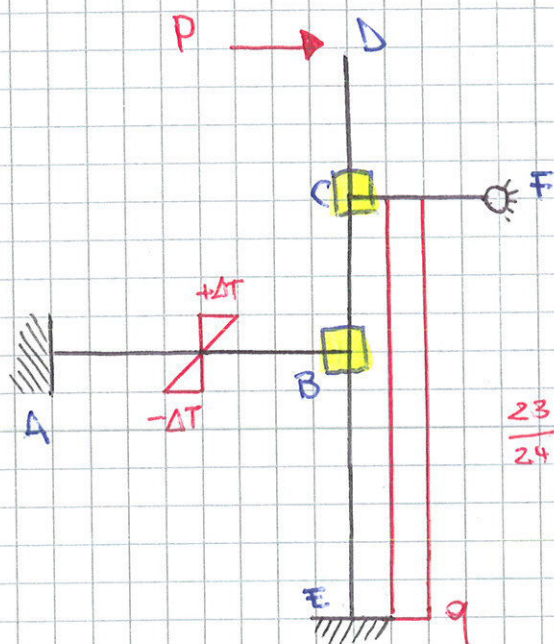


TEMA D'ESAME DEL 08/07/13

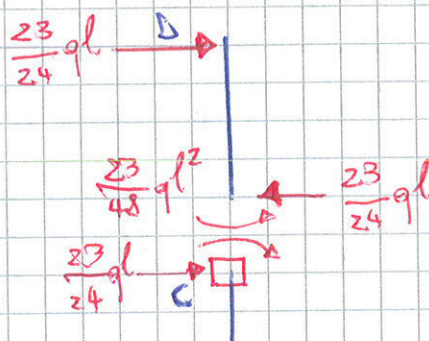
→ syll'oste



$$P = z^3 / z^4 \text{ gl}$$

$$\frac{\Delta T}{t} = 31/32 \cdot q l^2 / EJ$$

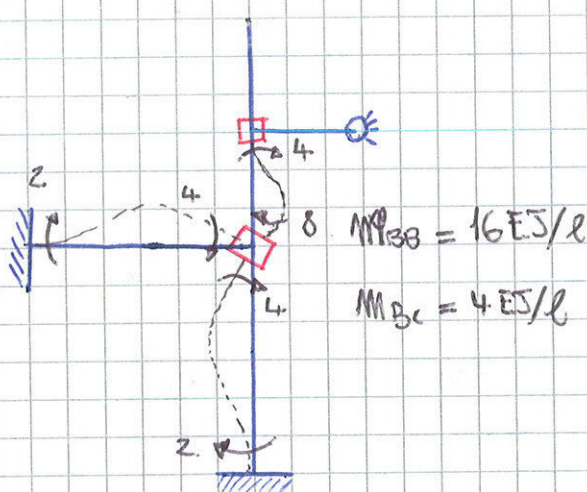
- Appendice CD



$$MP_{BP} = 0$$

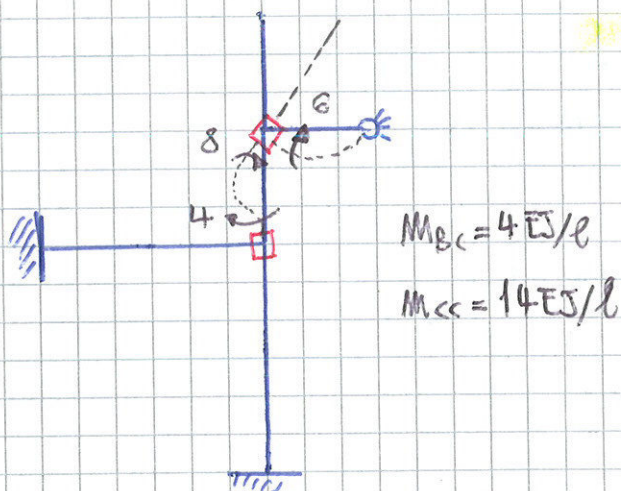
$$M_{CP} = -\frac{23}{48} q l^2$$

$B \neq \emptyset$

 $\varphi \neq 0$ 

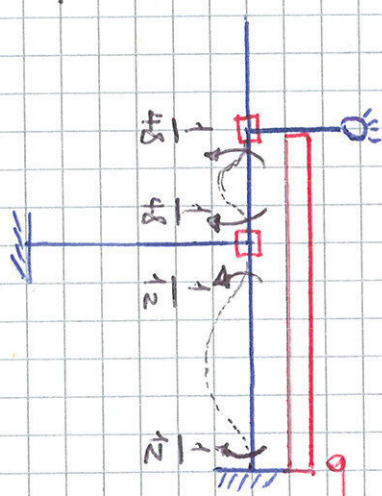
$$M_{138} = 16 \text{ EJ/l}$$

$$M_{Bc} = 4.55 \text{ t}$$



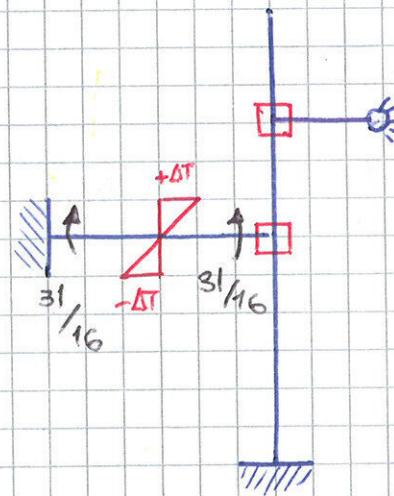
$$M_{B,C} = 4 \text{ ES/e}$$

$$M_{CC} = 14 \text{ EJ/l}$$

 $q \neq 0$ $\Delta T \neq 0$ 

$$M_{Bq} = -\frac{3}{4\lambda} q l^2$$

$$m_{Cq} = -\frac{1}{48} q l^2$$



$$M_{BAT} = -\frac{31}{16} q l^2$$

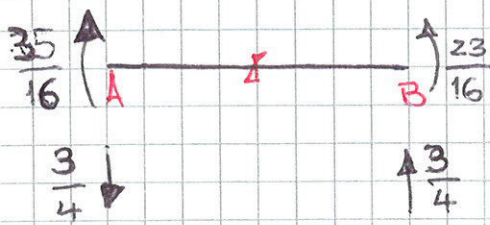
$$M \Delta T = 0$$

