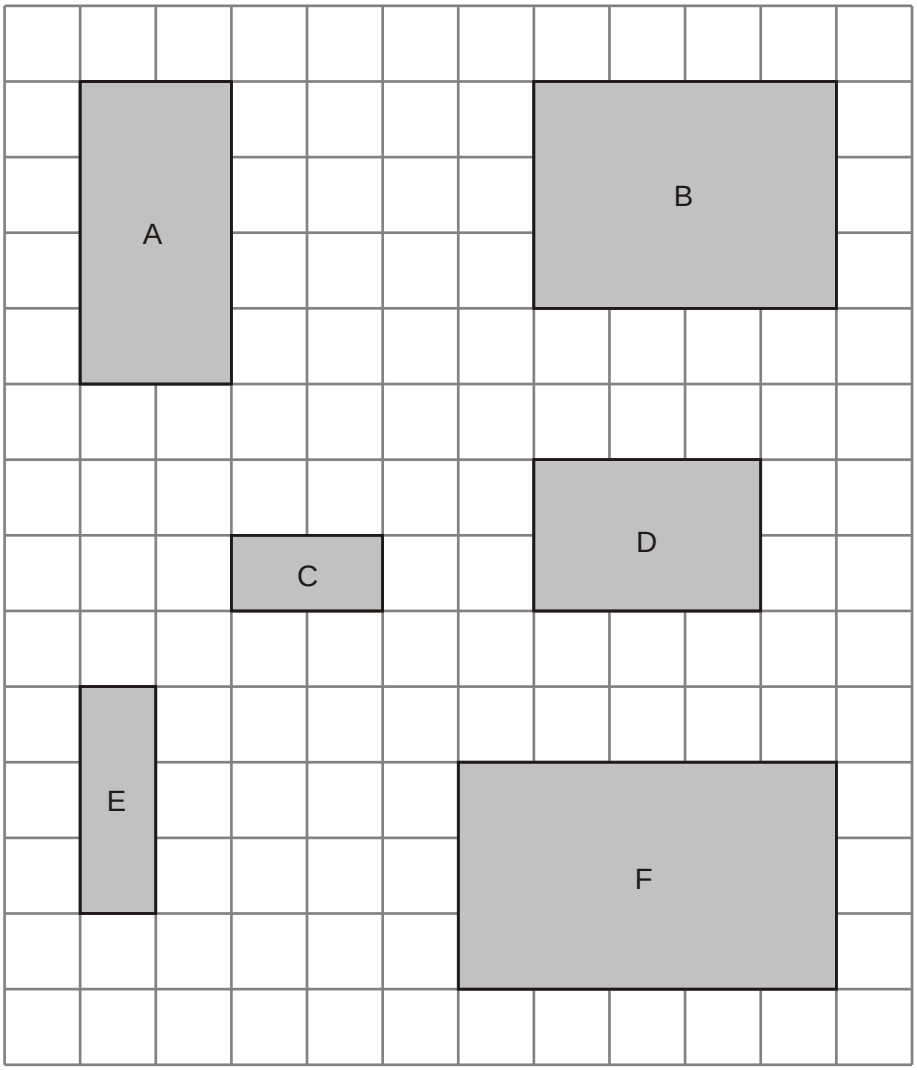
1. Here are six rectangles on a grid.



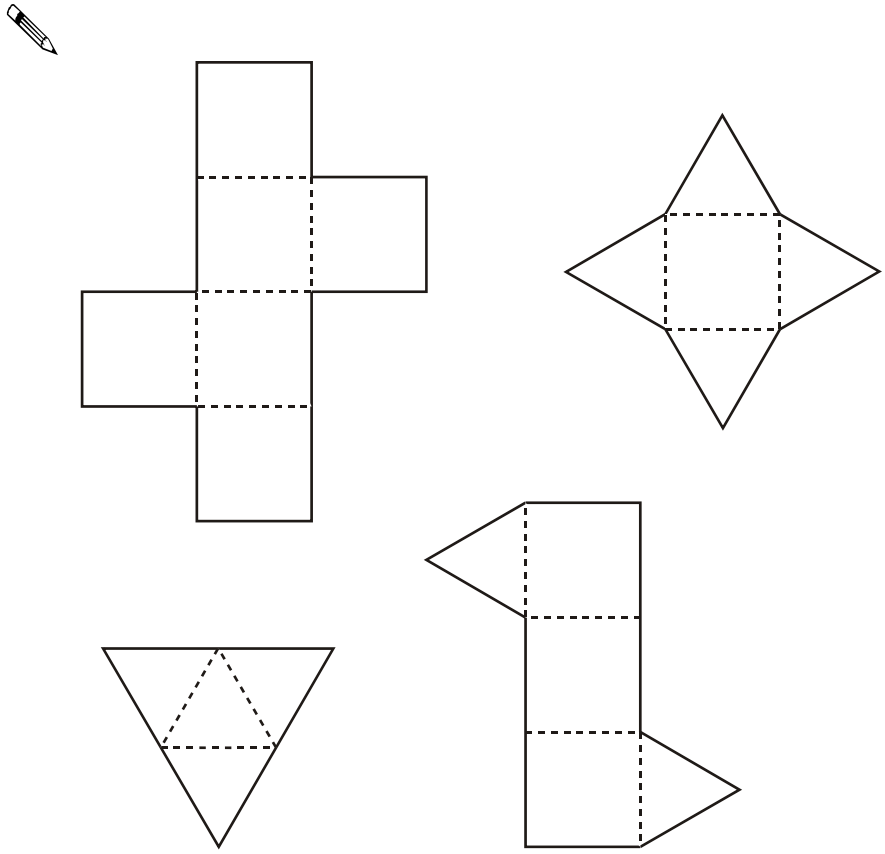
Which **two** rectangles fit together, without overlapping, to make a **square**?

..... and .....

1 mark

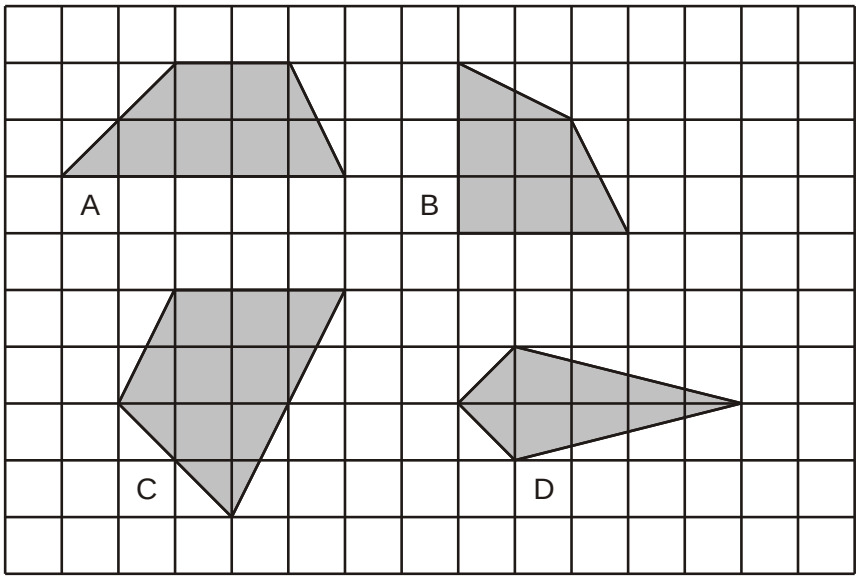
2. Here are some nets of shapes.

For each net, put a tick (✓) if it folds to make a **pyramid**.
Put a cross (✗) if it does not.



1 mark

3. Here are some shapes on a grid.

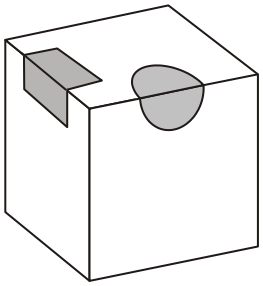


Write the letter of each shape that has one pair of parallel sides.

.....

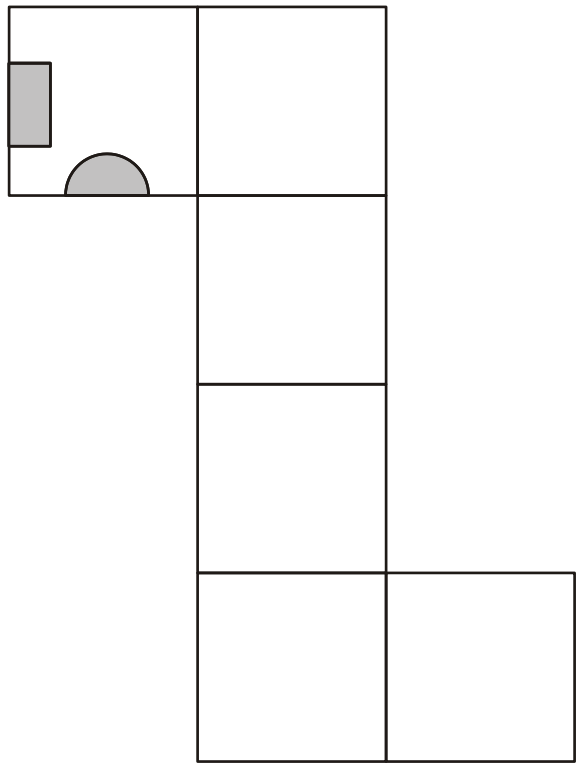
1 mark

4. A cube has shaded shapes on three of its faces.



Here is a net of the cube.

Draw in the two missing shaded shapes.



