

Name:

Exam Style Questions

Transformations: Mixture



Equipment needed: Ruler, Pencil and Pen

### Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Video Tutorial

[www.corbettmaths.com/contents](http://www.corbettmaths.com/contents)

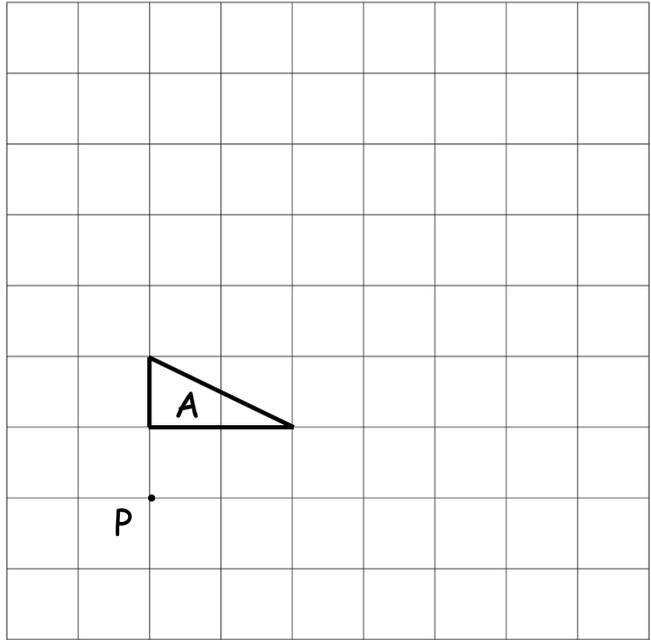
Video 322a



Answers and Video Solutions



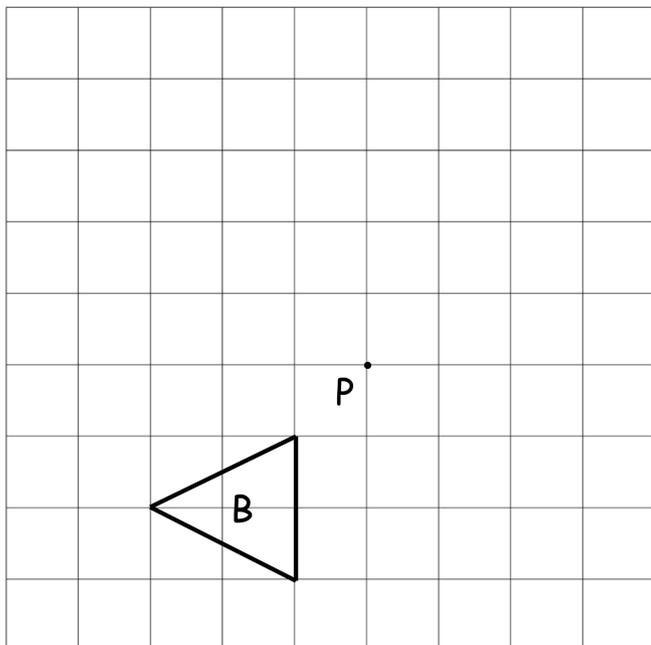
1. Triangle A is drawn on the grid below.



(a) Enlarge triangle A by scale factor 3 using point P as the centre of enlargement.

(2)

