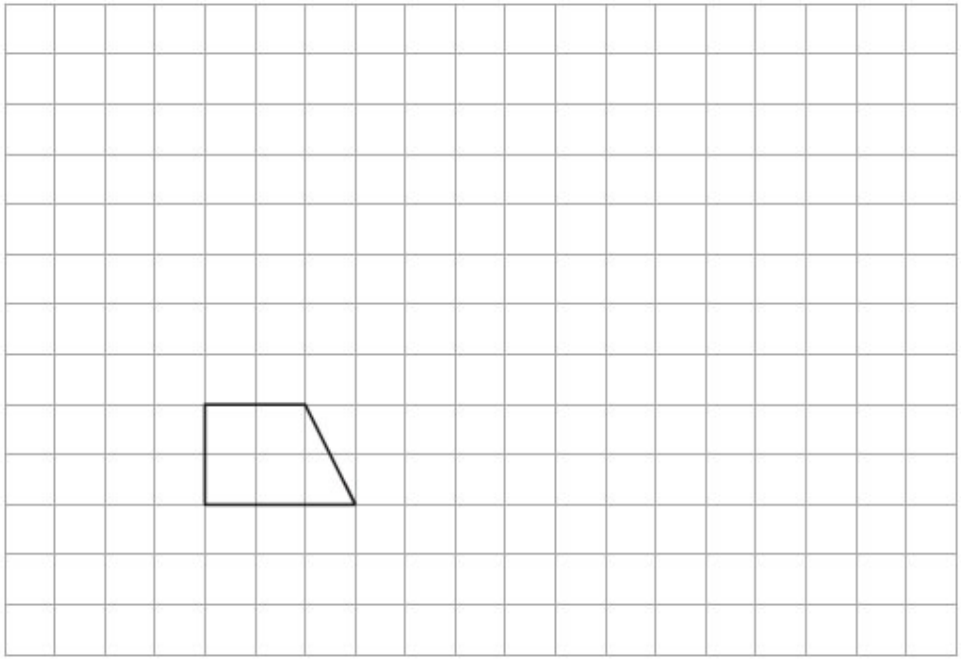
G154 Transformations 1

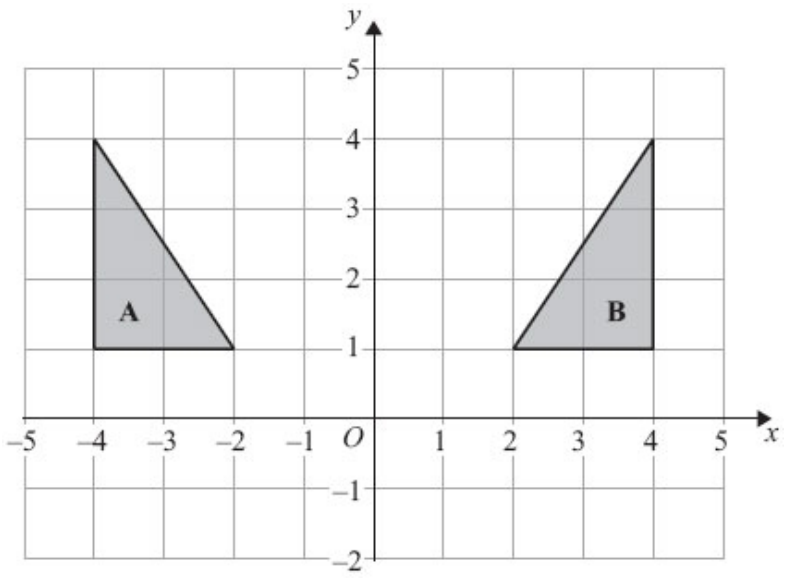
Q1.

Here is a shape drawn on a grid.



(a) On this grid, draw an enlargement of the shape with scale factor 3

(2)



(b) Describe fully the single transformation that maps shape **A** onto shape **B**.

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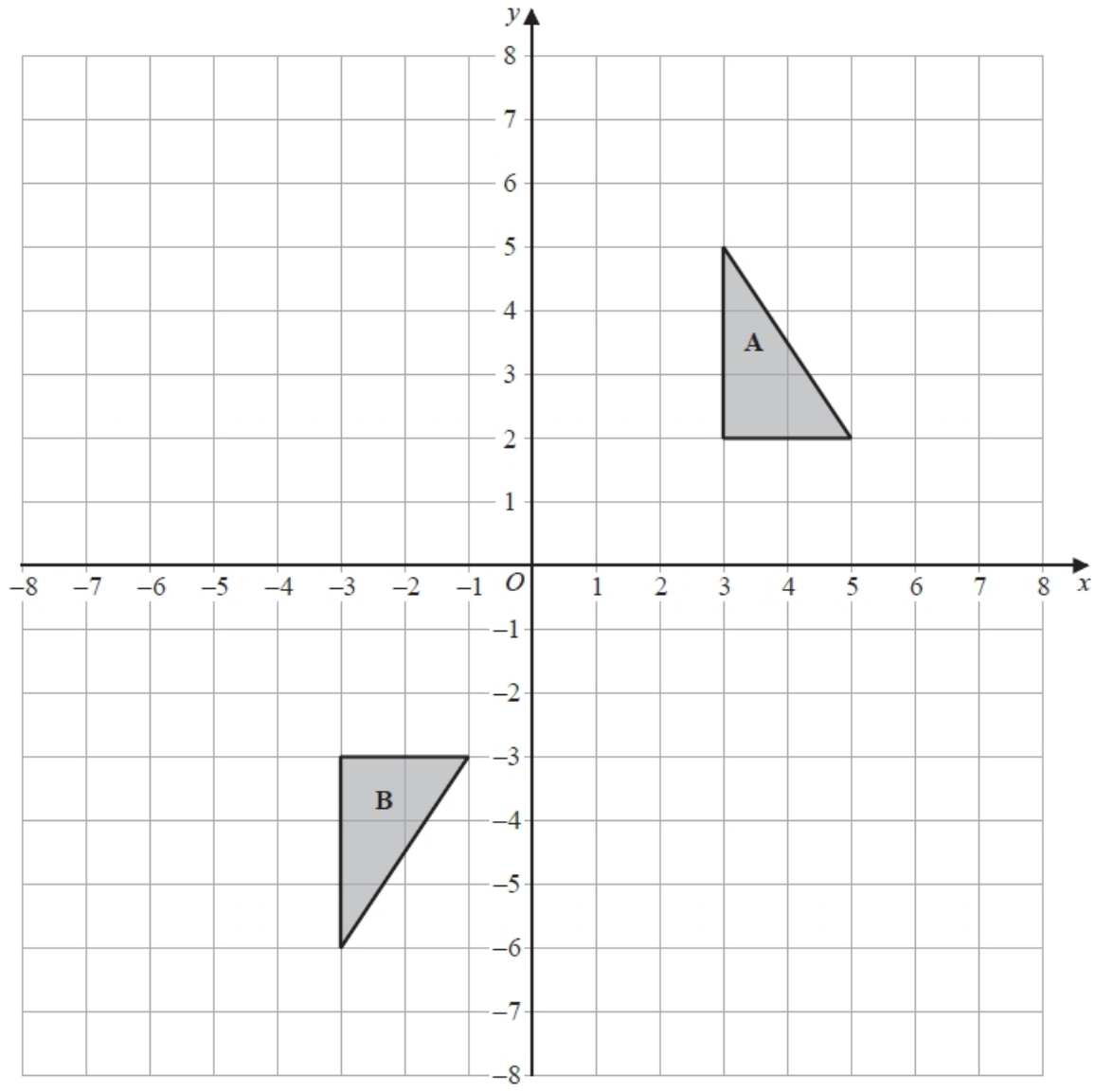
(2)

