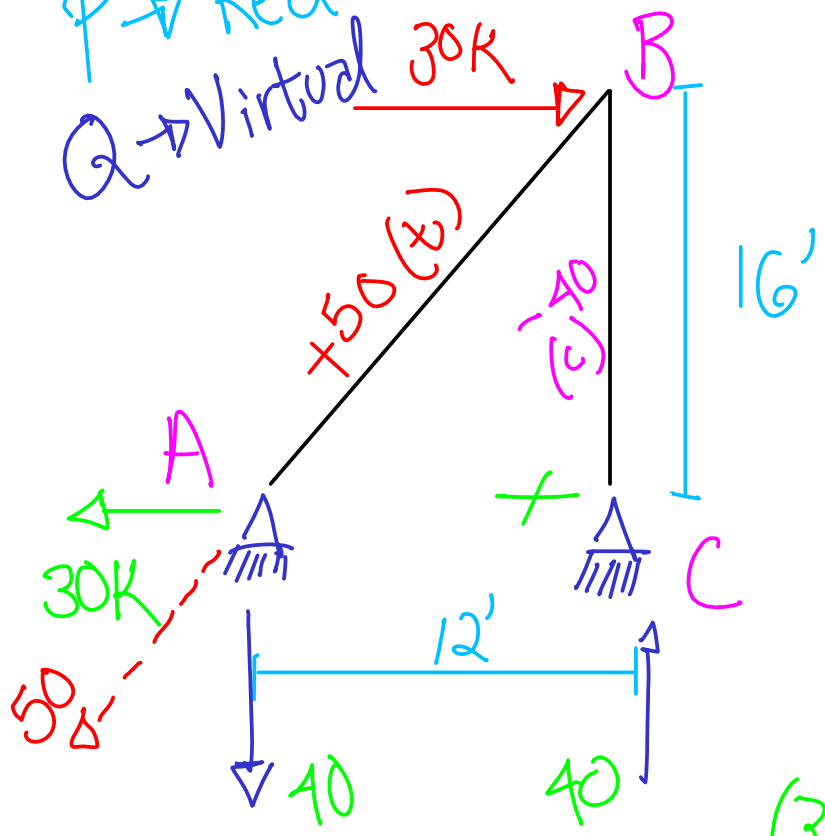


P → Real  
Q → Virtual



Determinar el desplazamiento horizontal y vertical en B.

$$E = 30,000 \text{ Ksi}$$

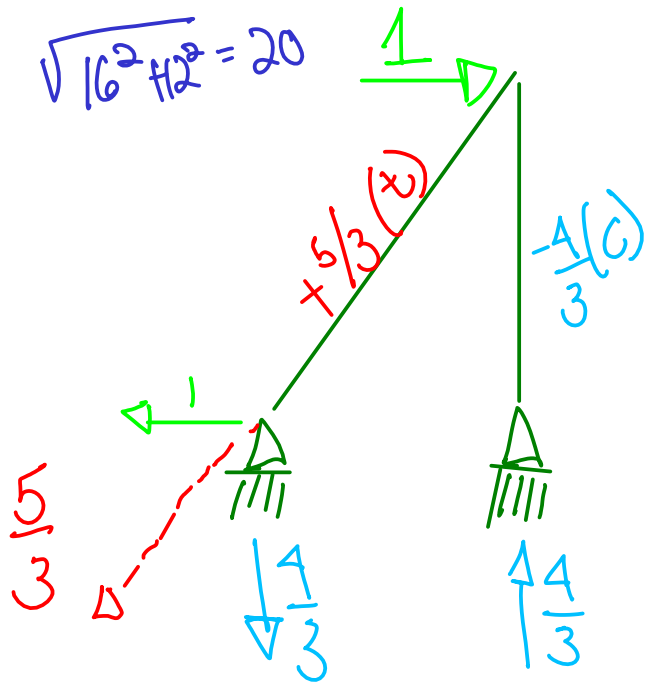
$$A = 2 \text{ in}^2$$

$$\sum Q \delta_p = \sum F_Q \frac{F_p L}{AE}$$

$$(30)(16) = \chi(12) \rightarrow \chi = 40$$

$$\sqrt{30^2 + 40^2} = 50$$

$$\sqrt{16^2 + 12^2} = 20$$



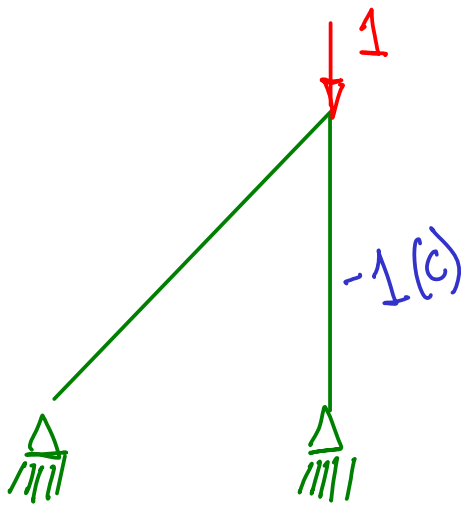
$$(1)(16) = \chi(12) \rightarrow \chi = \frac{4}{3}$$

$$\sqrt{\left(\frac{4}{3}\right)^2 + 12^2} = \frac{5}{3}$$

$$1 \delta_p = \frac{5}{3} \left( \frac{50 \times 20 \times 12}{2 \times 30,000} \right)$$

