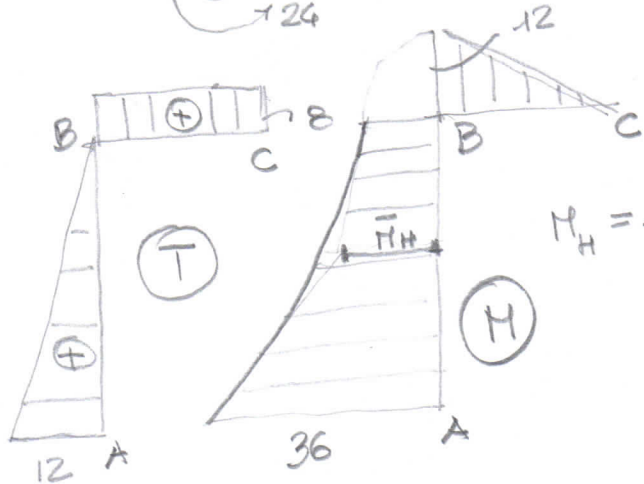
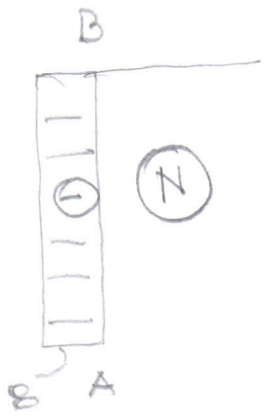
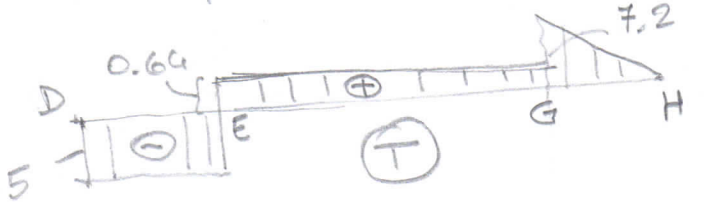
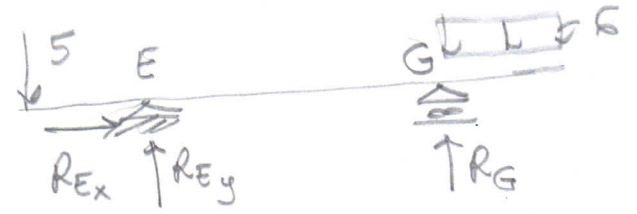
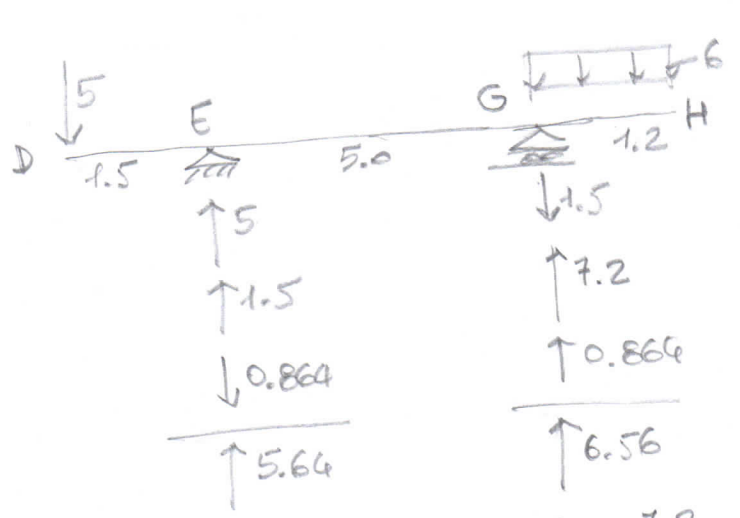


$$\bar{M}_H = -36 + 12 \times 2 = -12$$



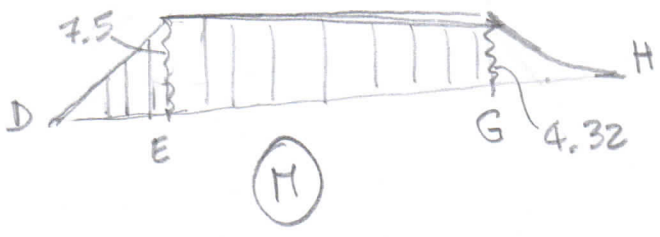
$$M_H = -36 + 12 \times 2 - 3 \times \frac{2^2}{2} = +18$$

