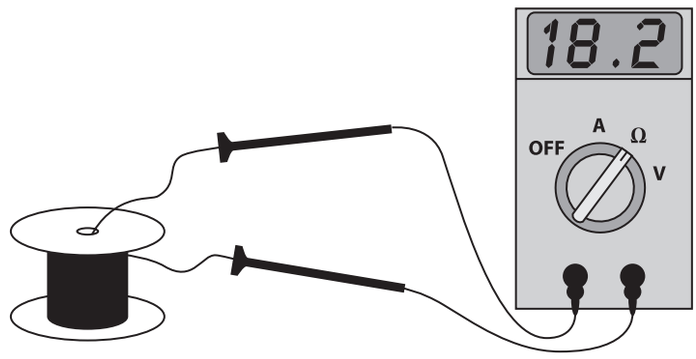
6 A student carried out an experiment to determine the resistivity of nichrome wire.

He used an ohmmeter to measure the resistance of a length of nichrome wire as shown.



The diameter of the wire was measured as 0.27 mm ± 0.01 mm.
The length of the wire was measured as 1.25 m ± 0.05 m.

(a) Determine which of the three measurements introduces the greatest uncertainty into the value for the resistivity.
Your answer should include calculations.

(4)

(b) Explain how the student could reduce the uncertainty in the measurement of the diameter.

(2)

(c) Calculate the minimum value of resistivity possible from the student's data.

(4)

Minimum resistivity = ...

(Total for Question 6 = 10 marks)