

Surname	Centre Number	Candidate Number
Other Names		0



GCSE LINKED PAIR PILOT

4364/01

METHODS IN MATHEMATICS UNIT 2: METHODS (CALCULATOR) FOUNDATION TIER

P.M. TUESDAY, 19 June 2012

$1\frac{1}{2}$ hours

ADDITIONAL MATERIALS

A calculator will be required for this paper.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen.

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** the questions in the spaces provided.

Take π as 3.14 or use the π button on your calculator.

INFORMATION FOR CANDIDATES

You should give details of your method of solution when appropriate.

Unless stated, diagrams are not drawn to scale.

Scale drawing solutions will not be acceptable where you are asked to calculate.

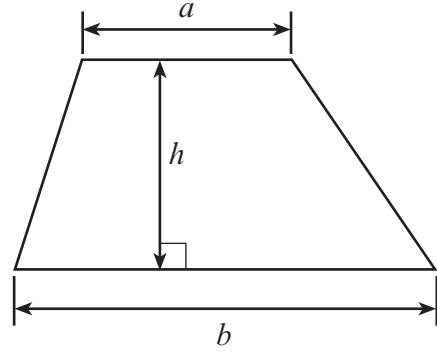
The number of marks is given in brackets at the end of each question or part-question.

You are reminded that assessment will take into account the quality of written communication (including mathematical communication) used in your answer to question 7.

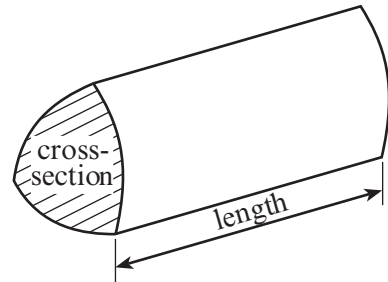
For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1	13	
2	5	
3	3	
4	6	
5	4	
6	5	
7	7	
8	4	
9	3	
10	5	
11	10	
12	7	
13	8	
TOTAL MARK		

Formula List

Area of trapezium = $\frac{1}{2}(a + b)h$



Volume of prism = area of cross-section \times length



1. (a) Complete the following table to show equivalent fractions, decimals and percentages.

Fraction	Decimal	Percentage
		25%
	0.7	

[4]

- (b) Find 38% of 790.

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[2]

- (c) Find $\frac{4}{9}$ of 117.

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[2]

- (d) Faye had 40 scarves, she gave $\frac{1}{4}$ of them to a charity shop and gave 20% of the remaining scarves to friends. How many scarves did Faye have left?

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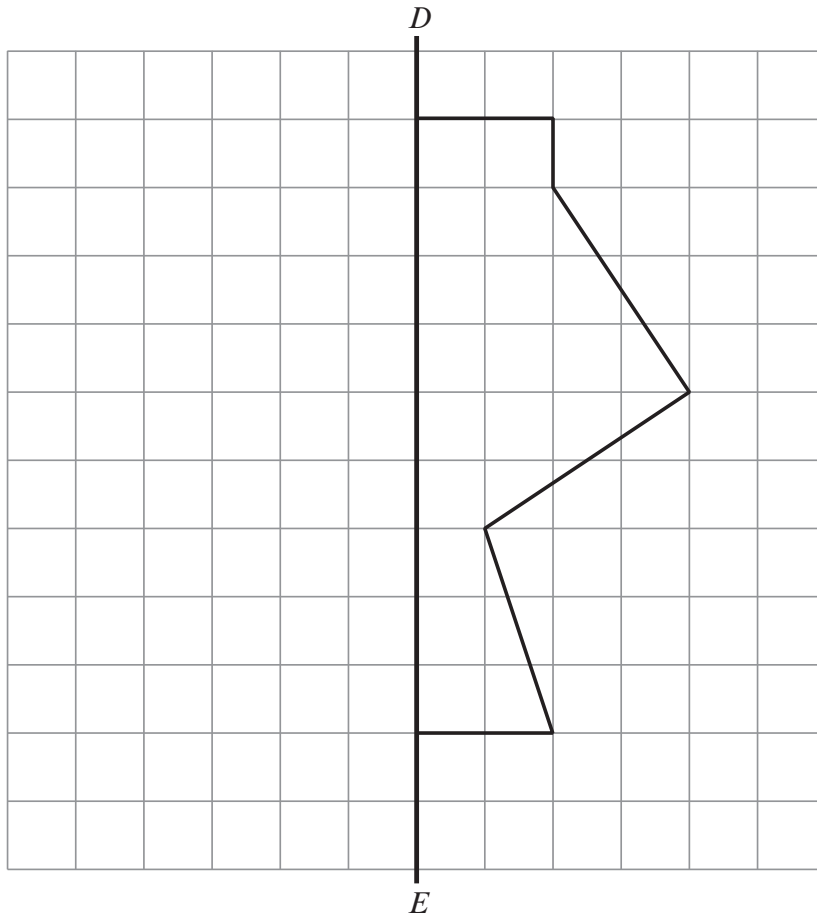
[4]

