

Metodo sintetico

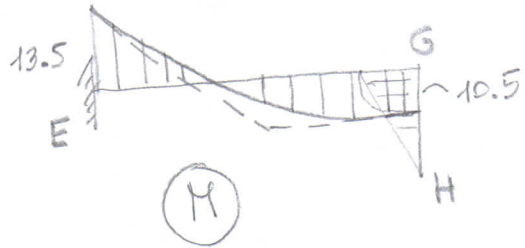
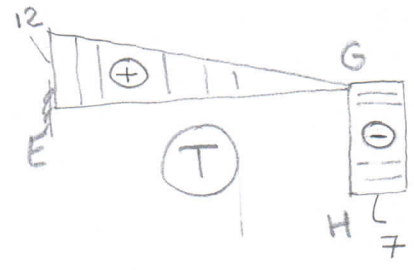
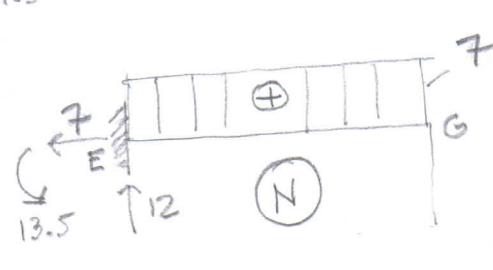
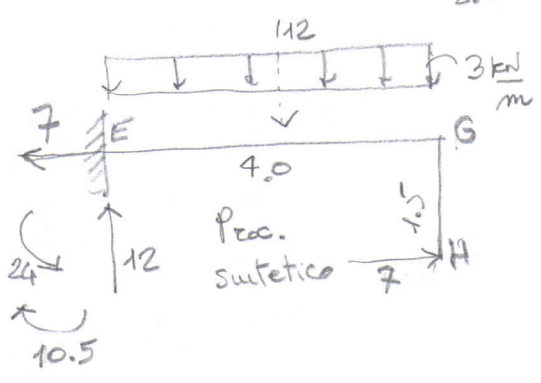
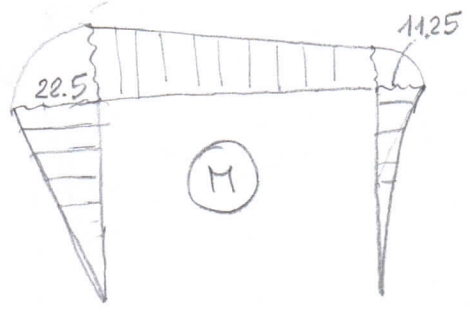
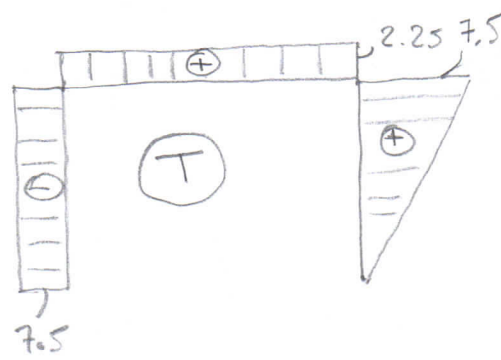
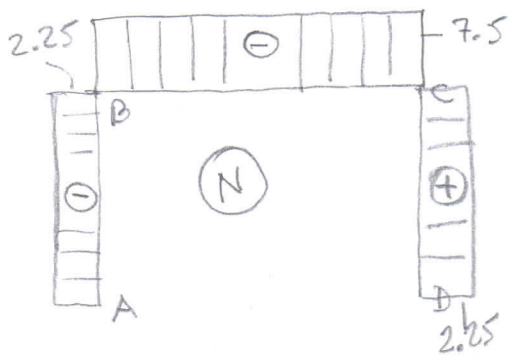
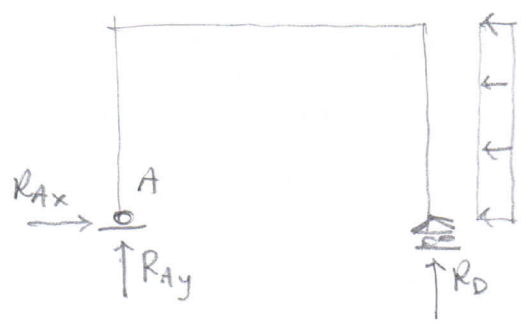
ES. 1

