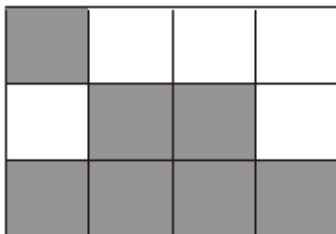


Q1.

(a) Reflect the shaded shape in the mirror line.

(1)

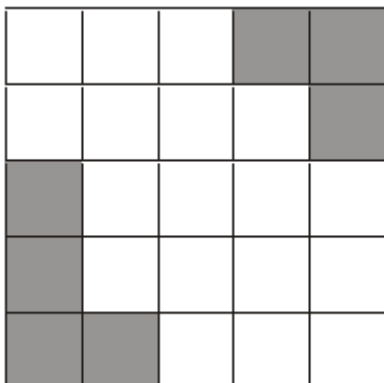
Here is a pattern made with squares.



(b) Shade one square to make a black and white pattern with only **one** line of symmetry.

(1)

Here is another pattern made with squares.

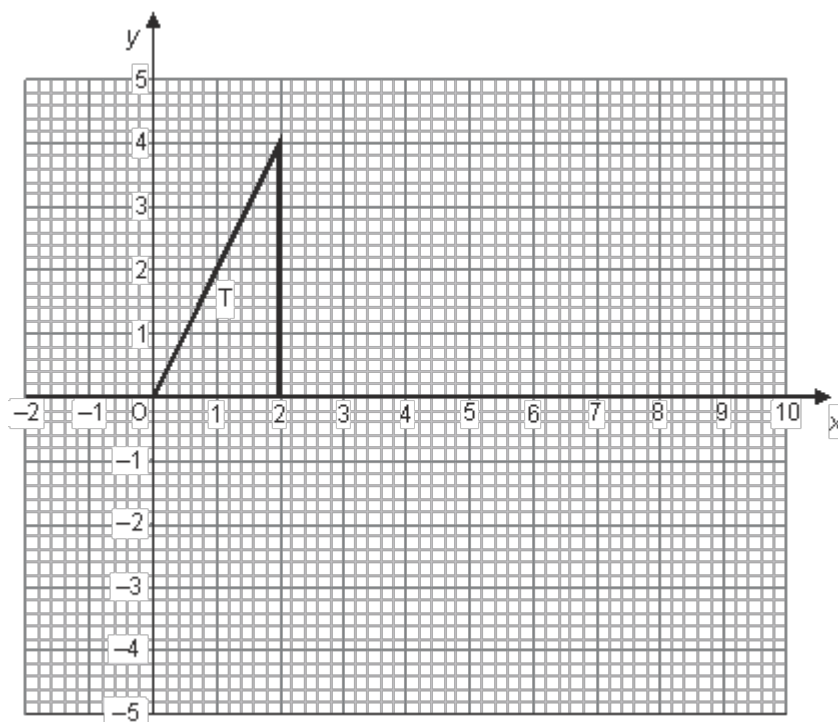


(c) Shade **three** more squares to make a pattern with rotational symmetry of order 2.

(1)

(Total 3 marks)

**Q2.**



The shape **T** is rotated by  $180^\circ$  about the point (3, 0) to give the shape **U**.

The shape **U** is rotated by  $180^\circ$  about the point (6, 0) to give the shape **V**.

Describe fully the single transformation that will map shape **T** to shape **V**.

.....  
 .....

(Total 3 marks)

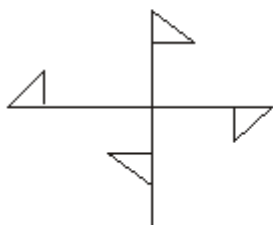
**Q3.** (a) Draw all the lines of symmetry of this shape.



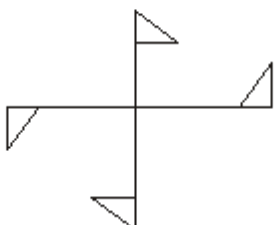
(1)

(b) Which of these shapes has rotational symmetry?

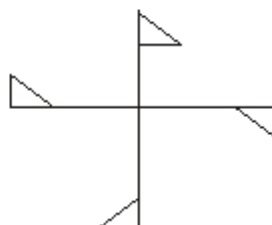
A



B



C

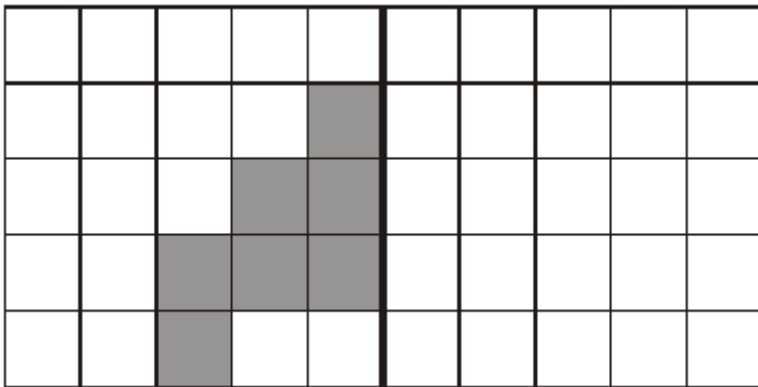


(1)

(c) In the space below, draw a shape that has line symmetry and rotational symmetry order 3.

