUAZIONI DI EQUILIBRIO
Traslazione orizzontale globale
$H_A = 2F$
Traslazione verticale: aste BA
$V_A = 0$

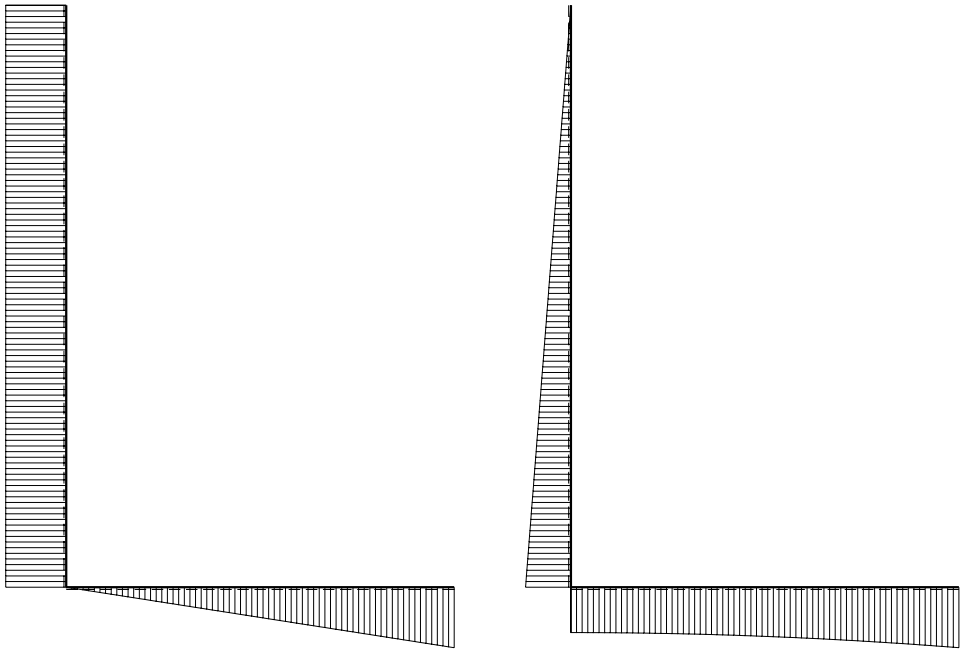
Matrice di equilibrio

$$\begin{matrix} & [H_A b & V_A b] \\ u_C & \begin{bmatrix} 1 & 0 \end{bmatrix} \\ v_{BA} & \begin{bmatrix} 0 & 1 \end{bmatrix} \end{matrix} = \begin{bmatrix} Fb & qb^2 \\ 2 & 0 \\ 0 & 0 \end{bmatrix}$$

Soluzione del sistema

$$\begin{bmatrix} H_A b \\ V_A b \end{bmatrix} = \begin{matrix} [Fb & qb^2] \\ \begin{bmatrix} 2 & 0 \\ 0 & 0 \end{bmatrix} \end{matrix}$$





