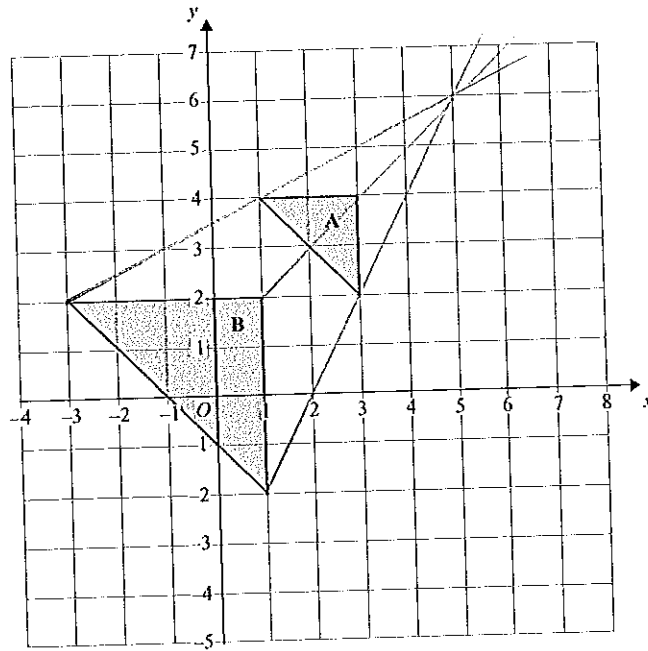


1.

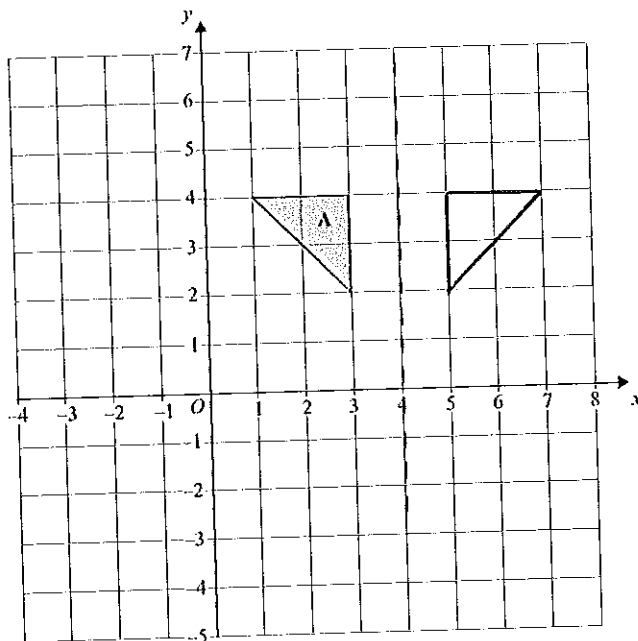


Triangle A and triangle B are drawn on the grid.

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

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

(3)