Proced. generale

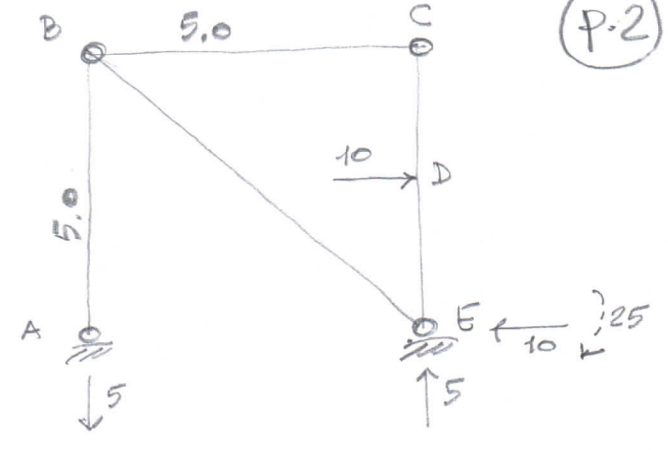
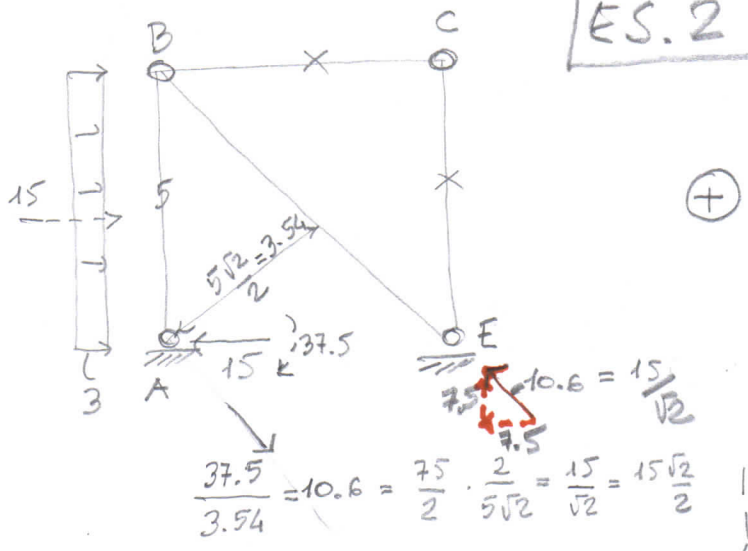
$$R_{Ax} - 7.5 = 0 \Rightarrow R_{Ax} = 7.5$$

