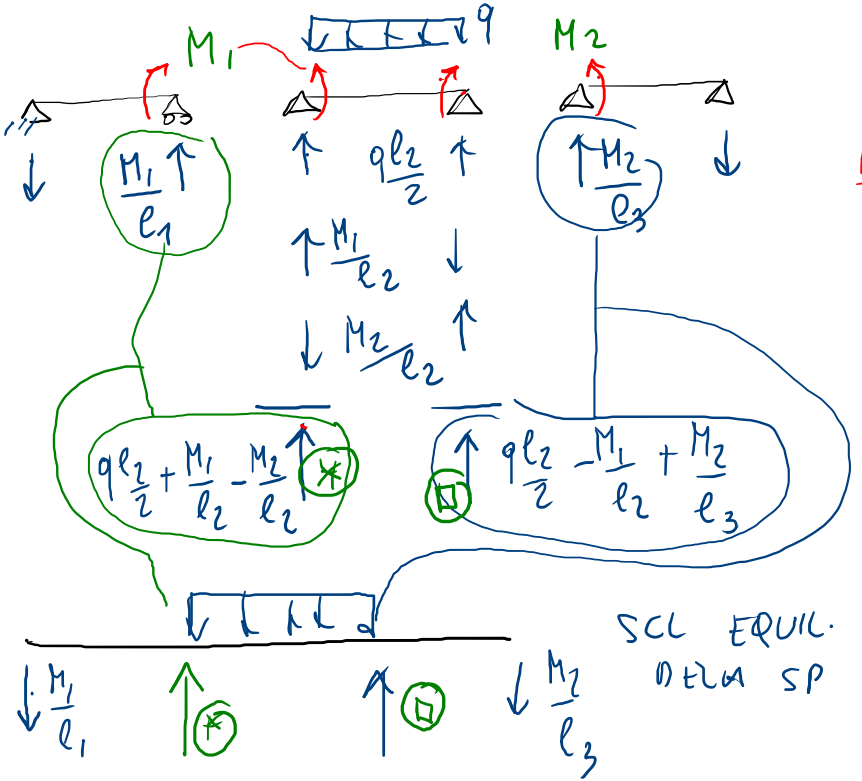
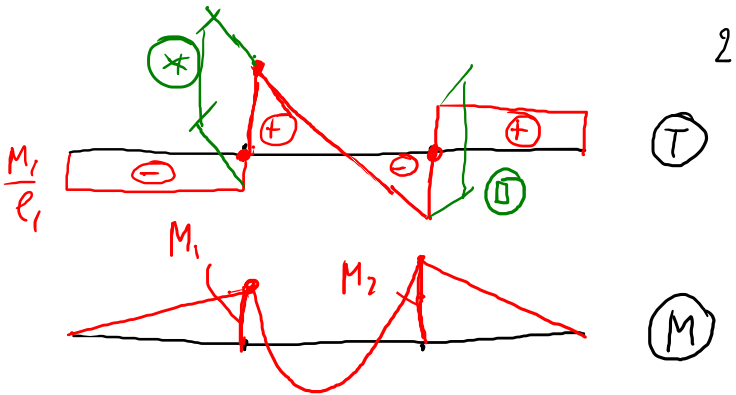
TRAVI CONTINUE