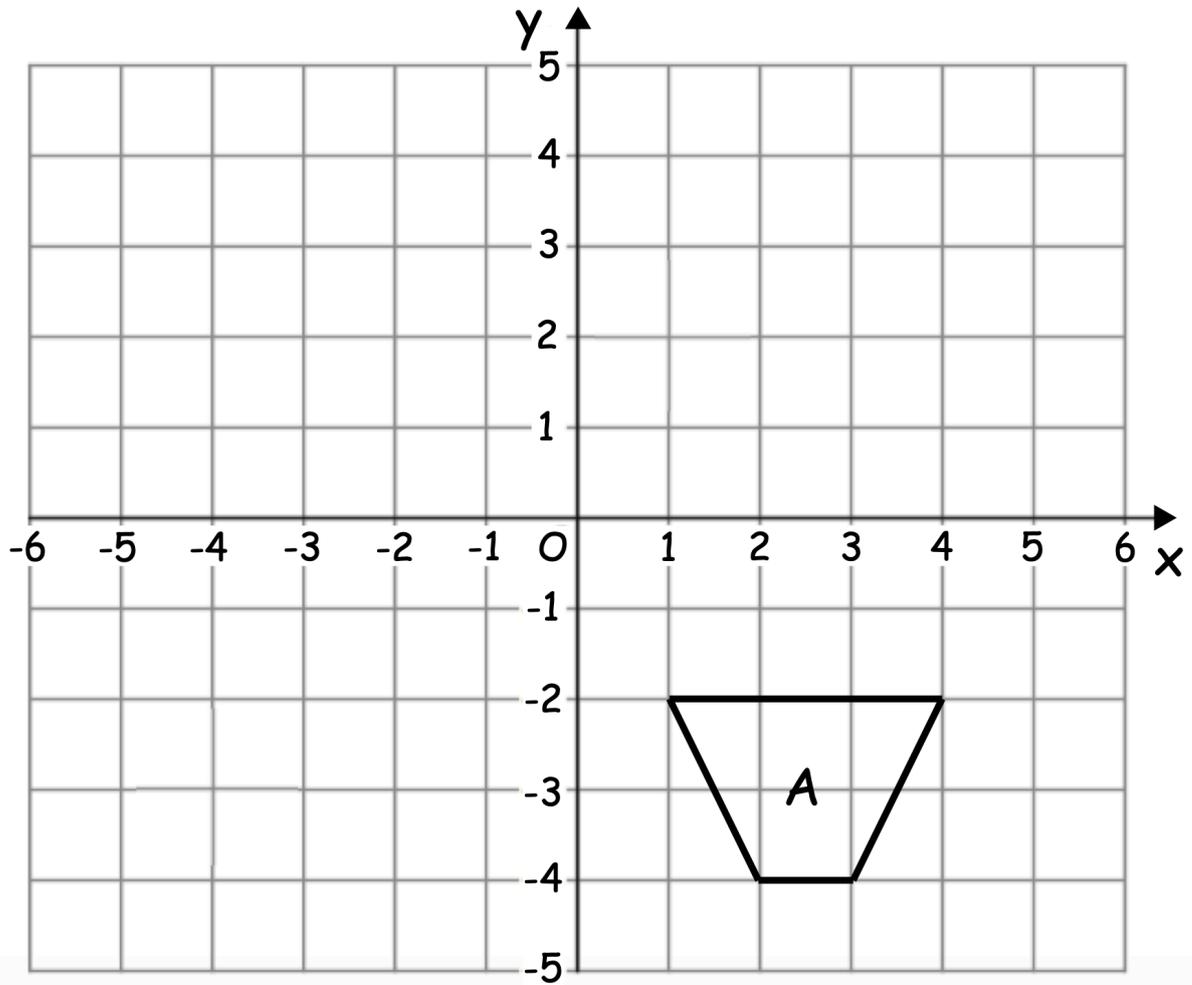
Triangle B is drawn on the grid below.



(b) Rotate triangle B  $90^\circ$  anticlockwise about the point P.

(2)

2.



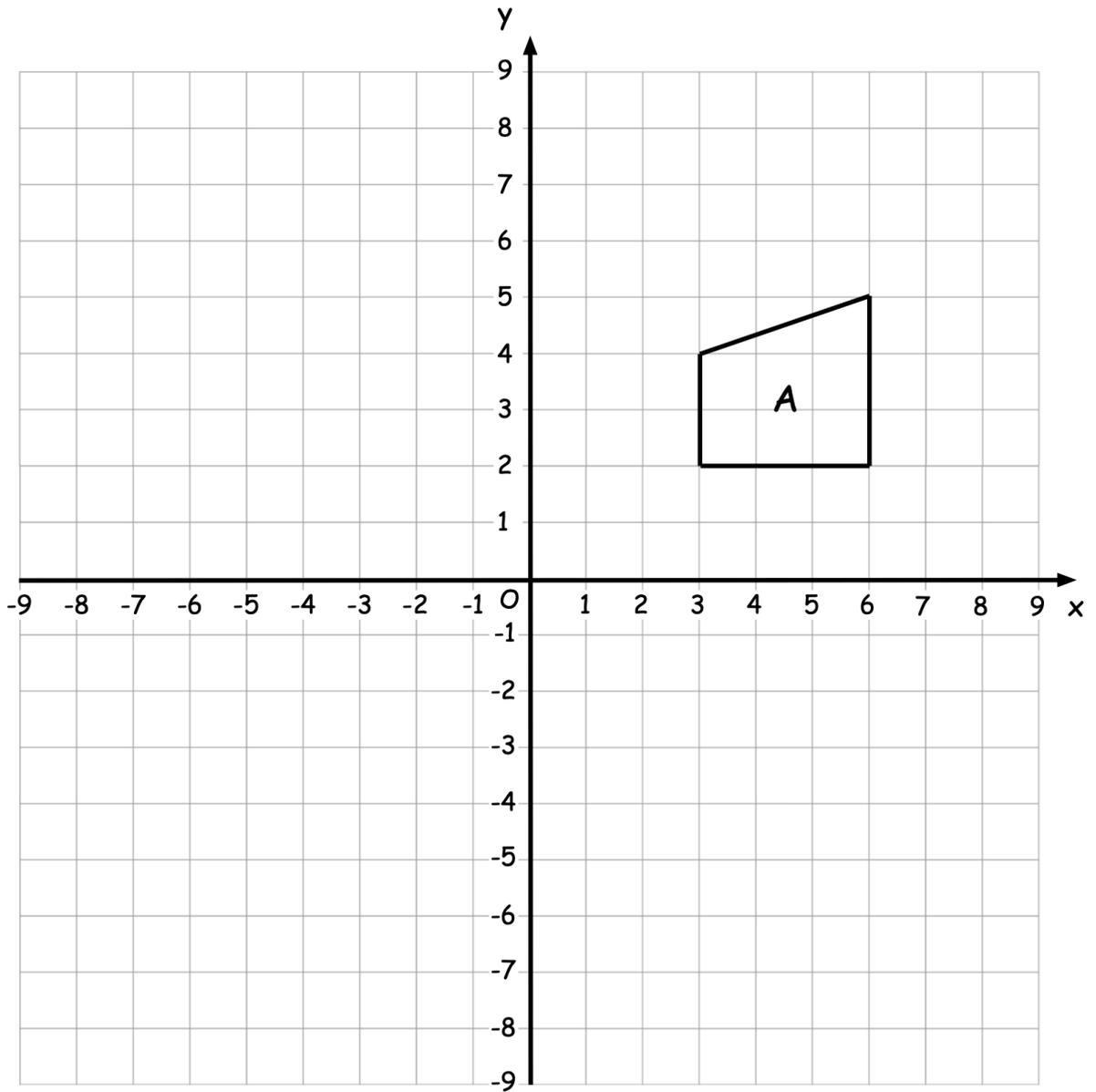
- (a) Reflect shape A in the y-axis.  
Label the new shape B.

