

14. Since $100\text{ cm} = 1\text{ m}$, then $10^4\text{ cm}^2 = 1\text{ m}^2$. Thus,

$$R = \frac{\rho L}{A} = \frac{(3.00 \times 10^{-7} \Omega \cdot \text{m})(10.0 \times 10^3 \text{ m})}{56.0 \times 10^{-4} \text{ m}^2} = 0.536 \Omega .$$