- (e) What is the reciprocal of 8?

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[1]

2. (a) Complete the following diagram so that DE is a line of symmetry.

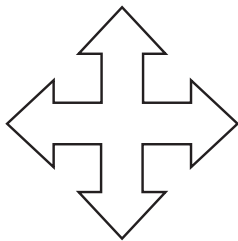


[2]

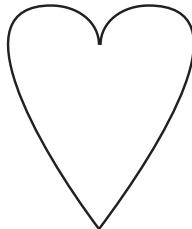
(b) In the table below, write for each of the given shapes

- the number of lines of symmetry,
- the order of rotational symmetry.

Shape A



Shape B



Shape C

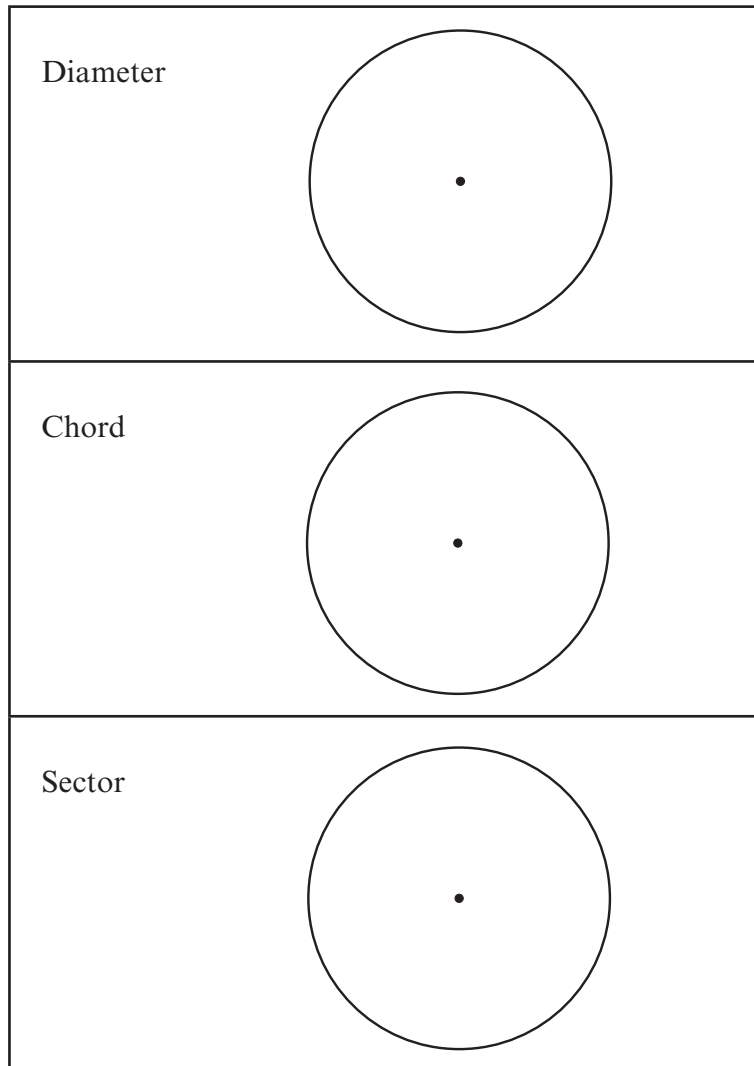


	Shape A	Shape B	Shape C
Number of lines of symmetry			
Order of rotational symmetry			

[3]

3. On the following diagrams draw lines to show:

- A diameter of a circle.
- A chord of a circle.
- A sector of a circle.



[3]

4. (a) Find the perimeter and area of a rectangle with length 11 cm and width 4 cm.

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Perimeter = cm Area = cm² [3]

- (b) Find the length and width of a rectangle with an area of 20 cm² and a perimeter of 24 cm.