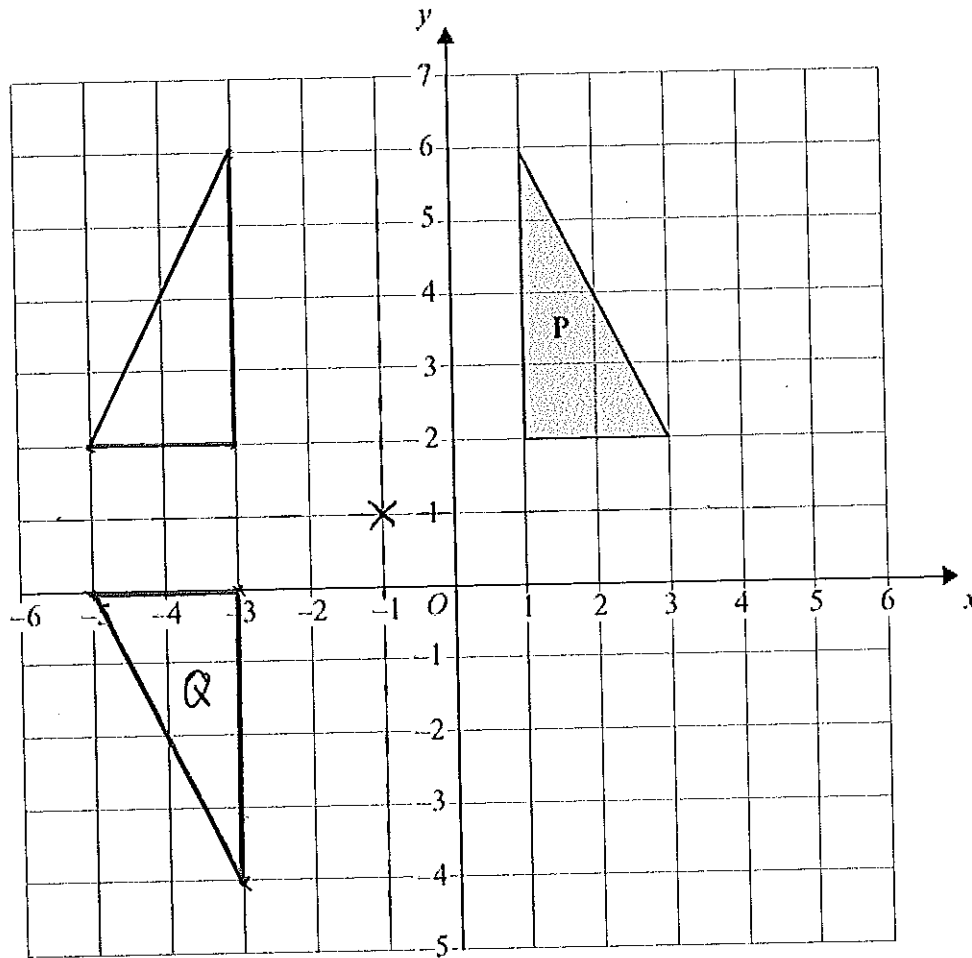


(b) Reflect triangle A in the line  $x = 4$

(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.

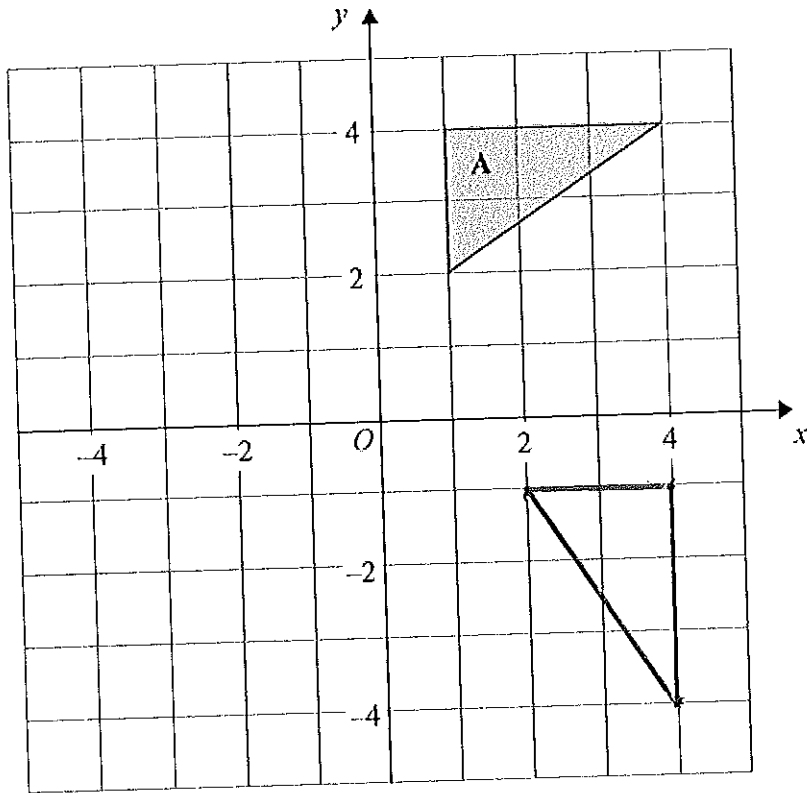
Describe fully the single transformation which maps triangle P onto triangle Q.

