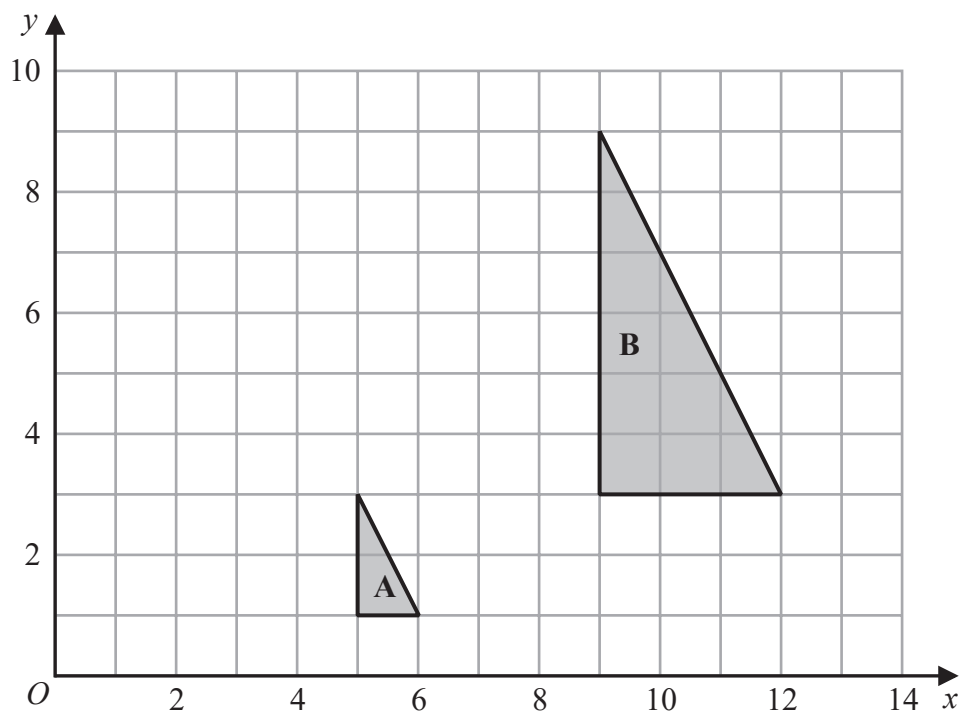


1



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

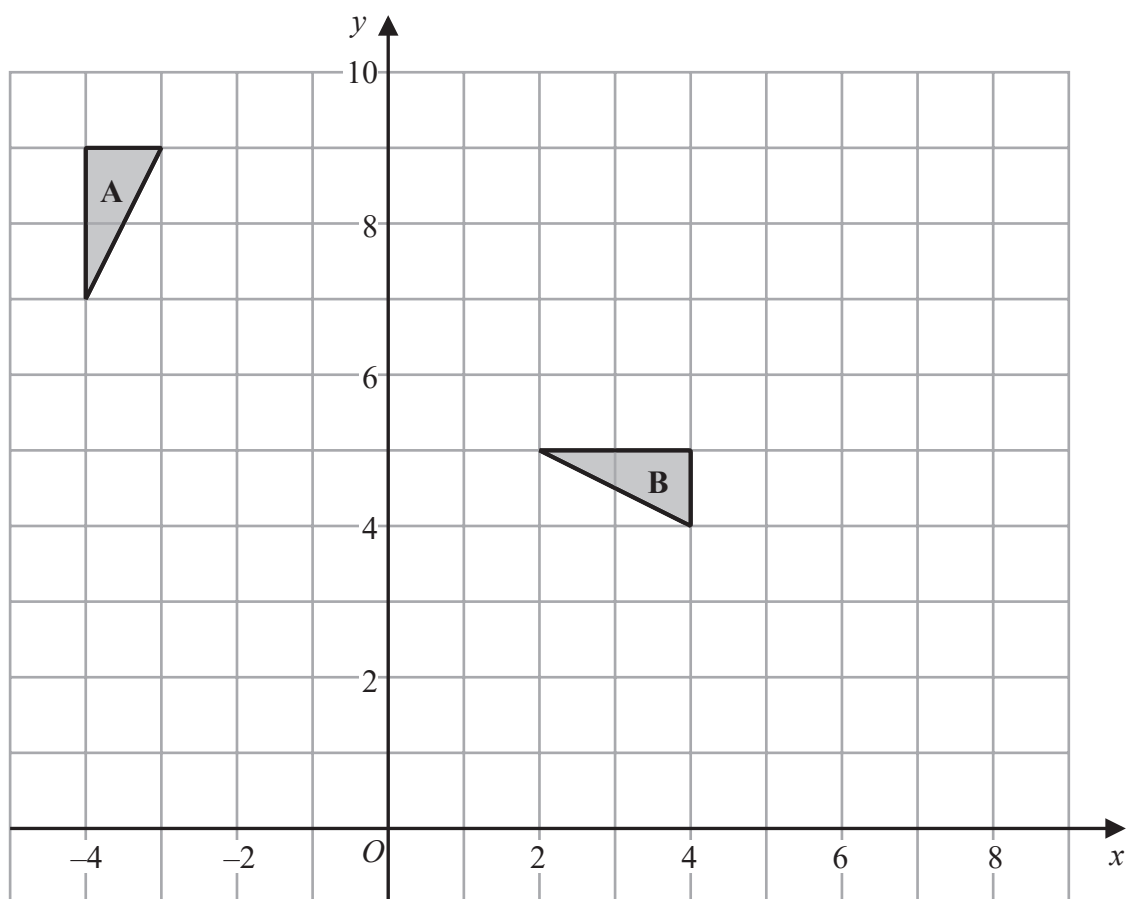
(3)

(b) On the grid above, translate triangle **A** by the vector $\begin{pmatrix} -4 \\ 3 \end{pmatrix}$

Label your triangle **C**

(1)

(Total for Question 1 is 4 marks)



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

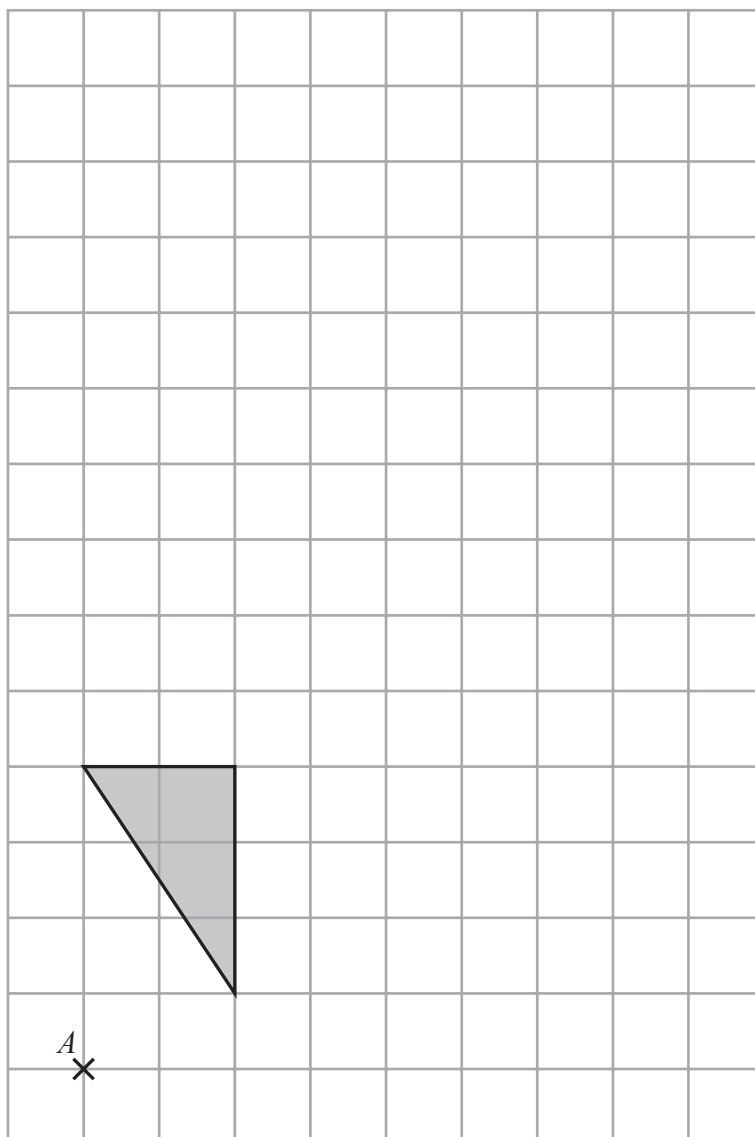
(3)

(b) On the grid, translate triangle **A** by the vector $\begin{pmatrix} 2 \\ -5 \end{pmatrix}$

Label the new triangle **C**.

(1)

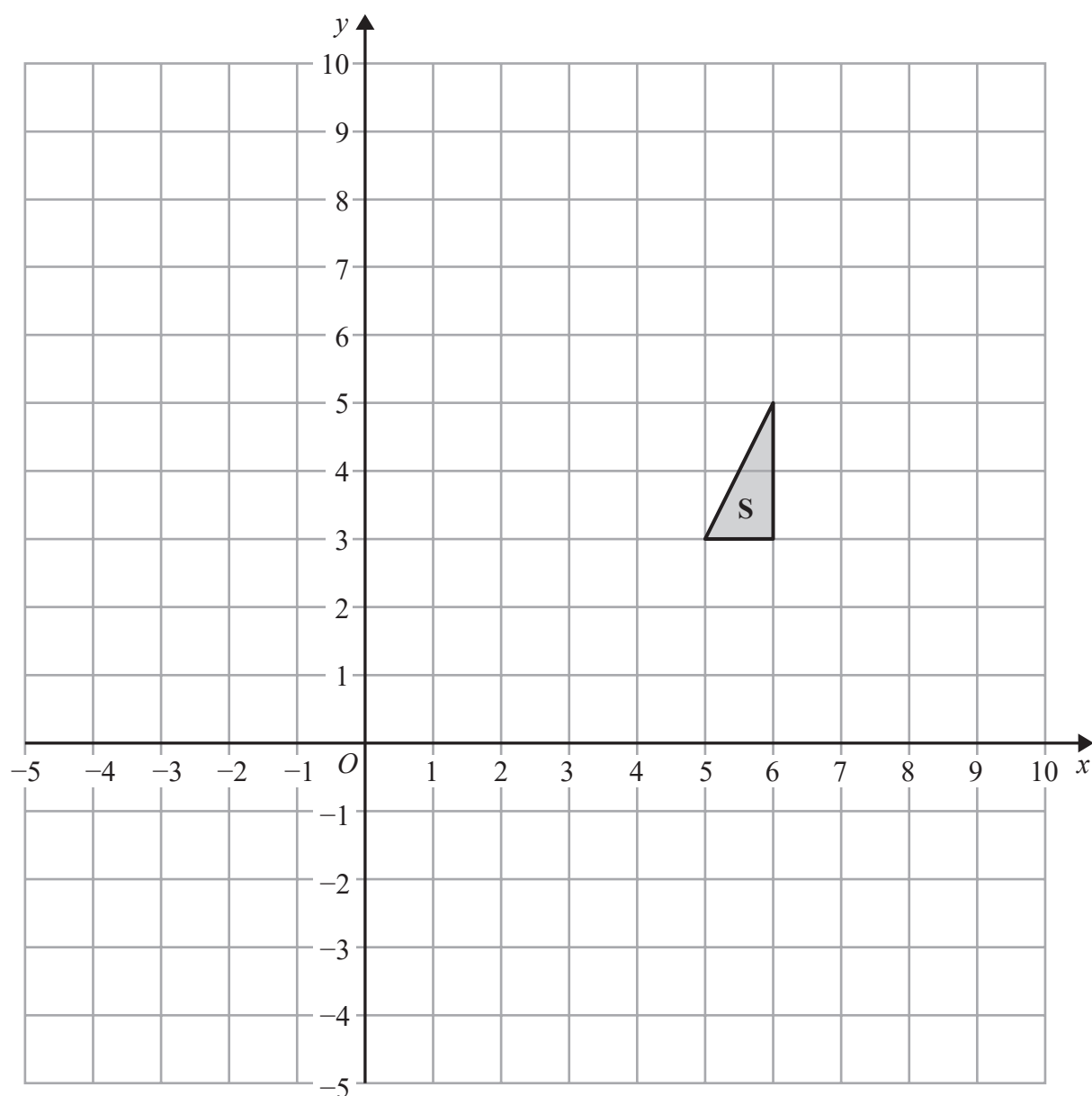
(c) A shaded shape is shown on the grid.



On the grid, enlarge the shape by a scale factor of 2, centre A .

(Total for Question 2 is 4 marks)

3



- (a) Reflect triangle **S** in the line $y = x$
Label the new triangle **R**.

