

4. The Battle of Largs in 1263 is commemorated by a monument known as The Pencil. This monument is in the shape of a cylinder with a cone on top.



The cylinder part has diameter 3 metres and height 15 metres.

(a) Calculate the volume of the **cylinder** part of The Pencil.

The volume of the **cone** part of The Pencil is 5.7 cubic metres.

(b) Calculate the **total** height of The Pencil.

3

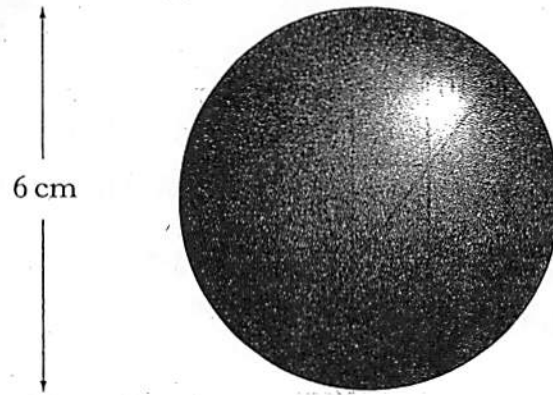
2

# Int. 2 - Volume homework

Int 2 2010 Paper 1 - non-calculator

Marks

3. The diagram below represents a sphere.



The sphere has a diameter of 6 centimetres.

Calculate its volume.

Take  $\pi = 3.14$ .

2

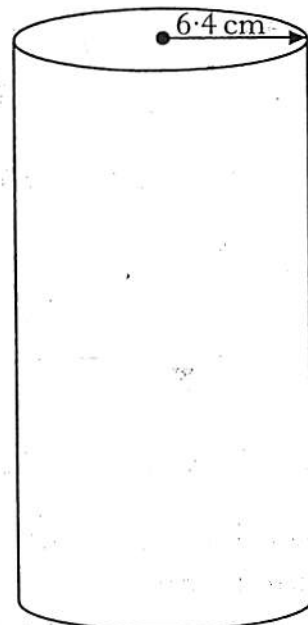
Int 2 2010 Paper 2

Marks

11. A cylindrical container has a volume of 3260 cubic centimetres.

The radius of the cross section is 6.4 centimetres.

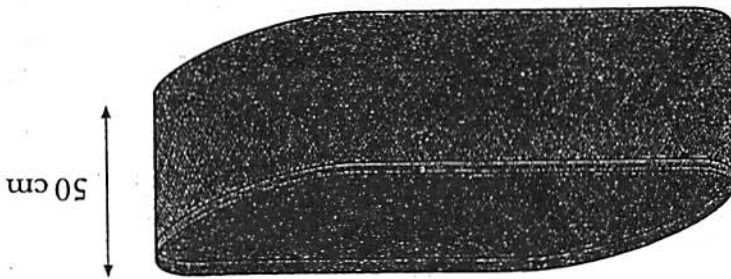
Calculate the height of the cylinder.



3

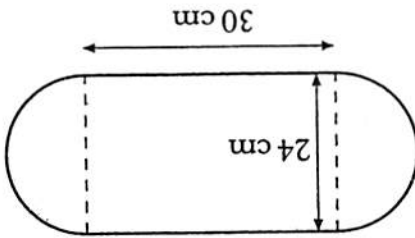
# Volume Int 2 PP 2001-2008

2. Jim Reid keeps his washing in a basket. The basket is in the shape of a prism.



The height of the basket is 50 centimetres.

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

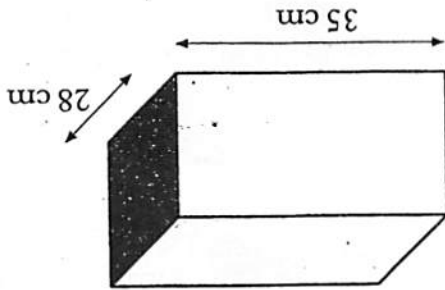


- (a) Find the volume of the basket in cubic centimetres.

Give your answer correct to three significant figures.

4

Jim keeps his ironing in a storage box which has a volume half that of the basket.



The storage box is in the shape of a cuboid, 35 centimetres long and 28 centimetres broad.

- (b) Find the height of the storage box.

3

2008 P2 calculator

5

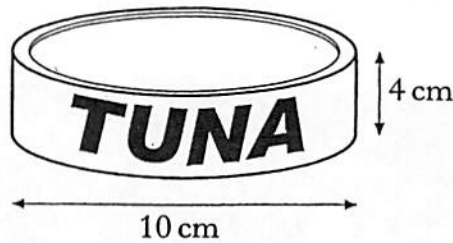
# Volume Int 2 PP 2001 -2008

Marks

2007 P1 non-calculator

H

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



It has diameter 10 centimetres and height 4 centimetres.