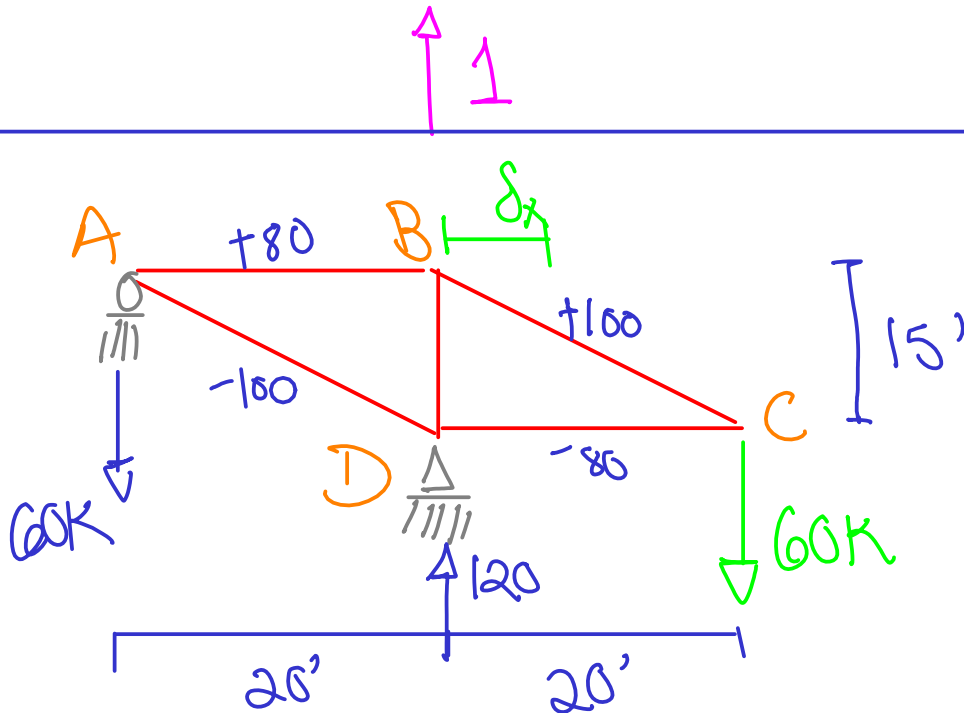
$$- \frac{4}{3} \left( \frac{-40 \times 16 \times 12}{2 \times 30,000} \right)$$

$$\delta_p = 0.5 \text{ in} \rightarrow$$



$$\Delta \delta_p = -1 \left( \frac{-10 \times 16 \times 12}{2 \times 30,000} \right) + 0$$

$$\delta_p = 0.128 \text{ in } \downarrow$$

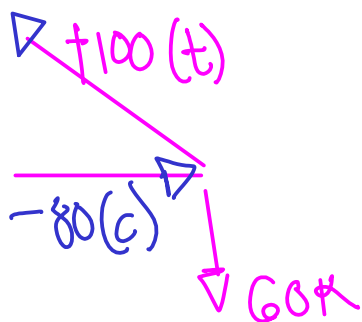


$$E = 30,000 \text{ Ksi}$$

$$A_{AD} \& A_{BC} = 5 \text{ in}^2$$

$$\text{Demás áreas} = 4 \text{ in}^2$$

Nodo C

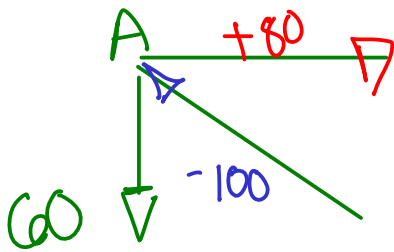


$$\sum F_y = -60 + F_{BC} \left( \frac{15}{25} \right) = 0 \rightarrow F_{BC} = 100 \text{ T}$$

$$\sum F_x = -100 \left( \frac{20}{25} \right) + F_{DC} = 0$$

$$F_{DC} = -80 \rightarrow 80 \text{ (c)}$$

Nodo A



B

$$\sum F_y = -60 + F_{AD} \left( \frac{15}{25} \right) = 0$$

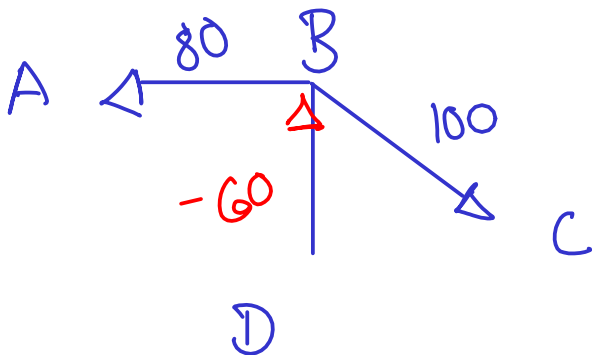
$$F_{AD} = 100 \text{ (c)}$$

D

$$\sum F_x = -100 \left( \frac{20}{25} \right) + F_{AB} = 0$$

$$F_{AB} = 80 \text{ T}$$

Nodo B



$$\sum F_y = -100 \left( \frac{15}{25} \right) + F_{BD} = 0$$

$$F_{BD} = 60 \text{ (c)}$$