

Formulae	Volume of a sphere: $V = \frac{4}{3}\pi r^3$	Note that the formulae for volume of a cube, cuboid and other types of prisms are not given on the formula list. These must be learned.
	Volume of a cone: $V = \frac{1}{3}\pi r^2 h$	
	Volume of a pyramid: $V = \frac{1}{3}Ah$	

Calculate each volume, where appropriate rounded to 1 decimal place.

- Q1** Cube: side length 5 cm
- Q2** Cuboid: length 1 cm, breadth 4 mm, height 3 mm (Hint: convert 1 cm to mm first)
- Q3** Cylinder: radius 7 cm, height 5 cm
- Q4** Triangular prism: triangle base 10 cm, triangle height 40 cm, vertical height of prism 15 cm
- Q5** Prism with an irregular shaped base: base area 43 cm², height 6 cm.
- Q6** Sphere: radius 1.55 metres
- Q7** Hemisphere: diameter 10.4 mm (Hint: halve the diameter to find the radius first)
- Q8** Cone: radius 8.2 cm, height 9.8 cm
- Q9** Square-based pyramid: base length 12 metres, vertical height 6.2 metres
- Q10** Rectangular-based pyramid: base length 6cm, base breadth 5 cm, vertical height 8 cm
- Q11** Irregular-based pyramid: base area 44 cm², vertical height of pyramid 9.6 cm

Given each volume, work backwards to find the required length.

- Q12** Cuboid with volume 336 cm³, length 8 cm and breadth 6 cm. Calculate its height.
- Q13** Cylinder with volume 199.5 cm³ and radius 4.2 cm. Calculate its height, to 1 decimal place.
- Q14** Cylinder with volume 8158 mm³ and height 16.1 mm. Calculate its radius, to 1 decimal place.
- Q15** Prism with volume 2754 cm³ and height 17 cm. Calculate the area of its base.
- Q16** Sphere with volume 142.5 m³. Calculate its radius, to the nearest centimetre.
- Q17** Hemisphere with volume 1971.2 mm³. Calculate its radius, to 1 decimal place.
- Q18** Cone with volume 5.63 cm³ and radius 1.6 cm. Calculate its height, to the nearest millimetre.
- Q19** Cone with volume 87.2 mm³ and height 6.8 mm. Calculate its radius, to 1 decimal place.
- Q20** Square-based pyramid with volume 66 m³ and height 5.5 m. Calculate the length of its base.