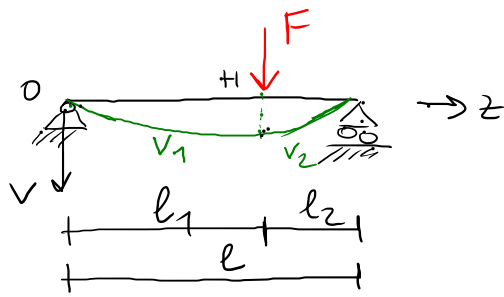


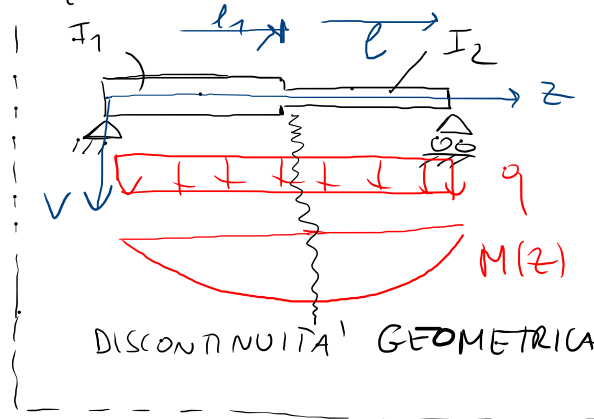
INTEGR. EQ. LINEA ELASTICA QUANDO CI SONO PIU' DOMINI SDC, 30/11/23



(M)



DISCONTINUITA' (M)



$$\begin{cases} v_1''(z) = -\frac{M(z)}{EI_1} & 0 \leq z \leq l_1 \\ v_2''(z) = -\frac{M(z)}{EI_2} & l_1 \leq z \leq l \end{cases}$$

STESSE CONDIZ. AL CONFINO



$$\begin{cases} v_1''(z) = -\frac{M_1(z)}{EI} & 0 \leq z \leq l_1 \\ v_2''(z) = -\frac{M_2(z)}{EI} & l_1 \leq z \leq l \end{cases}$$

2 COSTANTI

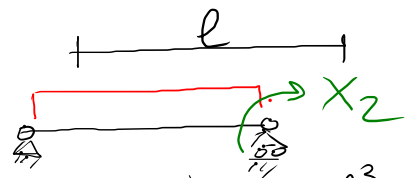
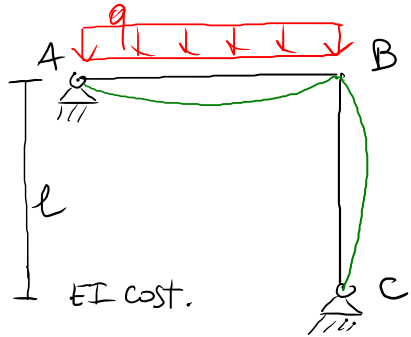
2 COSTANTI

STRESSO SPOST IN H
STRESSO ROTAZ IN H

$$\begin{cases} v_1(0) = 0 \\ v_2(l) = 0 \end{cases} \quad \left[\begin{array}{l} \text{CONDIZIONI} \\ \text{AI LIMITI} \\ \text{(VINCI ESTERNE)} \end{array} \right]$$

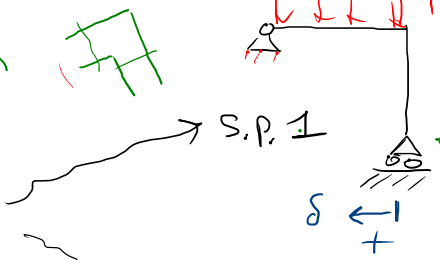
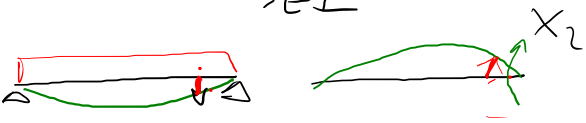
$$\begin{cases} v_1(l_1^-) = v_2(l_1^+) \\ v_1'(l_1^-) = v_2'(l_1^+) \end{cases} \quad \left[\begin{array}{l} \text{CONDIZIONI} \\ \text{DI} \\ \text{RACCORDO} \\ \text{O} \\ \text{SALTO} \end{array} \right]$$

ES (METODO FORZE APPL. AD UN TRUSS 1 V. IPERST.)



$$\varphi_{BA}(q, X_2) = + \frac{q l^3}{24EI} - \frac{X_2 l}{3EI}$$

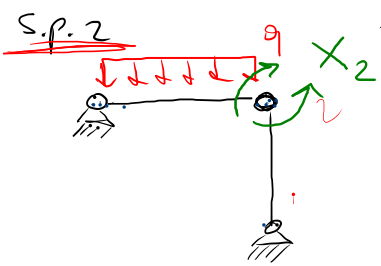
$$\varphi_{BC}(X_2) = + \frac{X_2 l}{3EI}$$



