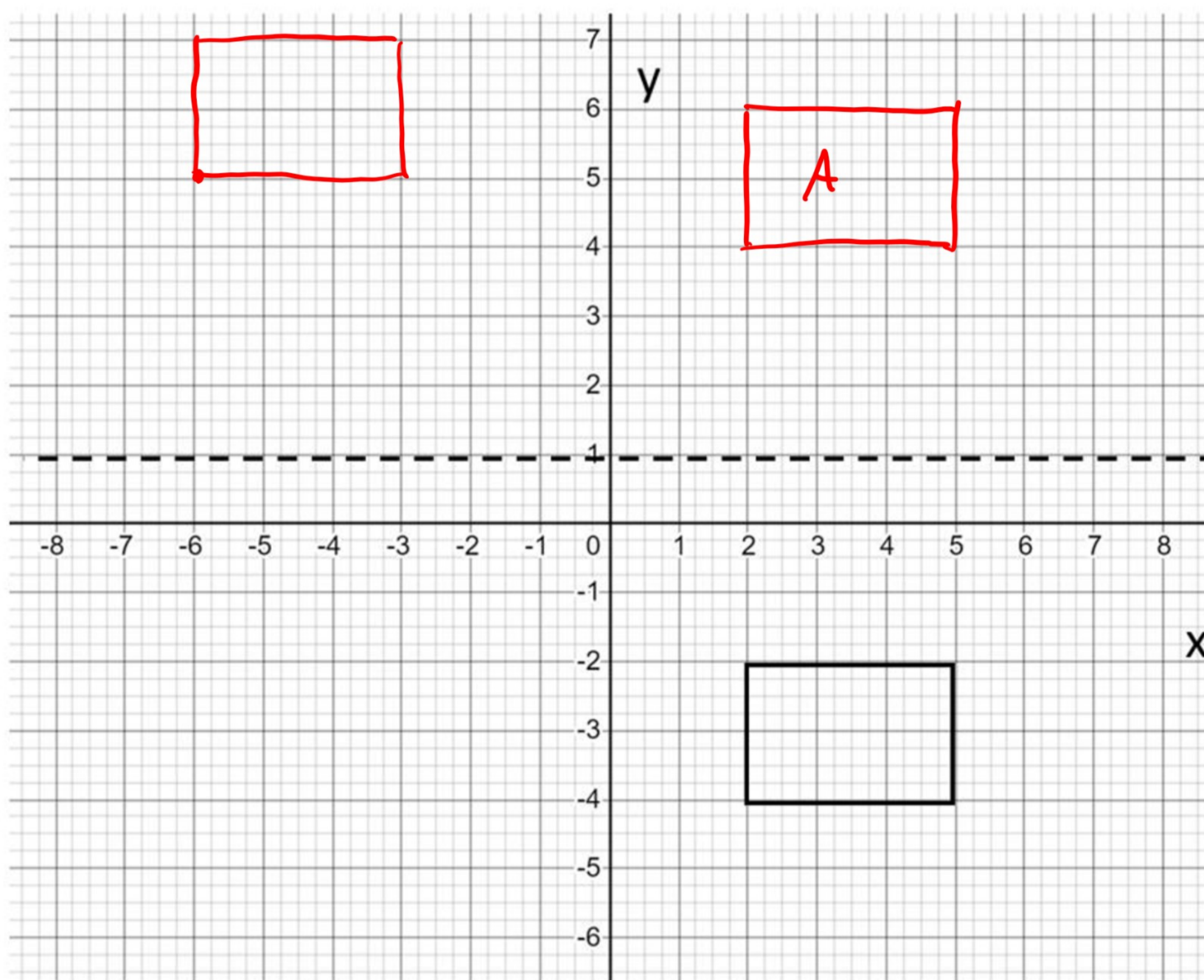


## Mixed Transformations Exam Practice



Q1.



