

Mensuration and calculations – GCSE Mathematics Paper 3**1. No.16**

An empty container is a cylinder of radius 3.5 cm and height 40 cm

A tennis ball is a sphere of radius 3.5 cm

Will six of the tennis balls fit in the container?

Tick a box.

Yes

☐

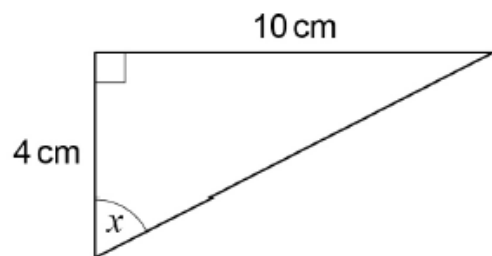
No

☐

Show working to support your answer.

[2 marks]

2. No.21

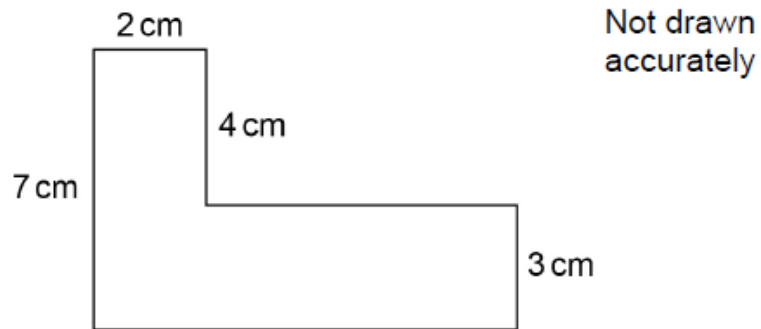
Use trigonometry to work out the size of angle x .Not drawn
accurately

[3 marks]

 $x =$ _____ °

3. No.25

The L-shape is made from rectangles.



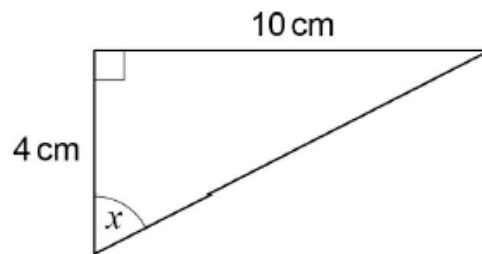
The area is 44 cm^2

Work out the perimeter.

[3 marks]

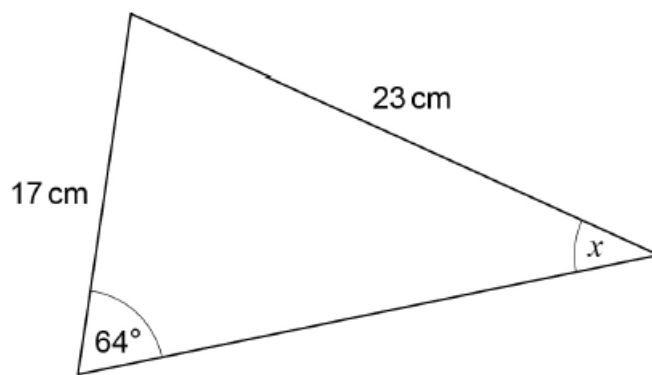
Answer _____ cm

4. No.4

Use trigonometry to work out the size of angle x .Not drawn
accurately**[3 marks]**

 $x =$ _____ °

5. No.21

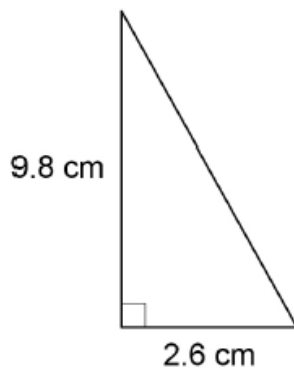
Not drawn
accuratelyUse the sine rule to work out the size of angle x .

[3 marks]

$$x = \underline{\hspace{2cm}}^\circ$$

6. No.13

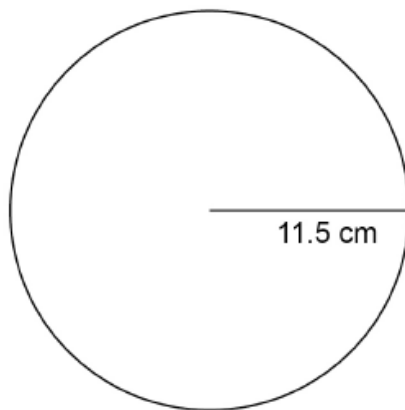
(a) Work out the area of this triangle.

Not drawn
accurately

[2 marks]

Answer _____ cm^2

(b) A circle has a radius of 11.5 cm

Not drawn
accurately

Work out the area of the circle.

[2 marks]

Answer _____ cm^2

7. No.21

What is the name of the **longest** possible chord in a circle?

Circle your answer.

[1 mark]

tangent

circumference

radius

diameter

8. No.24

Here are two rectangles.

