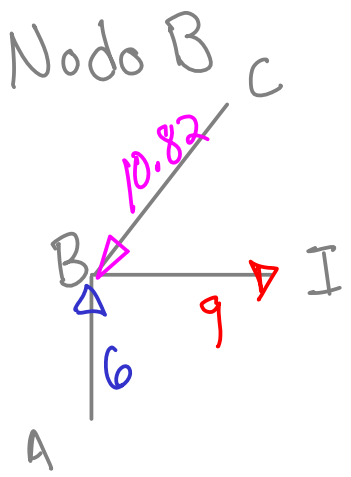


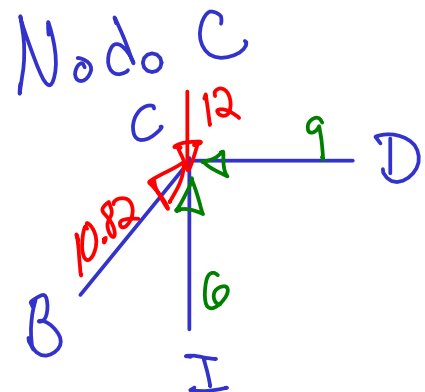
$$\sum F_x = 9 - F_{AI} \left(\frac{3}{\sqrt{13}} \right) = 0 \rightarrow F_{AI} = 10.82 \text{ C}$$

$$\sum F_y = 12 - F_{AB} - 10.82 \left(\frac{2}{\sqrt{13}} \right) = 0 \rightarrow F_{AB} = 6 \text{ C}$$



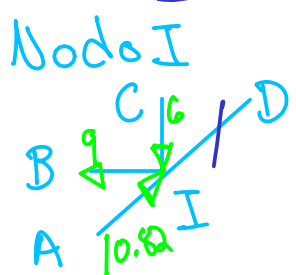
$$\sum F_y = 6 - F_{BC} \left(\frac{2}{\sqrt{13}} \right) = 0 \rightarrow F_{BC} = 10.82 \text{ C}$$

$$\sum F_x = -10.82 \left(\frac{3}{\sqrt{13}} \right) + F_{BI} = 0 \rightarrow F_{BI} = 9 \text{ T}$$



$$\sum F_x = 10.82 \left(\frac{3}{\sqrt{13}} \right) - F_{CD} = 0 \rightarrow F_{CD} = 9 \text{ C}$$

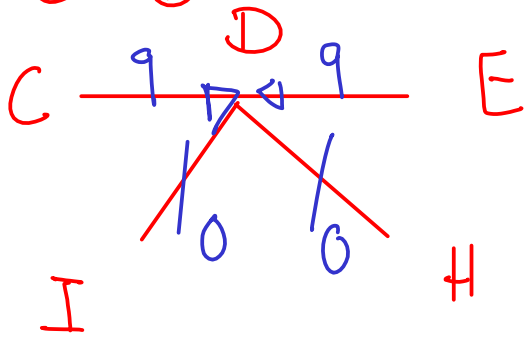
$$\sum F_y = 10.82 \left(\frac{2}{\sqrt{13}} \right) - 12 + F_{CI} = 0 \rightarrow F_{CI} = 6 \text{ C}$$



$$\sum F_x = -9 + 10.82 \left(\frac{3}{\sqrt{13}} \right) + F_{ID} \left(\frac{3}{\sqrt{13}} \right) = 0 \rightarrow F_{ID} = 0$$

$$\sum F_y = -6 + 10.82 \left(\frac{2}{\sqrt{13}} \right) + F_{ID} \left(\frac{2}{\sqrt{13}} \right) = 0 \rightarrow F_{ID} = 0$$