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Length = Width = [3]

6. Solve

(a) $x + 3 = 19$.

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..... [1]

(b) $3x = 18$.

.....
..... [1]

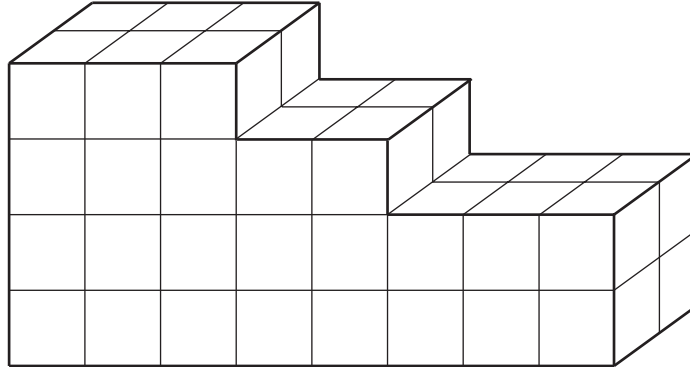
(c) $\frac{x}{7} = 8$.

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..... [1]

(d) $3x + 5 = 17$.

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..... [2]

8. Plastic 1 cm cubes are used to make the following solid.



All the plastic cubes above are rearranged to make a cuboid.
Showing your working, find possible dimensions for the cuboid.

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Length = cm Width = cm Height = cm

[4]

9. Find the value of

(a) $\frac{128.5 \times 4.9}{18.2 + 7.5}$,

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[1]

(b) $\sqrt{(385.76 - 47.2)} + 5 \cdot 7^3$.

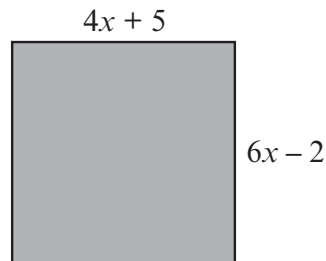
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[2]

10. The diagram shows a square.



Find the length of the side of the square.

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[5]

11. In a school there are 160 pupils in Year 10.

- (a) There are 75 boys in Year 10.
Write down the ratio of girls to boys in its simplest form.

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[2]

- (b) What fraction of the year group are girls?

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[1]

- (c) Last year a ticket to the end of year concert cost £12. This year the ticket price has risen to £15. What is the percentage increase of the price of the ticket?

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[2]

- (d) From the 160 pupils in Year 10, exactly 45% decided to take part in an outdoors activity day.
They are joined by a further 98 pupils from Year 11.
There are a total of 850 pupils in the school.
What fraction of the school will be taking part in the activity day?
Give your answer in its simplest form.

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[5]

12. (a) Huw wrote the following lines of working to solve the equation $3x = 4$.

$$3x = 4$$
$$x = \frac{3}{4}$$
$$x = 0.75$$

Huw has made an error.

Explain fully what error was made and give the correct answer.

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[2]

- (b) Solve $7(5x - 4) = 77$.

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[3]

- (c) Solve the inequality $6x + 5 < 47$.

