Ex 11.5
p 354

$$\text{Stress} = \frac{F}{A} = \frac{mg}{A} = \frac{(550\ \text{kg})(9.8\ \text{m s}^{-2})}{0.30\ (10^{-2}\ \text{m})^2}$$

$$\underline{\text{Stress} = 1.8 \times 10^{8}\ \text{Pa}}$$

$$\text{Stress} = Y\ \text{strain}$$

$$\text{Strain} = \frac{\text{Stress}}{Y} = \frac{1.8 \times 10^{8}\ \text{Pa}}{2 \times 10^{11}\ \text{Pa}} =$$

$$\underline{\text{Strain} = 9.0 \times 10^{-4}}$$

6.

$$\text{strain} = \frac{\Delta L}{L}$$

$$\Delta L = L\ \text{strain} = (2.0\ \text{m})(9.0 \times 10^{-4})$$

$$\Delta L = 1.8 \times 10^{-3}\ \text{m}$$

$$\underline{\Delta L = 1.8\ \text{mm}}$$