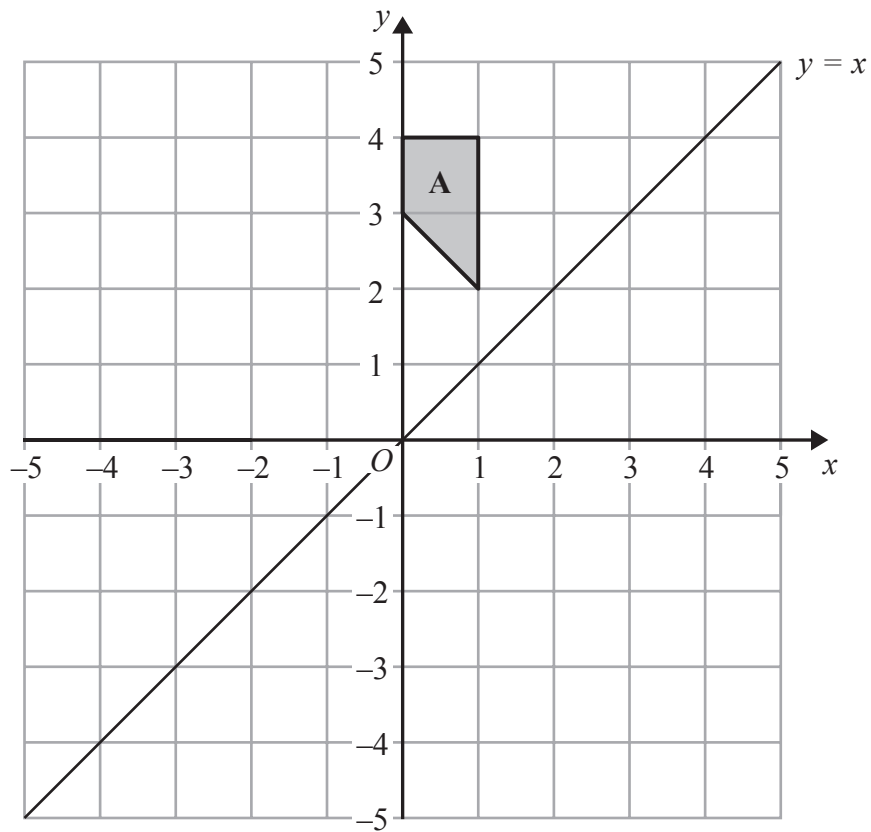
(2)

- (b) Translate triangle **S** by the vector $\begin{pmatrix} -4 \\ -6 \end{pmatrix}$
Label the new triangle **T**.

(1)

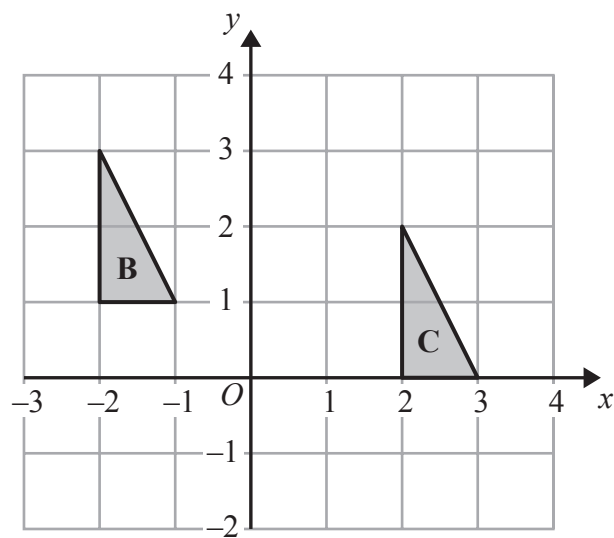
(Total for Question 3 is 3 marks)

4



(a) On the grid, reflect shape A in the line $y = x$.

(2)

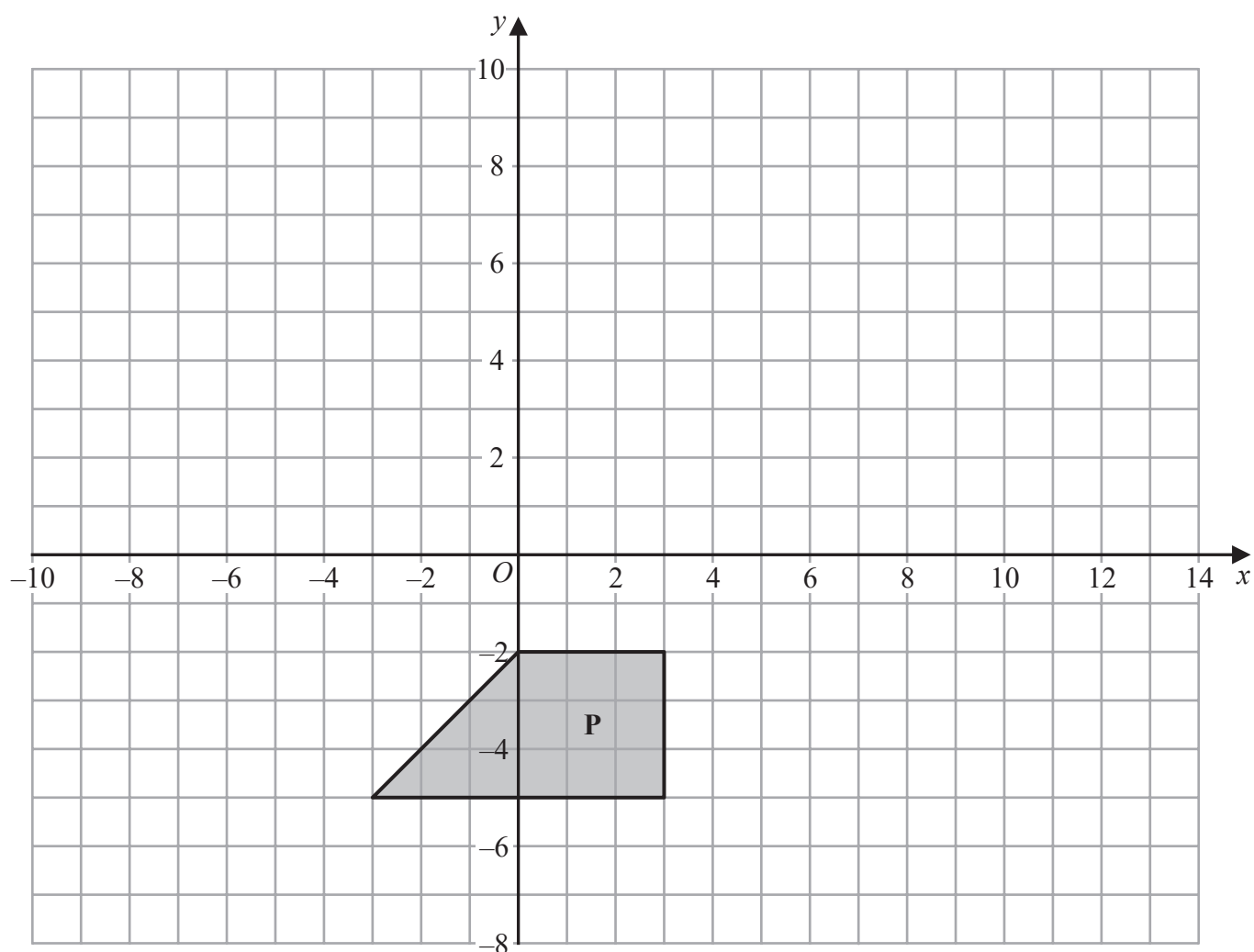


(b) Describe fully the single transformation that maps triangle B onto triangle C.

(2)

(Total for Question 4 is 4 marks)

5 Here is a shape **P** drawn on a grid of squares.



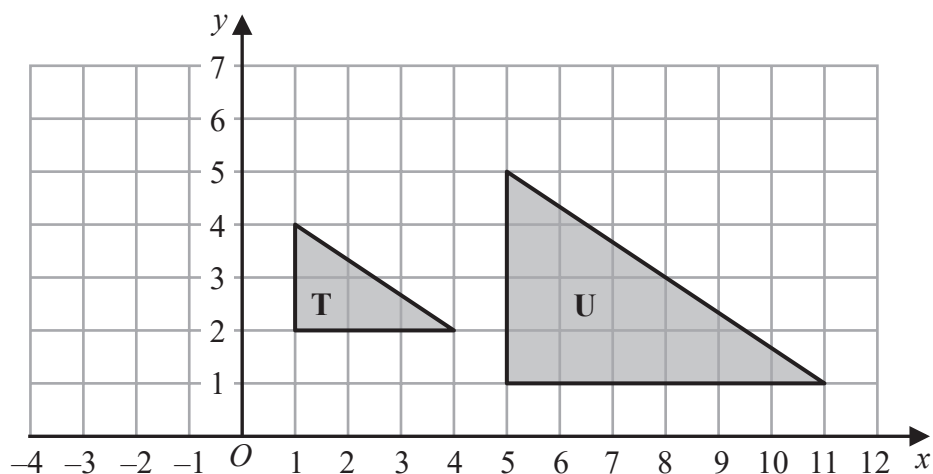
- (a) On the grid, rotate shape **P** 180° about the point $(-3, 2)$
Label the new shape **Q**.

(2)

- (b) On the grid, translate shape **P** by the vector $\begin{pmatrix} 10 \\ 8 \end{pmatrix}$
Label the new shape **R**.

(1)

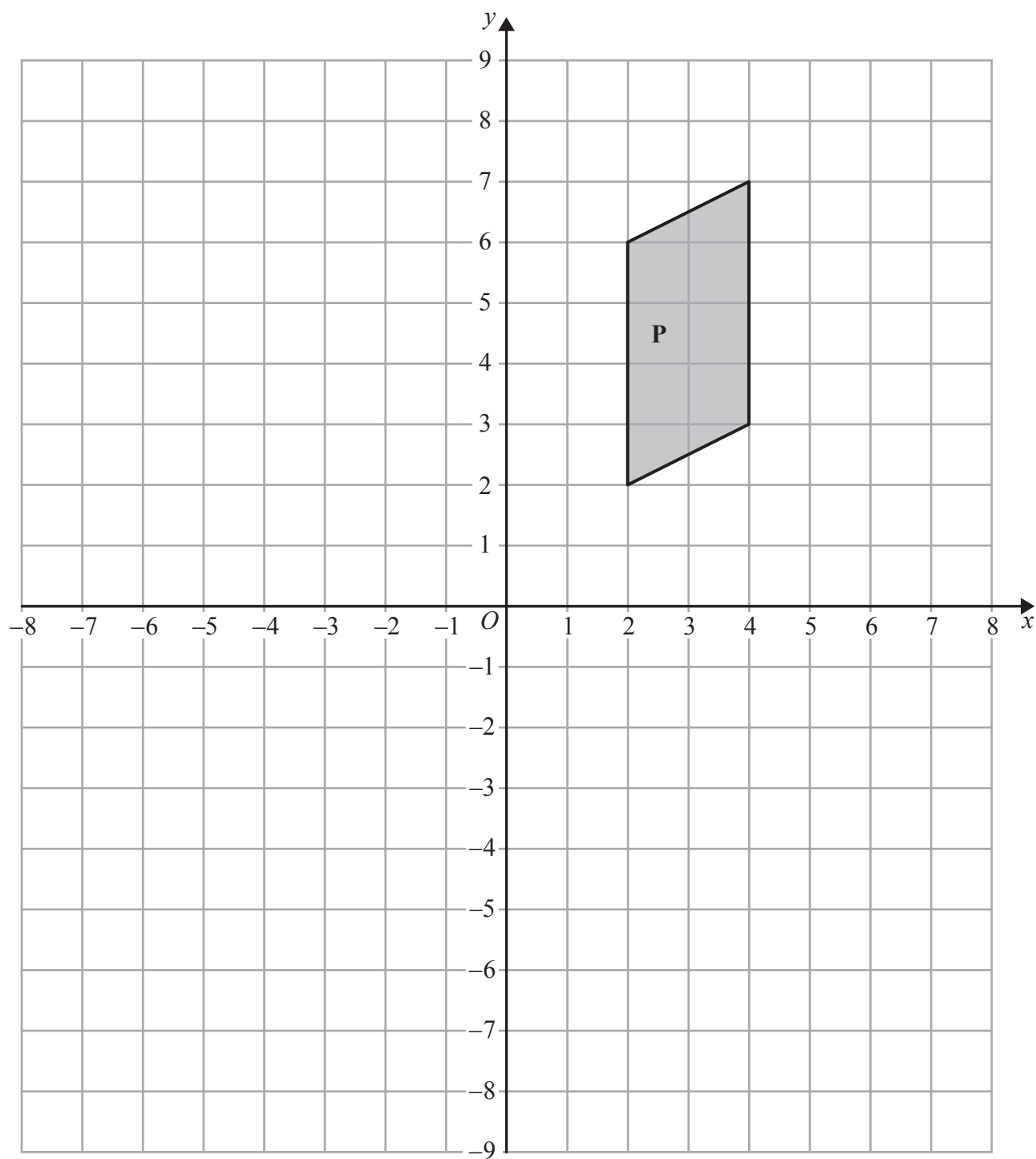
Here are triangle **T** and triangle **U** drawn on a grid of squares.



(c) Describe fully the single transformation that maps triangle **T** onto triangle **U**.