Nodo D

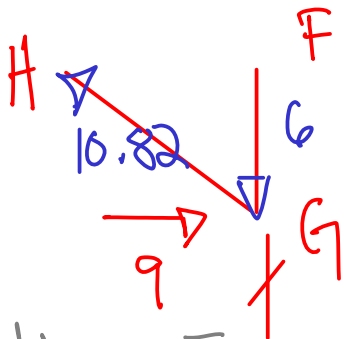


$$\sum F_y = F_{DH} \left(\frac{2}{\sqrt{13}} \right) = 0 \rightarrow F_{DH} = 0$$

$$\sum F_x = 9 - F_{DE} - F_{DH} \left(\frac{3}{\sqrt{13}} \right) = 0$$

$$\rightarrow F_{DE} = 9C$$

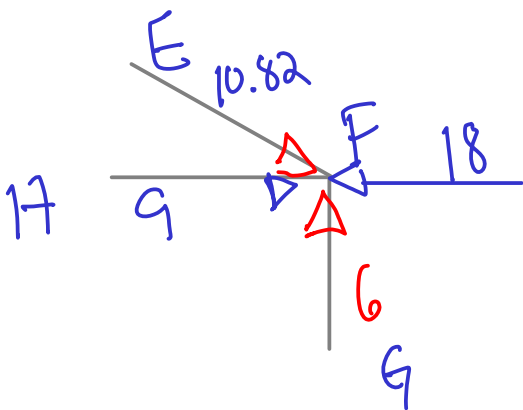
Nodo G



$$\sum F_x = 9 - F_{HG} \left(\frac{3}{\sqrt{13}} \right) = 0 \rightarrow F_{HG} = 10.82T$$

$$\sum F_y = 10.82 \left(\frac{2}{\sqrt{13}} \right) - F_{FG} = 0 \rightarrow F_{FG} = 6C$$

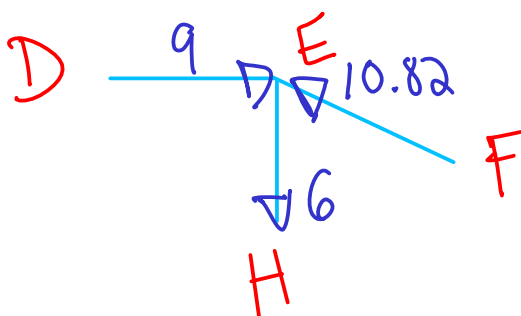
Nodo F



$$\sum F_y = 6 - F_{EF} \left(\frac{2}{\sqrt{13}} \right) = 0 \rightarrow F_{EF} = 10.82C$$

$$\sum F_x = 10.82 \left(\frac{3}{\sqrt{13}} \right) + F_{HF} - 18 = 0 \rightarrow F_{HF} = 9C$$

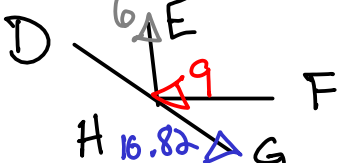
Nodo E



$$\sum F_x = 9 - 10.82 \left(\frac{3}{\sqrt{13}} \right) = 0$$

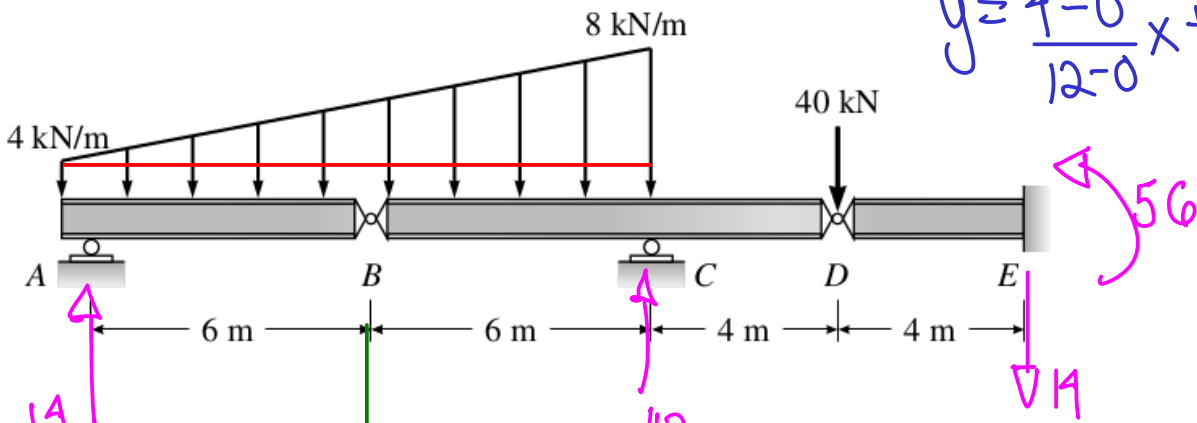
$$\sum F_y = 10.82 \left(\frac{2}{\sqrt{13}} \right) - F_{EH} = 0 \rightarrow F_{EH} = 6T$$

