

# Unit 1 Volume of Solids

# Intermediate 2 Homework Exercise

Formulae

Prism

$$V = A \times H$$

Cylinder

$$V = \pi r^2 h$$

Cone

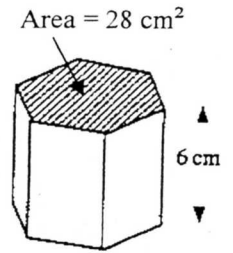
$$V = \frac{1}{3} \pi r^2 h$$

Sphere  $V = \frac{4}{3} \pi r^3$

- 1 The globe has a diameter of 30 cm. Calculate its volume

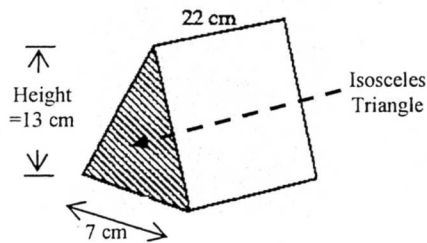


- 2 The diagram shows a hexagonal prism with a cross sectional area of  $28\text{cm}^2$

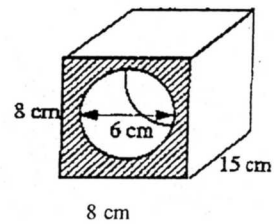


- 3 An aqualung is a **cylinder** of length 70 cm and radius 6 cm. Calculate its volume.

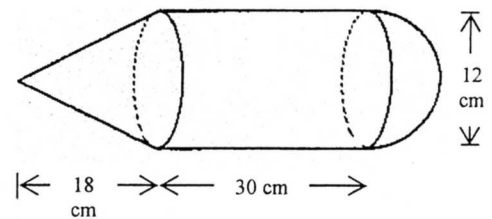
- 4 Calculate the volume of this triangular prism.



- 5 Calculate the volume of this prism by first working out the shaded area.



- 6 This shape consists of a cone, a cylinder and a hemisphere. Calculate its total volume.



- 7 A drinks container is in the shape of a cylinder with radius 20 centimetres and height 50 cm.

- (a) Calculate the volume of the drinks container

Give your answer in cubic centimetres correct to two significant figures

Liquid from the full container can fill 800 cups, in the shape of cones, each of radius 3 centimetres.

- (b) What will be the height of the liquid in each cup (to 2 significant figures)?

