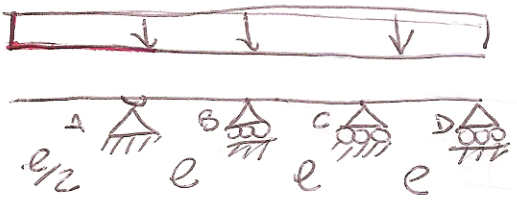
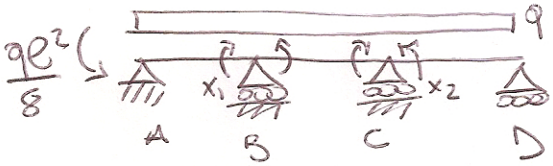
ESERCIZIO 1



CONTRIBUTO MENSOLA $\frac{ql}{2} \cdot \frac{l}{4} = \frac{ql^2}{4}$



STUDIO ROTAZIONI

$$\rho_{B\,Sx} = \frac{ql^3}{24EI} - \frac{ql^3}{48EI} - \frac{lx_1}{3EI}$$

$$\rho_{B\,dx} = -\frac{ql}{24EI} + \frac{lx_2}{6EI} + \frac{lx_1}{3EI}$$

$$\rho_{B\,Sx} = \rho_{B\,dx}$$

$$\frac{ql^3}{24EI} - \frac{ql^3}{48EI} - \frac{lx_1}{3EI} = -\frac{ql}{24EI} + \frac{lx_2}{6EI} + \frac{lx_1}{EI3}$$

$$\frac{ql^2}{16} - \frac{2}{3}x_1 - \frac{x_2}{6} = 0 \quad \Rightarrow x_2 = \frac{3\,6ql^2}{16\,8} - 4x_1$$

$$\rho_{C\,Sx} = -\frac{x_2 l}{3EI} - \frac{x_1 l}{6EI} + \frac{ql^3}{24EI}$$

$$\rho_{C\,dx} = -\frac{ql^3}{24} + \frac{x_2 l}{3EI}$$

$$\rho_{C\,Sx} = \rho_{C\,dx} \qquad -\frac{x_2 l}{3EI} - \frac{x_1 l}{6EI} + \frac{ql^3}{12EI} - \frac{x_2 l}{3EI}$$

$$-\frac{2x_2 l}{3} + \frac{ql^2}{12} - \frac{x_1}{6}$$

$$\rho_C = \frac{ql^2}{12} - \frac{2}{3}x_2 - \frac{x_1}{6} = 0 \qquad x_2 = -\frac{x_1}{4} + \frac{ql^2}{8}$$