

P#14

Ch 17 -- pg 550

$$\rho_{\text{copper}} = 1.7 \times 10^{-8} \Omega \cdot \text{m}$$

$$l = 15 \text{ m}$$

$$d = 1.024 \text{ mm} = .001024 \text{ m}$$

$$A = \pi \cdot r^2 = \pi \left(\frac{.001024 \text{ m}}{2} \right)^2 = 8.24 \times 10^{-7} \text{ m}^2$$

$$R = \frac{\rho \cdot l}{A} = \frac{(1.7 \times 10^{-8} \Omega \cdot \text{m})(15 \text{ m})}{(8.24 \times 10^{-7} \text{ m}^2)}$$

$$R = .31 \Omega$$