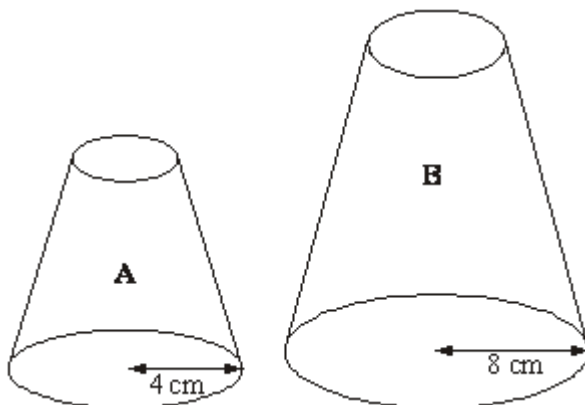**Q1.**

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**.

.... cm^3

(2)
(Total 4 marks)

M1.

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