(2)

- (b) Translate shape A by the vector  $\begin{pmatrix} 1 \\ 5 \end{pmatrix}$   
Label the new shape C.

(2)

3.



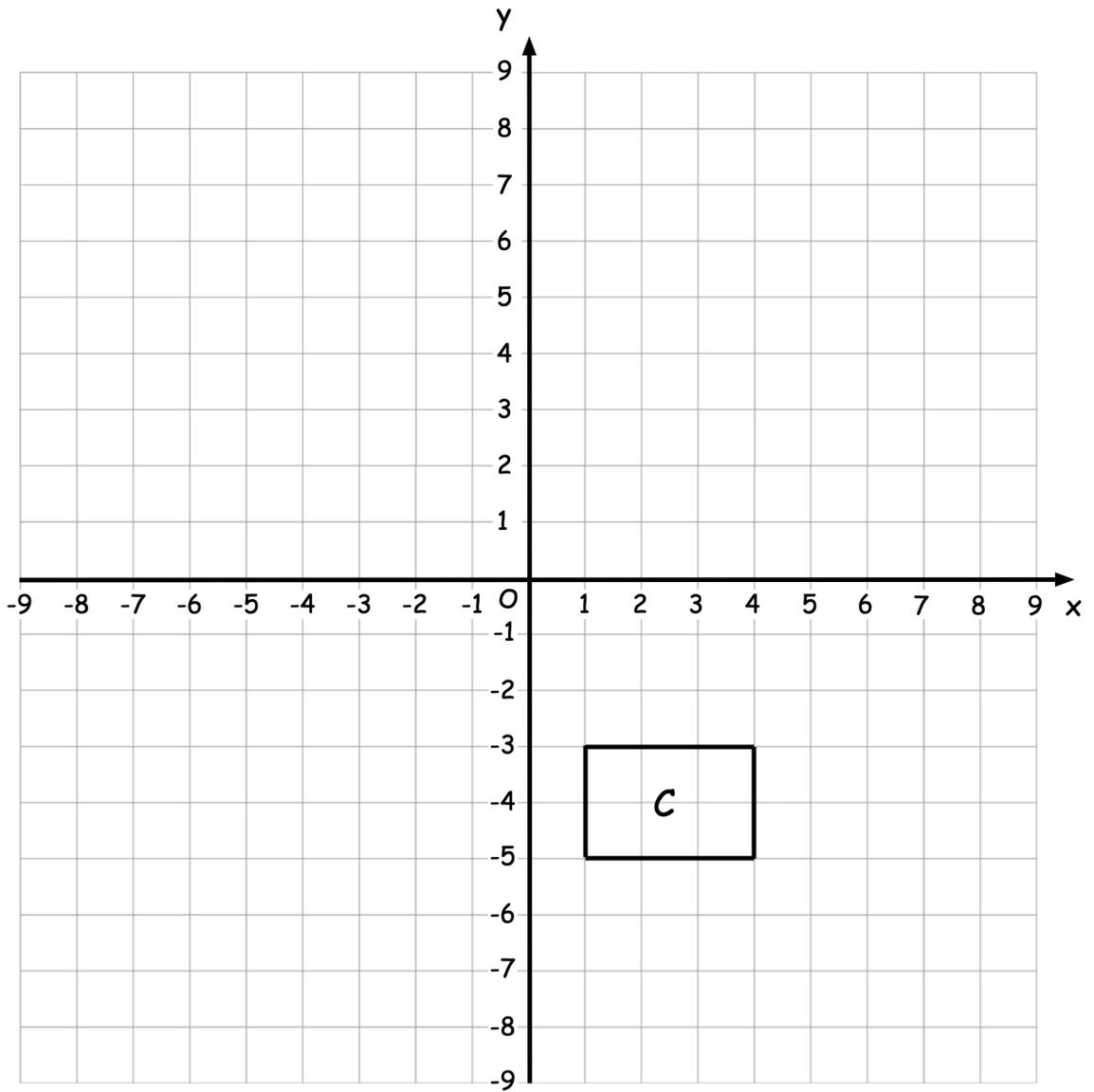
- (a) Rotate trapezium A  $90^\circ$  clockwise about the point  $(0, -1)$   
Label the new trapezium B.