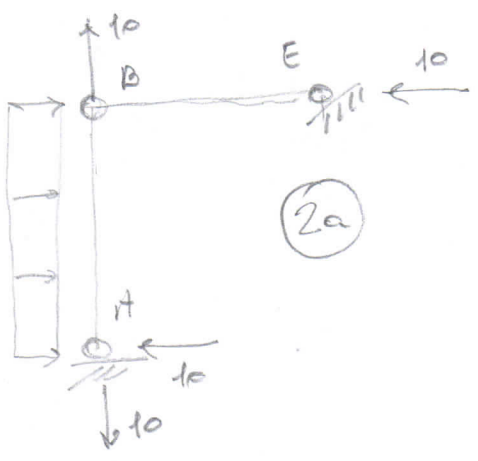
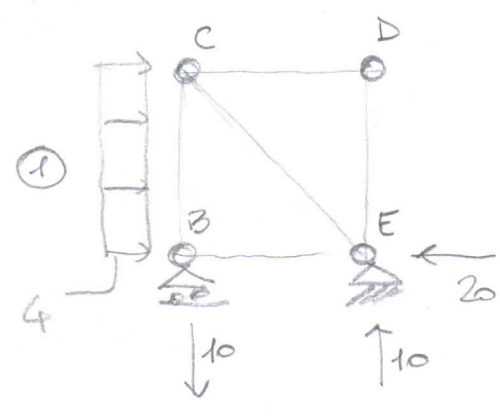
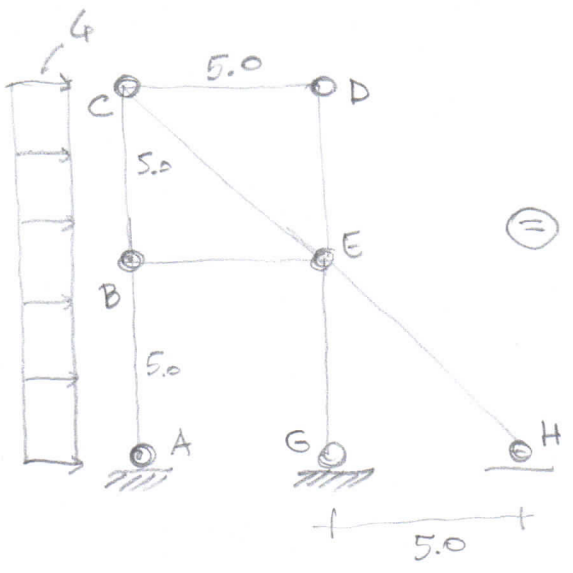


$$\left\{ \begin{aligned} R_{Ex} &= 0 \\ -5 + R_{Ey} + R_G - 6 \times 1.2 &= 0 \\ \text{E) } 5 \times 1.5 + R_G \times 5 - 6 \times 1.2 \times 5.6 &= 0 \end{aligned} \right.$$

