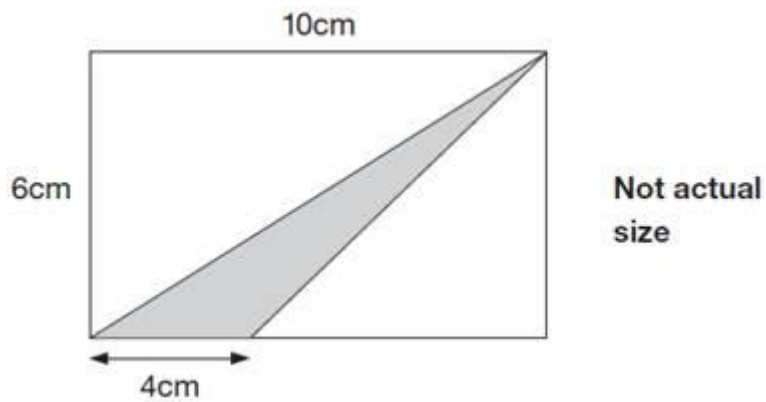


## Y6 Week 11 Extension Area Perimeter

**Q1.** The diagram shows a shaded triangle inside a rectangle.

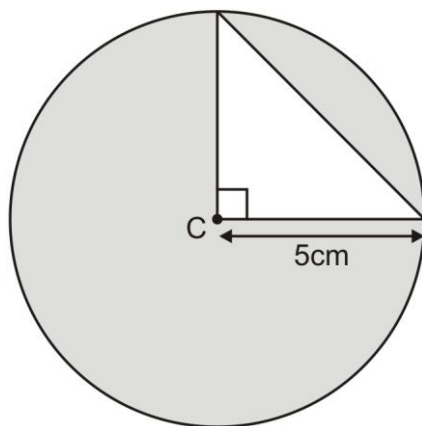


**What is the area of the shaded triangle?**

2 marks

**Q2.** The diagram shows a **right-angled triangle** inside a **circle**.

The circle has a radius of **5 centimetres**.



Calculate the **area** of the **triangle**.

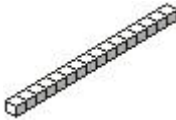
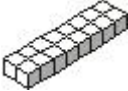
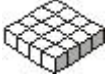

1 mark

Calculate the area of the **shaded part** of the diagram.

2 mark

### Q3. Cuboids

You can make only four different cuboids with **16 cubes**.

		Dimensions		
Cuboid <b>A</b>		1	1	16
Cuboid <b>B</b>		1	2	8
Cuboid <b>C</b>		1	4	4
Cuboid <b>D</b>		2	2	4

(a) Which of the cuboids **A** and **D** has the **larger surface area**?

Tick (✓) the correct answer below.

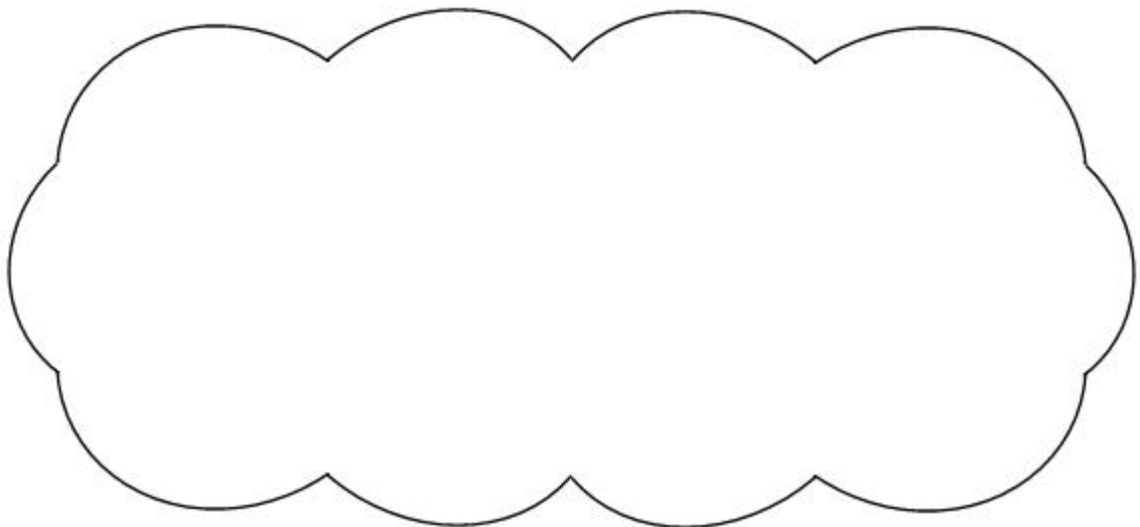
Cuboid A

Cuboid D

Both the same

1 mark

Explain how you know.



