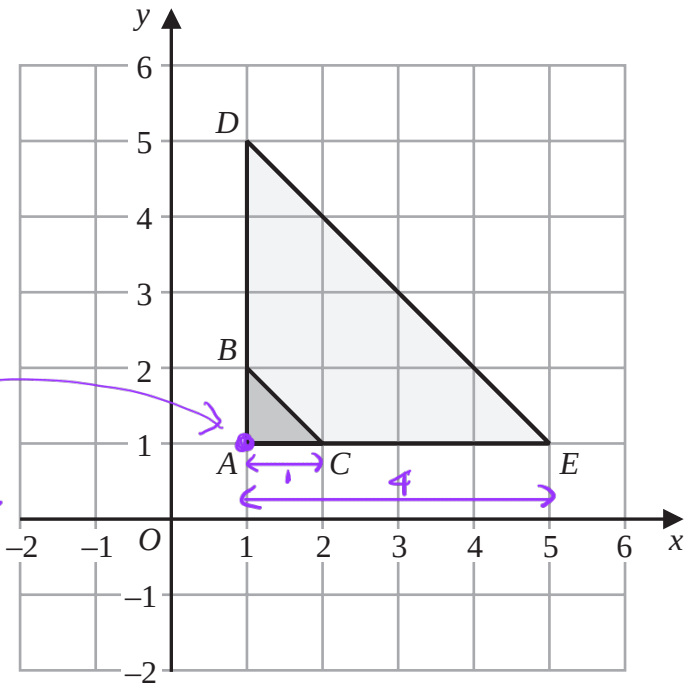
1 Here is a diagram showing triangle *ABC* and triangle *ADE*.



Enlargement centre is where both the object and image coincides.

AE = 4

AC = 1

$\frac{AE}{AC} = \frac{4}{1}$

= 4 (scale factor)

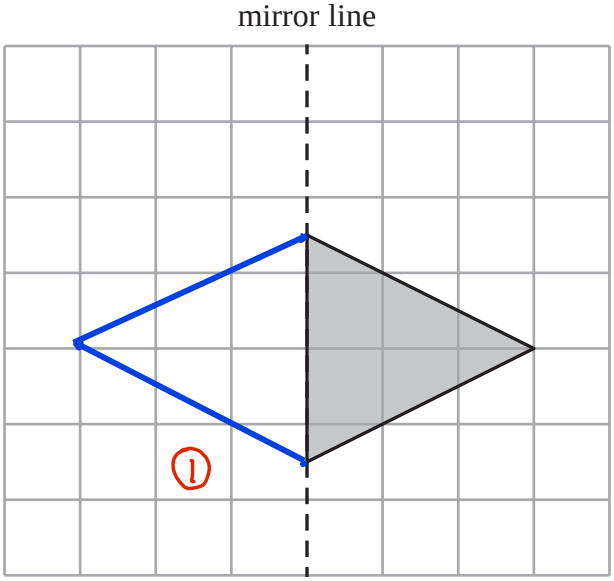
Describe fully the single transformation that maps triangle *ABC* onto triangle *ADE*.

Enlargement with factor of 4 at point (1,1)

(2)

(Total for Question 1 is 2 marks)