EQ. DI CONGRUENZA

$$\delta(X_1, q) = 0$$

$\delta(X_1)?$
 $\delta(q)?$

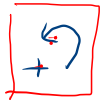


SINGOLAMENTO "INTERNO" $\Rightarrow$ INCOGNITA IPERSTATICA "INTERNA" (MOMENTO NEL NODO)

$$\Delta \varphi_B = 0$$

$$\varphi_{BA} - \varphi_{BC} = 0 \Rightarrow$$

$$\boxed{\varphi_{BA} = \varphi_{BC}}$$



EQ. DI CONGRUENZA

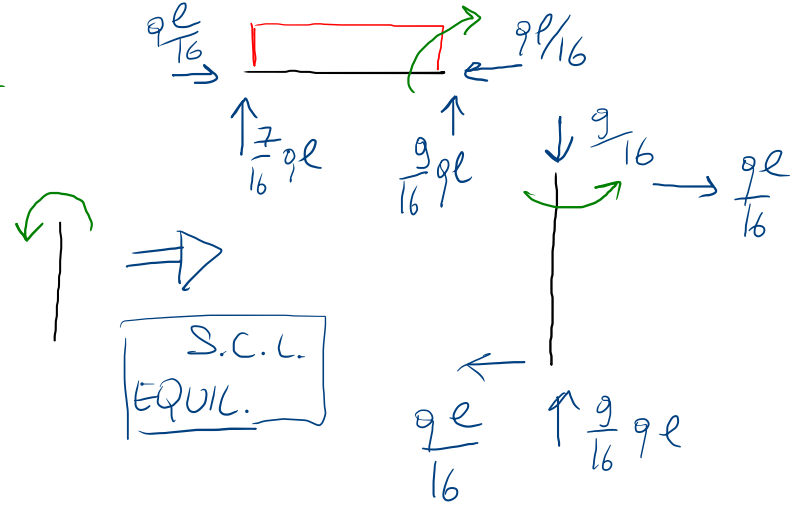
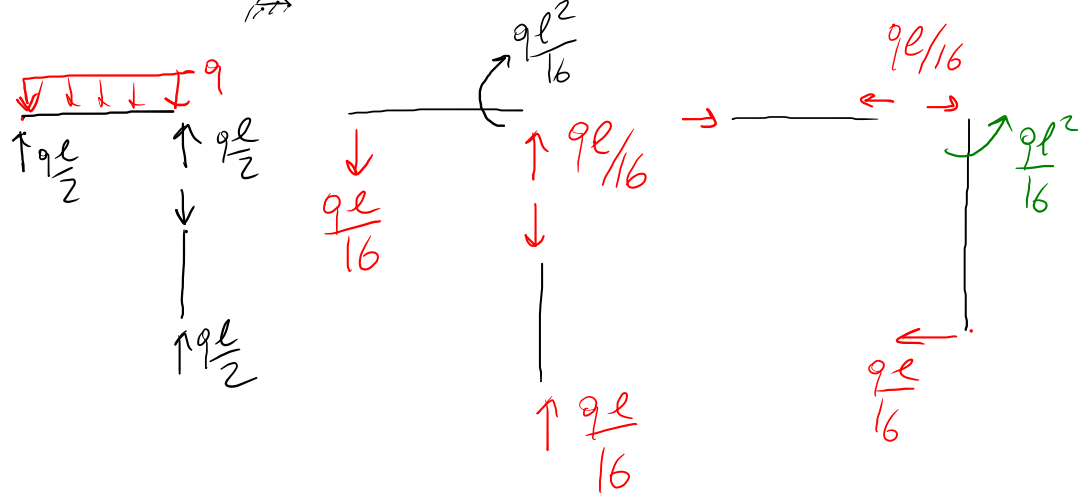
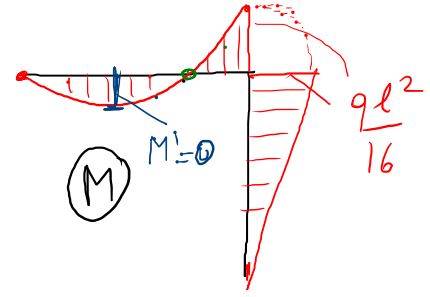
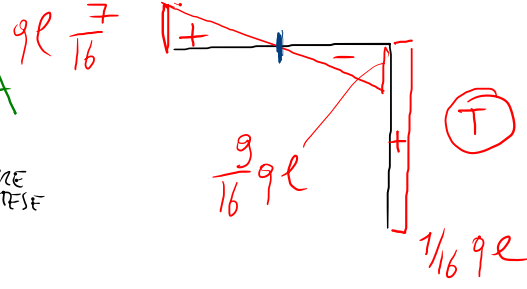
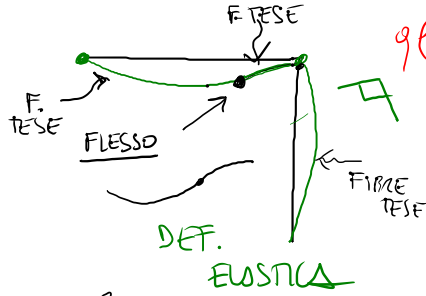
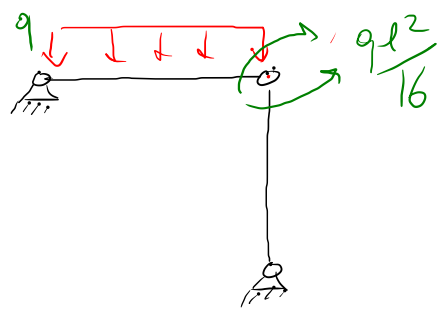
UGUAGL. ROTAZ. NEL NODO B.

