

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

$$\text{Cylinder} = \pi r^2 h$$

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

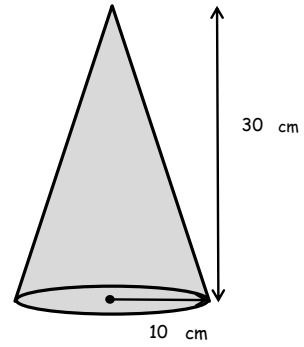
$$\text{Volume} = A \times L$$

Q1. The diagram shows a cone.

The height is 30 cm and the radius of the base is 10 cm

Calculate the volume of the cone.

Take $\pi = 3.14$

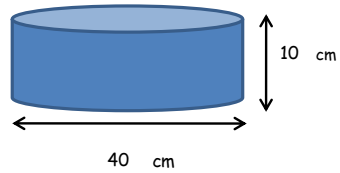


(2 marks)

Q2. A tin of tuna is in the shape of a cylinder.

It has diameter 40 cm and height 10 cm

Calculate its volume. Take $\pi = 3.14$



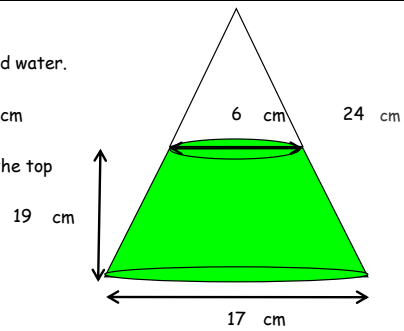
(2 marks)

Q3. A glass ornament in the shape of a cone is partly filled with coloured water.

The cone is 24 cm high and has a base of diameter 17 cm

The water is 19 cm deep and measures 6 cm across the top

What is the volume of the water?

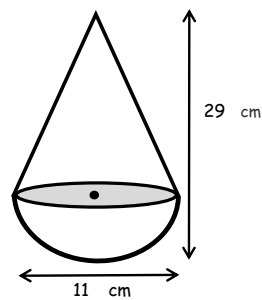


(4 marks)

Q4. A child's toy is in the shape of a hemisphere with a cone on top, as shown in the diagram.

The toy is 11 cm wide and 29 cm high.

Calculate the volume of the toy.

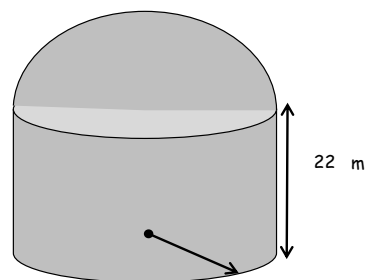


(4 marks)

Q5. A grain store is in the shape of a cylinder with a hemisphere on the top as shown on the diagram.

The cylinder has radius 11 metres and height 22 metres.

Find the volume of the grain store.



(3 marks)

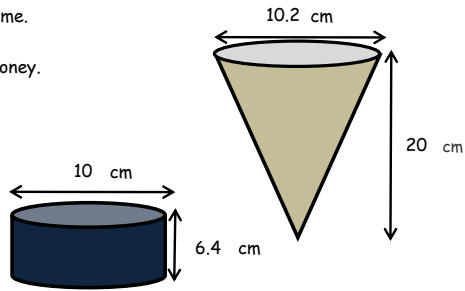
Cone = $\frac{1}{3}\pi r^2 h$
 Cylinder = $\pi r^2 h$

Sphere = $\frac{4}{3}\pi r^3$
 Volume = $A \times L$

Q6. Perfecto Ice Cream is sold in cones and cylindrical tubs with measurements shown below.

Both the cone and the tub of ice cream cost the same.

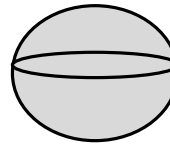
Which container of ice cream is better value for money.



(4 marks)

Q7. A pharmaceutical company makes vitamin pills in the shape of spheres of radius 0.6 cm

(a) Calculate the volume of one pill.

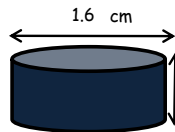


(2 marks)

The company decides to change the shape of each pill to a cylinder.

(b) The new pill has the same volume as the original and its diameter is 1.6 cm.

Calculate the height of the new pill



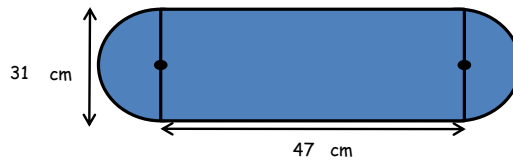
(3 marks)

Q8. A garden trough is in the shape of a prism.



The height of the trough is 23 cm

The cross-section of the trough consists of a rectangle and two semi-circles with measurements as shown.



(3 marks)

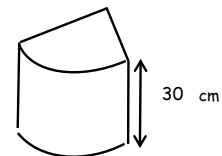
(a) Find the volume of the garden trough in cubic centimetres

A new design of garden trough is planned by the manufacturer.

The height of the trough is 30 cm.

The uniform cross-section of this trough is a quarter of a circle.

The volume of the trough is 56572 cm³



(b) Find the radius of the cross-section.

(3 marks)