

32 A wire has a length of 3.0 m and is made of metal of resistivity $4.9 \times 10^{-7} \Omega \text{ m}$.

A potential difference (p.d.) of 12 V is applied across the wire so that it has a current of 1.4 A.

What is the cross-sectional area of the wire?

A $1.2 \times 10^{-7} \text{ m}^2$

B $1.7 \times 10^{-7} \text{ m}^2$

C $1.1 \times 10^{-6} \text{ m}^2$

D $1.3 \times 10^{-5} \text{ m}^2$