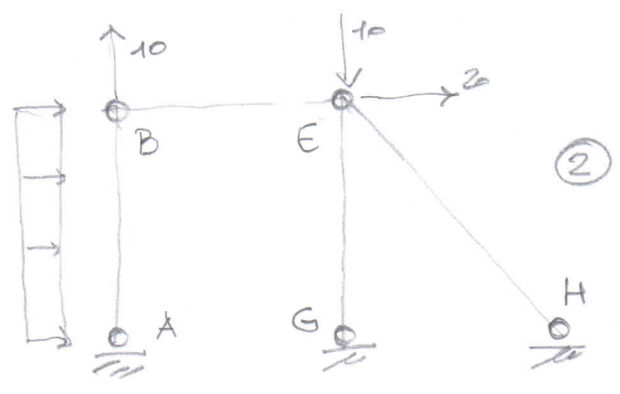
⇓

$$\begin{aligned} R_{Ex} &= 0 \\ R_G &= 6.56 \\ R_{Ey} &= 5.64 \end{aligned}$$

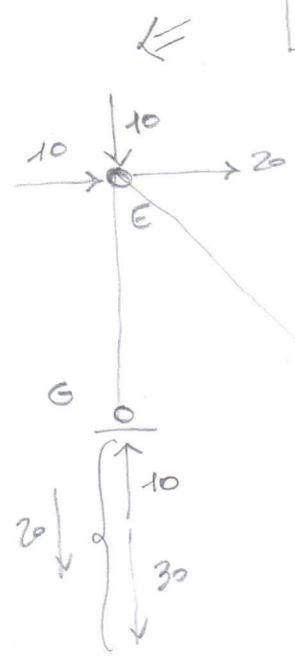




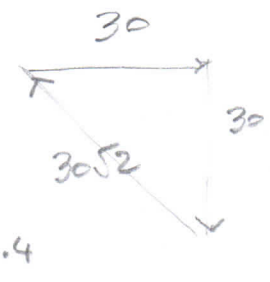
2a



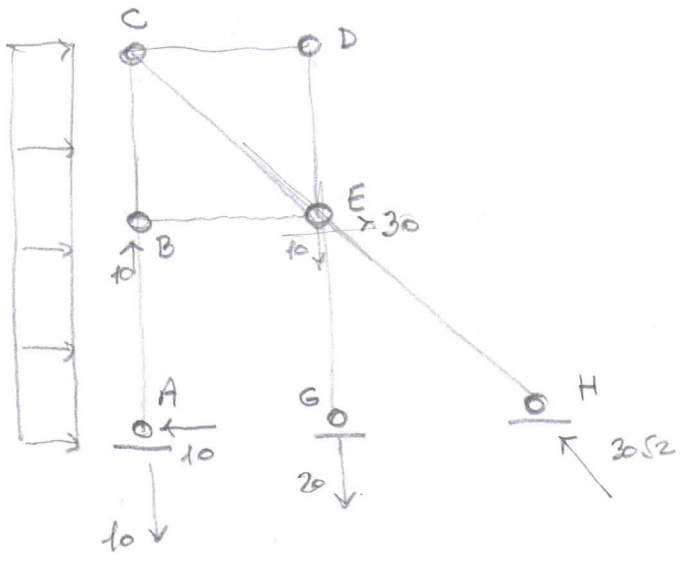
2

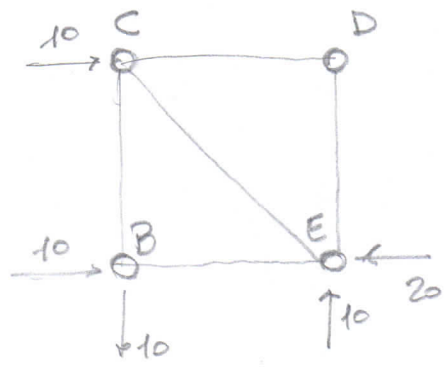
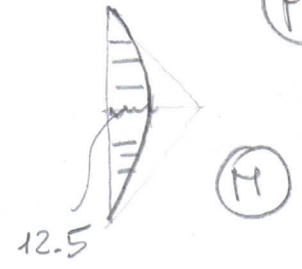
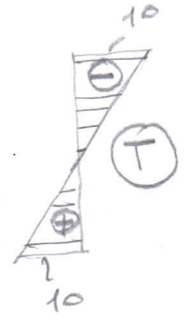