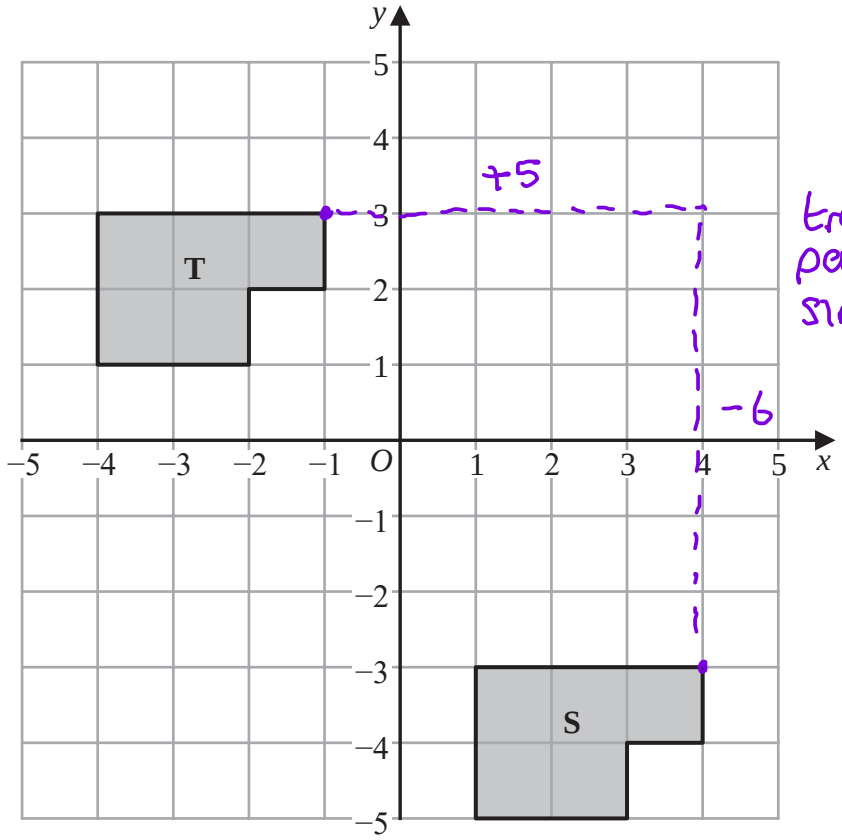
2 On the grid, reflect the shaded triangle in the mirror line.



tip:
reflect the vertices of the shape, then connect them with the edges

(Total for Question 2 is 1 mark)

3

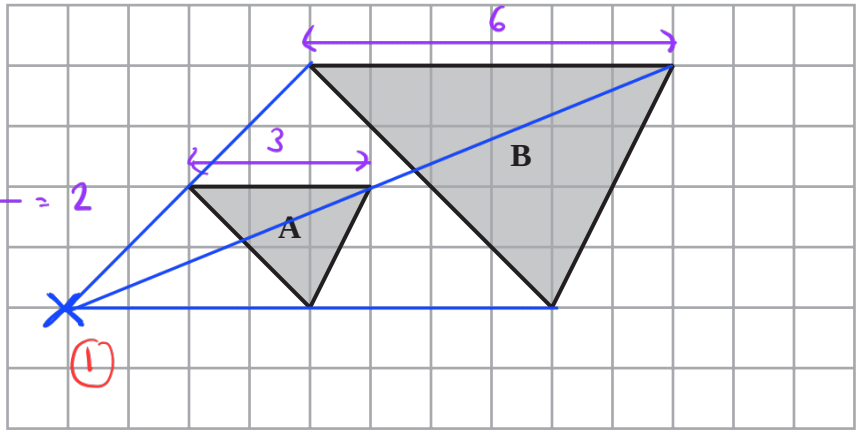


Describe fully the single transformation that maps shape **S** onto shape **T**.

Translation by the vector $\begin{pmatrix} -5 \\ 6 \end{pmatrix}$ (1) (1)

(Total for Question 3 is 2 marks)

4 Here are two triangles on a grid.



Scale factor :

$\frac{\text{length B}}{\text{length A}} = \frac{6}{3} = 2$ (1)

Triangle **B** is an enlargement of triangle **A**.

(a) (i) Write down the scale factor of the enlargement.