2.5 F

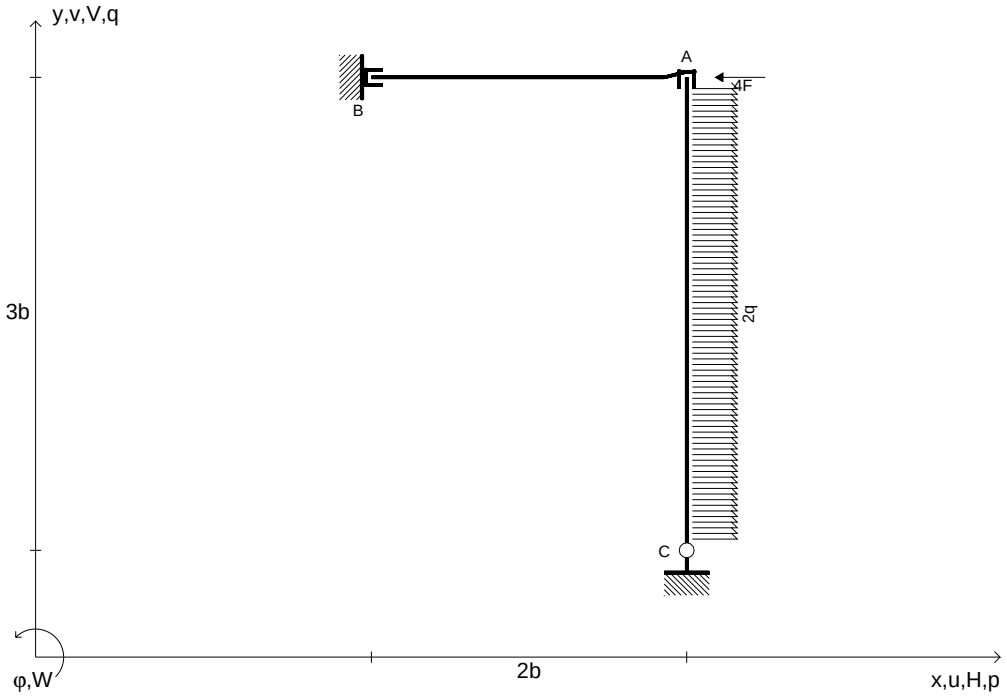
10 Fb

REAZIONI

$H_A = 2F = 2F$ $V_A = 0$ $V_C = -2qb = -2F$ $W_C = 6Fb + 2qb^2 = 8Fb$

$H_{AB} = 2F = 2F$
$V_{AB} = 0$
$W_{AB} = 0$
$H_{BA} = -2F = -2F$
$V_{BA} = 0$
$W_{BA} = 6Fb = 6Fb$

$H_{BC} = 0$
$V_{BC} = 0$
$W_{BC} = -6Fb = -6Fb$
$H_{CB} = 0$
$V_{CB} = -2qb = -2F$
$W_{CB} = 6Fb + 2qb^2 = 8Fb$



$H_A = -4F$ $p_{CA} = 2q = 2F/b$

