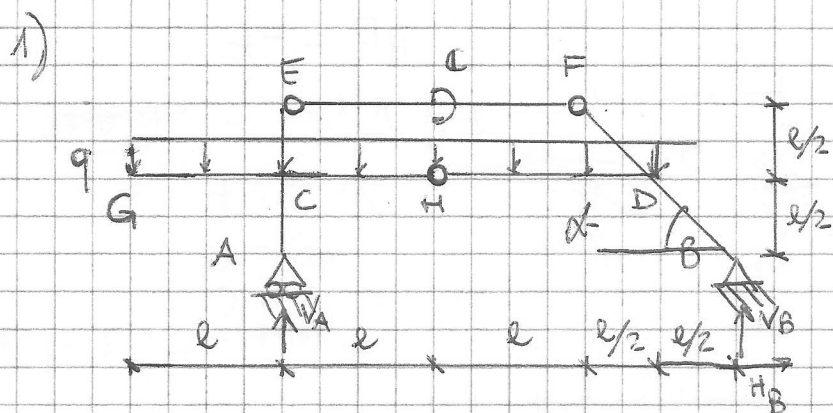


20/12/2017



$$q = 5000 \text{ N/m}$$

$$l = 2 \text{ m}$$

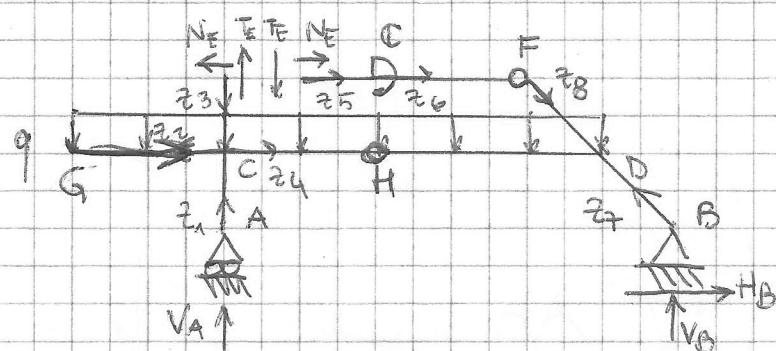
$$C = \frac{ql^2}{4} = 5000 \text{ N/m}$$

$$\alpha = 45^\circ$$

$$\rightarrow) H_B = 0$$

$$A) V_B \cdot 3l - \frac{q}{2} \left(\frac{5l}{2} \right)^2 + \frac{ql^2}{2} - \frac{ql^2}{4} = 0 \quad V_B = \frac{23}{24} ql = 9583 \text{ N}$$

$$\uparrow) V_A + V_B - q \left(\frac{7l}{2} \right) = 0 \quad V_A = \frac{61}{24} ql = 25417 \text{ N}$$



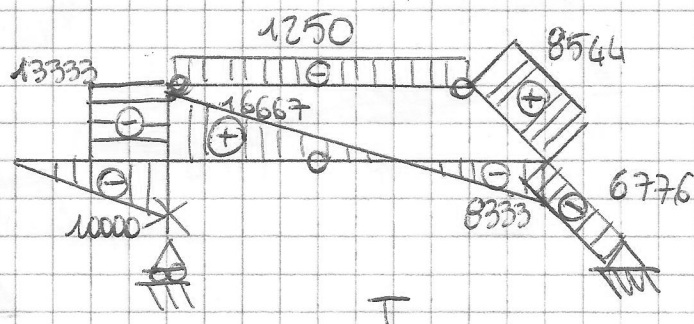
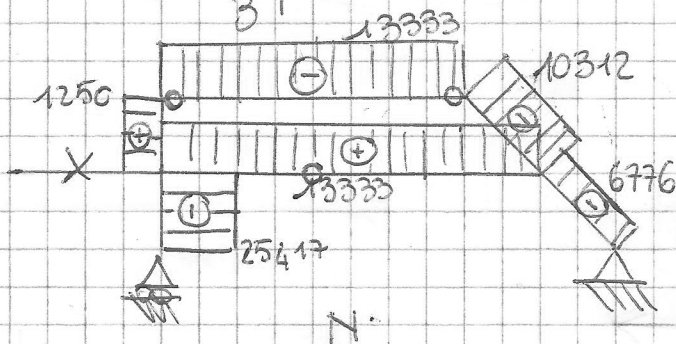
F) TRATTO FE

$$-\frac{ql^2}{4} + T_E \cdot 2l = 0$$

$$T_E = \frac{ql^2}{8} = 1250 \text{ N}$$

$$H) \text{ TRATTO ECA } 2ql^2 - V_A \cdot l + T_E \cdot l + N_E \cdot \frac{l}{2} = 0$$