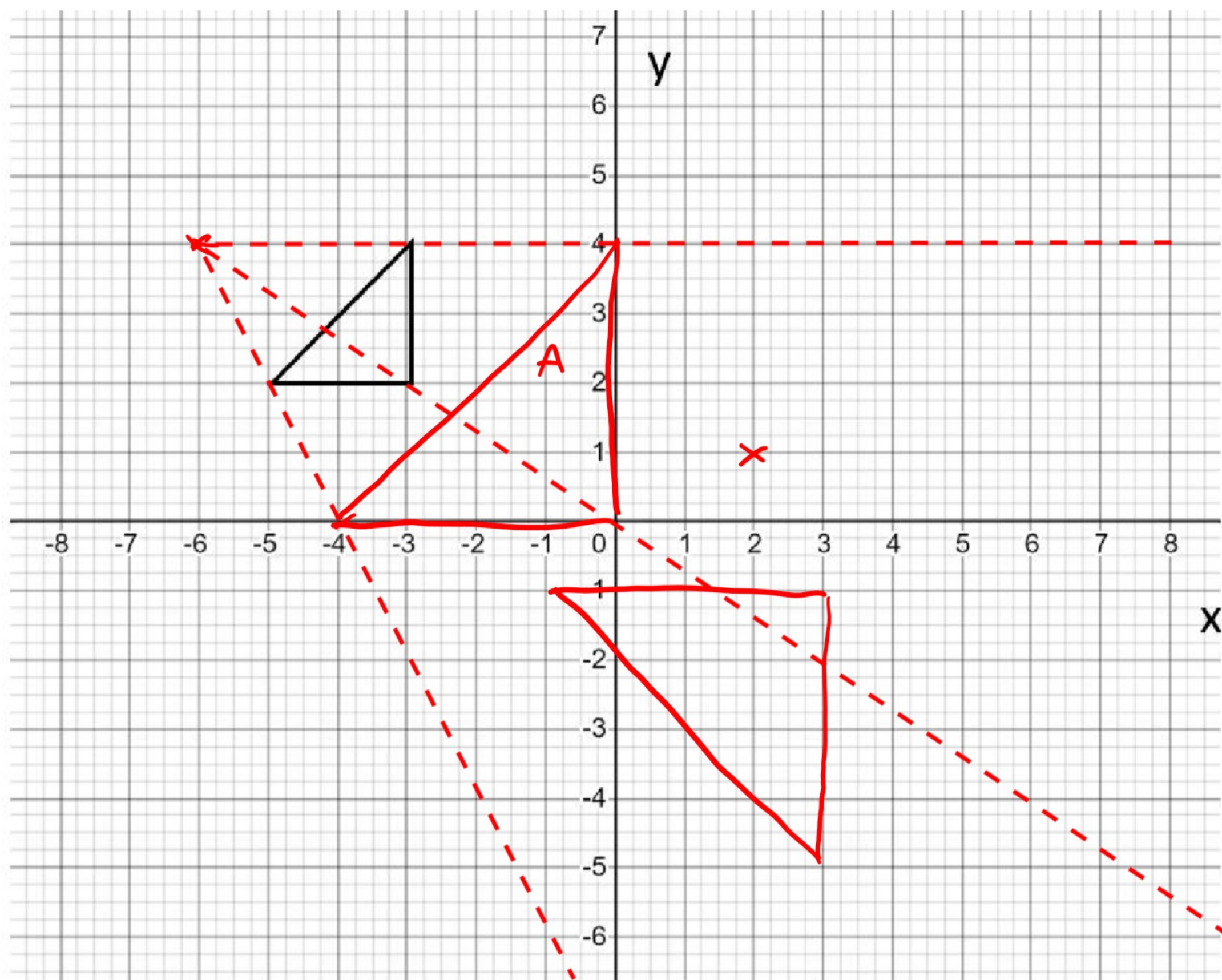
a) Reflect the shape in the dotted mirror line. Label the shape A.

(2 marks)

b) Translate the shape A by the vector  $\begin{pmatrix} -8 \\ 1 \end{pmatrix}$

(2 marks)

Q2.



a) Enlarge the shape below by scale factor 2, centre  $(-6, 4)$ .  
Label the shape A.

