1. Simon has two pieces of wood. A cuboid which measures 6cm by 5cm by 4cm. A sphere, radius 3cm.

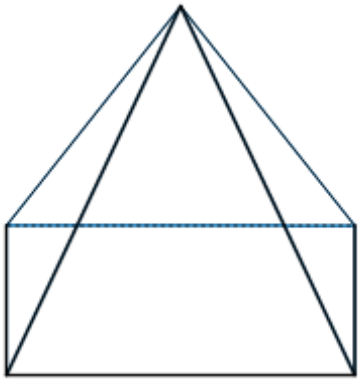
a) What is the largest volume?

b) What is the largest surface area?

2.***ABCDX*** is a pyramid. The base ***ABCD*** is a rectangle measuring 18m by 10m and ***X*** is the top of the pyramid, 12m vertically above the midpoint of the base.

a) Calculate the volume of the pyramid.

b)Calculate the total surface area of the pyramid.

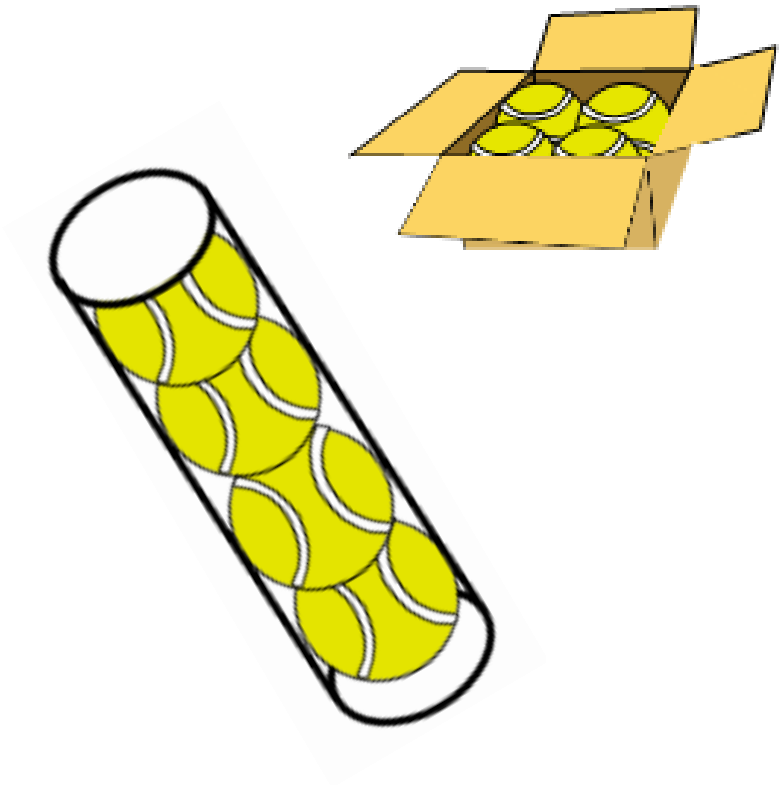


3.The volume of a sphere is 58cm^3.

What is the surface area of the sphere?

4. Tennis balls are sold in two types of container; a cylinder and a cuboid. Both containers are just big enough to hold four balls, as shown.
A tennis ball has a diameter of 6.4cm.

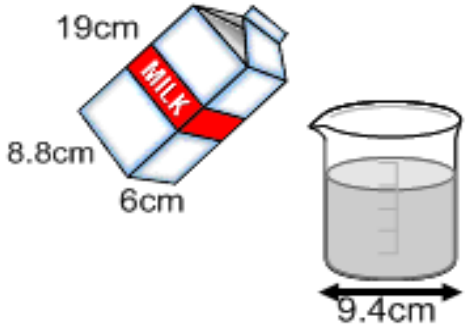
Calculate the volume of each container.



5. Lentil soup is sold in cylindrical tins. Each tin has a base radius of 3.8cm and a height of 12.6cm.

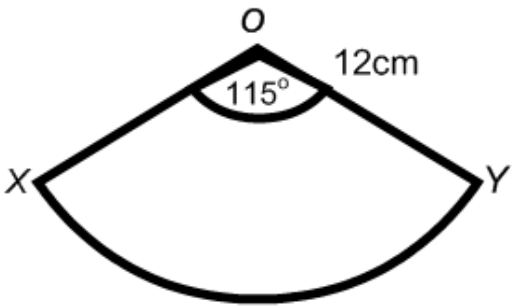
Calculate the total surface area of a tin.

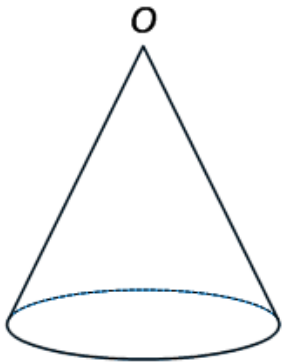
6. Milk is poured from a box into a jug, as shown. The box is a cuboid measuring 19cm by 8.8cm by 6cm. the jug is a cylinder with a diameter of 9.4cm. What is the depth of the milk in the jug when a full box of milk has been poured in?



7. A sector of a circle of radius 12cm is cut out of card and used to create a cone by joining ***OX*** to ***OY***, with no overlaps, as shown.

a) Calculate the curved surface area of the cone.





b) Calculate the volume of the cone

8. The diagram shows a water tank. The tank is a hollow cylinder joined to a hollow hemisphere at the top. The tank has a circular base. Both the cylinder and the hemisphere have a diameter of 46cm. The height of the tank is 90cm.

Work out the volume of water which the tank holds when it is full.