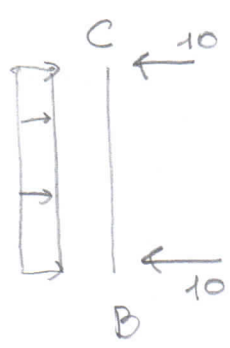
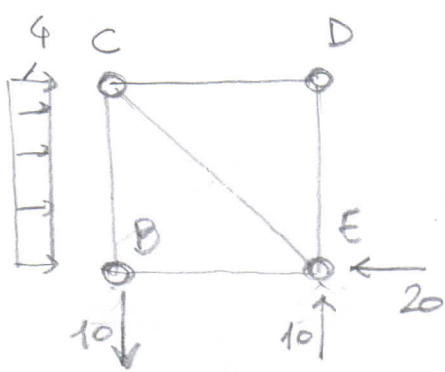


2b



Soluzione finale a meno degli sforzi sulle aste di BCDE:

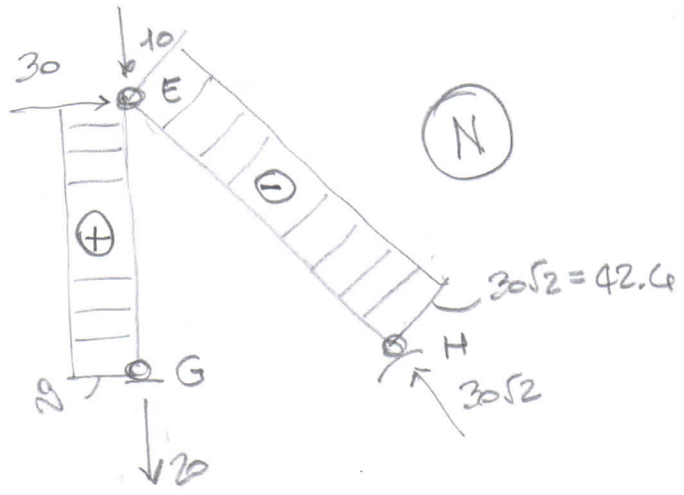
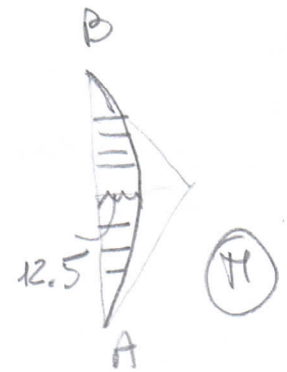
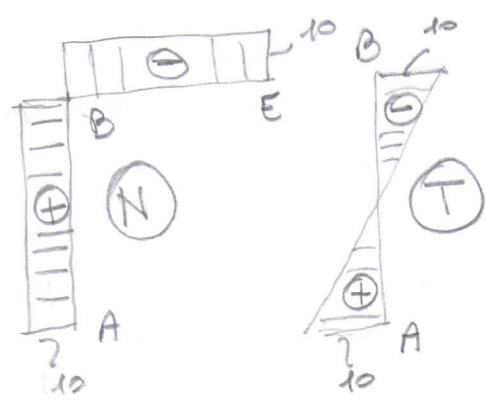
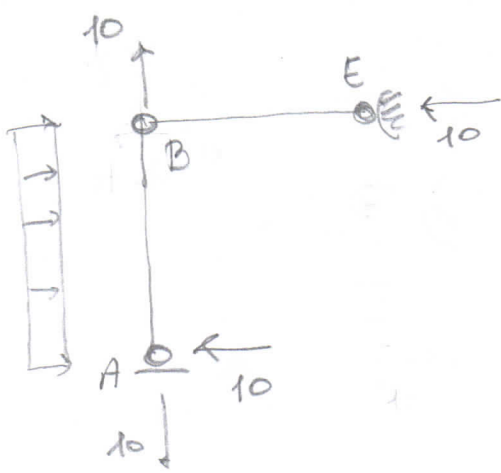
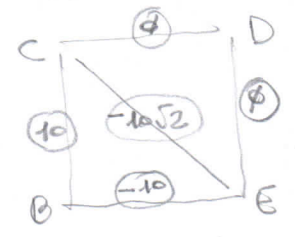