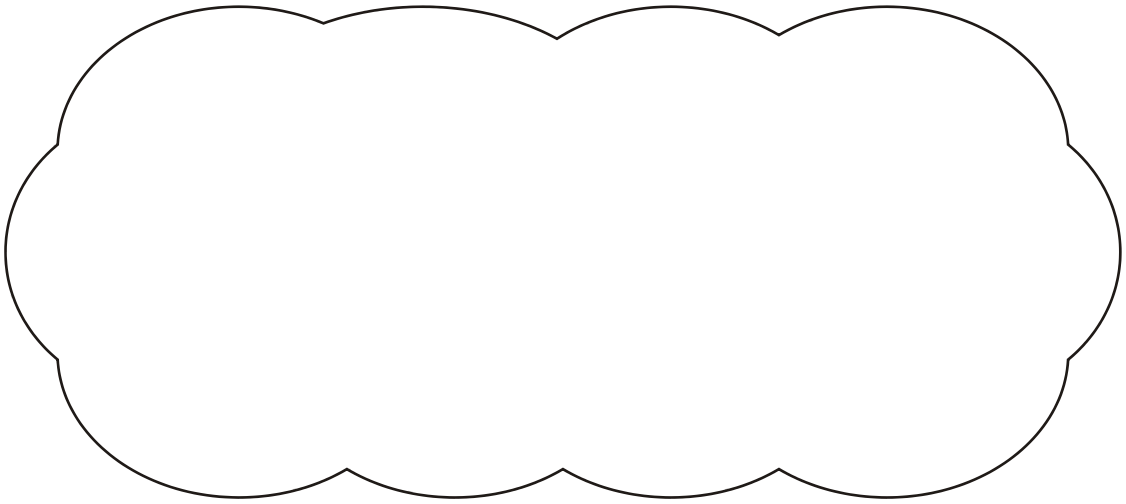
1 mark

5. Jamie draws a triangle.

He says,

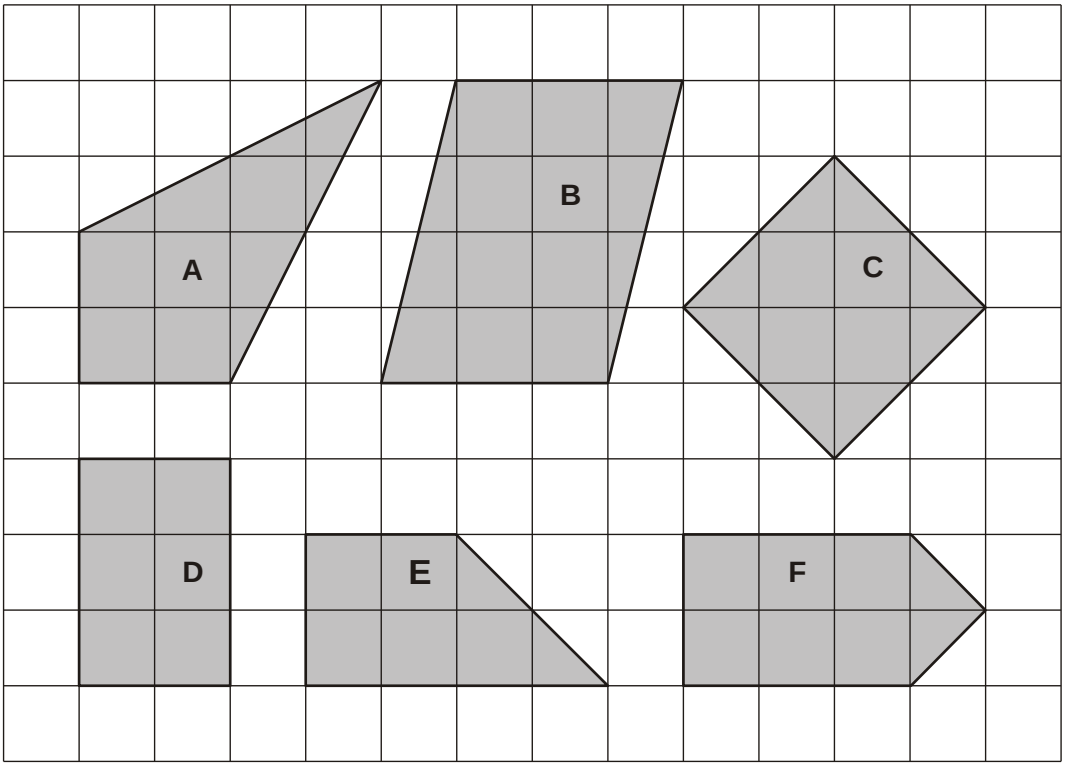
'Two of the three angles in my triangle are obtuse'.

Explain why Jamie **cannot** be correct.



1 mark

6. Look at these shapes.



Complete the sentences below.

One has been done for you.

..... **A** ..... is a kite

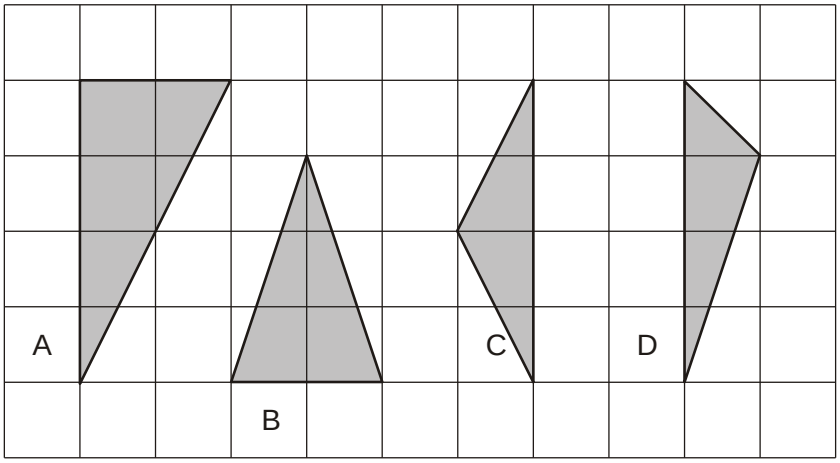
..... is not a quadrilateral

..... has only 2 right angles

..... has 2 acute angles

2 marks

7. Here are four triangles on a square grid.



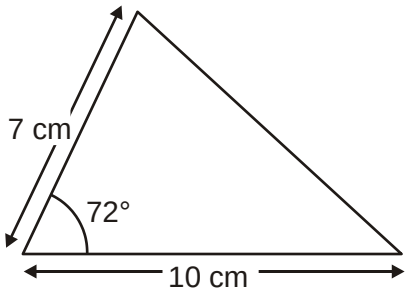
Write the letters of the **two isosceles** triangles.

..... and .....

1 mark

8. Here is a sketch of a triangle.

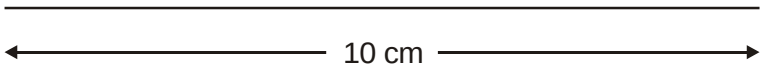
It is not drawn to scale.



Draw the full-size triangle **accurately** below.

Use a protractor (angle measurer) and a ruler.

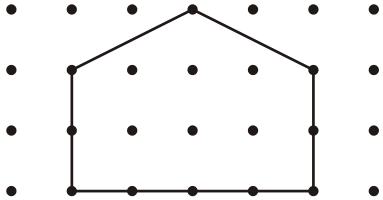
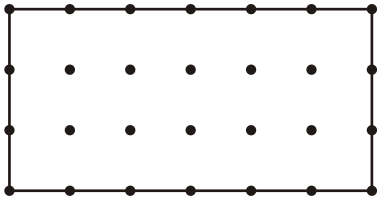
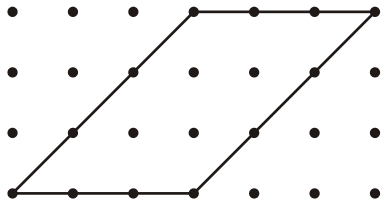
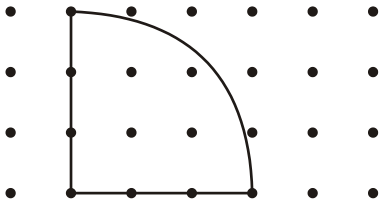
One line has been drawn for you.



2 marks

9. Put ticks (✓) and crosses (✗) on the chart to complete it correctly.

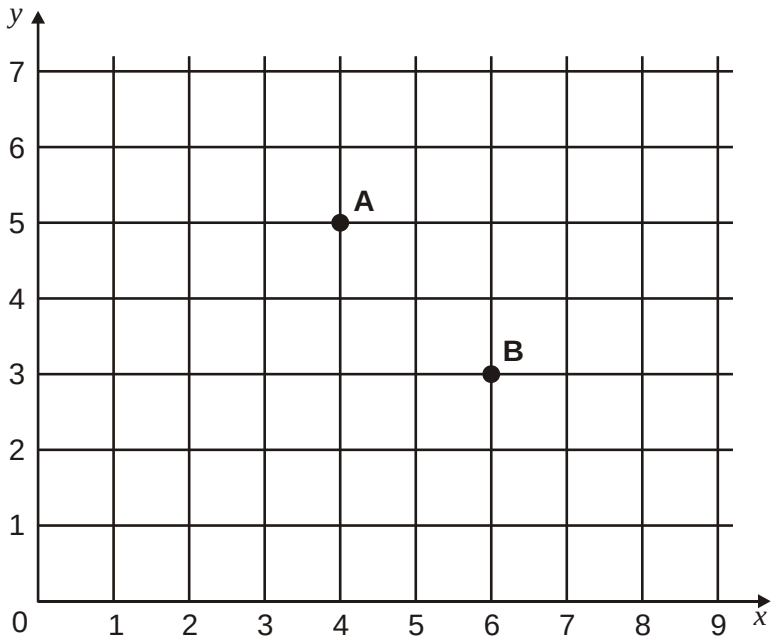
One has been done for you.

Shape	It is a quadrilateral	It has one or more right angles
	✗	✓
		
		
		

2 marks

10. **A, B**, **C** and **D** are the vertices of a rectangle.

A and **B** are shown on the grid.