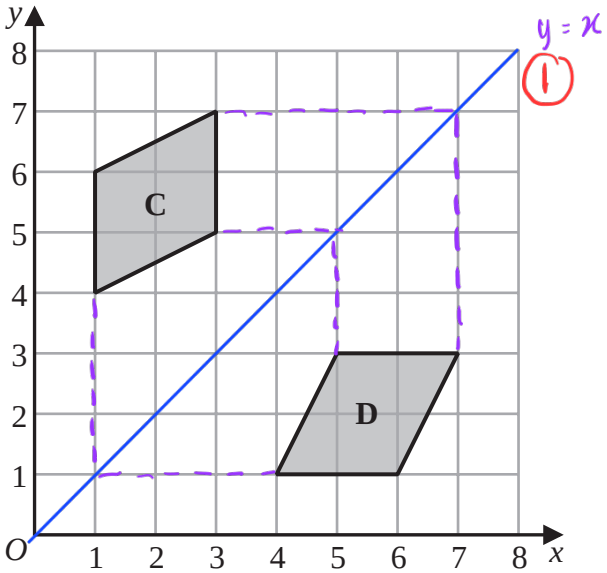
2 (1)

(1)

(ii) On the grid, mark with a cross (×) the centre of enlargement.

(1)

Here are two parallelograms on a coordinate grid.



y = x (1)

Parallelogram **D** is a reflection of parallelogram **C**.

(b) (i) On the grid, draw the mirror line.

(1)

(ii) Write down an equation of this mirror line.

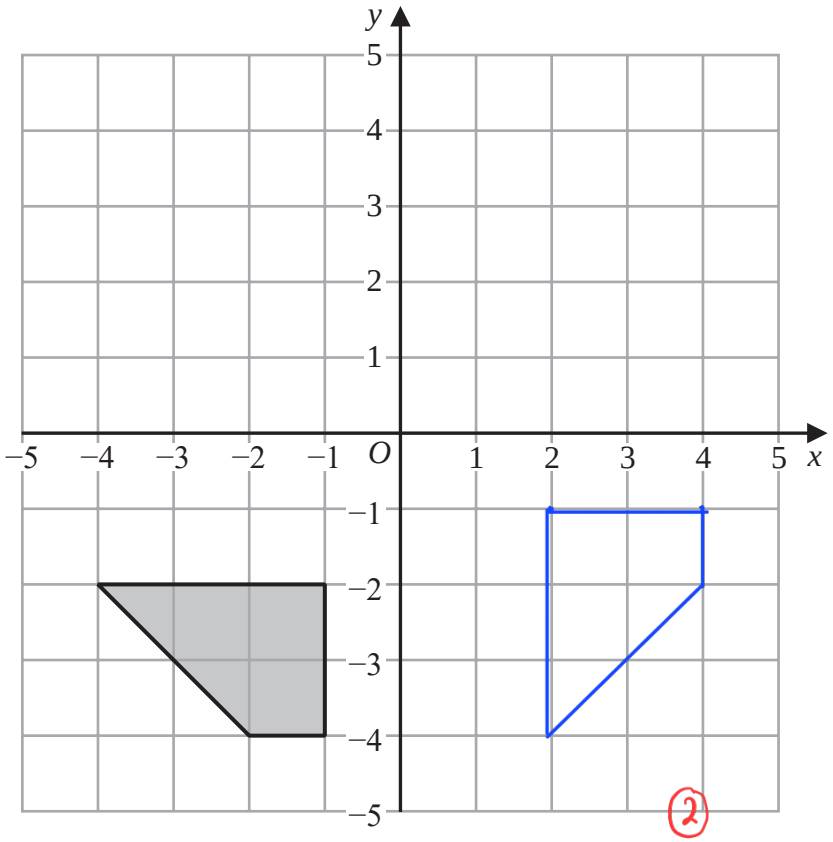
y = x (1)

y = x

(1)

(Total for Question 4 is 4 marks)

