

## 2D Shapes

Please write clearly in block capitals

Forename:

Surname:

### Materials

For this paper you must have:

- mathematical instruments



You *can* use a calculator.

### Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer all questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.

### Information

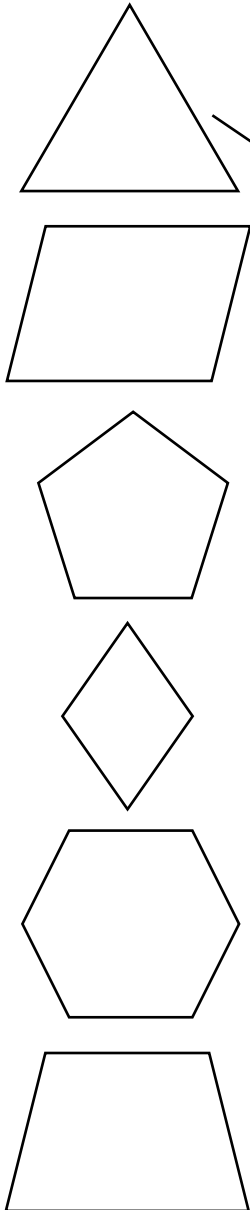
- The marks for questions are shown in brackets.
- You may ask for graph paper, tracing paper and more answer paper. These must be tagged securely to this answer book.

### Advice

- In all calculations, show clearly how you work out your answer.

- 1 Below is a list of shapes and their names.  
Match each shape to the correct name.  
The first one has been done for you.

[2 marks]



Pentagon

Hexagon

Triangle

Trapezium

Parallelogram

Rhombus

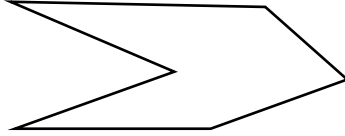
An arrow points from the top vertex of the triangle to the word "Triangle".

Turn over for next question

Turn over ►

2 Three irregular shapes are shown below:

2(a) Circle the number of sides and the name of the following shape:



[1 mark]

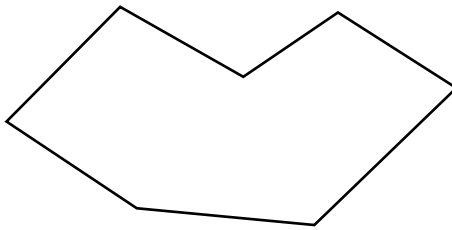
5 sides pentagon

6 sides pentagon

5 sides hexagon

6 sides hexagon

2(b) Circle the number of sides and the name of the following shape:



[1 mark]

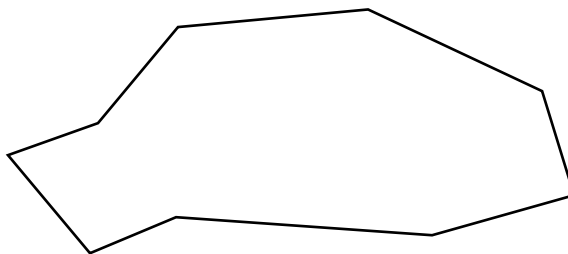
6 sides hexagon

7 sides heptagon

6 sides heptagon

7 sides hexagon

2(c) Circle the number of sides and the name of the following shape:



[1 mark]

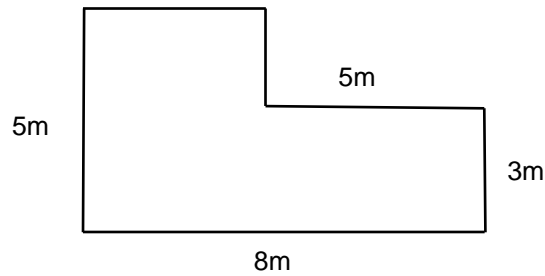
7 sides, heptagon

9 sides, nonagon

8 sides, octagon

10 sides, decagon

- 3 The diagram below shows a garden.  
All the corners meet at a right angle



Determine the area of the garden.