Svolgere l'analisi cinematica.
Determinare matrice di congruenza e di equilibrio.
Determinare le reazioni vincolari a terra col PLV (Le=0).
Determinare le azioni interne in B col PLV (Le=0).
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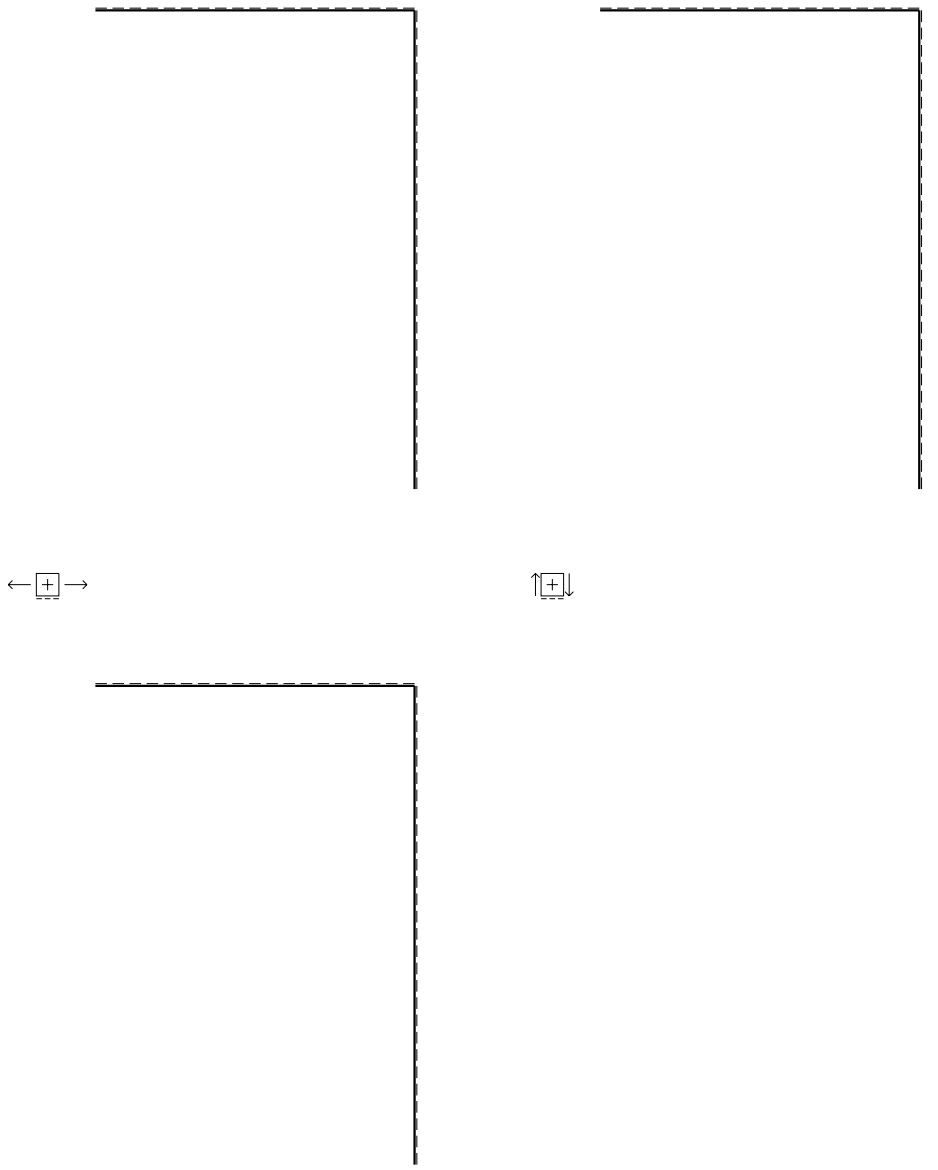
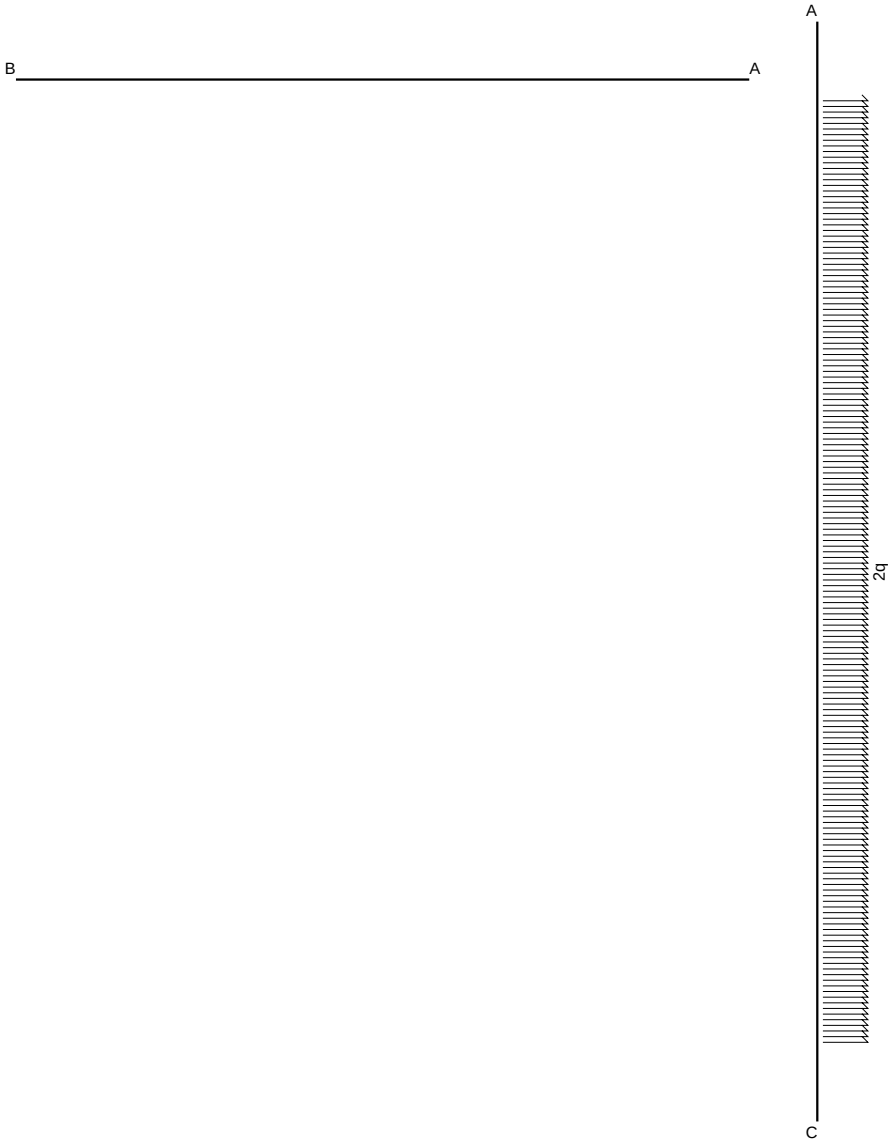
Tracciare i diagrammi delle azioni interne nelle aste.