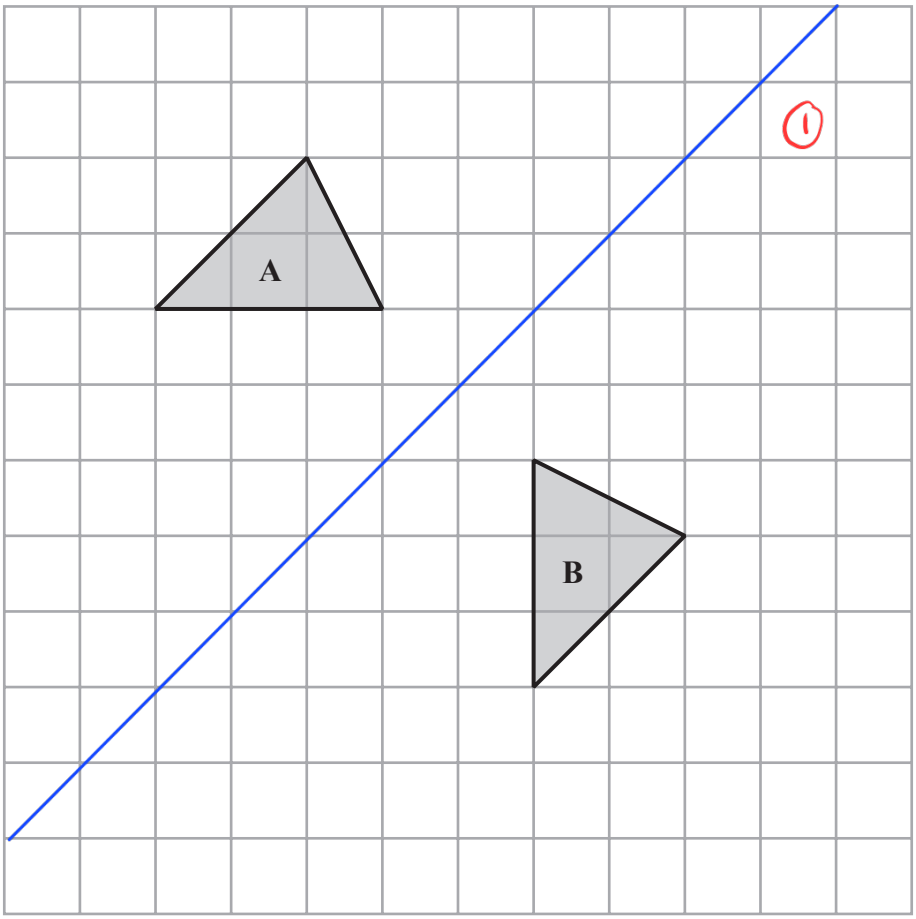
5



Rotate the shaded shape 90° anticlockwise about (0,0)

(Total for Question 5 is 2 marks)

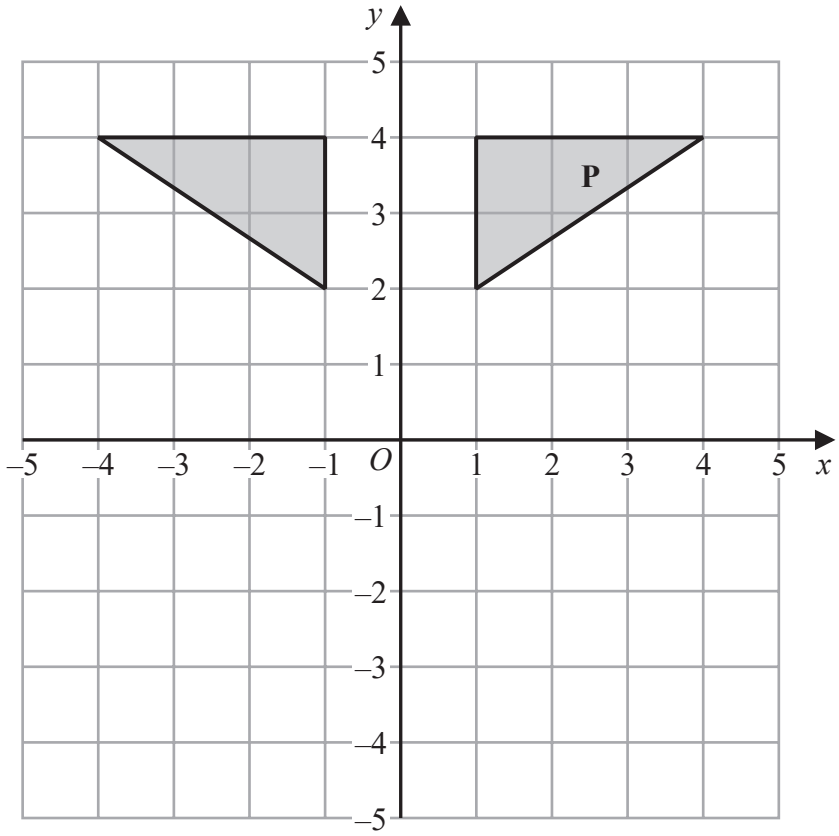
6 Shape **A** is reflected in a mirror line to give shape **B**.



