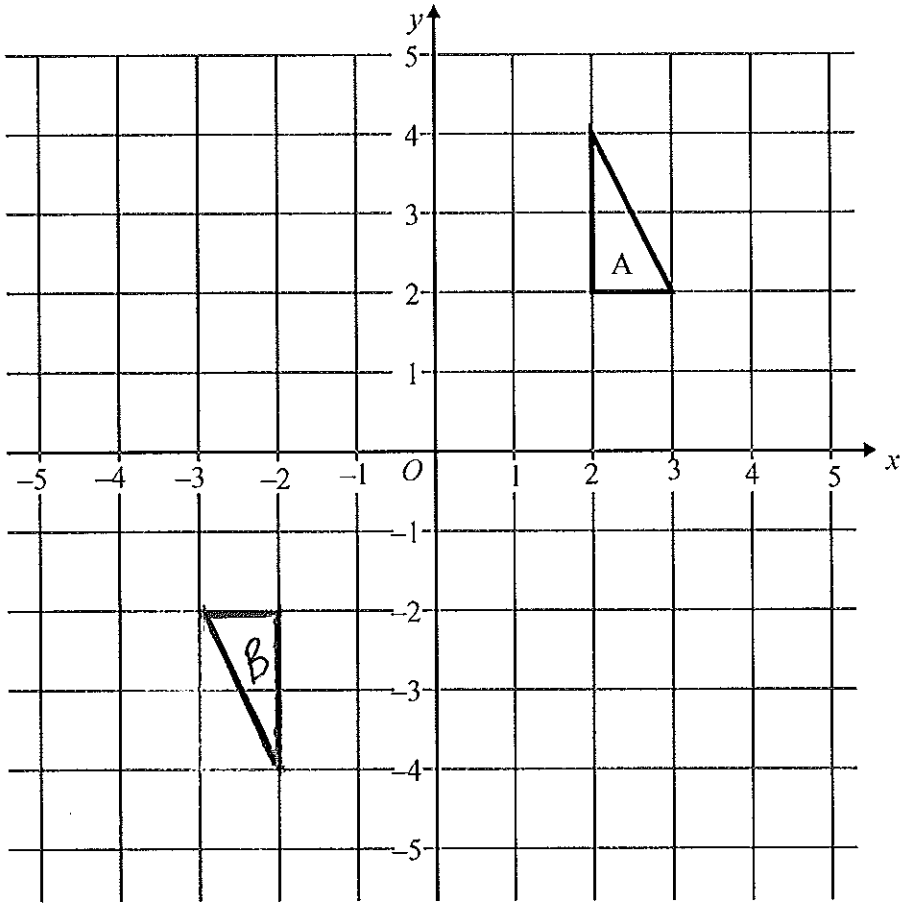
1.

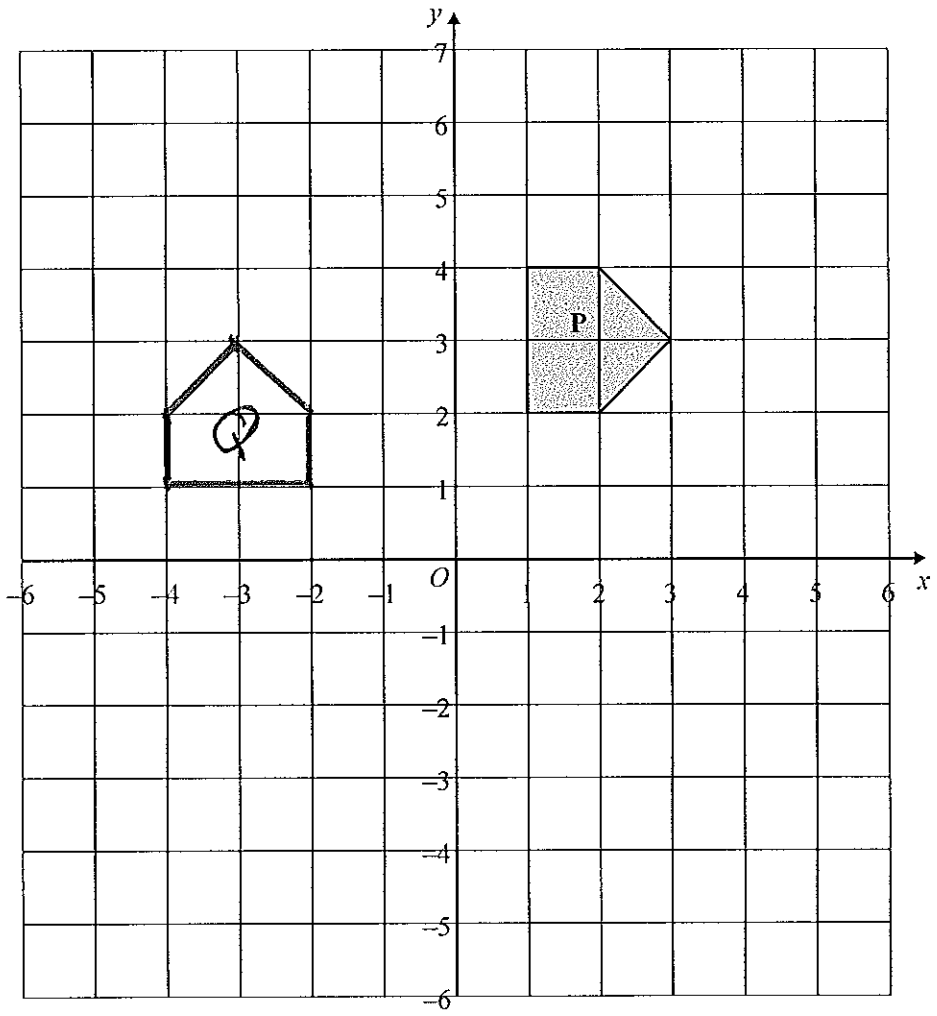


On the grid, rotate triangle **A** 180° about *O*.

Label your new triangle **B**.

(2)
(Total 2 marks)

2.



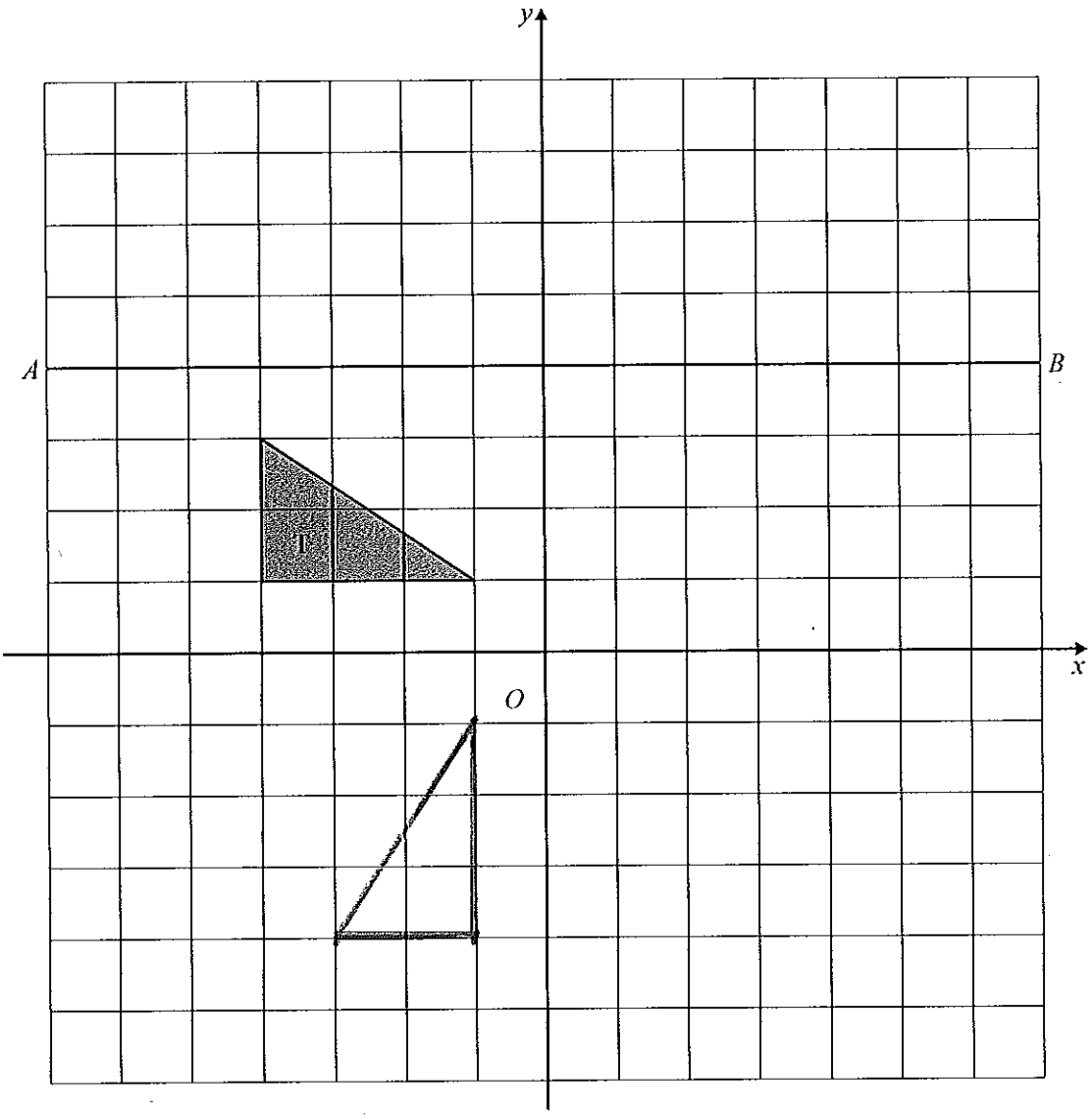
On the grid, rotate the shaded shape **P** one quarter turn anticlockwise about O.

Label the new shape **Q**.

(3)

(Total 3 marks)

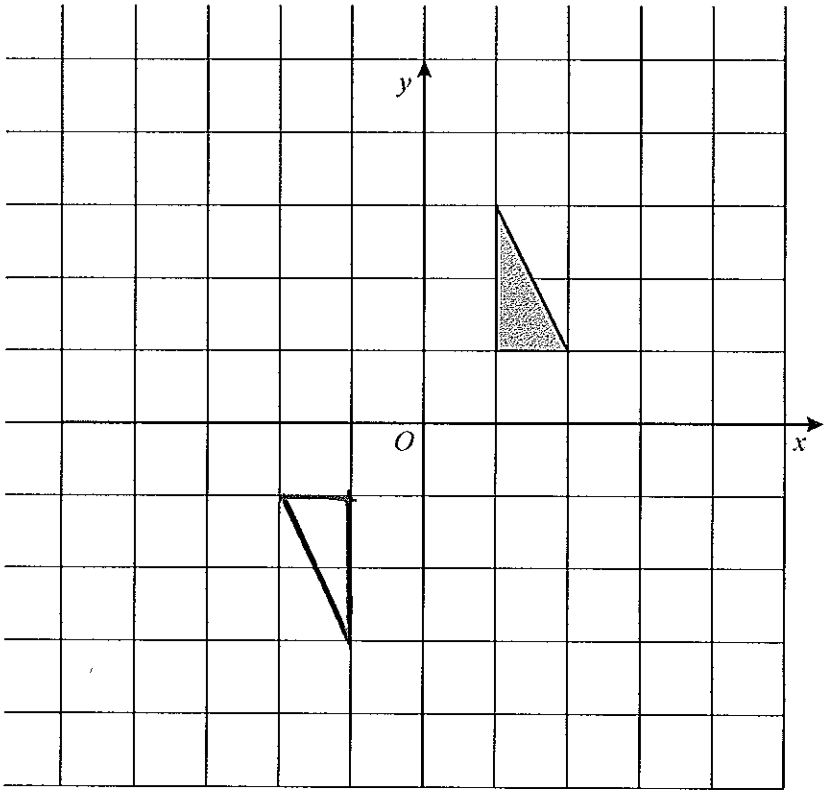
3.



Rotate the triangle a quarter turn anticlockwise, centre O.

