

Surname	Centre Number	Candidate Number
Other Names		0



GCSE LINKED PAIR PILOT

4364/01



S16-4364-01

METHODS IN MATHEMATICS

UNIT 2: Methods (Calculator)

FOUNDATION TIER

A.M. TUESDAY, 14 June 2016

1 hour 30 minutes

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.

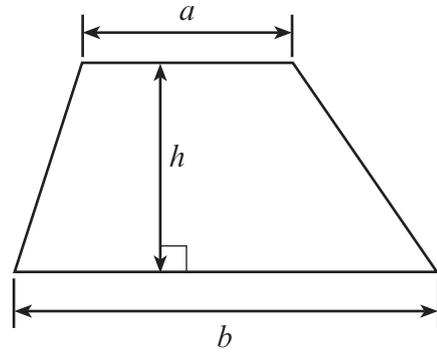
You are reminded that assessment will take into account the quality of written communication (including mathematical communication) used in your answer to question **5**.

For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1.	4	
2.	4	
3.	5	
4.	4	
5.	8	
6.	7	
7.	6	
8.	4	
9.	7	
10.	6	
11.	8	
12.	5	
13.	3	
14.	5	
15.	4	
Total	80	

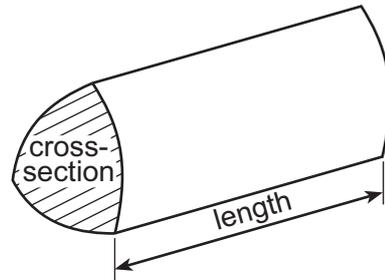
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Formula List

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



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



1. Fill in the missing numbers.

[4]

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+

5	1
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=

7	3
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-

2	6
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=

5	5
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×

1	5
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=

9	4	5
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÷

1	1
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1	1
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2. (a) Write down the **smallest** four-digit number that can be written using all the digits 6, 1, 5 and 8. [1]

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- (b) Write down the **largest even** four-digit number that can be written using all the digits 6, 1, 5 and 8. [1]

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- (c) In the following list, draw a circle around each number that has the same value as 0.5. [2]

5%

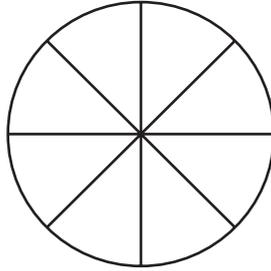
50%

$\frac{5}{100}$

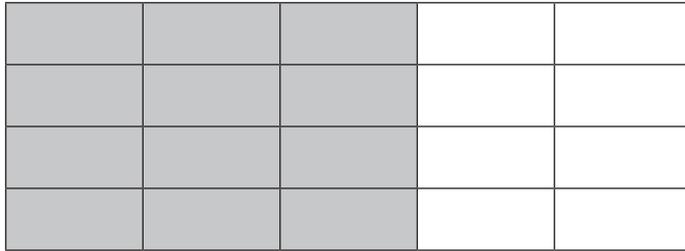
$\frac{1}{2}$

0.5%

3. (a) (i) Shade $\frac{3}{4}$ of the following shape. [1]



(ii) What **percentage** of the following shape is shaded? [2]

