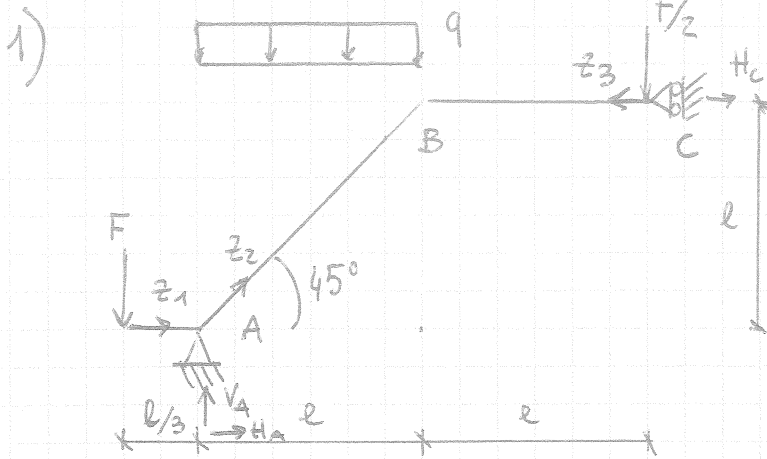




$$F = 500 \text{ N}$$

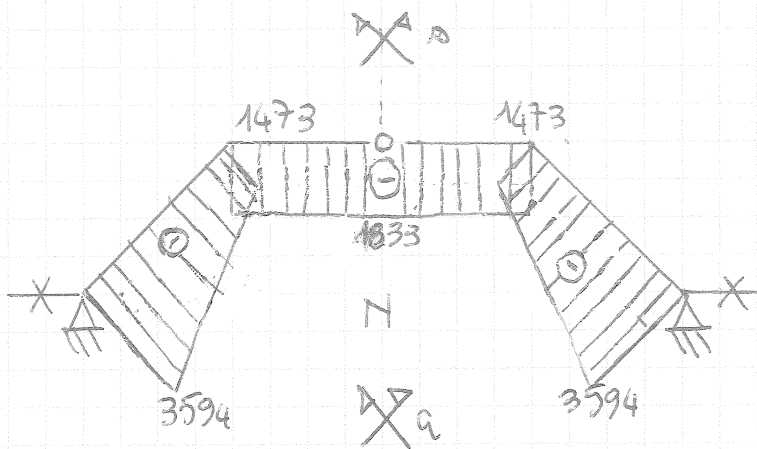
$$q = 1000 \text{ N/m}$$

$$l = 3 \text{ m}$$

$$\begin{aligned} \uparrow \sum M_A &= F \cdot \frac{l}{3} - \frac{q l^2}{2} - H_c \cdot l - \frac{F \cdot 2l}{2} = 0 \\ H_c &= \frac{F}{3} - \frac{q l}{2} - F = -1833 \text{ N} \end{aligned}$$

$$\uparrow \sum F_y = -F + V_A - q l - \frac{F}{2} = 0 \quad V_A = \frac{3F}{2} + q l = 3750 \text{ N}$$

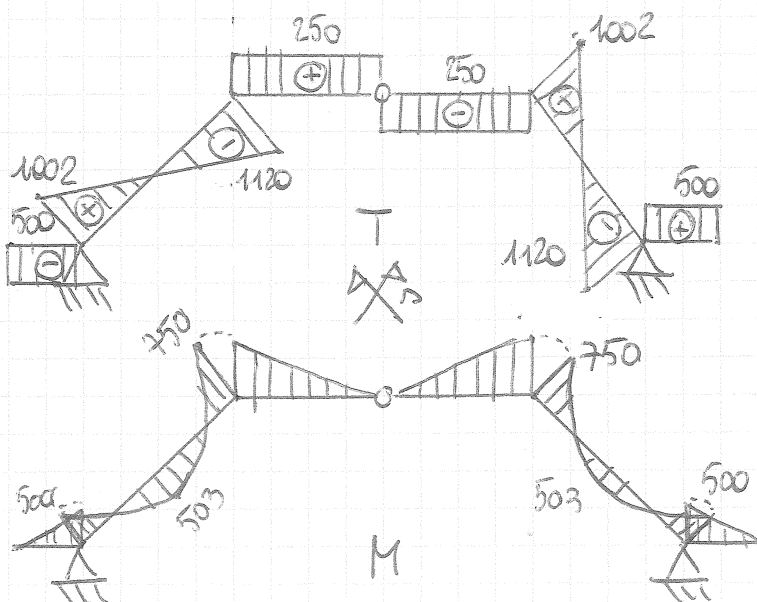
$$\rightarrow \sum F_x = H_A + H_c = 0 \quad H_A = -H_c = 1833 \text{ N}$$



$$N(z_1) = 0$$

$$\begin{aligned} N(z_2) &= -V_A \cdot \frac{\sqrt{2}}{2} - H_A \cdot \frac{\sqrt{2}}{2} + F \cdot \frac{\sqrt{2}}{2} + \\ &\quad + q \cdot \frac{\sqrt{2}}{2} \cdot \frac{\sqrt{2}}{2} \end{aligned}$$

$$N(z_3) = -H_c = -1833$$



$$T(z_1) = -F$$

$$T(z_2) = \left(H_A + V_A - F \right) \frac{\sqrt{2}}{2} - q \frac{\sqrt{2}}{2} \frac{\sqrt{2}}{2}$$