..... Rotation,  $180^\circ$ , centre  $(-1, 1)$  .....

.....

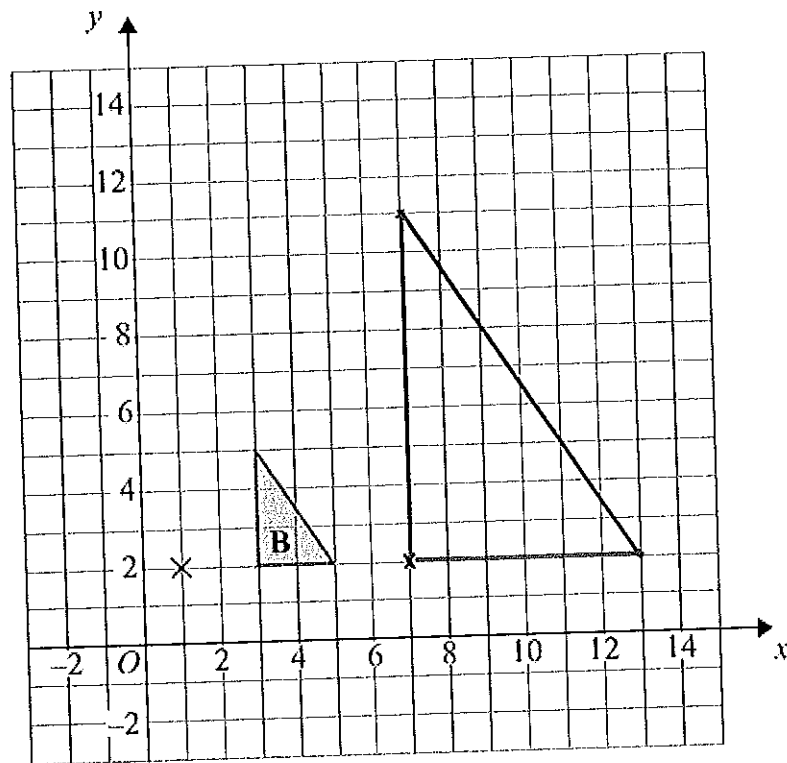
**(3 marks)**

3.



(a) Rotate triangle A  $90^\circ$  clockwise, centre  $O$ .

(2)

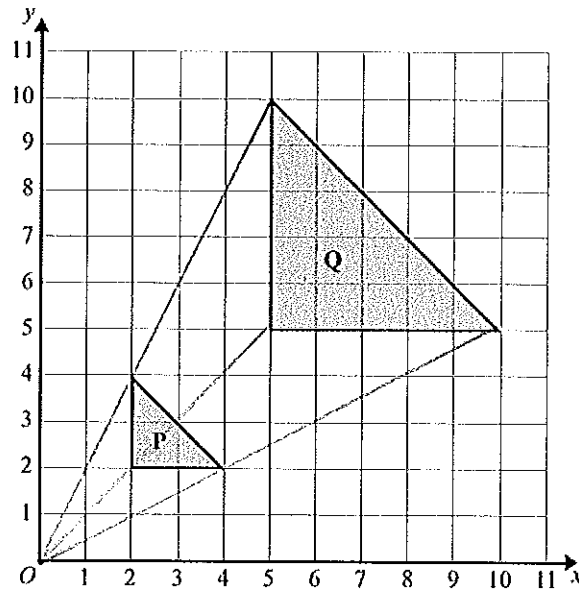


(b) Enlarge triangle B by scale factor 3, centre  $(1, 2)$ .

(3)

**(5 marks)**

4.