D is the point (3, 4)

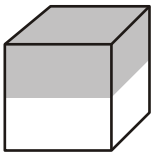
Write the coordinates of point **C.**

(,)

1 mark

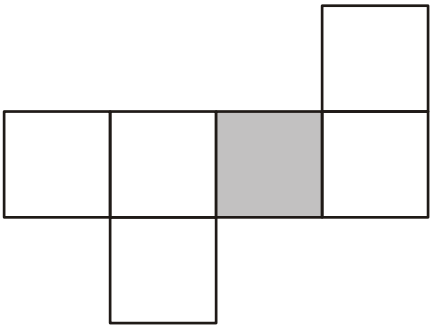
11. Here is a cube.

The cube is shaded all the way round so that the top half is grey and the bottom half is white.



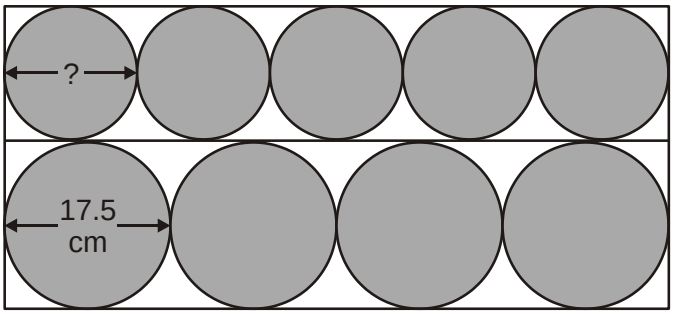
Here is the net of the cube.

Complete the shading



2 marks

12. Four large circles and five small circles fit exactly inside this rectangle.



Not actual size

The **diameter** of a large circle is **17.5** centimetres.

Calculate the **diameter** of a small circle.

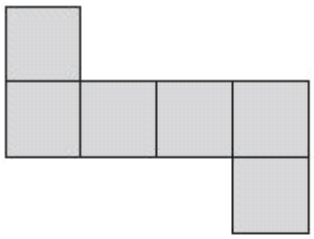
Show your **method.** You may get a mark.

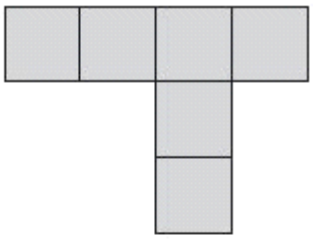
cm

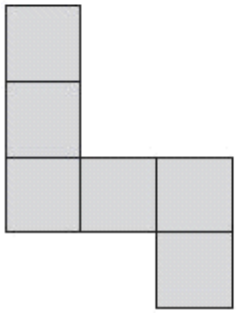
2 marks

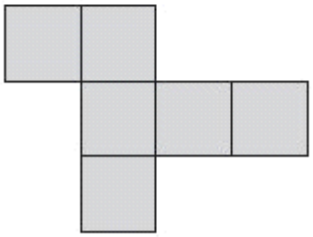
13. Here are four diagrams.

On each one put a tick (✓) if it is a net of a cube.
Put a cross (✗) if it is not.









2 marks

14. Here are four statements.

For each statement put a tick (✓) if it is **possible**.
Put a cross (✗) if it is **impossible**.

A triangle can have 2 acute angles. ☐

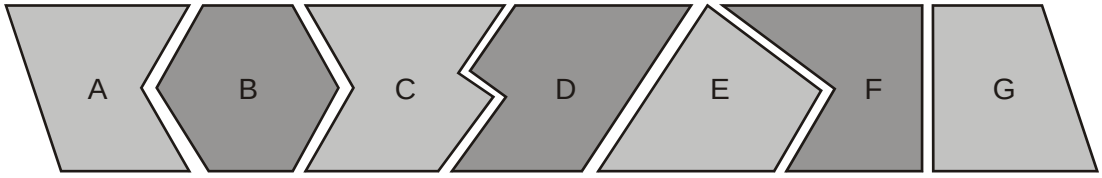
A triangle can have 2 obtuse angles. ☐

A triangle can have 2 parallel sides. ☐

A triangle can have 2 perpendicular sides. ☐

2 marks

15. Here are seven shapes.



Write the letters of the two shapes which are **pentagons**.

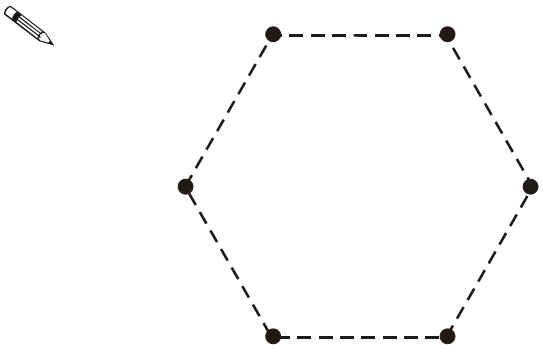
..... and .....

1 mark

16. Here is a regular hexagon.

Join three of the dots to make an **equilateral** triangle.

Use a ruler.

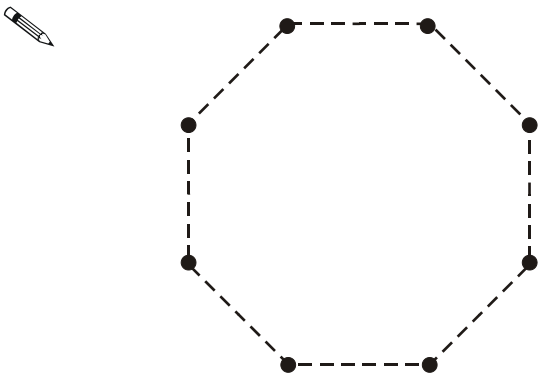


1 mark

Here is a regular octagon.

Join three of the dots to make an **isosceles** triangle.

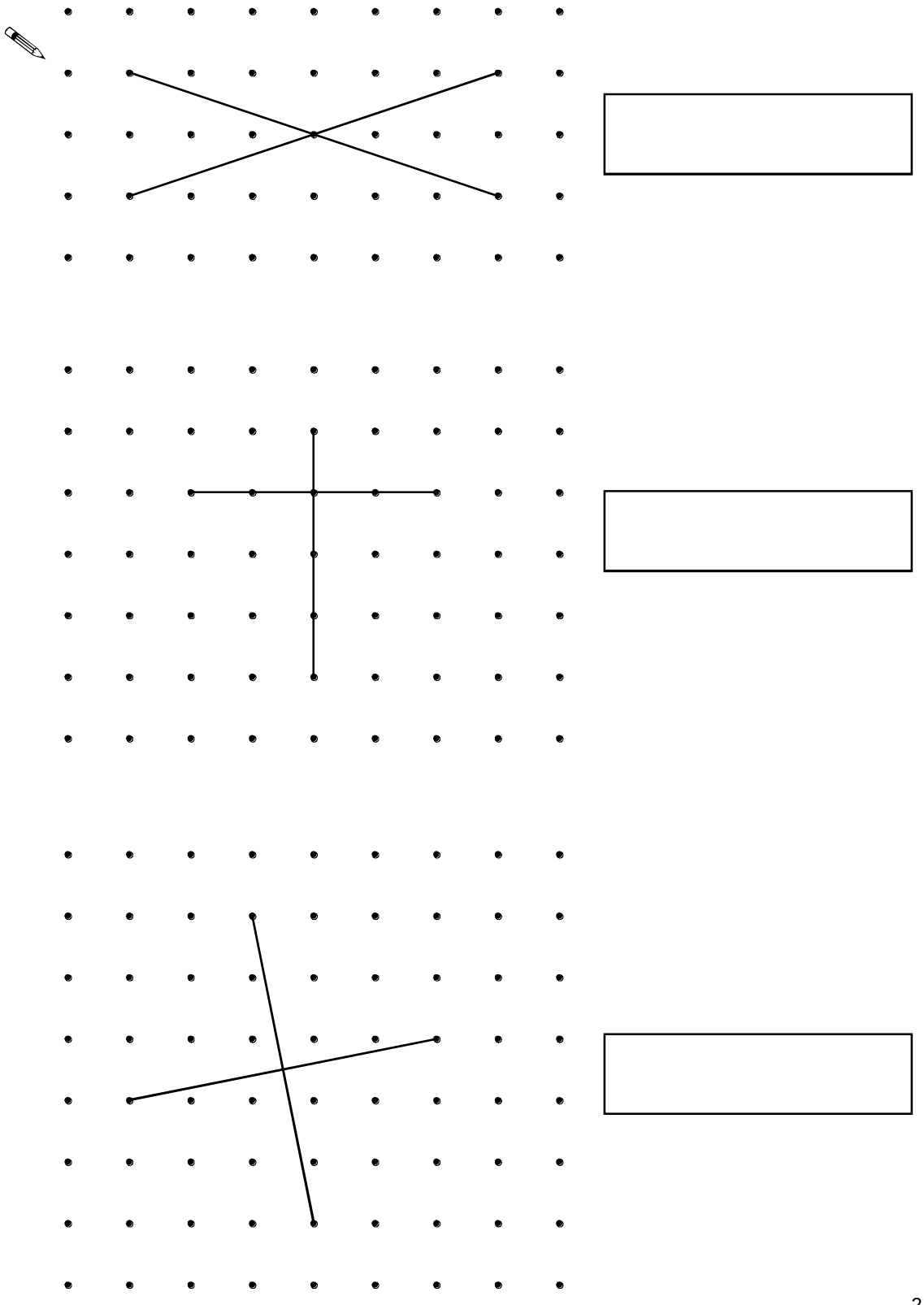
Use a ruler.



1 mark

17. These diagrams show the **diagonals** of three **quadrilaterals**.

Write the names of the quadrilaterals in the boxes.



2 marks

18. An isosceles triangle has a perimeter of 12cm.

One of its sides is 5cm.

What could the length of each of the other two sides be?

Two different answers are possible.

Give **both** answers.