(Total 2 marks)

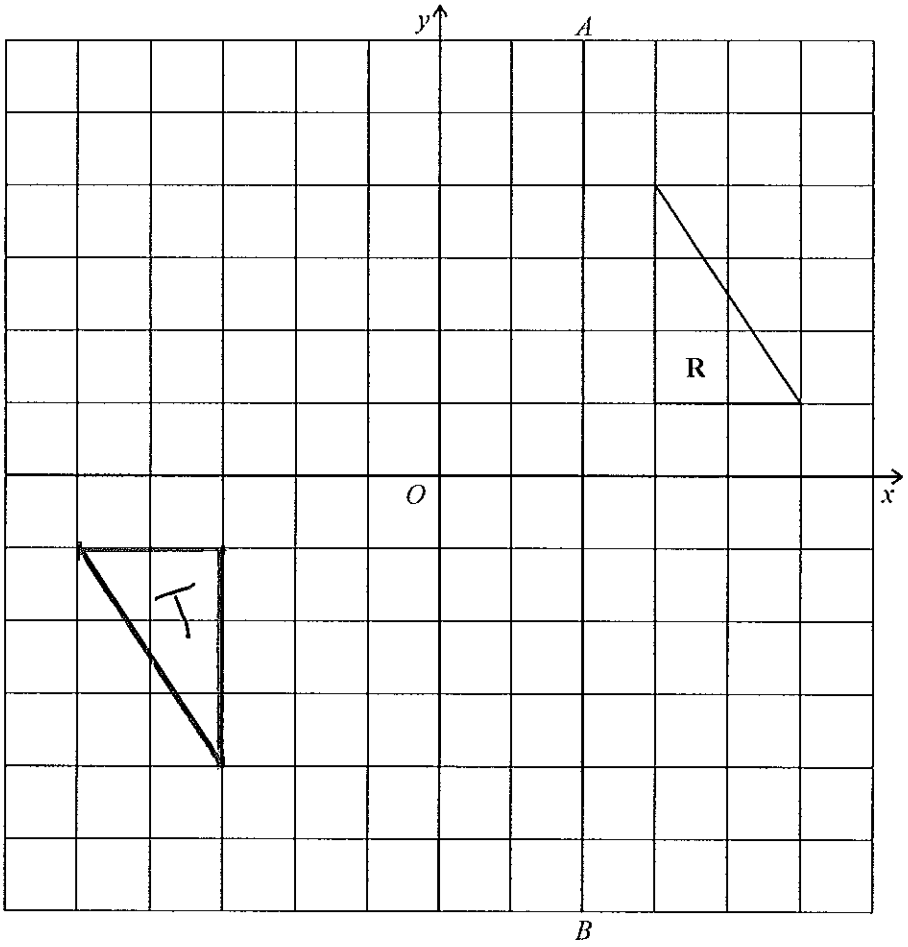
4.



Rotate the triangle a half turn about the point O.

(Total 2 marks)

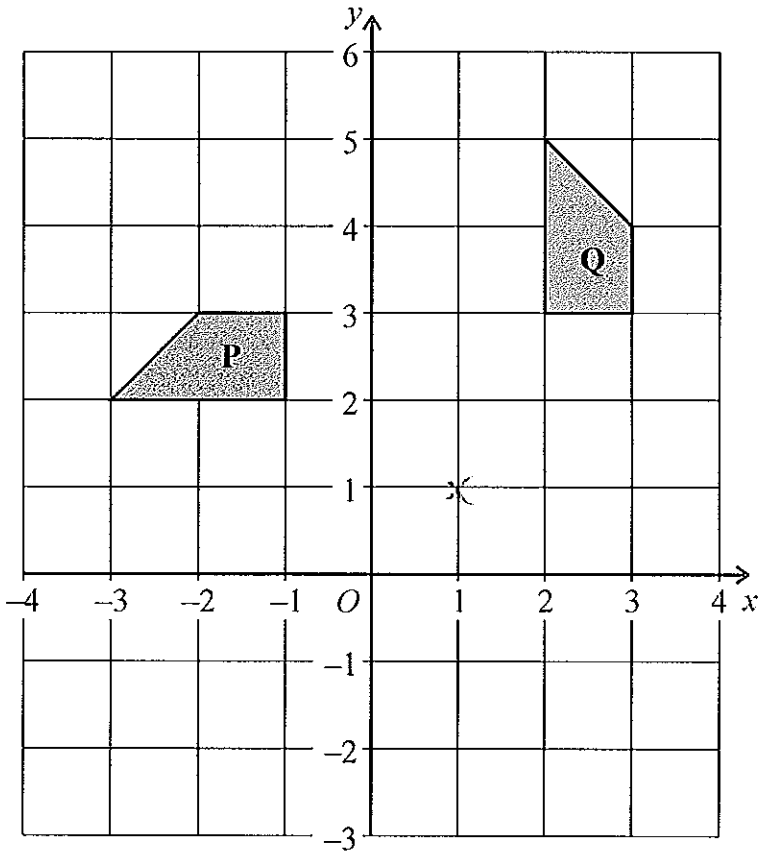
5.



Rotate triangle **R** a half turn about the point *O*.
Label the new triangle **T**.

(2)
(Total 2 marks)

6.

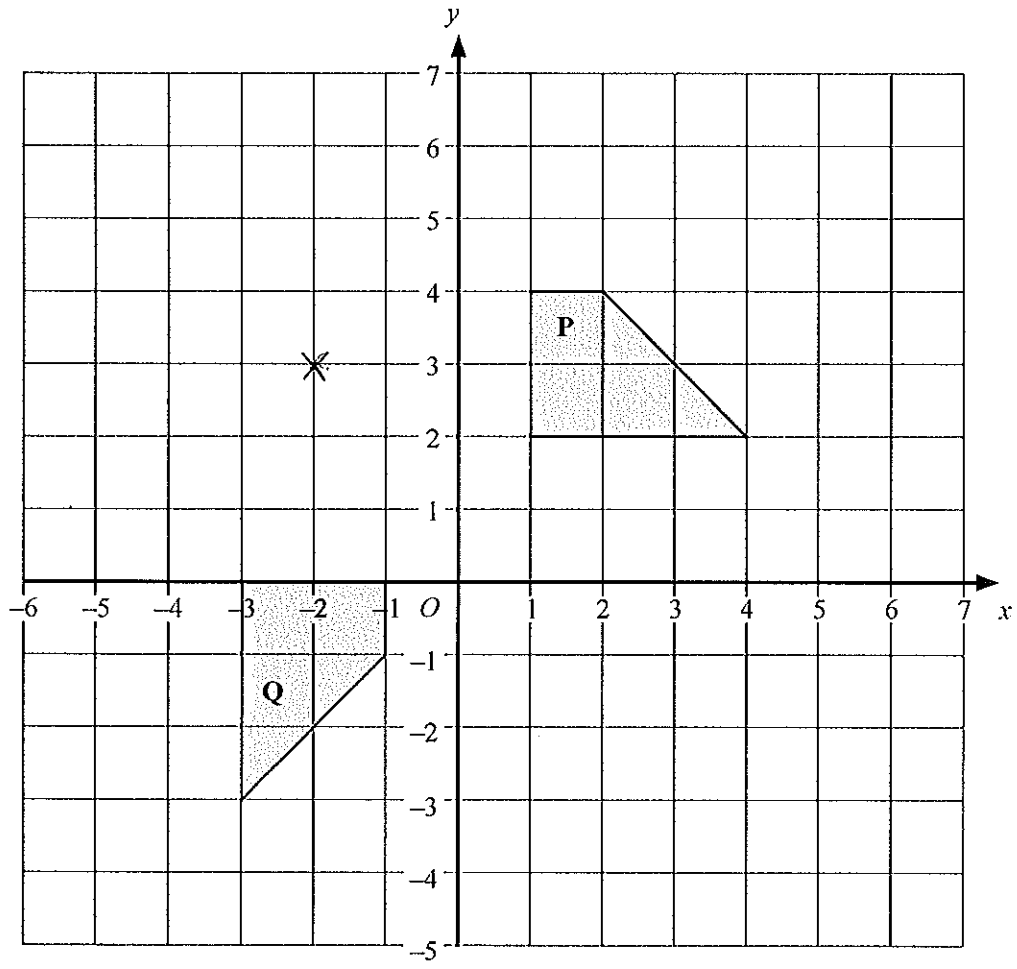


Describe fully the single transformation that maps shape **P** onto shape **Q.**

Rotation, 90° Clockwise, centre (1, 1)

(Total 3 marks)

7.

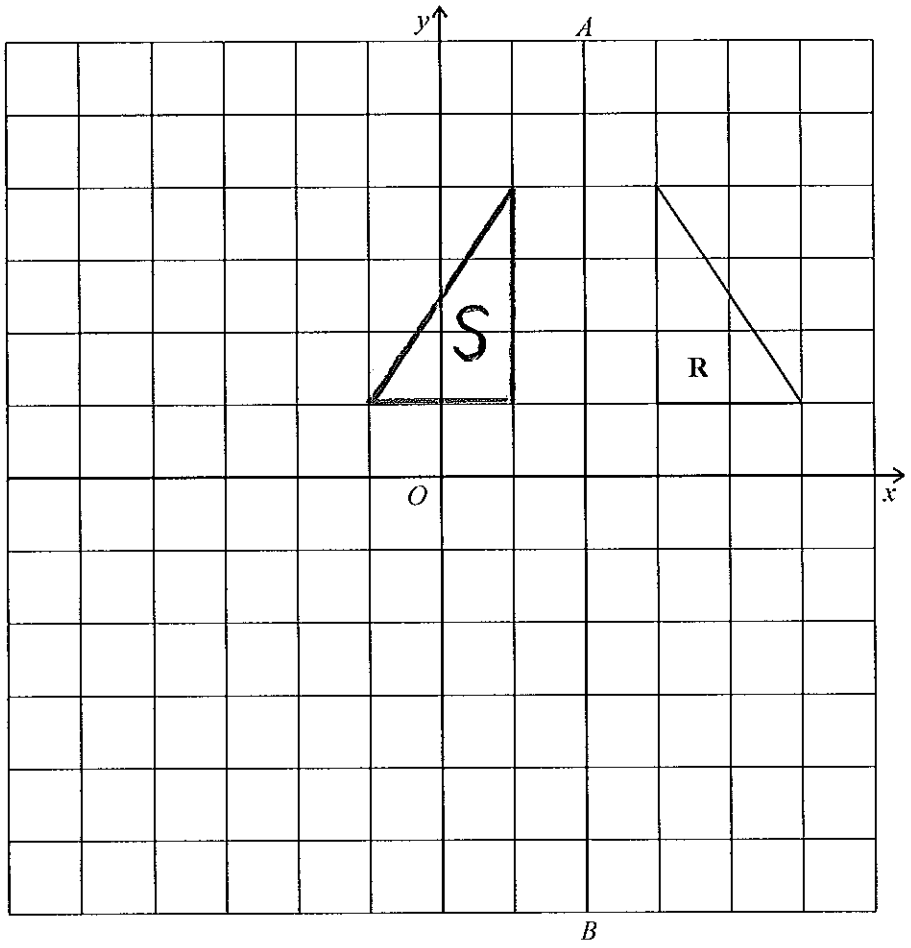


Describe fully the single transformation that will map shape **P** onto shape **Q**.

Rotation, 90° Clockwise, centre (-2,3)

(Total 3 marks)

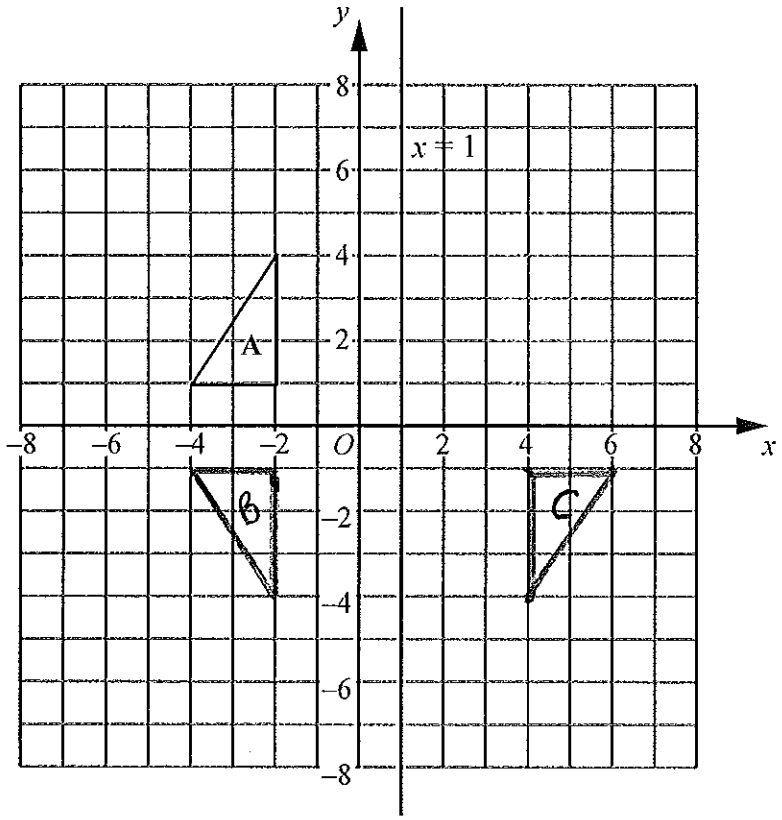
1.



Reflect triangle **R** in the line AB.
Label the new triangle **S**.

(2)
(Total 2 marks)

2.



Triangle **A** is reflected in the x-axis to give triangle **B**.