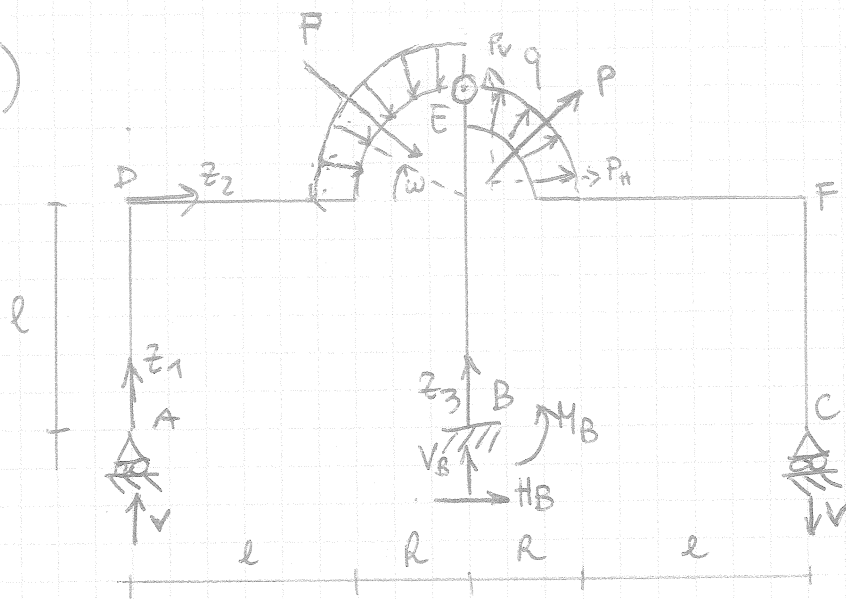
$$T(z_3) = \frac{F}{2}$$

$$M(z_1) = -F z$$

$$\begin{aligned} M(z_2) &= -F \left(\frac{l}{3} + z \frac{\sqrt{2}}{2} \right) + V_A \cdot \left(\frac{\sqrt{2}}{2} z \right) + \\ &\quad - H_A \cdot \left(z \frac{\sqrt{2}}{2} \right) - \frac{q}{2} \left(\frac{\sqrt{2}}{2} z \right)^2 \end{aligned}$$

$$M(z_3) = -\frac{F}{2} z$$

2)