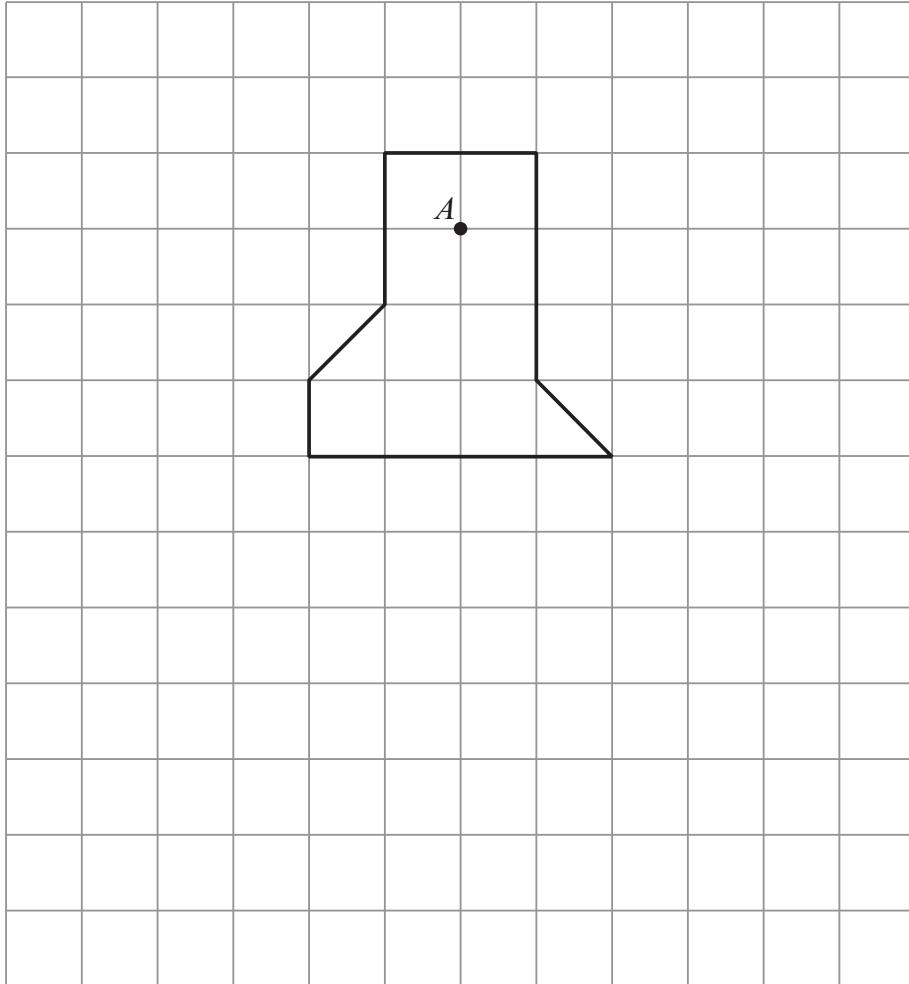
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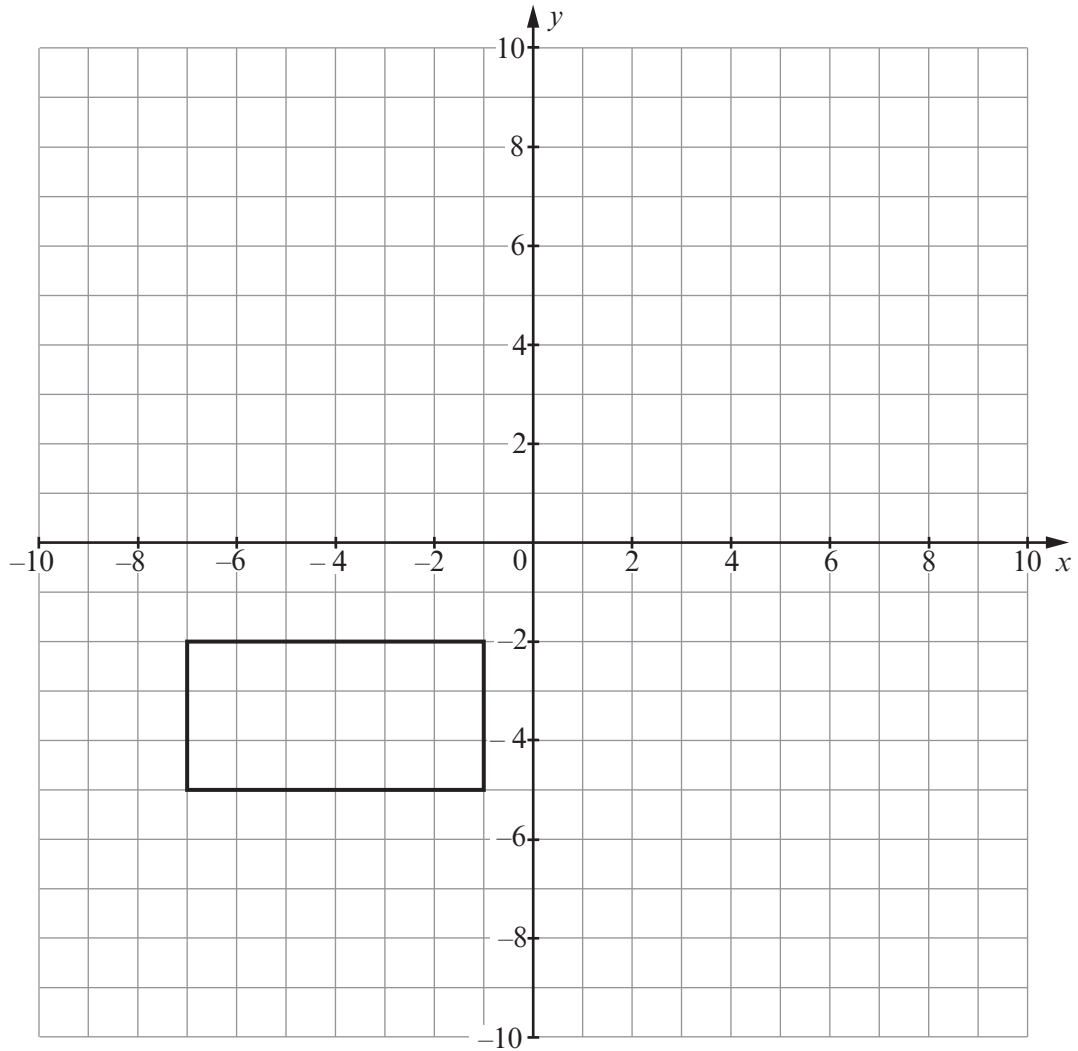
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13. (a) Enlarge the shape shown on the grid by a scale factor of 2 using A as the centre for the enlargement.