(Total for Question is 4 marks)

Q2.



Shape **A** can be transformed to shape **B** by a reflection in the *x*-axis followed by a translation $\begin{pmatrix} c \\ d \end{pmatrix}$

Find the value of *c* and the value of *d*.

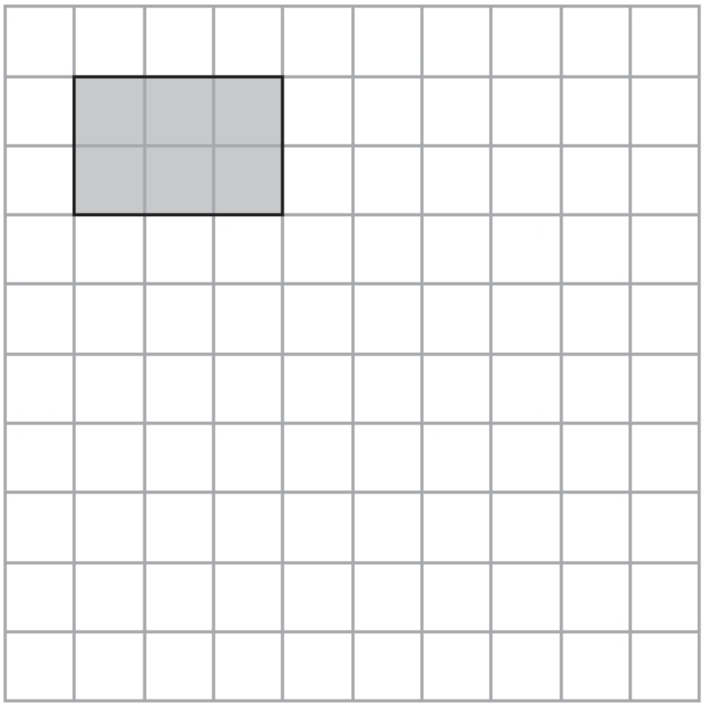
c = ...

d = ...

(Total for question = 3 marks)

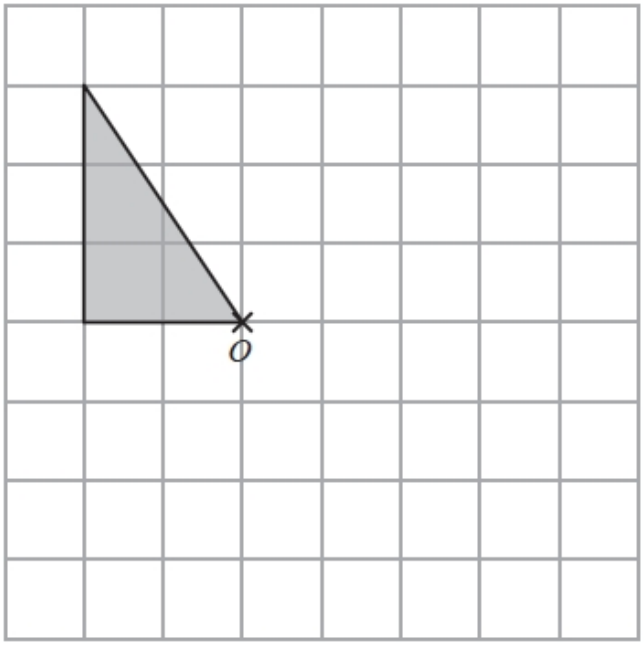
Q3.

(a) On the grid, draw an enlargement of the rectangle with scale factor 2



(1)

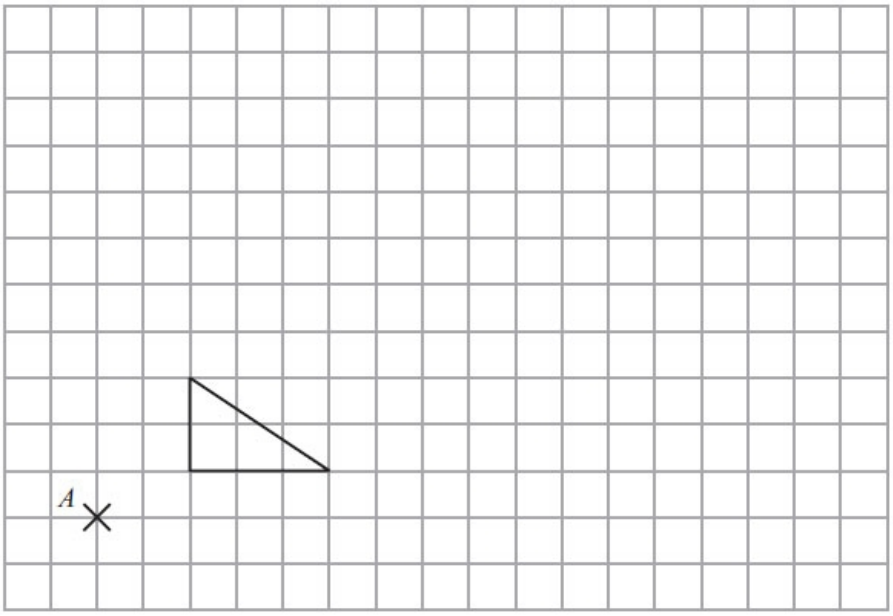
(b) On the grid, rotate the triangle 90° clockwise about the point *O*.