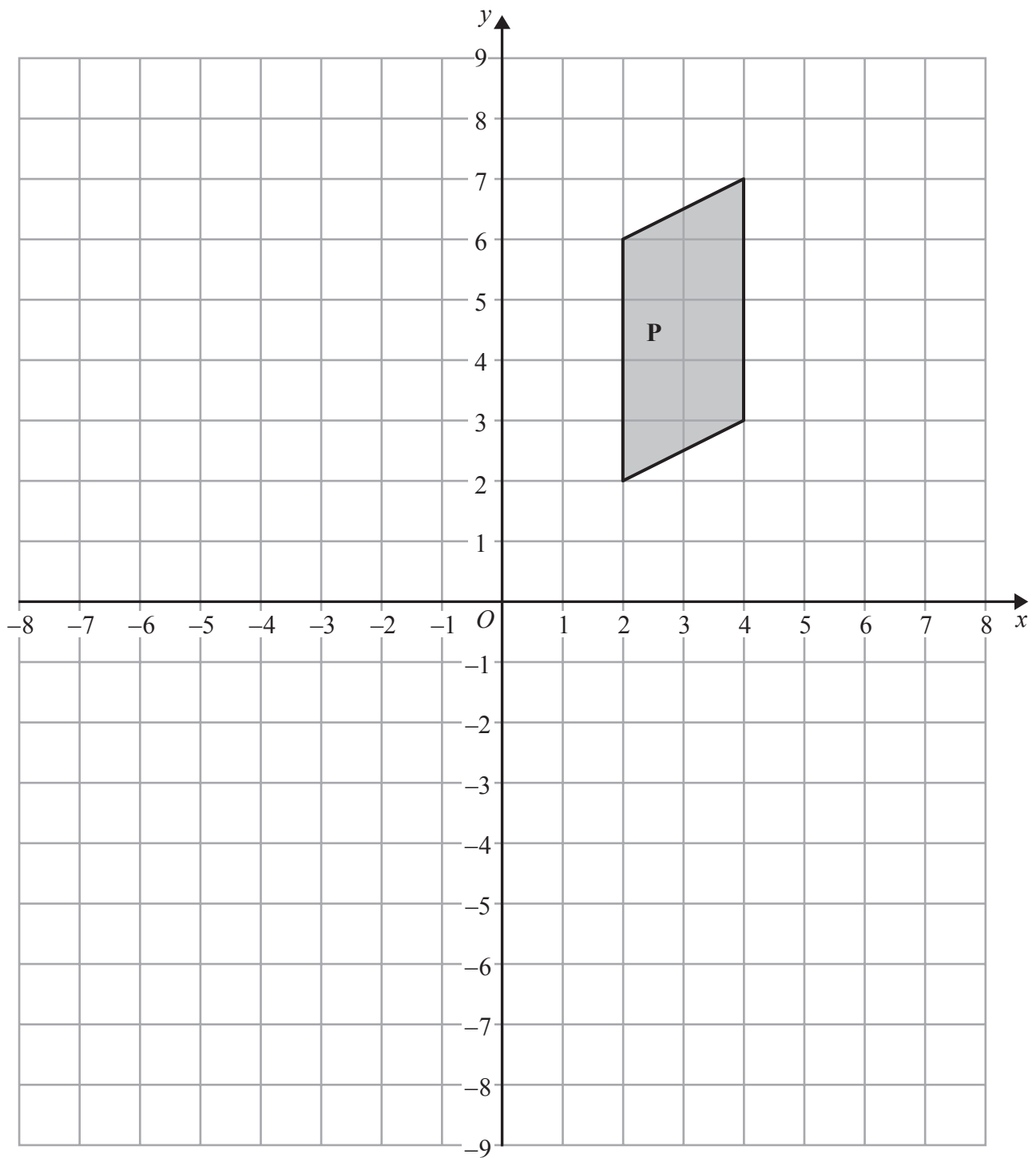
(3)

(Total for Question 5 is 6 marks)



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

(2)

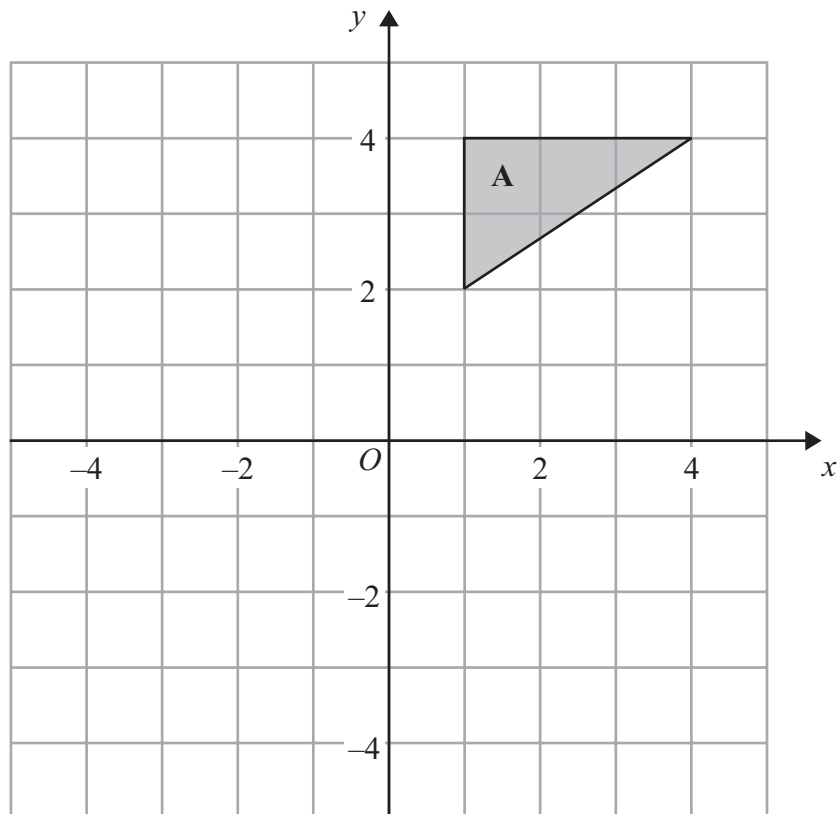


(b) Rotate shape **P** 90° anticlockwise about (0, 1).

(2)

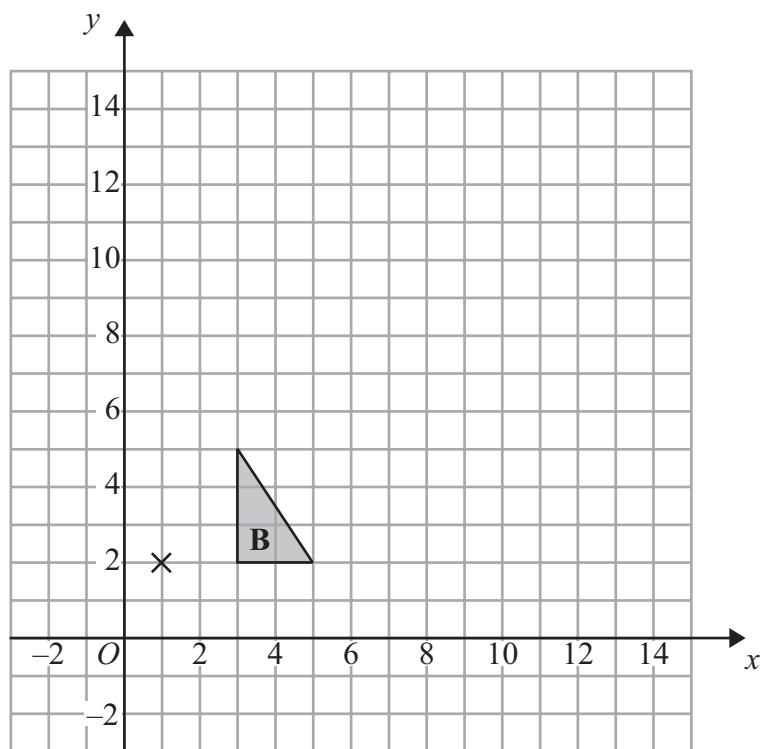
(Total for Question 6 is 4 marks)

7



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

(2)

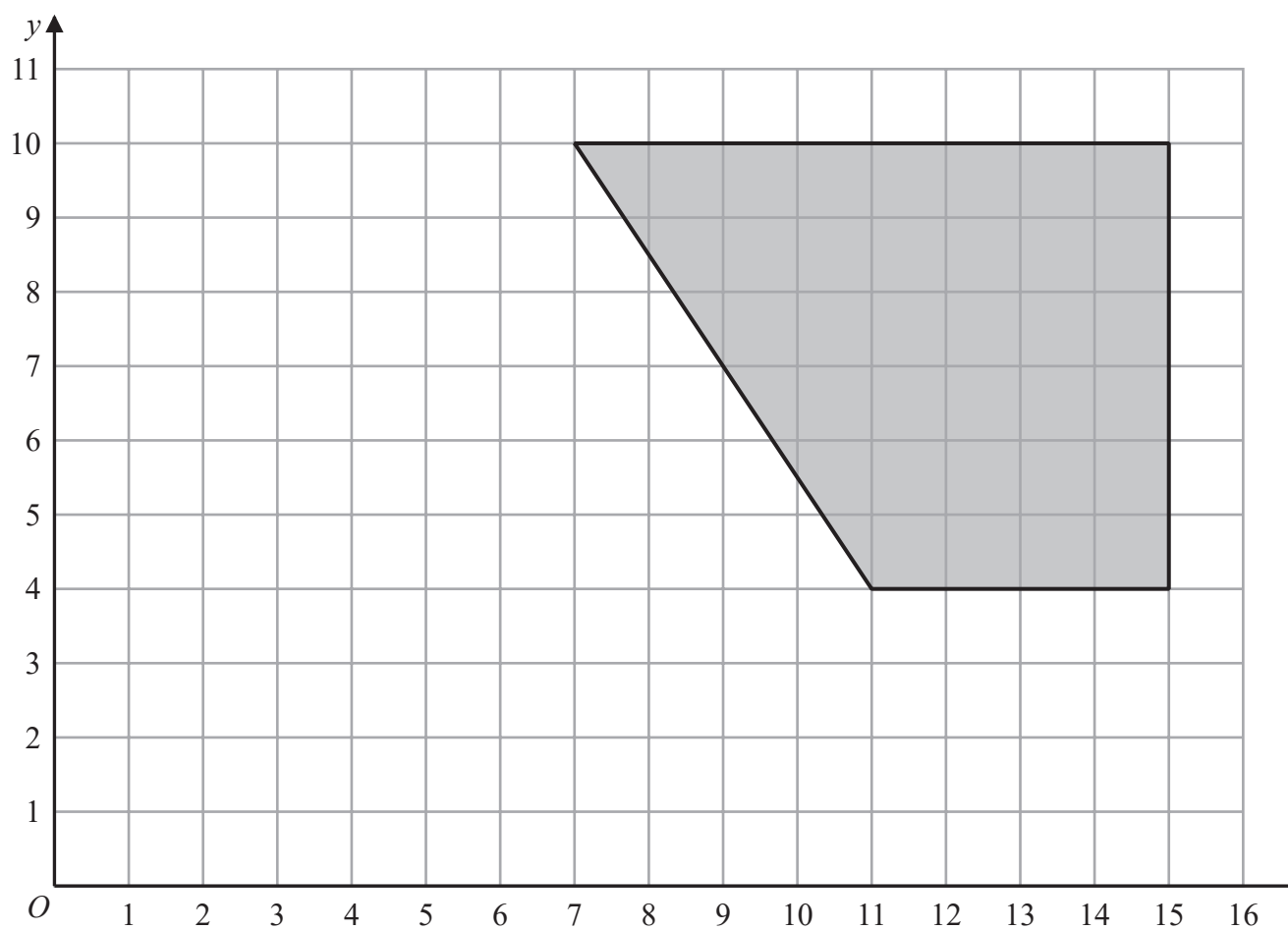


(b) Enlarge triangle B by scale factor 3, centre (1, 2).