$$N_E = \frac{4}{3} ql = 13333 \text{ N}$$



$$N(z_1) = -\frac{61}{24} ql$$

$$N(z_2) = 0$$

$$N(z_3) = \frac{ql}{8}$$

$$N(z_4) = \frac{4}{3} ql$$

$$N(z_5) = -\frac{4}{3} ql$$

$$N(z_6) = -\frac{4}{3} ql$$

$$N(z_7) = -\frac{23}{24} ql \frac{\sqrt{2}}{2}$$

$$N(z_8) = \frac{4}{3} ql \frac{\sqrt{2}}{2} - \frac{ql}{8} \frac{\sqrt{2}}{2}$$

$$T(z_1) = 0$$

$$T(z_2) = qlz$$

$$T(z_3) = -\frac{4}{3} ql$$

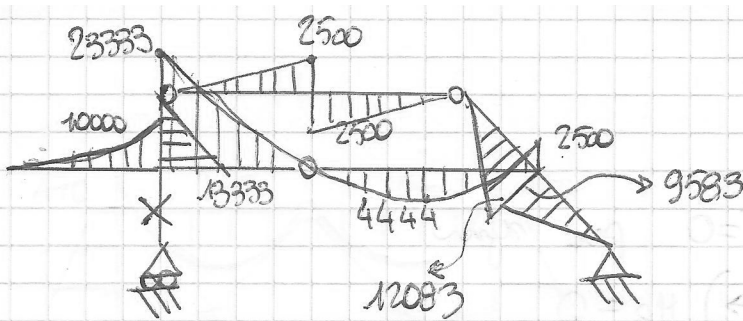
$$T(z_4) = ql + \frac{61}{24} ql + \frac{ql}{8} - ql$$

$$T(z_5) = -\frac{ql}{8}$$

$$T(z_6) = -\frac{ql}{8}$$

$$T(z_7) = -\frac{23}{24} ql \frac{\sqrt{2}}{2}$$

$$T(z_8) = \frac{4}{3} ql \frac{\sqrt{2}}{2} - \frac{ql}{8} \frac{\sqrt{2}}{2}$$



$$M(z_1) = 0$$

$$M(z_2) = -\frac{qz^2}{2}$$

$$M(z_3) = \frac{4}{3}qlz$$

$$M(z_4) = -ql \cdot \left(\frac{l}{2} + z\right) - \frac{4}{3}ql \frac{l}{2} + \frac{61}{24}qlz - \frac{qz^2}{2} + \frac{qlz}{8}$$

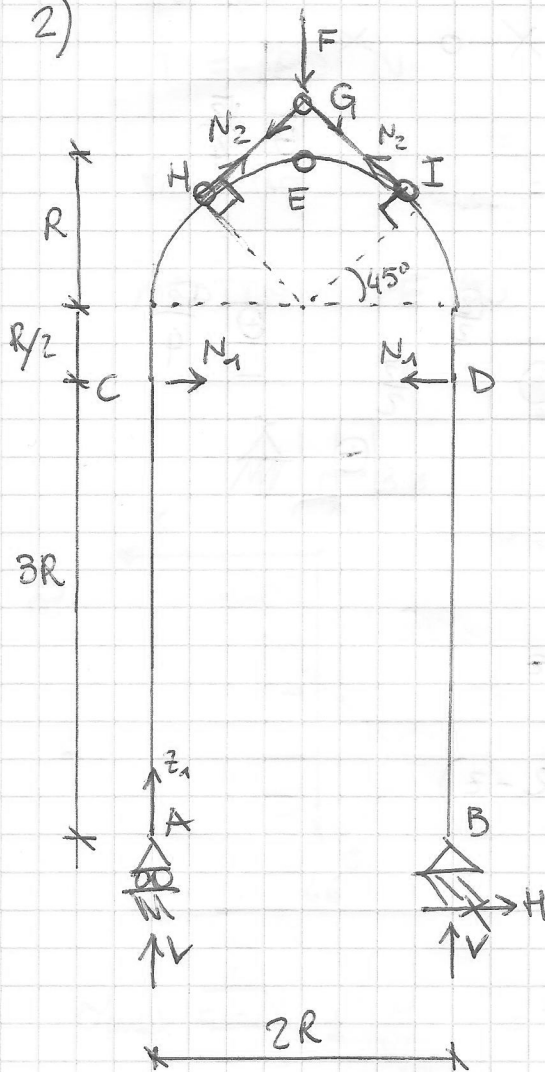
$$M(z_8) = +\frac{1}{3}qlz \frac{\sqrt{2}}{2} - \frac{ql}{8} \cdot \left(2l + z \frac{\sqrt{2}}{2}\right) + \frac{ql^2}{14}$$

