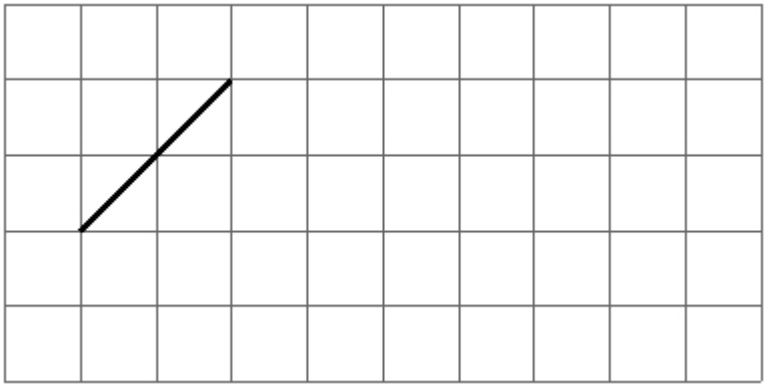
1. This is a centimetre grid.

Draw **3 more lines** to make a **parallelogram** with an **area** of **10 cm^2**.

Use a ruler.



1 mark

2.

Sarah draws a quadrilateral.

It has these properties:

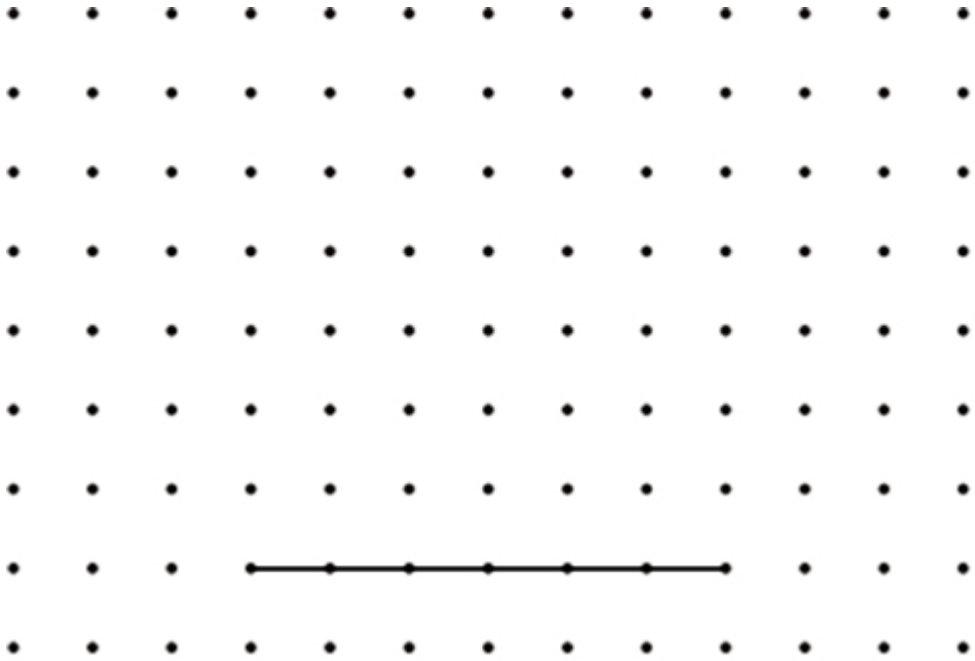
- it has 2 long sides the same length;
- it has 2 short sides the same length;
- it does NOT have any right angles;
- it does NOT have reflective symmetry.

Write the **mathematical** name for Sarah's quadrilateral.

_____

1 marks

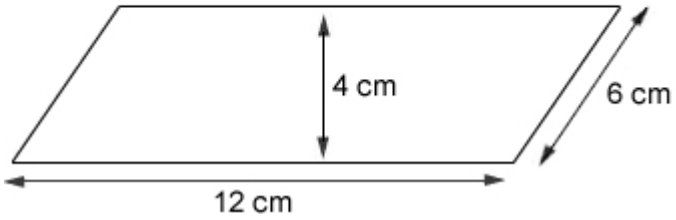
3. Draw three more lines to complete the parallelogram with an **area** of 24 cm^2



