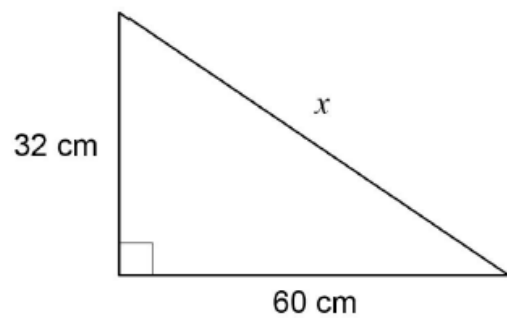


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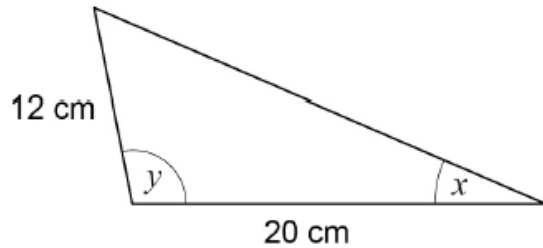
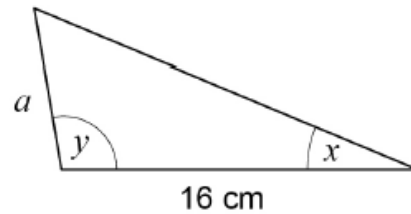
1. No.24

Use Pythagoras' theorem to work out the value of x .Not drawn
accurately**[3 marks]**

Answer _____ cm

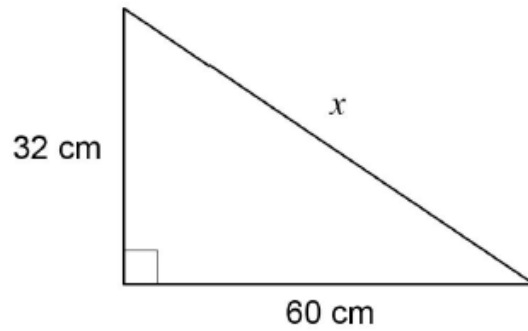
2. No.26

These two triangles are similar.

Not drawn
accuratelyWork out the value of a .**[2 marks]**

Answer _____ cm

3. No.7

Use Pythagoras' theorem to work out the value of x .Not drawn
accurately

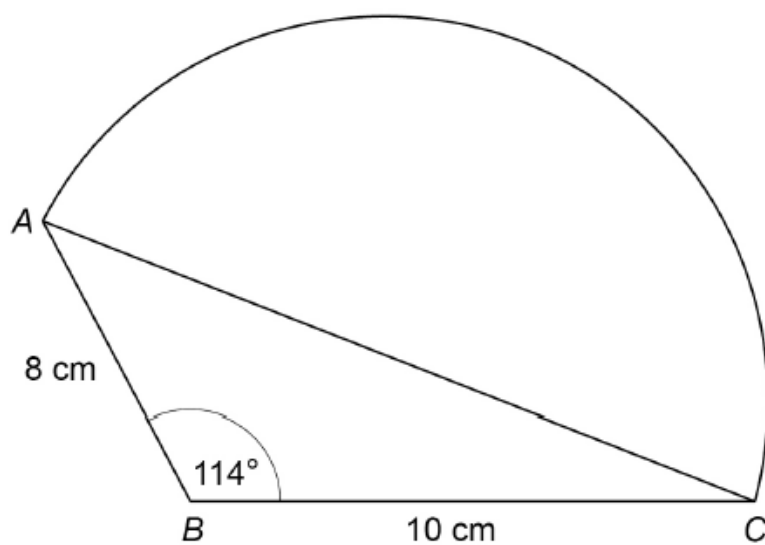
[3 marks]

Answer _____ cm

4. No.29

A shape is made by joining triangle ABC to a semicircle with diameter AC .

Not drawn
accurately



Work out the **total** area of the shape.