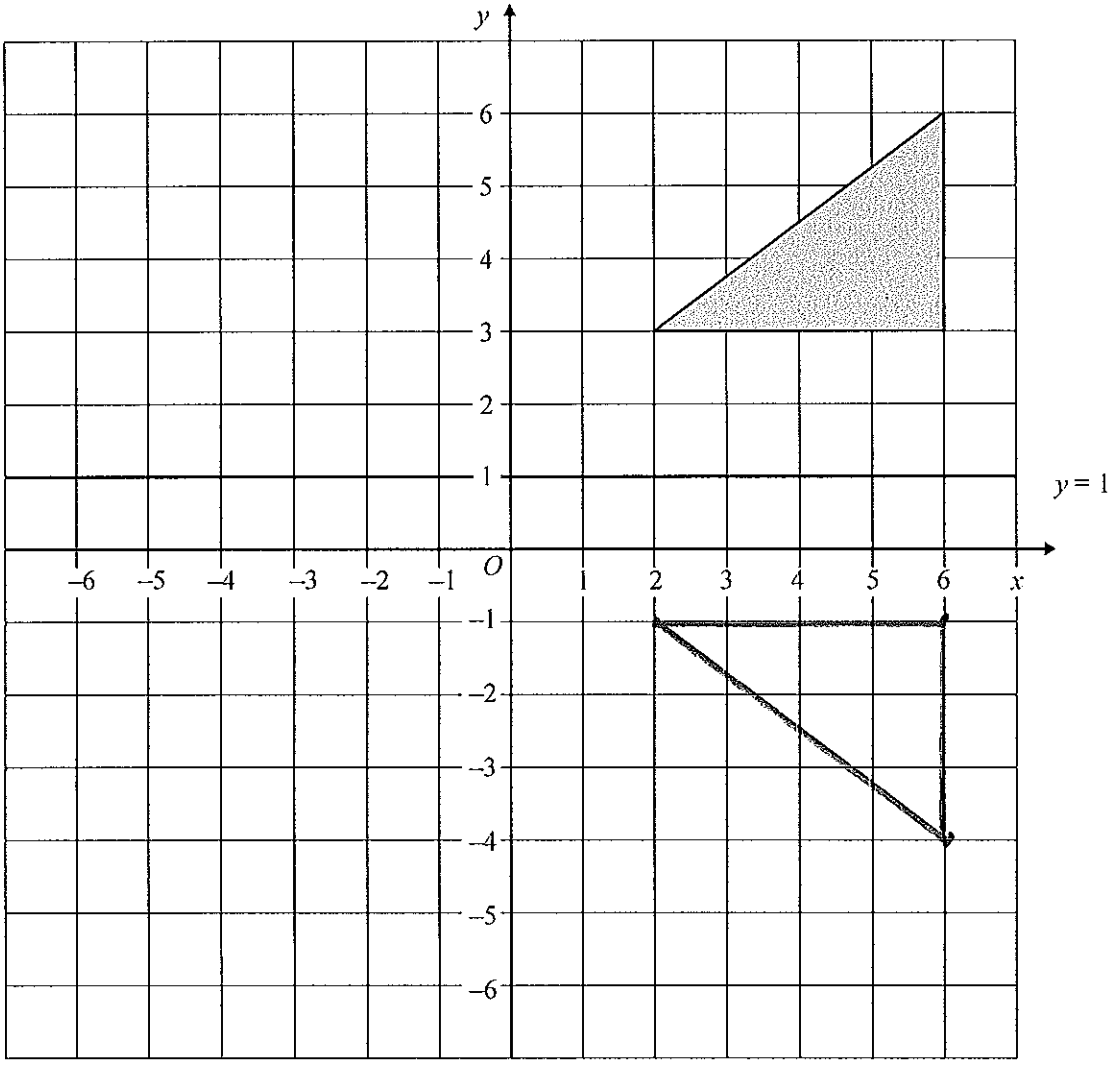
Draw the triangle **B** and label it **B**.

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

Draw the triangle **C** and label it **C**.

(Total 4 marks)

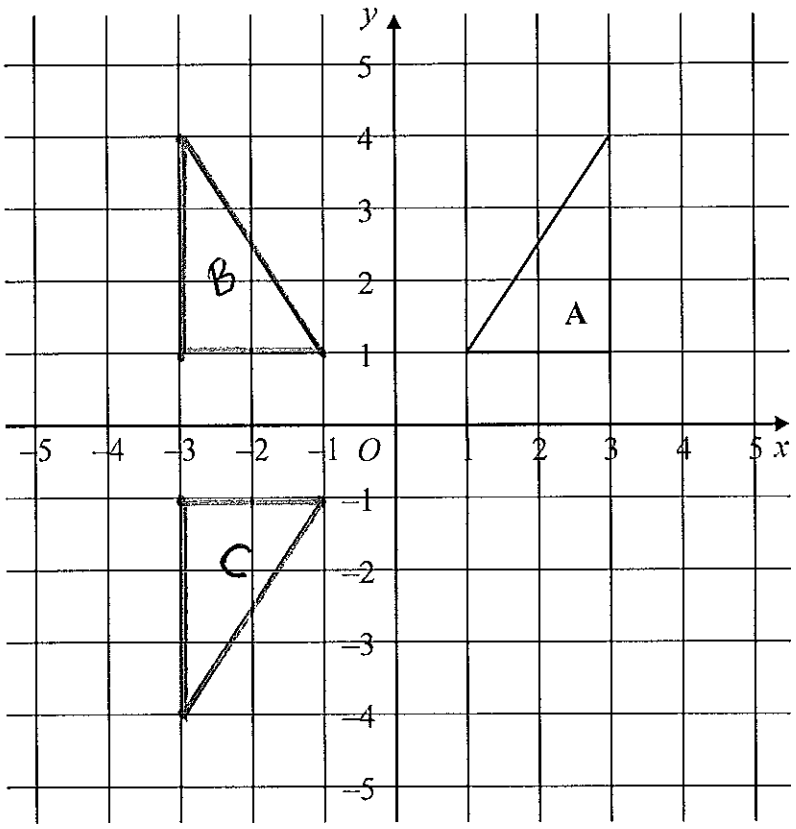
3.



Reflect the triangle in the line $y = 1$

(Total 2 marks)

4.



Triangle **A** is reflected in the *y* axis to give triangle **B**.

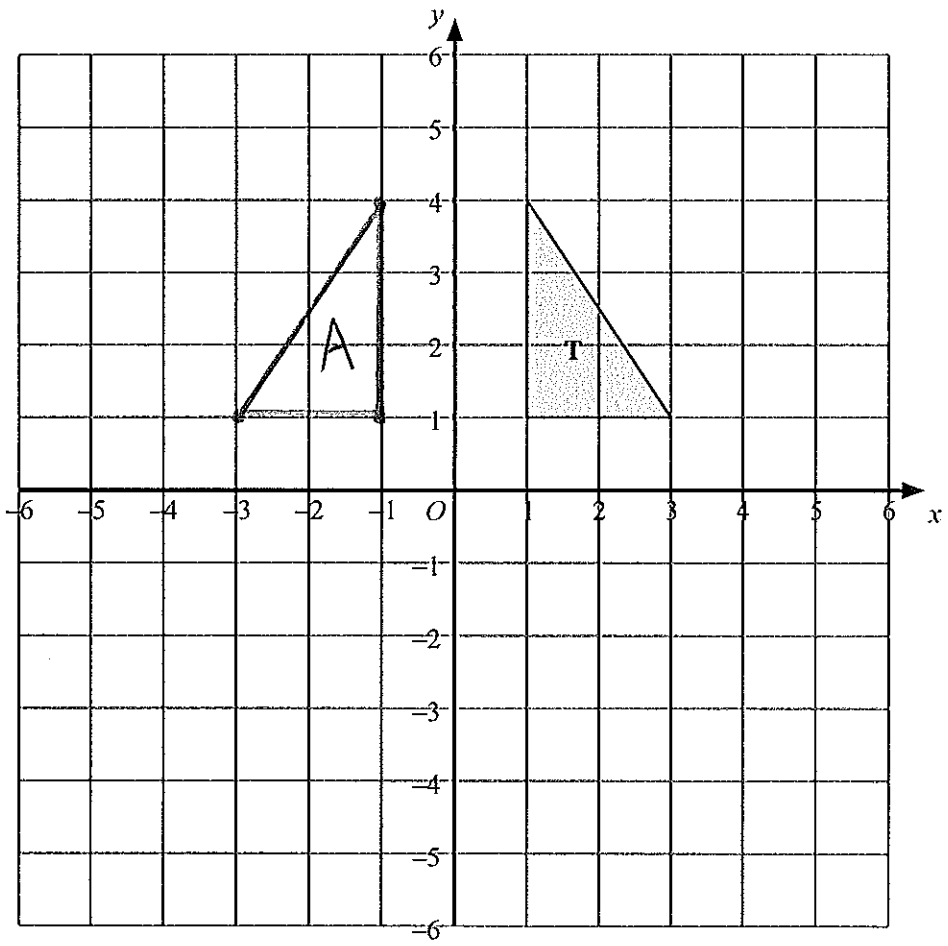
Draw the triangle **B** and label it **B**.

Triangle **B** is then reflected in the *x* axis to give triangle **C**.

Draw the triangle **C** and label it **C**.

(Total 4 marks)

5.



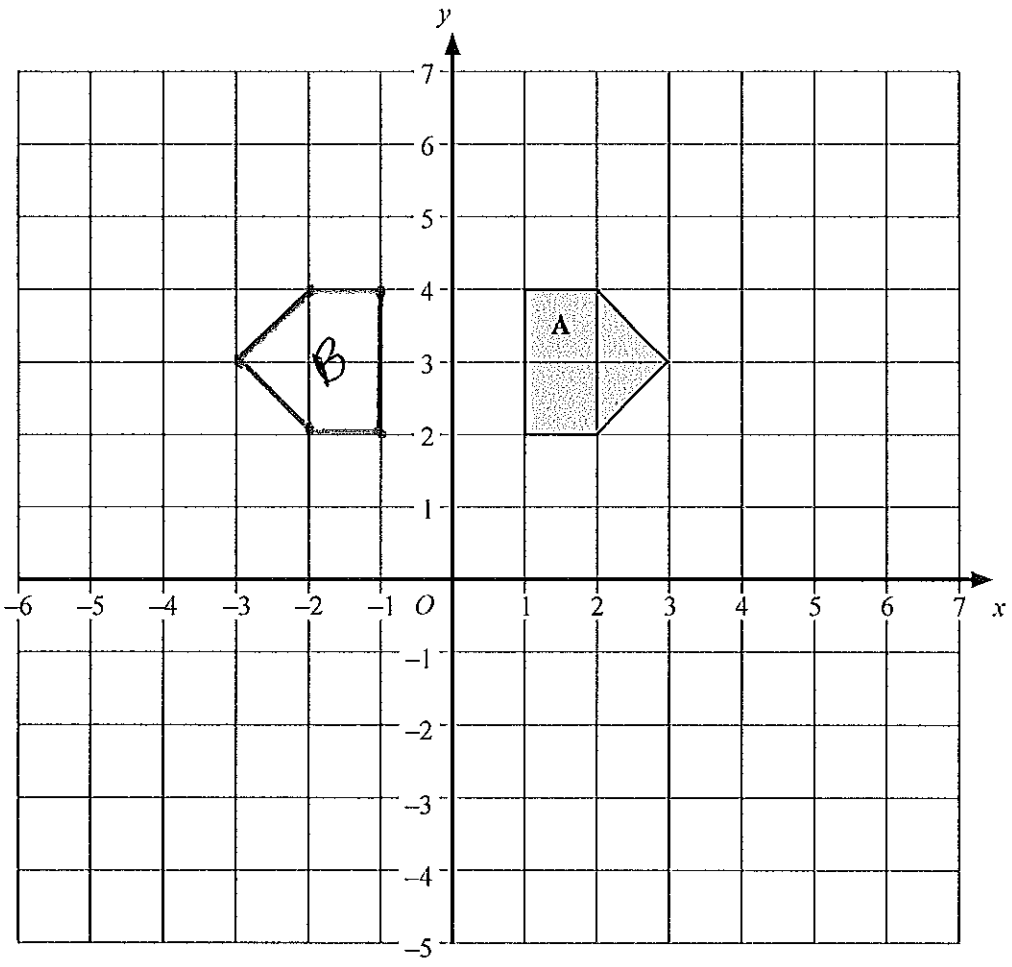
Triangle **T** has been drawn on the grid.

Reflect triangle **T** in the *y*-axis.
Label the new triangle **A**.

(2)

(Total 2 marks)

6.



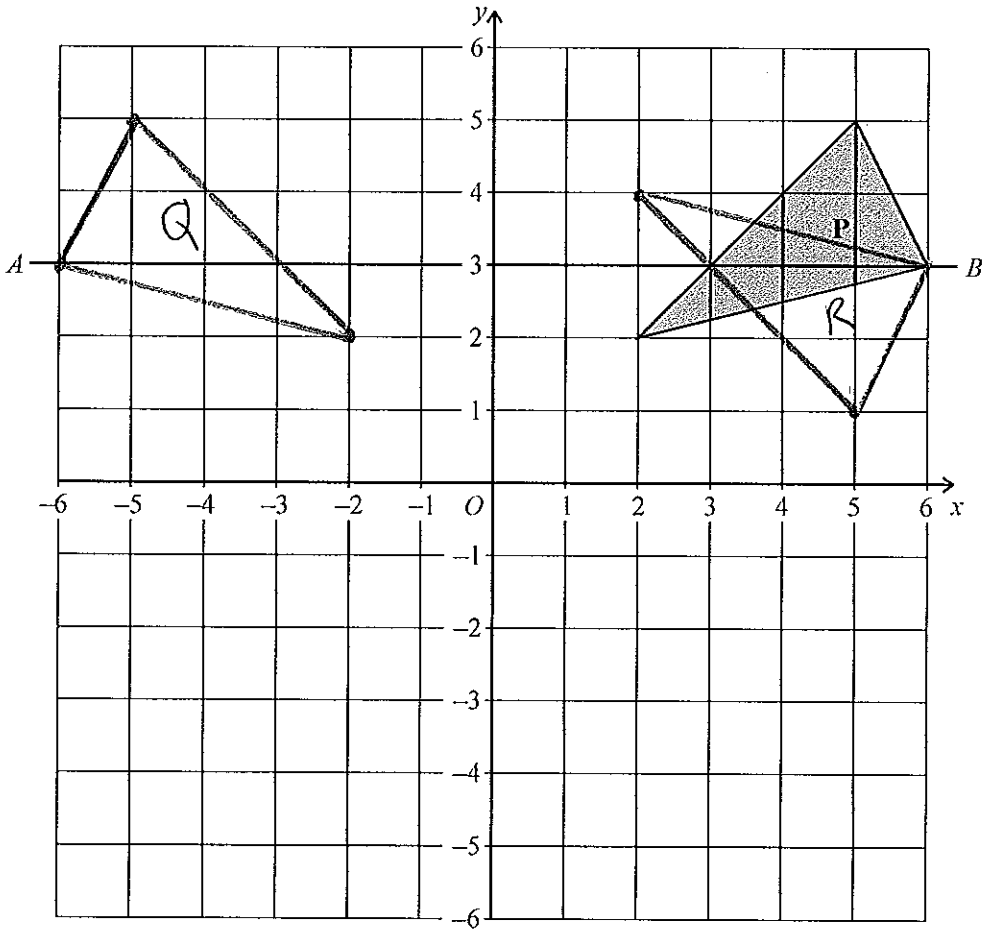
Reflect Shape **A** in the *y* axis.