1 mark

(b) Which cuboid has the **largest volume**?

Tick (✓) the correct answer below.

Cuboid A	<input type="checkbox"/>
Cuboid B	<input type="checkbox"/>
Cuboid C	<input type="checkbox"/>
Cuboid D	<input type="checkbox"/>
All the same	<input type="checkbox"/>

1 mark

(c) How many of **cuboid D** make a cube of dimensions **4 × 4 × 4**?

\_\_\_\_\_ 1 mark

(d) You can make only six **different** cuboids with **24 cubes**.

Complete the table to show the dimensions.

Two have been done for you.

	Dimensions		
Cuboid E	1	1	24
Cuboid F	1	2	12
Cuboid G			
Cuboid H			
Cuboid I			
Cuboid J			

3 marks

**Q 4.** Megan says,

***'If two rectangles have the same perimeter, they must have the same area.'***

Is she correct?  
Circle **Yes** or **No**.

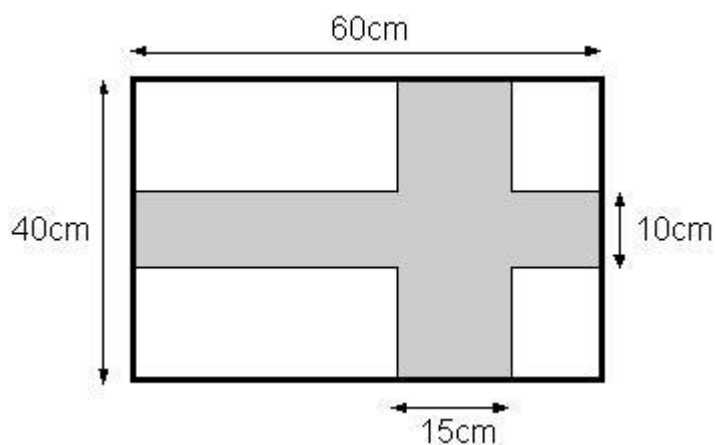
Yes / No

**Explain how you know.** \_\_\_\_\_

\_\_\_\_\_

1 mark

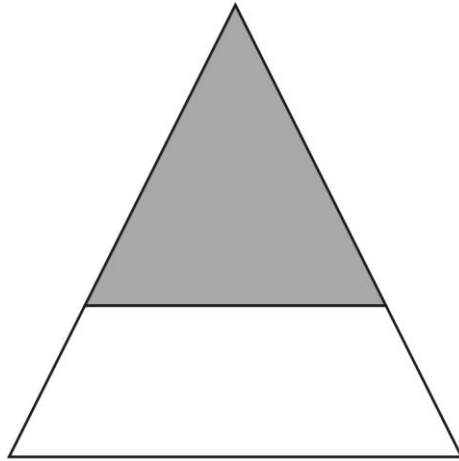
**Q5.** Here is a flag.



Calculate the **area** of the **shaded cross**.

2 marks

**Q6.** The diagram shows a shaded triangle inside a larger triangle.



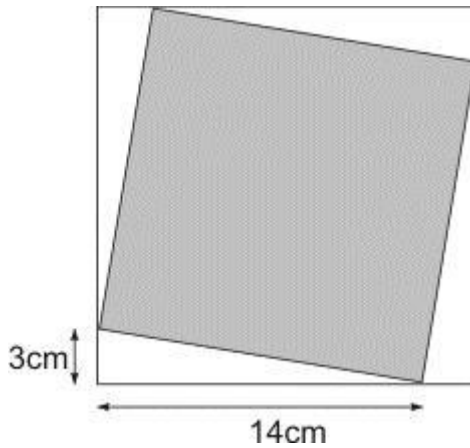
The area of the **shaded** triangle is  $52 \text{ cm}^2$ .

The area of the shaded triangle is  $\frac{4}{9}$  of the area of the larger triangle.

Calculate the **area** of the **larger triangle**.

2 mark

**Q7.** The diagram shows a shaded square inside a larger square.



Calculate the area of the **larger square**.