[5 marks]

Answer _____ cm^2

5. No.22

Here is a formula.

$$T = n^2 - \frac{12}{n}$$

(a) Work out T when $n = 5$

[1 mark]

Answer _____

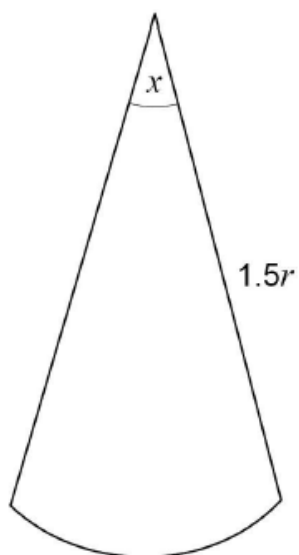
(b) Why is T **always** positive when n is negative?

[2 marks]

6. No.16

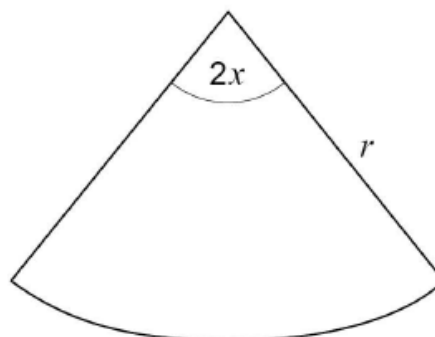
Here are two sectors from different circles.

Sector A



Sector B

Not drawn accurately



Which sector has the bigger area?

Tick a box.

☐

Sector A

☐

Sector B

Show working to support your answer.

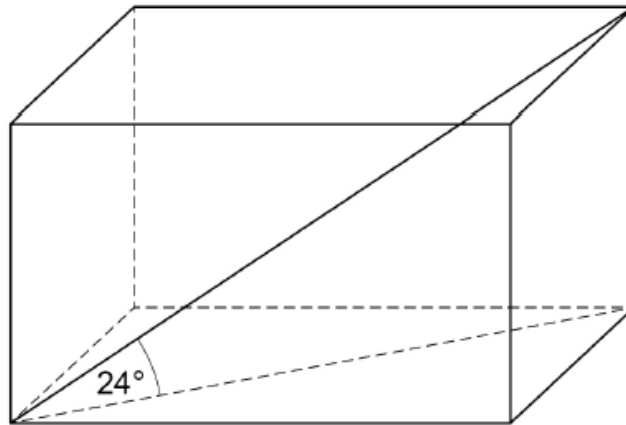
[2 marks]

7. No.24

The length of a diagonal of a cuboid is 20 cm

The diagonal makes an angle of 24° with the base.

The area of the base is 150 cm^2



Work out the volume of the cuboid.

[3 marks]