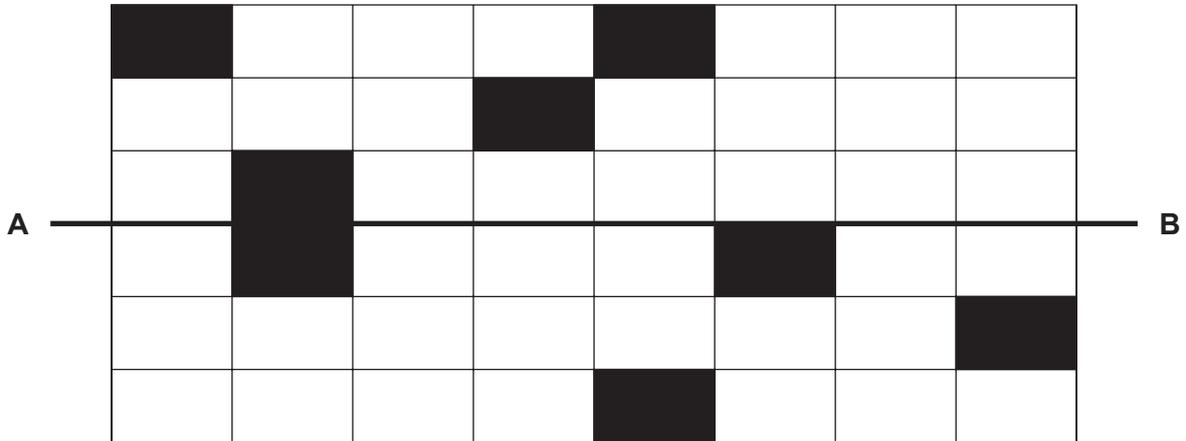


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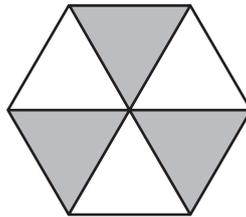
(b) Fill in the missing fractions in the grid below. [2]

1							
.....							
$\frac{1}{4}$							
.....							

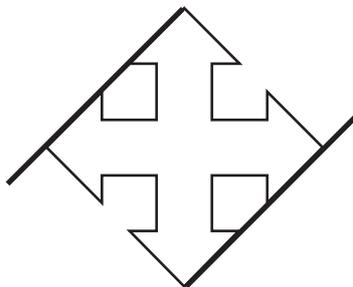
4. (a) Fill in the smallest number of boxes to make the following diagram symmetrical about the line **AB**. [2]



- (b) Write down the order of rotational symmetry of each of the shapes below. [2]



Order of rotational symmetry =



Order of rotational symmetry =

6. (a) Calculate the area of the following rectangle.
Give the units of your answer.

[3]

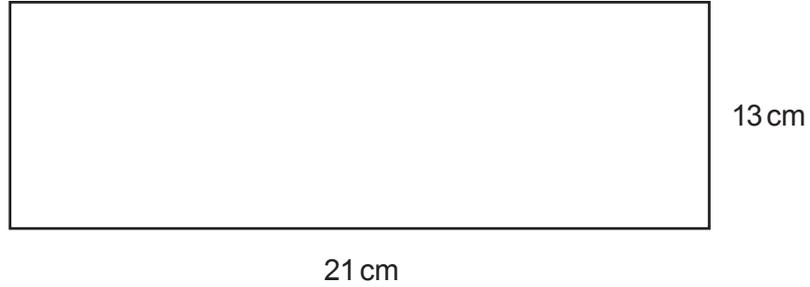


Diagram not drawn to scale

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- (b) The length of one side of a square is 9 cm.
An equilateral triangle has the same perimeter as this square.
What is the length of one side of the equilateral triangle?

[4]

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7. (a) Fill in the missing values so that the solution to each of the following equations will be

$$x = 10$$

The first one has been done for you.

[4]

$$x \div \underline{2} = 5$$

$$x - \dots = 9$$

$$x + \dots = 16$$

$$\dots + x = -2$$

$$4x = \dots$$

- (b) Write down an equation that gives the solution $x = 3$.

[1]

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- (c) Write down an equation that gives the solution $x = -10$.

[1]

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8. (a) Find the value of $43 \cdot 7^2 - \sqrt{9671 \cdot 3}$.
Write your answer correct to 2 significant figures. [2]

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- (b) Find the value of $\frac{5}{0 \cdot 3^2}$.

Write your answer correct to 1 decimal place. [2]

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9. (a) Find 8·9% of 589. [2]

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- (b) Find $\frac{3}{7}$ of 917. [2]

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- (c) Which of the fractions $\frac{2}{3}$, $\frac{7}{8}$, or $\frac{9}{12}$ is nearest to $\frac{5}{6}$?

You must show all your working. [3]

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11. (a) Solve $\frac{x}{5} = 25$.

[1]

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(b) Solve $4t - 12 = 8$.

[2]

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(c) Solve $\frac{72}{x} = 9$.

[1]

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(d) Solve the inequality $6x + 4 < 100$.

[2]

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(e) Write down the greatest whole number that satisfies the inequality $3x < 81$.