$X_1 \Rightarrow M_1$; $X_2 \Rightarrow M_2$

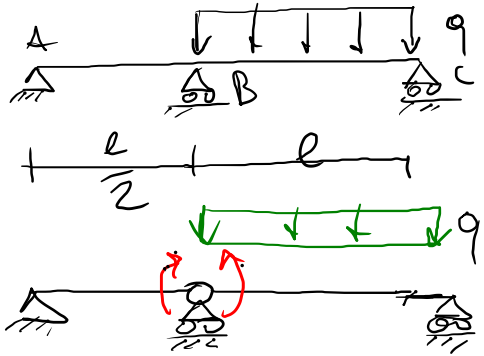
7/12/22

2h MERC. 14/12
h 14-16





ES



X

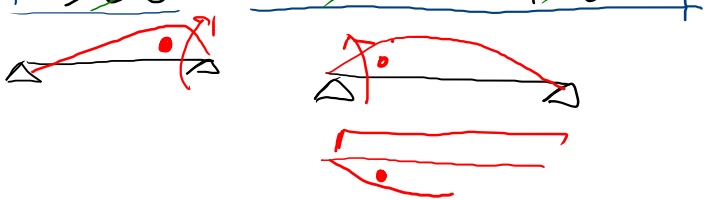
EJ cost

1 VOLTA IPERST

EQ DI CONGR: $\varphi_{BA} = \varphi_{BC}$ ↻+

$$\varphi_{BA}(X) = \varphi_{BC}(X, q)$$

$$-\frac{X\,l/2}{3EJ} = \frac{Xl}{3EJ} - \frac{ql^3}{24EJ}$$

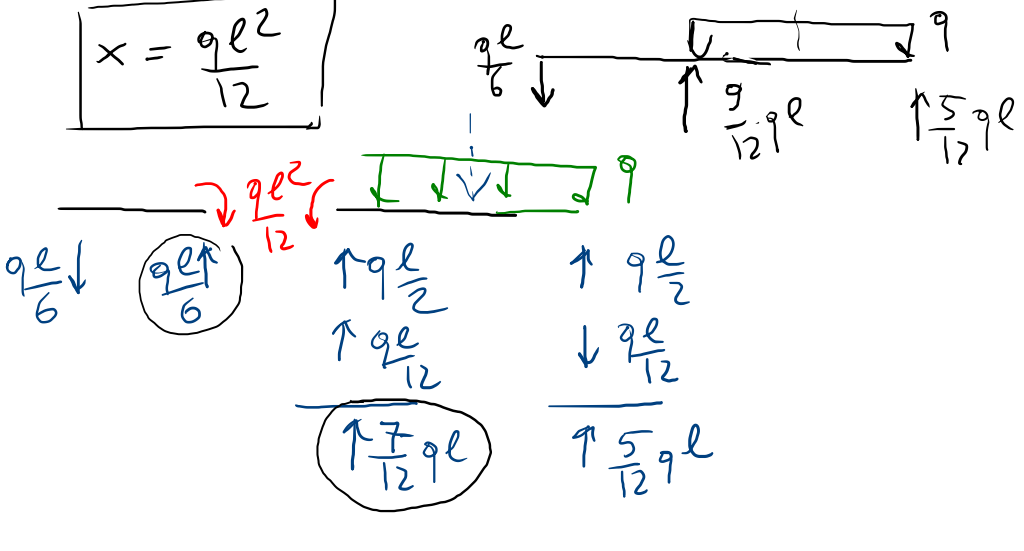


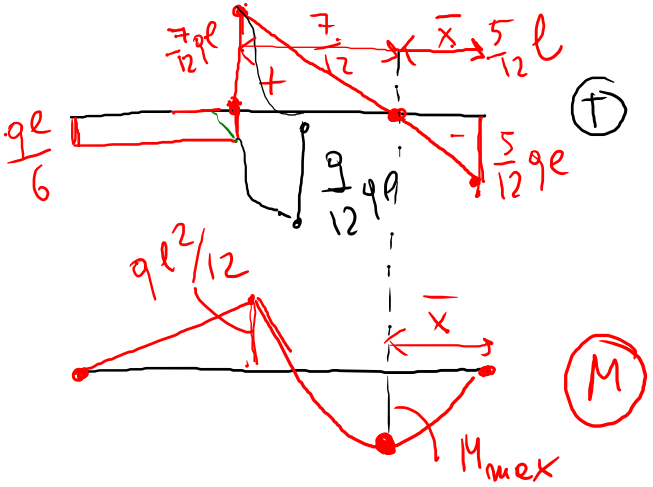
$$+\frac{X\,l/2}{3} + \frac{Xl}{3} = \frac{ql^3}{24}$$

MOTIVI DI STABILITA' TERMODINAMICA

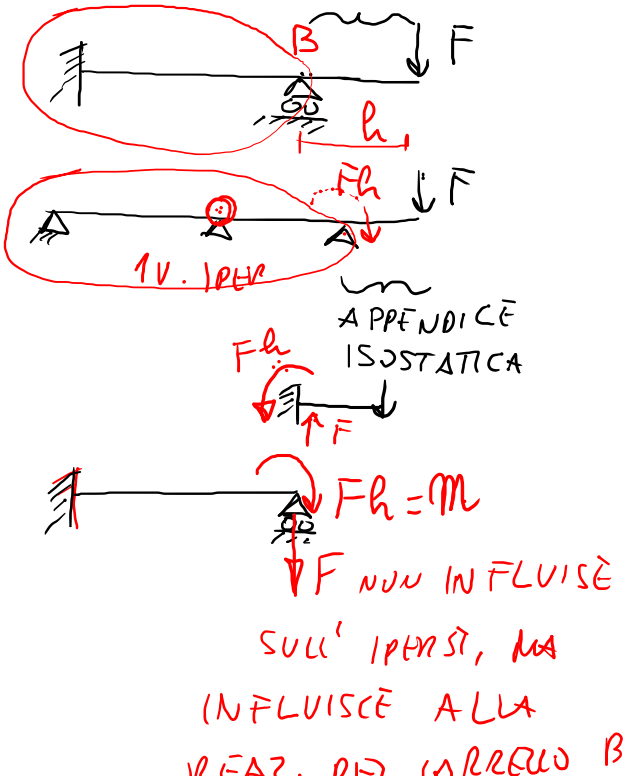
$$\frac{Xl}{6} + \frac{Xl}{3} = \frac{ql^3}{24} \Rightarrow \frac{2+4}{12}X = \frac{ql^2}{24}\,2$$