Answer _____ cm^3

8. No.27

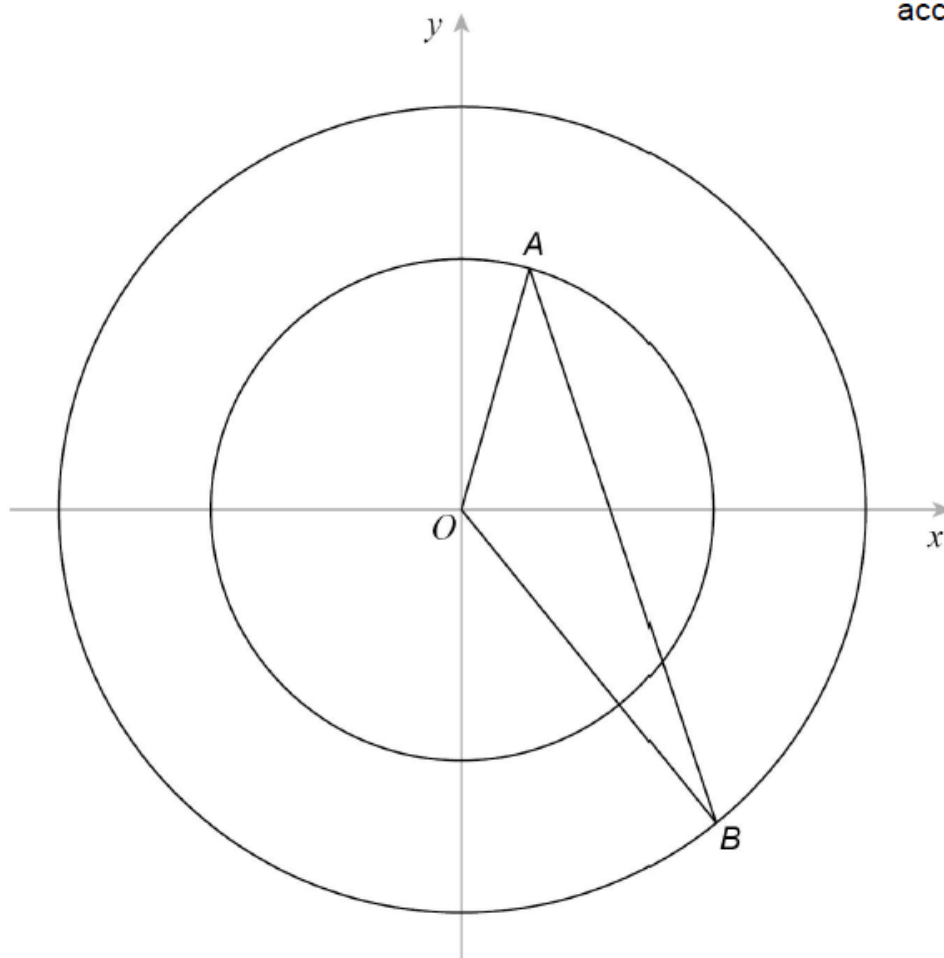
In this question, all lengths are in centimetres.

A is a point on a circle, centre O .

B is a point on a different circle, centre O .

$AB = 20$

Not drawn
accurately



The equation of the larger circle is $x^2 + y^2 = 144$

radius of smaller circle : radius of larger circle = 4 : 5

Work out the size of angle AOB .

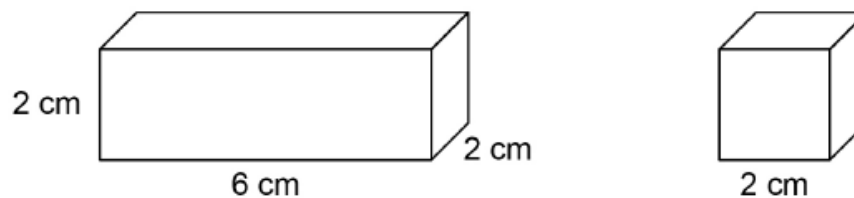
[5 marks]

[illegible]

Answer _____ degrees

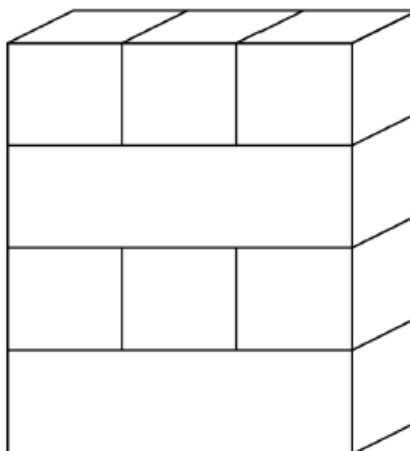
9. No.22

Here is a small cuboid and a cube.



Small cuboids and cubes are stacked in layers to make larger cuboids.

Here is a cuboid made with four layers.



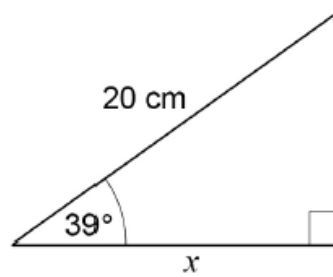
The pattern is continued to make a cuboid with volume 336 cm^3

How many **cubes** are used?