$$R_{Ay} + R_D = 0 \Rightarrow R_{Ay} = 2.25$$

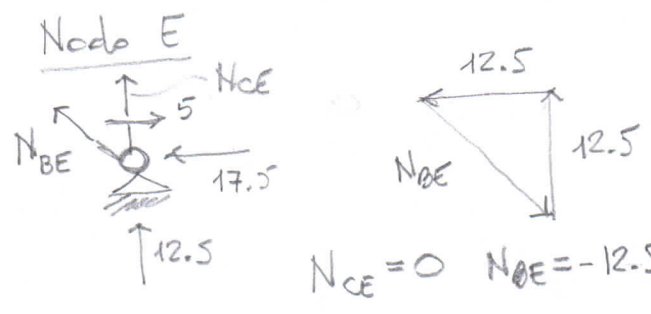
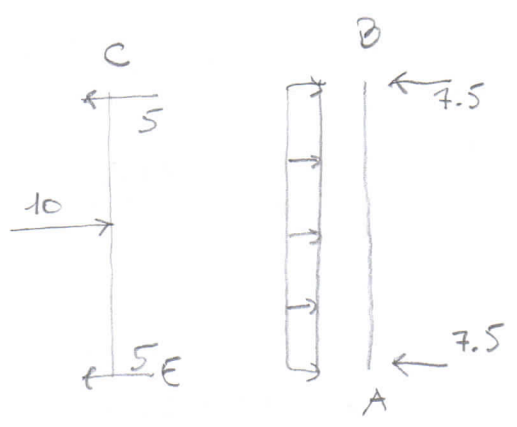
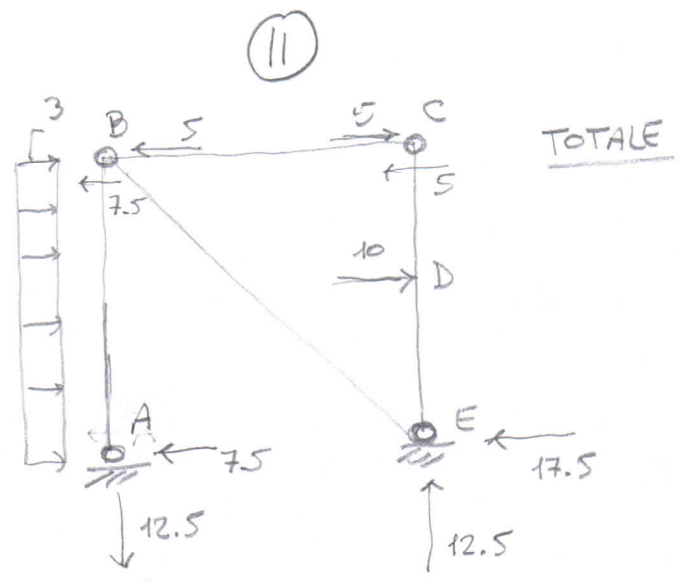
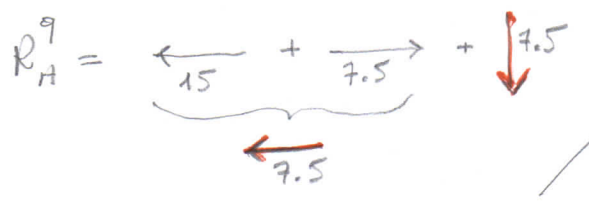
$$R_D \times 5 + 7.5 \times 1.5 = 0 \Rightarrow R_D = -2.25$$



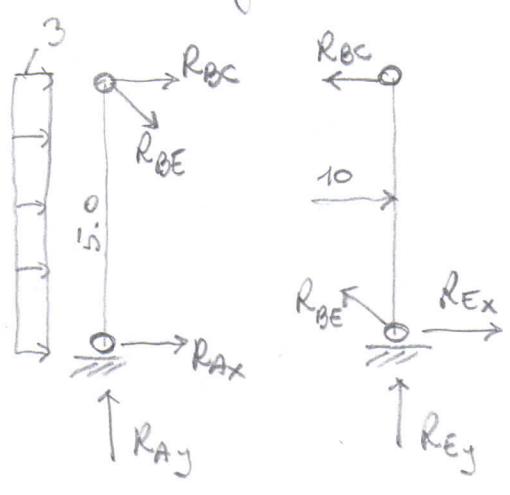
ES. 2



$$\frac{37.5}{3.54} = 10.6 = \frac{75}{2} \cdot \frac{2}{5\sqrt{2}} = \frac{15}{\sqrt{2}} = 15\frac{\sqrt{2}}{2}$$