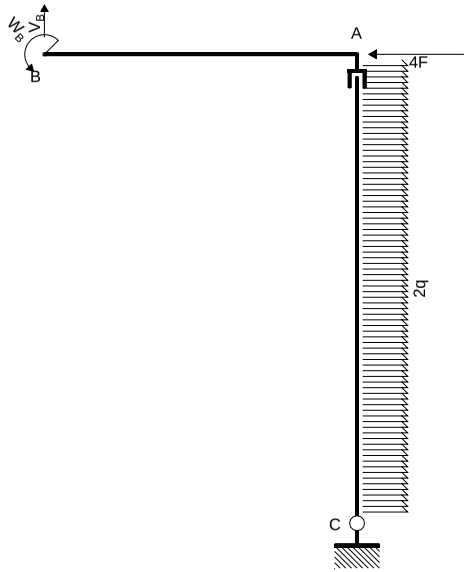
REAZIONI

V_B =
W_B =

H_C =
V_C =

H_{AB} =
V_{AB} =
W_{AB} =
H_{BA} =
V_{BA} =
W_{BA} =

H_{CA} =
V_{CA} =
W_{CA} =
H_{AC} =
V_{AC} =
W_{AC} =



EQUAZIONI DI EQUILIBRIO

Rotazione globale intorno a C

$-2V_B b + W_B = -12Fb + 9qb^2$

Traslazione verticale: aste AB

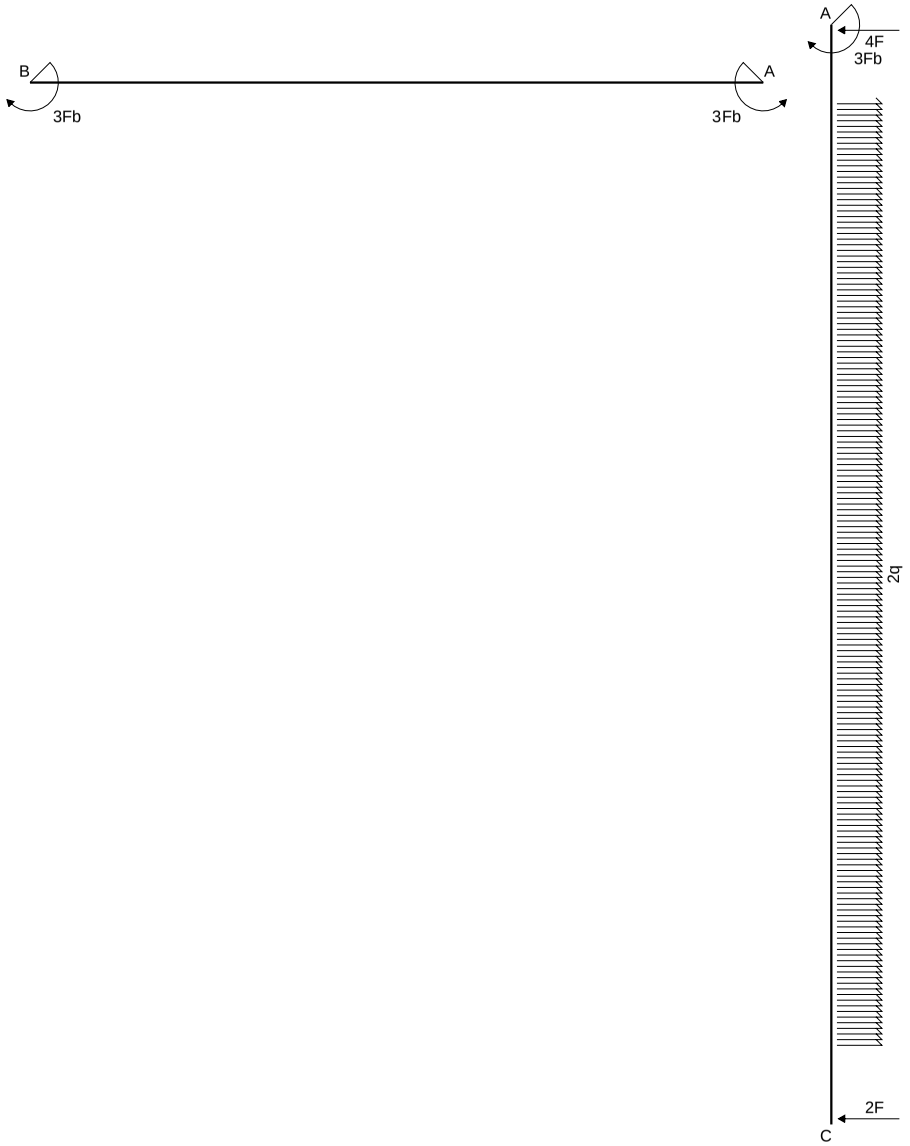
$V_B = 0$

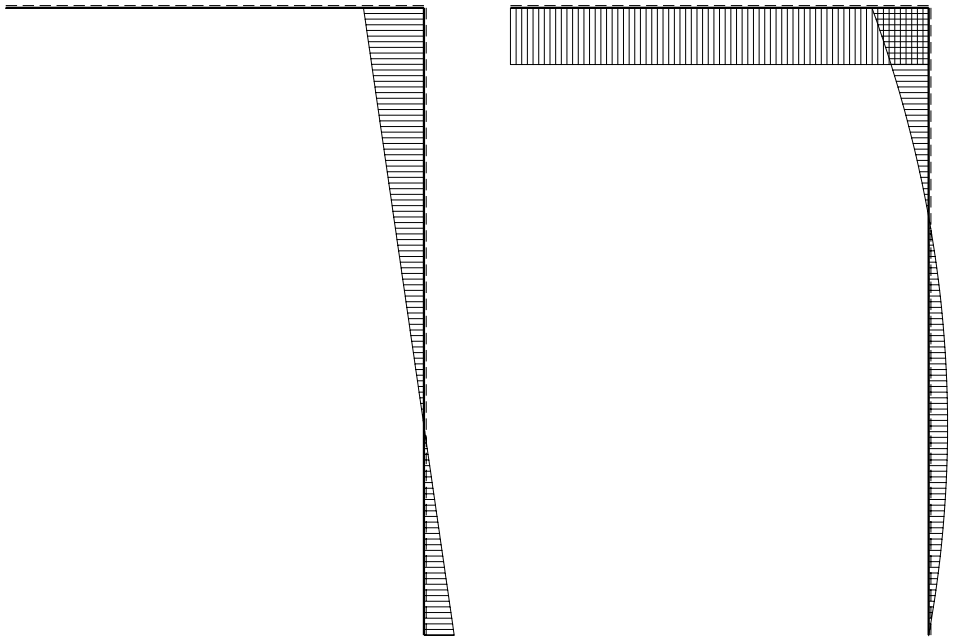
Matrice di equilibrio

$$\begin{matrix} & [V_B b & W_B] \\ \varphi_C & \\ v_{AC} & \end{matrix} \begin{bmatrix} -2 & 1 \\ 1 & 0 \end{bmatrix} = \begin{matrix} [Fb & qb^2] \\ & \\ & \end{matrix} \begin{bmatrix} -12 & 9 \\ 0 & 0 \end{bmatrix}$$