[3 marks]

Answer _____

10. No.31

Use trigonometry to work out the value of x .Not drawn
accurately**[2 marks]**

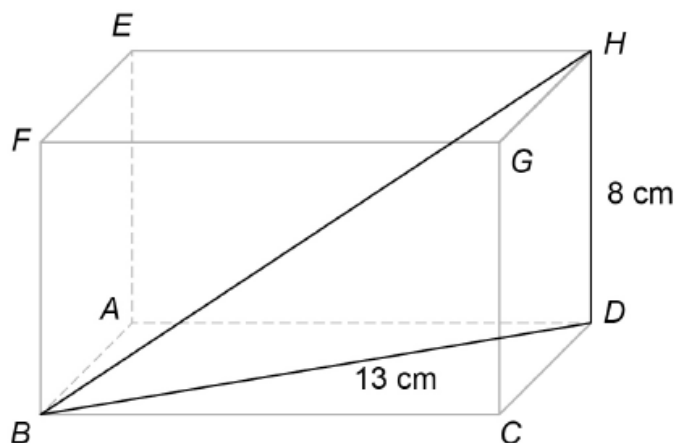
Answer _____ cm

11. No.19

Here is a cuboid.

$$DH = 8 \text{ cm}$$

$$DB = 13 \text{ cm}$$



- (a) Work out the size of angle DBH .

[2 marks]

Answer _____ degrees

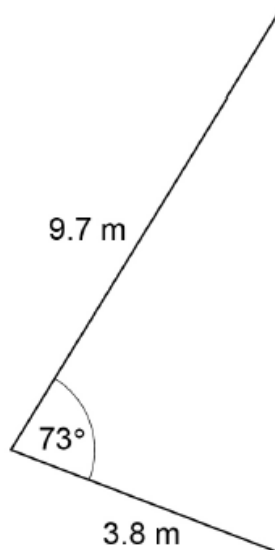
- (b) Using your answer to part (a), work out the size of angle ECG .

[1 mark]

Answer _____ degrees

12. No.26

Here is a triangular sail.

Not drawn
accurately

- (a) Vicky needs to buy waterproofing liquid for the sail.

She will put **3 coats** of liquid on **each** side of the sail.

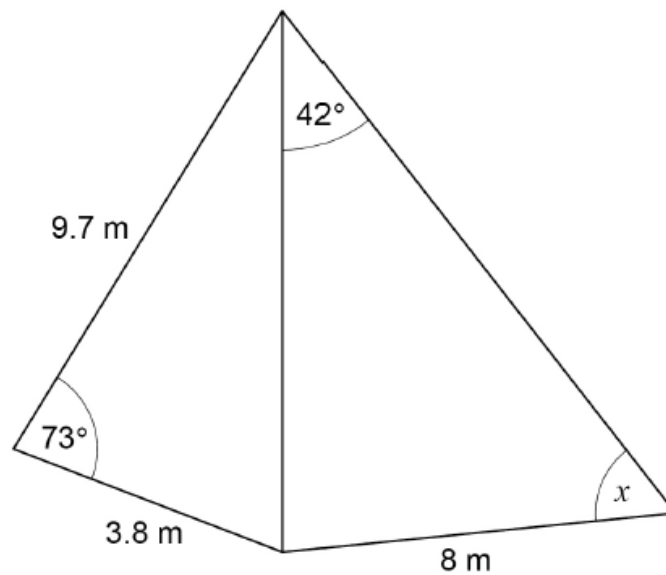
A litre of liquid covers 8.5 square metres of sail.

How many 1-litre bottles of liquid does Vicky need?

[3 marks]

Answer _____

- (b) Another sail is joined to the first sail as shown.



Not drawn
accurately

x is an acute angle.

Work out the size of angle x .

[5 marks]

Answer _____ degrees