(a) On the grid, draw the mirror line.

(1)

(b) Alex is asked to reflect shape **P** in the x-axis.
Here is the diagram Alex draws.



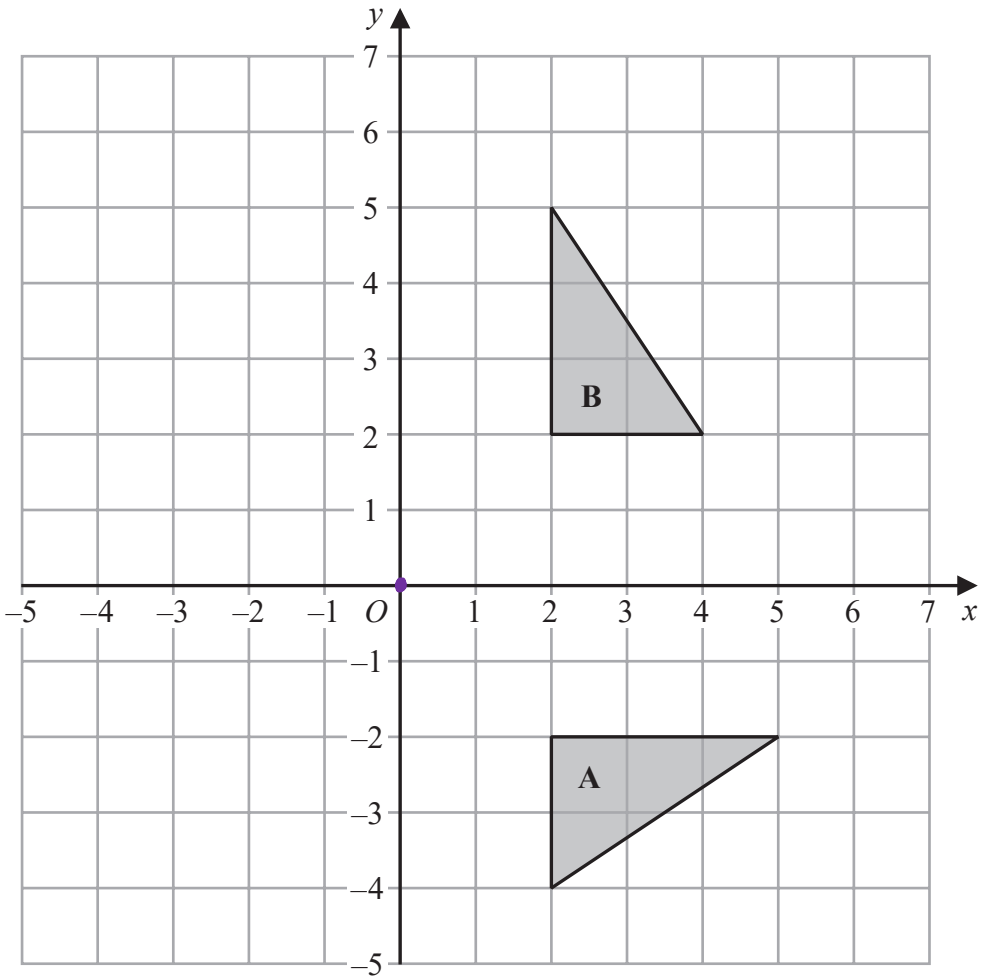
Explain the mistake Alex has made.