Soluzione del sistema

$$\begin{bmatrix} V_B b \\ W_B \end{bmatrix} = \begin{matrix} [Fb & qb^2] \\ & \\ & \end{matrix} \begin{bmatrix} 0 & 0 \\ -12 & 9 \end{bmatrix}$$





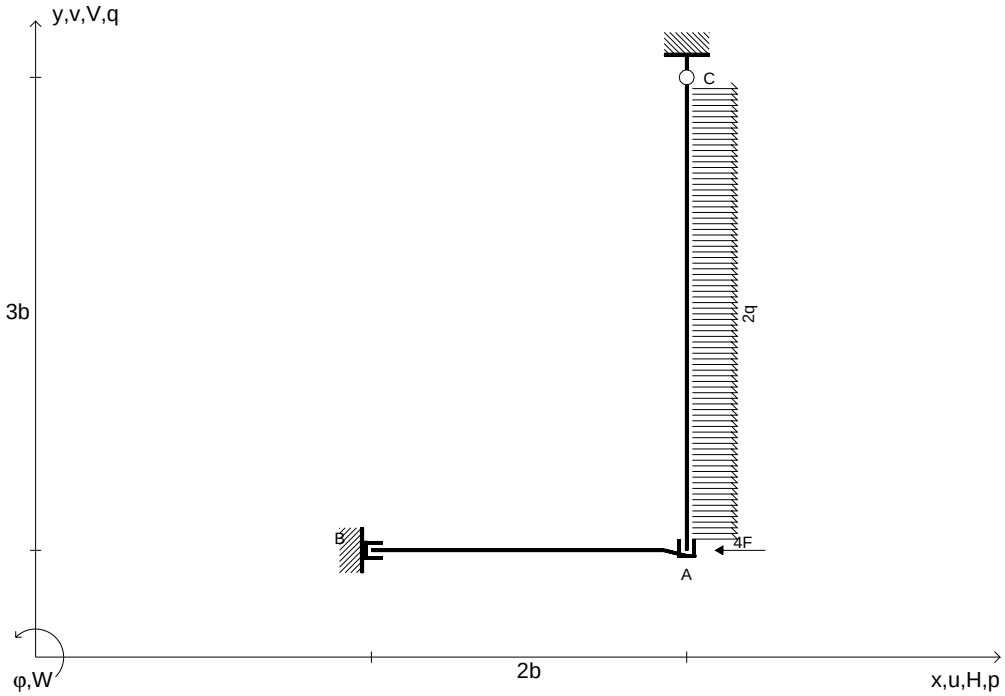
5 F

4 Fb

REAZIONI

$V_B = 0$
$W_B = -12Fb +9qb^2 = -3Fb$
$H_C = 4F -6qb = -2F$
$V_C = 0$

$H_{AB} = 0$
$V_{AB} = 0$
$W_{AB} = 12Fb -9qb^2 = 3Fb$
$H_{BA} = 0$
$V_{BA} = 0$
$W_{BA} = -12Fb +9qb^2 = -3Fb$
$H_{CA} = 4F -6qb = -2F$
$V_{CA} = 0$
$W_{CA} = 0$
$H_{AC} = -4F = -4F$
$V_{AC} = 0$
$W_{AC} = -12Fb +9qb^2 = -3Fb$