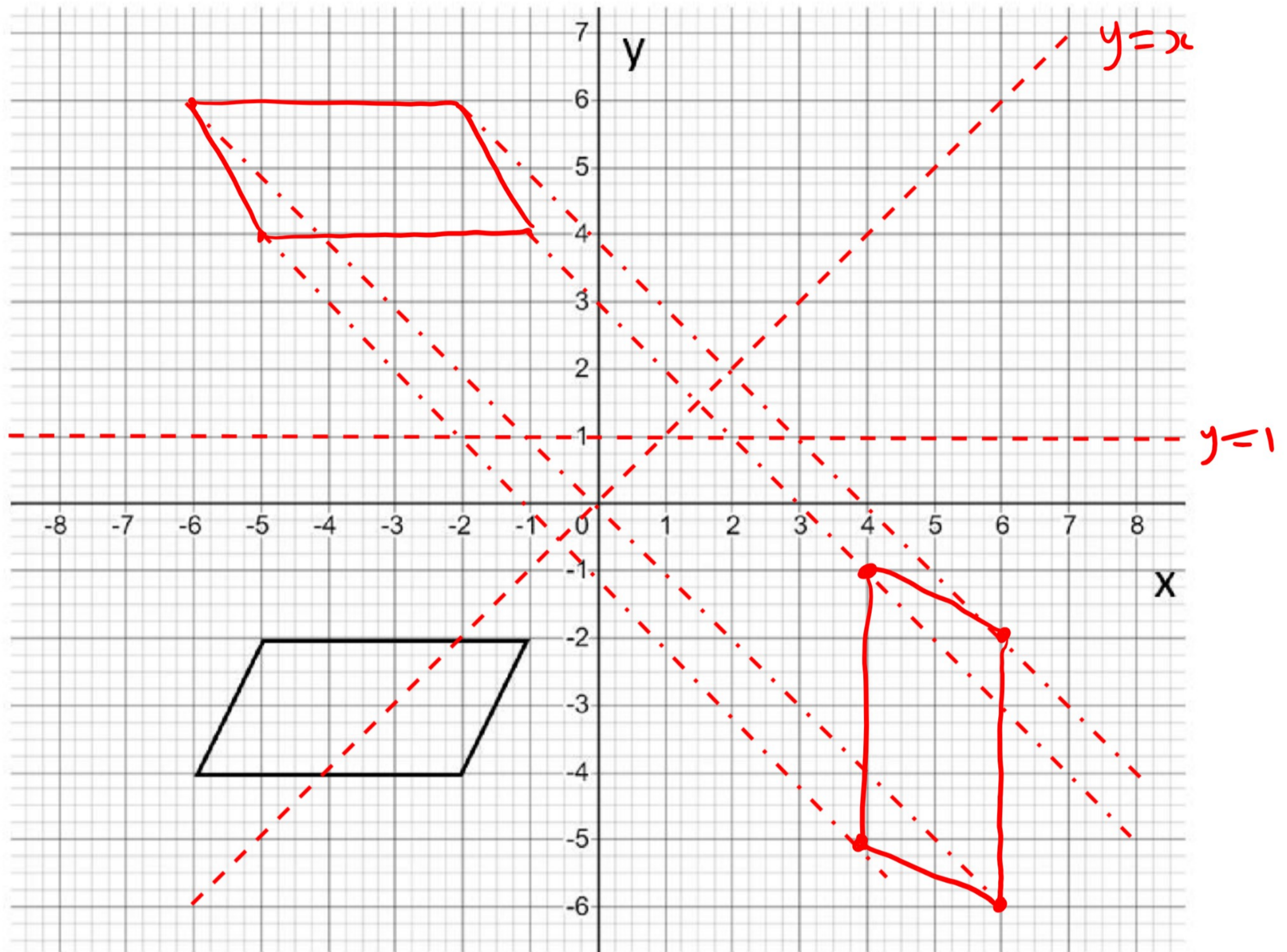
(2 marks)

b) Rotate shape A by  $90^\circ$  anti-clockwise about  $(2, 1)$ .

(2 marks)



Q3.