$$16EI/\ell \varphi_B + 4EI/\ell \varphi_C - 3/48 ql^2 - 31/16 ql^2 = 0$$

$$4EI/l P_B + 14EI/l P_C - 23/48 ql^2 - 1/48 ql^2 = 0$$

$$[\varphi_B = \frac{1}{8}l^3, \varphi_C = 0]$$

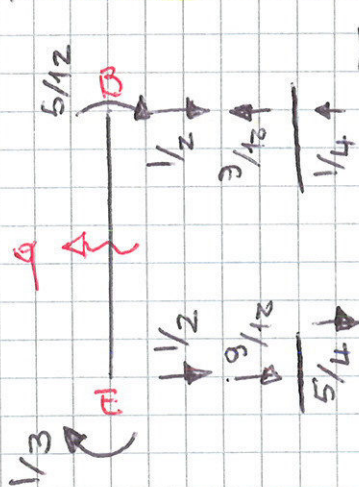
ASTA AB



$$M_A = \left(\frac{1}{4}\right) + \left(\frac{31}{16}\right) = \frac{35}{16}$$

$$M_B = \left(\frac{1}{2}\right) + \left(\frac{31}{16}\right) = \frac{23}{16}$$

ASTA EB



$$M_B = \frac{1}{2} + \frac{1}{12} = \frac{5}{12}$$

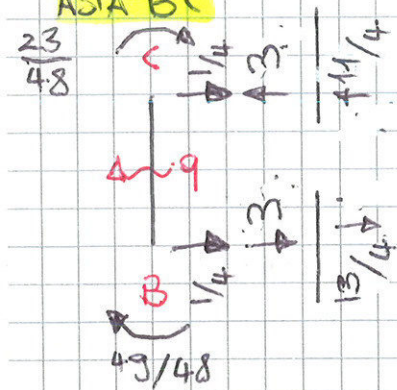
$$M_E = \frac{1}{4} + \frac{1}{12} = \frac{1}{3}$$

$$M(x) = 0 \rightarrow \frac{1}{3}ql^2 - \frac{5}{4}qlx + \frac{qx^2}{2} = 0$$

$$4l^2 - 15lx + 6x^2 = 0$$

$$x_{1/2} = \frac{15 \pm \sqrt{225 - 96}}{12} \quad x = 0,3l$$

ASTA BC



$$M_B = \frac{1}{2} + \frac{1}{48} = \frac{49}{48} \quad M_C = \frac{1}{2} + \frac{1}{48} = \frac{23}{48}$$