$H_A = -4F$ $p_{CA} = 2q = 2F/b$

Svolgere l'analisi cinematica.
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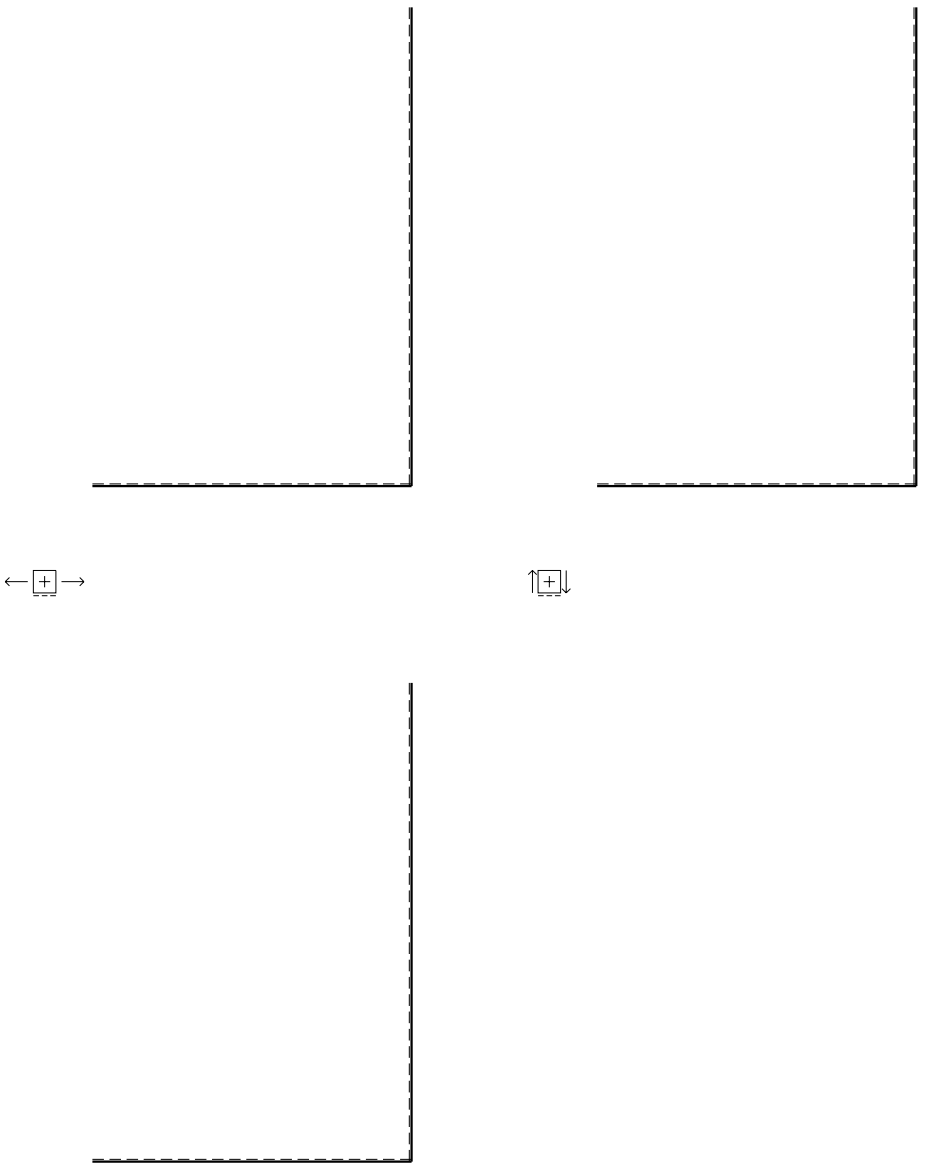