(2)

- (b) Reflect trapezium A in line  $x = 1$   
Label the new trapezium C.

(2)

4.



Rectangle A is translated by  $\begin{pmatrix} 5 \\ -2 \end{pmatrix}$  to give rectangle C.

(a) Draw rectangle A on the grid.

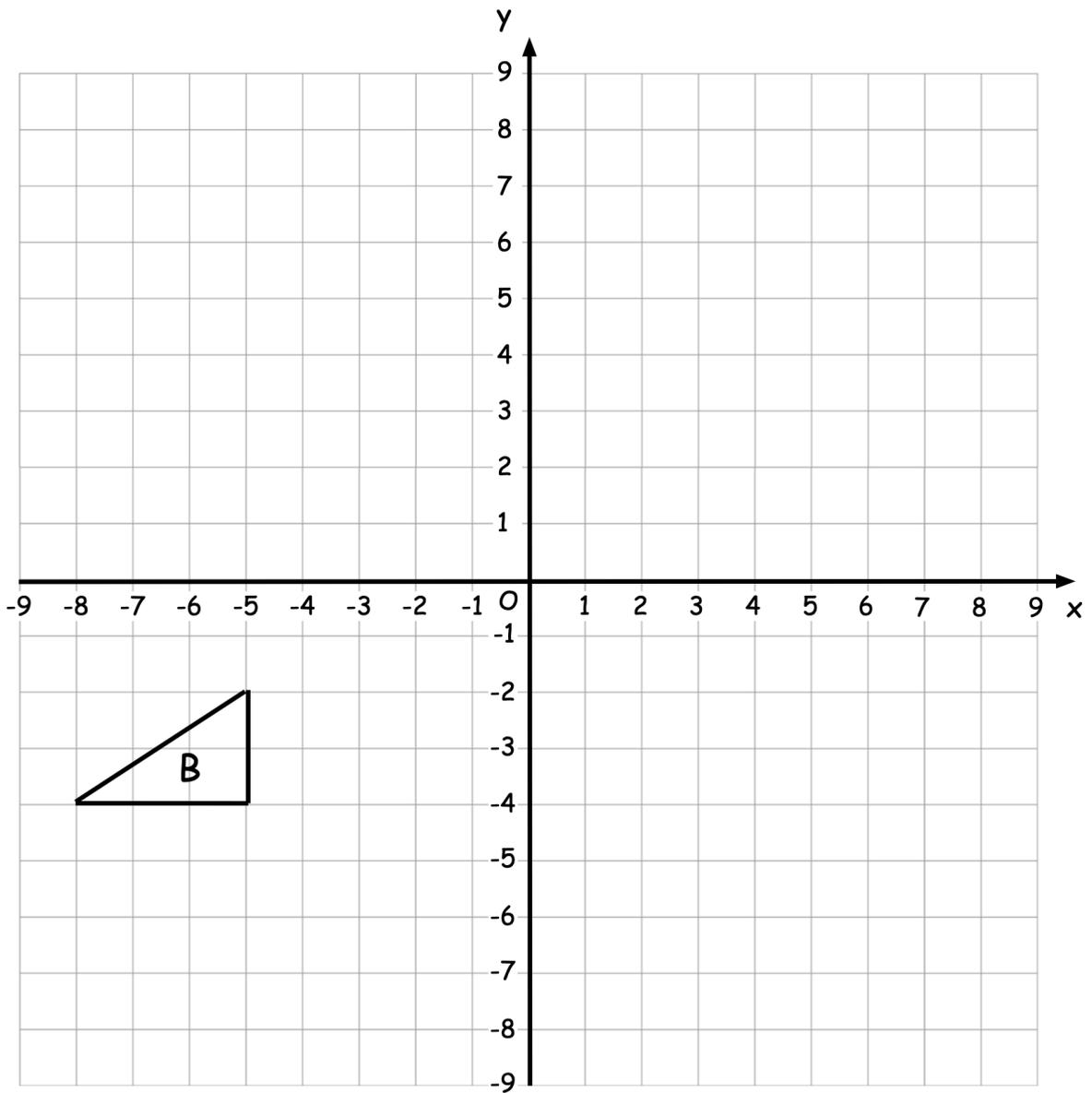
(2)

Rectangle B is reflected in the line  $y = x$  to give rectangle C.