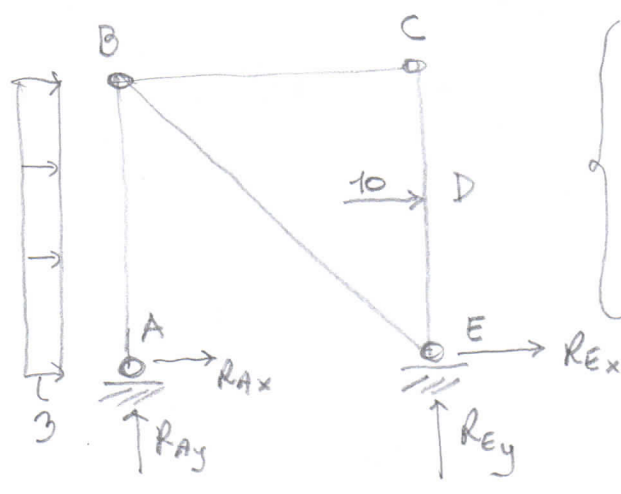


Proced. generale

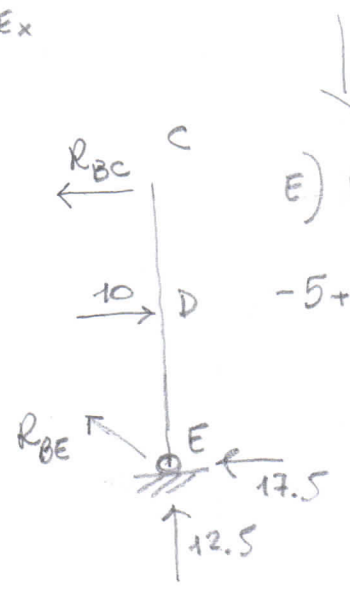


$$\begin{cases} R_{Ax} + 15 + R_{Bc} + R_{Be} \frac{\sqrt{2}}{2} = 0 \implies R_{Be} = -\frac{25}{\sqrt{2}} = -\frac{25\sqrt{2}}{2} \\ R_{Ay} - R_{Be} \frac{\sqrt{2}}{2} = 0 \implies R_{Aj} = -12.5 \\ A) R_{Ax} \cdot 5 + 15 \times 2.5 = 0 \implies R_{Ax} = -7.5 \\ R_{Ex} - R_{Bc} - R_{Be} \frac{\sqrt{2}}{2} + 10 = 0 \implies R_{Ex} = -5 - 12.5 = -17.5 \\ R_{Ey} + R_{Be} \frac{\sqrt{2}}{2} = 0 \implies R_{Ey} = 12.5 \\ E) R_{Bc} \cdot 5 - 10 \times 2.5 = 0 \implies R_{Bc} = 5 \end{cases}$$