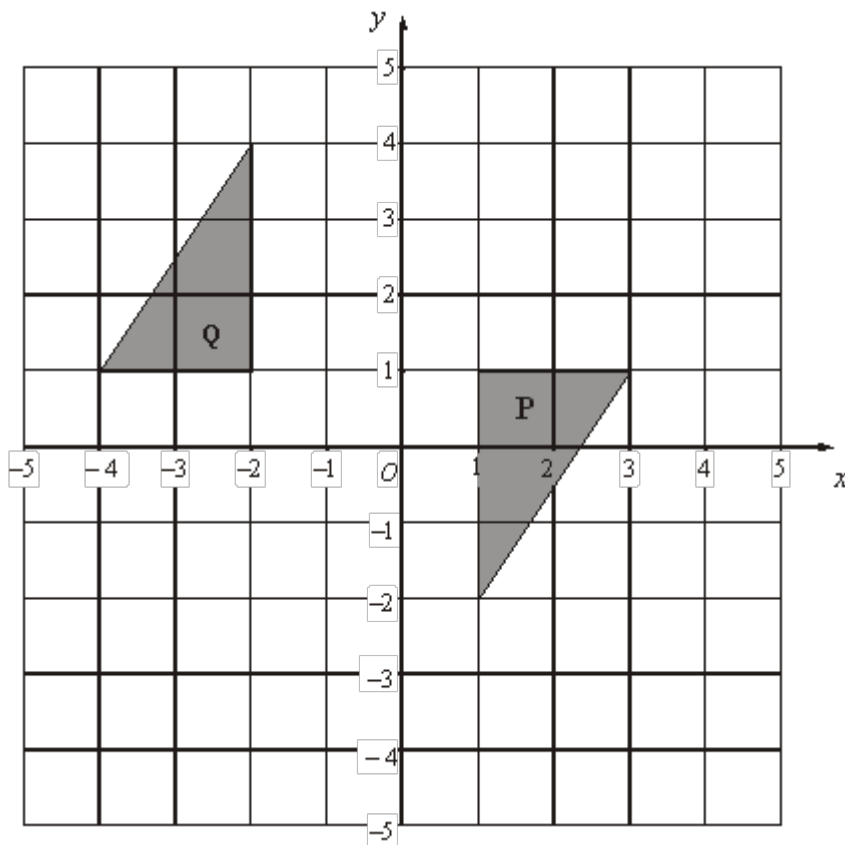
(2)  
(Total 4 marks)

**Q4.** (a) Reflect the shaded shape in the mirror line.



(1)

(b) Describe the single transformation that moves shape **P** to shape **Q**.

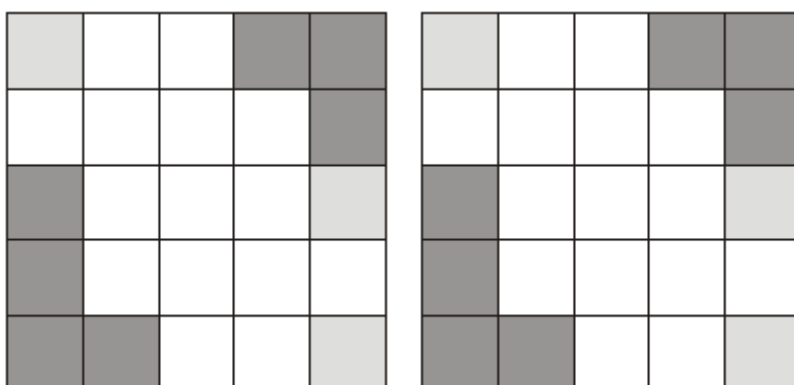
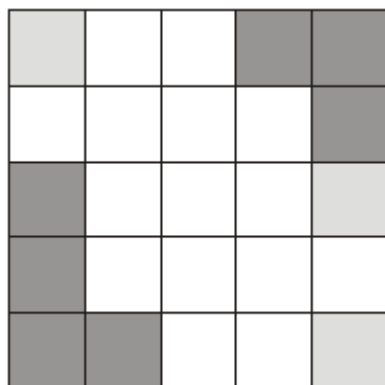
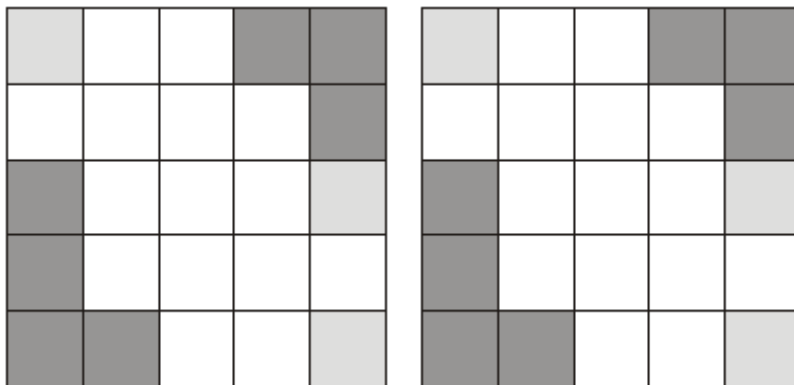


