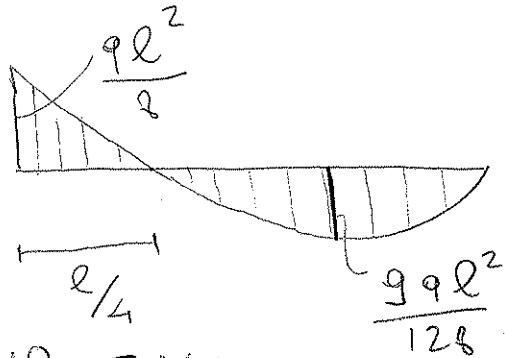


Calcolo i punti: in cui M è nullo

$$M(s) = -\frac{q}{2}s^2 + \frac{5q\ell}{8}s - \frac{q\ell^2}{8} = 0$$

$$s = \frac{\frac{5}{8}q\ell \pm \sqrt{\frac{5}{8}(q\ell) - 4 \cdot \frac{q}{2} \cdot \frac{q\ell^2}{8}}}{-1} \quad \left\{ \begin{array}{l} \ell \\ \ell/4 \end{array} \right.$$



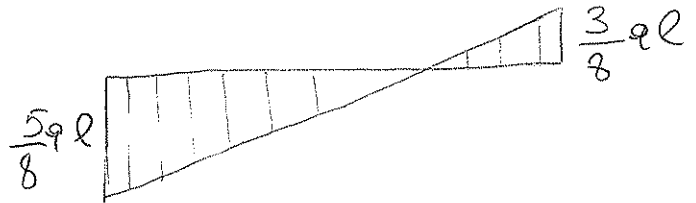
Calcoliamo il taglio

$$T(s) = -\frac{dM}{ds} = -M'(s)$$

$$-M'(s) = T(s) = qs - \frac{5}{8}q\ell$$

$$T(0) = -\frac{5}{8}q\ell$$

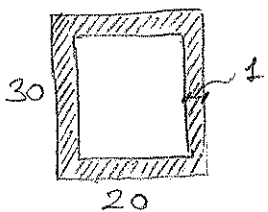
$$T(\ell) = q\ell - \frac{5}{8}q\ell = \frac{3}{8}q\ell$$



Dove il momento è max $5/8\ell$, il taglio è nullo

$$V_{max} = \frac{q\ell}{2EI} \cdot \frac{s^4}{24} + \left(\frac{5}{8} \frac{q\ell}{EI} \right) \frac{s^3}{6} - \left(\frac{q\ell^2}{8EI} \right) \cdot \frac{s^2}{2}$$

$$= \frac{-q\ell}{2EI} \frac{s^4}{24} + \frac{s}{48} \cdot \frac{q\ell s^3}{EI} - \frac{q\ell^2 s^2}{16EI}$$



Sostituisci s con $0,57\ell$, l'inerzia della trave e momento elastico presi da SAP e calcola la V_{max}

$$V_{max} = -2,30 \text{ mm}$$