(3)

(Total for Question 7 is 5 marks)

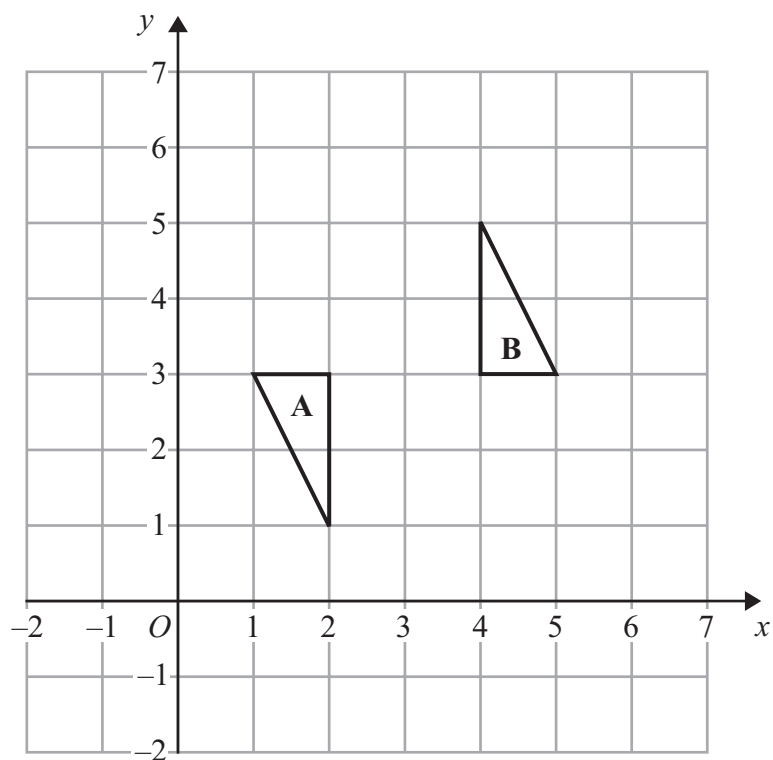
8



On the grid, enlarge the shaded shape with scale factor $\frac{1}{2}$ and centre (1, 2)

(Total for Question 8 is 2 marks)

9



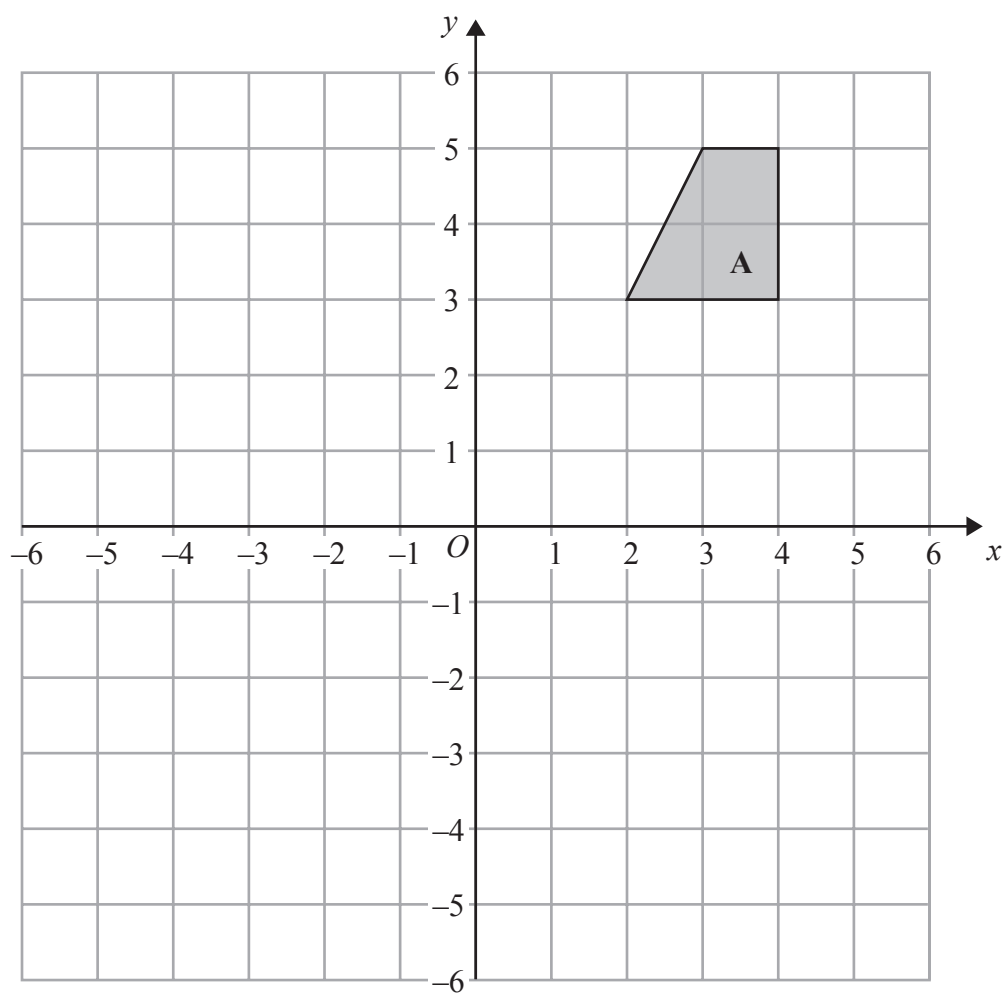
Describe fully the single transformation that maps triangle **A** onto triangle **B**.

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.....

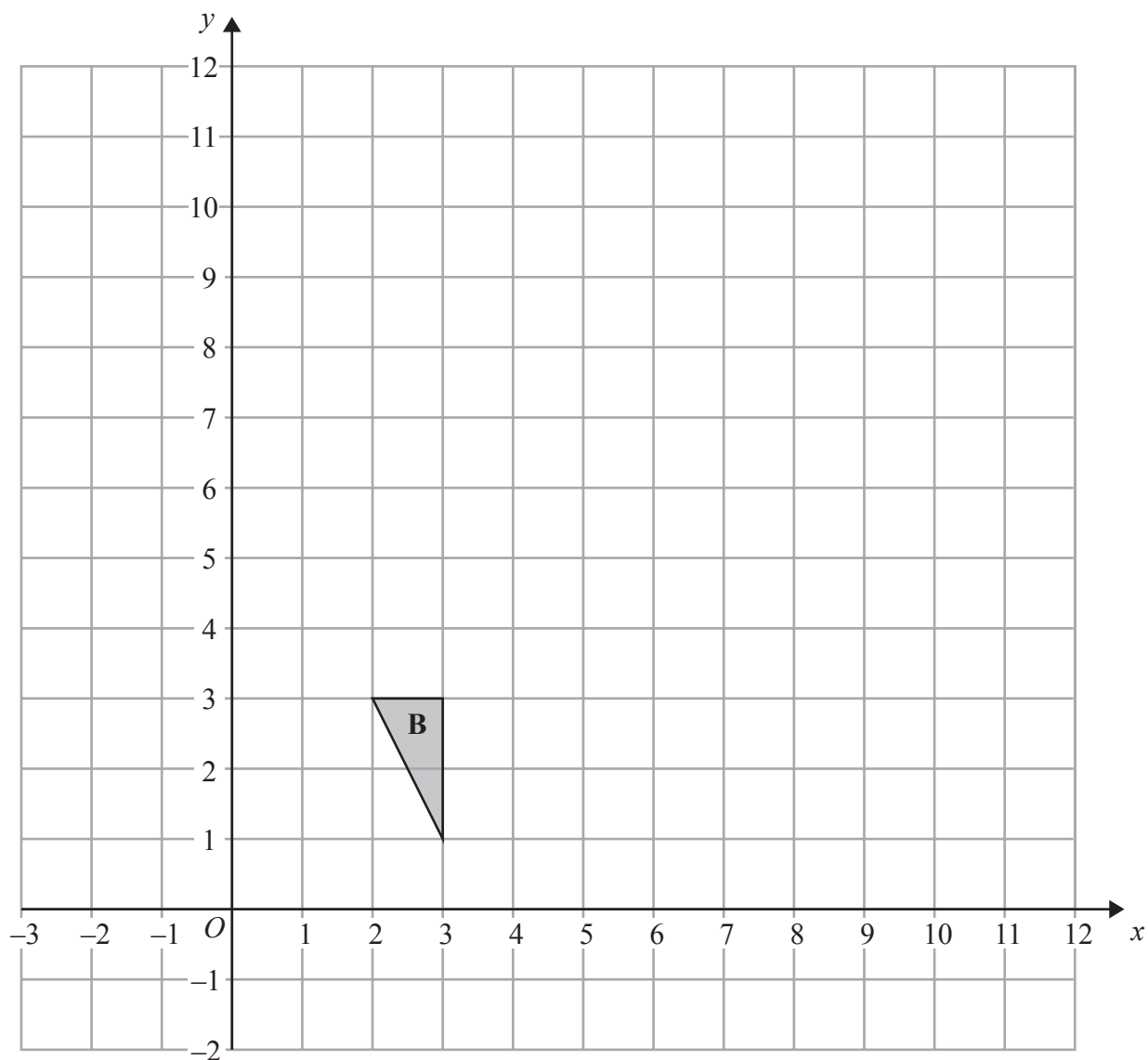
(Total for Question 9 is 3 marks)

10



(a) On the grid, rotate shape A 180° about the point (1, 1).

(2)

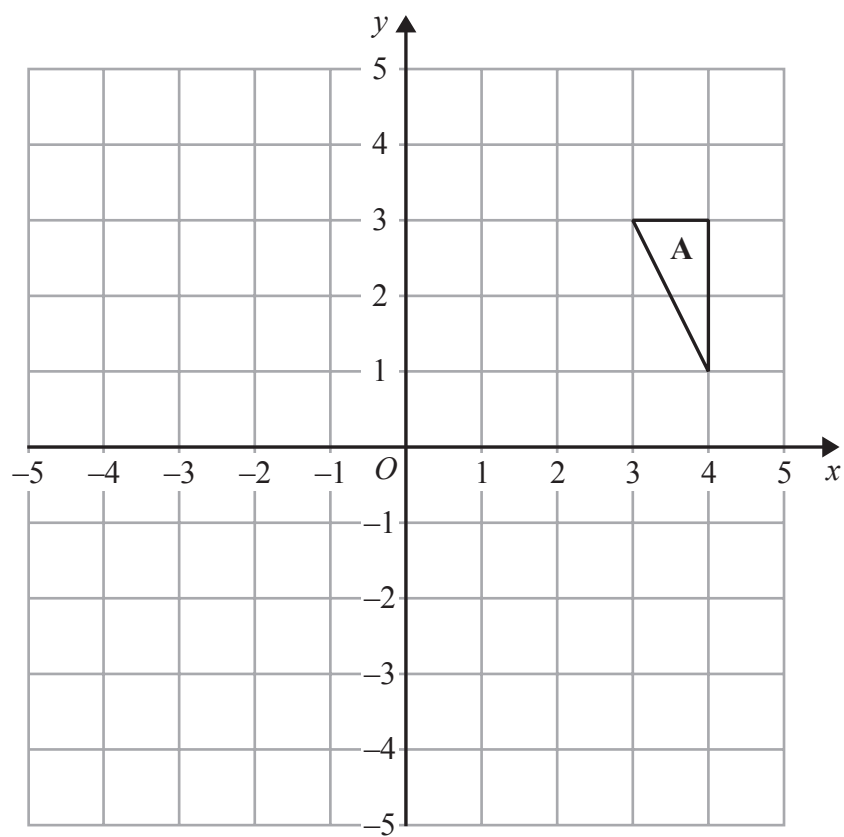


(b) On the grid, enlarge triangle **B** by scale factor 3, centre (0, 0).

(2)

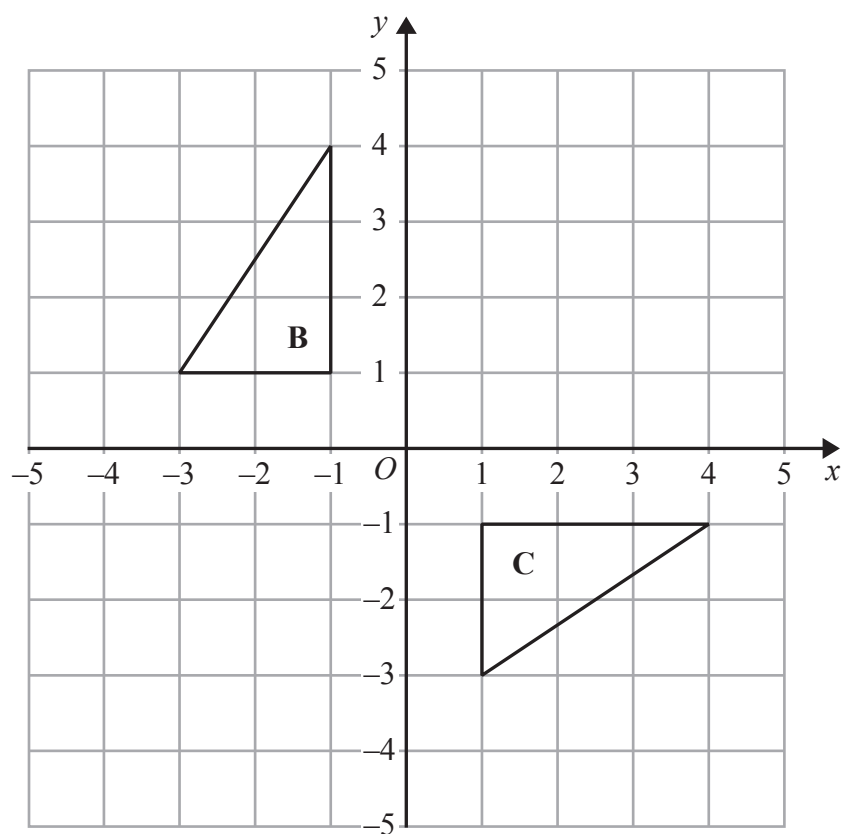
(Total for Question 10 is 4 marks)

11



(a) Rotate triangle A 90° anticlockwise with centre O.