$$\boxed{\frac{q l^3}{24EI} - \frac{X_2 l}{3EI} = \frac{X_2 l}{3EI}}$$

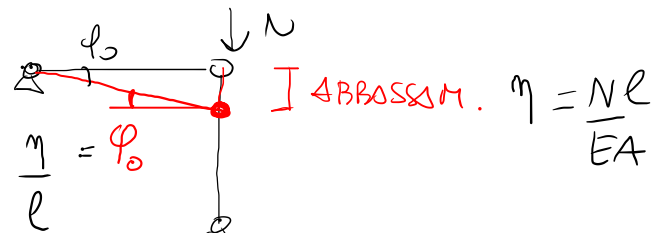
$$\boxed{X_2 = + \frac{q l^2}{16}}$$

VERSO DI
 X_2 E'
OK!

la s.p. 2 con $x_2 = ql^2/16$ È EQUIVALENTE DELLA SM IPERSTATICA ASSEGNOTA

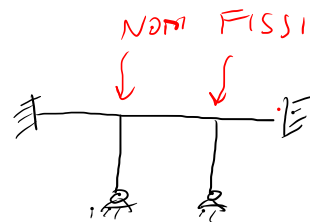


SE IL PLASTICO VERTICALE FOSSE MOLTO DEFORMABILE ALLORA IL NODO B SI
ABBASSEREBBE IN MANIERA APPREZZABILE

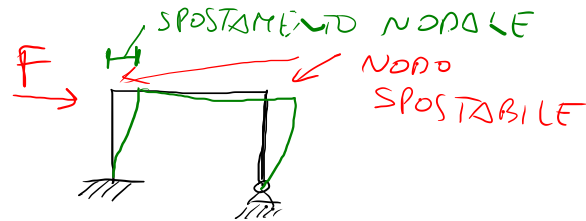


NON È STATO CONSIDERATO
NELLE EQ. DI CONGRUENZA

NOI IPOTIZZIAMO CHE NELLE STRUTTURE
A PREPONDERANTE COMPORTAMENTO
FLESSIONALE LA DEFORMABILITA' ASSIALE
SIA TRASCURABILE (IPOTESI DI WESTERSEBILITA')
NELLE STR. RETICOLARI (DOVE $M=0$) ALLORA
LA DEFORMABILITA' ~~ASSIALE~~ DIVENTA
FONDAMENTALE E' FONDAMENTALE.



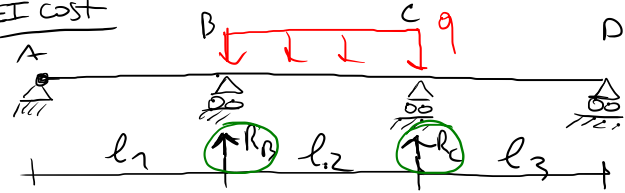
ESEMPLI DI
TALAI A NODI
FISSI



ESEMPIO DI TALAI
A NODO SPOSTABILE

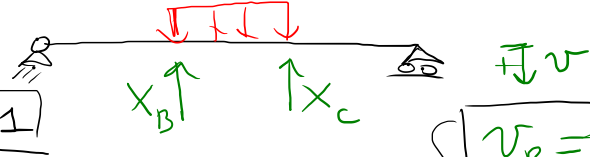
TRAVE CONTINUA (TRAVE RETTILINEA SU PIU' APPOGGI)

EI COST



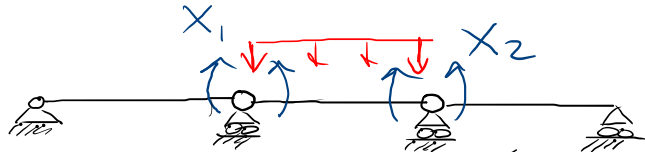
2 V. IPERST.