You **must** show your working

[3 mark]

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Answer \_\_\_\_\_

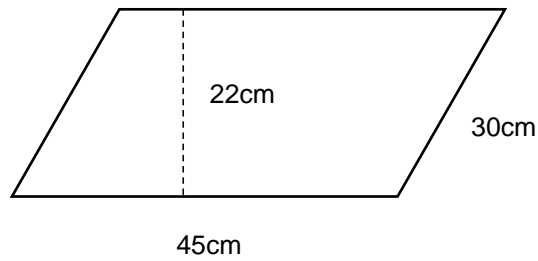


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- 4 An advertising company designs a poster in the shape of a parallelogram.  
The client wants a bright background colour to be applied to one side of the poster.



Calculate the area that needs to be painted?

You **must** show your working.

[2 mark]

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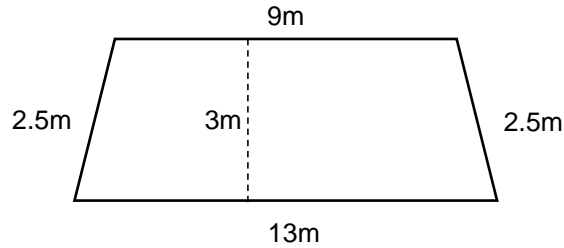
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Answer \_\_\_\_\_

Turn over for next question

- 5 The diagram below shows the floor of a warehouse.



- 5(a) Calculate the area of the warehouse floor

[3 mark]

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Answer \_\_\_\_\_

- 5(b) The warehouse owner has two identical warehouses.

How much would it cost to buy tiles to cover the floor of both warehouses, given that the tiles selected cost £25 *per*  $m^2$ ?

[2 mark]

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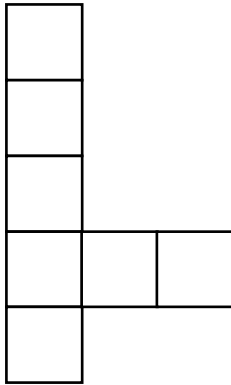
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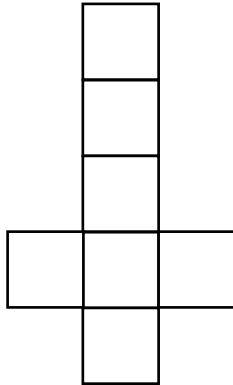
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Answer \_\_\_\_\_ cm

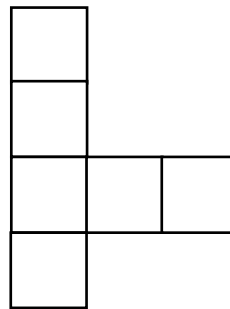
6 Consider the nets A, B, C and D.



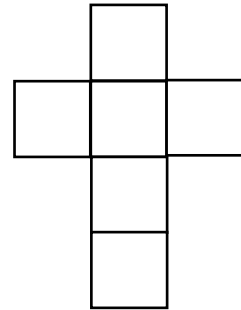
A



B



C



D

6(a) Which net will properly form a cube, with a lid?

[1 mark]

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6(b) Explain why each of the other nets will not form a cuboid with a lid?

[3 mark]

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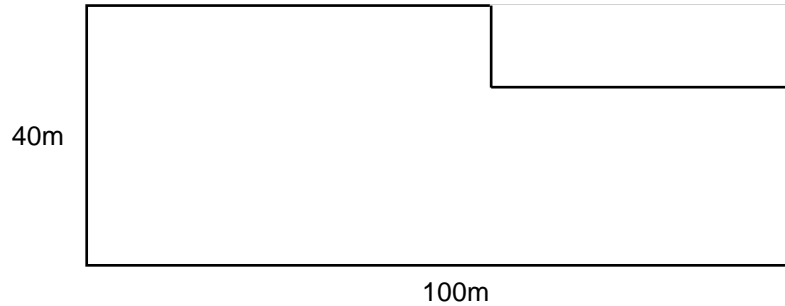
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- 7** A farmer has a house that sits at the edge of a field, with all sides meeting at right angles.

The field has the following measurements.



- 7(a)** The farmer wants to know how much fence he will need to surround the field. **[3 mark]**

Calculate the total length of fencing.

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Answer \_\_\_\_\_ m

- 7(b)** If the fence costs £5 per metre, determine the cost of fencing for the entire field.

**[1 mark]**

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Answer: £ \_\_\_\_\_

**End of Questions**