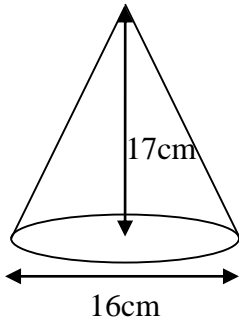


National 5 Homework – Expressions and Formulae

WORKING with the VOLUME of a SOLID SPHERE, CONE, PYRAMID

Give your answers correct to 3 significant figures where necessary.

1. A cone has a base diameter of 16cm and a height of 17cm.



Calculate the volume of the cone, giving your answer correct to 3 sig figs.

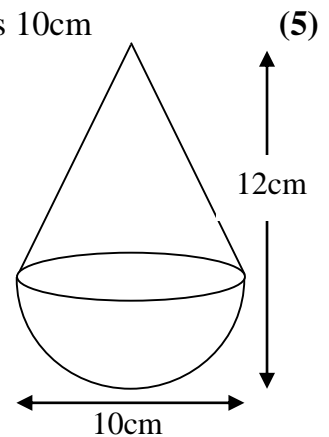
$$[\text{Volume of cone} = \frac{1}{3}\pi r^2 h] \quad (3)$$

2. A lead sinker is in the shape of a cone with a hemispherical base.

The total height of the sinker is 12cm and the diameter of the base is 10cm

Calculate the volume of lead required to make the sinker.

$$[\text{Volume of sphere} = \frac{4}{3}\pi r^3]$$



3. (a) Calculate the volume of the largest sphere which will fit inside a cube of side 15cm.

(b) Calculate the volume of wasted space between the two. [Answer to nearest cm^3]
(2, 3)

4. A pyramid has a square base of side 6cm and a vertical height of 9cm.

Calculate the volume of the pyramid correct to 2 significant figures. (4)

16 marks