Label your new shape **B**.

(2)

(Total 2 marks)

7.



On the grid, reflect triangle **P** in the *y*-axis.

Label the new shape, **Q.**

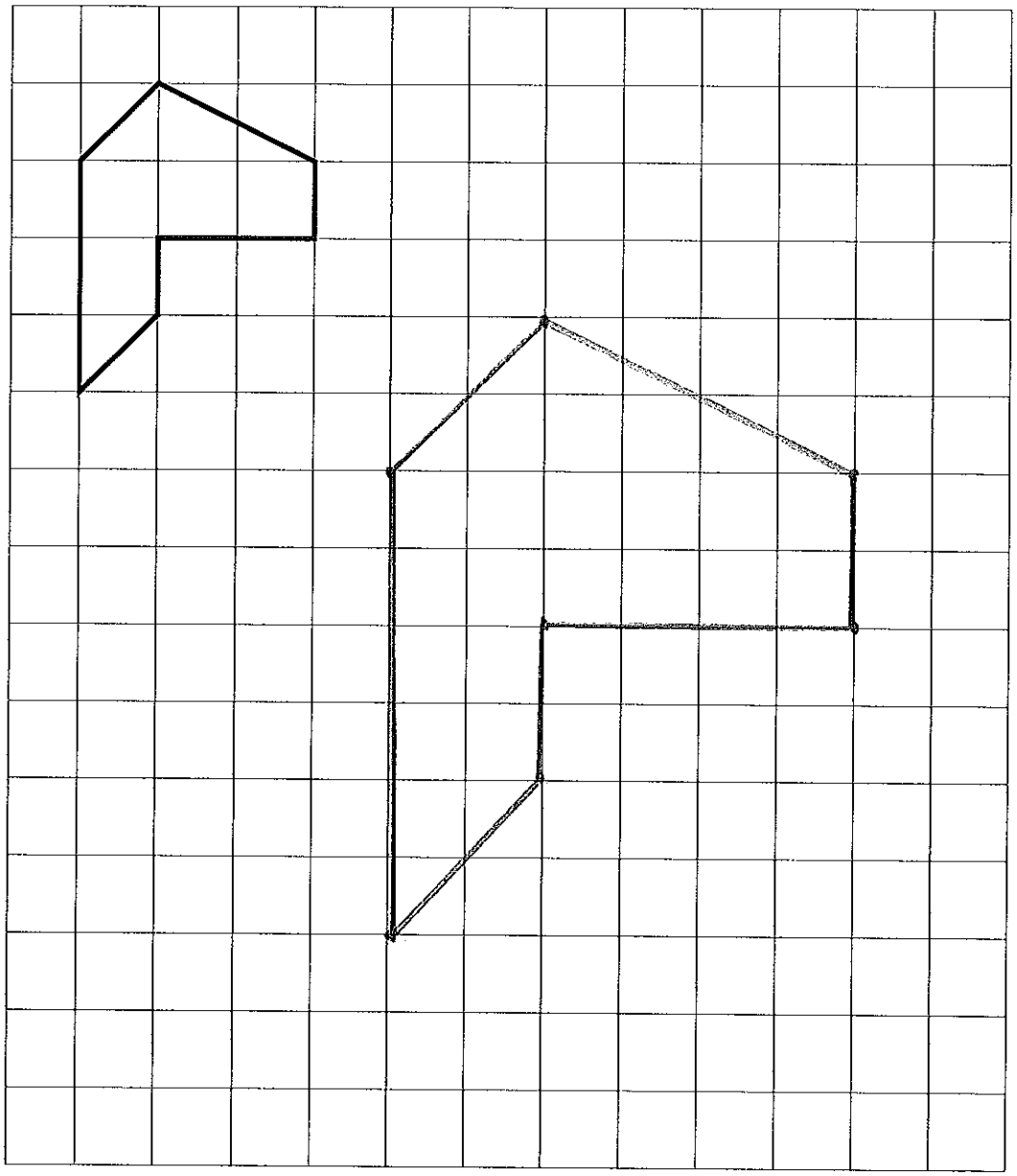
(1)

The line *AB* is drawn on the grid.

(b) On the grid, reflect triangle **P** in the line *AB*.
Label the new shape, **R.**

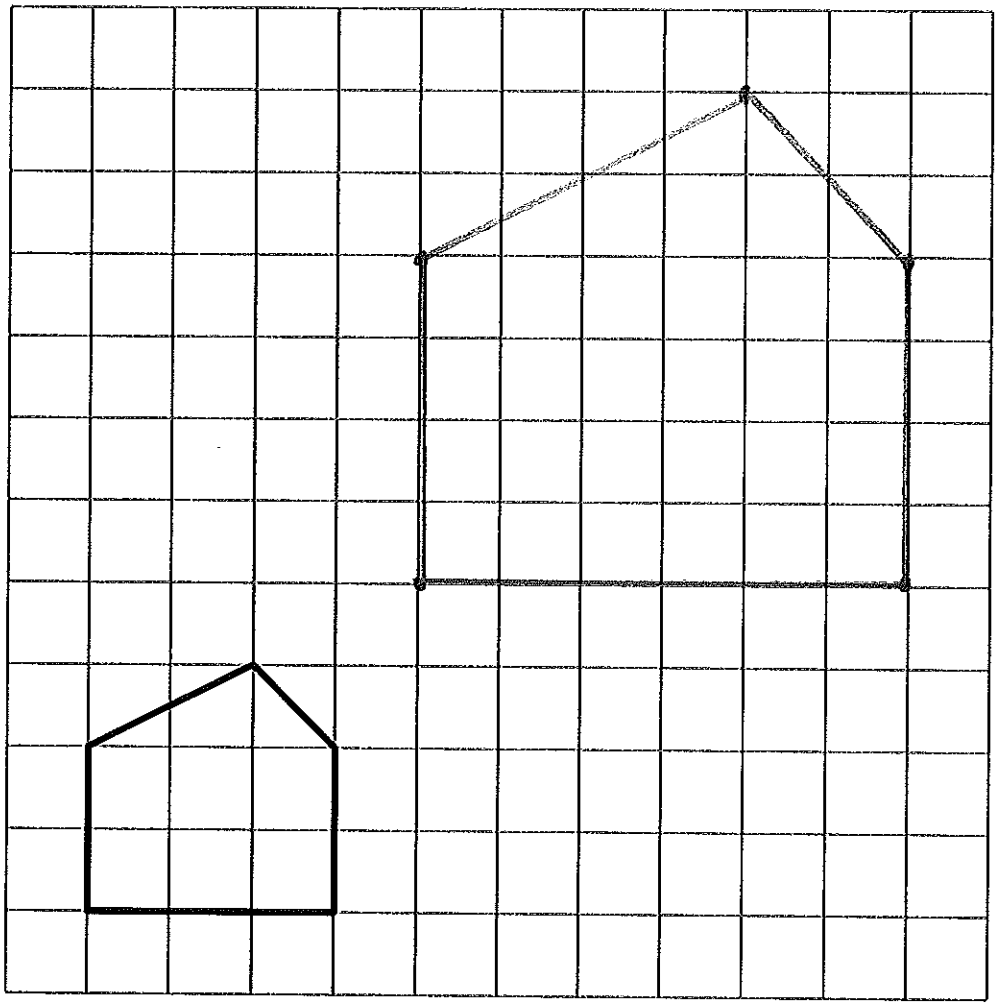
(1)
(Total 2 marks)

1. On the grid, enlarge the shape with a scale factor of 2.



(Total 2 marks)

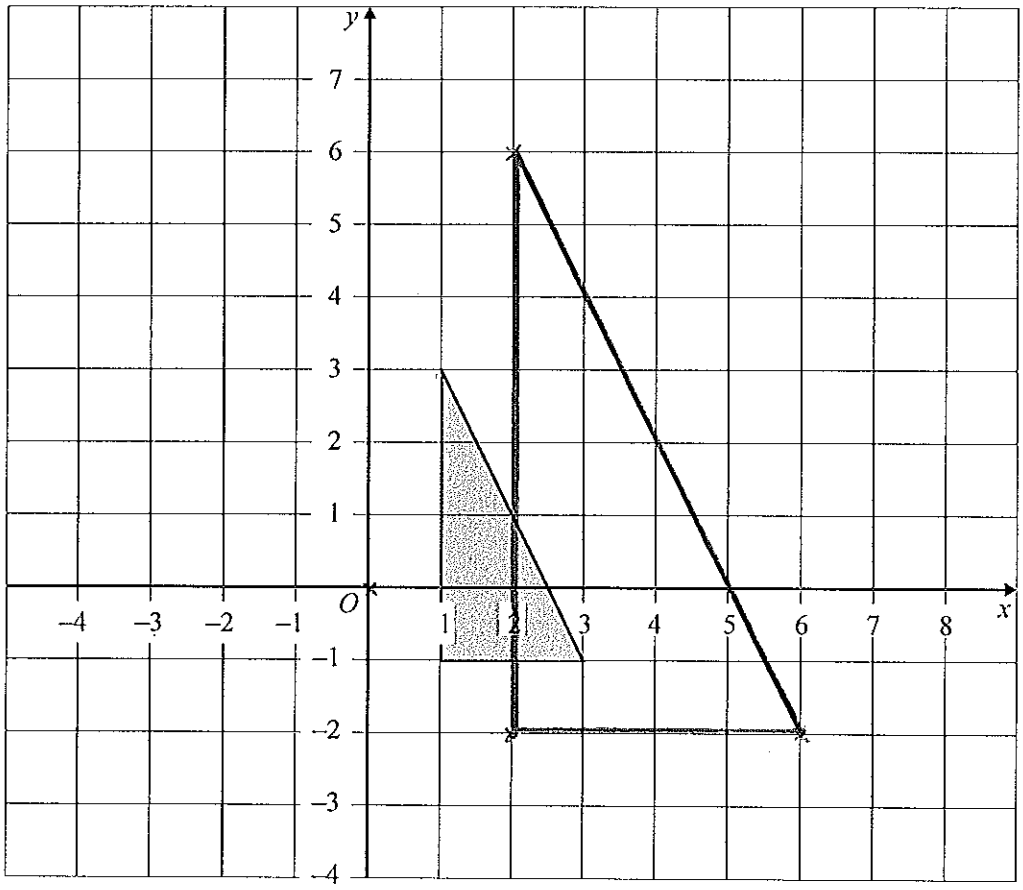
2.



On the grid, enlarge the shape with a scale factor of 2

(Total 2 marks)

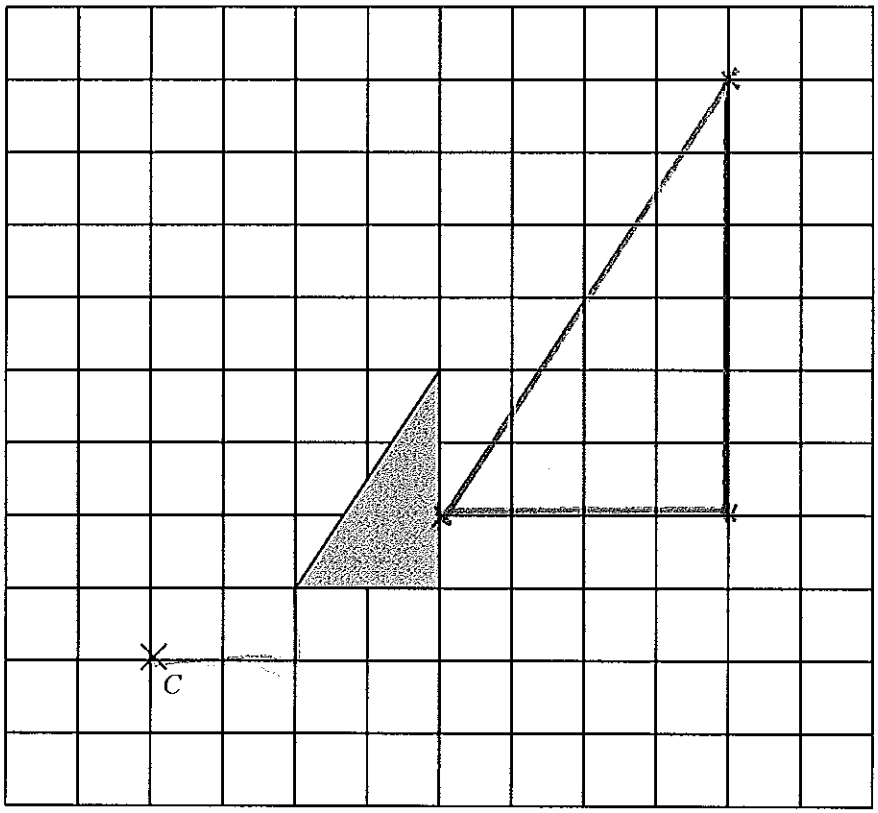
3.