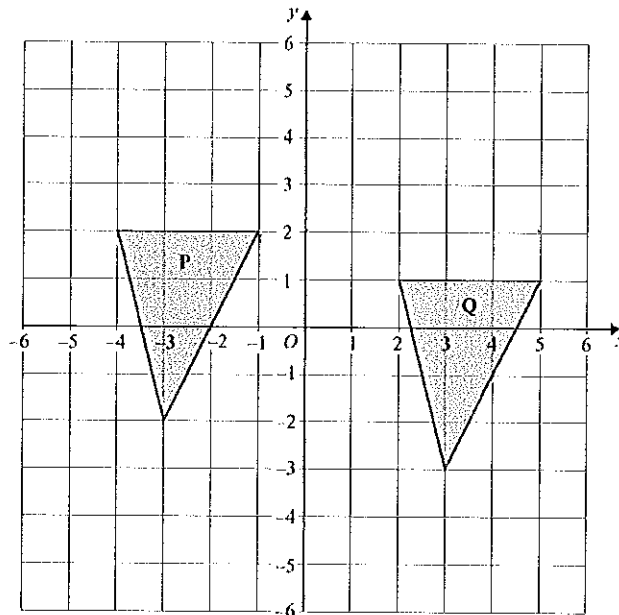


Describe fully the single transformation that maps shape P onto shape Q.

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

(3 marks)

5.

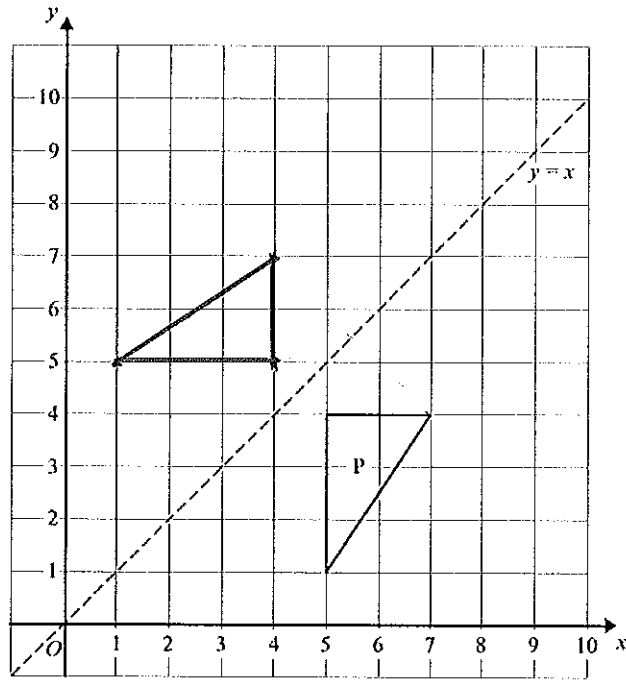


Describe fully the single transformation that maps triangle P onto triangle Q.

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

(3 marks)

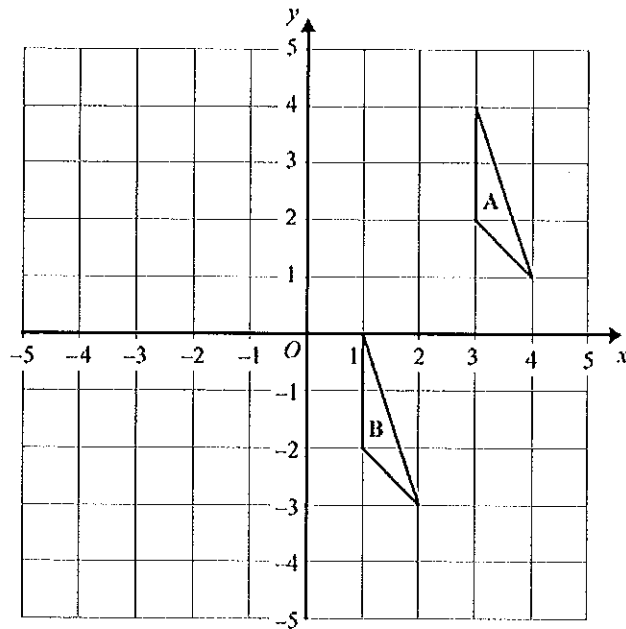
6. (a)



Reflect shape P in the line  $y = x$

(2)

(b)