$$M(z_5) = -\frac{ql}{8}z$$

$$M(z_6) = -\frac{ql}{8}(l+z) + \frac{ql^2}{14}$$

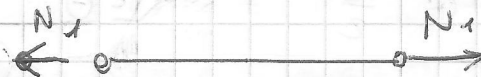
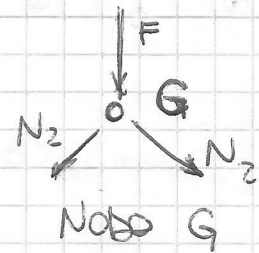
$$M(z_7) = \frac{23}{24}ql \cdot z \frac{\sqrt{2}}{2}$$

2)



$$R = 2m$$

$$F = 1000 N$$



$$\rightarrow) H = 0$$

$$\uparrow) 2V - F = 0 \quad V = F/2 = 500 N$$

NODO G

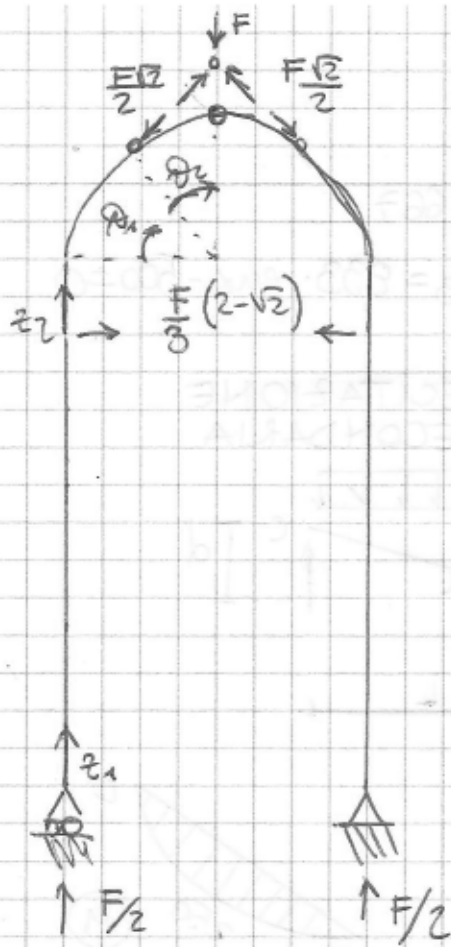
$$\uparrow) -F - 2N_2 \cdot \frac{\sqrt{2}}{2} = 0 \quad N_2 = -\frac{F\sqrt{2}}{2}$$

TRATTO HCA

$$-N_2 \left(R\sqrt{2} - R \right) \frac{\sqrt{2}}{2} + N_1 \cdot \frac{3R}{2} - VR = 0$$

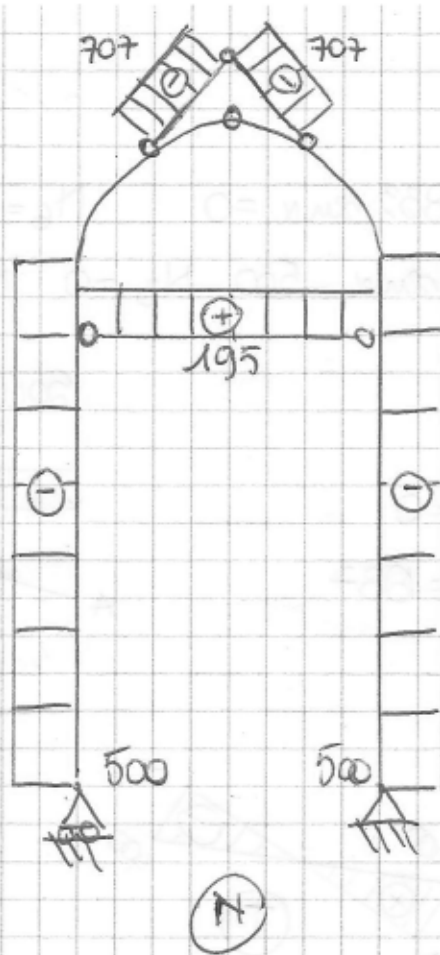
$$N_1 \left(\frac{3R}{2} \right) = \frac{FR}{2} - \frac{FR}{2} (\sqrt{2} - 1)$$

