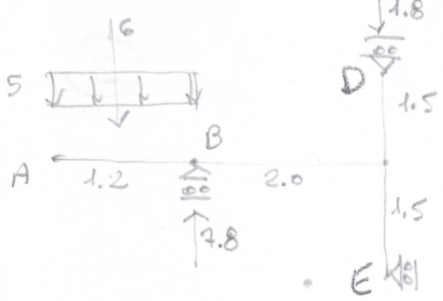
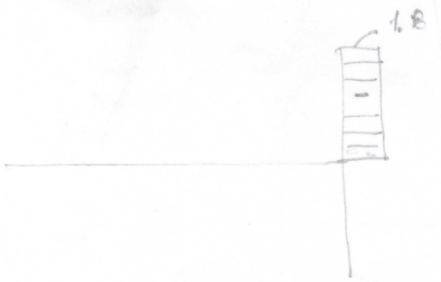
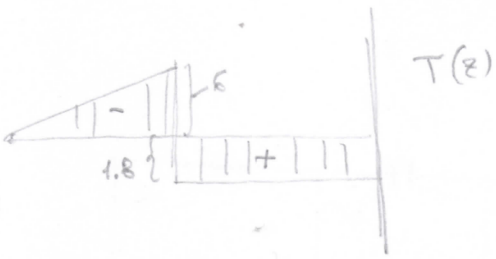
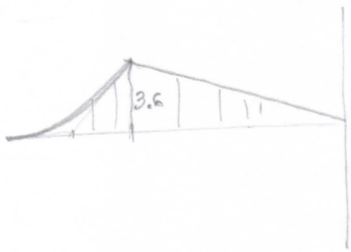




(1)





NB) $M(z) = -5\frac{z^2}{2}$

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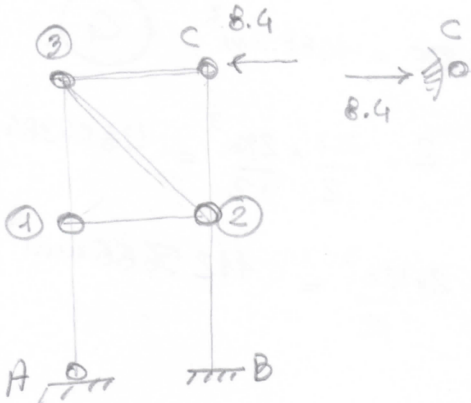
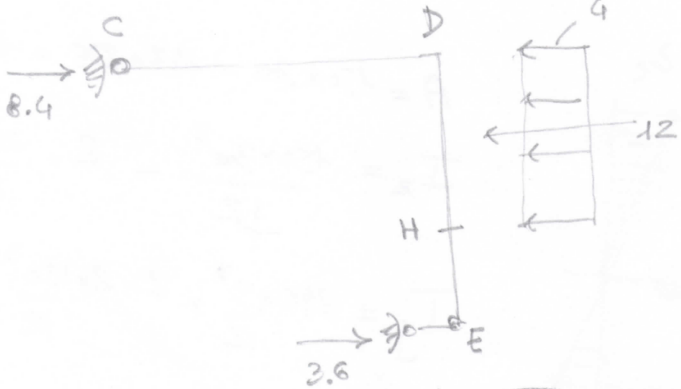
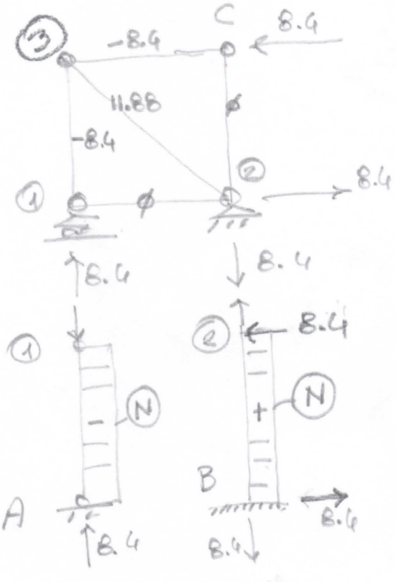
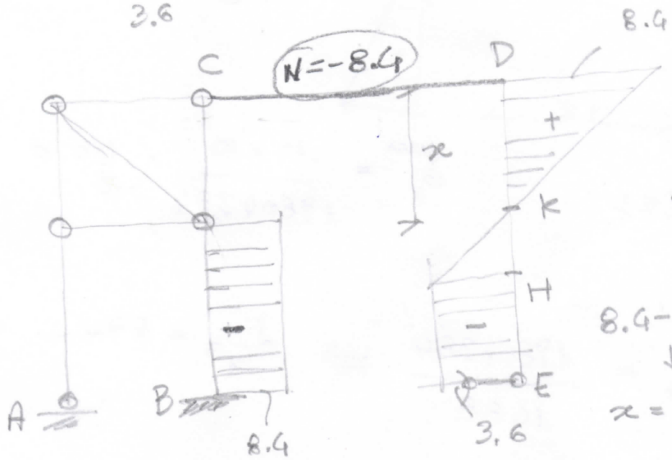
(2)