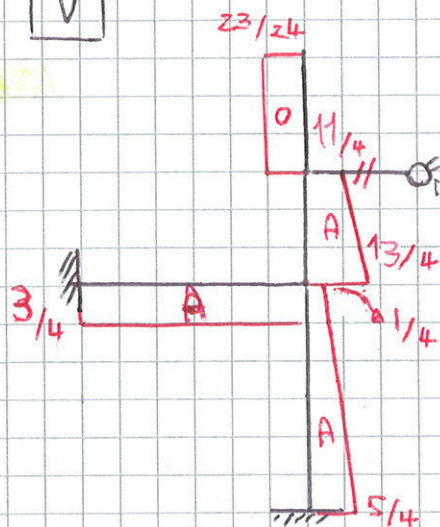
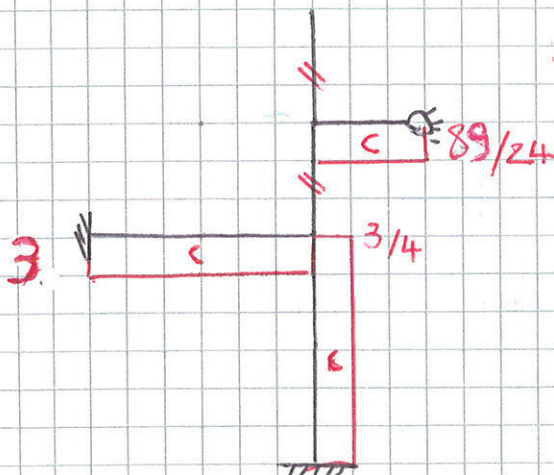
$$M(x) = 0 \quad \frac{49}{48}ql^2 - \frac{13}{4}qlx + \frac{qx^2}{2} = 0$$

$$49l^2 - 156lx + 24x^2 = 0$$

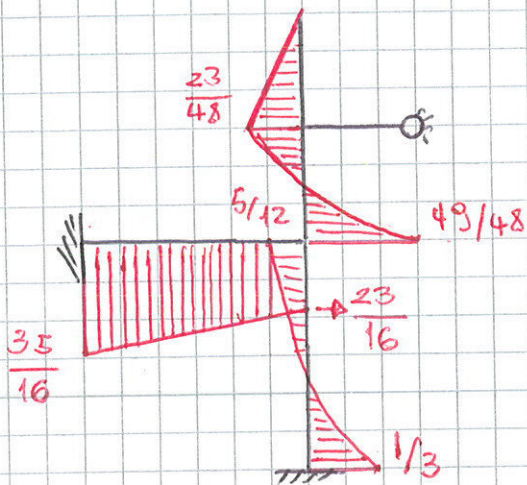
$$x_{1/2} = \frac{156 \pm \sqrt{19632}}{48} = 0,33l$$

N

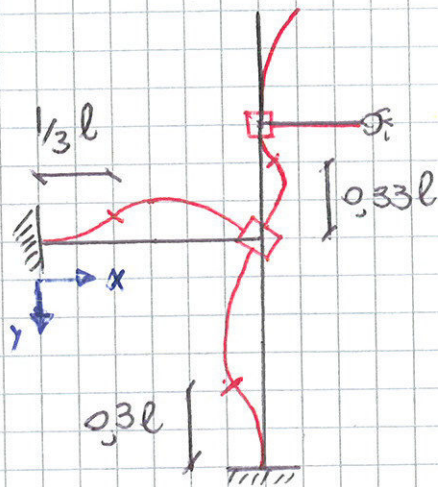
V



M



Deflection



$$y'' = -\frac{M}{EI} + \frac{\alpha \Delta T}{t}$$

$$y'' \geq 0 \rightarrow -\left(\frac{35}{16}ql^2 - \frac{3}{4}qlx\right) + \frac{31}{16}ql^2 \geq 0$$

$$-35l + 12x + 31l \geq 0$$

$$12x \geq 4l \rightarrow x \geq \frac{1}{3}l$$