(2)

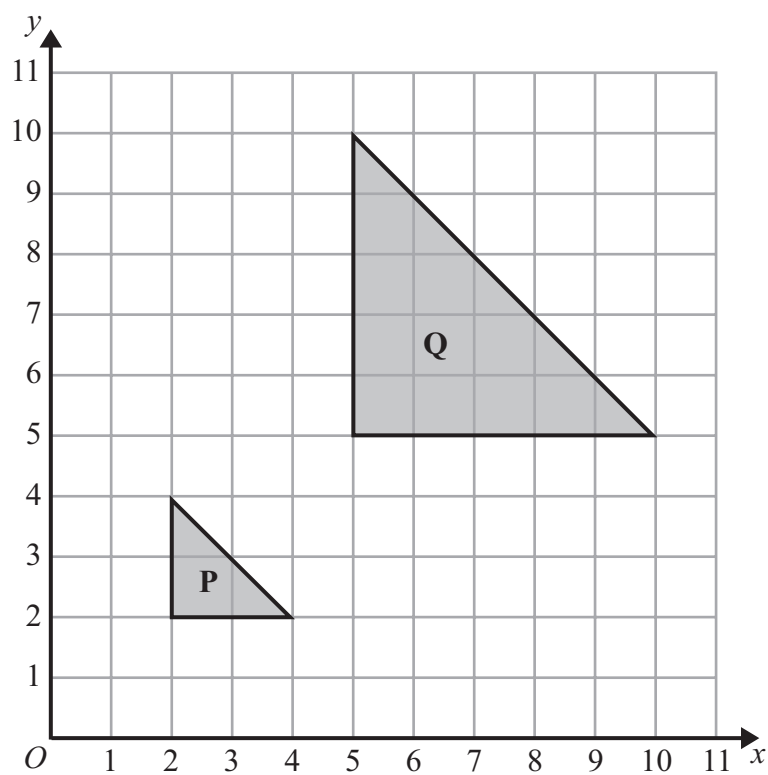


(b) Describe fully the single transformation that maps triangle **B** onto triangle **C**.

(2)

(Total for Question 11 is 4 marks)

12



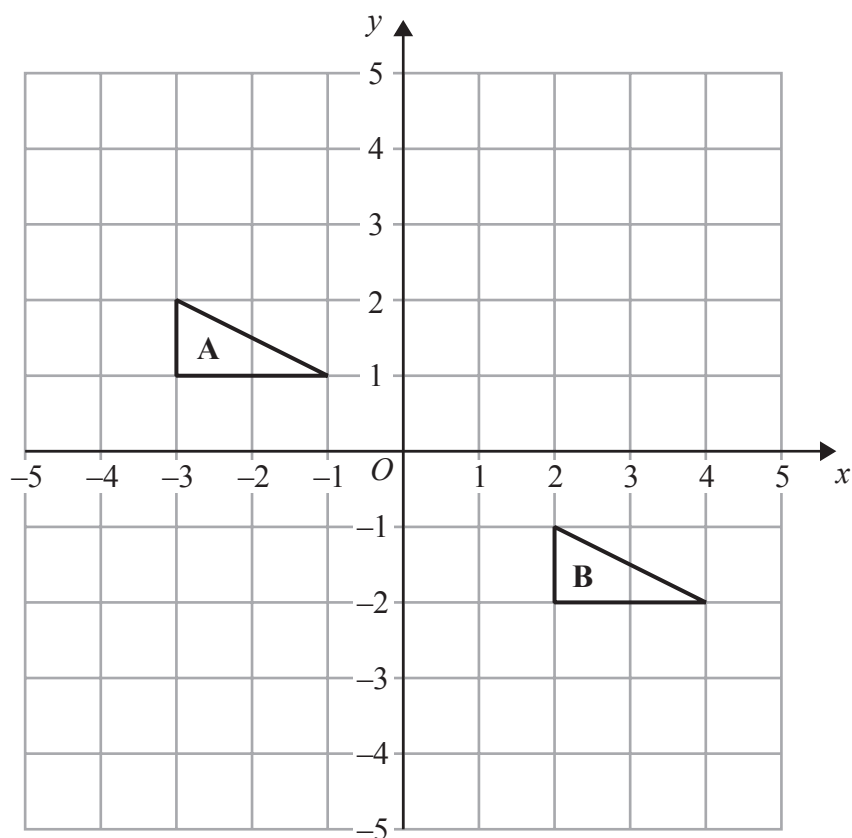
Describe fully the single transformation that maps shape **P** onto shape **Q**.

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(Total for Question 12 is 3 marks)

13



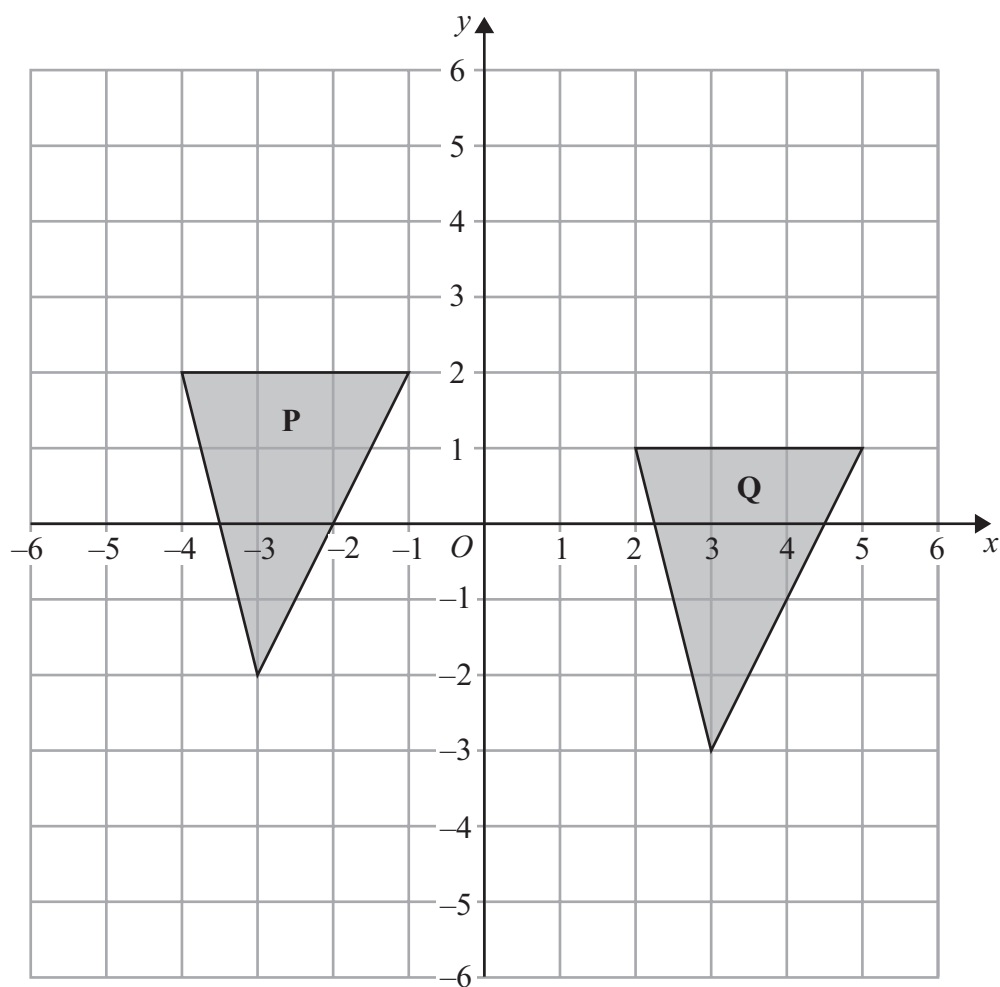
Describe the single transformation that maps triangle A onto triangle B.

.....

.....

(Total for Question 13 is 2 marks)

14



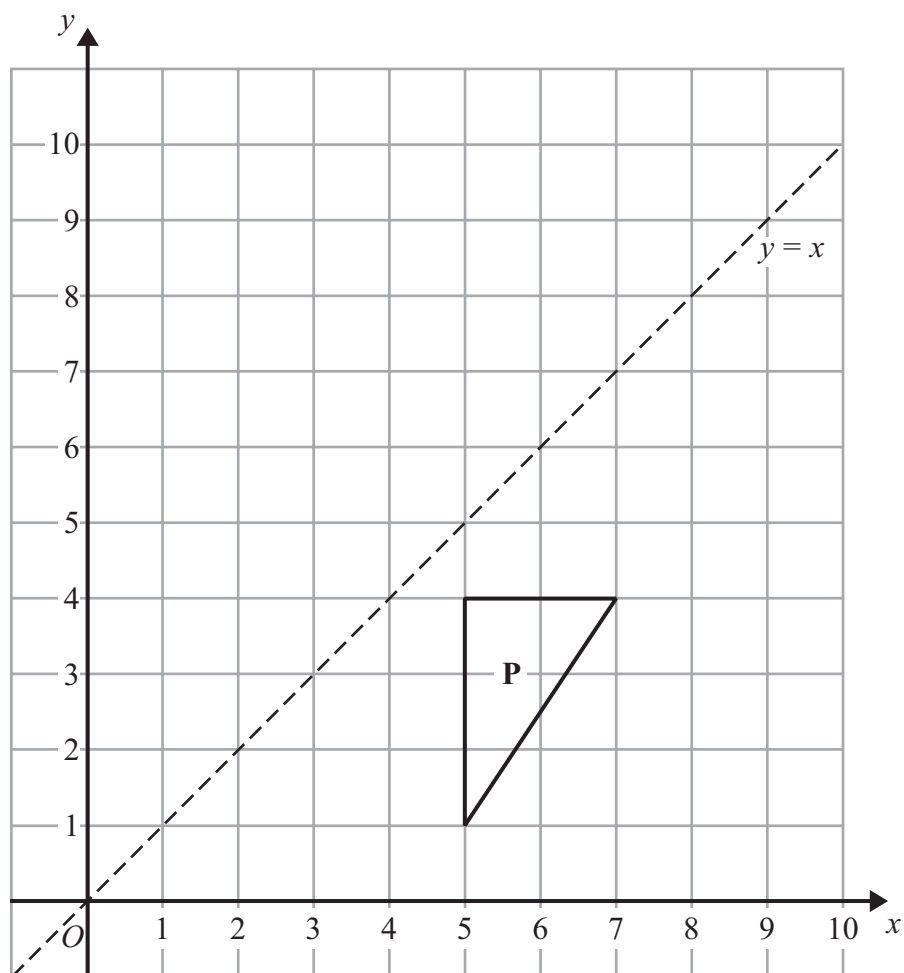
Describe fully the single transformation that maps triangle **P** onto triangle **Q**.

.....

.....

(Total for Question 14 is 2 marks)

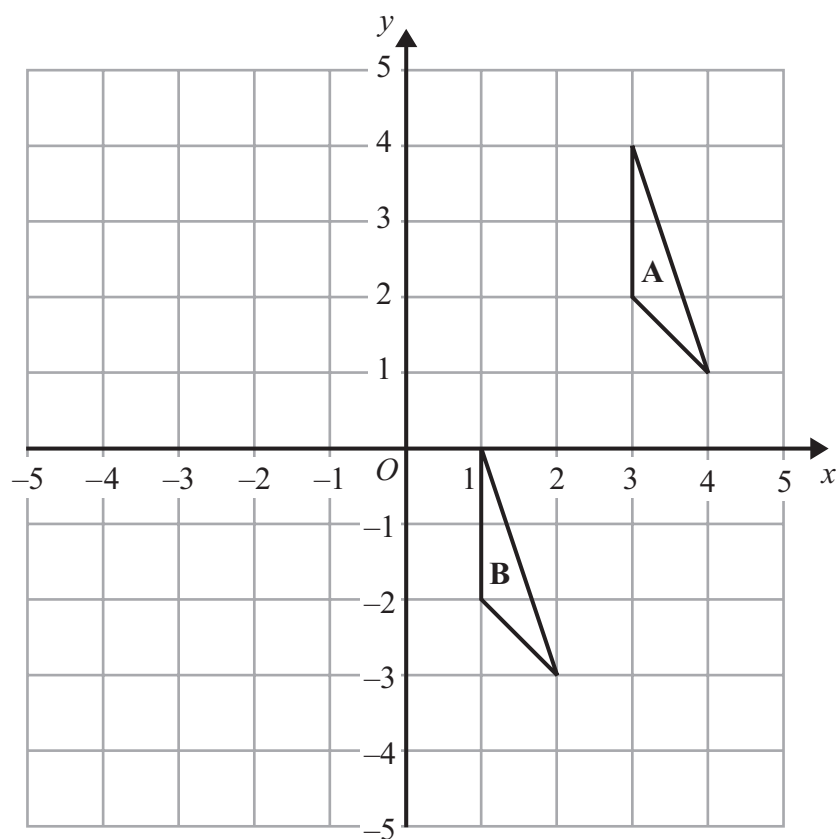
15 (a)



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

(2)