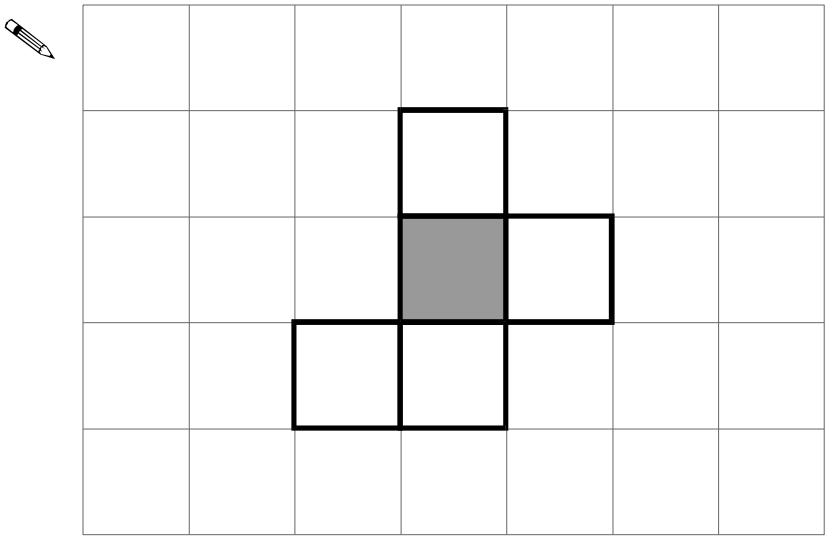
	cm	and	**cm**
	cm	and	**cm**

2 marks

19. Here is the net of a cube with no top.

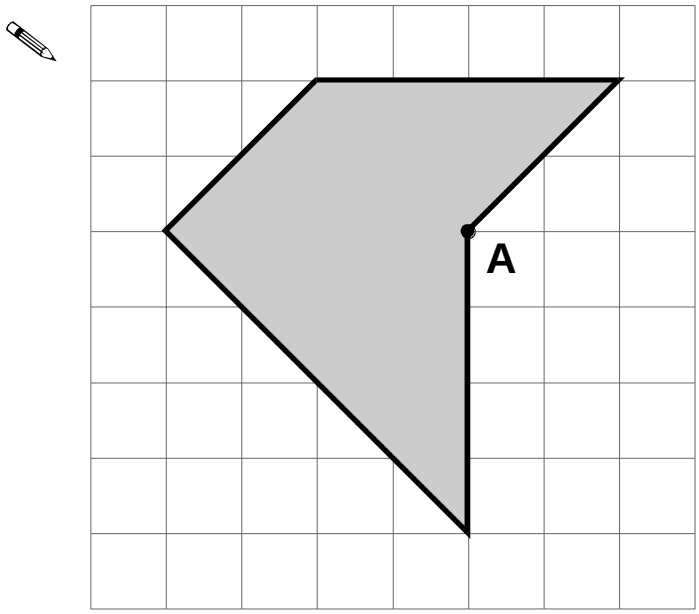
The shaded square shows the bottom of the cube.

Draw an extra square to make the net of a cube which does have a top.



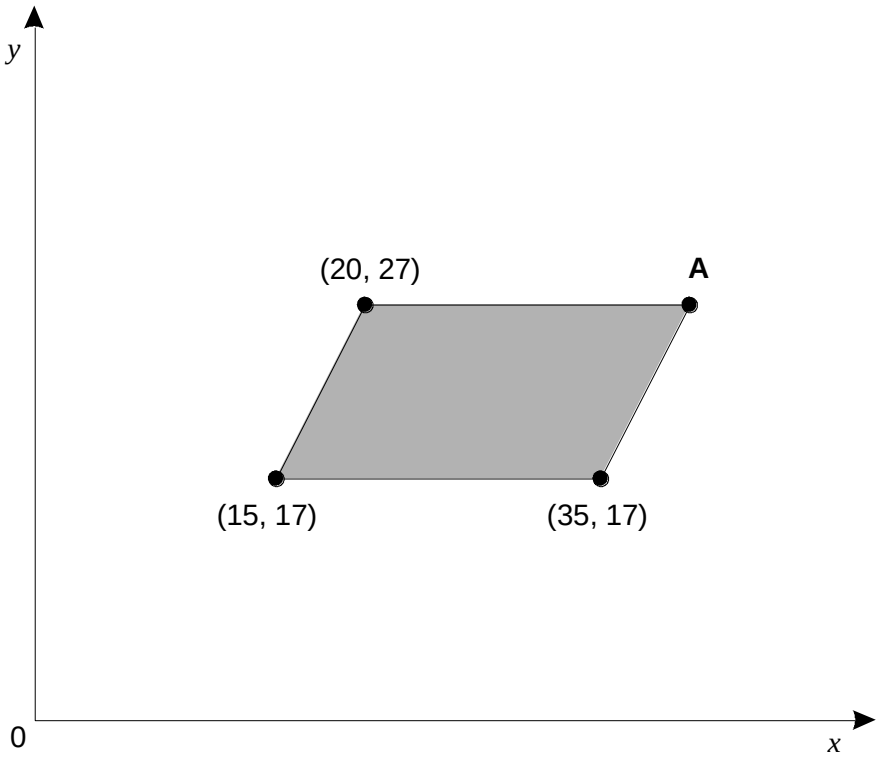
1 mark

20. Draw **two straight lines** from point **A** to divide the shaded shape into a square and two triangles.



1 mark

21. The shaded shape is a parallelogram.

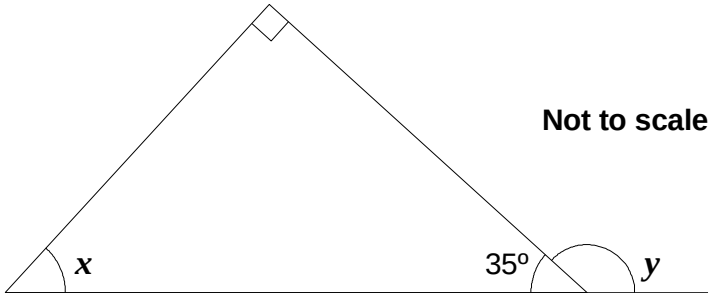


Write in the coordinates of point **A.**

(,)

1 mark

22. Look at this diagram.



Calculate the size of angle x and angle y.

Do **not** use a protractor (angle measurer).

x = ☐

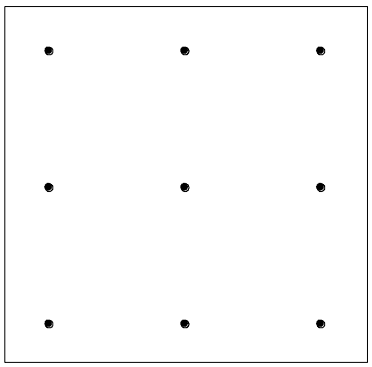
1 mark

y = ☐

1 mark

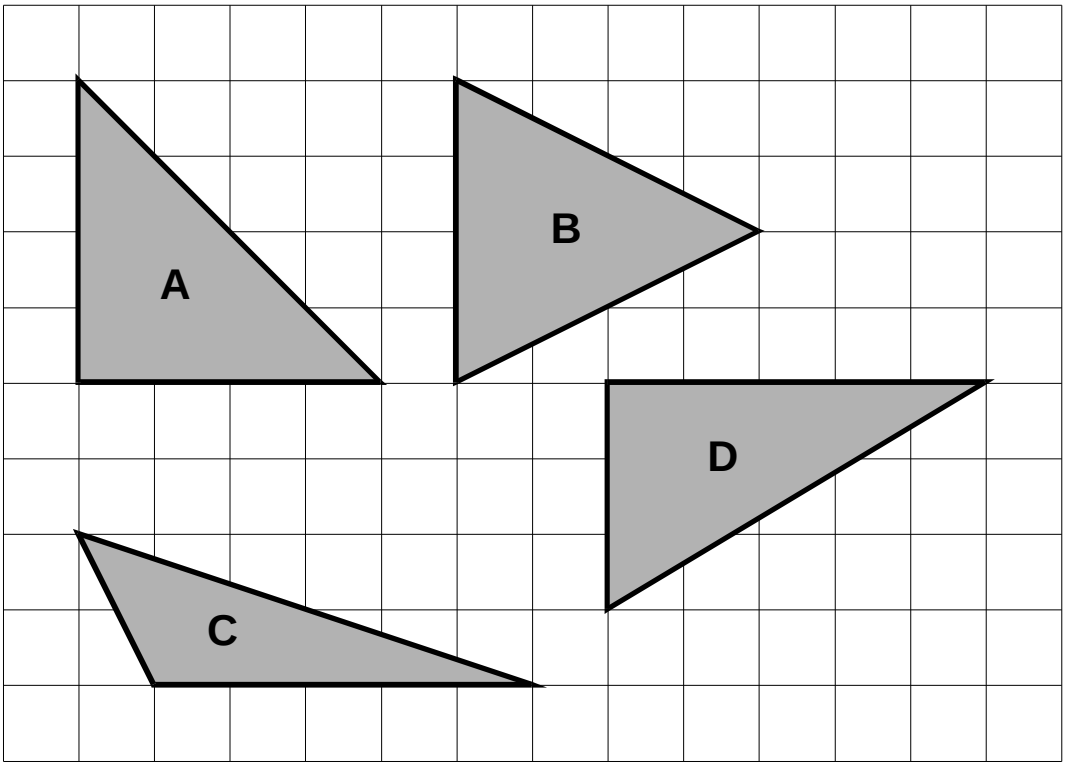
23. On the grid join dots to make a triangle which does **not** have a **right angle**.

Use a ruler.



1 mark

24. Here are four triangles drawn on a square grid.



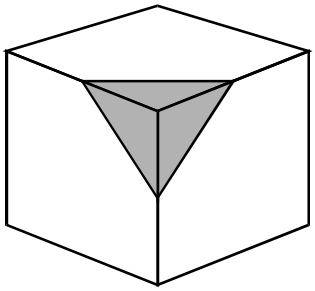
Write the letter for each triangle in the correct region of the sorting diagram.