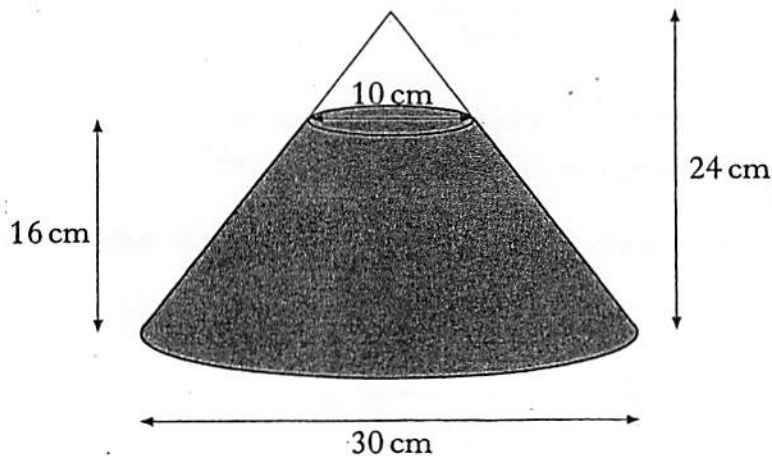
Calculate its volume.

Take  $\pi = 3.14$ .

2

2007 P2 -calculator

- I 5. A glass ornament in the shape of a cone is partly filled with coloured water.



The cone is 24 centimetres high and has a base of diameter 30 centimetres. The water is 16 centimetres deep and measures 10 centimetres across the top.

What is the volume of the water?

Give your answer correct to 2 significant figures.

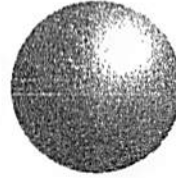
5

# Volume Int 2 PP 2001 -2008

F

2005 P2 calculator

7. A pharmaceutical company makes vitamin pills in the shape of spheres of radius 0.5 centimetres.

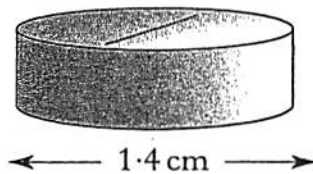


- (a) Calculate the volume of **one** pill.

Give your answer correct to two significant figures.

3

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 1.4 centimetres.

Calculate the height of the new pill.

3

G

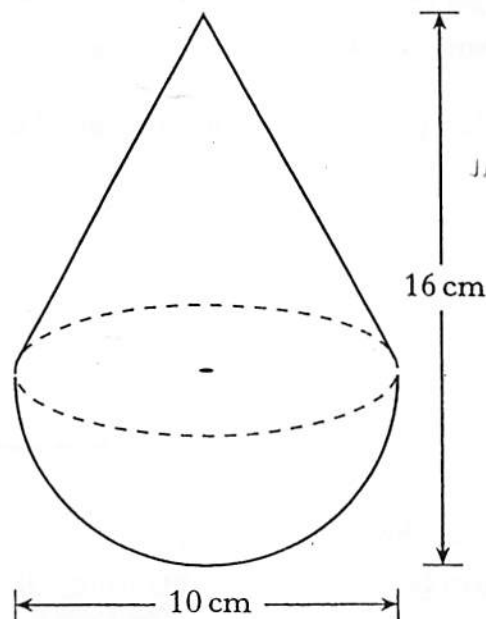
2006 P2 - calculator

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

The toy is 10 centimetres wide and 16 centimetres high.

Calculate the volume of the toy.

Give your answer correct to 2 significant figures.



5

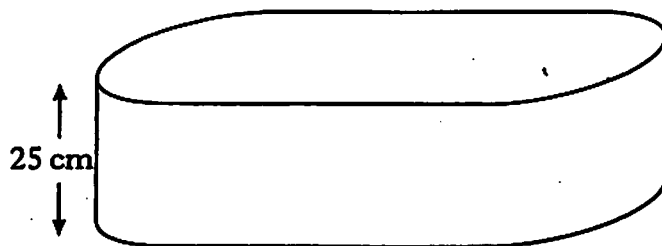
# Volume Int 2 PP 2001 -2008

E

2003 P2 - calculator

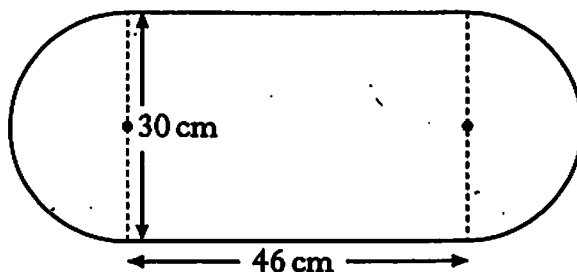
Marks

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



The height of the trough is 25 centimetres.

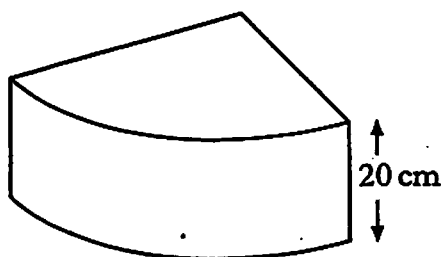
The cross-section of the trough consists of a rectangle and two semi-circles with measurements as shown.