1 mark

4. Calculate the area of this parallelogram.

not drawn accurately



cm²

1 mark

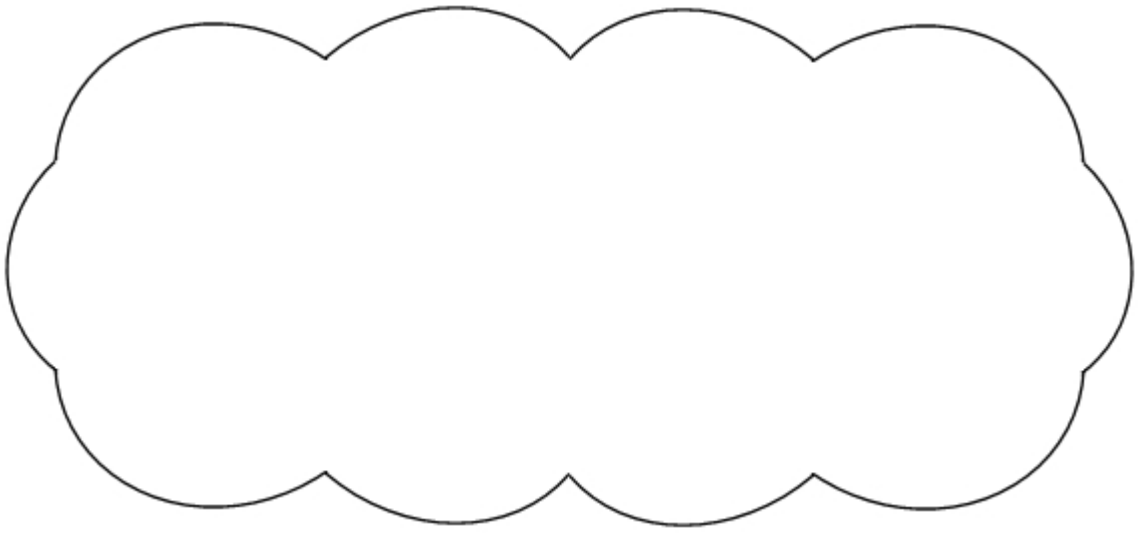
5. Megan says,

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

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

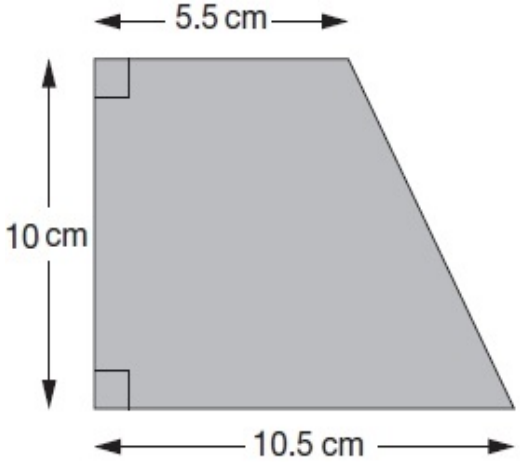
Yes / No

Explain how you know.



1 mark

6. Here is a trapezium with a height of 10 centimetres.



Not actual size

The parallel sides are 5.5 cm long and 10.5 cm long.

Find the **area** of the trapezium.

