

34 Gold is sometimes used to make very small connecting wires in electronic circuits.

A particular gold wire has length $2.50 \times 10^{-3} \text{ m}$ and cross-sectional area $6.25 \times 10^{-8} \text{ m}^2$. Gold has resistivity $2.30 \times 10^{-8} \Omega \text{ m}$.

What is the resistance of the wire?

A $3.6 \times 10^{-18} \Omega$

B $5.8 \times 10^{-13} \Omega$

C $9.2 \times 10^{-4} \Omega$

D $6.8 \times 10^{-3} \Omega$

35 A resistor X of resistance 40Ω and a variable resistor are connected to a battery of electromotive