Enlarge the shaded triangle by a scale factor 2, centre 0.

(Total 3 marks)

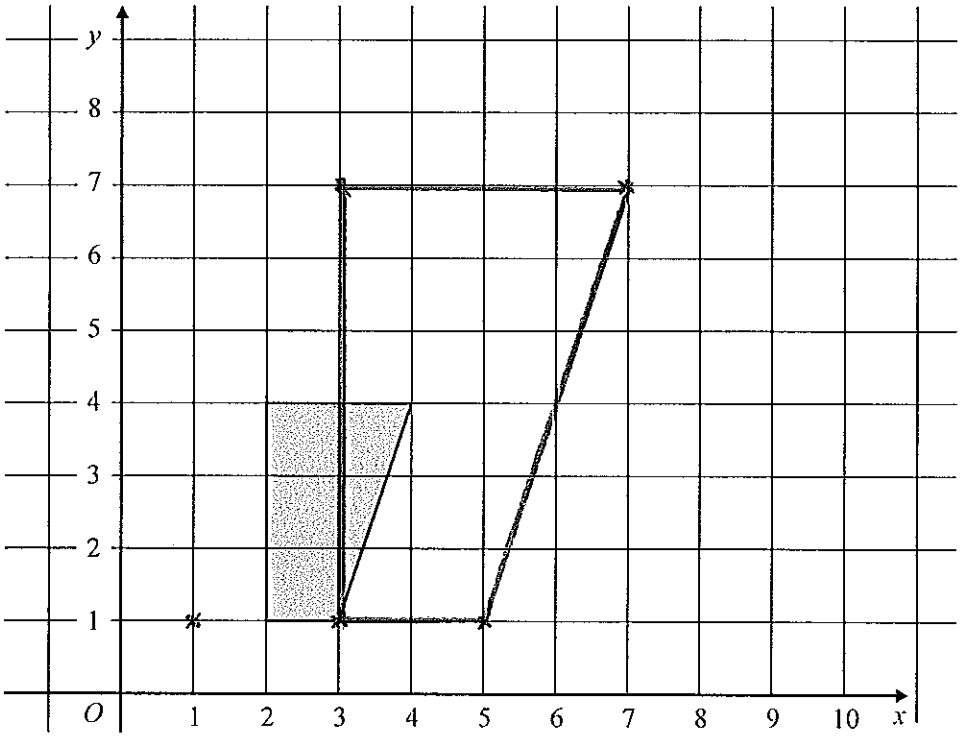
4.



On the grid, enlarge the shaded triangle by a scale factor of 2, centre C.

(Total 3 marks)

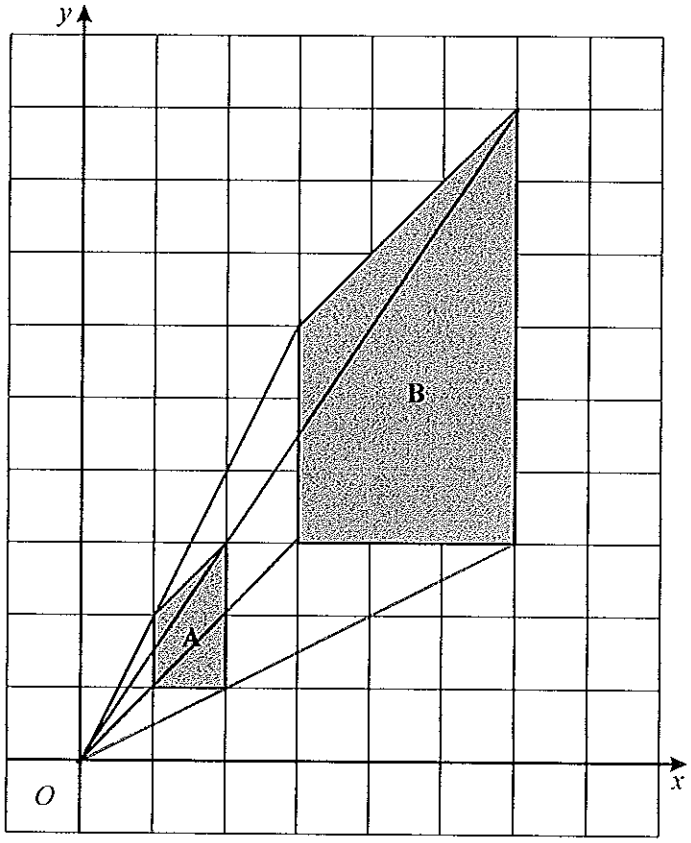
5.



On the grid, enlarge the shaded shape by scale factor of 2, centre (1,1).

(Total 3 marks)

6.



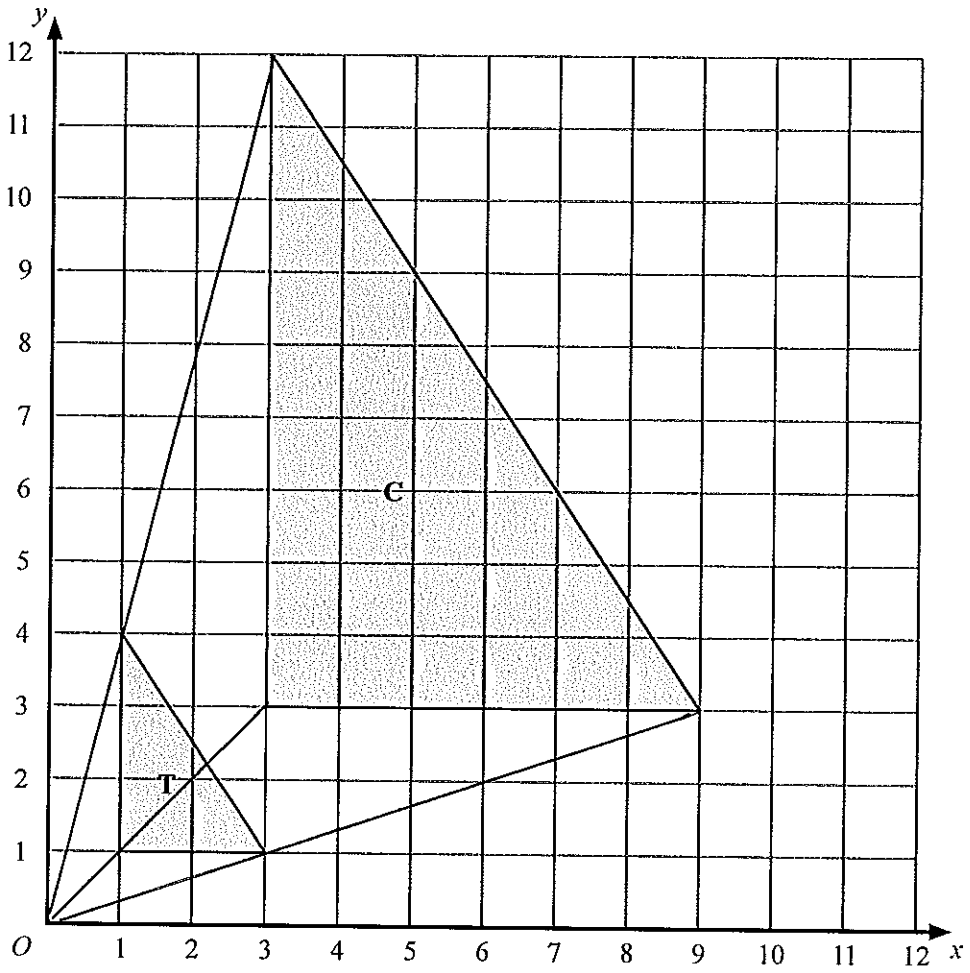
Describe fully the single transformation which takes shape **A** onto shape **B**.

enlargement, scale factor 3,

centre (0,0)

(Total 3 marks)

7.



(c) Describe fully the single transformation which maps triangle **T** onto triangle **C**.

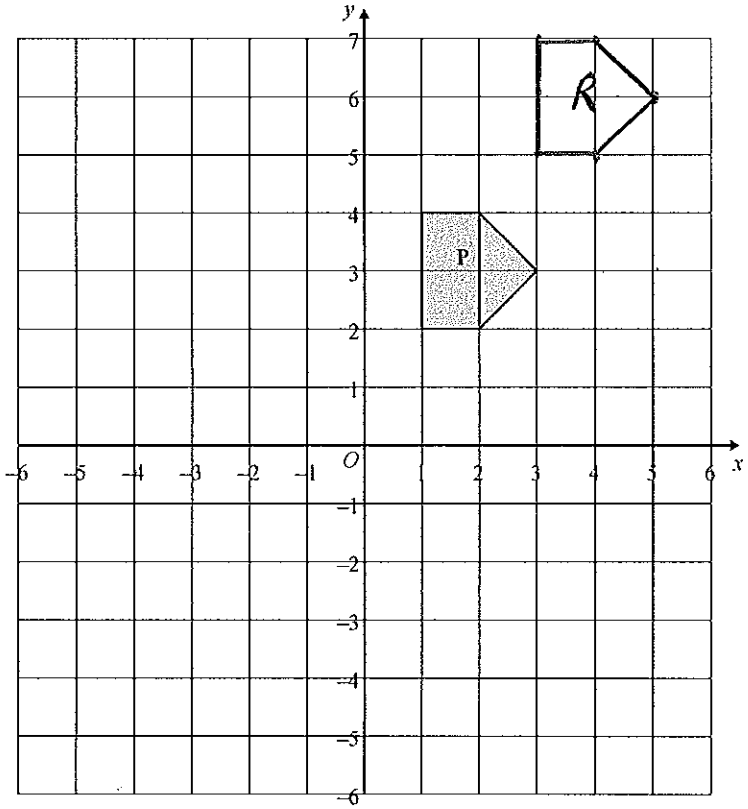
enlargement, scale factor 3,

centre (0,0)

(3)

(Total 3 marks)

1.

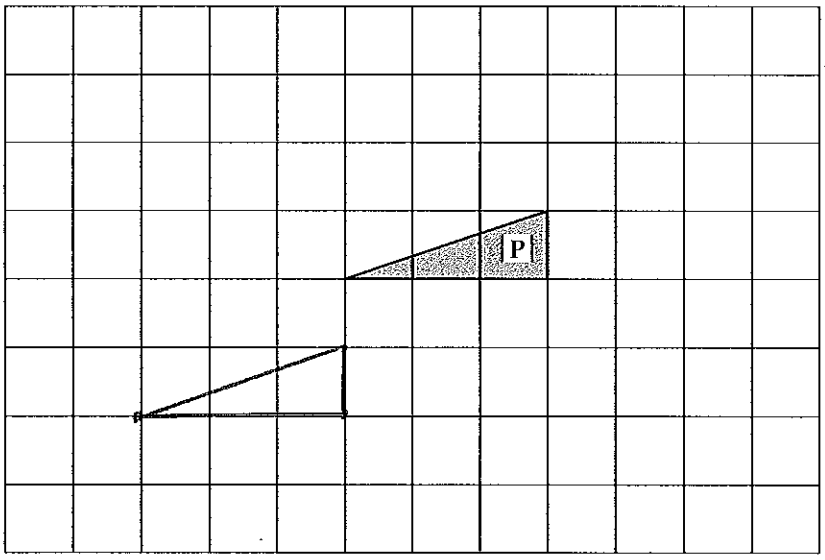


On the grid, translate the shaded shape **P** by 2 units to the right and 3 units up.

Label the new shape **R.**

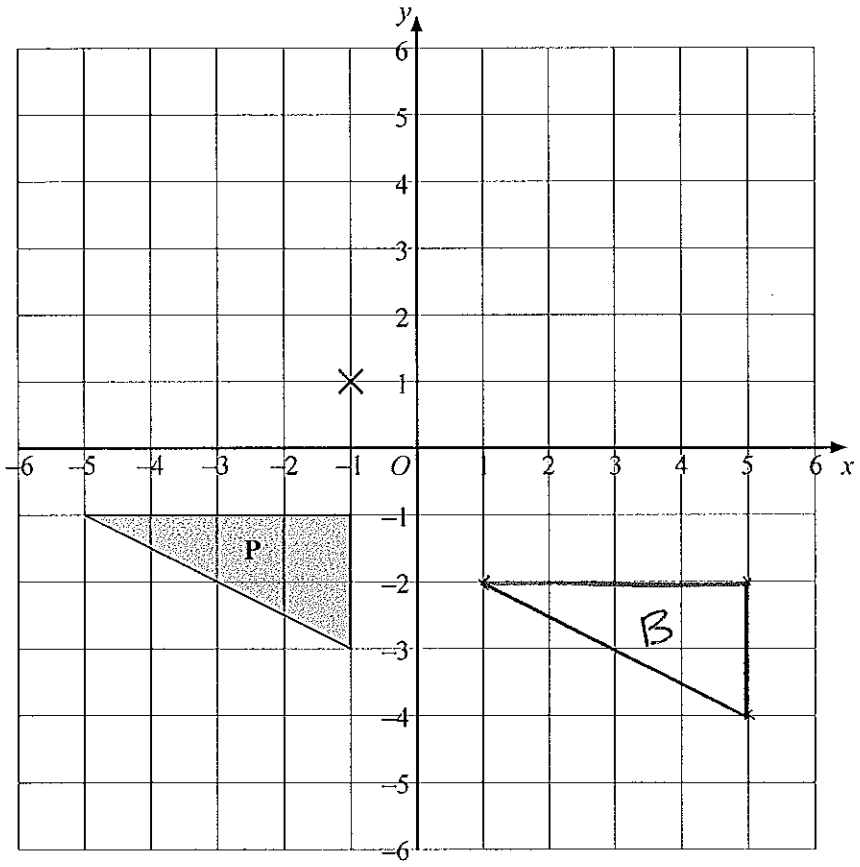
(Total 2 marks)

2. Translate shape **P** 3 squares to the left and 2 squares down.



(Total 1 mark)

3.