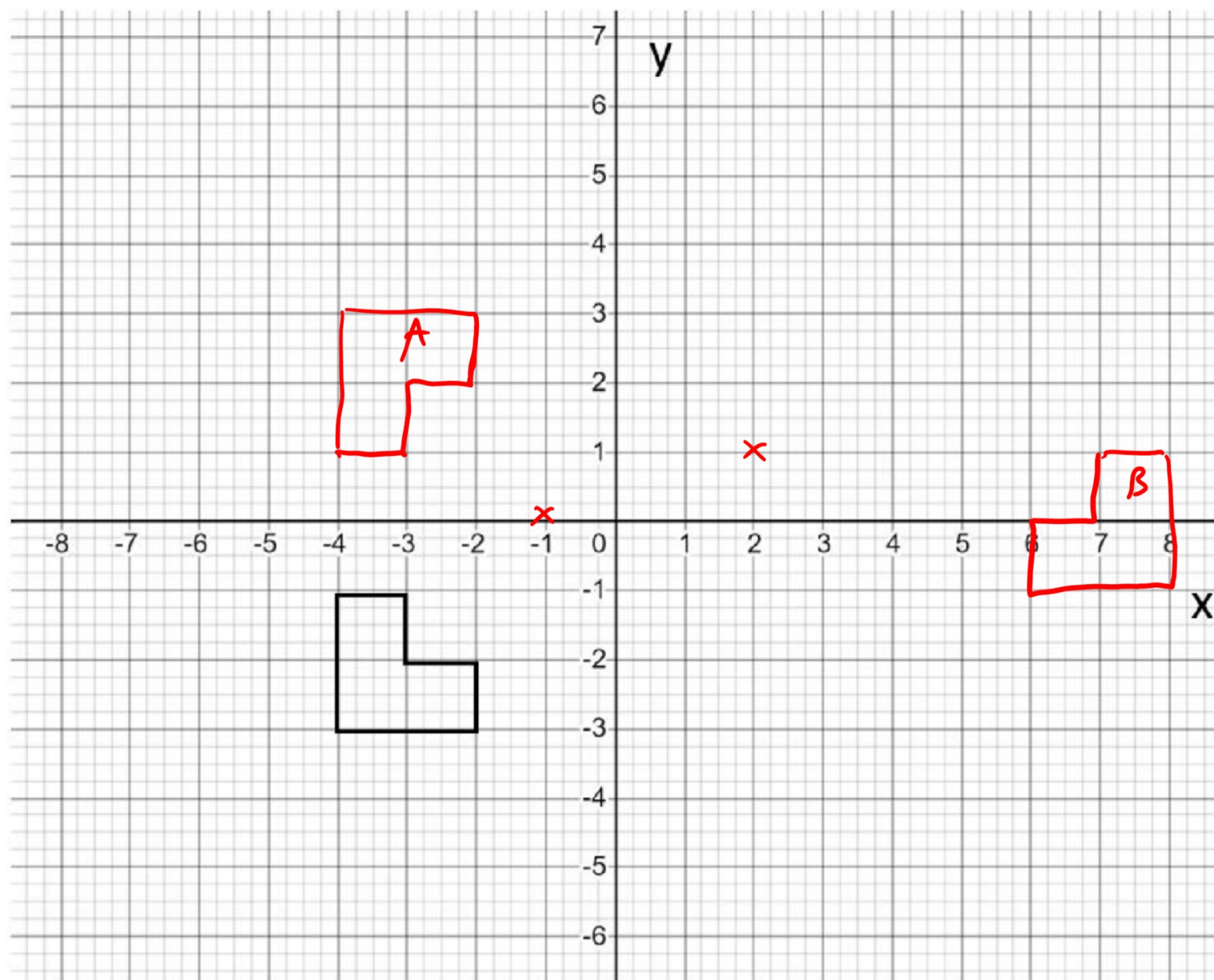
Reflect the shape in the line  $y = 1$ , followed by a reflection in the line  $y = x$ .

(3 marks)





Q4.



