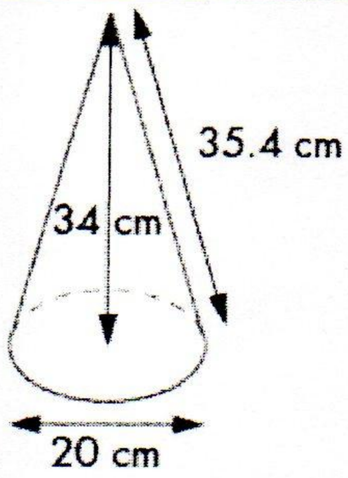
Cone

Q1 For each cone, calculate
i its volume and **ii** its total surface area.
Give your answers to 3 significant

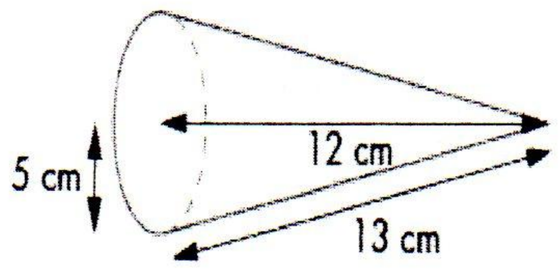
a



Volume = ...

TSA= .....

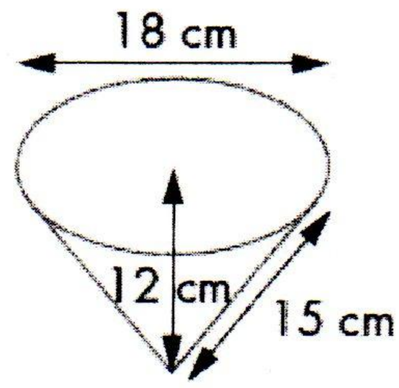
b



Volume = ...

TSA= .....

c

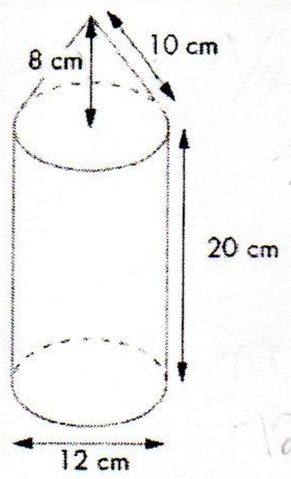


Volume = ...

TSA= .....

Q2.Calculate the volume and the total surface area of each of these shapes. Give your answers in terms of π.

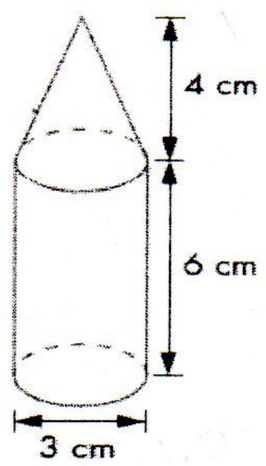
a



Volume=_____

TSA=_____

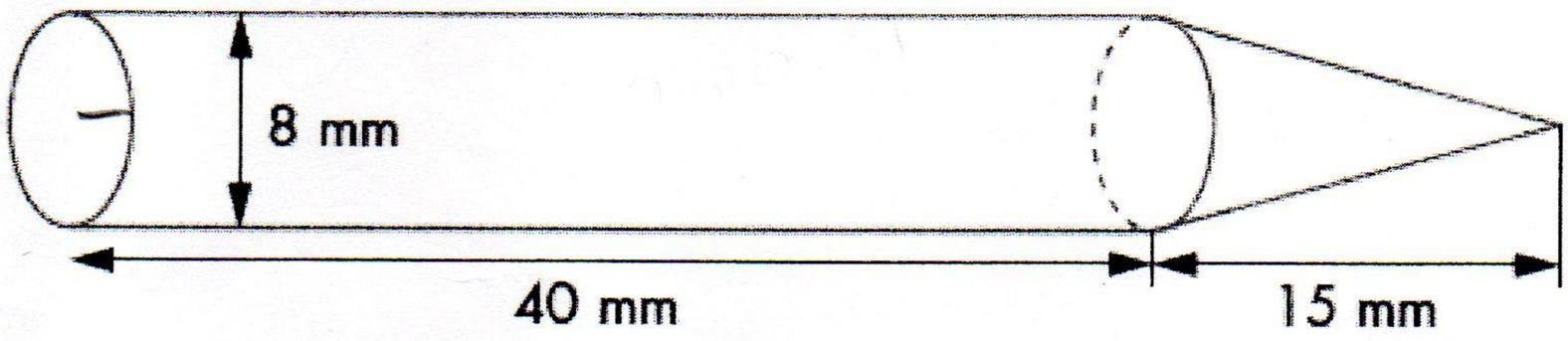
b



Volume=_____

TSA=_____

Q3. The model shown on the below is made from aluminium.
What is the mass of the model, given that the density of aluminium is 1.5 g/cm^3?



Calculate the volume of each of these spheres. Give your answers in terms of π.

Q4 Radius 3 cm

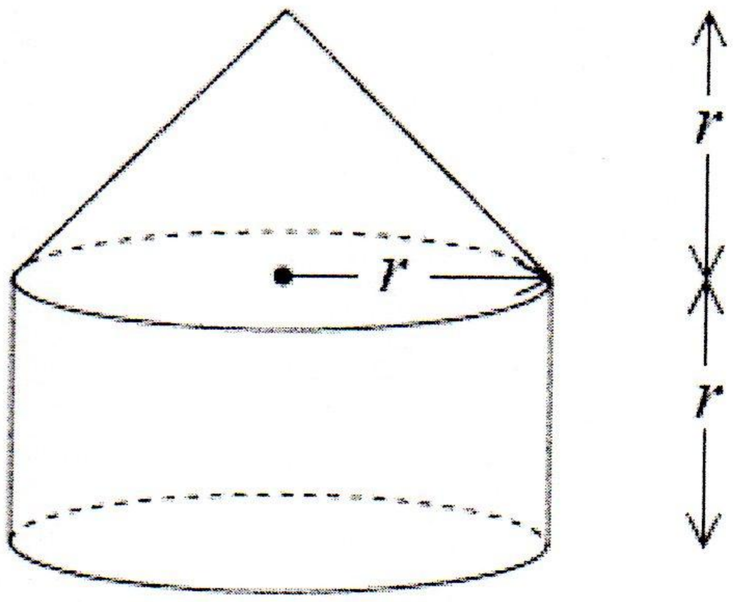
V=_____

Q 5 Radius 6 cm

V=_____

Q6 Diameter 20 cm

V=_____



Q7 . The diagram shows a solid made from a cone and a cylinder.
The cylinder has radius *r* and height *r*.
The cone has base radius *r* and height *r*.
(a) Show that the total volume of the solid is equal to the volume of a sphere of radius *r*.

The curved surface area of a cylinder with base radius *r* and height *h* is $2\pi rh$.
The curved surface area of a cone with base radius *r* and slant height *l* is πrl.
(b) Show that the **total** surface area of the above solid is greater than the surface area of a sphere of radius *r*.

Q8 . A cone has radius *r* and slant height *l*.
A cylinder has radius *r* and height *r*.
The **total** surface area of the cone is equal to the **total** surface area of the cylinder.
Find an expression for *l* in terms of *r*.