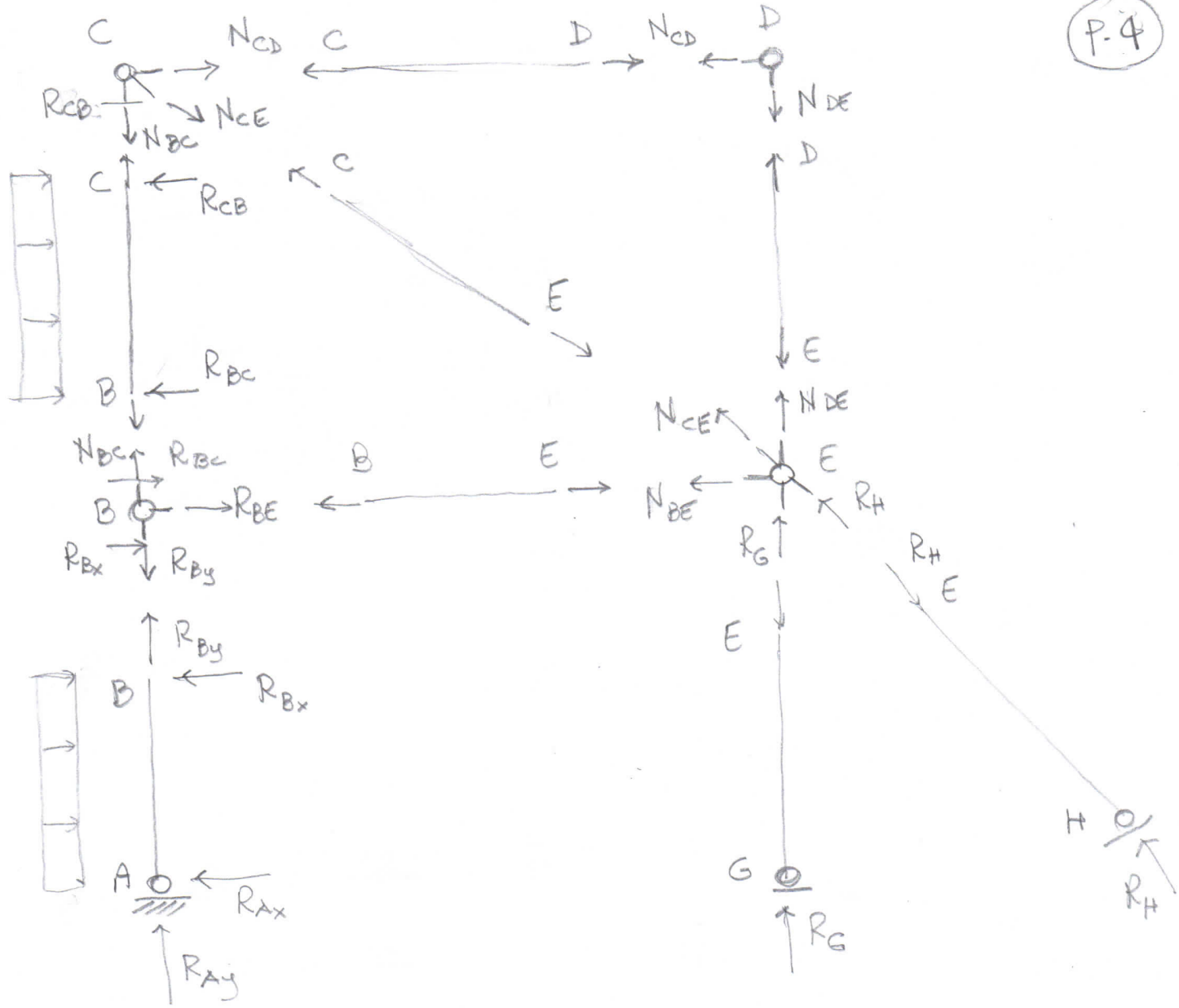
Node D
 $N_{CD} = 0$
 $N_{DE} = 0$

Node C
 $N_{CC} = 10$
 $N_{CE} = -10\sqrt{2}$

Node B
 $N_{BE} = -10$



$30\sqrt{2} = 42.4$



Incognite:

- R_{Ax} R_{Ay} R_G R_H