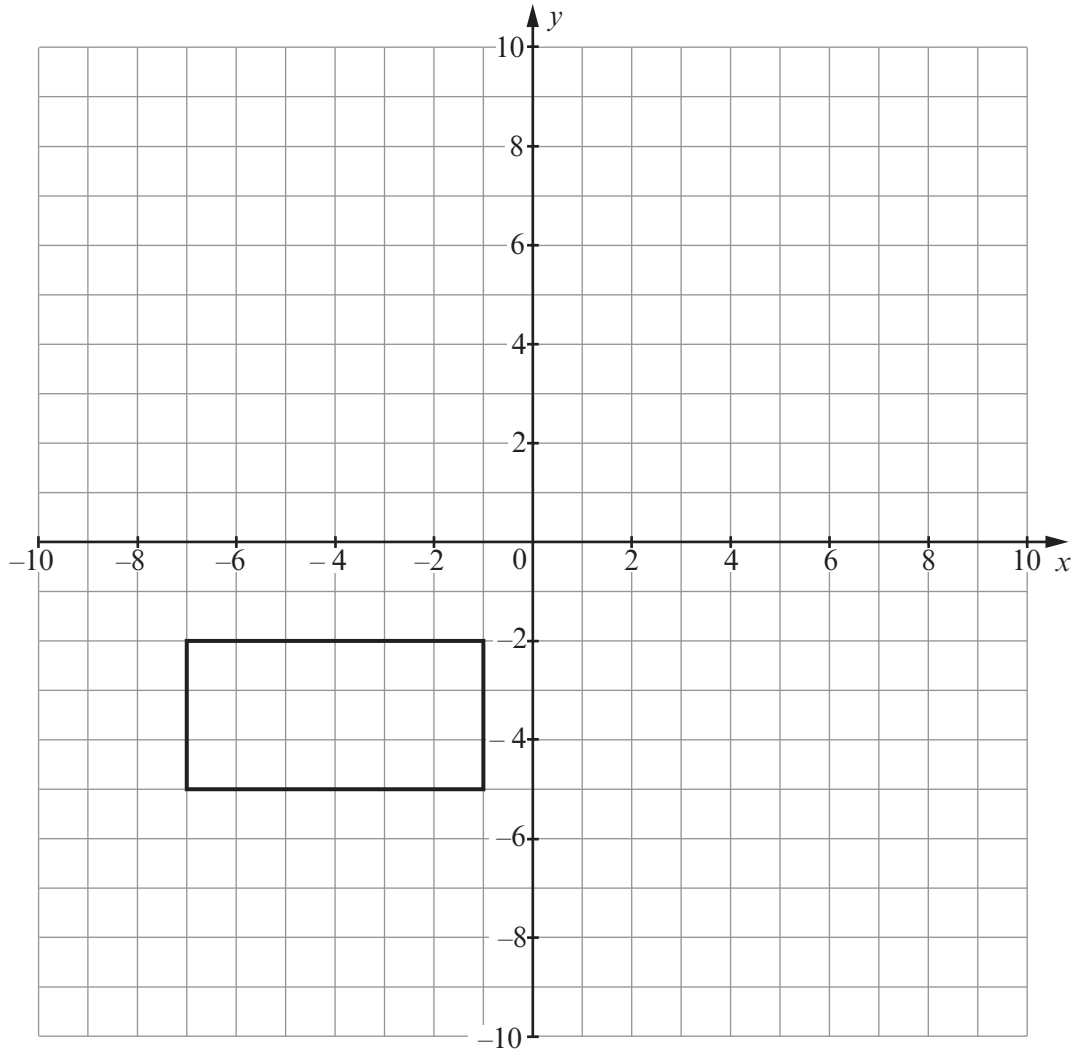
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(b) Reflect the rectangle in the line $y = 2$.