Proced. sintetico

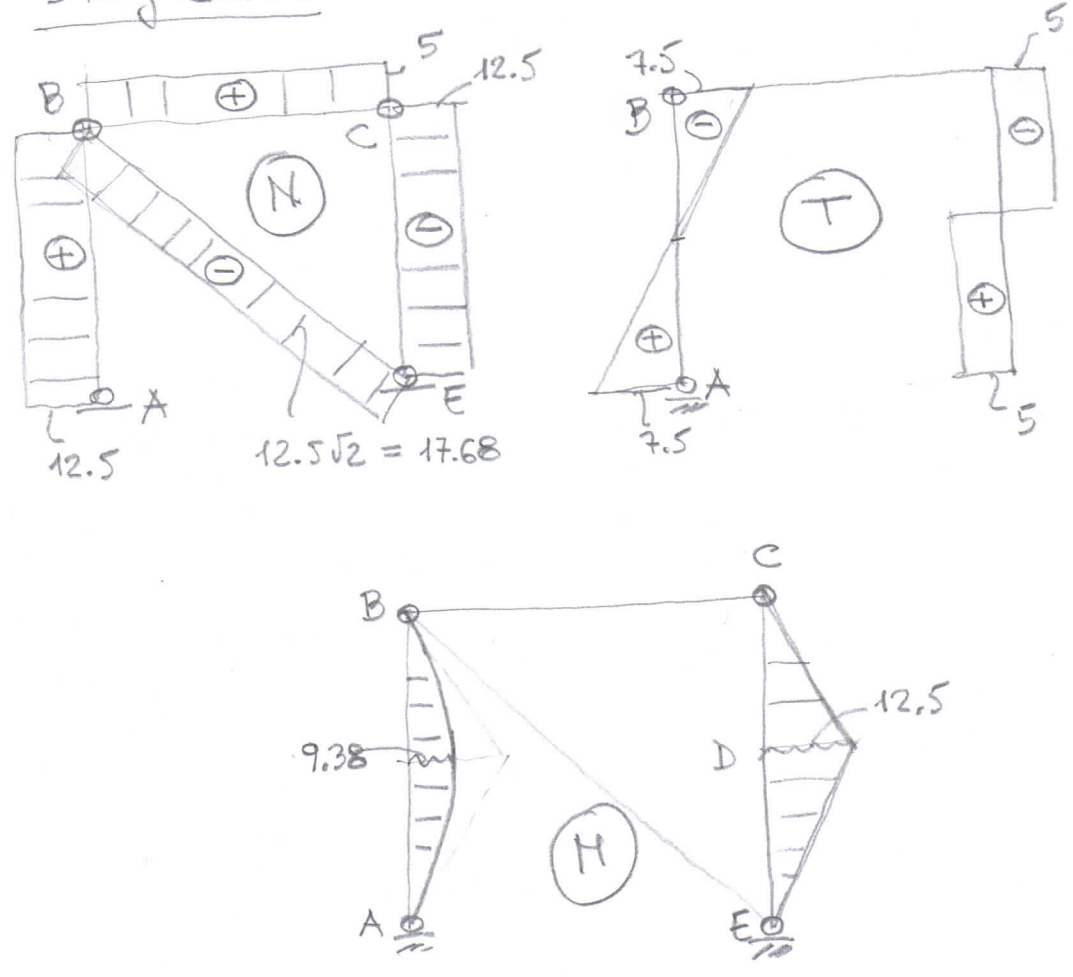


$$\begin{cases} R_{Ax} + R_{Ex} + 15 + 10 = 0 \implies R_{Ex} = -17.5 \\ R_{Ay} + R_{Ey} = 0 \implies R_{Ey} = 12.5 \\ E) -15 \times 2.5 - R_{Ay} \times 5 - 10 \times 2.5 = 0 \implies R_{Ay} = -12.5 \\ \text{ans.) } 15 \times 2.5 + R_{Ax} - 5 = 0 \implies R_{Ax} = -7.5 \end{cases}$$

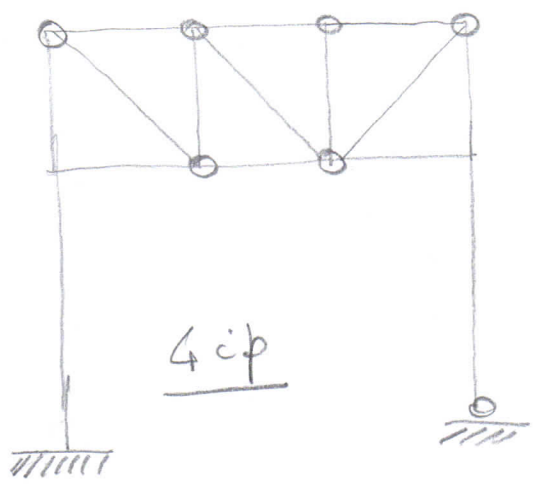


$$\begin{aligned} E) R_{BC} \cdot 5 - 10 \times 2.5 = 0 &\implies R_{BC} = 5 \\ -5 + 10 - 17.5 - R_{BE} \frac{\sqrt{2}}{2} = 0 &\implies R_{BE} = -\frac{25}{\sqrt{2}} = -12.5\sqrt{2} \end{aligned}$$