Alex reflected shape P in the y-axis instead of x-axis. (1)

(1)

(Total for Question 6 is 2 marks)

7



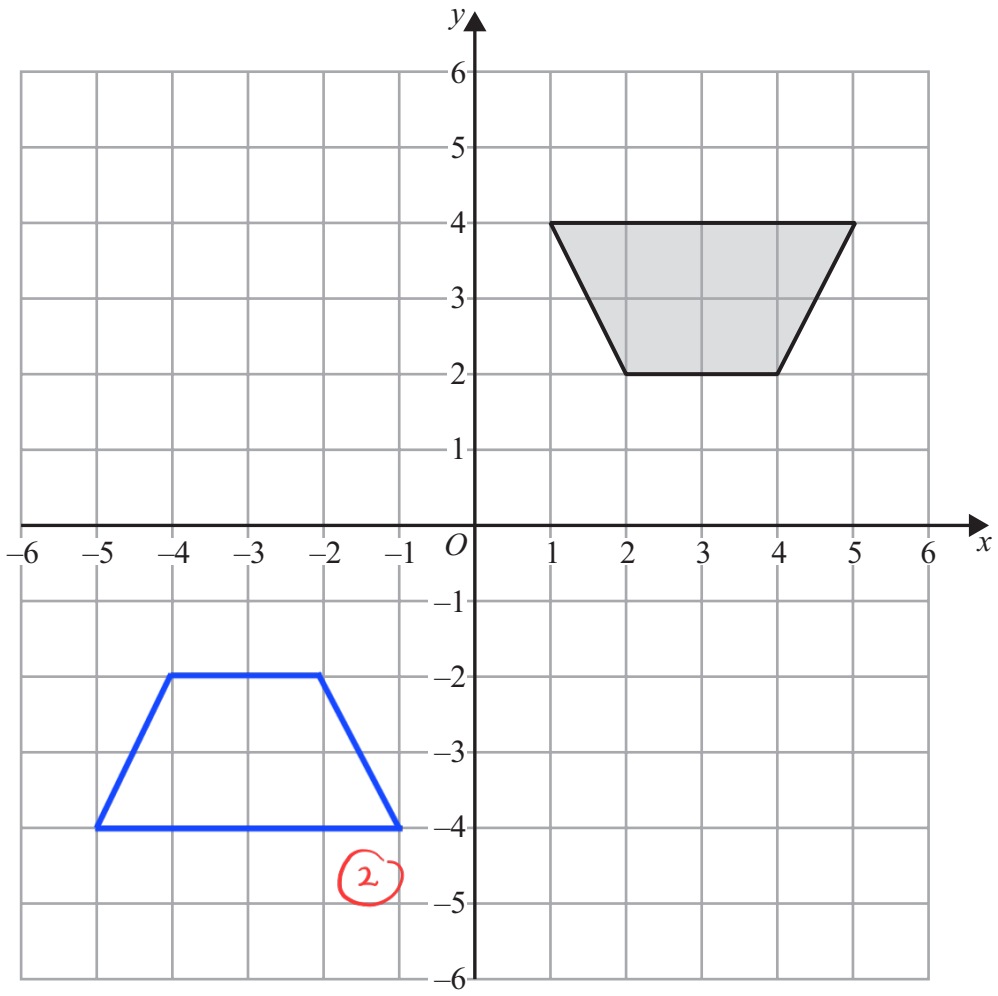
Describe fully the single transformation that maps shape **A** onto shape **B**.