(A)

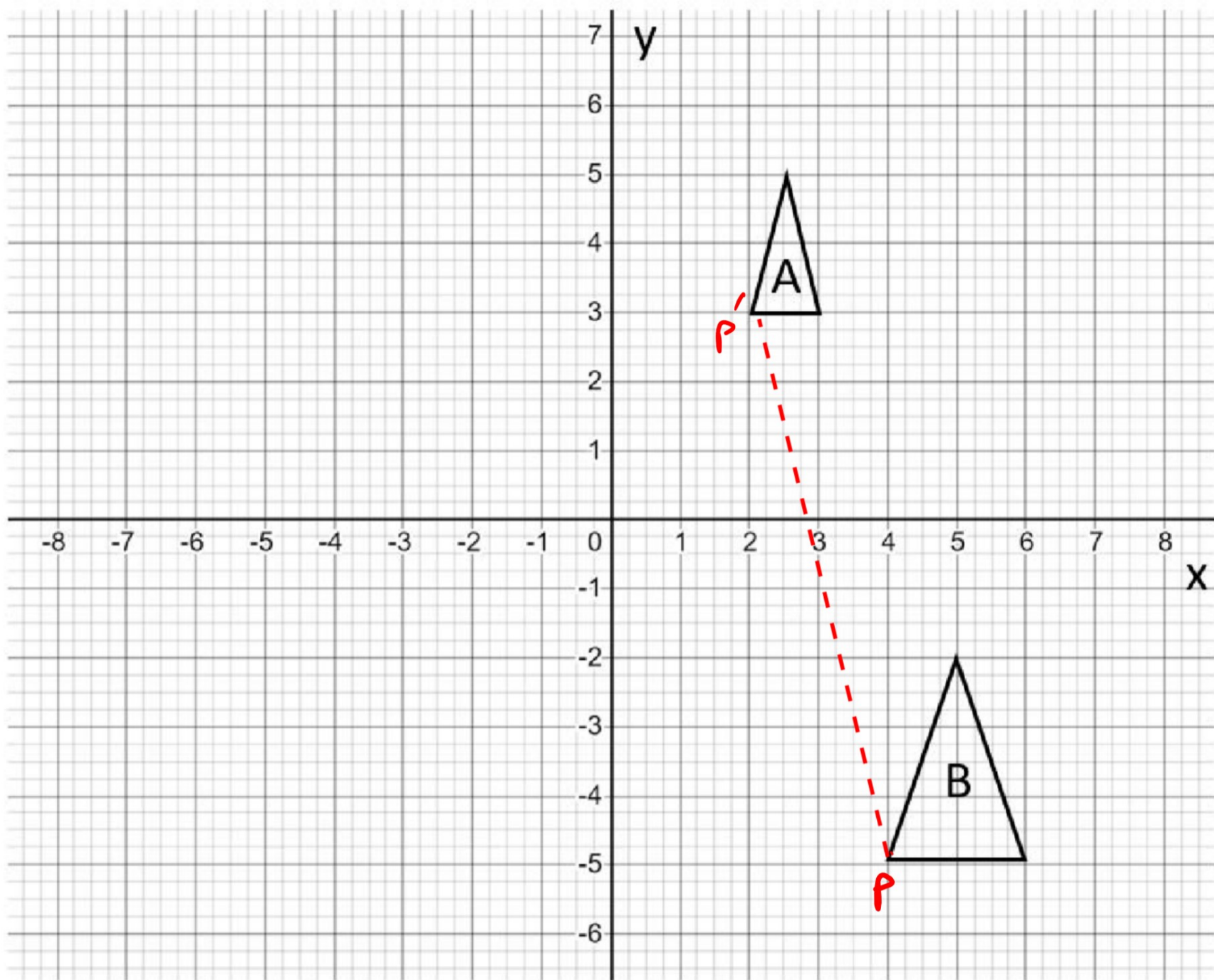
Rotate the shape  $90^\circ$  clockwise about the point  $(-1, 0)$ , followed by a rotation of  $180^\circ$  about the point  $(2, 1)$ .

(B)

(3 marks)



Q5.



Describe fully the transformation which takes shape B to shape A.