SP 1

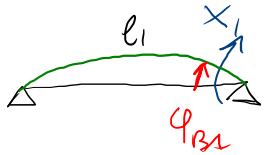


$$\begin{cases} v_B = 0 \\ v_C = 0 \end{cases}$$

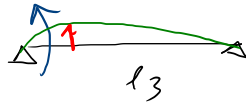
EQ DI CONGR.



3 TRAVI APPOGGIATE



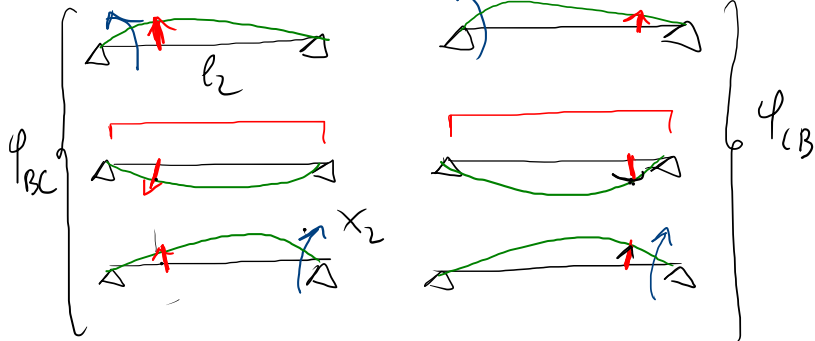
$$\begin{cases} \varphi_{BA} = \varphi_{BC} \\ \varphi_{CB} = \varphi_{CD} \end{cases}$$

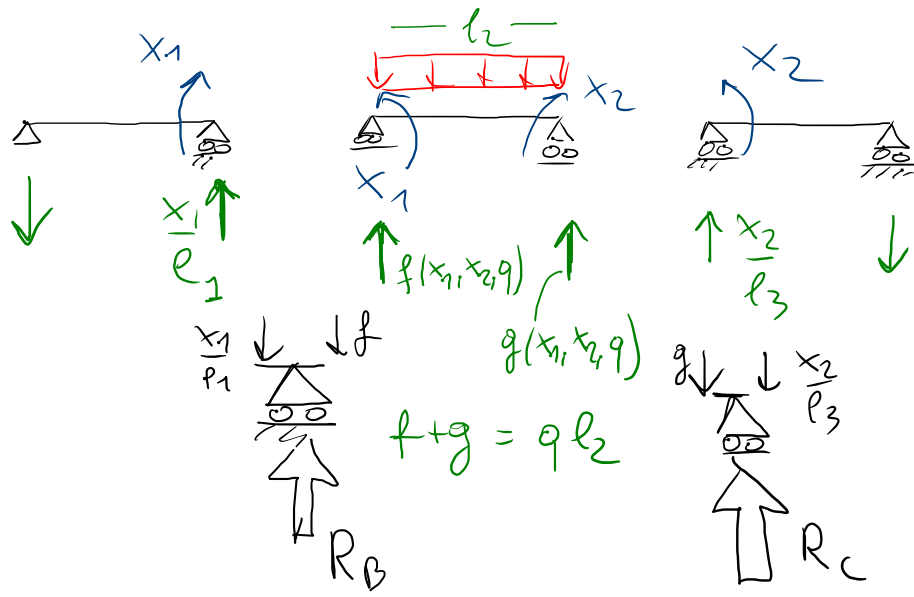


$$\begin{cases} -\frac{x_1 l_1}{3EI} = +\frac{x_1 l_2}{3EI} - \frac{q l_2^3}{24EI} + \frac{x_2 l_2}{6EI} \\ -\frac{x_1 l_2}{6EI} + \frac{q l_2^3}{24EI} - \frac{x_2 l_2}{3EI} = +\frac{x_2 l_3}{3EI} \end{cases}$$

$\hookrightarrow x_1, x_2 = f(q)$

$$[x_1, x_2 > 0]$$





STUDIO SEPARAT. I 3 SCHEMI
E I DIAGR. DELLE CDS DELLA
SM IPART SONO OTTENUTI
"AVVICINANDO" I DIAGR. DELLE
3 MOVI SEPARATE.