- (a) Find the volume of the garden trough in cubic centimetres.  
Give your answer correct to two significant figures.

4

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



The height of the trough is 20 cm.

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

The volume of the trough is  $30\,000\text{ cm}^3$ .

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

3

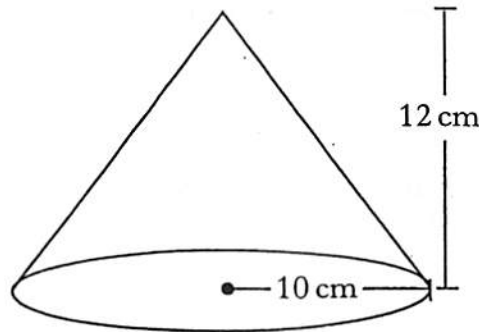
# Volume Int 2 PP 2001 -2008

2003 P1 - non calculator

C

3. The diagram shows a cone.

Marks



The height is 12 centimetres and the radius of the base 10 centimetres.  
Calculate the volume of the cone.

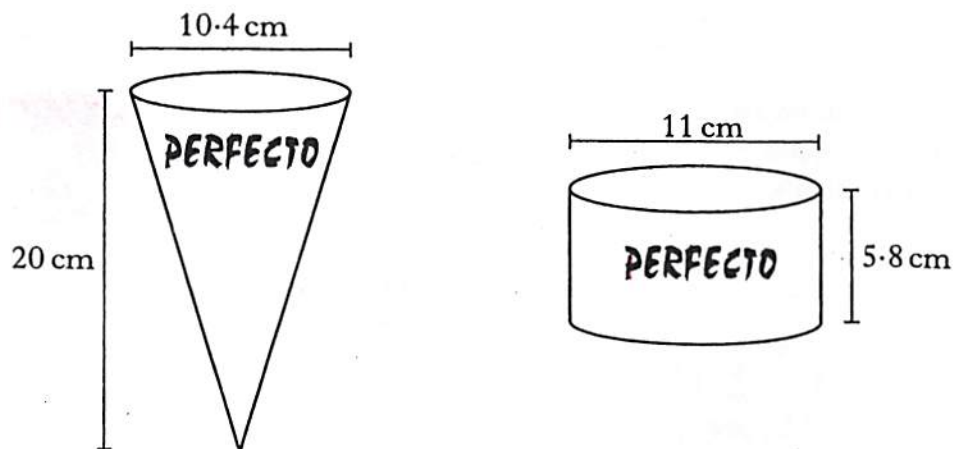
Take  $\pi = 3.14$ .

2

2004 P2 - calculator

D

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



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

Which container of ice cream is better value for money?

Give a reason for your answer.

5

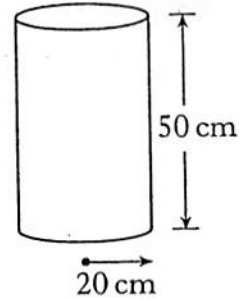
# Volume Int 2 PP 2001 -2008

A

2001 P2 - calculator

Mark

6. A drinks container is in the shape of a cylinder with radius 20 centimetres and height 50 centimetres.

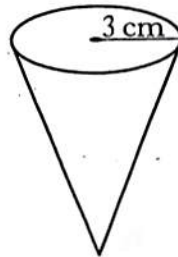


- (a) Calculate the volume of the drinks container.

Give your answer in cubic centimetres, correct to two significant figures.

3

- (b) Liquid from the full container can fill 800 cups, in the shape of cones, each of radius 3 centimetres.



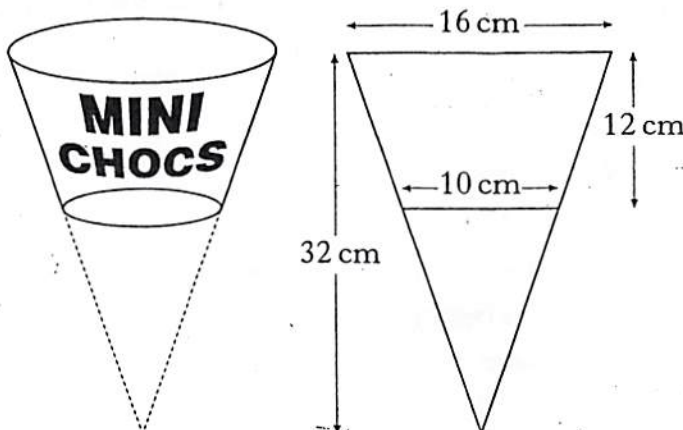
What will be the height of liquid in each cup?

4

2002 P2 - calculator

B

6. A container to hold chocolates is in the shape of part of a cone with dimensions as shown below.



Calculate the volume of the container.

Give your answer correct to one significant figure.

5