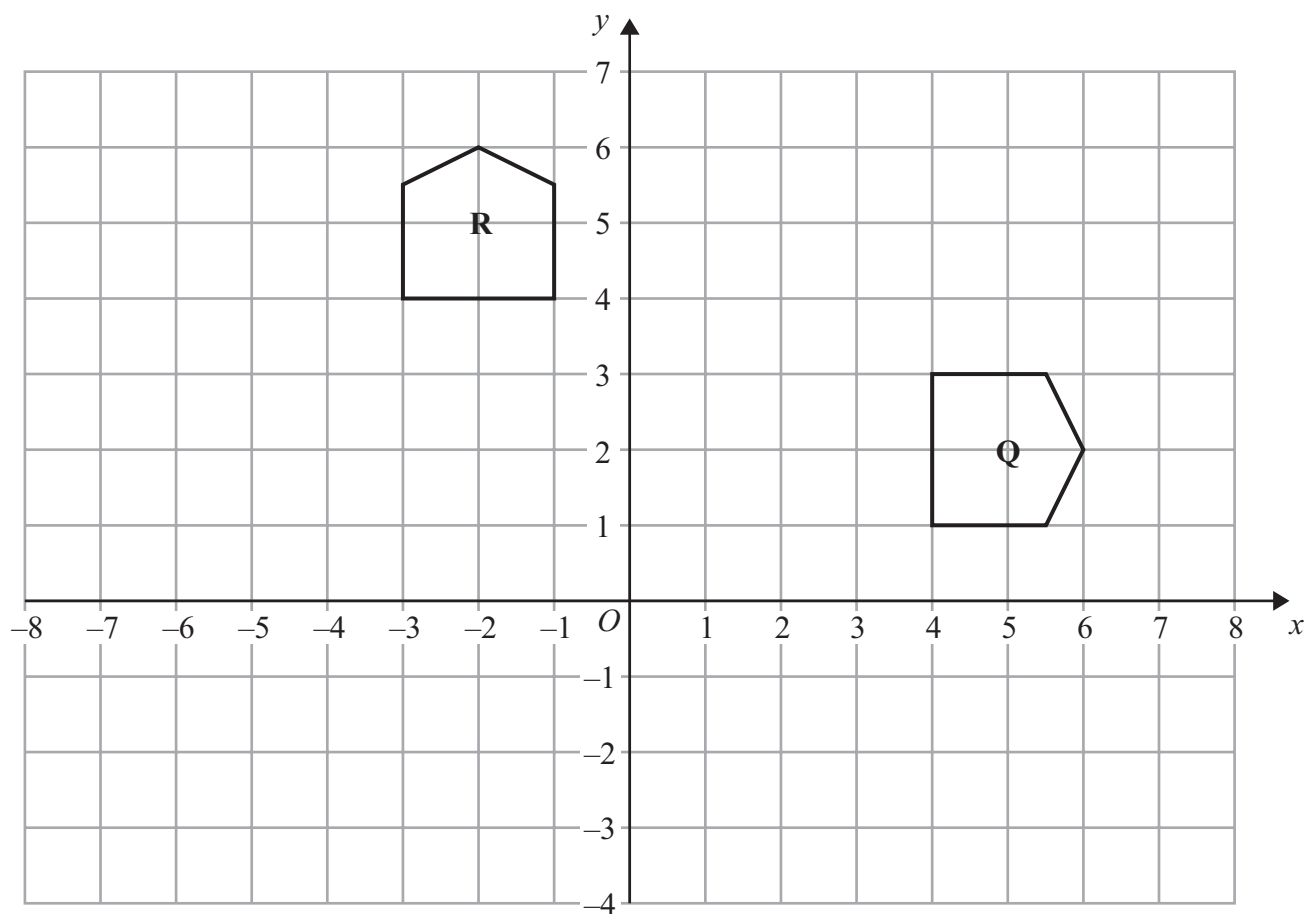
(b)



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

(2)

(Total for Question 15 is 4 marks)



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

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.....

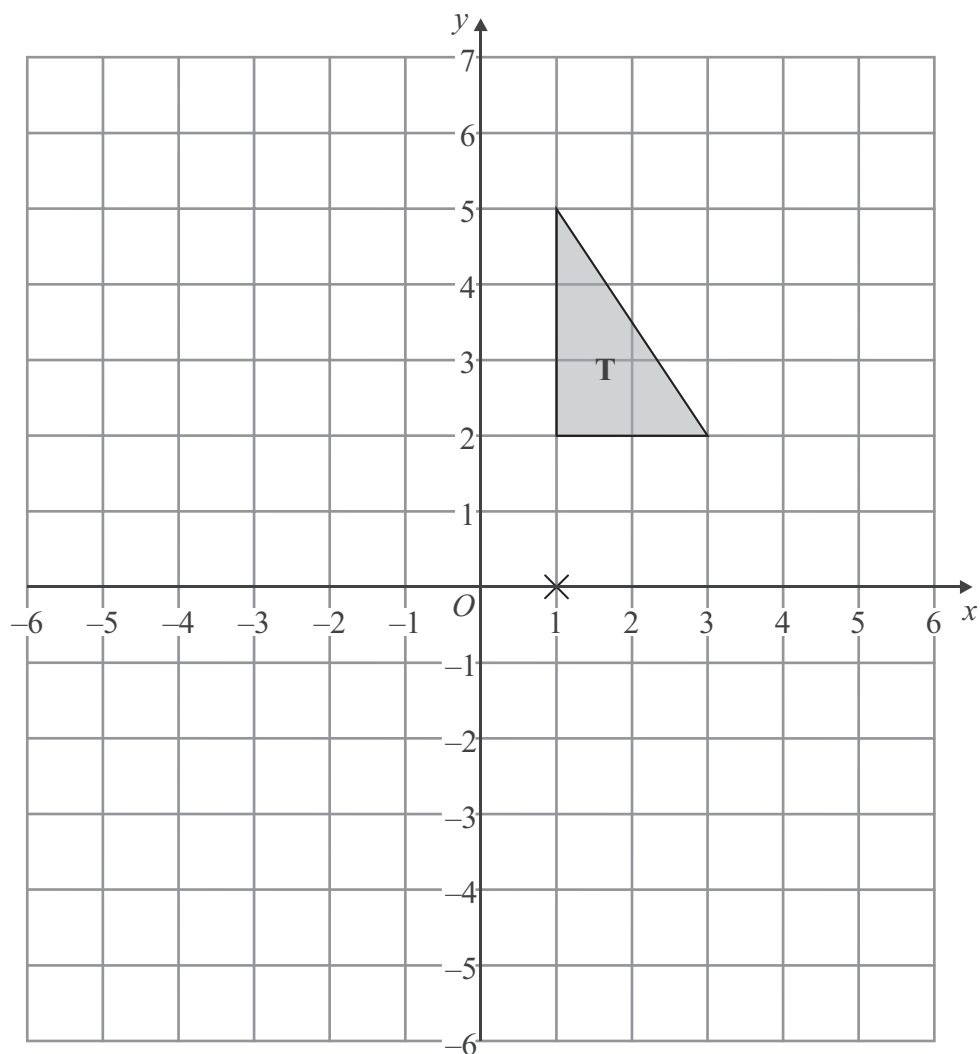
.....

.....

(3)

(Total for Question 6 is 4 marks)

16

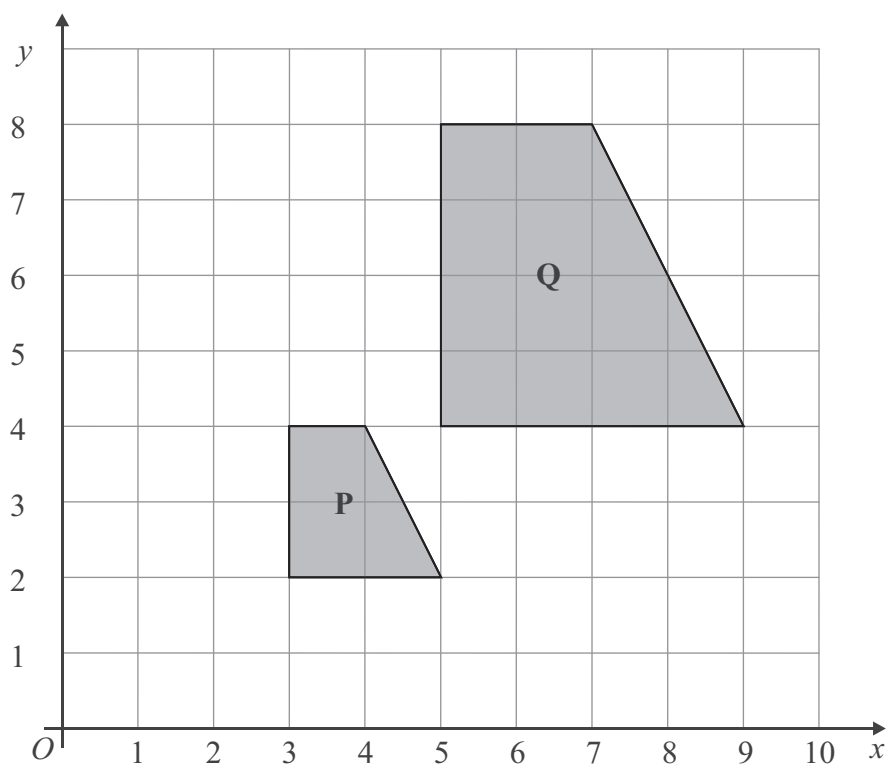


Triangle **T** has been drawn on the grid.

Rotate triangle **T** 180° about the point (1, 0).
Label the new triangle **A**.

(Total for Question 16 is 4 marks)

17



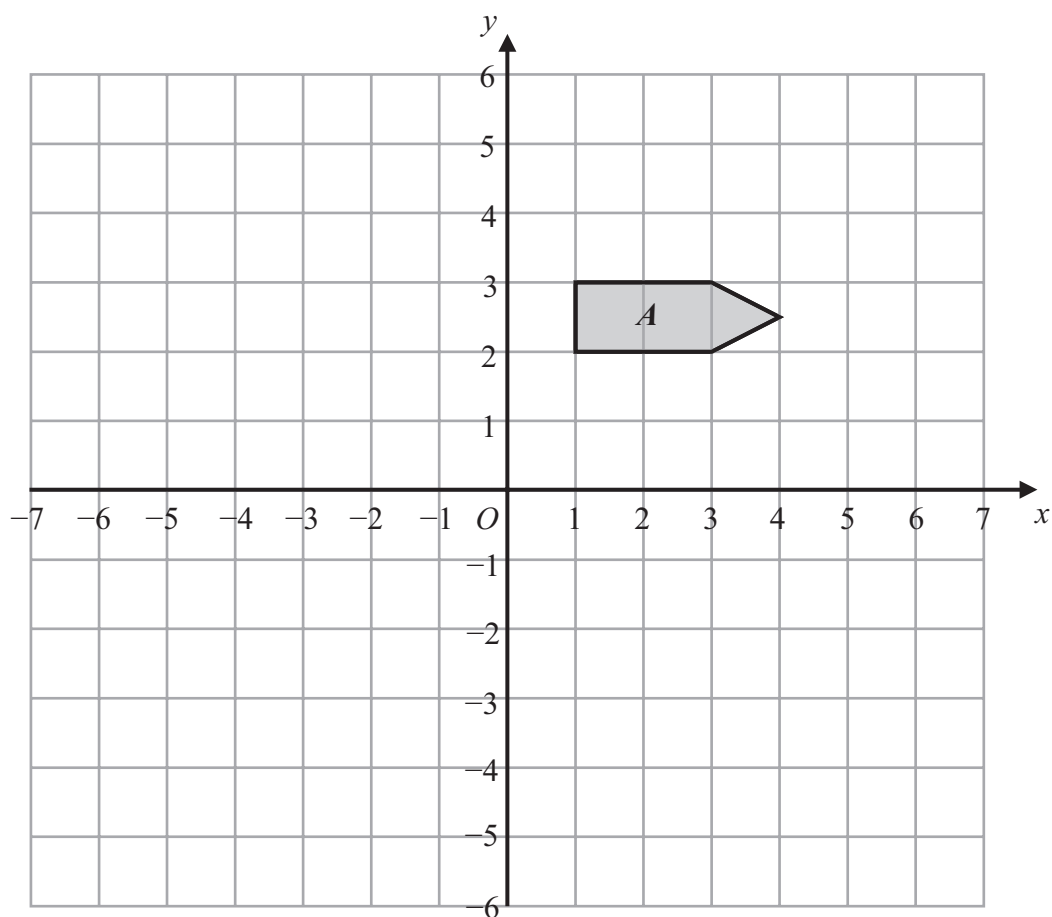
Describe fully the single transformation which maps shape **P** onto shape **Q**.

