

Q1.

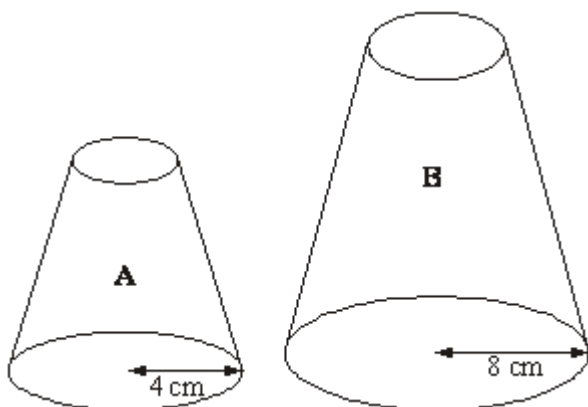


Diagram **NOT** accurately drawn

Two solid shapes, **A** and **B**, are mathematically similar.
 The base of shape **A** is a circle with radius 4 cm.
 The base of shape **B** is a circle with radius 8 cm.

The surface area of shape **A** is 80 cm².

(a) Work out the surface area of shape **B**.

..... cm²

(2)

The volume of shape **B** is 600 cm³.

(b) Work out the volume of shape **A**.

..... cm³

(2)
(Total 4 marks)

M1.

	Working	Answer	Mark	Additional Guidance
(a)	$\left(\frac{8}{4}\right)^2 \times 80$	320	2	$\left(\frac{8}{4}\right)^2$ or $\left(\frac{4}{8}\right)^2$ oe or $8^2:4^2$ or $4^2:8^2$ or 1:4 or 4:1 M1 for $\left(\frac{8}{4}\right)^2$ or $\left(\frac{4}{8}\right)^2$ oe or $8^2:4^2$ or $4^2:8^2$ or 1:4 or 4:1 A1 for 320 cao
(b)	$\left(\frac{4}{8}\right)^3 \times 600$	75	2	$\left(\frac{4}{8}\right)^3$ or $\left(\frac{8}{4}\right)^3$ oe M1 for $600 \times \left(\frac{4}{8}\right)^3$ or $600 \times \left(\frac{8}{4}\right)^3$ oe A1 for 75 cao
Total for Question: 4 marks				

- E1.** Only the best candidates were able to score full marks in this question. For the surface area in part (a), the vast majority of candidates simply multiplied 80 by 2 (the linear scale of the enlargement). Similarly for the volume in part (b), the vast majority of candidates simply divided 600 by 2.