$$q = 1000 \text{ N/m}$$

$$l = 3 \text{ m}$$

$$R = 1,5 \text{ m} = l/2$$

$$P = qR\sqrt{2} = ql\frac{\sqrt{2}}{2} =$$

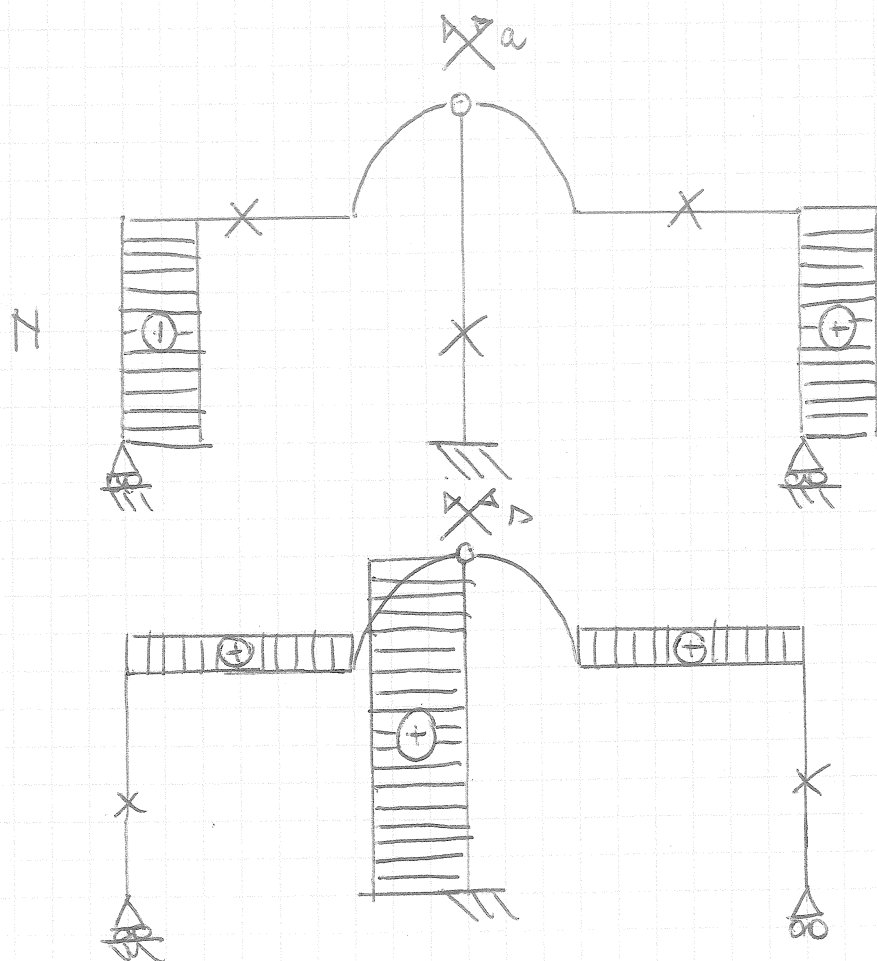
$$P_H = P_V = qR = \frac{ql}{2}$$

$$\uparrow \text{ tratto EFC} \quad P \cdot \frac{\sqrt{2}}{2} \frac{l}{2} - V \cdot \frac{3l}{2} = 0 \quad V = 500 \text{ N}$$

$$\rightarrow 2P_H + H_B = 0 \quad H_B = -ql = -3000$$

$$\uparrow \text{ tratto EB} \quad +H_B \cdot \frac{3l}{2} + M_B = 0 \quad M_B = ql \cdot \frac{3}{2}l = 13500 \text{ Nm}$$

$$\uparrow V - V + V_B - P_V + P_V = 0 \quad V_B = 0$$



$$N(z_1) = -V = -500 \text{ N}$$

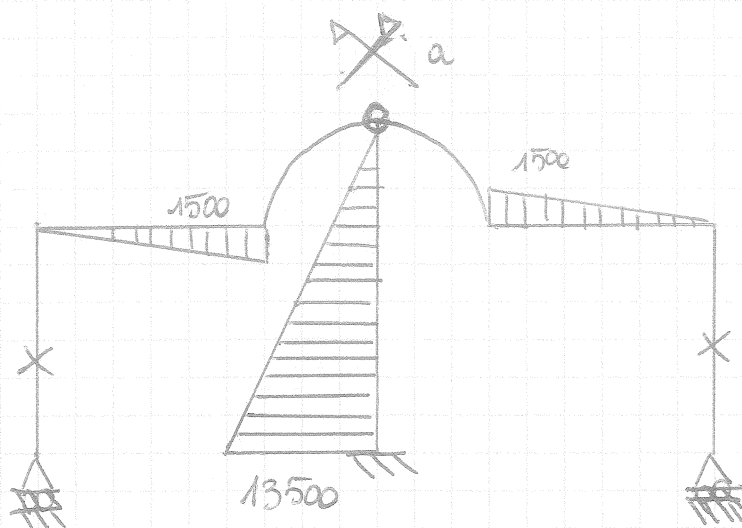
$$N(z_2) = 0$$

$$N(z_3) = 0$$

$$T(z_1) = 0$$

$$T(z_2) = +V = 500 \text{ N}$$

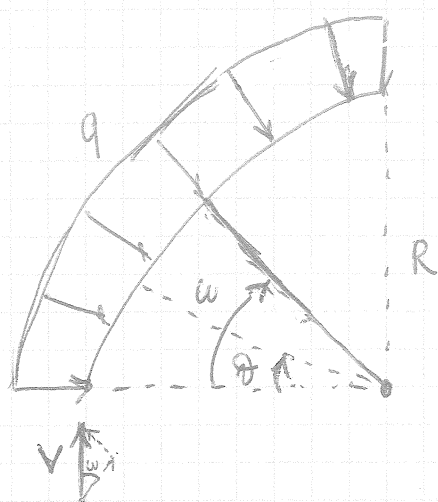
$$T(z_3) = +H_B = 3000$$



$$M(z_1) = 0$$

$$M(z_2) = Vz$$

$$M(z_3) = -M_B + H_B z$$



$$N(w) = -V \cos w - \int_0^w p R \sin(w - \theta) d\theta$$

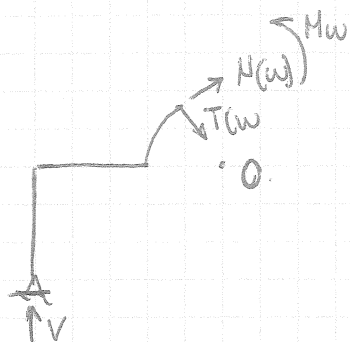
$$= -V \cos w - (1 - \cos(w)) p R$$

$$T(w) = V \sin w - \int_0^w p R \cos(w - \theta) d\theta$$

$$= V \sin w - p R \sin(w)$$

$$a) N(w) - N(w) \cdot R - V \cdot (l + R) = 0$$

$$M(w) = V(l + R) - V \cdot R \cos w - p \cdot R^2 (1 - \cos w)$$



Per Antisimmetria, le sollecitazioni per l'arco a destra della mezzeria sono facilmente deducibili.