

Mathematics 2 ESO - Unit 11 (AREAS AND VOLUMES)
Page 117 - Activity 71 (b13)



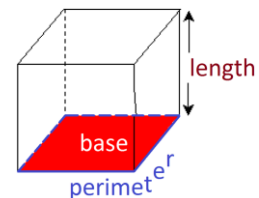
- 1) Convert 60 litres into:
 a) km^3 b) m^3 c) dm^3 d) cm^3 e) mm^3

2) In geometry, what is a "solid"?

3) A rectangular prism is 2 m long.
 Calculate the area and the base if
 the sides of the base are:

- a) 20 cm and 8 cm
 b) 10 cm and 8 cm
 c) 3 km and 2 km
 d) 5 mm and 2 cm

The surface area of a prism =
 $2 \times \text{area of base} + \text{perimeter of base} \times \text{length}$



- 4) We want to construct a pyramid. The height is 200 metres. The side of the base is 250 metres.
 a) What volume of stone do we need?
 b) And if we make it to the same height but a side of the base of 159 metres?

The surface area of a pyramid is the sum of the areas of its faces (the base and the "outer surfaces" which are triangles).

- 5) The height of a cylinder is 264 mm and the radius of its base is 8 mm.
 a) Calculate its area.
 b) Calculate its volume.

- 6) The height of a cone is 26 cm and the radius of its base is 10 cm.
 c) Calculate its area.
 d) Calculate its volume.

Cone

Surface Area

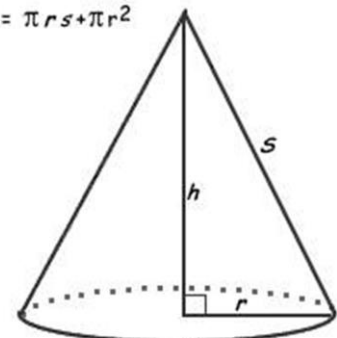
We will need to calculate the surface area of the cone and the base.

Area of the cone is $\pi r s$

Area of the base is πr^2

Therefore the Formula is:

$$SA = \pi r s + \pi r^2$$



Volume

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