Answer on question #57634, Physics / Other

Question What is the resistance at 20 degree celsius of 200m Aluminium conductor whose cross sectional area is 4mm^2 take resistivity of Aluminium as $2.83 \cdot 10^{-8}$

Solution Formula for resistance is

$$R = \rho \frac{l}{A}$$

where $\rho = 2.83 \cdot 10^{-8}$ is resistivity and $A = 4 \cdot 10^{-6}$ m^2 is area of cross-section. Hence

$$R = 2.83 \cdot 10^{-8} \frac{200}{4 \cdot 10^{-6}} = 1.415\,\Omega$$