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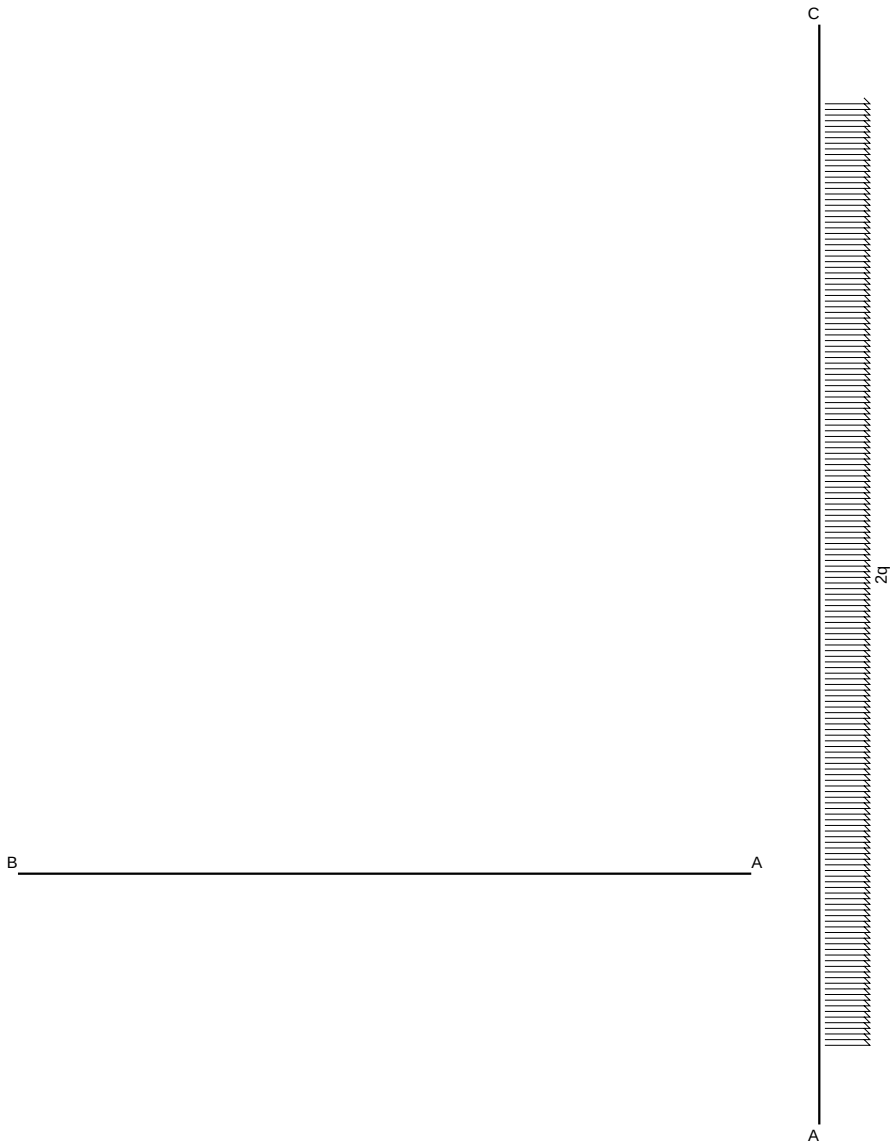
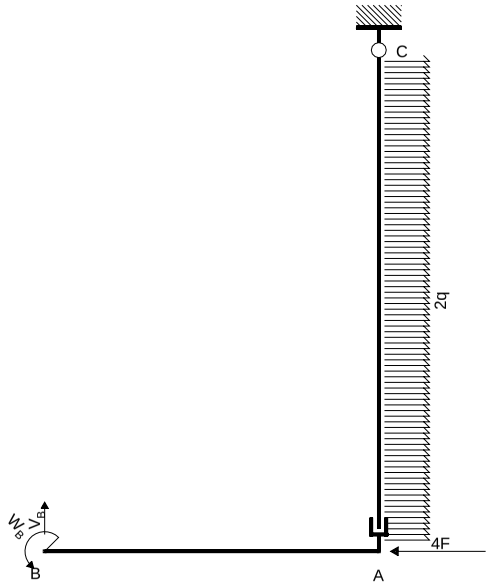


