4   A micrometer screw gauge is used to measure the diameter of a copper wire.

The reading with the wire in position is shown in diagram 1. The wire is removed and the jaws of the micrometer are closed. The new reading is shown in diagram 2.
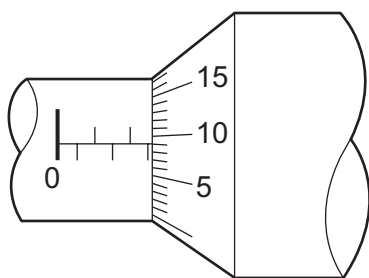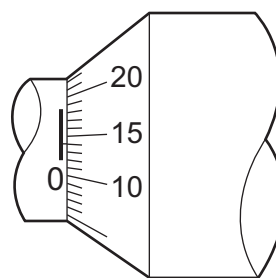


diagram 1                                    diagram 2

What is the diameter of the wire?

A   1.95 mm          B   2.45 mm          C   2.59 mm          D   2.73 mm


5   A student measures the current and the potential difference for a resistor in a circuit.

current = (50.00 ± 0.01) mA

potential difference = (500.0 ± 0.1) mV

The measurements are used to calculate the resistance of the resistor.

What is the percentage uncertainty in the calculated resistance?

A   0.0002%          B   0.0004%          C   0.02%          D   0.04%


6   Four cars, **A**, **B**, **C** and **D**, move from rest in a straight line. The cars take the same time to accelerate to a velocity of $60\,\text{km h}^{-1}$. Their velocity–time graphs are shown.

Which car reaches a velocity of $60\,\text{km h}^{-1}$ in the shortest distance?