(2)

(Total for question = 3 marks)

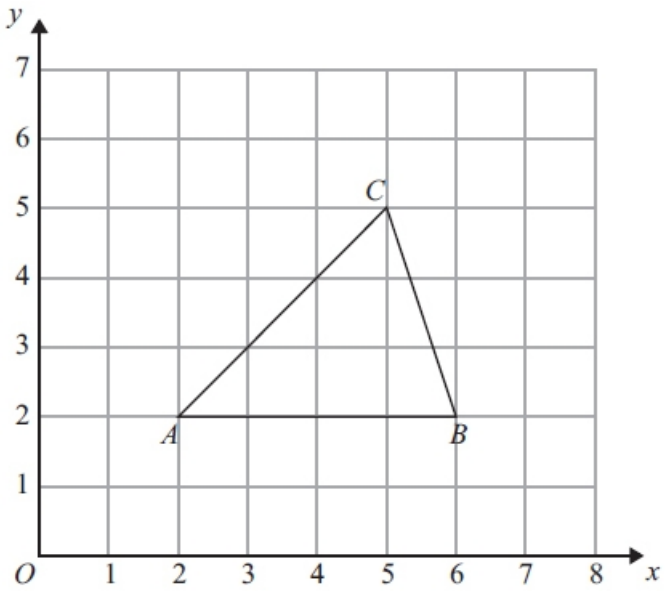
Q4.



On the grid, enlarge the shape with scale factor 3, centre *A*.

(Total for Question is 3 marks)

Q5.



Triangle *ABC* is drawn on a centimetre grid.
A is the point (2, 2).
B is the point (6, 2).
C is the point (5, 5).

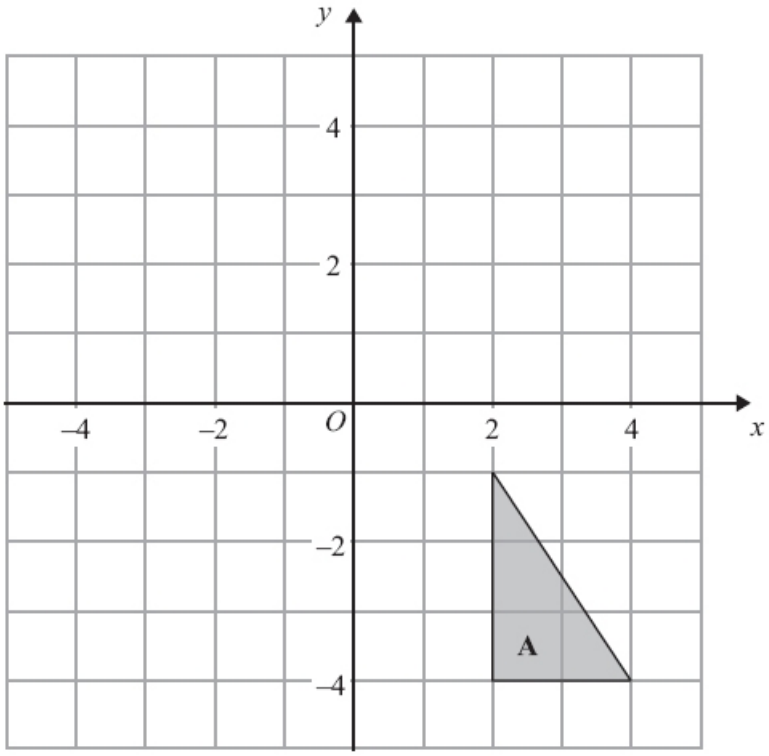
Triangle *PQR* is an enlargement of triangle *ABC* with scale factor ½ and centre (0, 0).

Work out the area of triangle *PQR*.

. . . . . cm^2

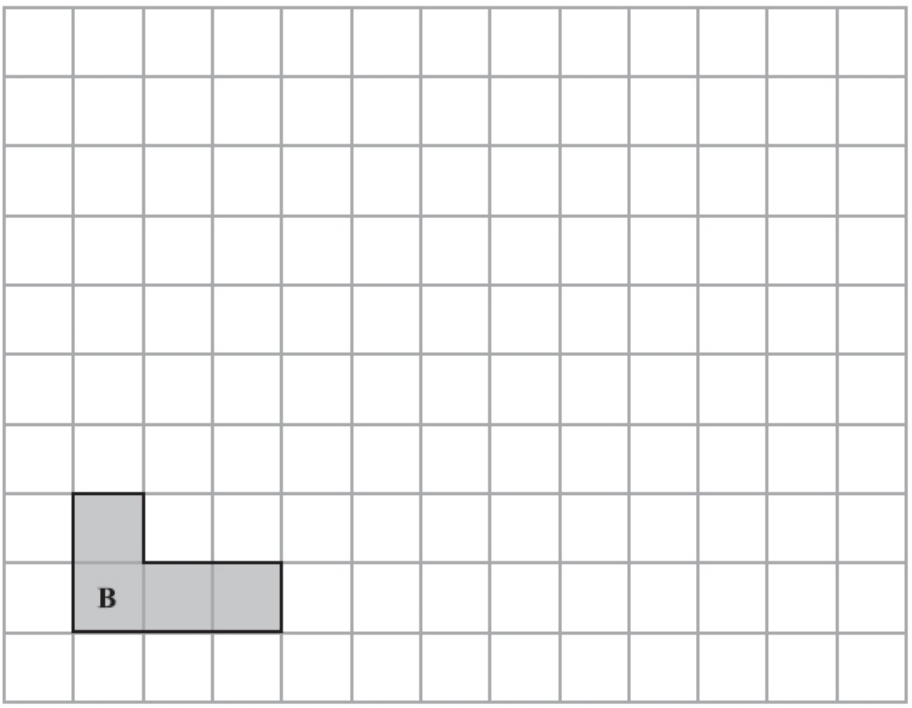
(Total for Question is 3 marks)

Q6.



(a) Reflect triangle **A** in the *x*-axis.