[2]

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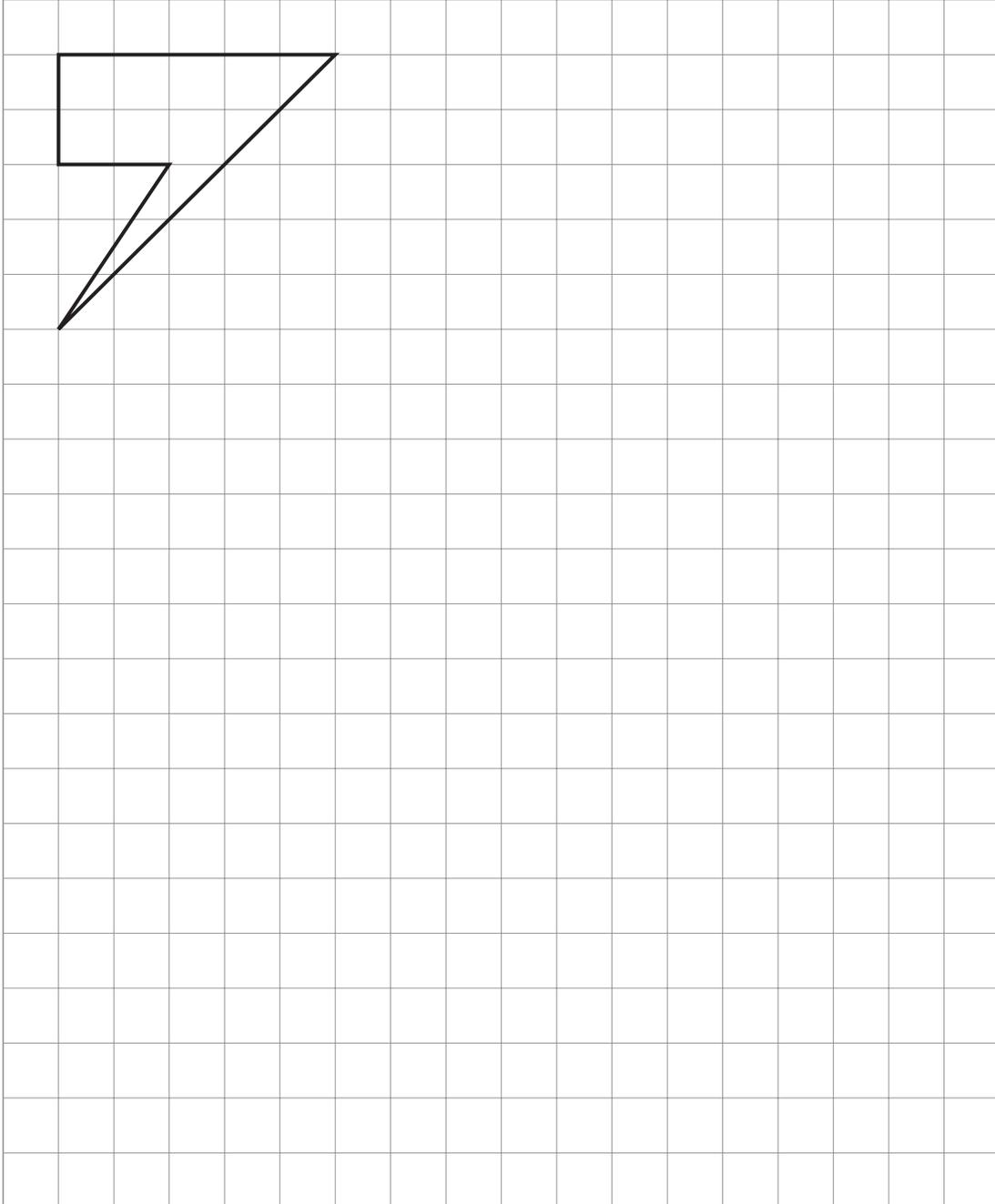
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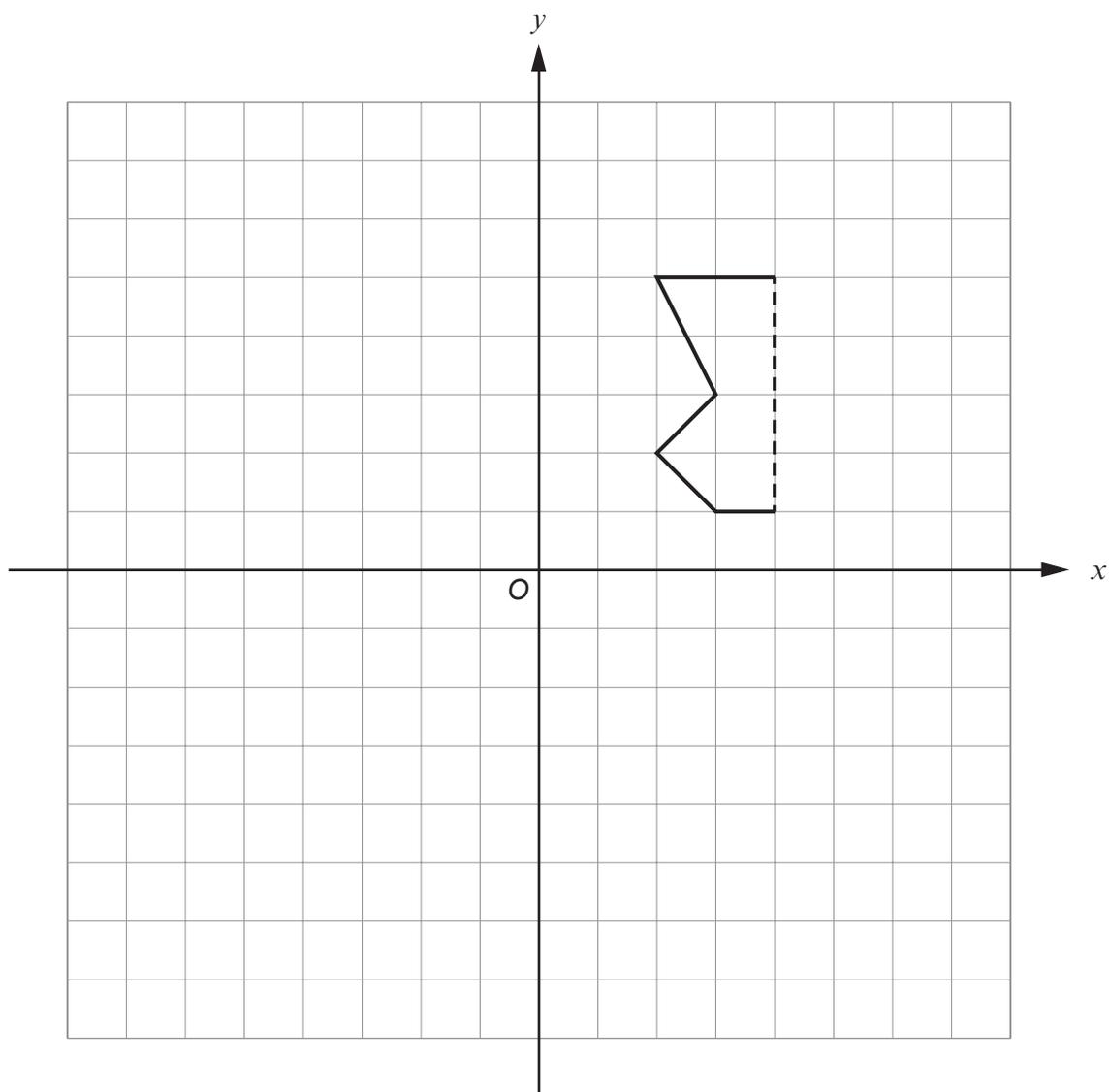
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12. (a) Enlarge the following shape by a scale factor of 2.