Nodo H

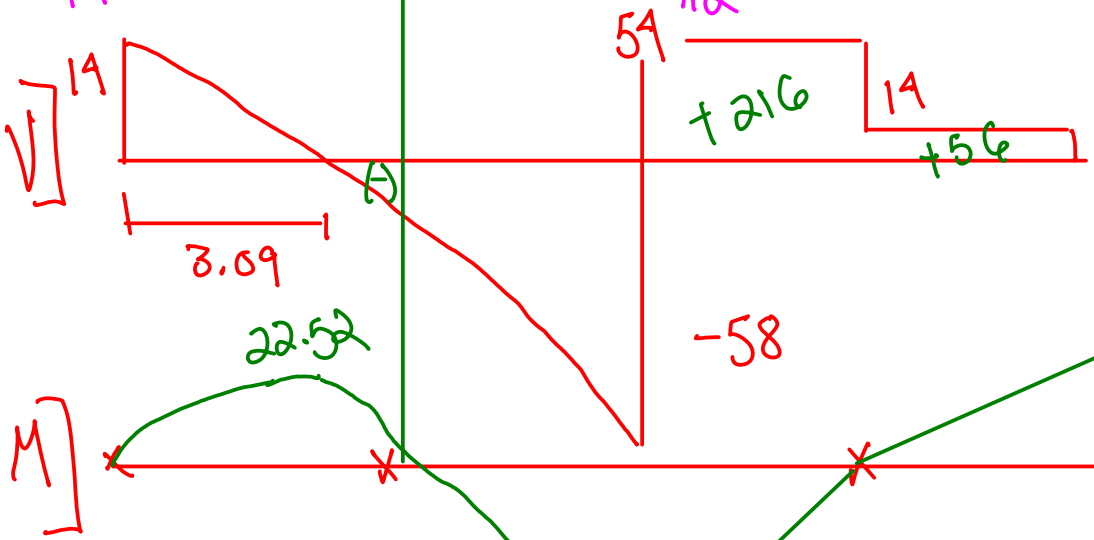


$$\sum F_x = 10.82 \left(\frac{3}{\sqrt{13}} \right) - 9 = 0$$

$$\sum F_y = -10.82 \left(\frac{2}{\sqrt{13}} \right) + 6 = 0$$



$$y = \frac{4-0}{12-0}x + 0 = \frac{1}{3}x$$



$$A = \left(\frac{4+8}{2} \right) (12) = 72$$

$$A = (x)(4) + \frac{1}{2}(x)\left(\frac{1}{3}x\right) = 4x + \frac{1}{6}x^2$$

$$M \rightarrow \int_0^{3.09} \left(\frac{x^2}{6} + 4x - 14 \right) dx$$

$$\frac{x^2}{6} + 4x = 14 \rightarrow \frac{x^2}{6} + 4x - 14 = 0$$

$$-\left(\frac{x^3}{18} + 2x^2 - 14x \right) \Big|_0^{3.09}$$

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$\rightarrow \begin{cases} x = 3.09 \checkmark \\ x = -27 \times \end{cases}$$

$$\rightarrow +22.52$$

$$\frac{-4 \pm \sqrt{4^2 - 4\left(\frac{1}{6}\right)(-14)}}{2\left(\frac{1}{6}\right)} = \begin{cases} x = 3.09 \\ x = -27 \end{cases}$$

$$\int_{3.09}^6 \rightarrow -22.52$$

$$\int_6^{12} \rightarrow -216$$

$$- \int_0^{3.09} \frac{X^2}{6} + 4 \cdot X - 14 dX = 22.5247$$

$$- \int_{3.09}^6 \frac{X^2}{6} + 4 \cdot X - 14 dX = -22.5247$$

$$- \int_6^{12} \frac{X^2}{6} + 4 \cdot X - 14 dX = -216$$