

**33** The filament of a 240 V, 100 W electric lamp heats up from room temperature to its operating temperature. As it heats up, its resistance increases by a factor of 16.

What is the resistance of the filament at room temperature?

**A** 36  $\Omega$

**B** 580  $\Omega$

**C** 1.5 k $\Omega$

**D** 9.2 k $\Omega$

**34** Two wires have the same length and the same resistance. Wire X is made of a metal of resistivity