[2] Examiner
only



- (b) Part of a shape is shown on the grid.
The dotted line is the line of symmetry of the shape.
Complete the drawing of the shape and then rotate your complete shape through 180°
about the origin. [3]



13. The diagram shows a 6-sided shape.

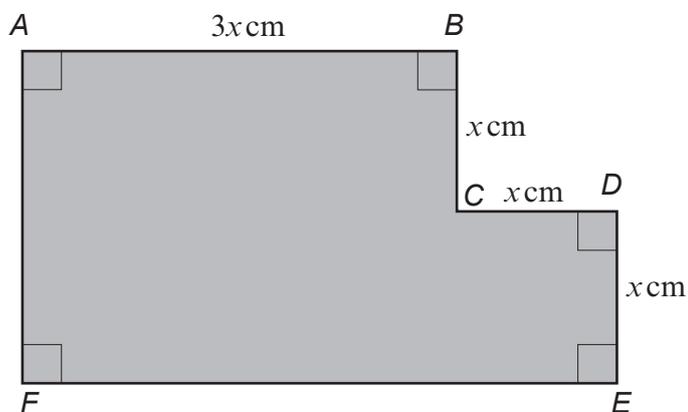


Diagram not drawn to scale

- (a) Write down the length of FE in terms of x . [1]