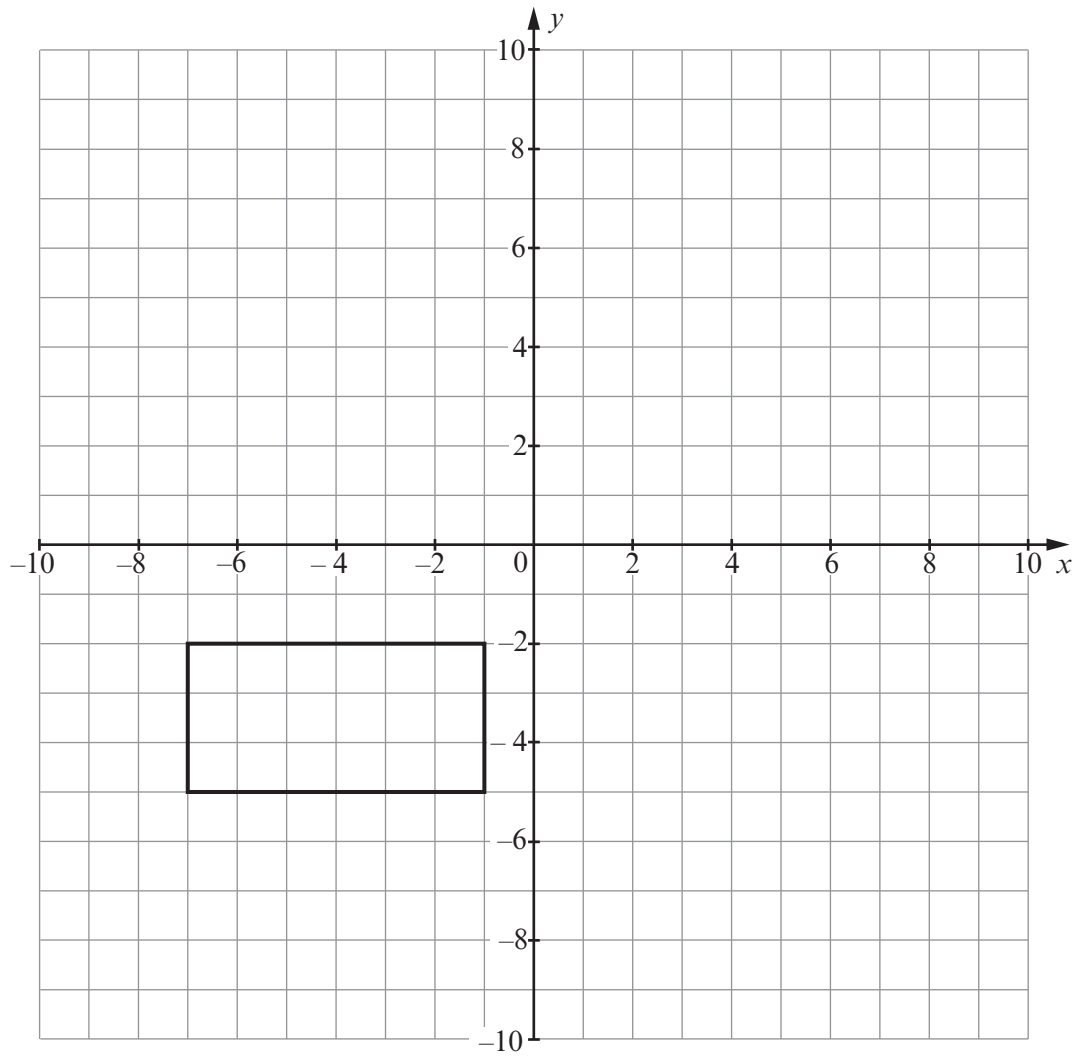
[2]

- (c) Translate the rectangle shown below by $\begin{pmatrix} 4 \\ -2 \end{pmatrix}$.



[1]

- (d) Rotate the rectangle shown on the grid below through 90° clockwise about the origin.



[2]

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