

- 20** A 240 V electric heater uses a current of 2.0 A. It is to be rewound with resistance wire of diameter 6.0×10^{-4} m.

At working temperature, the resistance wire has resistivity of $1.4 \times 10^{-6} \Omega \text{ m}$.

What length of wire is required?

A 6.0 m

B 24 m

C 51 m

D 97 m