(b) Draw rectangle B on the grid.

(2)

5.



Triangle A is rotated  $90^\circ$  anticlockwise about the  $(-3, 1)$  to give triangle B.

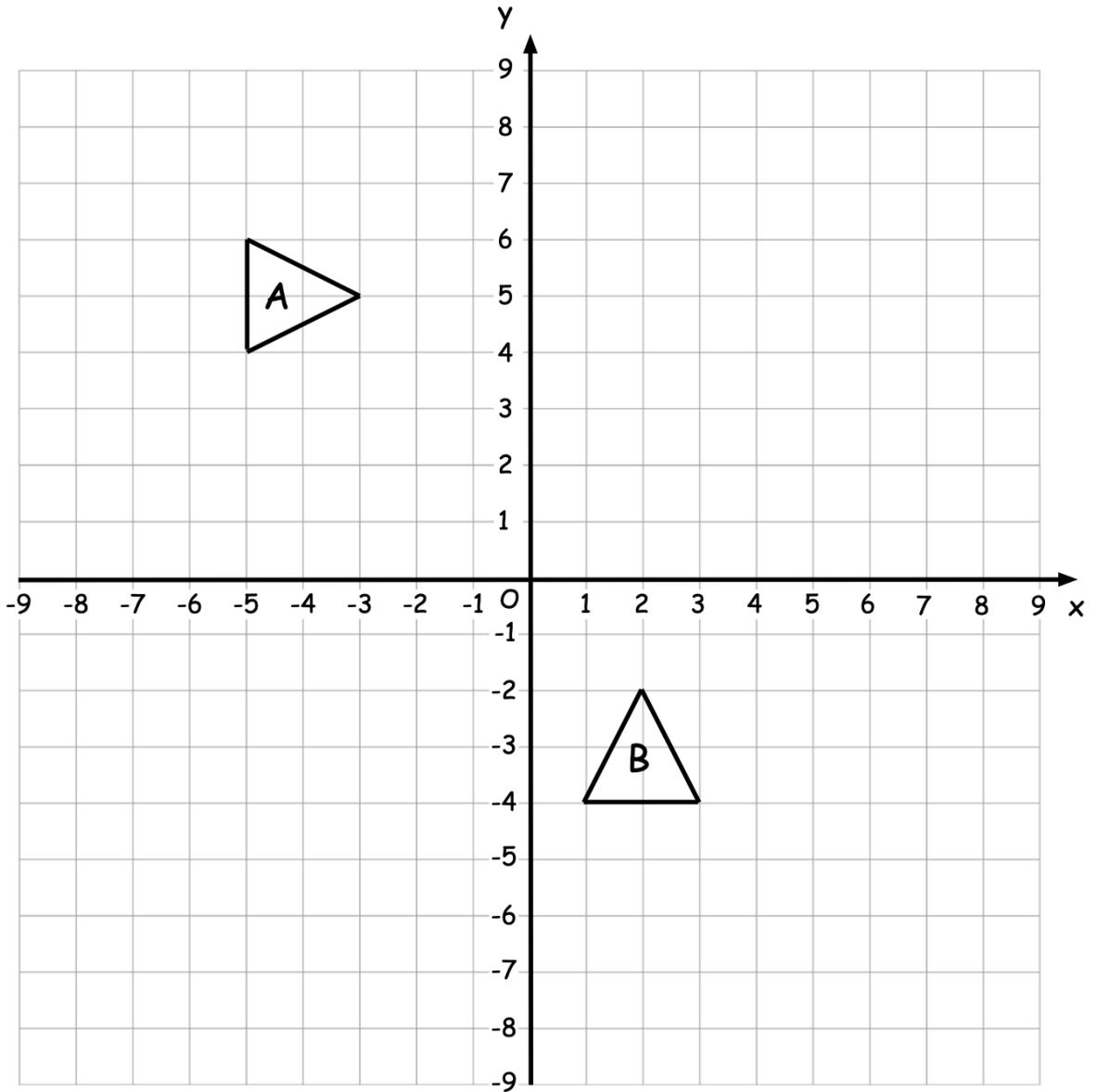
(a) Draw triangle A on the grid.

(2)

(b) Reflect triangle B in the line  $y = -x$   
Label the new triangle C.

(2)

6.