One has been done for you.

	has a **right** angle	has an **obtuse** angle	has 3 **acute** angles
is isosceles	**A**		
is **not** isosceles			

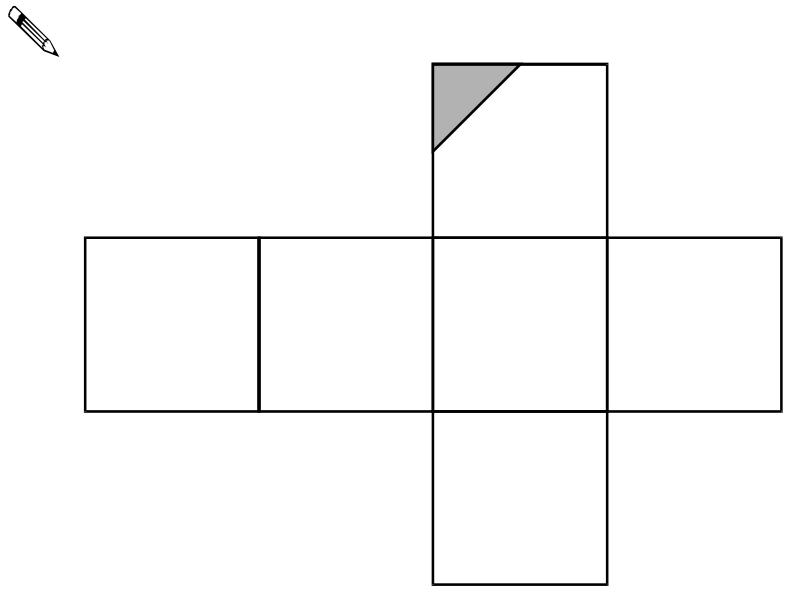
2 marks

25. A cube has shaded triangles on three of its faces.



Here is the net of the cube.

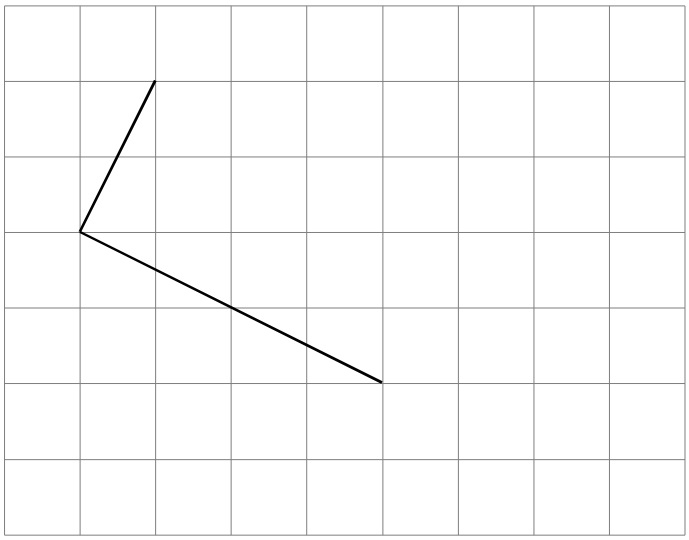
Draw in the two missing shaded triangles.



1 mark

26. Draw **two more straight lines** to make a rectangle.

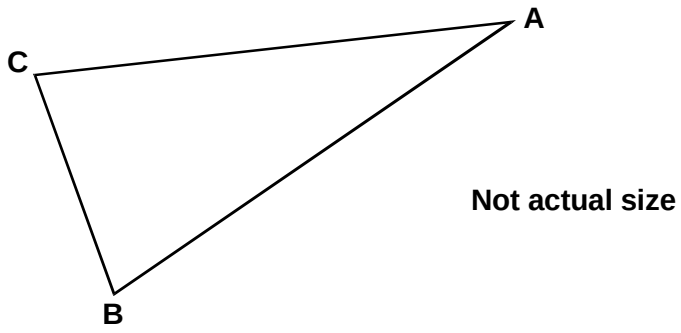
Use a ruler.



1 mark

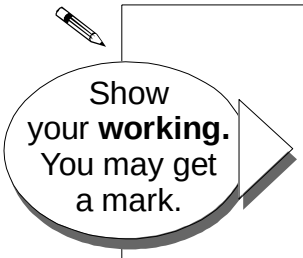
27. Triangle **ABC** is isosceles and has a perimeter of 20 centimetres.

Sides **AB** and **AC** are each twice as long as **BC**.



Calculate the length of the side **BC**.

Do **not** use a ruler.



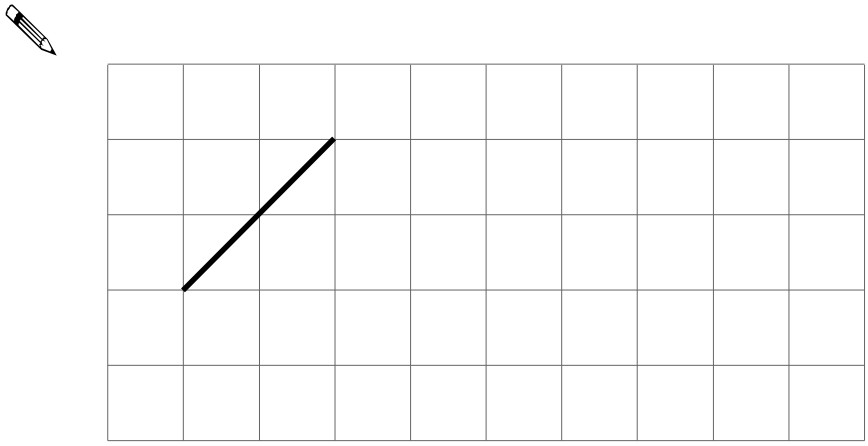
cm

2 marks

28. This is a centimetre grid.

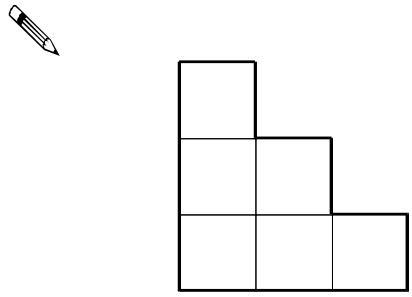
Draw **3 more lines** to make a **parallelogram** with an **area** of **10cm²**

Use a ruler.



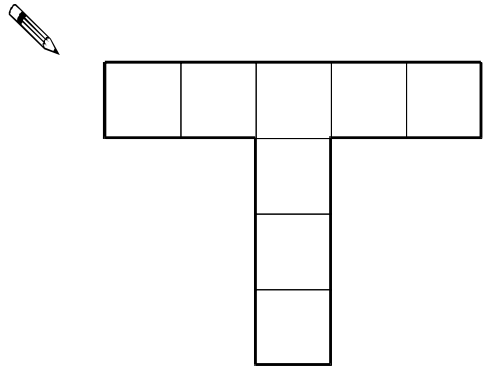
1 mark

29. Shade **one third** of this shape.



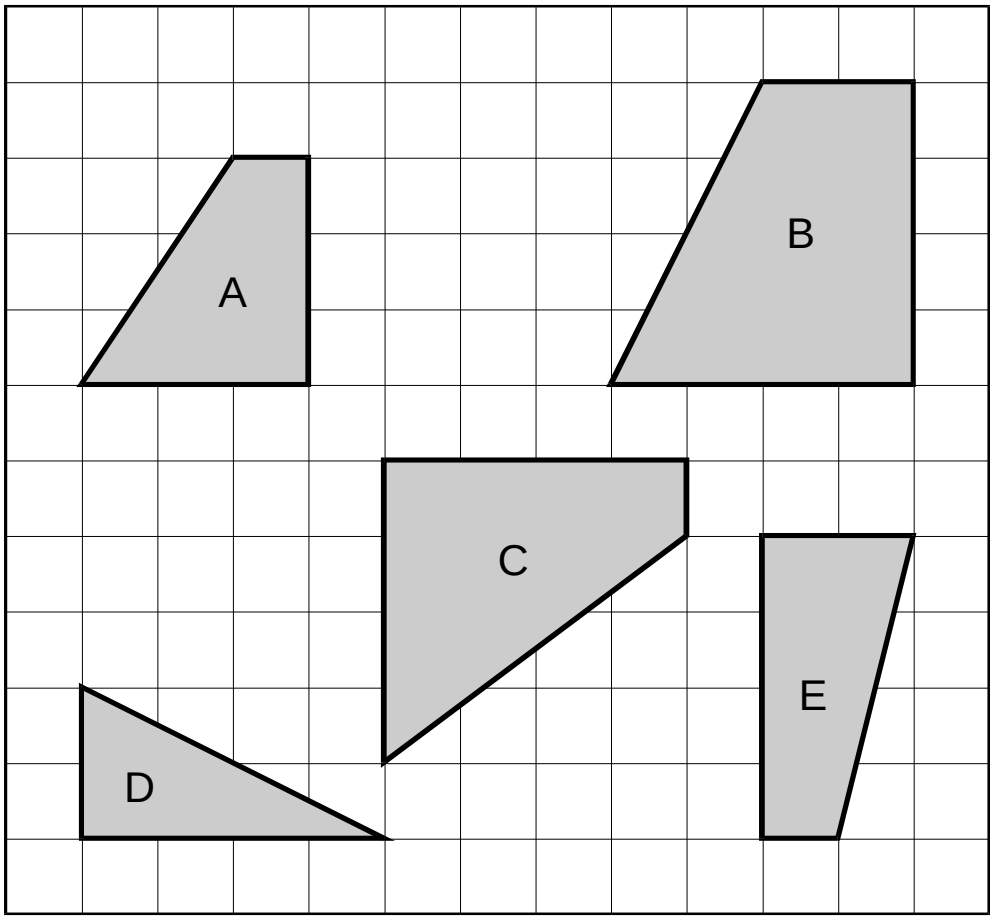
1 mark

Shade **one quarter** of this shape.