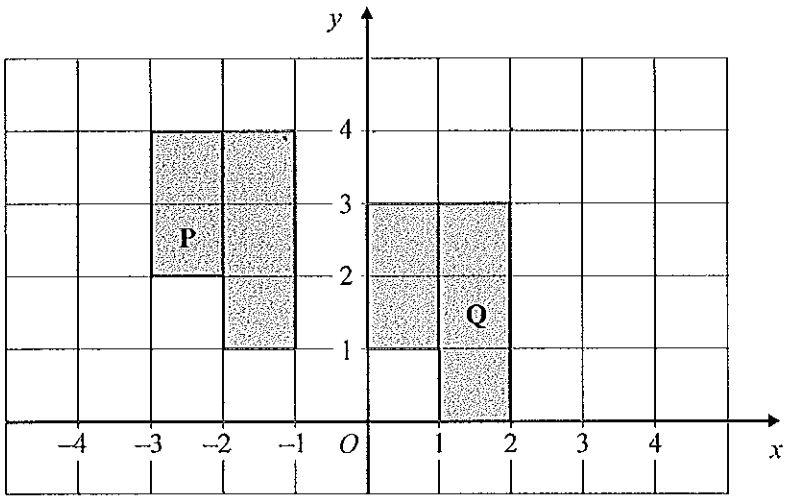


Translate triangle **P** by the vector $\begin{pmatrix} 6 \\ -1 \end{pmatrix}$.

Label the new triangle **B**.

(2)
(Total 2 marks)

4.

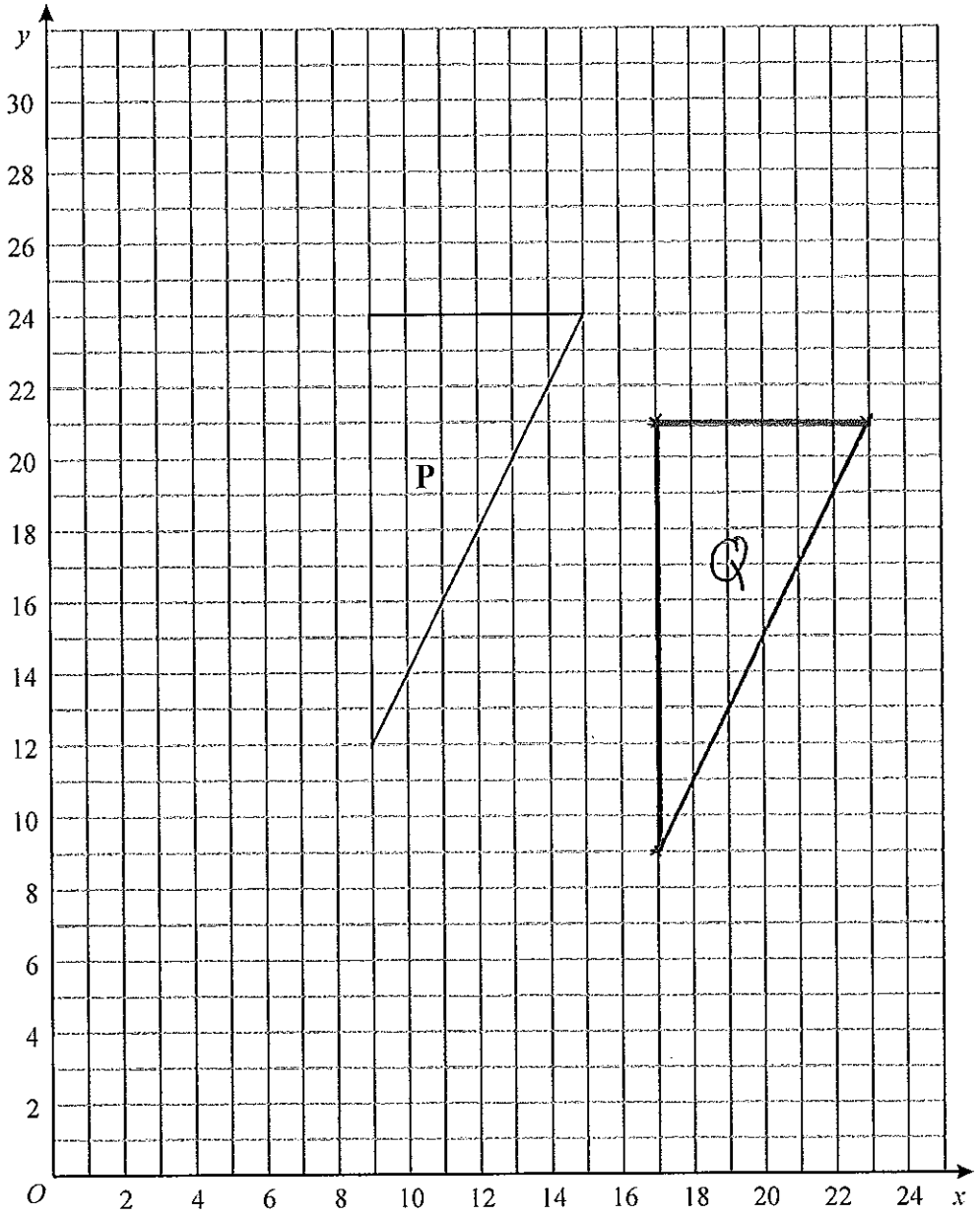


Describe fully the single transformation that will map shape **P** onto shape **Q**.

Translation by the vector $\begin{pmatrix} 3 \\ -1 \end{pmatrix}$

(2)
(Total 2 marks)

5.

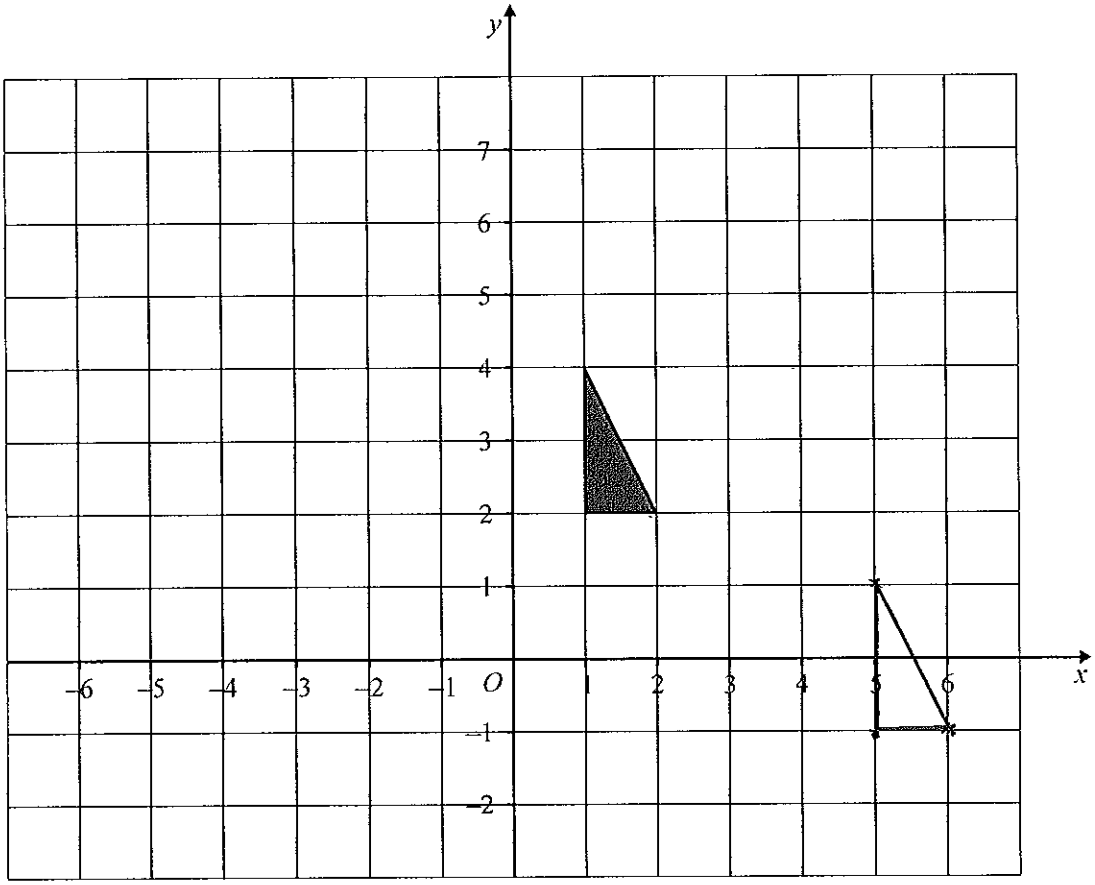


On the grid, translate triangle **P** by the vector $\begin{pmatrix} 8 \\ -3 \end{pmatrix}$

Label the new triangle **Q.**

(2)
(Total 2 marks)

6.

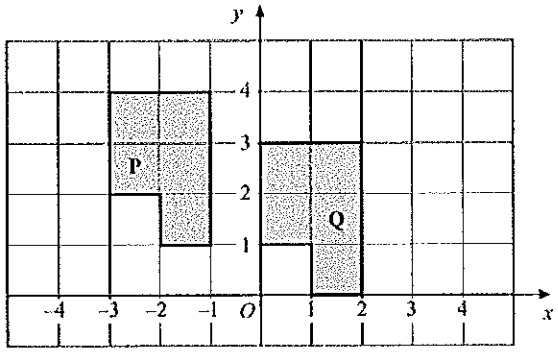


Translate the triangle by the vector

$$\begin{pmatrix} 4 \\ -3 \end{pmatrix}$$

(Total 2 mark)

7.



Describe fully the single transformation that will map shape **P** onto shape **Q**.

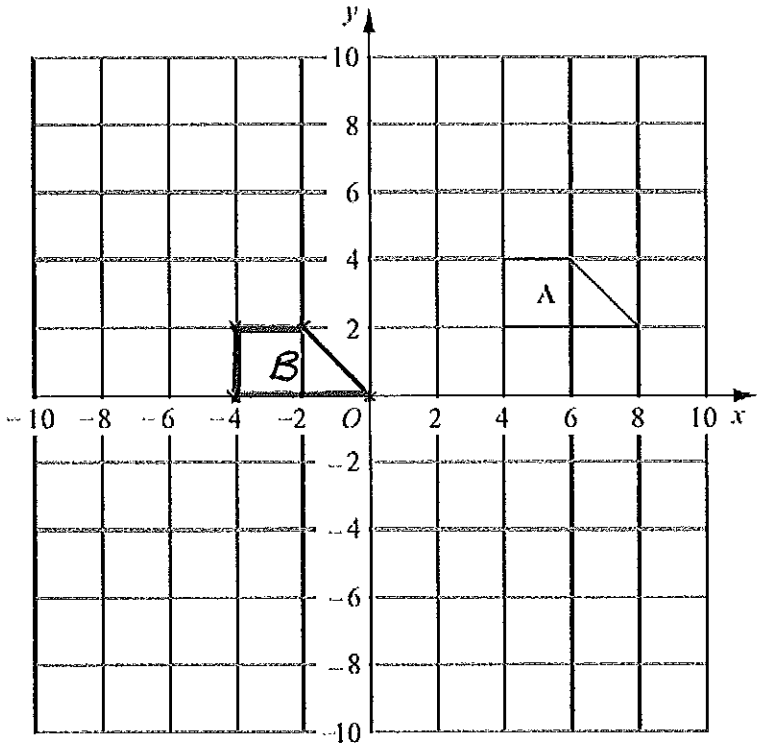
translation by the vector $\begin{pmatrix} 3 \\ -1 \end{pmatrix}$

.....

(2)

(Total 2 marks)

8.