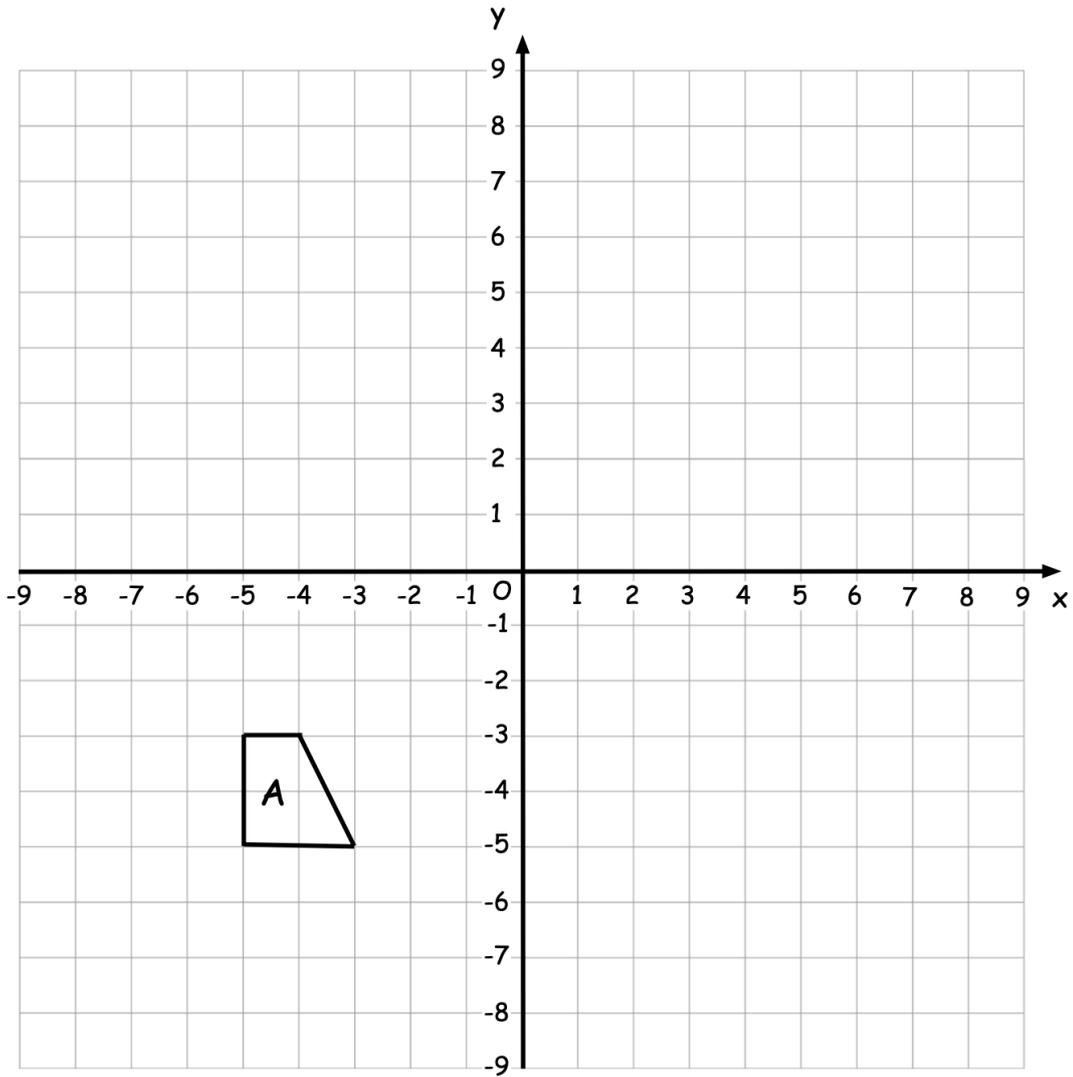
(a) Describe fully the single transformation that maps triangle A onto triangle B.

.....  
.....  
(2)

(b) Draw the image of triangle A after an enlargement by scale factor 4 using  $(-6, 8)$  as the centre of enlargement.

(2)

7.



Trapezium A is reflected in the line  $x = 1$  and its image is reflected in the  $x$ -axis.

- (a) Draw the final image after these two reflections.  
Label the trapezium B.