$$N_1 = \frac{F}{3} (2 - \sqrt{2})$$



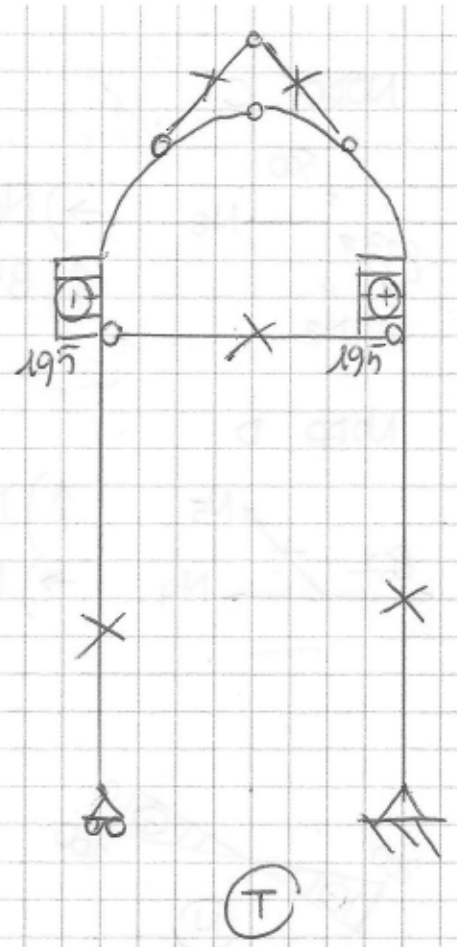
$$N(z_1) = -F/2$$

$$N(z_2) = -F/2$$



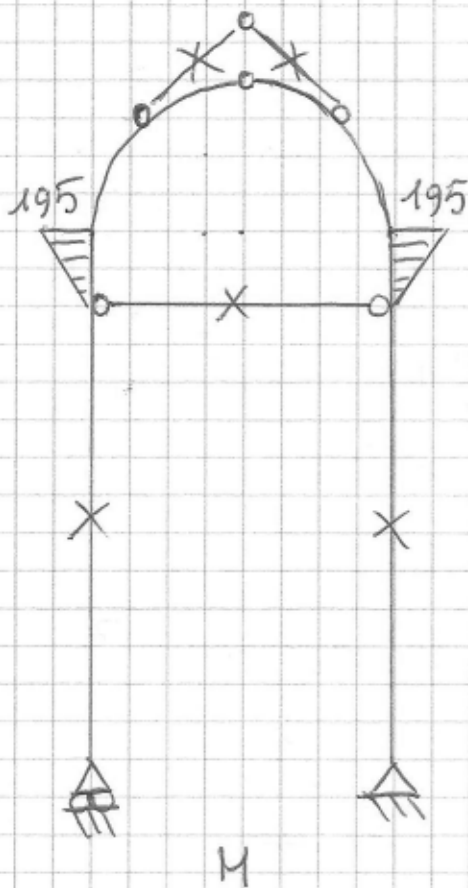
$$T(z_1) = 0$$

$$T(z_2) = -\frac{F}{3}(2 - \sqrt{2})$$



$$M(z_1) = 0$$

$$M(z_2) = -\frac{F}{3}(2 - \sqrt{2})z$$



$$N(\theta_1) = -\frac{F}{2} \cos \theta_1 - \frac{F}{3}(2 - \sqrt{2}) \sin \theta_1$$

$$T(\theta_1) = \frac{F}{2} \sin \theta_1 - \frac{F}{3}(2 - \sqrt{2}) \cos \theta_1$$

$$M(\theta_1) = \frac{F}{2} (R - R \cos \theta_1) - \frac{F}{3}(2 - \sqrt{2}) \left(\frac{R}{2} + R \sin \theta_1 \right)$$

$$N(\theta_2) = -\frac{F}{2} \cos \left(\frac{\pi}{4} + \theta_2 \right) - \frac{F}{3}(2 - \sqrt{2}) \sin \left(\frac{\pi}{4} + \theta_2 \right) + \frac{F\sqrt{2}}{2} \cos \theta_2$$

$$T(\theta_2) = \frac{F}{2} \sin \left(\frac{\pi}{4} + \theta_2 \right) - \frac{F}{3}(2 - \sqrt{2}) \cos \left(\frac{\pi}{4} + \theta_2 \right) - \frac{F\sqrt{2}}{2} \sin \theta_2$$

$$M(\theta_2) = \frac{F}{2} (R - R \cos \left(\frac{\pi}{4} + \theta_2 \right)) - \frac{F}{3}(2 - \sqrt{2}) \left(\frac{R}{2} + R \sin \left(\frac{\pi}{4} + \theta_2 \right) \right) - \frac{F}{\sqrt{2}} R (1 - \cos \theta_2)$$