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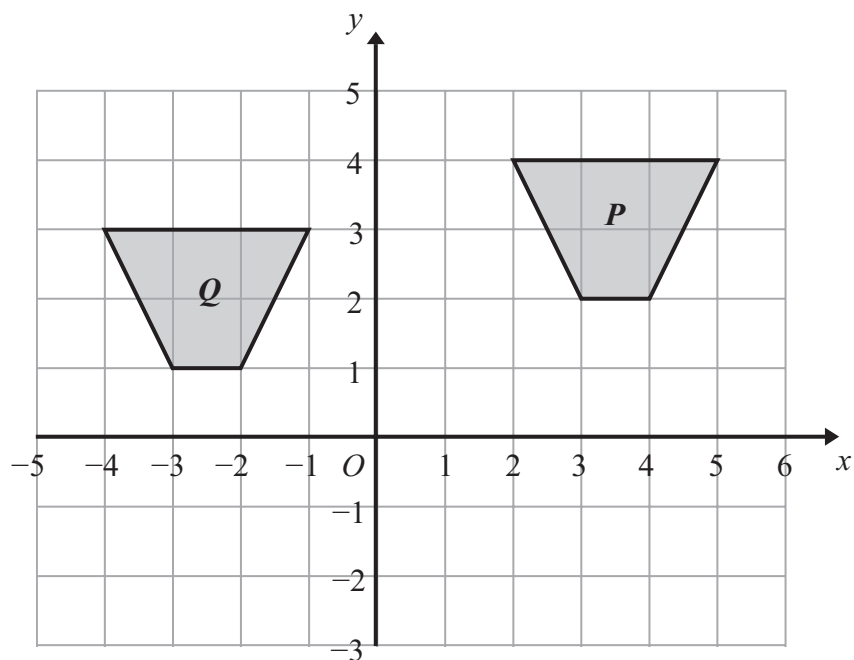
(Total for Question 17 is 2 marks)

18.



(a) On the grid above, reflect shape *A* in the line $x = -1$

(2)



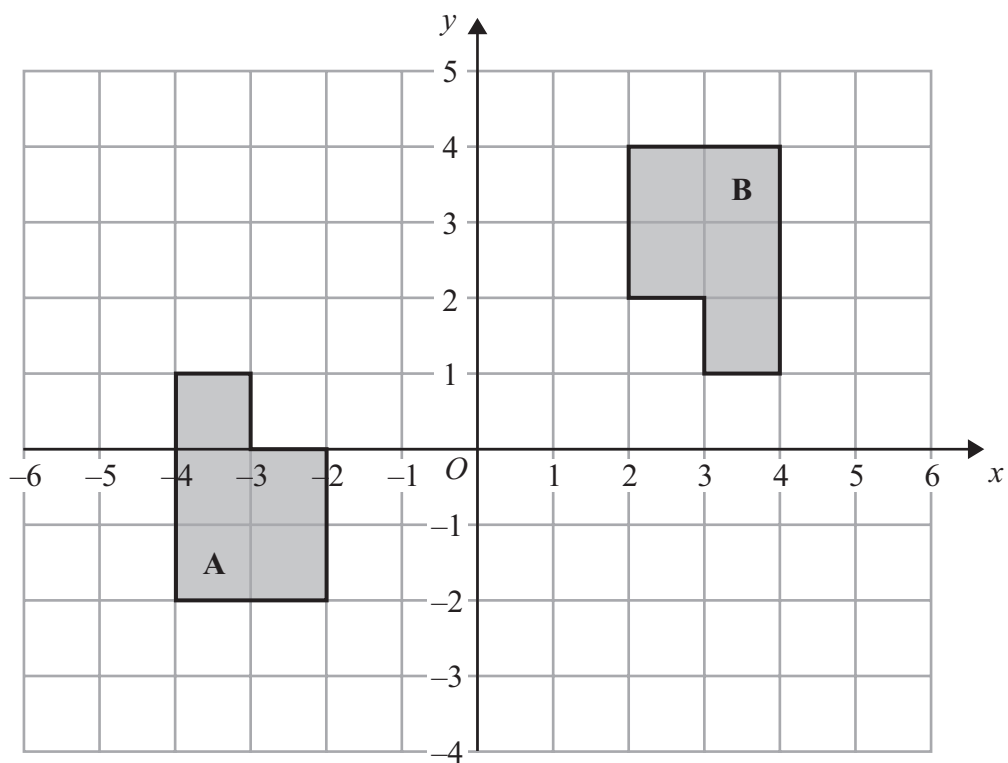
(b) Describe fully the single transformation that will map shape *P* onto shape *Q*.

.....

.....

(2)

(Total for Question 18 is 4 marks)

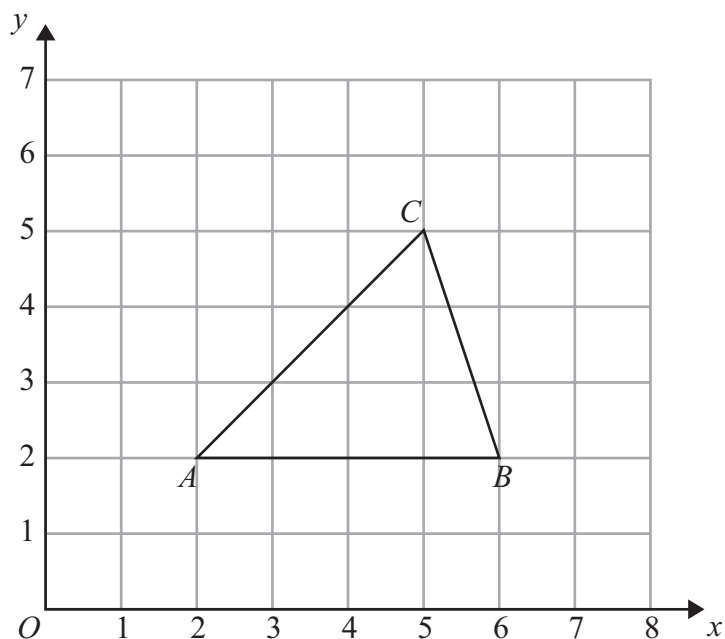


(b) Describe fully the single transformation that maps shape **A** onto shape **B**.

(3)

(Total for Question 7 is 5 marks)

19



Triangle ABC is drawn on a centimetre grid.

A is the point $(2, 2)$.

B is the point $(6, 2)$.

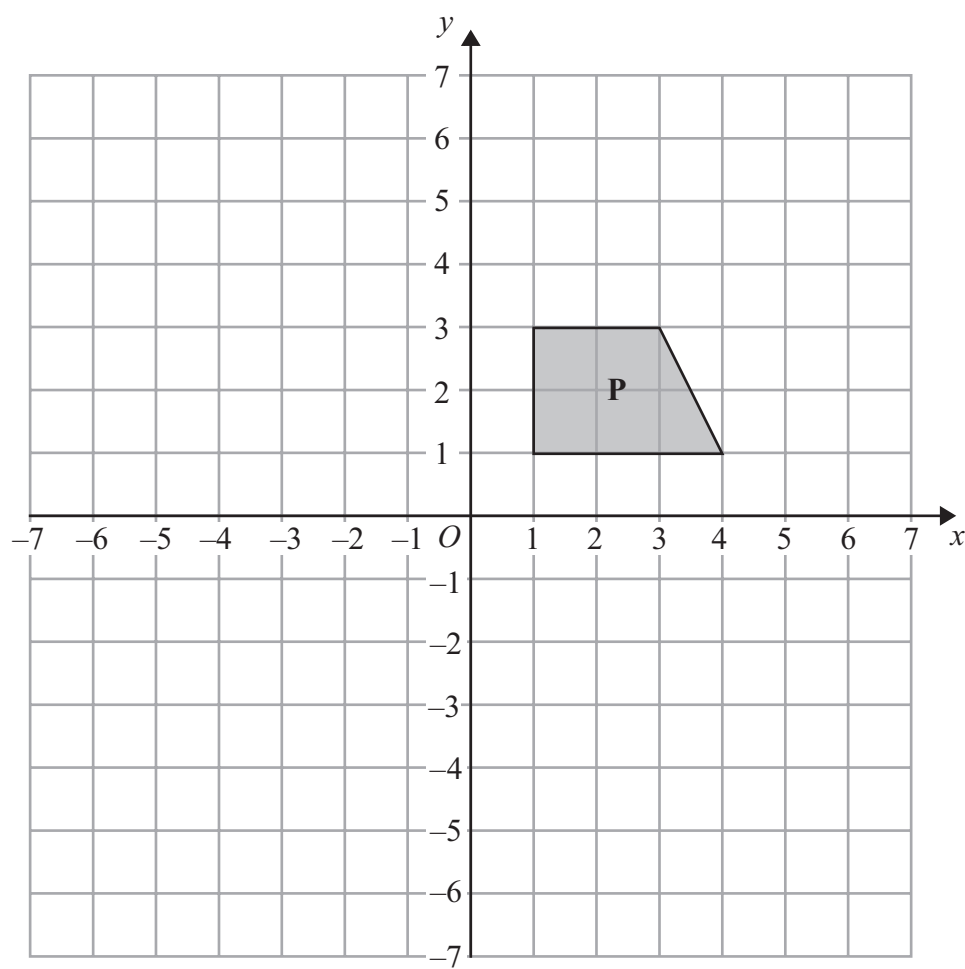
C is the point $(5, 5)$.

Triangle PQR is an enlargement of triangle ABC with scale factor $\frac{1}{2}$ and centre $(0, 0)$.

Work out the area of triangle PQR .

..... cm^2

(Total for Question 19 is 3 marks)



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**.

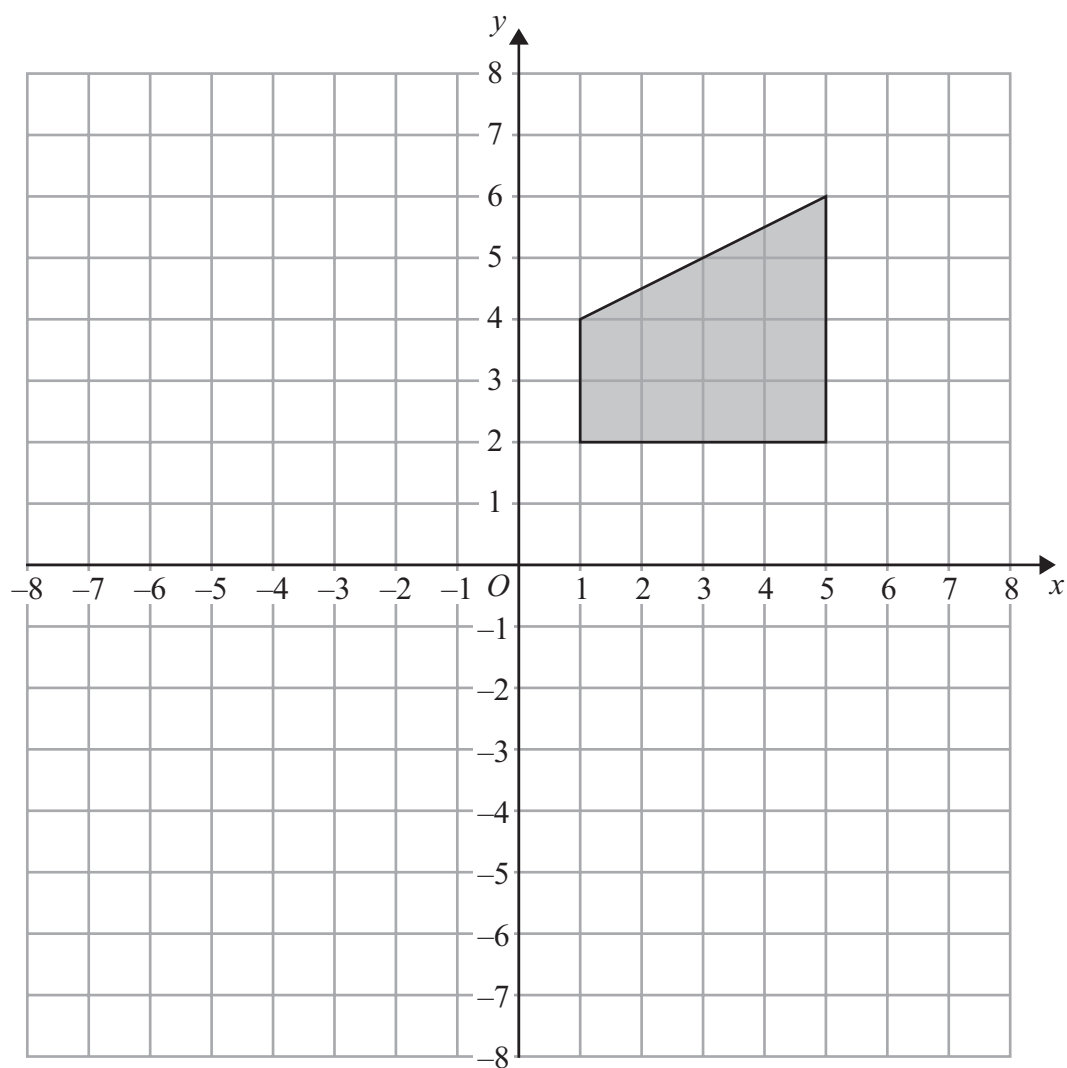
Describe fully the **single** transformation that maps shape **P** onto shape **R**.

