

A cube has a side of length  $1.2 \times 10^{-2}\text{m}$ . Calculate its volume.

(a)  $1.7 \times 10^{-6}\text{m}^3$

(b)  $1.73 \times 10^{-6}\text{m}^3$  **[2003S]**

(c)  $1.70 \times 10^{-6}\text{m}^3$

(d)  $1.732 \times 10^{-6}\text{m}^3$

**(a)** Volume of cube,  $V = \ell^3 = (1.2 \times 10^{-2} \text{ m})^3$   
 $= 1.728 \times 10^{-6} \text{ m}^3$   
 $\Rightarrow V = 1.7 \times 10^{-6} \text{ m}^3.$

As length has two significant figures so volume has also two significant figures.