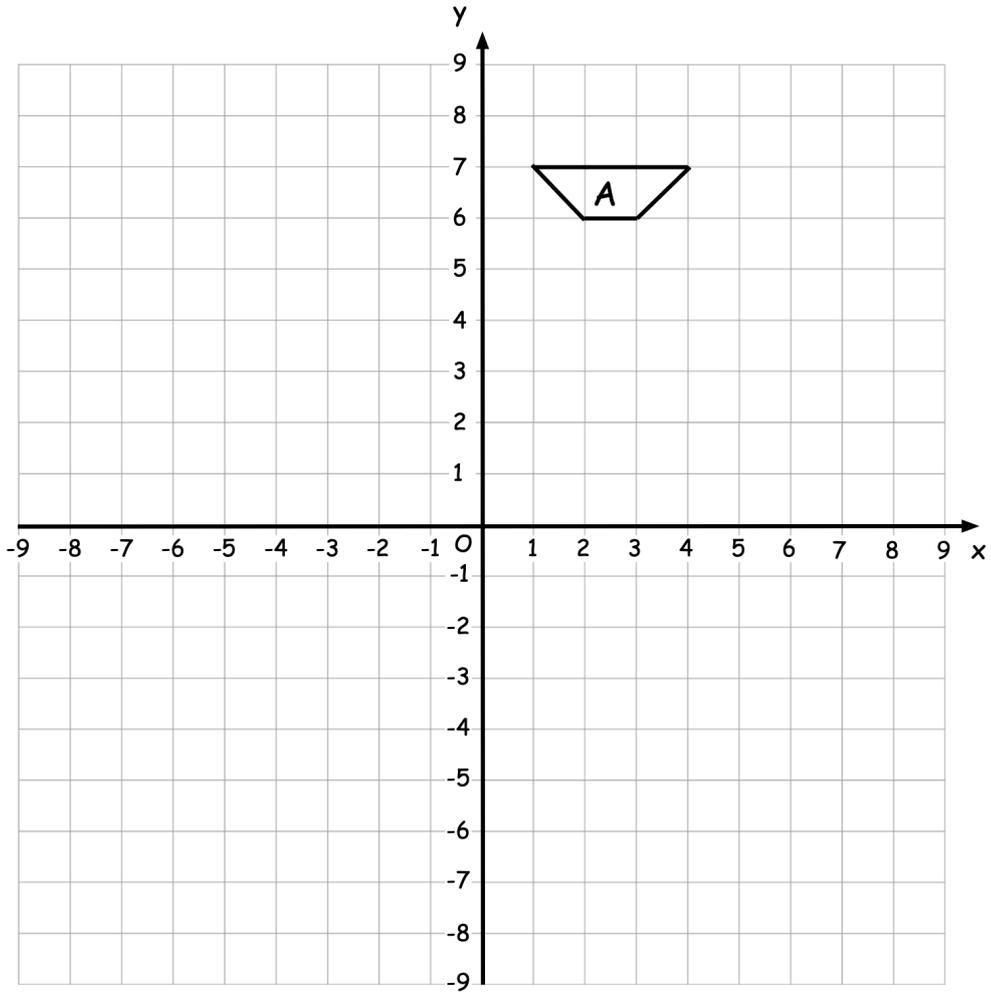
(3)

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

.....  
.....

(2)

8.



Trapezium A is mapped to trapezium B using a combination transformation of:

A translation by  $\begin{pmatrix} 0 \\ -6 \end{pmatrix}$ , followed by a reflection in the line  $y = -2$

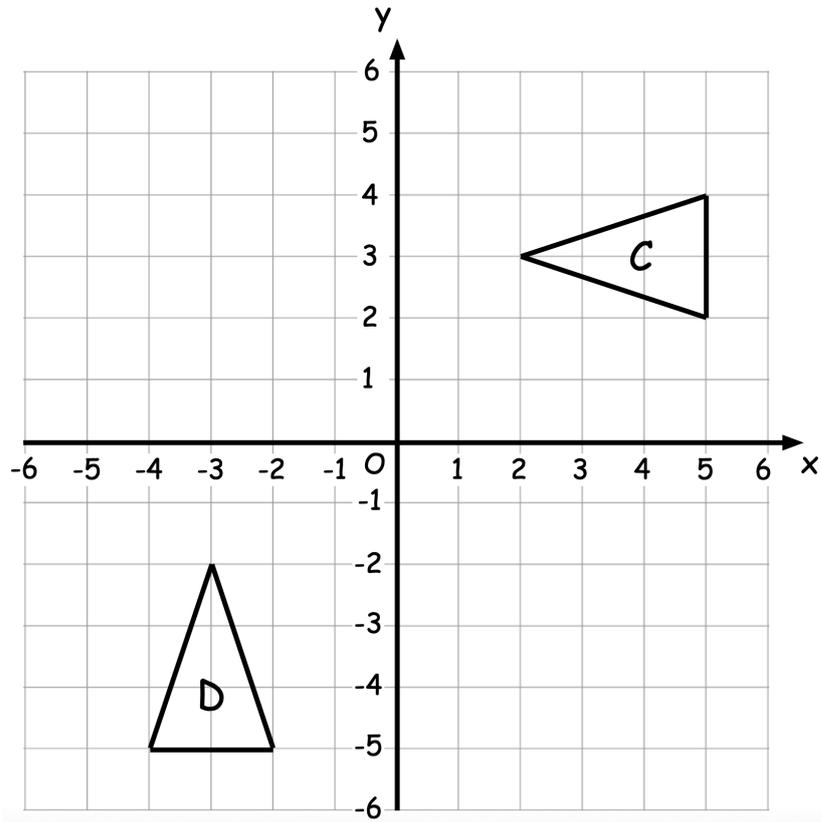
Describe a **single** transformation that can also map trapezium A to trapezium B.