- Enlargement
- scale factor  $\frac{1}{2}$
- Let C be the centre of enlargement

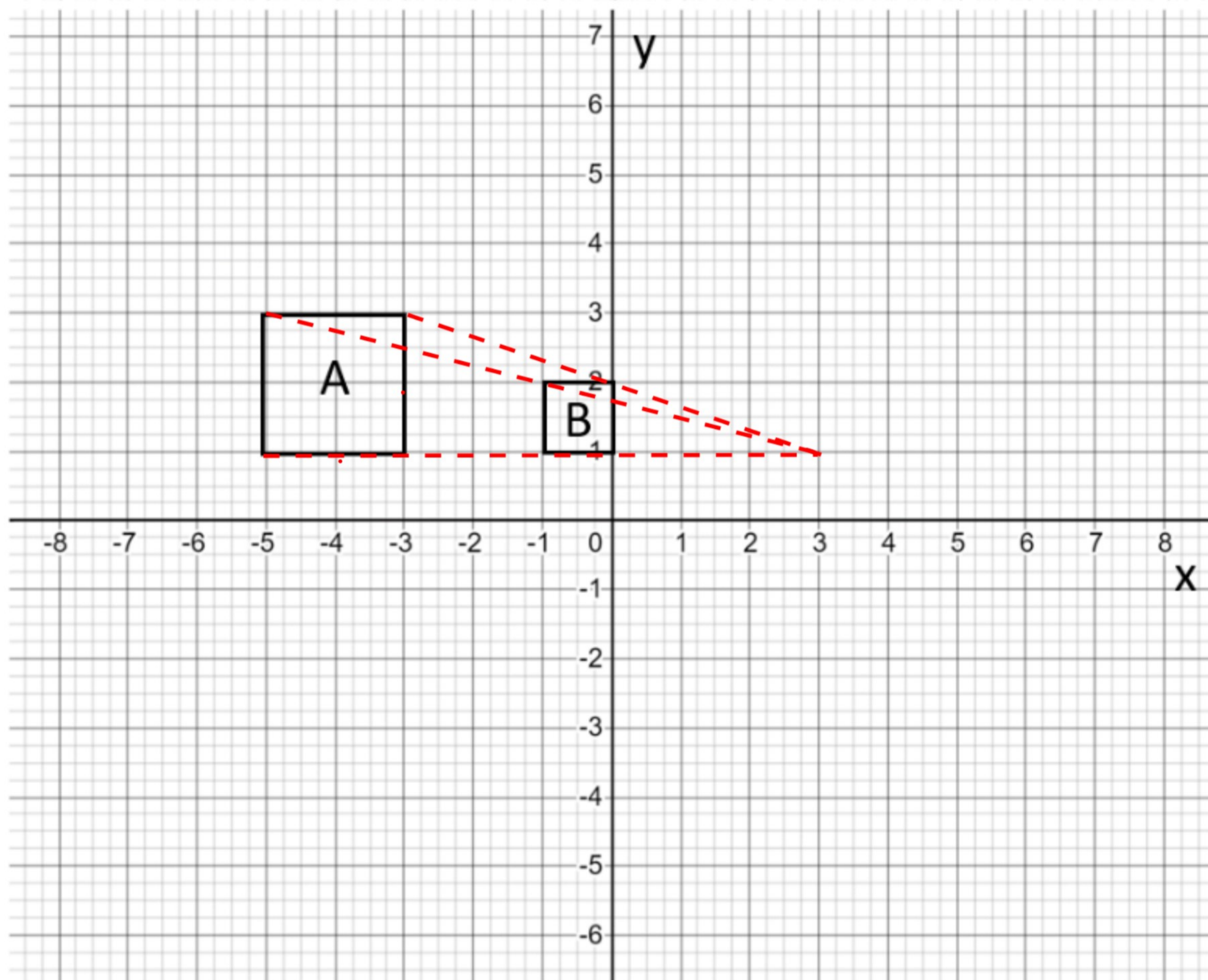
$$\vec{PP'} = \begin{pmatrix} -2 \\ 8 \end{pmatrix}, \quad \vec{PC} = 2 \begin{pmatrix} -2 \\ 8 \end{pmatrix}$$

vector from  $(4, -5)$ , C must be  $(0, 11)$ . Travelling this

(4 marks)



Q6.