- R_{Bx} R_{By} R_{BC} R_{CB}
- N_{CD} N_{DE} N_{CE} N_{BE} N_{BC}

$\text{Tot} = 13$

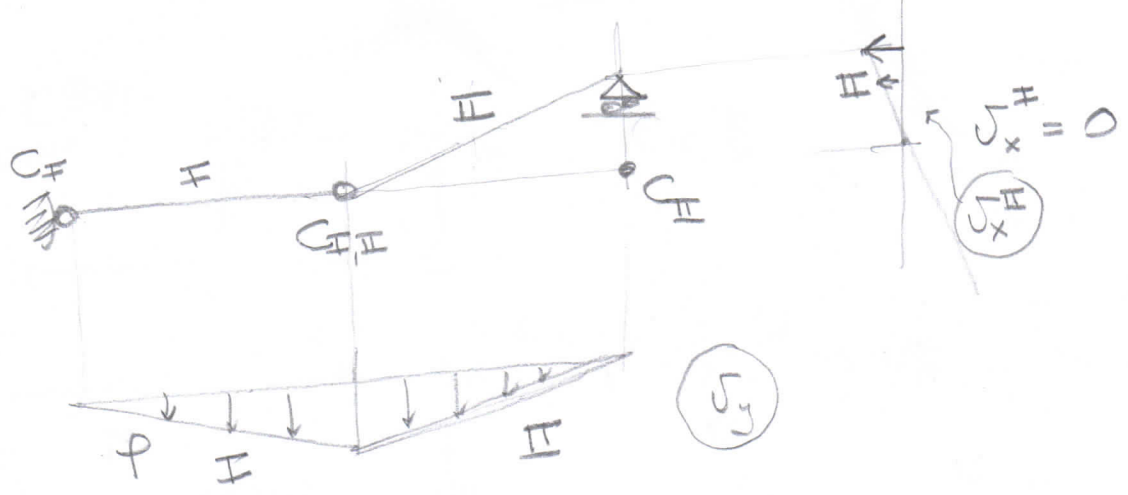
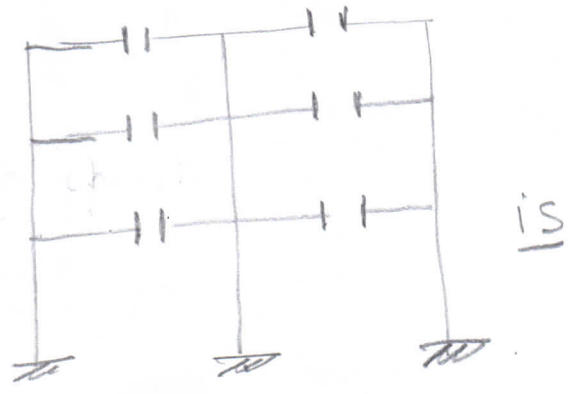
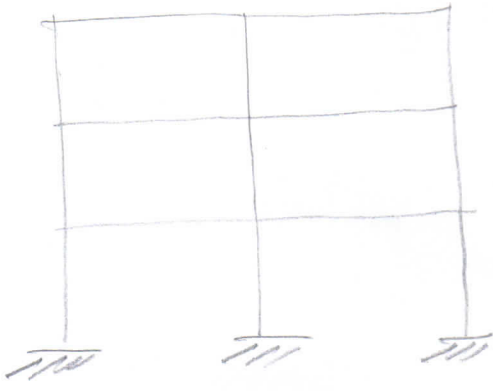
Equazioni:

