3 A student carries out an experiment to determine the resistivity of copper, using a copper wire, and obtains a value of $1.71 \times 10^{-8}\,\Omega\text{m}$. The uncertainties in the measurements are shown.

uncertainty in resistance R of wire = 0.8 %

uncertainty in length l of wire = 0.2 %

uncertainty in diameter d of wire = 1.6 %

The equation for resistivity ρ is $\rho = \dfrac{\pi d^2 R}{4l}$.

How should the answer for resistivity be stated?

A $(1.71 \pm 0.04) \times 10^{-8}\,\Omega\text{m}$

B $(1.71 \pm 0.06) \times 10^{-8}\,\Omega\text{m}$

C $(1.71 \pm 0.07) \times 10^{-8}\,\Omega\text{m}$

D $(1.71 \pm 0.09) \times 10^{-8}\,\Omega\text{m}$