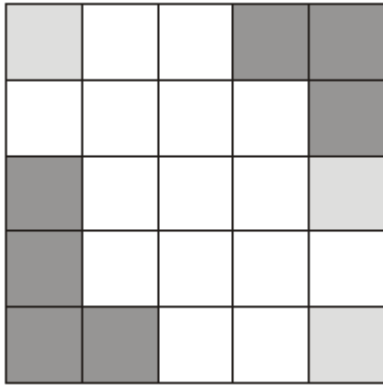
.....

(2)  
(Total 3 marks)

M1.

	Working	Answer	Mark	Additional Guidance
(a)		Correct reflection	1	<b>B1</b> cao
(b)		Correct square	1	<b>B1</b> cao
(c)	See pattern at end	Correct square	1	<b>B1</b> cao
				<b>Total for Question: 3 marks</b>





**M2.**

Working	Answer	Mark	Additional Guidance
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Rotates shape about  
(3,0) by  $180^\circ$  to give **U**

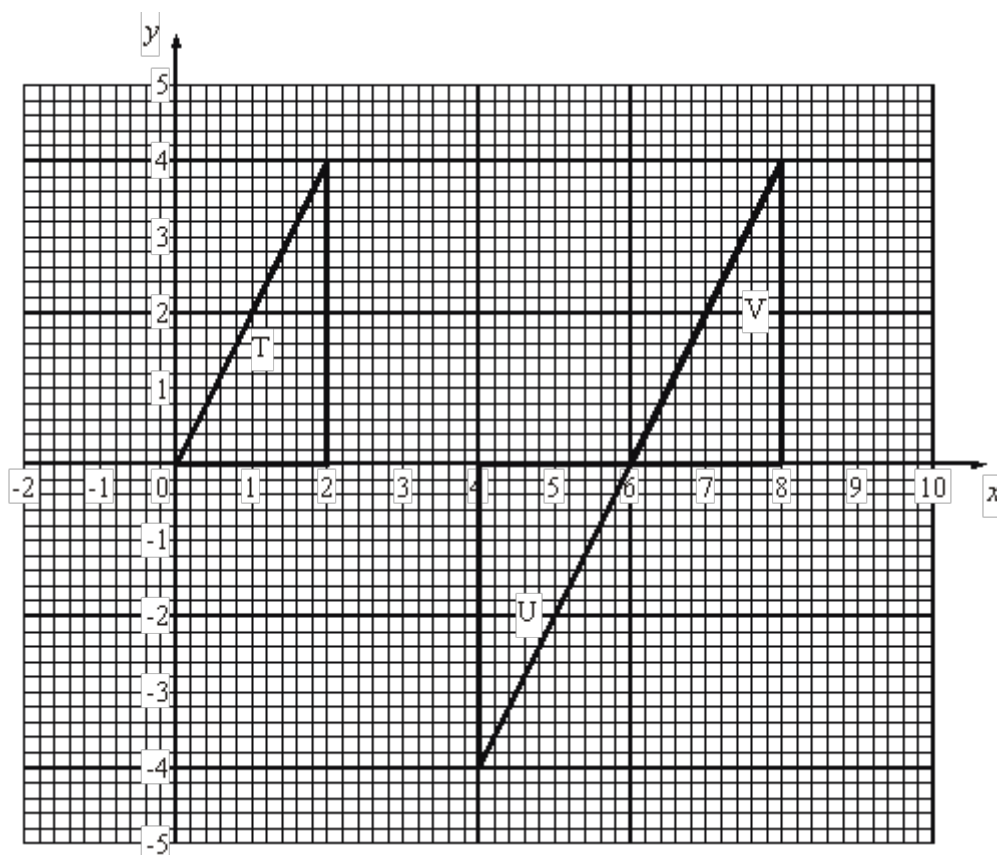
Rotates **U** about (6, 0)  
to give **V**

(see graph at end)

Translation

3

Total for Question: 3 marks



M3.

	Working	Answer	Mark	Additional Guidance
(a)		Vertical and horizontal lines of symmetry only	1	<b>B1</b> cao (– 1 for extra lines drawn)
(b)		B	1	<b>B1</b> cao
(c)		Eg. Equilateral triangle	2	<b>B2</b> for any shape satisfying both criteria [ <b>B1</b> for a shape with rotational symmetry of order 3 with no line symmetry]



<b>Total for Question: 4 marks</b>
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**M4.**

	Working	Answer	Mark	Additional Guidance
(a)		Correct reflection	1	<b>B1</b> cao
(b)		Rotation $180^\circ$ centre $(-0.5, 1)$	2	<b>B2</b> for all 3 attributes <b>B1</b> for any two of the three attributes
				<b>Total for Question: 3 marks</b>

Resource currently unavailable.