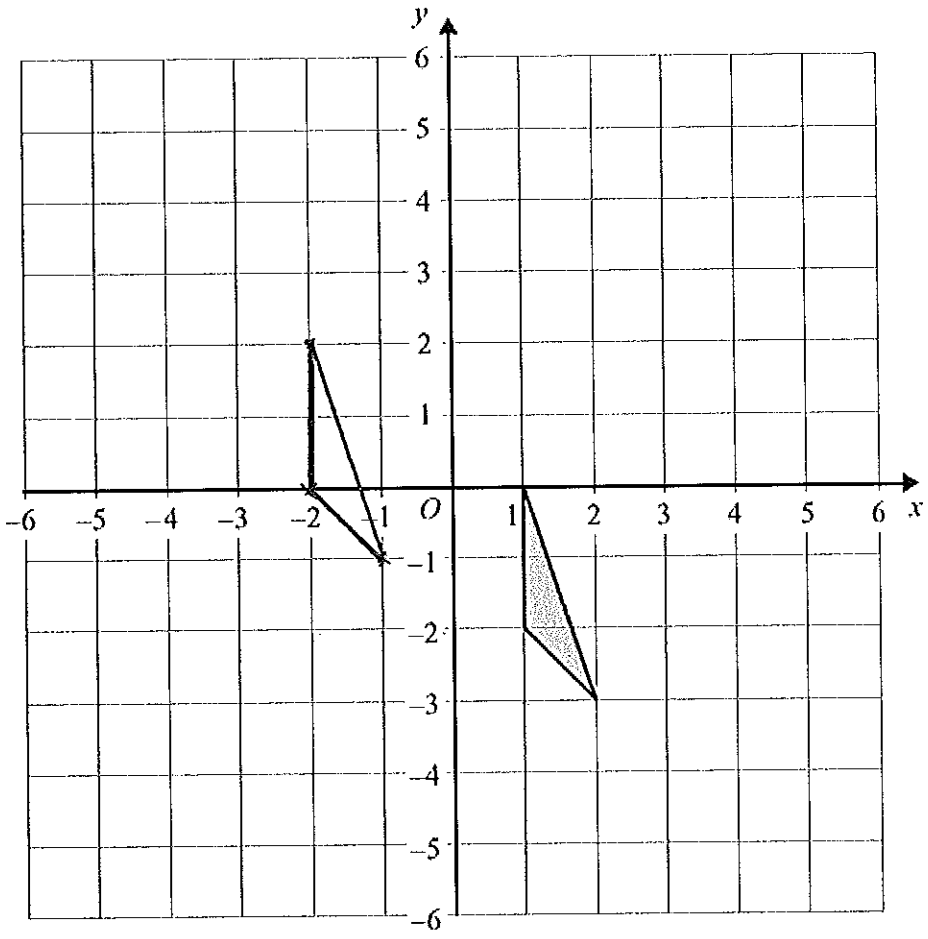


Translate shape **A** by $\begin{pmatrix} -8 \\ -2 \end{pmatrix}$.

Label the new shape **B**.

(Total 2 marks)

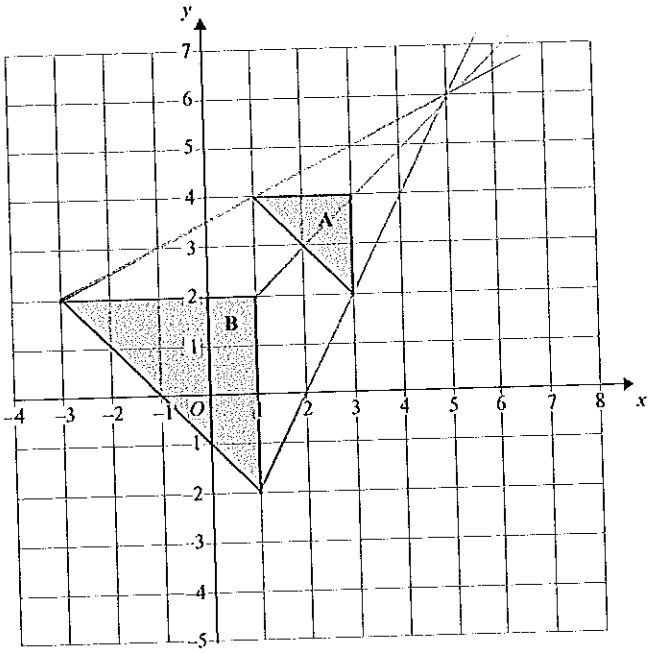
9.



Translate the triangle by $\begin{pmatrix} -3 \\ 2 \end{pmatrix}$

(Total 2 marks)

1.

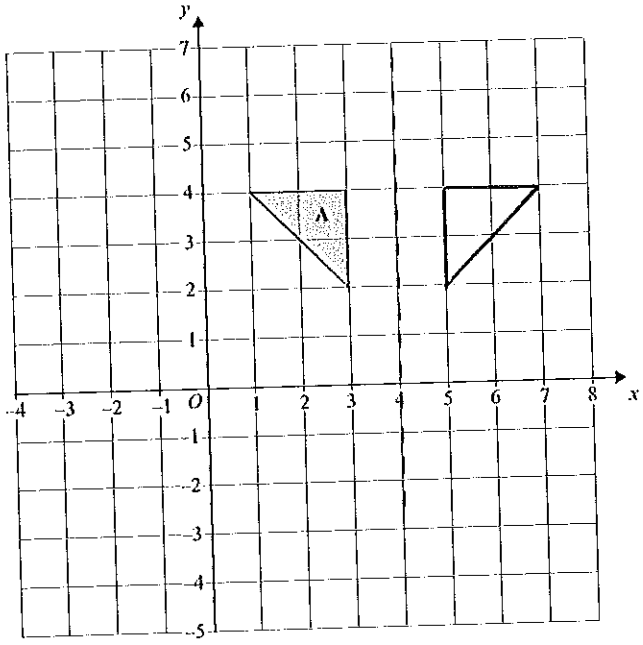


Triangle **A** and triangle **B** are drawn on the grid.

(a) Describe fully the single transformation which maps triangle **A** onto triangle **B**.

enlargement, scale factor 2,
centre (5, 6)

(3)

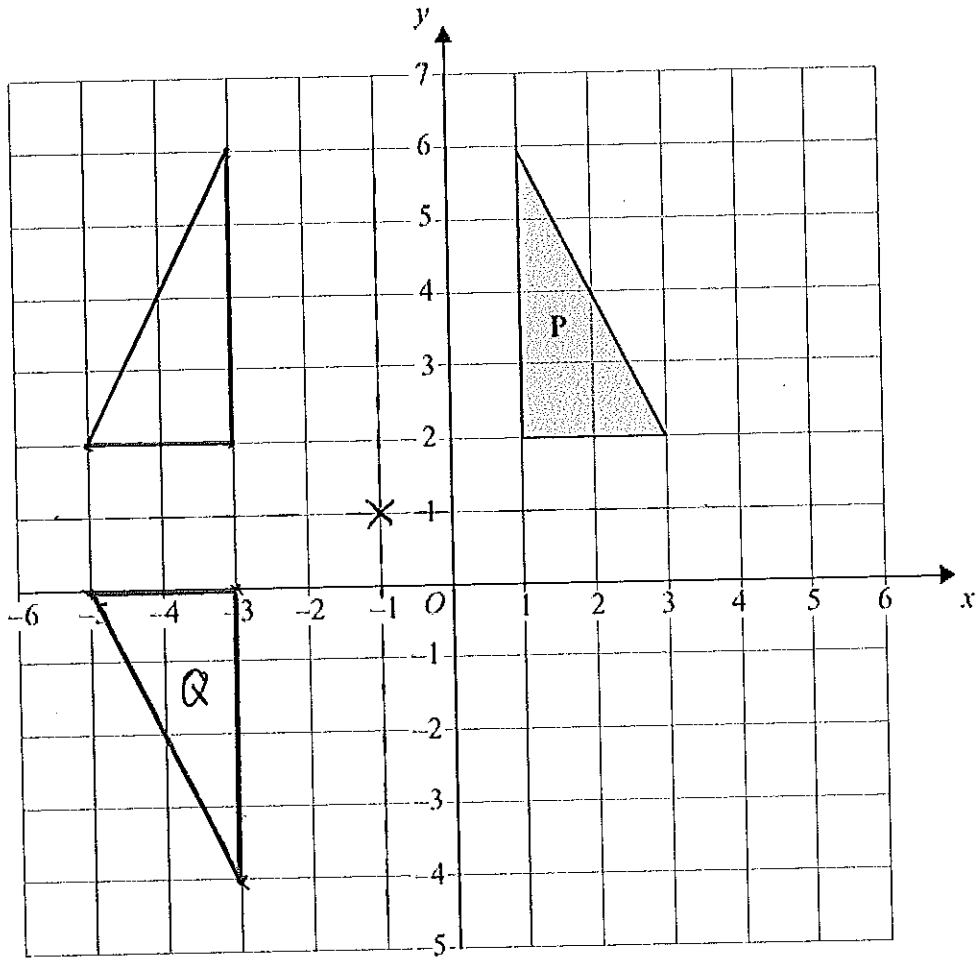


(b) Reflect triangle **A** in the line $x = 4$

(2)

(5 marks)

2.



Triangle **P** is drawn on a coordinate grid.

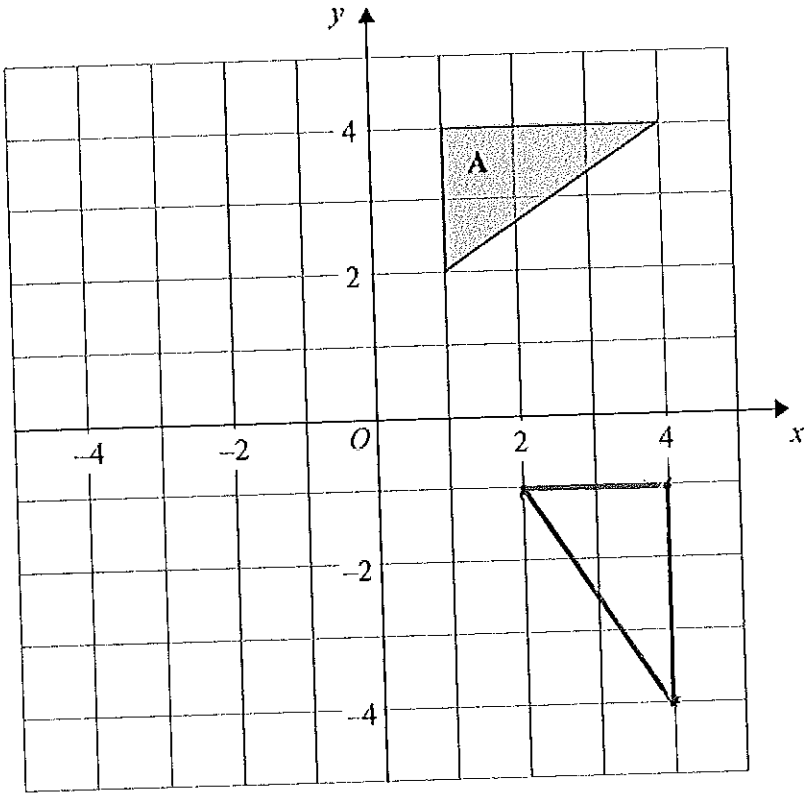
The triangle **P** is reflected in the line $x = -1$ and then reflected in the line $y = 1$ to give triangle **Q**.

Describe fully the single transformation which maps triangle P onto triangle Q.

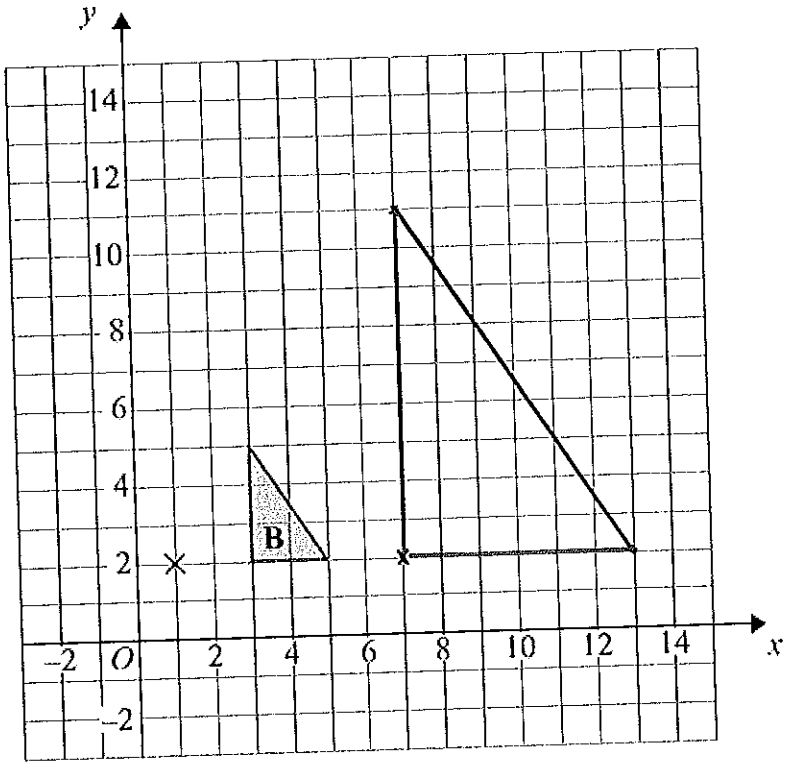
Rotation, 180°, centre (−1, 1)

(3 marks)

3.