1 mark

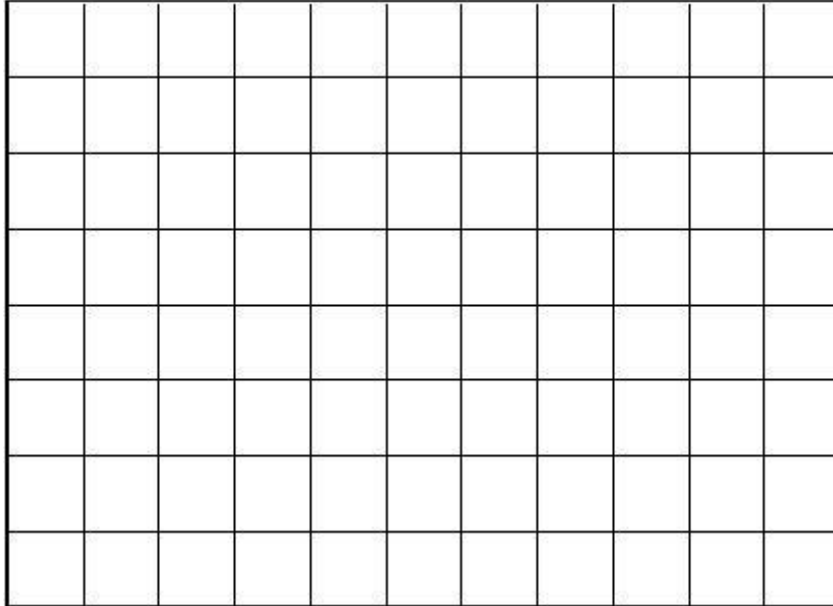
Calculate the area of the **shaded square**.

2 mark

**Q8.** This is a centimetre grid.

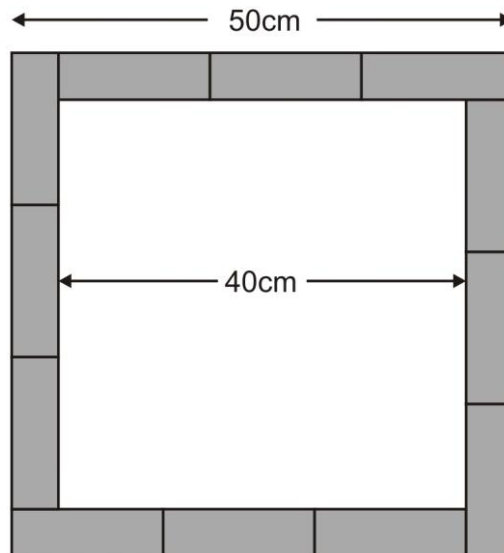
On the grid draw a **triangle** which has an **area of  $7.5 \text{ cm}^2$**  and which has an **obtuse angle**.

Use a ruler.



2 mark

**Q9.** Twelve rectangles, all the same size, are arranged to make a **square**, as shown in the diagram.



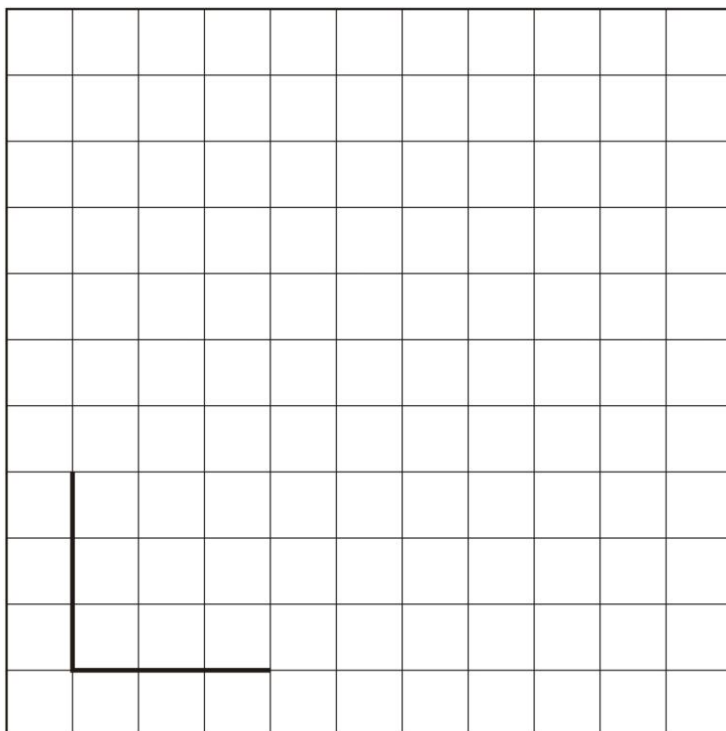
Calculate the **area** of **one** of the rectangles.