1 mark

30. Here are five shapes on a square grid.



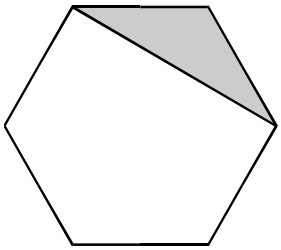
Which **two** shapes fit together to make a **square**?

..... and .....

1 mark

31. These two shaded triangles are each inside a regular hexagon.

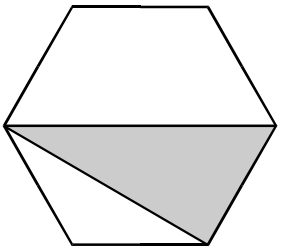
Under each hexagon, put a ring around the correct name of the shaded triangle.



equilateral

isosceles

scalene



equilateral

isosceles

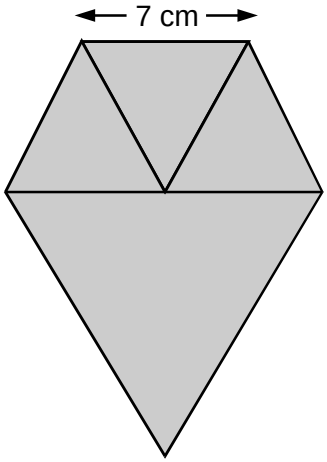
scalene

1 mark

32. Lauren has **three small equilateral triangles** and **one large equilateral triangle**.

The small triangles have sides of **7 centimetres**.

Lauren makes this shape.



Not actual size

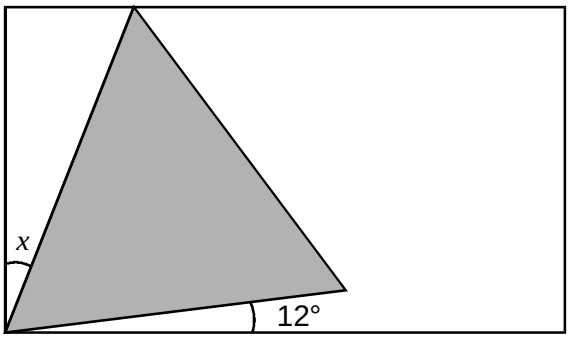
Calculate the **perimeter** of the shape.

Do **not** use a ruler.

cm

1 mark

33. Here is an **equilateral triangle** inside a **rectangle**.



Not to scale

Calculate the value of angle x.

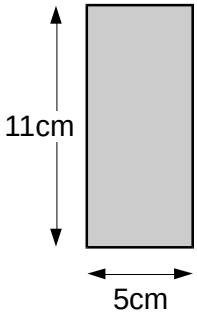
Do **not** use a protractor (angle measurer).

Show your **method.** You may get a mark.

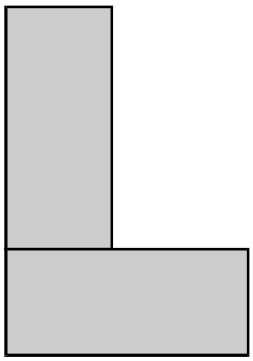
°

2 marks

34. Liam has two rectangular tiles like this.



He makes this L shape.

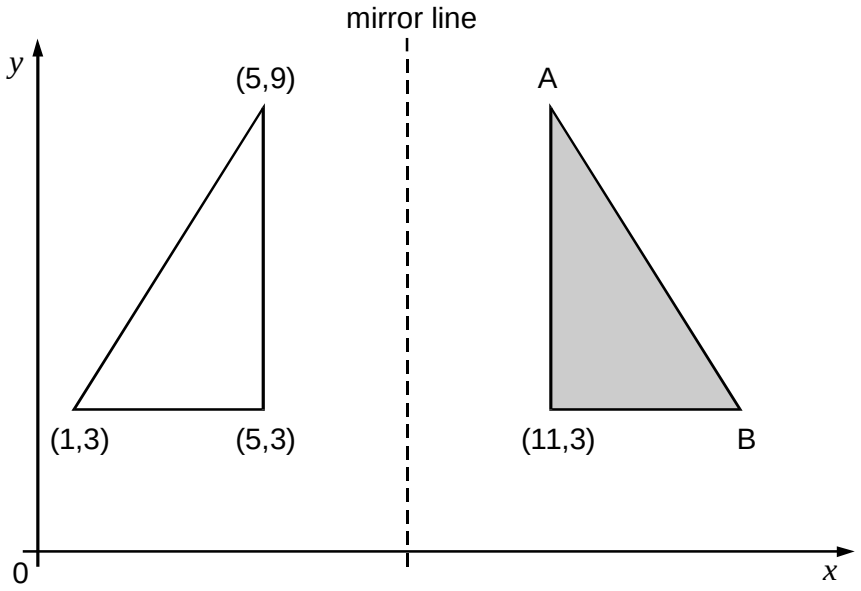


What is the **perimeter** of Liam's L shape?

cm

1 mark

35. The shaded triangle is a reflection of the white triangle in the mirror line.



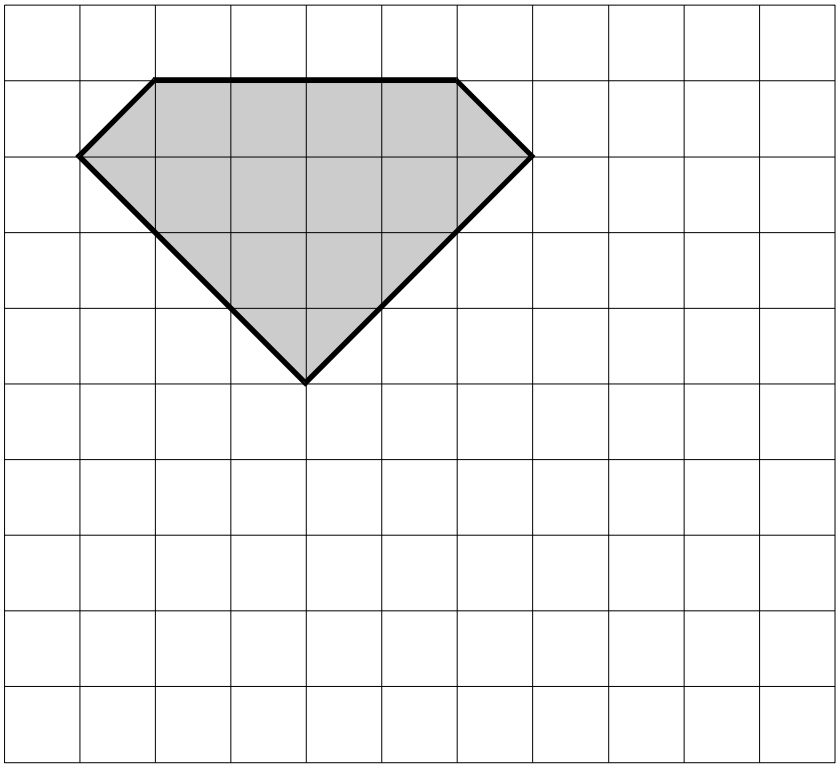
Write the **co-ordinates** of point **A** and point **B**.

A is (,) **B** is (,)

2 marks

36. On the grid, draw a **rectangle** which has the **same area** as this shaded pentagon.

Use a ruler.

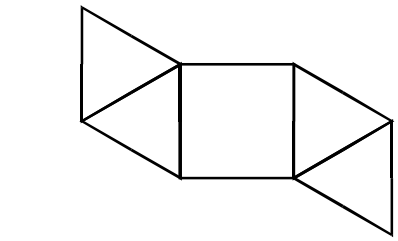


1 mark

37. Look at each of these diagrams.

Put a tick (✓) if it is the **net of a square based pyramid.**

Put a cross (✘) if it is **not.**



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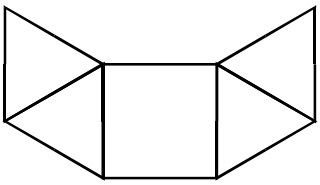

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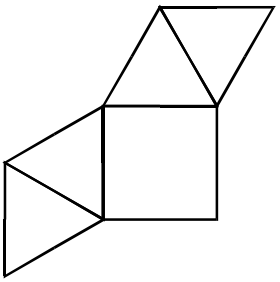
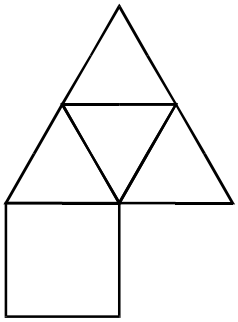


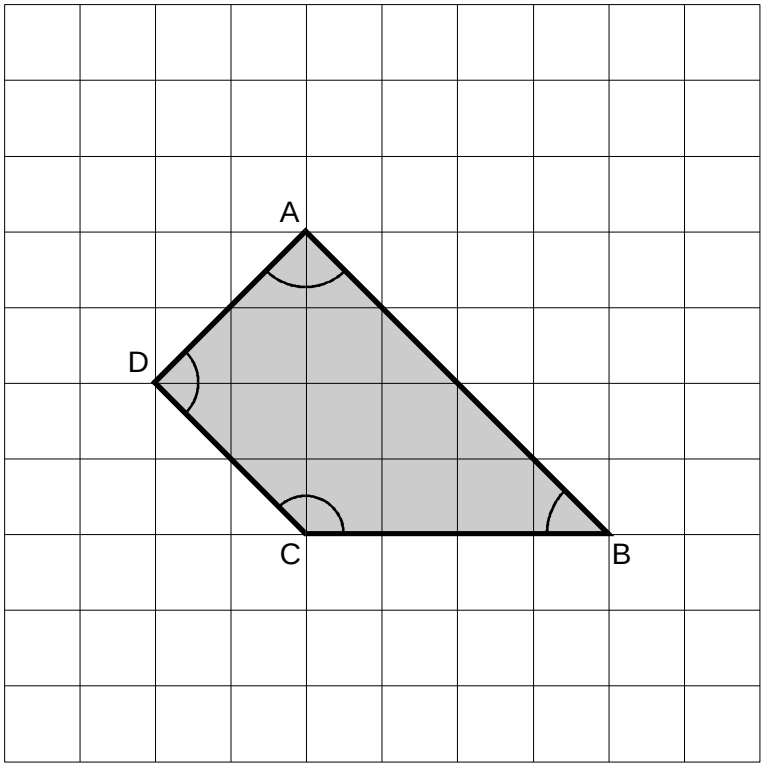
. . . . . .



