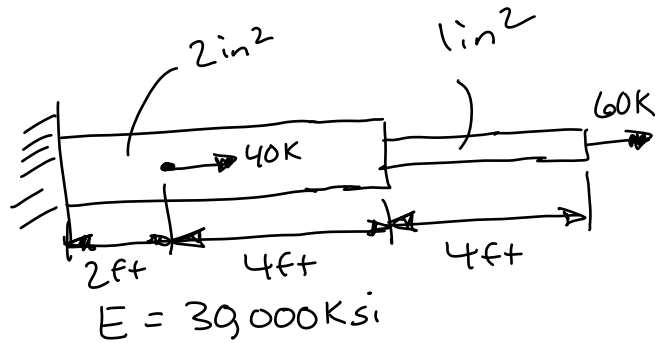
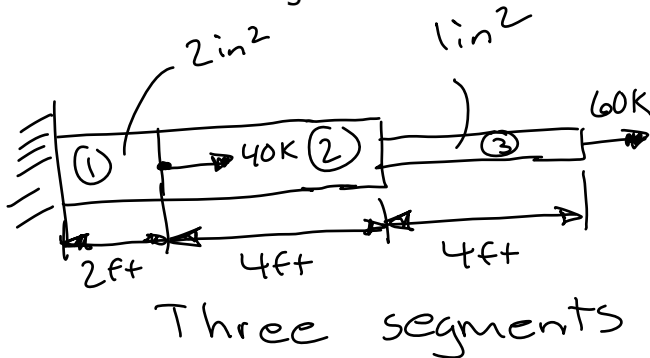


Axial Members

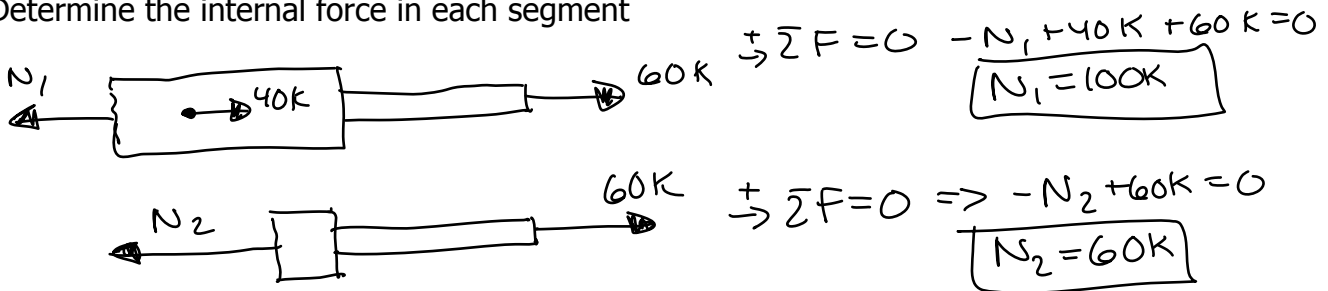
Problem Statement: Determine the total elongation or shortening.



1.) Determine the number of segments.



2.) Determine the internal force in each segment



$$N_3 = N_2 = 60 \text{ k}$$

3.) Determine the elongation/shortening for each segment, and add to get the total displacement

$$\delta = \frac{(100 \text{ k}) \left(2 \text{ ft} \times \frac{12 \text{ in}}{\text{ft}} \right)}{(30,000 \text{ ksi}) (2 \text{ in}^2)} + \frac{(60 \text{ k}) \left(4 \text{ ft} \times \frac{12 \text{ in}}{\text{ft}} \right)}{(30,000 \text{ ksi}) (2 \text{ in}^2)} + \frac{(60 \text{ k}) \left(4 \text{ ft} \times \frac{12 \text{ in}}{\text{ft}} \right)}{(30,000 \text{ ksi}) (1 \text{ in}^2)}$$

$$\delta = 0.184 \text{ in}$$