Rotation 90° at centre (0, 0)

(1) (1)

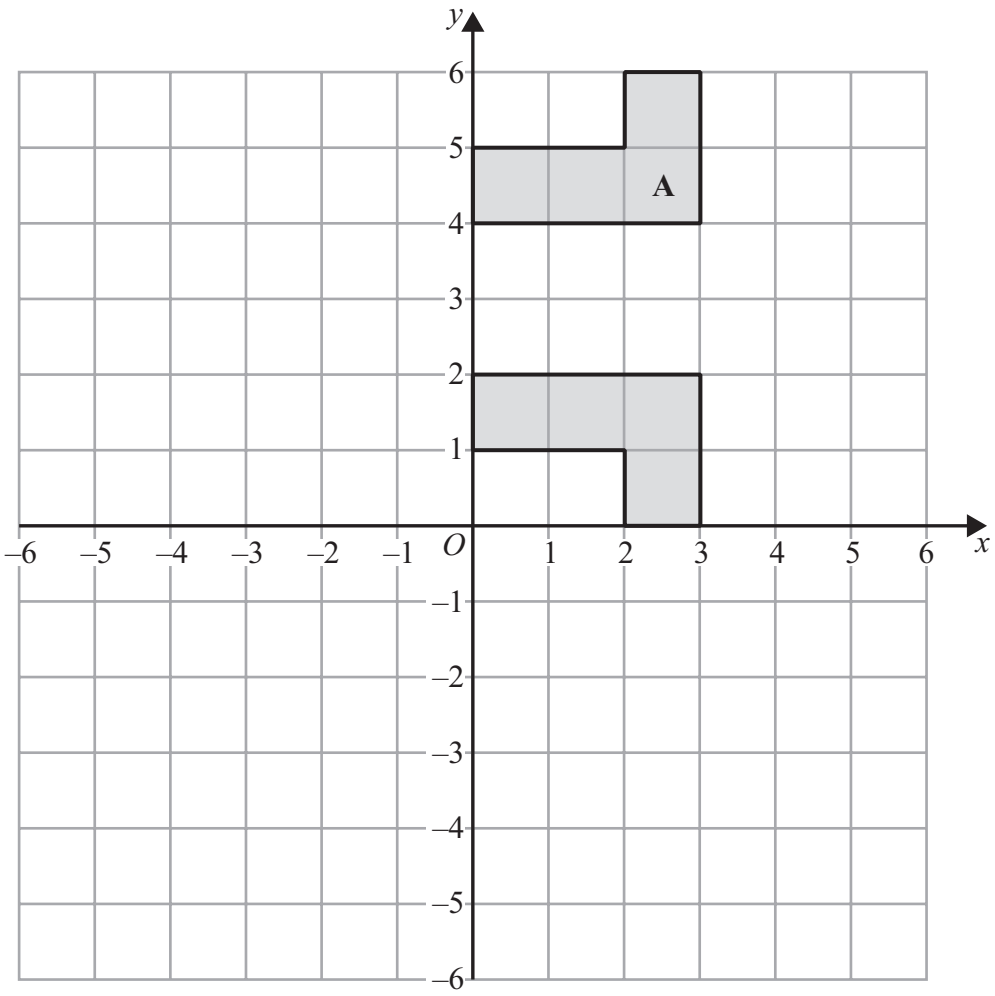
(Total for Question 7 is 2 marks)

8



(a) On the grid above, rotate the shaded shape 180° about (0, 0)

(2)



Mike was asked to

'Reflect shape **A** in the line with equation $x = 3$'

Mike's answer is shown on the grid.
His answer is wrong.

(b) Explain why.

Mike's answer is a reflection in the line $y = 3$, not $x = 3$. (1)

(1)

(Total for Question 8 is 3 marks)