

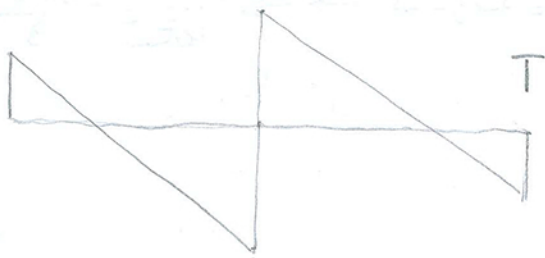
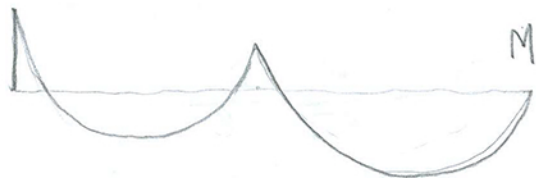
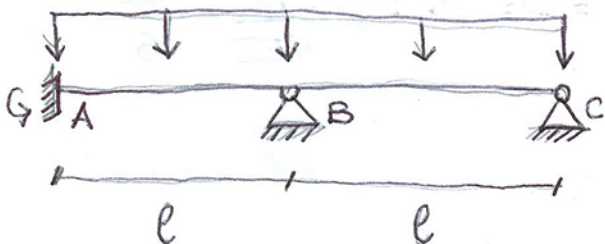
METODO DELLA LINEA ELASTICA - TRAVE IPERSTATICA

* LINEA ELASTICA

$$\frac{d^4 v_1}{dx^4} = \frac{-q}{EJ}$$

$$\frac{d^4 v_2}{dx^4} = \frac{-q}{EJ}$$

con $q_2 = -q$



* CONDIZIONI AL BORDO

A. $v_1(0) = 0$ B. $v_1(l) = 0$ C. $v_2(l) = 0$

$\psi_1(0) = 0$ $v_2(0) = 0$ $M_2(l) = 0$

* CONTINUITA' $\psi_1(l) = \psi_2(0)$
 $M_1(l) = M_2(0)$

SPOSTAMENTO:

$$v_1(x_1) = \frac{-qx_1^4}{24EJ} + \frac{C_1 x_1^3}{6} + \frac{C_2 x_1^2}{2} + C_3 x_1 + C_4$$

$$v_2(x_2) = \frac{-qx_2^4}{24EJ} + \frac{D_1 x_2^3}{6} + \frac{D_2 x_2^2}{2} + D_3 x_2 + D_4$$

$$v_1(0) = 0 \rightarrow C_4 = 0$$

$$v_2(0) = 0 \rightarrow D_4 = 0$$

ROTAZIONE:

$$\psi_1(x_1) = \frac{-qx_1^3}{6EJ} + \frac{C_1 x_1^2}{2} + C_2 x_1 + C_3$$

$$\psi_1(0) = 0 \rightarrow C_3 = 0$$