$$X = \frac{ql^2}{12}$$

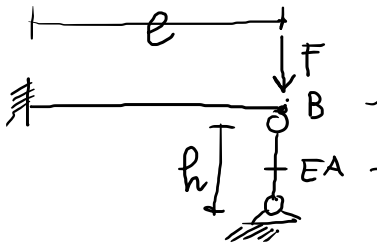




$T_{max} = \frac{7}{12} q\ell \quad , B^+$



STR IPERST. CON CEDIMENTI VINCOLARI



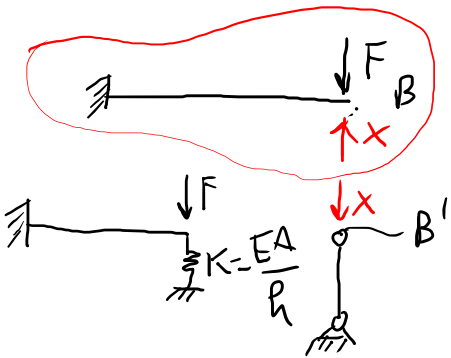
→ 1 V. IPERST.

CEDIMENTO ELASTICO → BIELLA "ELASTICA"

EQ. DI CONGR.

$v_B = v_{B'}$

$+\downarrow$



$$A = \frac{J}{h^2}$$

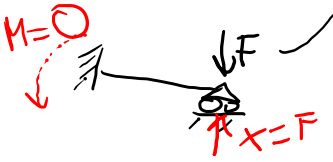
SI POTREBBE ASSEGNARE UNA LEGGE TRA A e J

$$+\frac{(F-X)\ell^3}{3EJ} = +\frac{Xh}{EA}\frac{1}{K}$$

$$X\left(\frac{\ell^3}{3EJ} + \frac{h}{EA}\right) = \frac{F\ell^3}{3EJ}$$

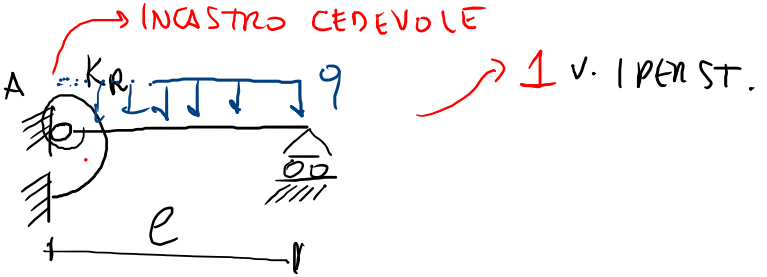
$$X = F\,\frac{\ell^3/3J}{\frac{\ell^3}{3J} + \frac{h}{A}}$$

⇒ POSSO STUDIARE I CASI LIMITE



$EA \to \infty$; $X = F$

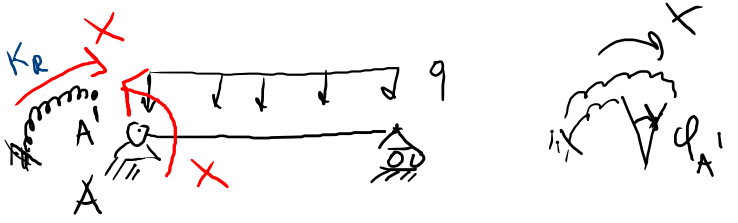
$EA = 0$; $X = 0$



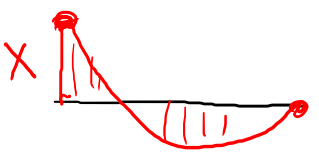
→ 1 V. IPERST.

K_R: RIGIDEZZA ROTAZIONALE

$M = K_R \varphi$ $\quad \varphi = \frac{M}{K_R}$



$\varphi_A = \varphi_{A'}$ ↺+



φ_A $\qquad$ $\varphi_{A'}$

$$\frac{-ql^3}{24EJ} + \frac{Xl}{3EJ} = -\frac{X}{K_R}$$

$$X\left(\frac{l}{3EJ} + \frac{1}{K_R}\right) = \frac{ql^3}{24EJ} \quad ; \quad X > 0$$

$$X = \frac{ql^3/24EJ}{V}$$

$$[K_R] = \left[\frac{FL}{-}\right] = [FL] \quad (Nm)$$

$K = \frac{F}{L} \Rightarrow \left(\frac{N}{m}\right)$