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(Total for Question 20 is 3 marks)

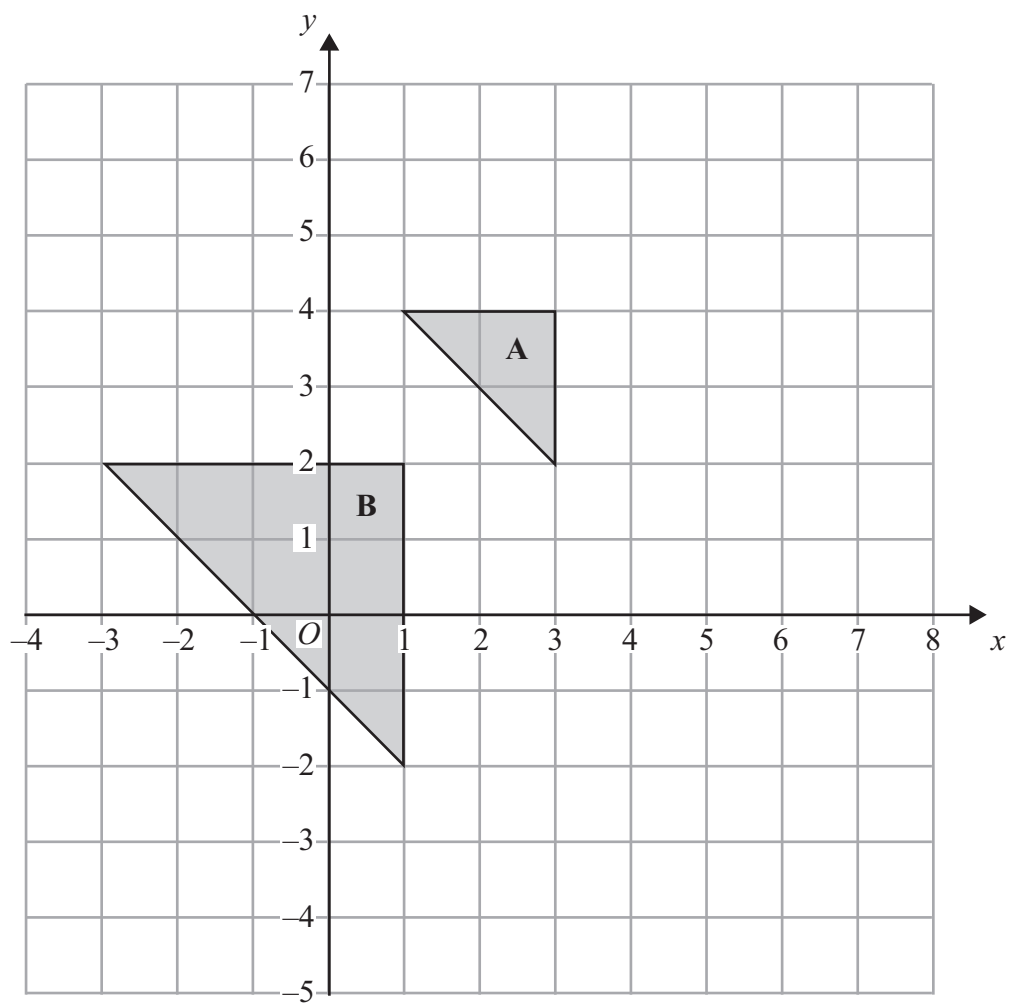
21



Enlarge the shaded shape by scale factor $-\frac{1}{2}$ with centre $(-1, -2)$.

(Total for Question 21 is 3 marks)

22.



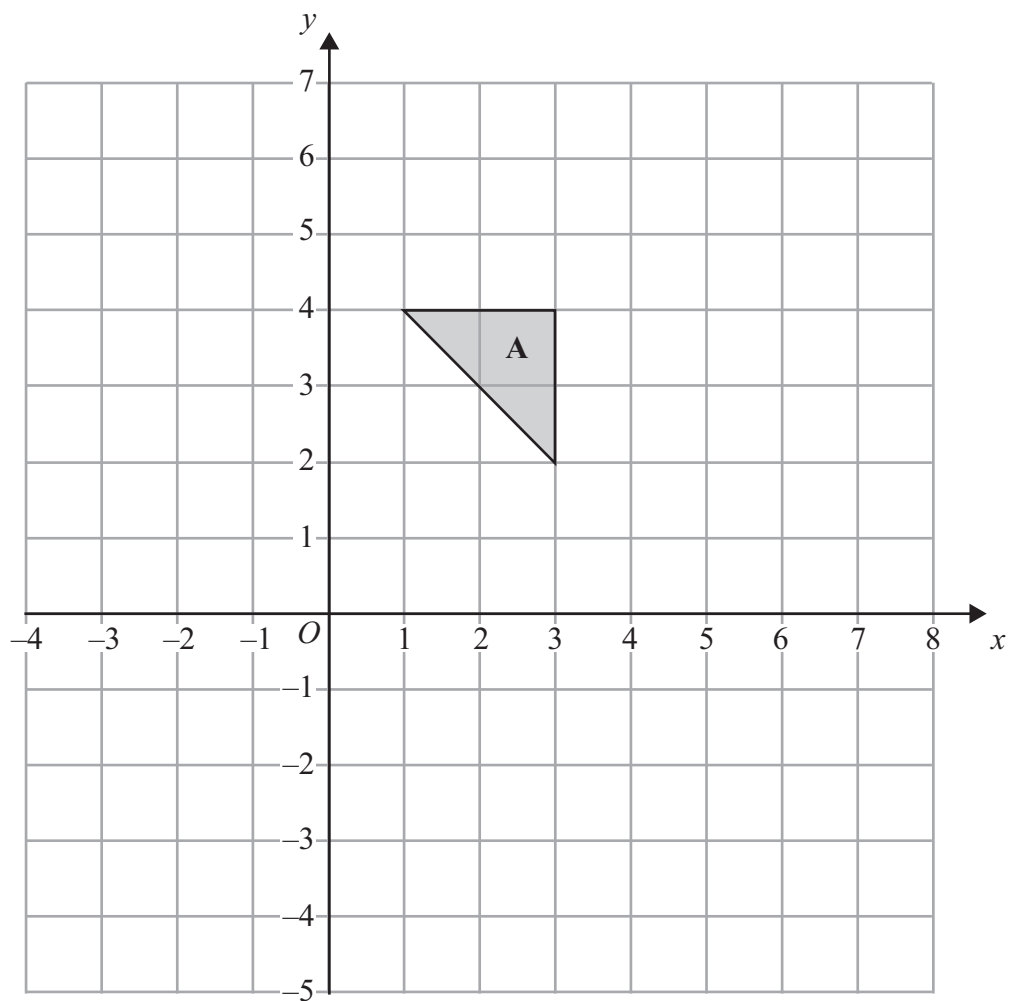
Triangle **A** and triangle **B** are drawn on the grid.

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

.....

.....

(3)

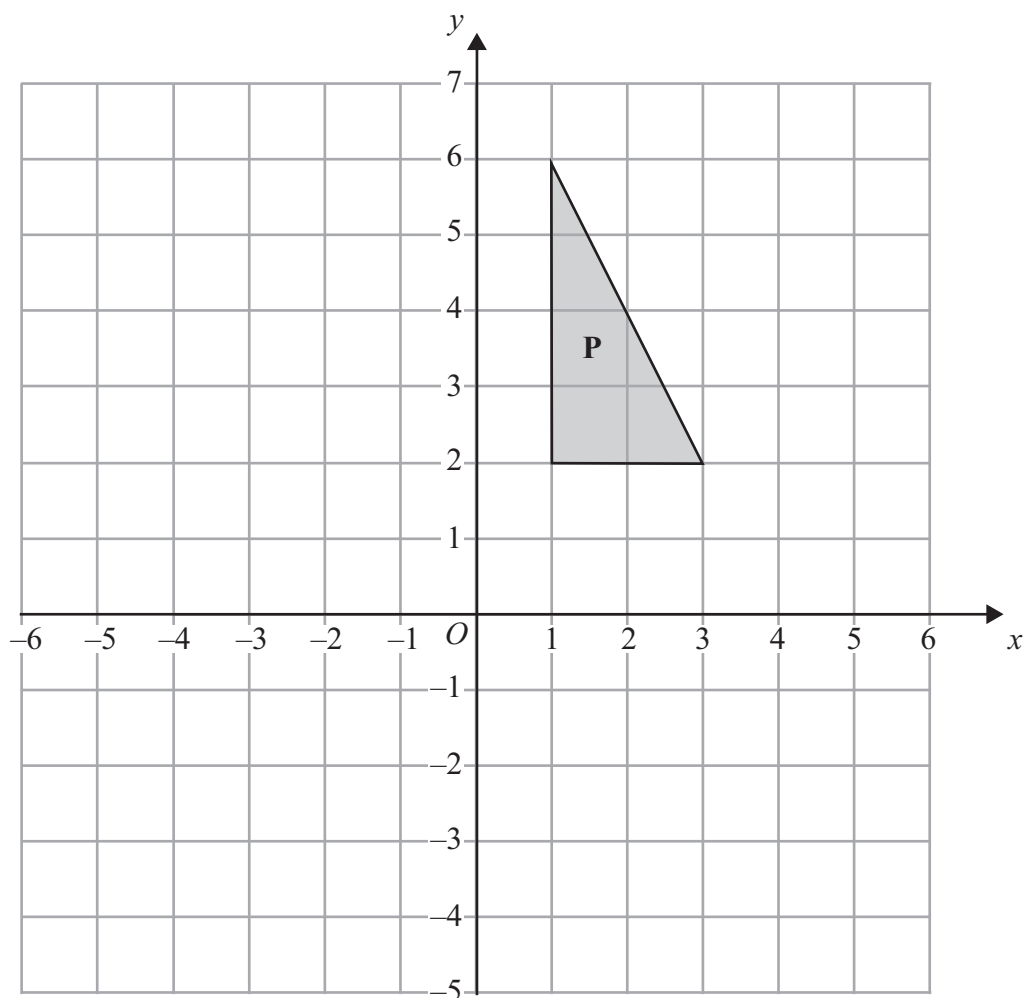


(b) Reflect triangle A in the line $x = 4$

(2)

(Total for Question 22 is 5 marks)

23.



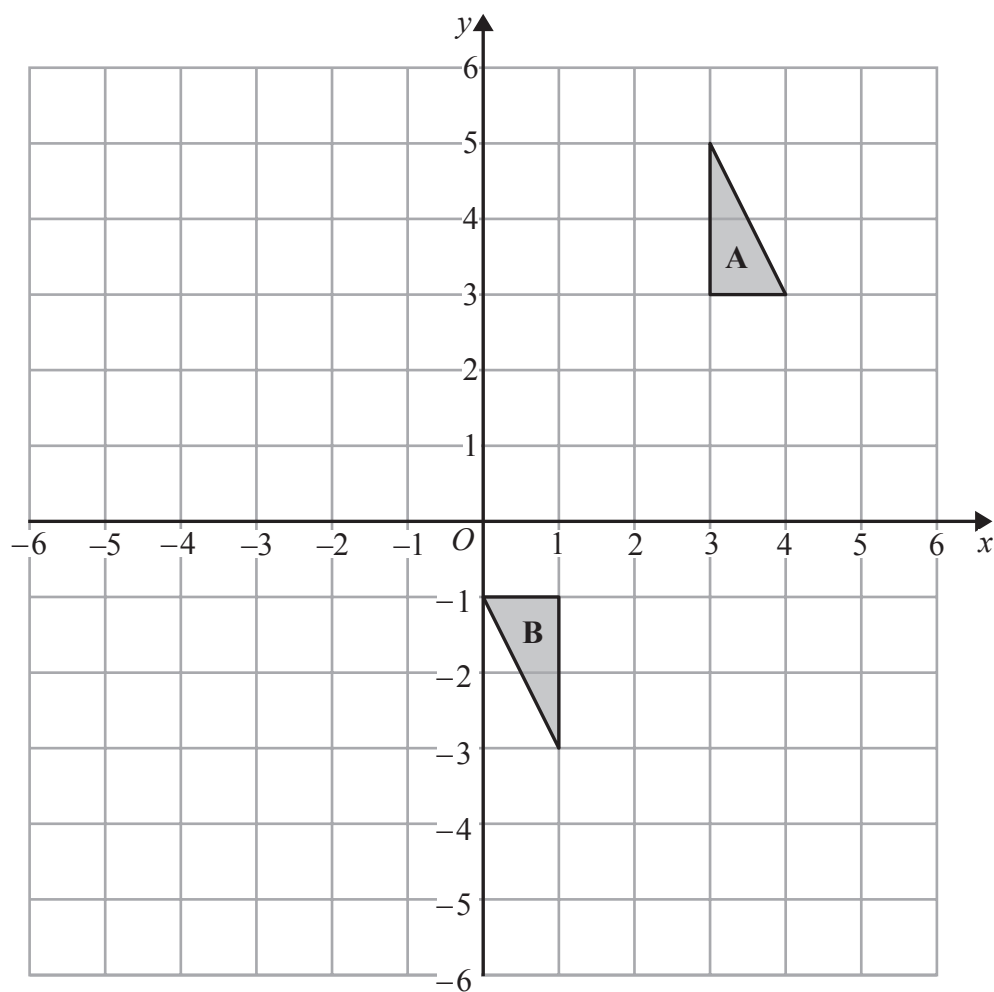
Triangle **P** is drawn on a coordinate grid.

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**.

.....
.....

(Total for Question 23 is 3 marks)



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

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(Total for Question 24 is 3 marks)