. . . . . .

2 marks

38. Here is a shape on a square grid.



For each sentence, put a tick (✓) if it is true.

Put a cross (✘) if it is not true.

Angle **C** is an **obtuse** angle. ☐

Angle **D** is an **acute** angle. ☐

Line **AD** is **parallel** to line **BC**. ☐

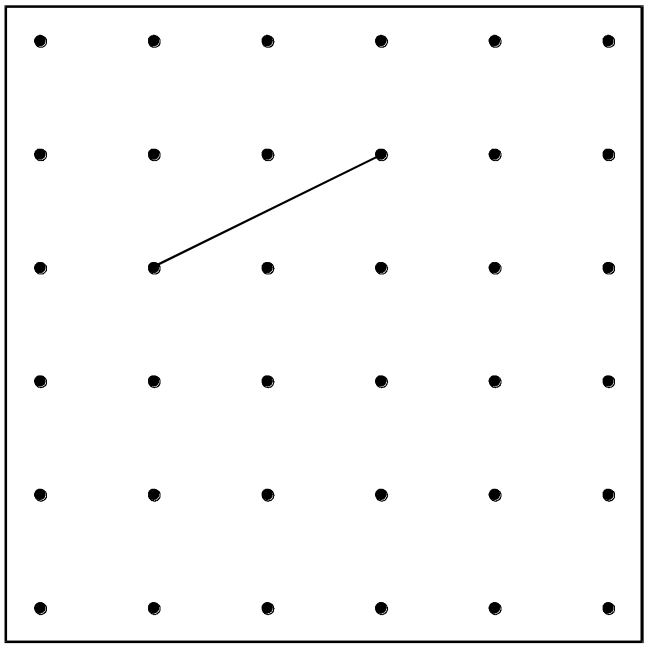
Line **AB** is **perpendicular** to line **AD**. ☐

2 marks

39. The line on the grid is one side of a **square**.

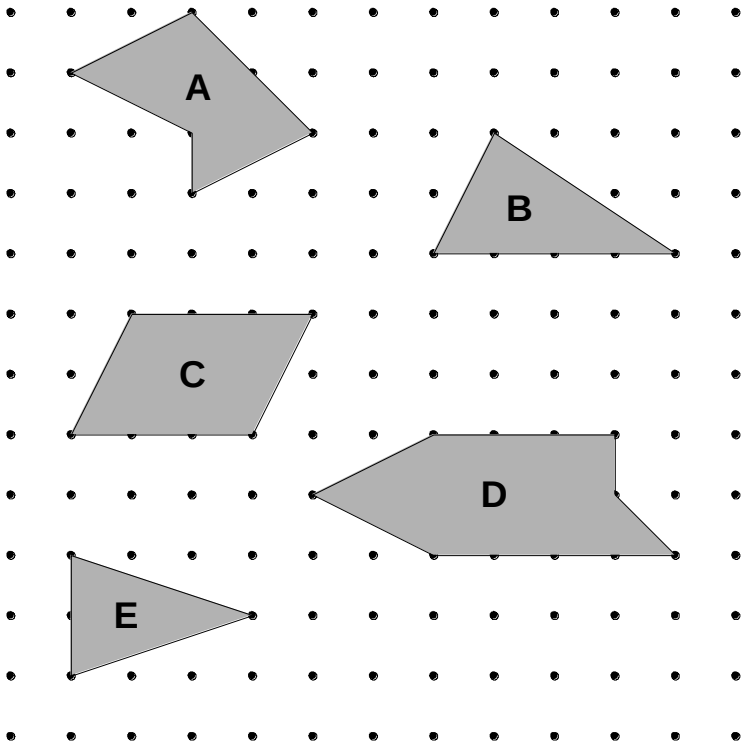
On the grid, draw the **other three sides** of the square.

Use a ruler.



1 mark

40. Here are five shapes on a square grid.



Write in the missing letters.

Shape ☐ has two pairs of parallel sides.

1 mark

Shape ☐ is a pentagon.

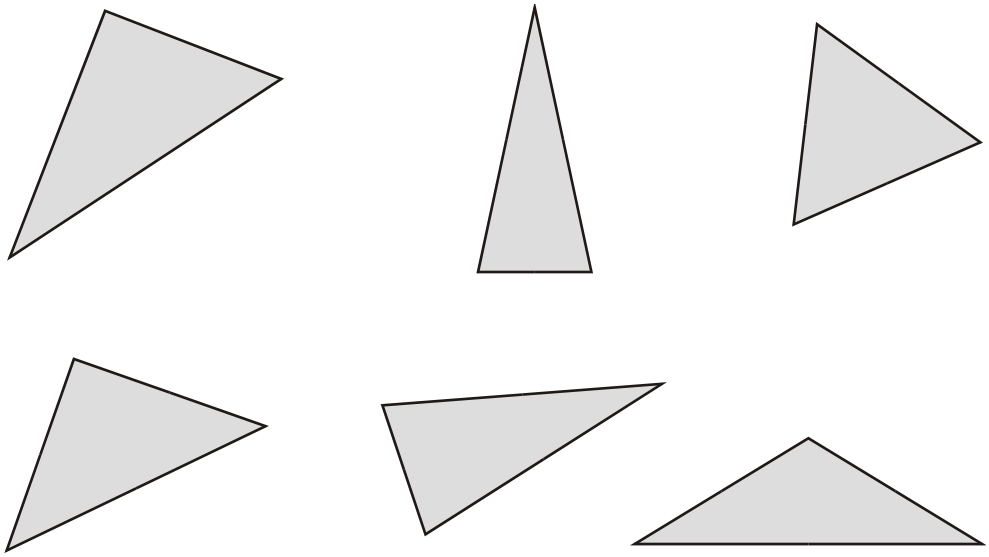
1 mark

Shape ☐ has reflective symmetry.

1 mark

41. Here are six triangles. One of them is an **equilateral** triangle.

Put a tick (✓) in the equilateral triangle.



1 mark

Write **one property** which makes **equilateral** triangles **different** from **all** other triangles.

.....

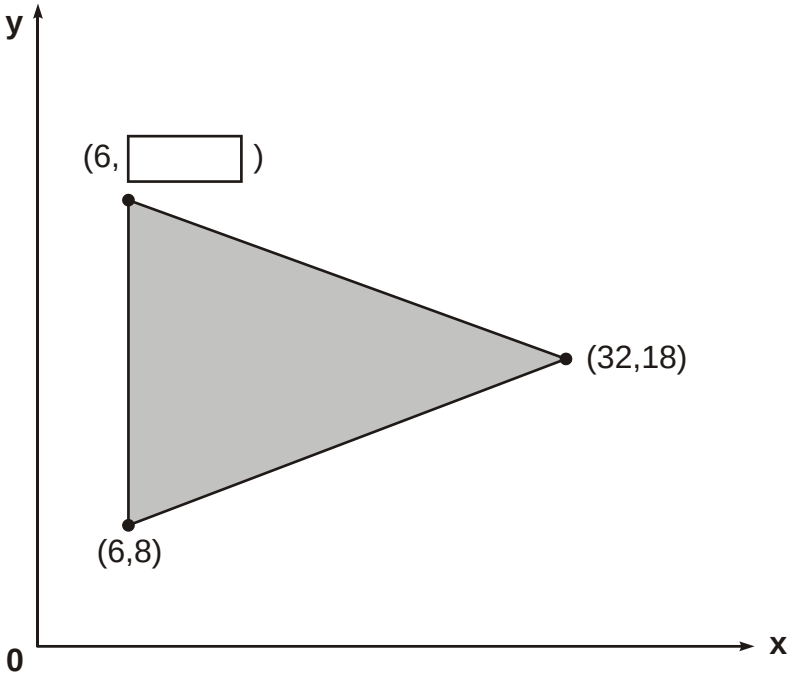
.....

.....

1 mark

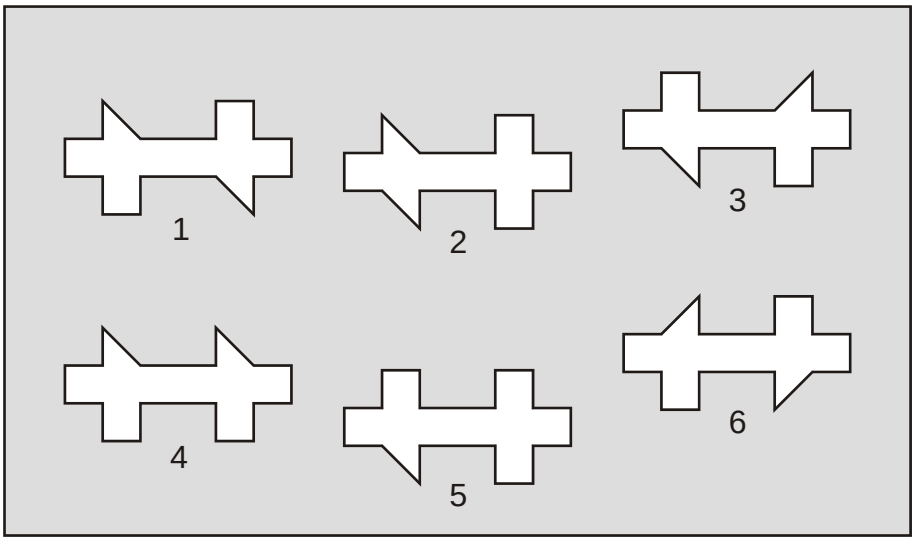
42. The shaded shape is an **isosceles** triangle.

Write in the missing co-ordinate.

