Axial strain $\varepsilon$ and axial deflection $\delta$

\[ \varepsilon = \frac{\Delta L}{L} \]

\[ \delta = \frac{PL}{AE} \]

$E$: modulus of elasticity, Young's modulus

Hooke's Law: $\sigma = E \varepsilon$

A: cross-sectional area

$\sigma = \frac{P}{A}$, $P = 0\cdot A = E \varepsilon = E \left( \frac{\varepsilon}{E} \right) A$

\[ E = 200 \text{ GPa} \]

\[ \varepsilon = \frac{\Delta L}{L} = \frac{2.4 \text{ mm}}{10 \text{ in}} = 0.24 \text{ mm/m} \]

\[ \delta = \frac{PL}{AE} = \frac{2 \text{ lb}}{ \pi \left( 0.2 \text{ in} \right)^2 \text{ in}} \times \frac{12 \text{ in}}{1 \text{ ft}} \]

\[ \delta = 0.01 \text{ in} \]

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\[ x = 0 \]

\[ x = 0 \]

L = 10 in

A = 20 in²

L = 10 in, as the drawing

\[ \Delta = 20 \text{ in}^2 \]

L = 1 in, yes

L = 0.2 in or inches?

L = 0, yes?

L = 1.5 in, yes

At issue: What is your definition of plural?

Are 0.2 and 0 plural or singular?