(2)



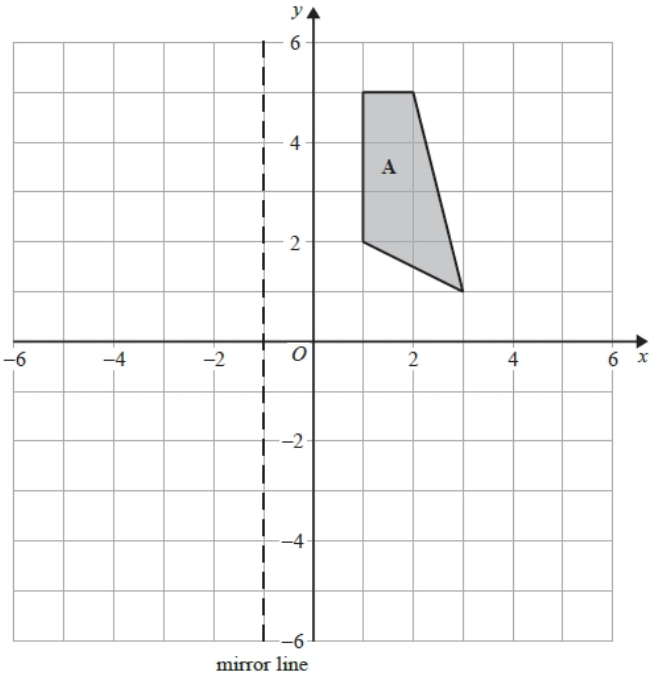
(b) Draw an enlargement, scale factor 3, of shape **B**.

(2)

(Total for Question is 4 marks)

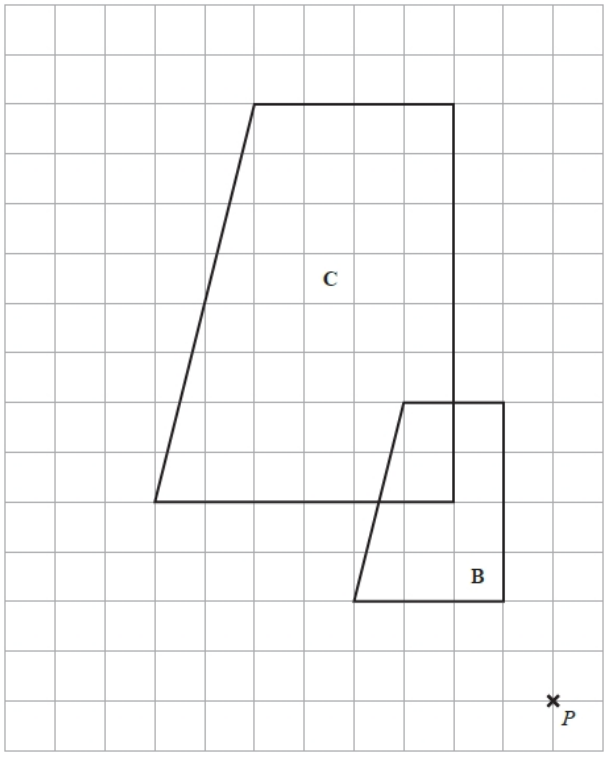
Q7.

(a) On the grid, reflect shape **A** in the mirror line.



(2)

(b)



Describe fully the single transformation that maps trapezium **B** onto trapezium **C**.

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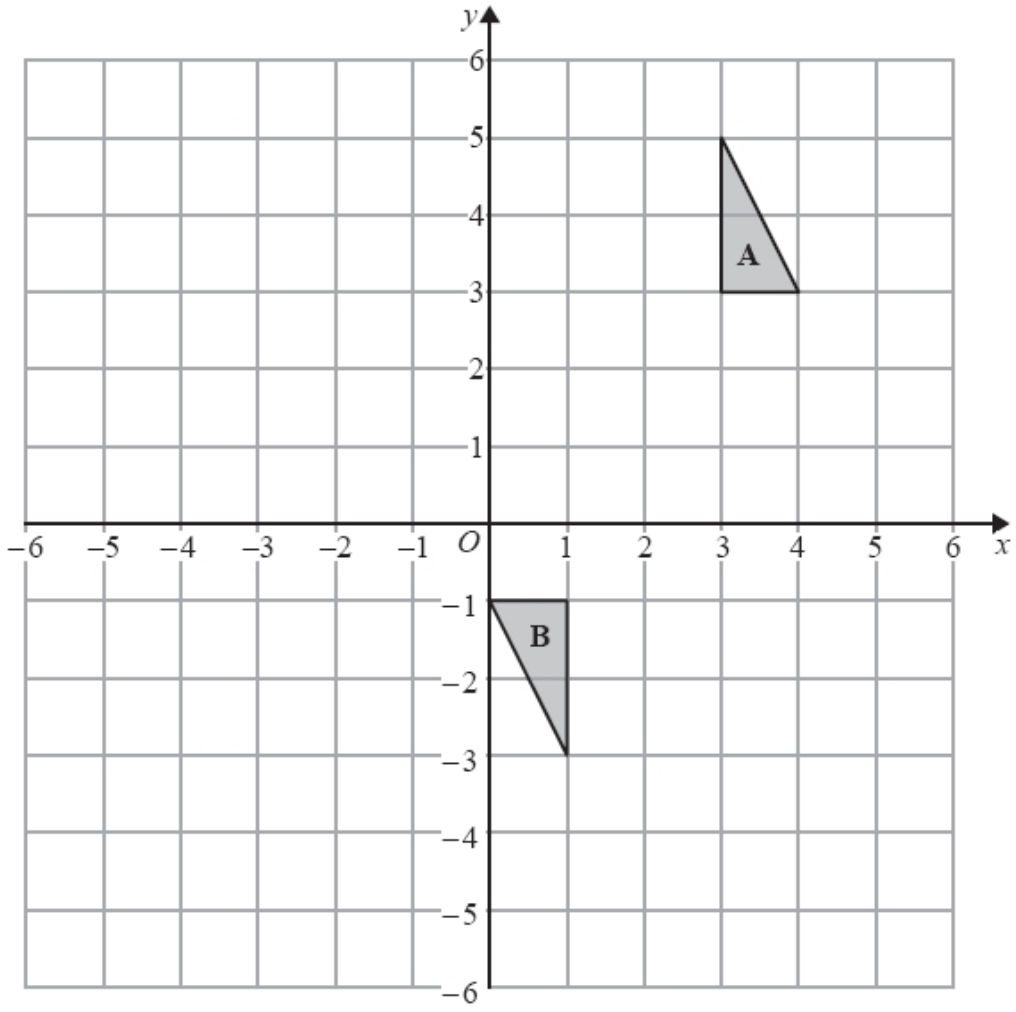
(2)

(Total for question = 4 marks)

Q8.



Describe fully the single transformation that maps triangle **A** onto triangle **B**.