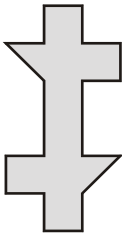


1 mark

43. This board has six holes cut in it.

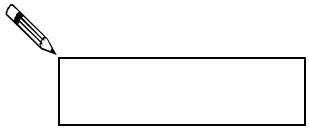


Here is a shape cut out of card.



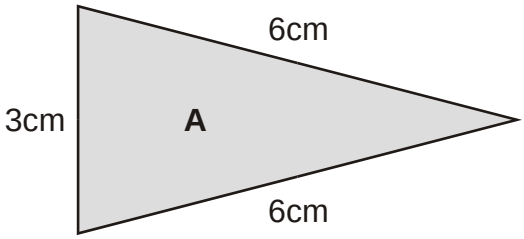
Which hole will the shape fit exactly into?

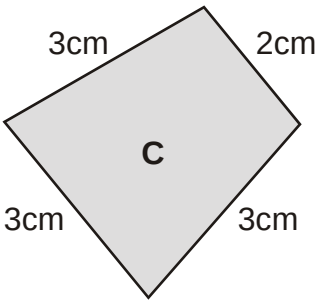
You may use tracing paper.

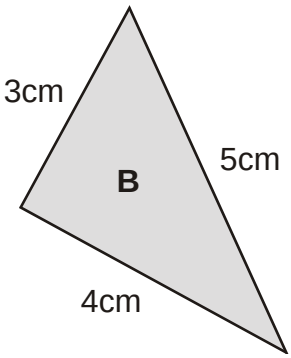


1 mark

44. Here are some shapes.







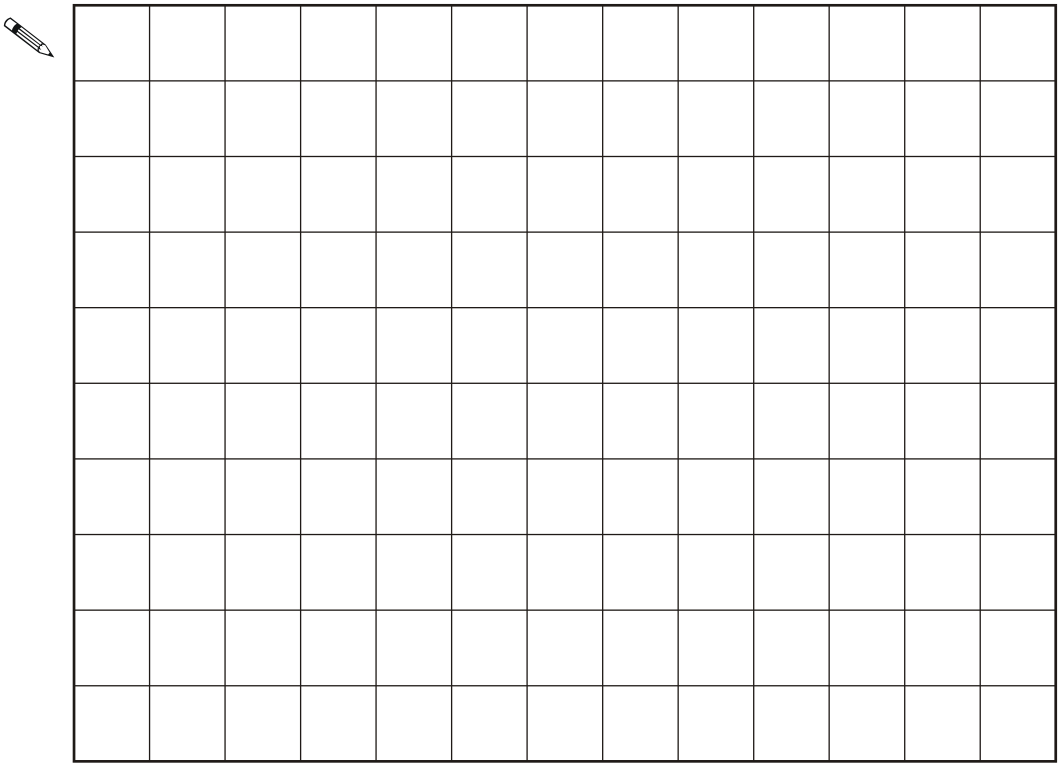
Write the letters **B** and **C** in the **sorting diagram** below to show where shapes **B** and **C** should go.

Shape **A** is done for you.

shapes	**no** sides equal	**only** 2 sides equal	**more than** 2 sides equal
3 sides		**A**	
more than 3 sides			

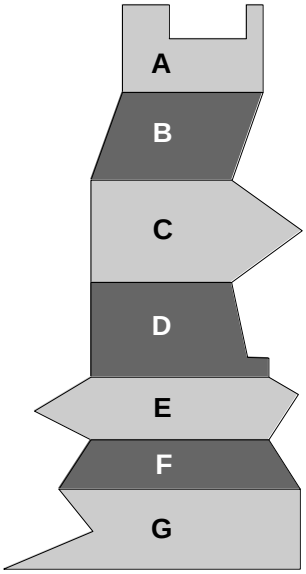
2 marks

45. On the grid below, use a ruler to draw a **pentagon** that has **three right angles**.

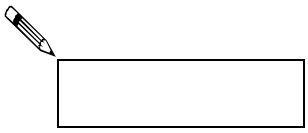


1 mark

46. Here are 7 shapes.

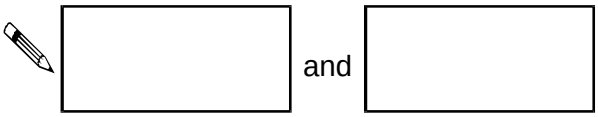


How many of the shapes are **octagons?**



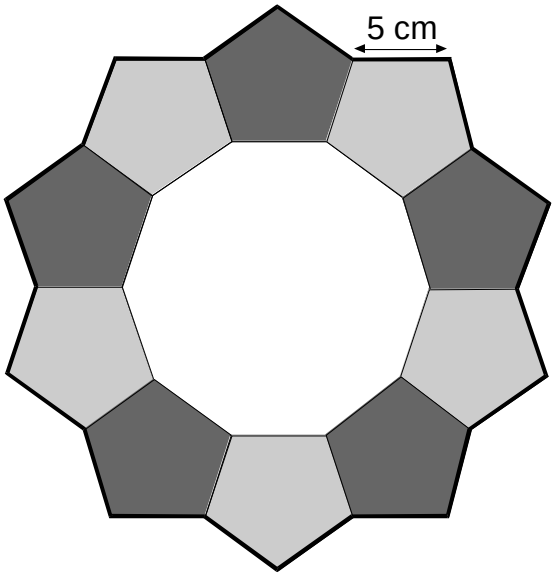
1 mark

Which **two** shapes are **hexagons**?



1 mark

47. This ring is made of **regular pentagons,** with sides of **5 centimetres.**



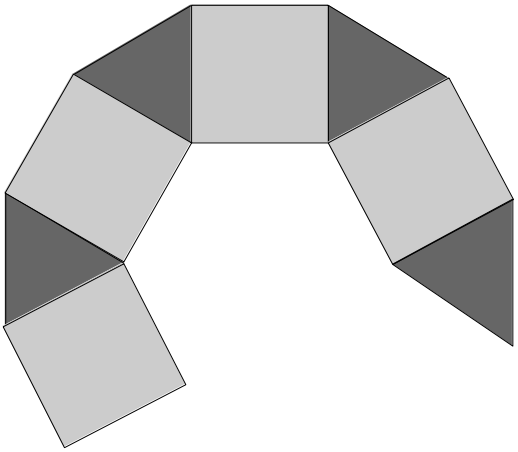
What is the **length** of the **outer edge** of the ring?

cm

1 mark

Here is part of a new ring.

It is made of **squares** and **triangles.**



The pattern is continued to complete the ring.

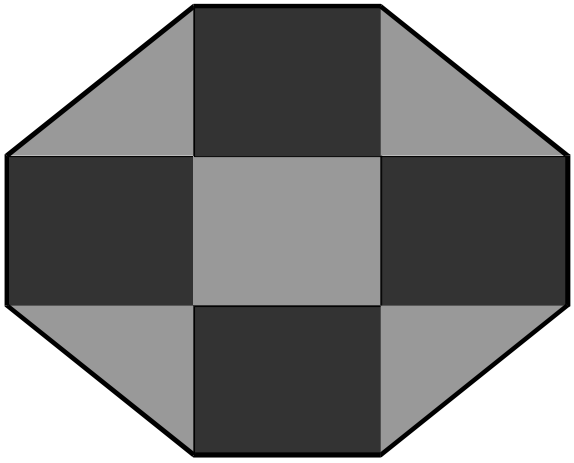
What is the **total** number of **squares** used in the complete ring?

1 mark

48. This plan of a garden is made of rectangles and triangles.

The area of each **rectangle** is **12 square metres.**

What is the **area** of the **whole garden**?

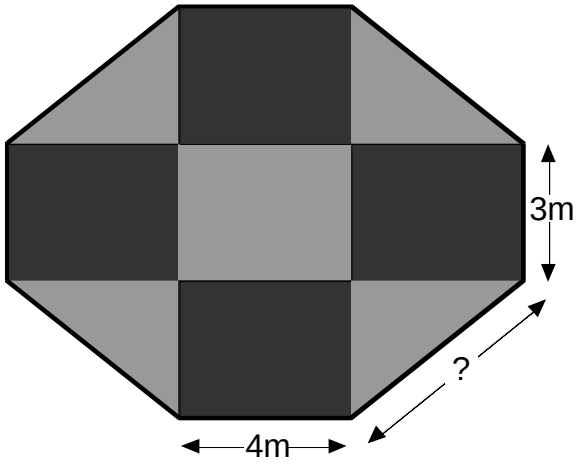


m^2

1 mark

The **perimeter** of the garden is **34 metres**.

What is the length of the **longest side** of each triangle?



Show your **working**. You may get a mark

m

2 marks