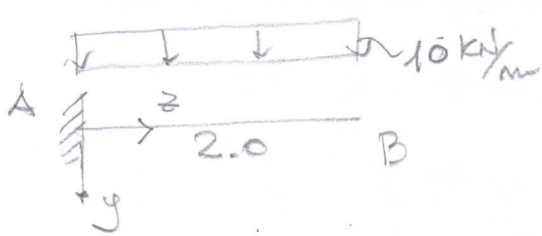
- 3 eqz. x AB
- 2 eqz. x BC
- 2 eqz. nodo B
- 2 eqz. nodo C
- 2 eqz. nodo D
- 2 eqz. nodo E

- 13 eqz.

18 i perst

p.5

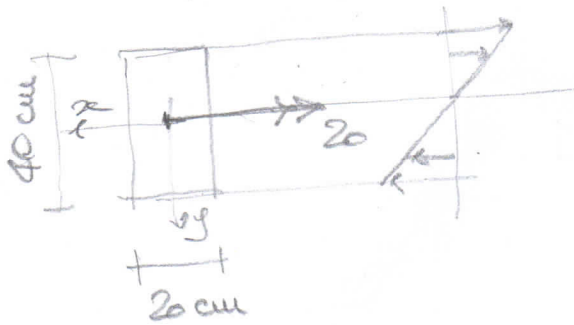




ES. 4

P. 6

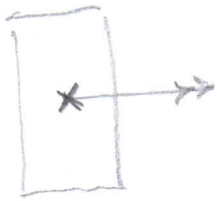
$M_A = 10 \times \frac{2^2}{2} = 20 \text{ kNm}$ fibra tese superiora



$I_x = \frac{20 \times 40^3}{12} = 106667 \text{ cm}^4$

$\sigma_z = -\frac{20 \times 10^6}{106667 \times 10^4} y = -0.0188 y$

$\sigma_z^{\text{max}} = -0.0188 \times (-200) = 3.8 \frac{\text{N}}{\text{mm}^2}$

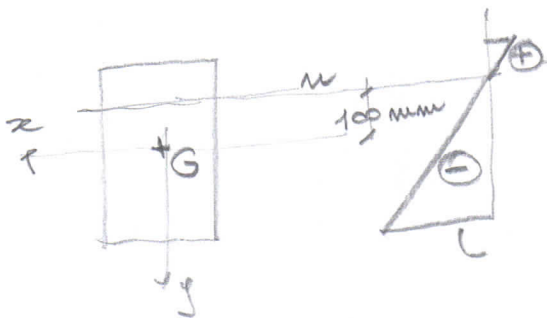


$N_G = -150 \text{ kN}$

$A = 20 \times 40 = 800 \text{ cm}^2$

$M_x = -20 \text{ kNm}$

$u-u) - \frac{150 \times 10^3}{800 \times 10^2} - 0.0188 y = 0 \Rightarrow y = -\frac{150 \times 10}{800} \times \frac{1}{0.0188} = -100 \text{ mm}$



$|\sigma_z|_{\text{max}} = \left| -\frac{1.875}{800} - 0.0188 \times 20 \right| = 5.64 \frac{\text{N}}{\text{mm}^2}$

$G = \left(0, \frac{-20}{-150} \right) = (0, 133 \text{ mm})$

$-y_m \times CG = \int x^2 \Rightarrow y_m = -\frac{106667}{800} \cdot \frac{1}{13.3} = -10 \text{ cm}$