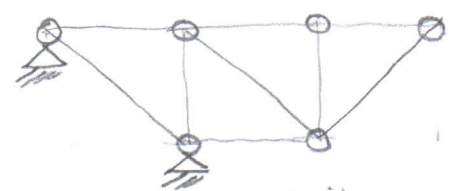
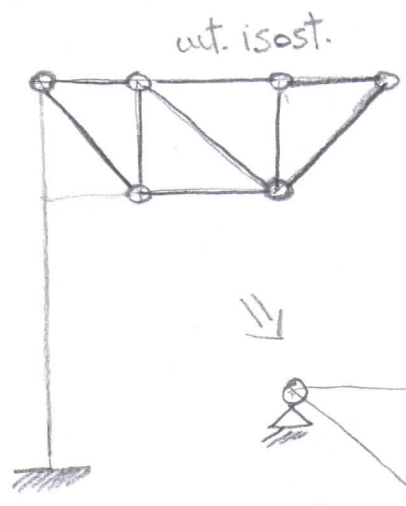
Diagrammi



ES.3

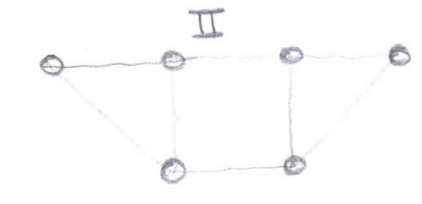
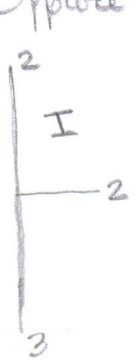


4 ip



1 ip

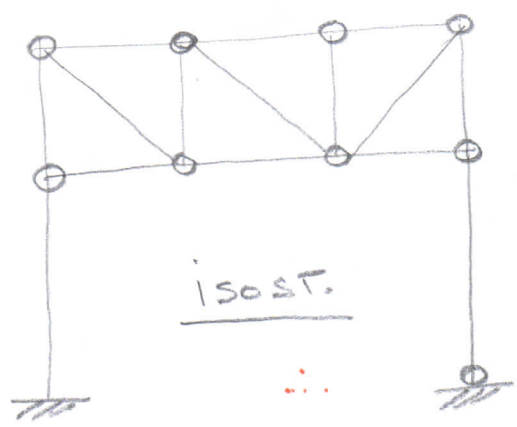
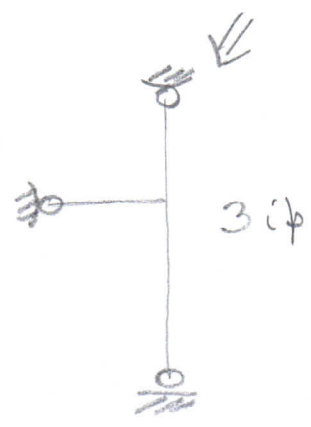
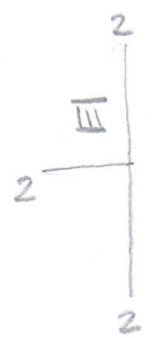
Opporre



$3t = 9$

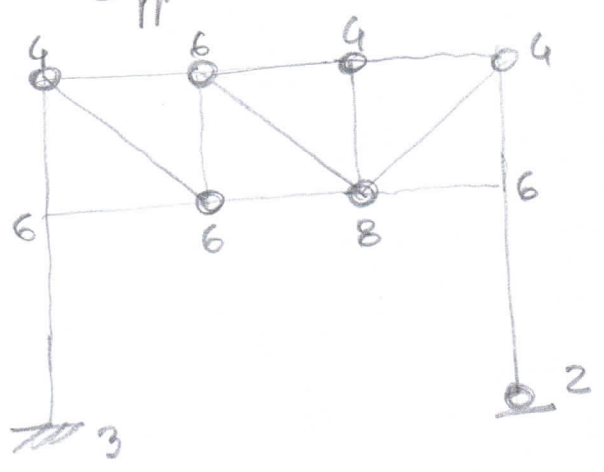
$\delta = 13$

$3t - \delta = -4$



isost.

