

1 (a) Express the unit of resistivity in SI base units.

SI base units = [2]

(b) Estimate the current flowing into a smartphone while it is being charged by a standard phone charger.

current = A [1]

- (c) Fig. 1.1 shows a circuit set up to measure the resistance R of a resistor.

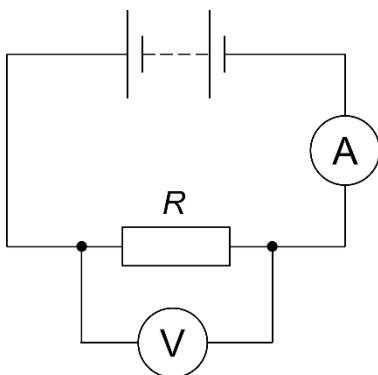


Fig. 1.1

The following readings are obtained:

voltmeter: $V = (5.02 \pm 0.01)$ V

ammeter: $I = (0.038 \pm 0.001)$ A

Determine the value of R together with its actual uncertainty.

$$R = \dots \pm \dots \Omega [3]$$