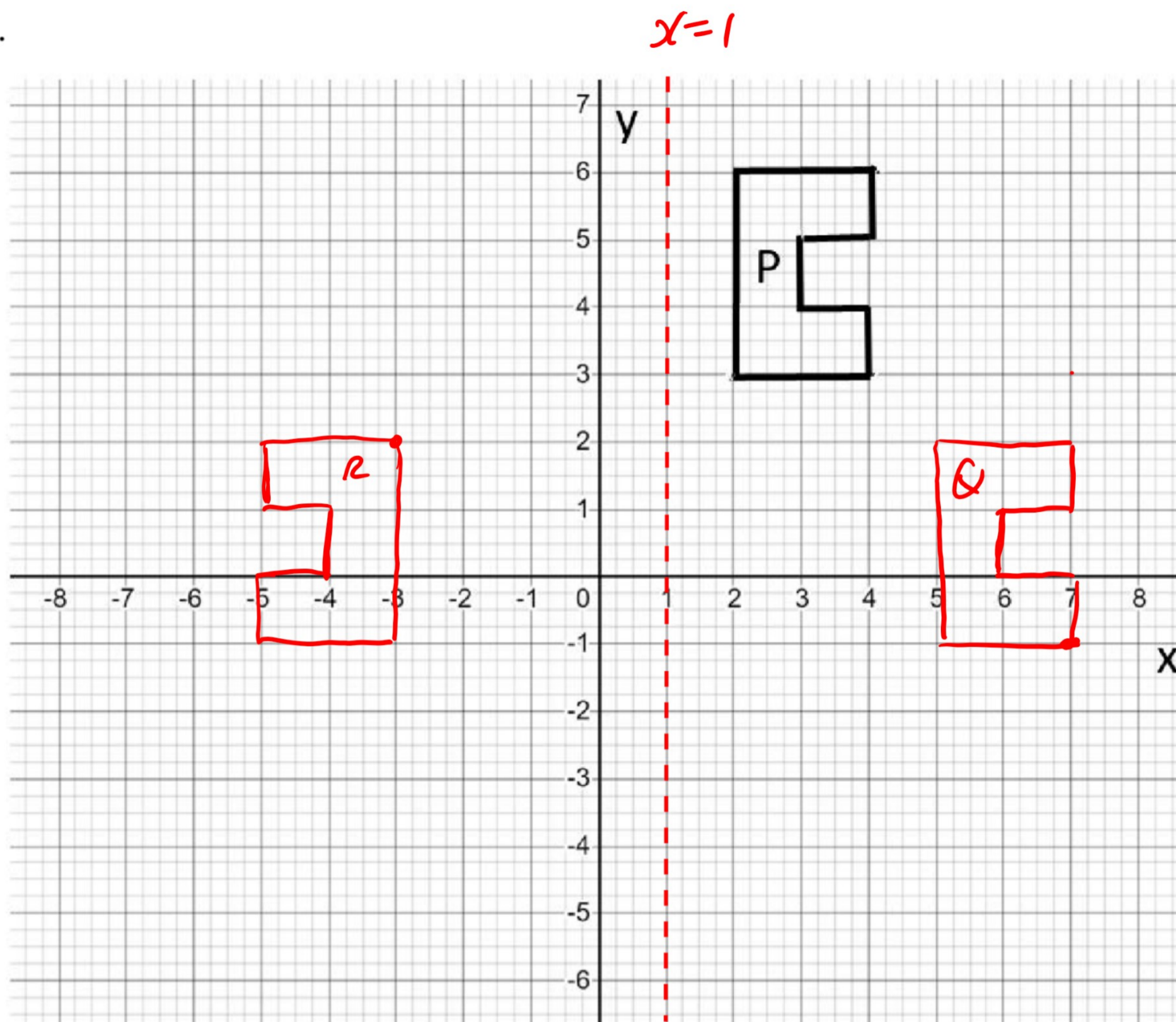
Describe fully the transformation which takes shape B to shape A.

- enlargement
- scale factor 2
- centre (3, 1)

(3 marks)



Q7.



Translate shape P by the vector  $\begin{pmatrix} 3 \\ -4 \end{pmatrix}$ . Label the new shape Q.