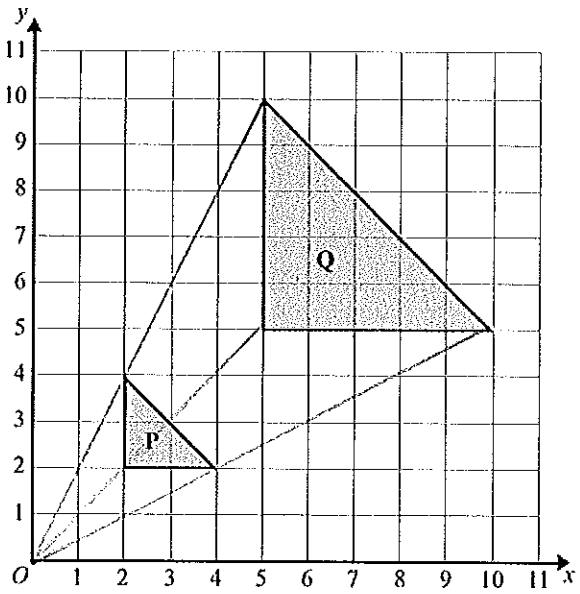
(a) Rotate triangle **A** 90° clockwise, centre O. (2)



(b) Enlarge triangle **B** by scale factor 3, centre (1, 2). (3)

(5 marks)

4.

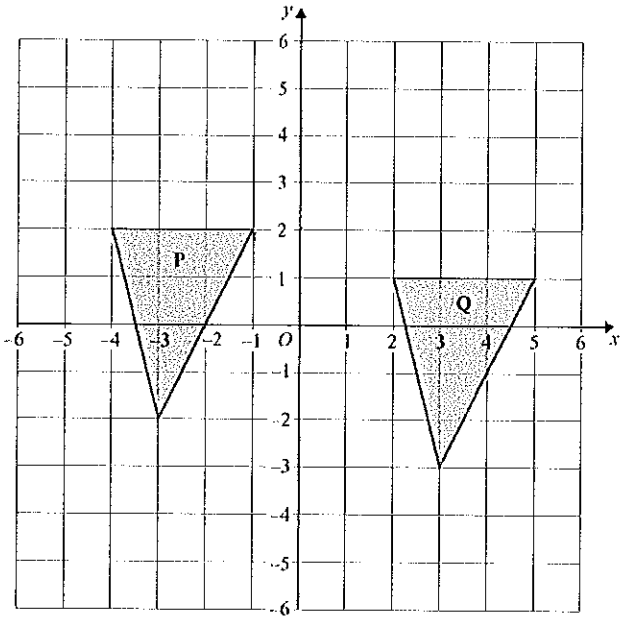


Describe fully the single transformation that maps shape **P** onto shape **Q**.

enlargement, scale factor 2.5, centre (0,0)

(3 marks)

5.

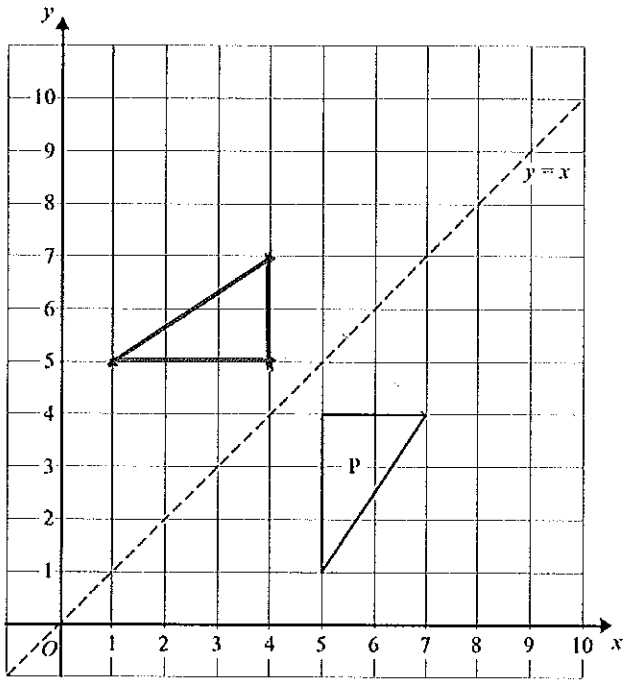


Describe fully the single transformation that maps triangle **P** onto triangle **Q**.

translation by the vector $\begin{pmatrix} 6 \\ -1 \end{pmatrix}$

(3 marks)

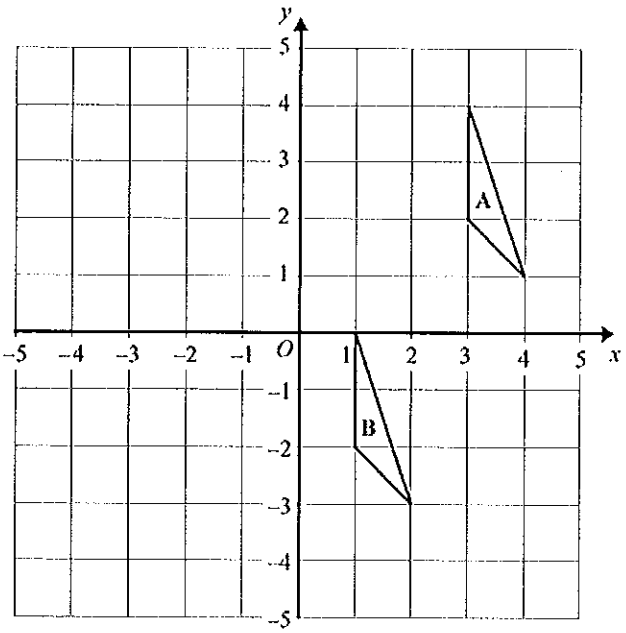
6. (a)



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

(2)

(b)



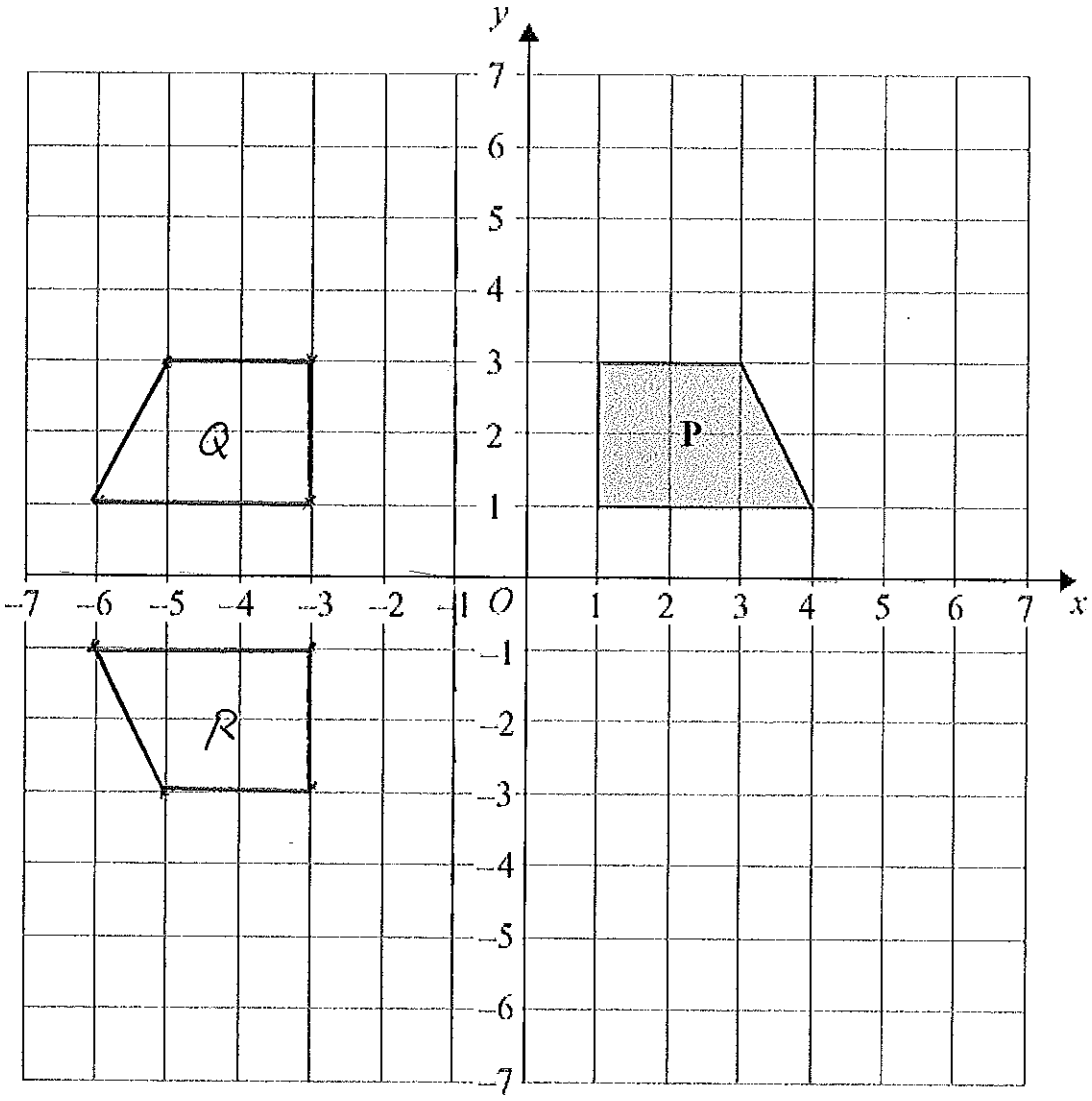
Describe fully the single transformation that maps triangle **A** onto triangle **B**.

translation by vector $\begin{pmatrix} -2 \\ -4 \end{pmatrix}$

(2)

(4 marks)

7.



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

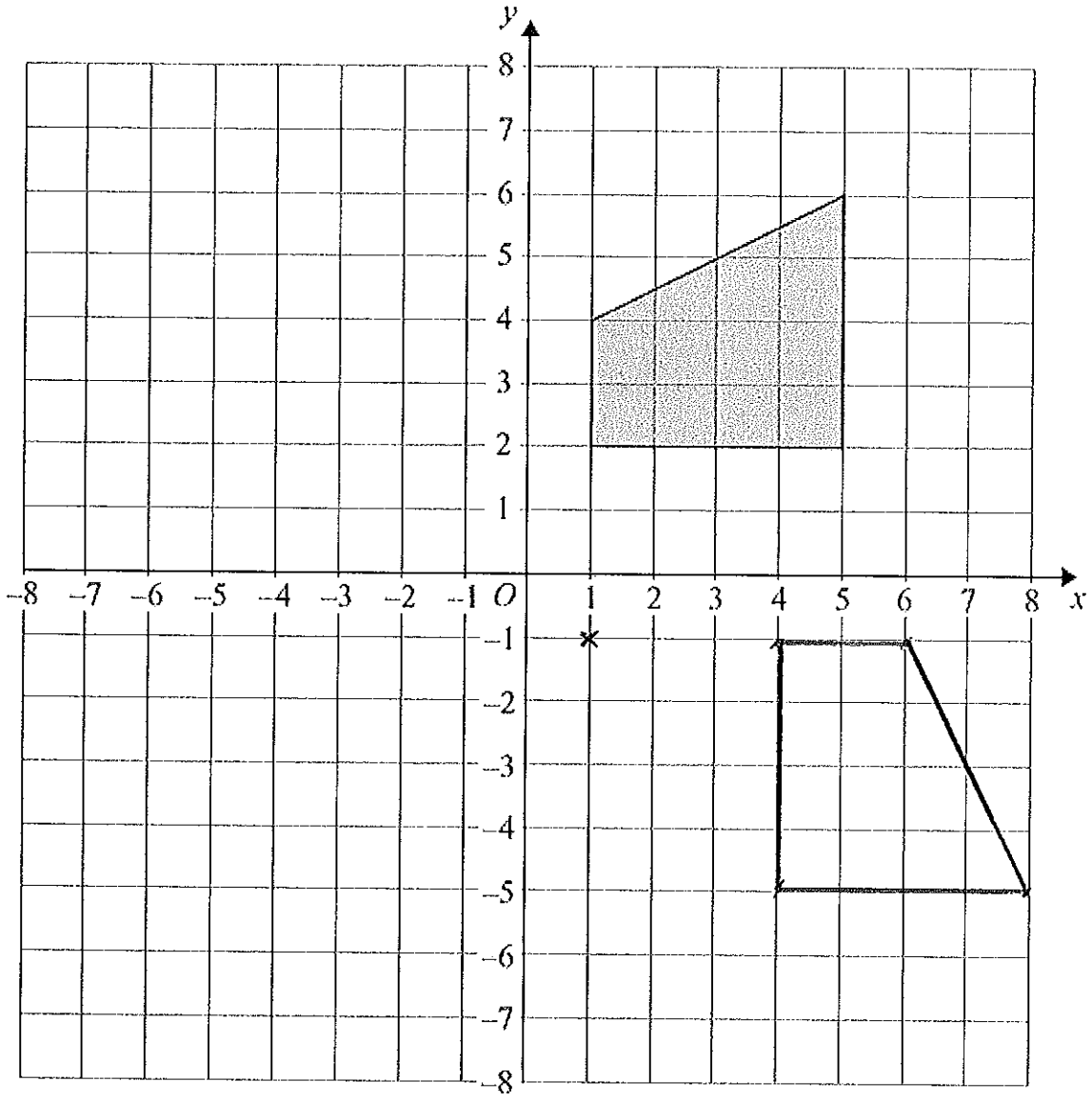
Shape **Q** is reflected in the line $y = 0$ to give shape **R**.

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

Rotation, 180°, centre (-1, 0)

(3 marks)

8.



Rotate the shaded shape 90^0 clockwise about the point (1, -1).

(3 marks)