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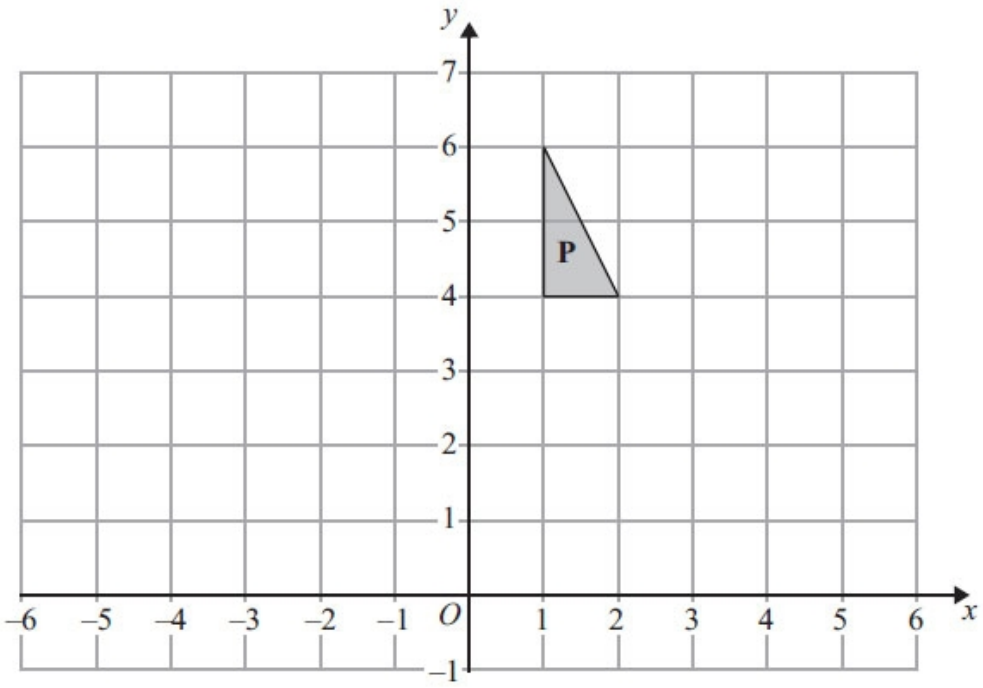
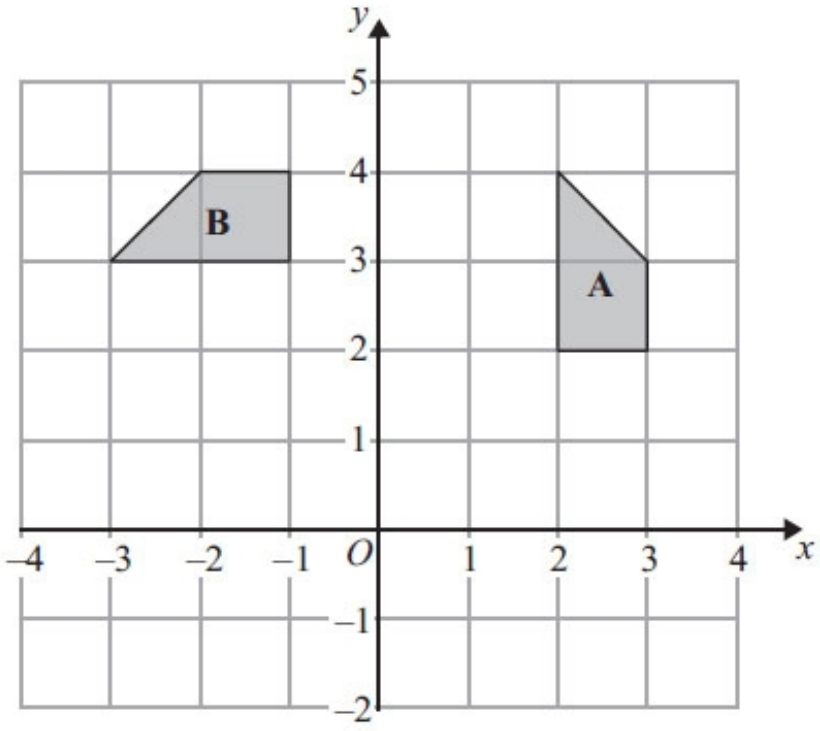
(Total for question = 3 marks)

Q9.



(a) Reflect shape **P** in the line $x = 3$

(2)



(b) Describe fully the single transformation that maps shape **A** onto shape **B**.

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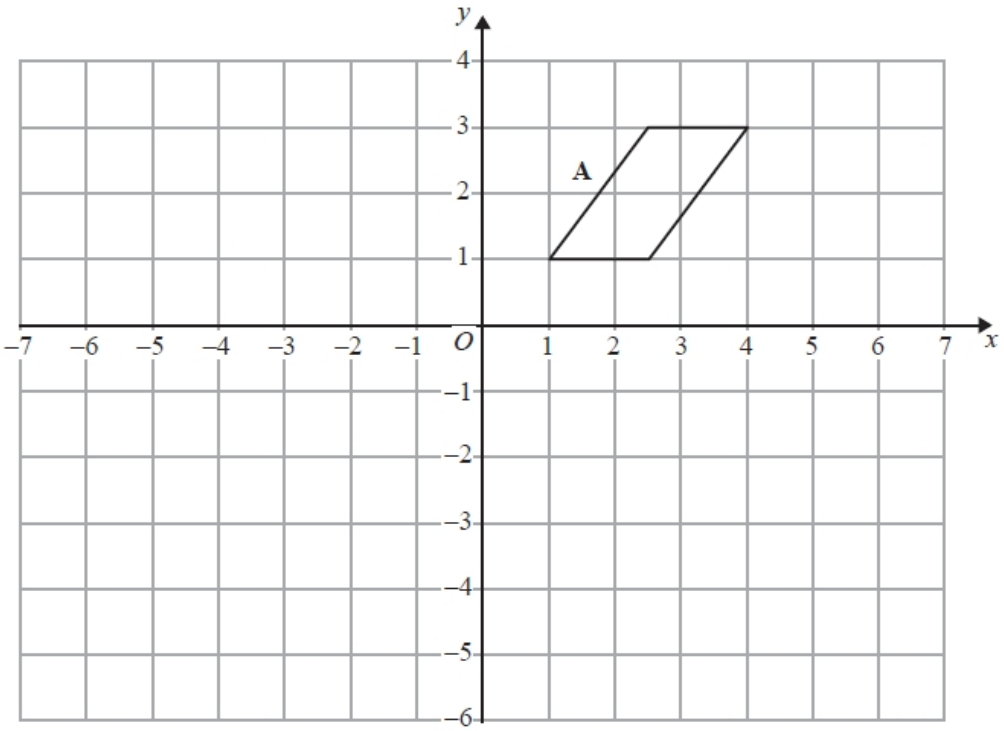
(3)