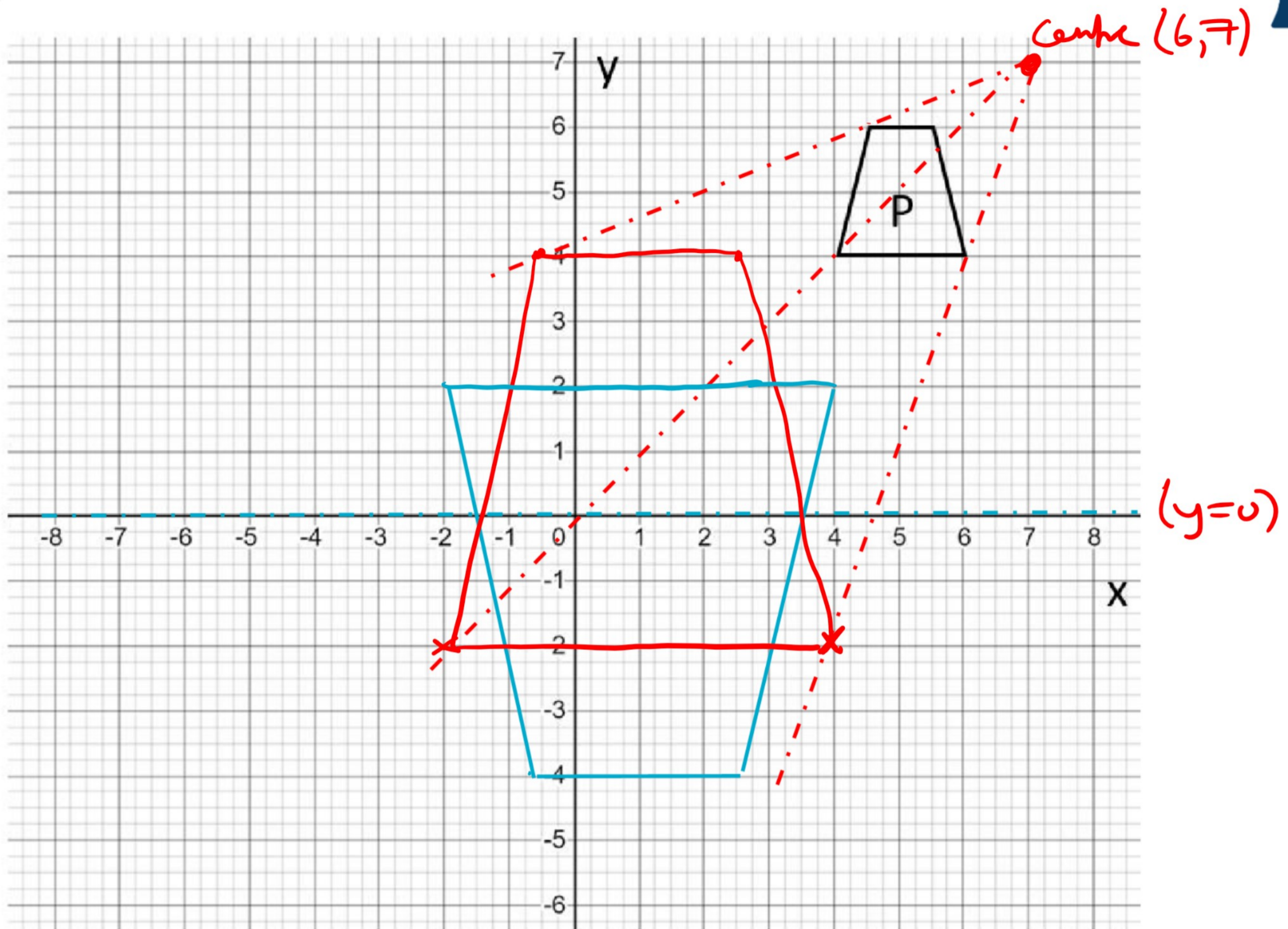
Reflect shape Q in the line  $x = 1$ .

Label the new shape R.

(4 marks)



Q8.



In this question, you must work entirely within the grid shown.  
Enlarge shape P by scale factor 3 using a point of your choice.  
Then reflect the resulting shape in a line  $y = a$  where the choice of the number  $a$  is left up to you.

ex. centre (6,7);  
y=0 mirror line.

(3 marks)