2 mark

**Q10.** Here is a centimetre grid.

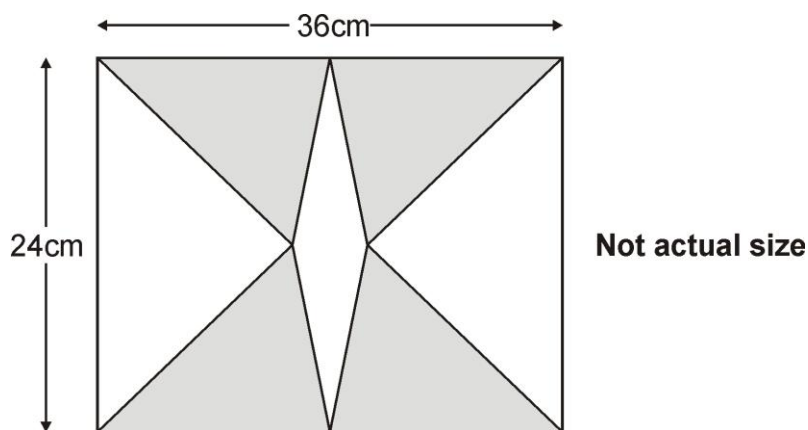
Draw **two** more lines to make a **quadrilateral** with an area of **18 cm<sup>2</sup>**.

Use a ruler.



1 mark

**Q11.** The diagram shows **4 identical shaded triangles** in a rectangle.

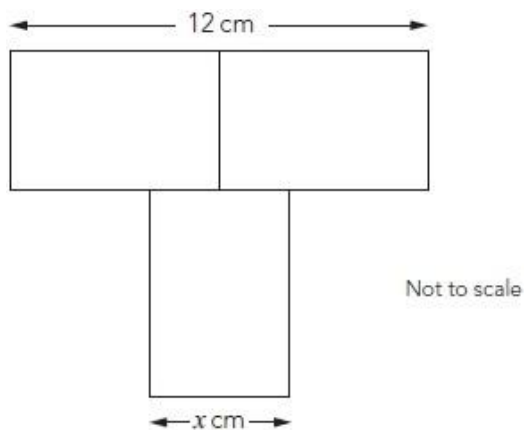


The rectangle measures **36 centimetres** by **24 centimetres**.

Calculate the **area** of **one shaded triangle**.

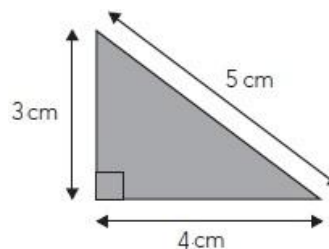
2 mark

**Q12.** Here is a T-shape made from 3 identical rectangles. The area of the T-shape is **90 cm<sup>2</sup>**



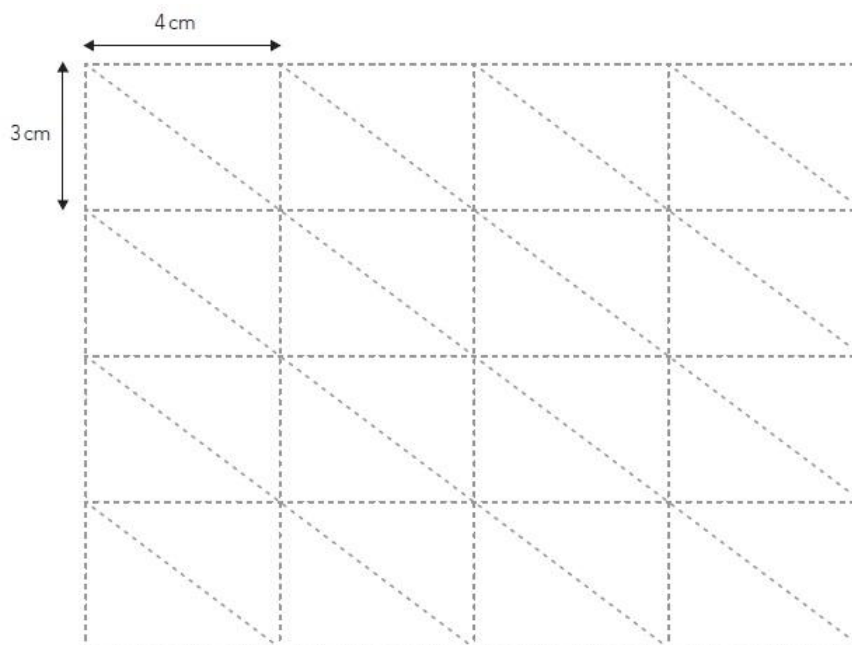
Work out the value of  $x$

**Q13.** The grid below is made of right-angled triangles like this:



Shade triangles on the grid to make a **quadrilateral**.

Your quadrilateral must have an area of **24 cm<sup>2</sup>** and a perimeter of 26 cm.



2 marks