REAZIONI

V_B = W_B = H_C = V_C =

H_{AB} = H_{CA} =
V_{AB} = V_{CA} =
W_{AB} = W_{CA} =
H_{BA} = H_{AC} =
V_{BA} = V_{AC} =
W_{BA} = W_{AC} =



EQUAZIONI DI EQUILIBRIO

Rotazione globale intorno a C

$-2V_B b + W_B = 12Fb - 9qb^2$

Traslazione verticale: aste AB

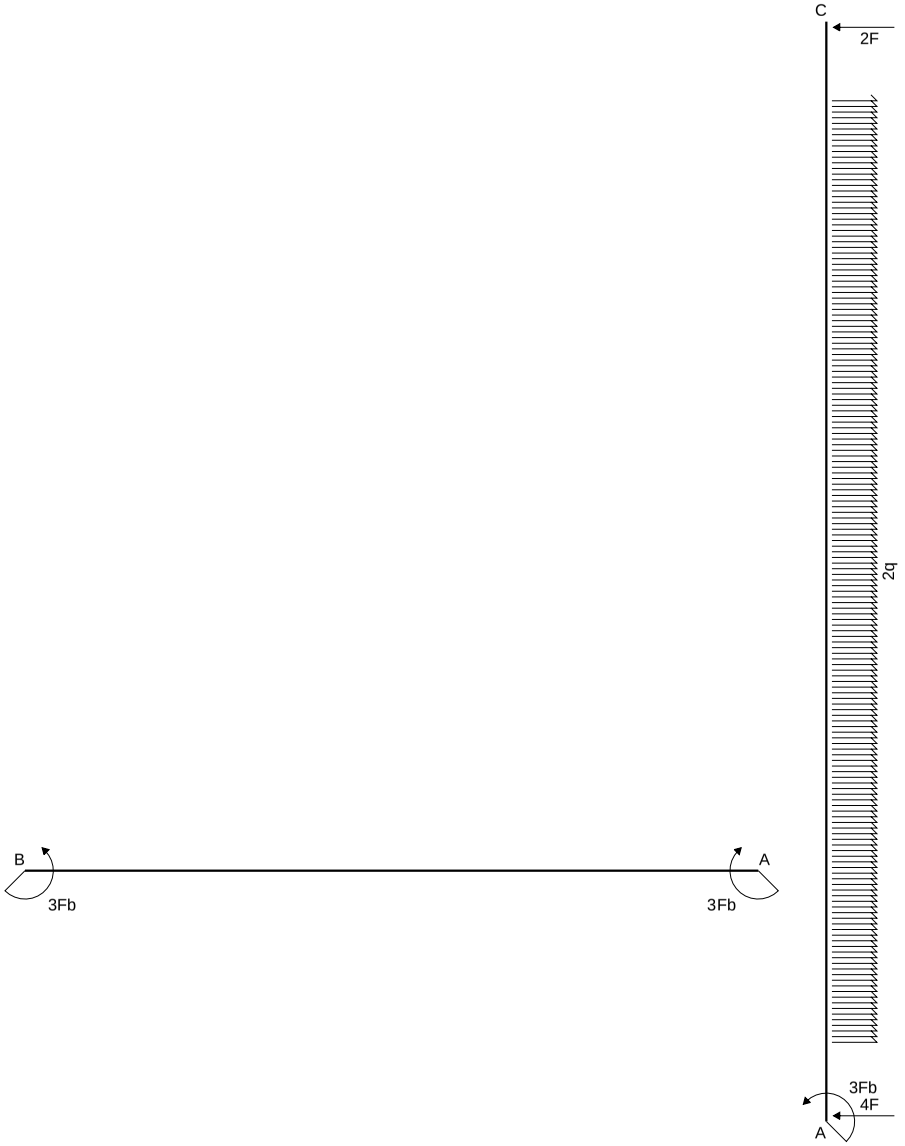
$V_B = 0$

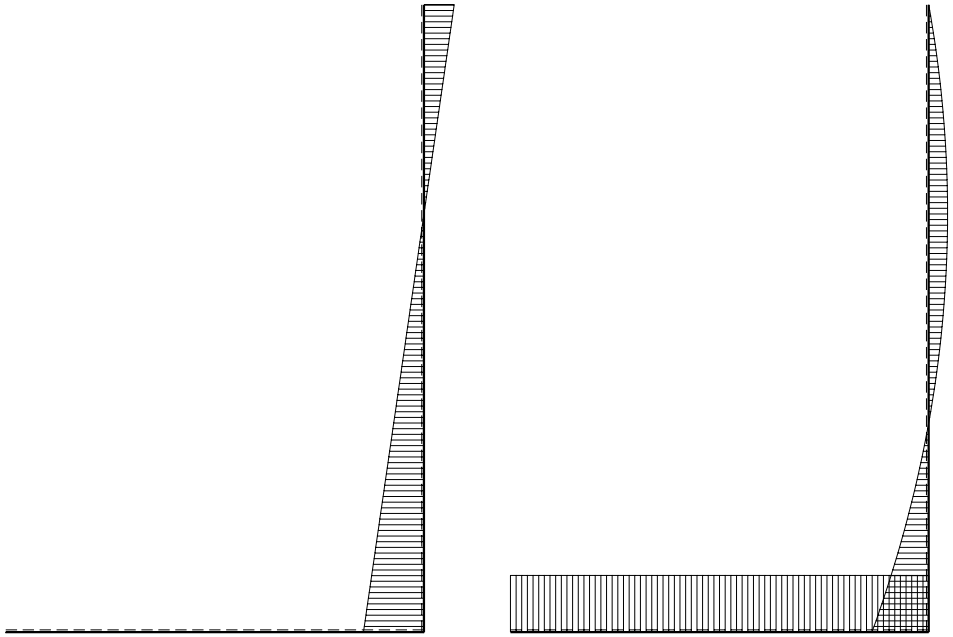
Matrice di equilibrio

$$\begin{matrix} & [V_B b & W_B] \\ \varphi_C & \\ v_{AC} & \end{matrix} \begin{bmatrix} -2 & 1 \\ 1 & 0 \end{bmatrix} = \begin{bmatrix} 12 & -9 \\ 0 & 0 \end{bmatrix}$$

Soluzione del sistema

$$\begin{bmatrix} V_B b \\ W_B \end{bmatrix} = \begin{bmatrix} 0 & 0 \\ 12 & -9 \end{bmatrix}$$





5 F

4 Fb

REAZIONI

$V_B = 0$ $W_B = 12Fb - 9qb^2 = 3Fb$ $H_C = 4F - 6qb = -2F$ $V_C = 0$

$H_{AB} = 0$
$V_{AB} = 0$
$W_{AB} = -12Fb + 9qb^2 = -3Fb$
$H_{BA} = 0$
$V_{BA} = 0$
$W_{BA} = 12Fb - 9qb^2 = 3Fb$

$H_{CA} = 4F - 6qb = -2F$
$V_{CA} = 0$
$W_{CA} = 0$
$H_{AC} = -4F = -4F$
$V_{AC} = 0$
$W_{AC} = 12Fb - 9qb^2 = 3Fb$