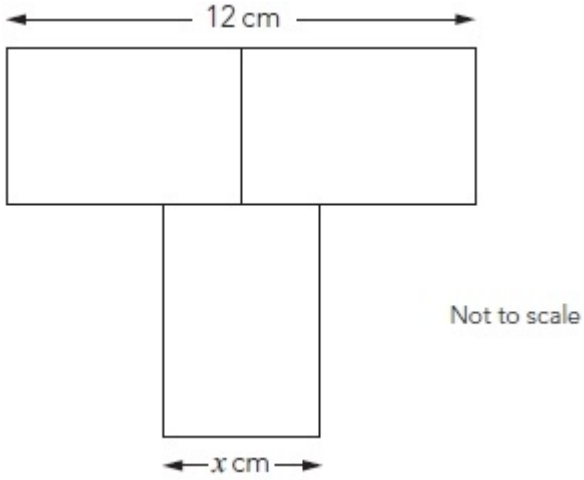
Show your method

cm^2

2 marks

7. Here is a T-shape made from 3 identical rectangles.

The area of the T-shape is **90 cm²**



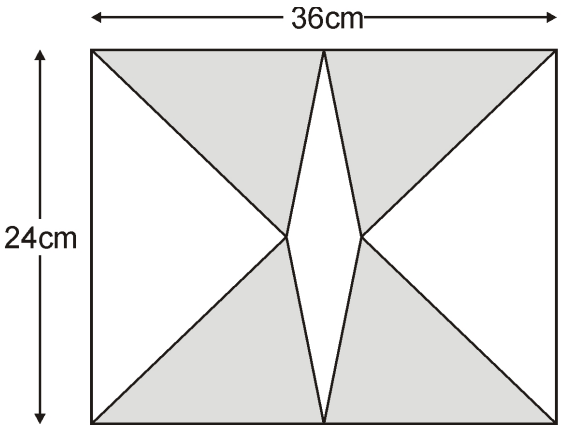
Work out the value of x

Show your method

cm

2 marks

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



Not actual size

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

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

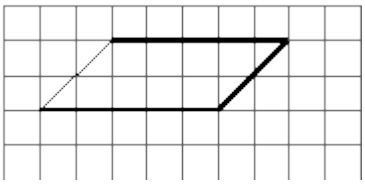
Show your method

cm²

2 mark

Mark schemes

1. Diagram completed as shown below:

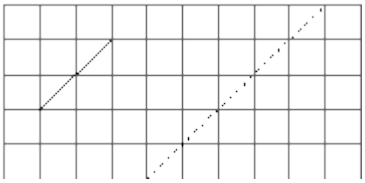


Accept slight inaccuracies in drawing provided the intention is clear.

The shape need not be shaded.

OR

any parallelogram using the given line,
and part of the broken line shown below.



[1]

2. Parallelogram

Accept misspelt but intelligible forms.
No mark is awarded for a drawing.

[1]

3. Any parallelogram with a perpendicular height of 4 cm.

Do not accept a rectangle.

[1]

4. 48 cm^2

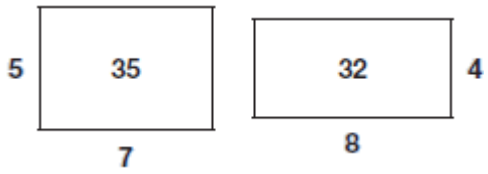
[1]

5. Indicates No and gives a correct explanation that includes indicating two different areas, eg:

- A rectangle with sides 6 cm by 2 cm has a perimeter of 16 cm and an area of 12 cm^2 but a rectangle with sides 5 cm and 3 cm has the same perimeter of 16 cm but it has an area of 15 cm^2 which is different so she is not correct

- A square with sides 3 cm by 3 cm and a rectangle with sides 4 cm by 2 cm have the same perimeter of 12 cm but they have different areas of 9 cm^2 and 8 cm^2

Accept minimally acceptable explanation, eg:

- *6 × 2 = 12, 5 × 3 = 15*
- 

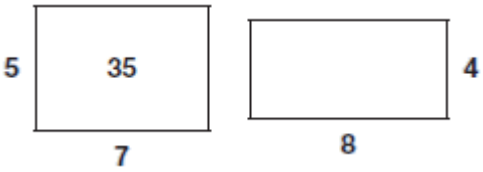
! Ignore any incorrect units given in an otherwise correct explanation, eg:

- *6^2 for 6 cm^2*

! Indicates Yes, or no decision made, but explanation clearly correct

Condone, provided the explanation is more than minimal

***Do not accept** Incomplete or incorrect explanation, eg:*

- *6 × 2, 5 × 3*
- *Two rectangles, one with sides 6 cm by 5 cm and one with sides 8 cm by 3 cm have the same perimeter of 22 cm but they don't have the same area*
- 

[1]

6. 80

! Measures

2

or

Shows or implies a complete correct method, eg:

- $(10 \times 10.5) - (\frac{1}{2} \times 10 \times 5)$
- $\frac{1}{2}(5.5 + 10.5) \times 10$
- $(10 \times 5.5) + (\frac{1}{2} \times 10 \times 5) = 55 + 22.5$ (*error*)

1

[2]

7. 5 cm

2
U1

or

Answer of 2.5

OR

Shows understanding of a correct method even if there are computational errors, eg

- 90 ÷ 3 = 36 (error)

  12 ÷ 2 = 6

  36 ÷ 6 = 6

1

[2]

8. Award **TWO** marks for the correct answer of 108 cm^2

If the answer is incorrect award **ONE** mark for evidence of an appropriate method, eg

36 ÷ 2 = 18

24 ÷ 2 = 12

area = ½ × 12 × 18

Calculation need not be completed for the award of the mark.

No mark *is awarded for the result of calculating 12 × 18 only.*

Up to 2

[2]