Opporre

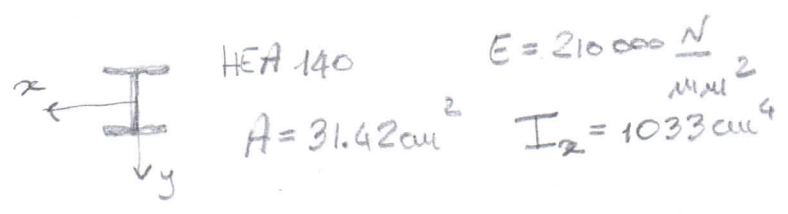
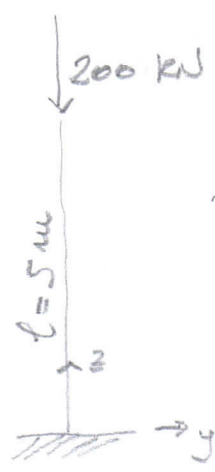


$3t = 3 \cdot 15 = 45$

$\delta = (3+2) + 3 \times 4 + 4 \times 6 + 8 = 69$

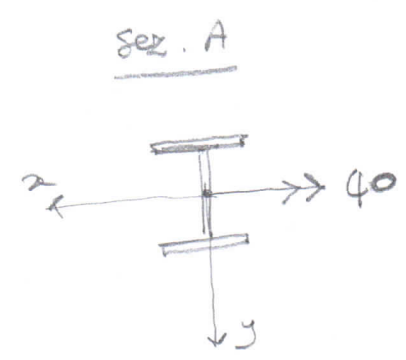
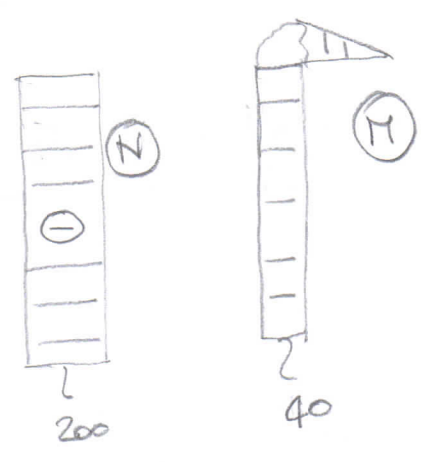
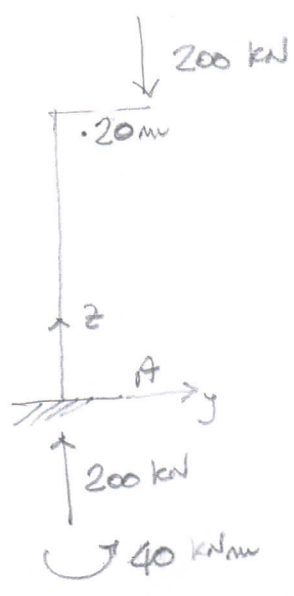
$45 - 69 = l \cdot i$

$i = 4$



$$\sigma_z = \frac{N}{A} = \frac{200,000}{31,42} = 63.7 \frac{N}{mm^2}$$

$$W = \frac{200,000 \times 5,000}{210,000 \times 31,42} = 1.5 \text{ mm}$$



$$\sigma_z = -\frac{200 \times 10^3}{31,42} - \frac{40 \times 10^6}{10,333 \times 10^4} y = -63.7 - 3.87 y$$

$$|\sigma_z|_{\text{max}} = |-63.7 - 3.87 \times 70| = 335 \frac{N}{mm^2}$$