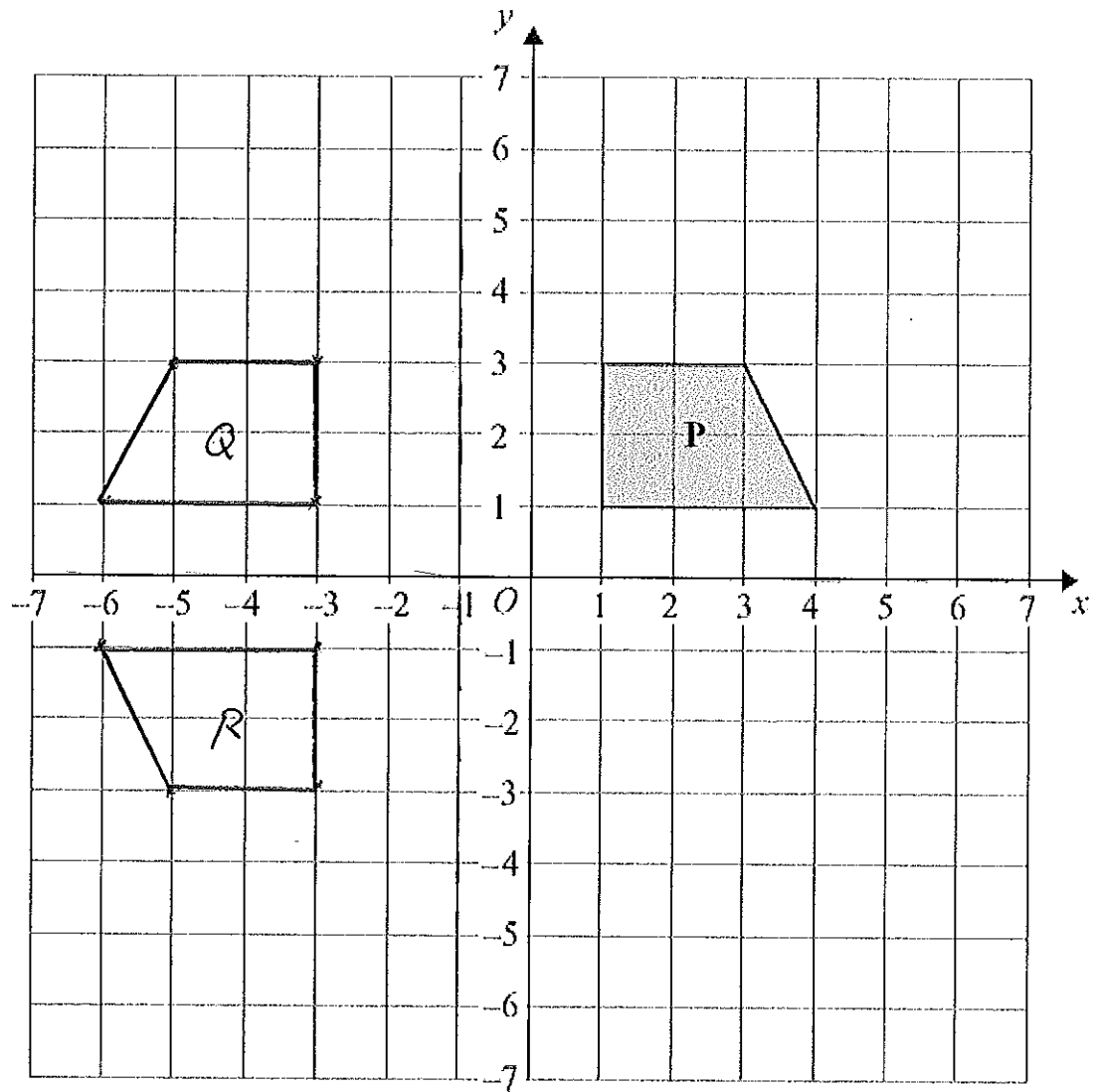
Describe fully the single transformation that maps triangle A onto triangle B.

..... 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.