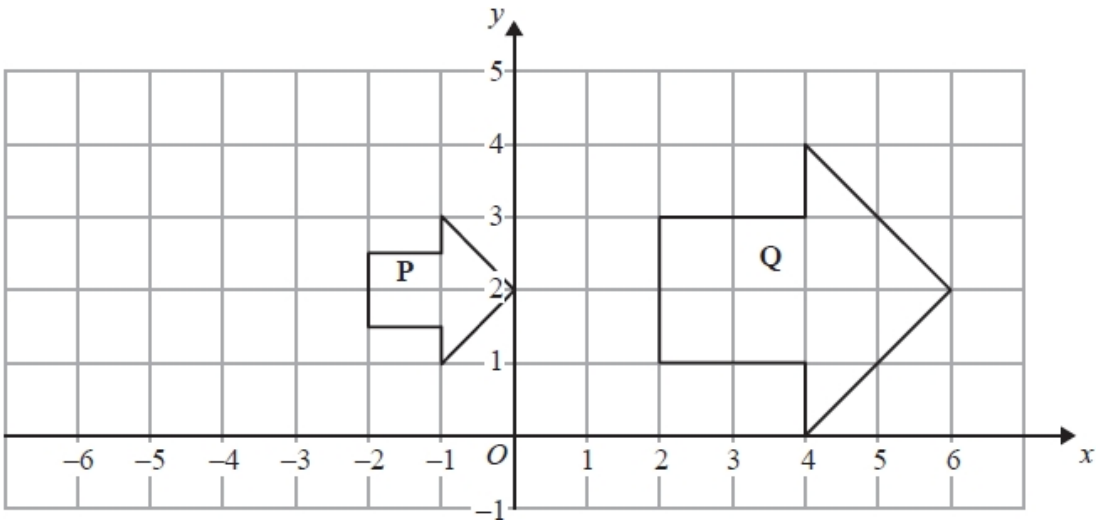
(Total for Question is 5 marks)

Q10.



(a) Reflect shape **A** in the line $x = -1$

(2)



(b) Describe fully the single transformation that maps shape **P** onto shape **Q**.

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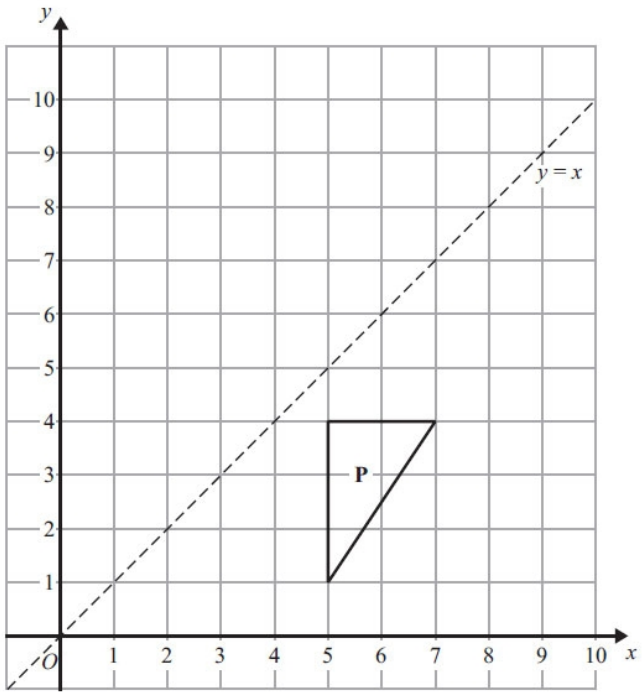
.....

(3)

(Total for question = 5 marks)

Q11.

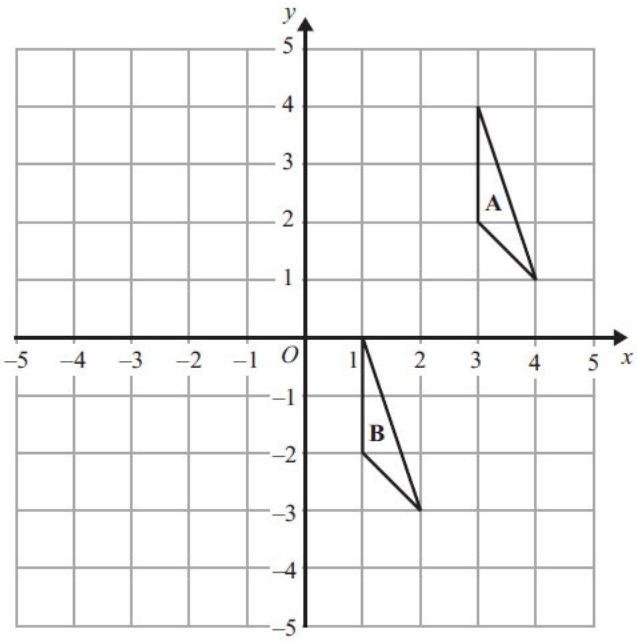
(a)



Reflect shape **P** in the line $y = x$

(2)

(b)



Describe fully the single transformation that maps triangle **A** onto triangle **B**.

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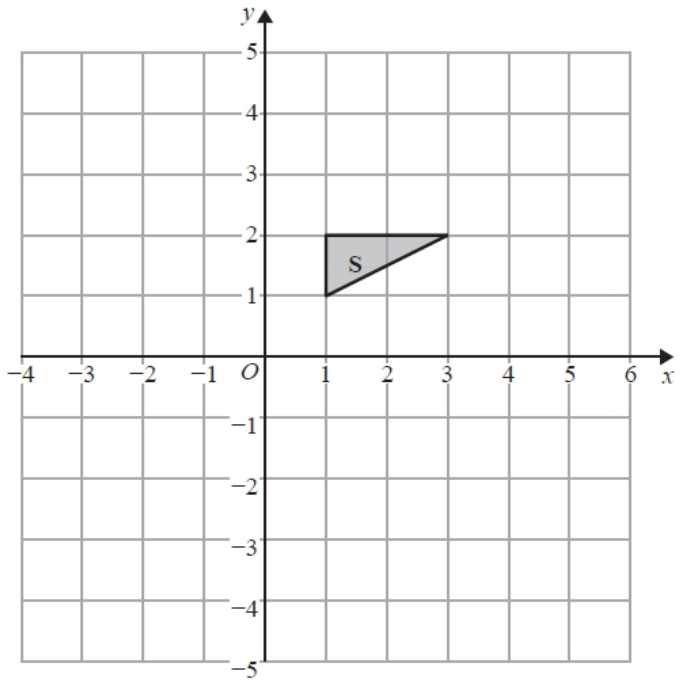
(2)