Not drawn
accurately

28 mm



40 mm



35 mm

50 mm

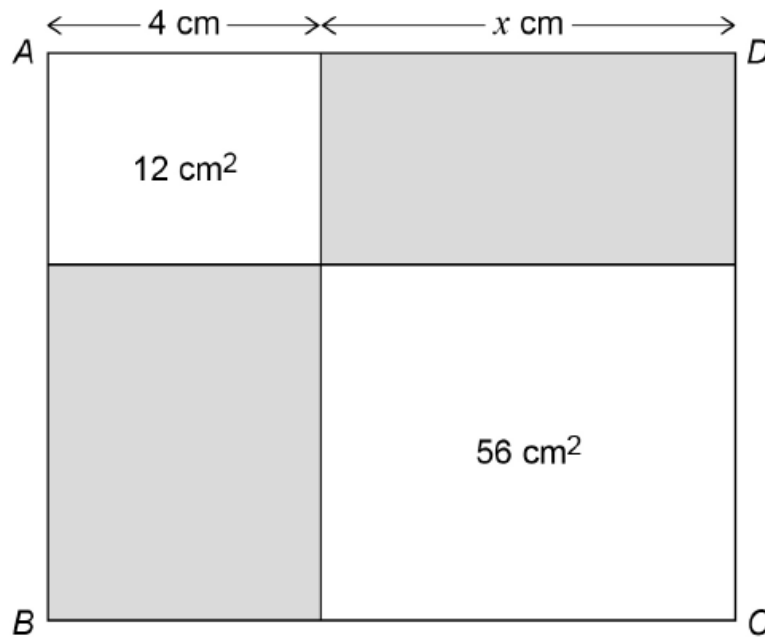
Show that the rectangles are similar.

[1 mark]

9. No.9

Rectangle $ABCD$ is split into four smaller rectangles.

Two of the smaller rectangles are shaded.



Not drawn
accurately

$$4 : x = 1 : 2$$

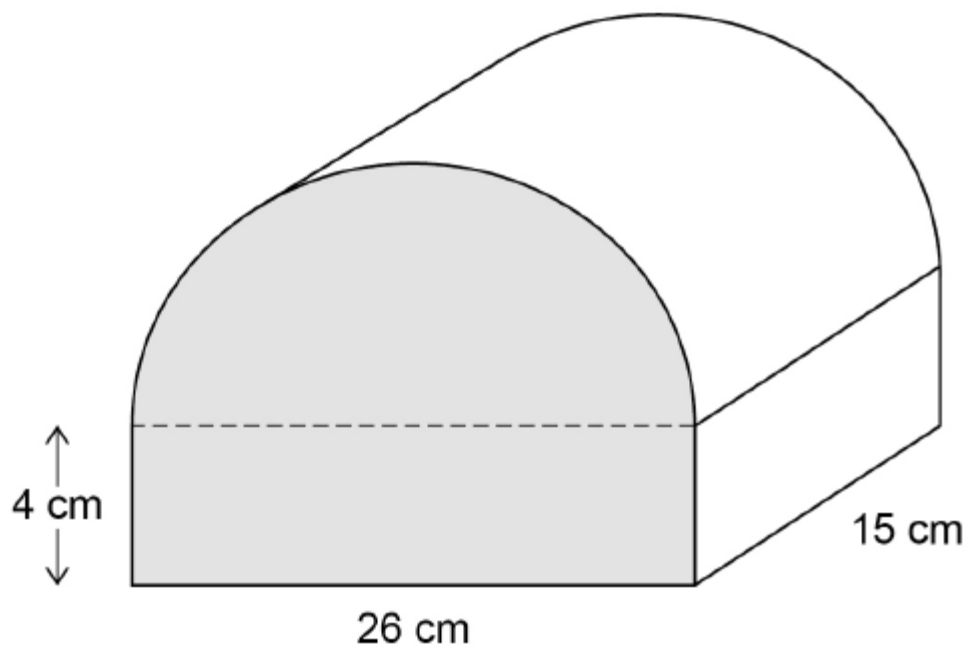
For rectangle $ABCD$, work out the ratio shaded area : unshaded area

Give your answer in its simplest form.

Answer _____ : _____

10. No.13

A box is the shape of half a cylinder on top of a cuboid.



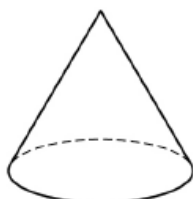
Work out the volume of the box.

Answer _____ cm^3

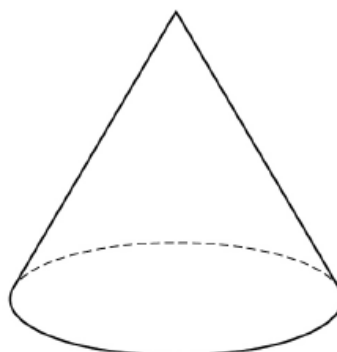
11. No.26

Here are two similar cones.

Cone A



Cone B

The surface area of cone A is 2 m^2 The surface area of cone B is 4.5 m^2

Work out the ratio radius of cone A : radius of cone B

Give your answer in the form $1 : n$ **[3 marks]**

Answer _____ : _____