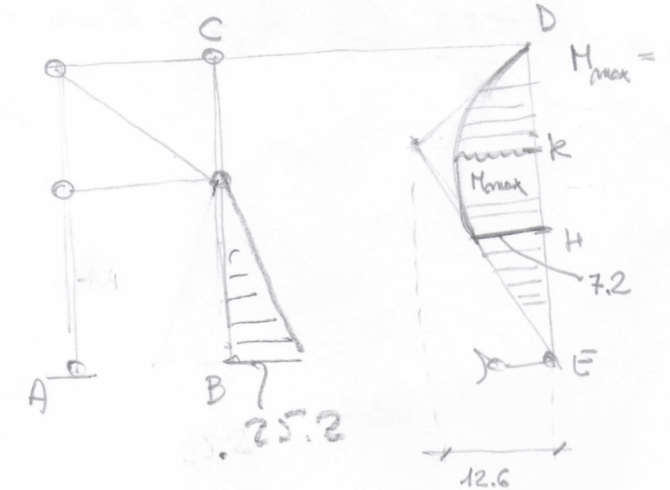


T(z)

$8.4 - 4x = 0$

$\Downarrow$

$x = \frac{8.4}{4} = 2.1$



$M_{max} = 8.4 \times \frac{2.1}{2} = 8.82$

nodo (1)

$\downarrow N = -8.4$

ϕ

$\uparrow 8.4$

nodo (3)

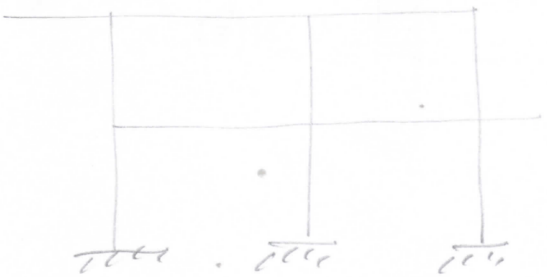
$N = -8.4$

$8.4 \uparrow \quad \searrow N = 8.4\sqrt{2} = 11.88$

nodo (2)

$8.4 \rightarrow \quad \leftarrow 8.4$

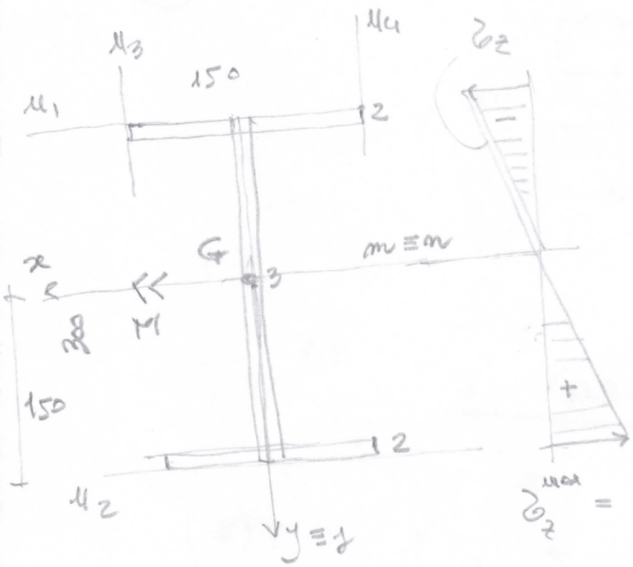
ϕ



12 : p

15

15



(4)

$$A = 150 \times 300 - 147 \times 296 = 1488 \text{ mm}^2$$

$$I_z = \frac{150 \times 300^3}{12} - 2 \times \frac{147}{2} \times \frac{296^3}{12} = 19804384 \text{ mm}^4$$

$$I_y = 296 \times \frac{3^3}{12} + 2 \times 2 \times \frac{150^3}{12} = 1125666 \text{ mm}^4$$

$$\sigma_z^{max} = \frac{10 \times 10^6}{19804384} \times 150 = 75.7 \frac{N}{mm^2}$$

$$150 \times d_{C_1G} = \frac{19804384}{1488} \Rightarrow d_{C_1G} = 89 \text{ mm} = d_{C_2G}$$

$$75 \times d_{C_3G} = \frac{1125666}{1488} \Rightarrow d_{C_3G} \sim 10 \text{ mm} = d_{C_4G}$$