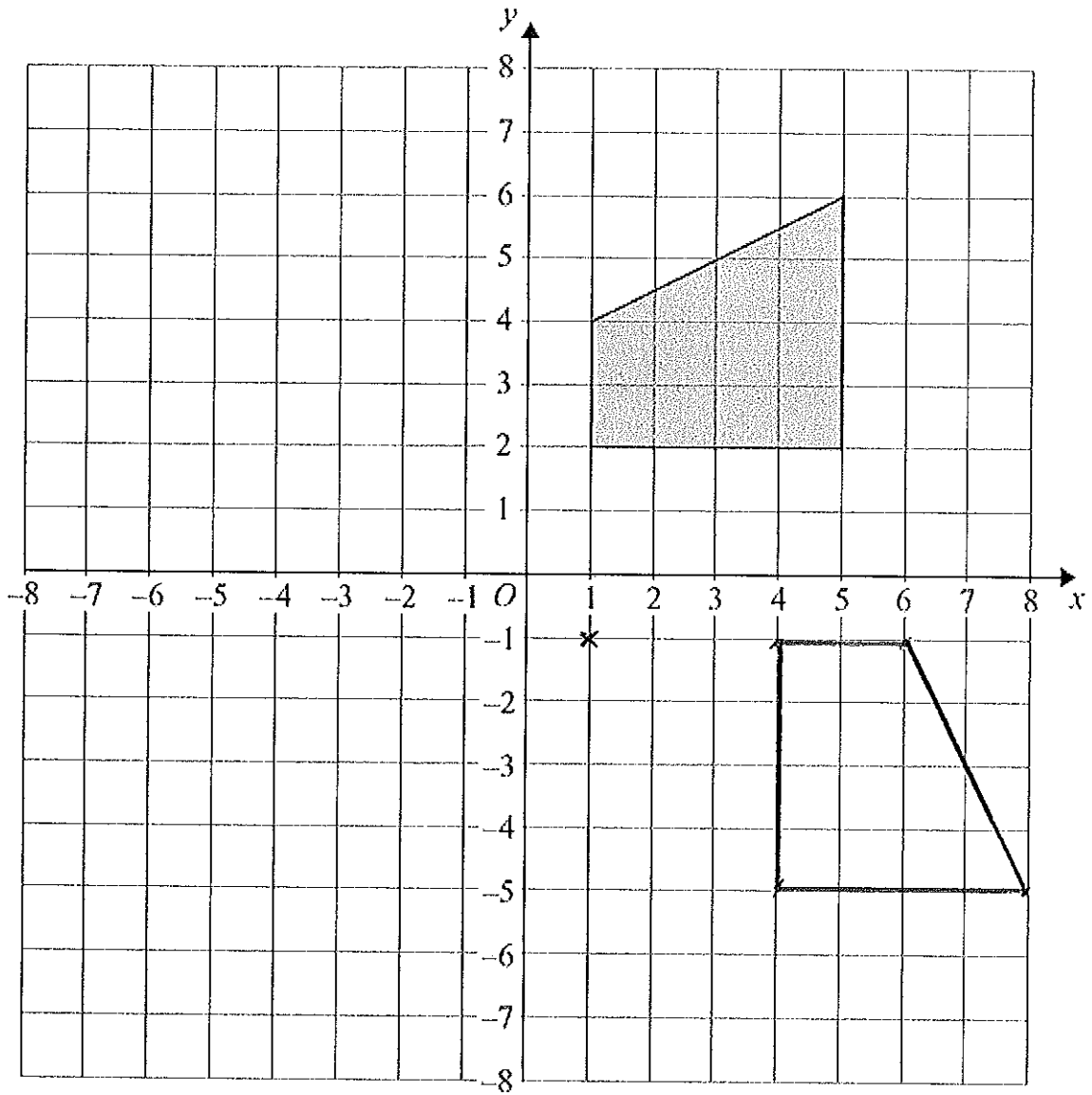
Describe fully the **single** transformation that maps shape P onto shape R.

..... Rotation,  $180^\circ$ , centre  $(-1, 0)$ .....

.....

**(3 marks)**

8.



Rotate the shaded shape  $90^\circ$  clockwise about the point  $(1, -1)$ .

**(3 marks)**