

- 3 A wire of uniform circular cross-section has diameter d and length L . A potential difference V between the ends of the wire gives rise to a current I in the wire.

The resistivity ρ of the material of the wire is given by the expression

$$\rho = \frac{\pi d^2 V}{4 L I}.$$

In one particular experiment, the following measurements are made.

$$d = 1.20 \pm 0.01 \text{ cm}$$

$$I = 1.50 \pm 0.05 \text{ A}$$

$$L = 100 \pm 1 \text{ cm}$$

$$V = 5.0 \pm 0.1 \text{ V}$$

Which measurement gives rise to the **least** uncertainty in the value for the resistivity?

A d

B I

C L

D V