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- (b) The perimeter of the 6-sided shape is 480 cm.
Find the value of x . [2]

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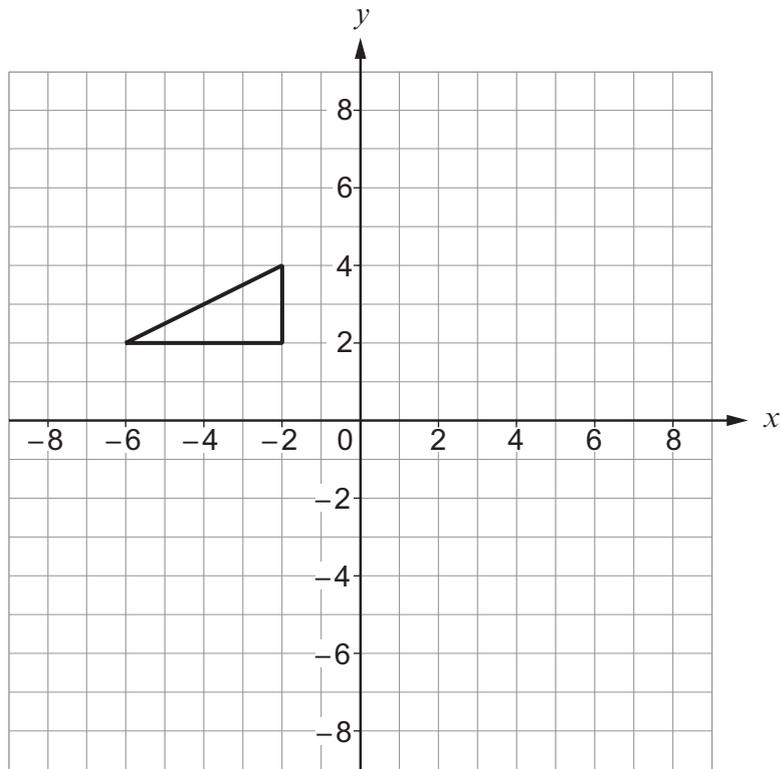
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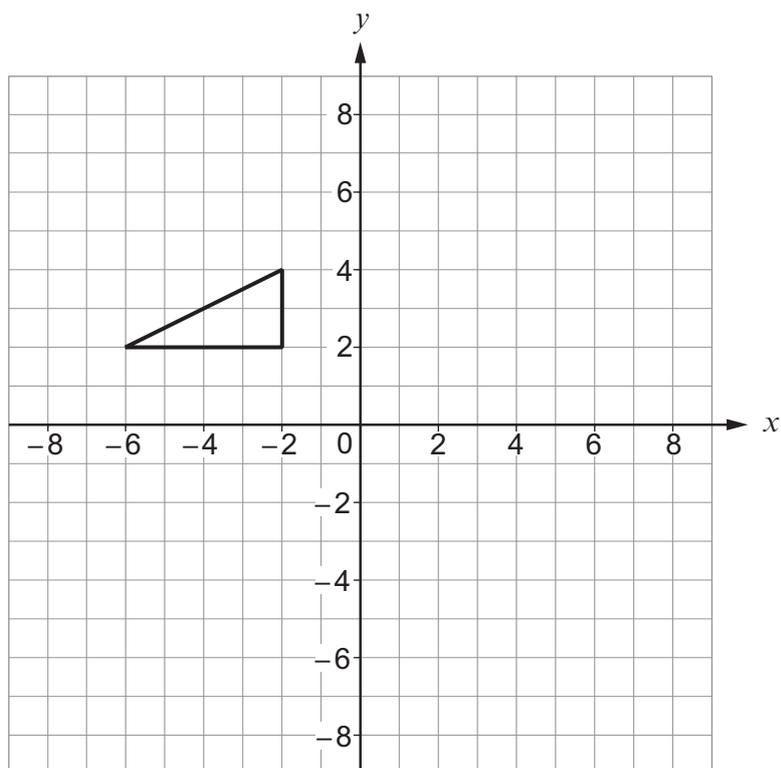
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15. (a) Rotate the triangle through 90° clockwise using the point $(2, 0)$ as the centre of the rotation. [2]



- (b) Reflect the triangle shown in the line $y = x$. [2]



END OF PAPER

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