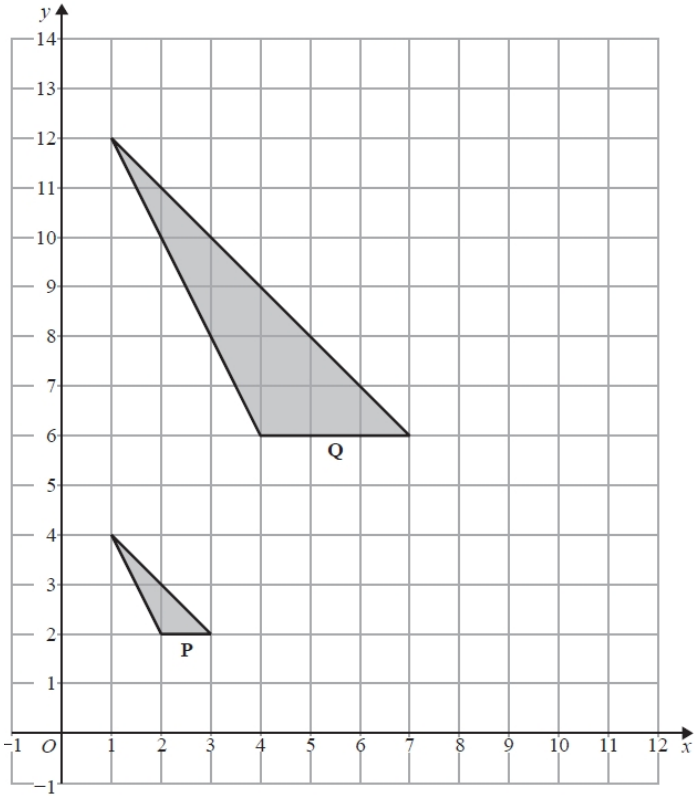
(Total for Question is 4 marks)

Q12.



(a) On the grid, rotate shape **S** by 90° anticlockwise about the origin.

(2)



(b) Describe fully the single transformation that maps shape **P** onto shape **Q**.

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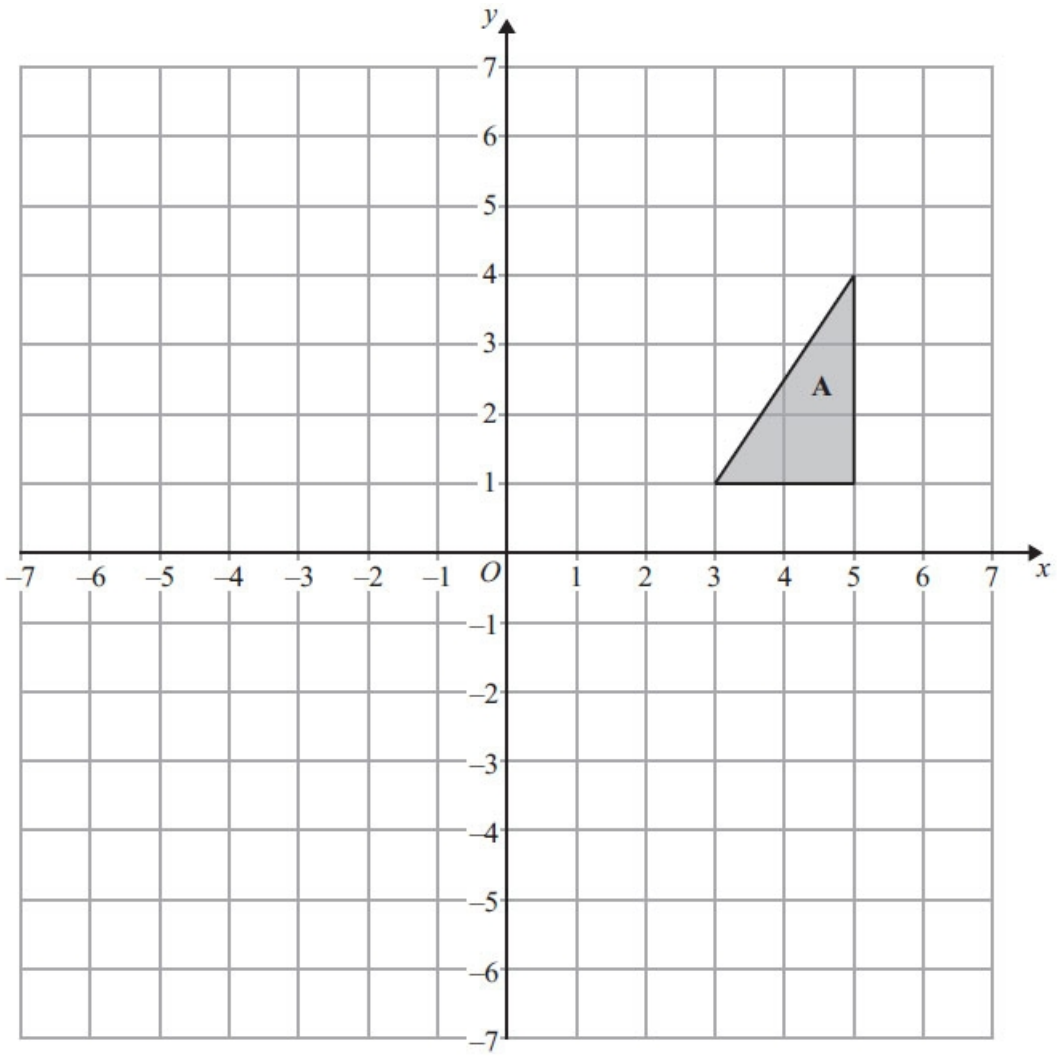
(3)

(Total for question = 5 marks)

Q13.



Triangle **A** is reflected in the *x*-axis to give triangle **B**.
Triangle **B** is then reflected in the line $x = 1$ to give triangle **C**.

Describe fully the single transformation that maps triangle **A** onto triangle **C**.

