

P # 11

Ch 10 - pg 327

$$l_0 = 518 \text{ m}$$

$$\Delta T = 35^\circ\text{C} - -20^\circ\text{C} = 55^\circ\text{C}$$

$$\alpha_{\text{steel}} = 11 \times 10^{-6} \text{ } ^\circ\text{C}^{-1}$$

$$\Delta l = \alpha \cdot l_0 \cdot \Delta T$$

$$= (11 \times 10^{-6} \text{ } ^\circ\text{C}^{-1}) (518 \text{ m}) (55^\circ\text{C})$$

$$\Delta l = .31 \text{ m}$$