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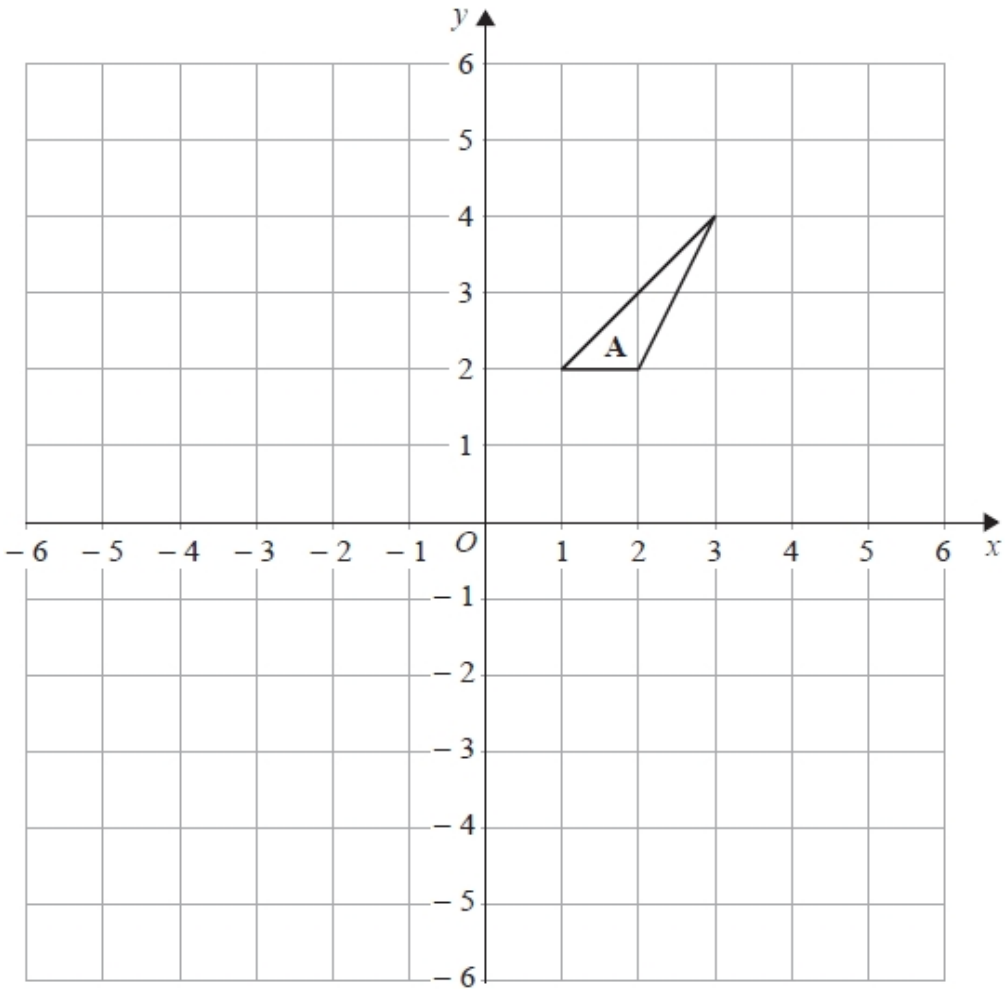
.....

(Total for Question is 3 marks)

Q14.



Triangle **A** is rotated 90° clockwise about the point (0, 1) to give triangle **B**.

Triangle **B** is translated by the vector $\begin{pmatrix} -3 \\ -1 \end{pmatrix}$ to give triangle **C**.

Describe fully the single transformation that maps triangle **A** onto triangle **C**.

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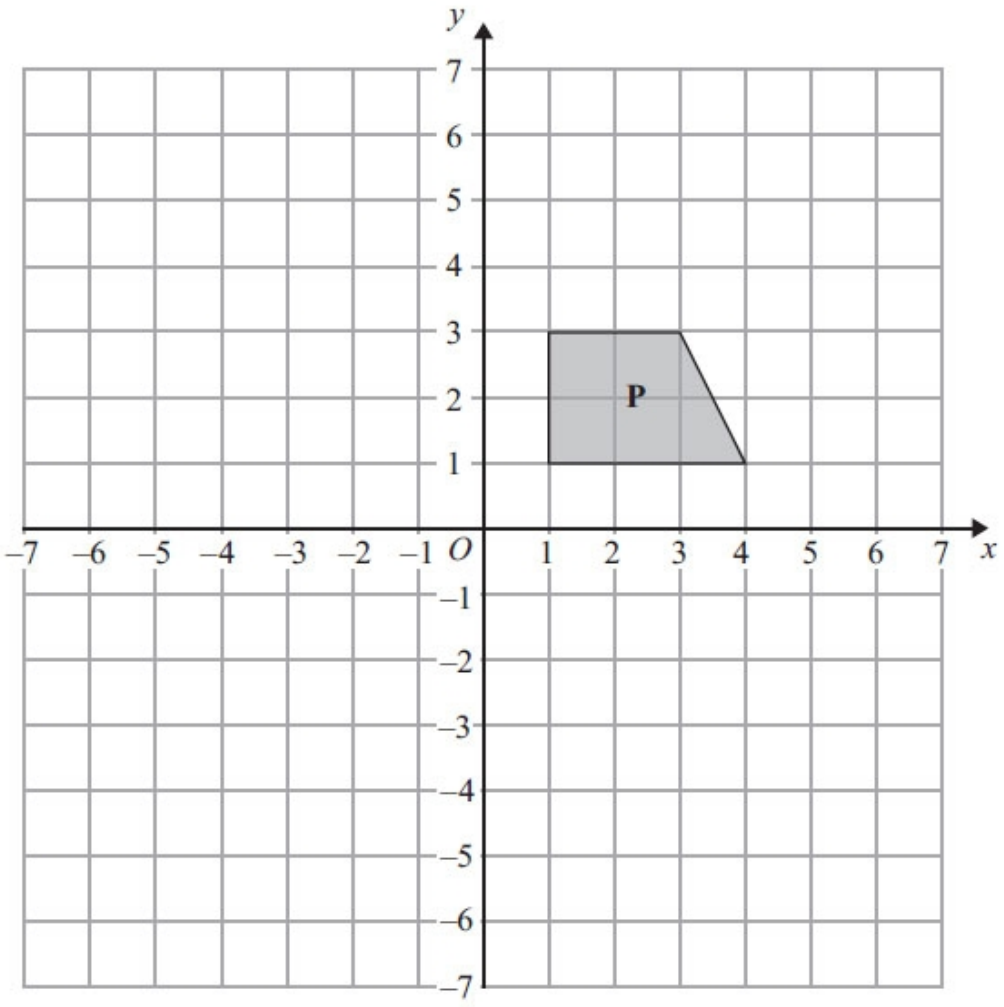
(Total for question = 3 marks)

Q15.



Shape **P** is reflected in the line $x = -1$ to give shape **Q**.

Shape **Q** is reflected in the line $y = 0$ to give shape **R**.

Describe fully the **single** transformation that maps shape **P** onto shape **R**.

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(Total for Question is 3 marks)