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.....

**(3)**

9.



(a) Describe fully the single transformation that maps triangle C onto triangle D.

.....  
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**(2)**

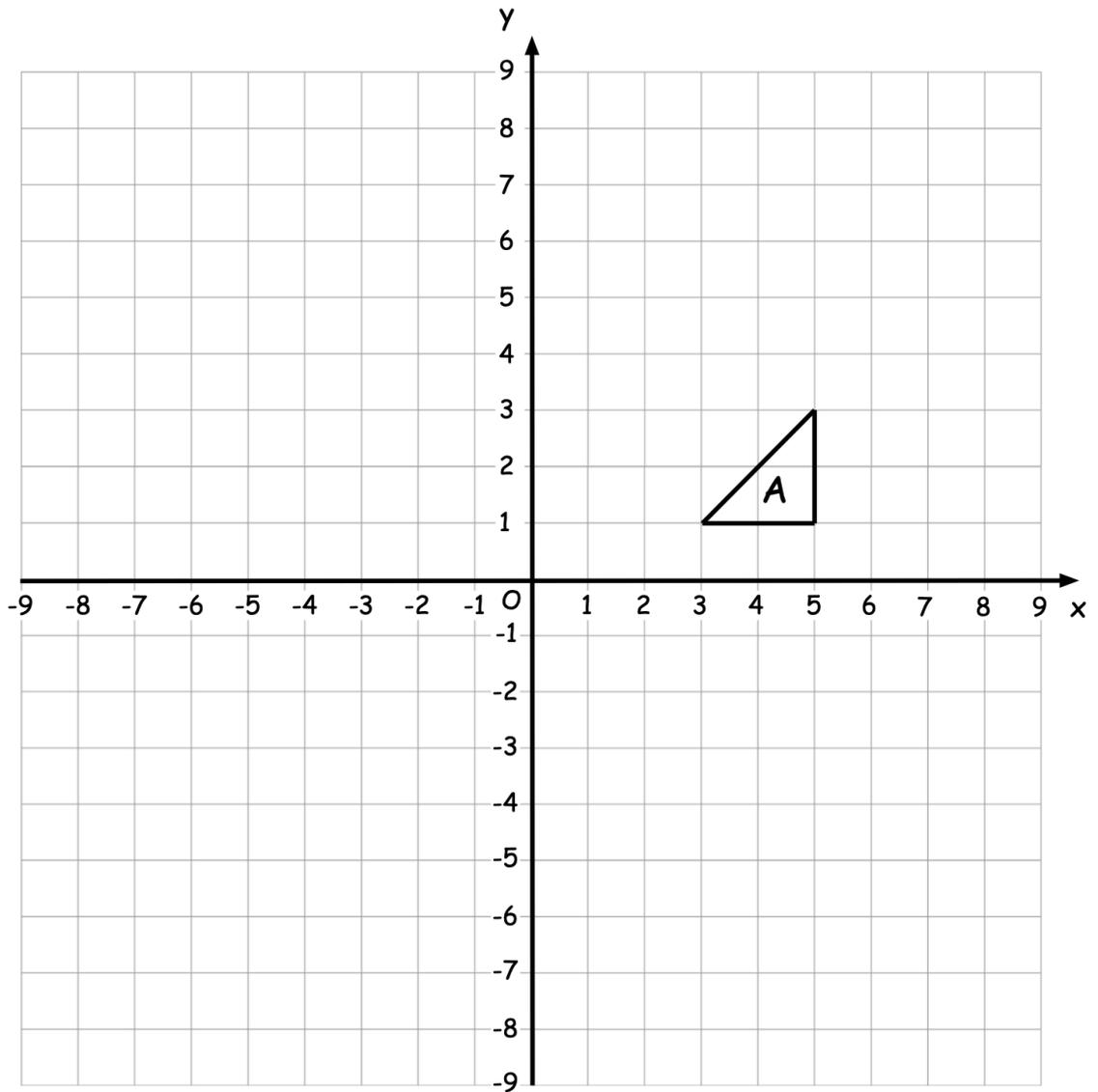
Noel says that triangle C can be mapped by triangle D by using two transformations: a rotation and then a reflection in the x-axis.

(b) Describe fully the rotation.

.....  
.....

**(2)**

10.



Triangle A is reflected in the line  $y = x$  and its image is reflected in the line  $x = -2$

(a) Draw the final image after these two transformations and label it B.

(2)

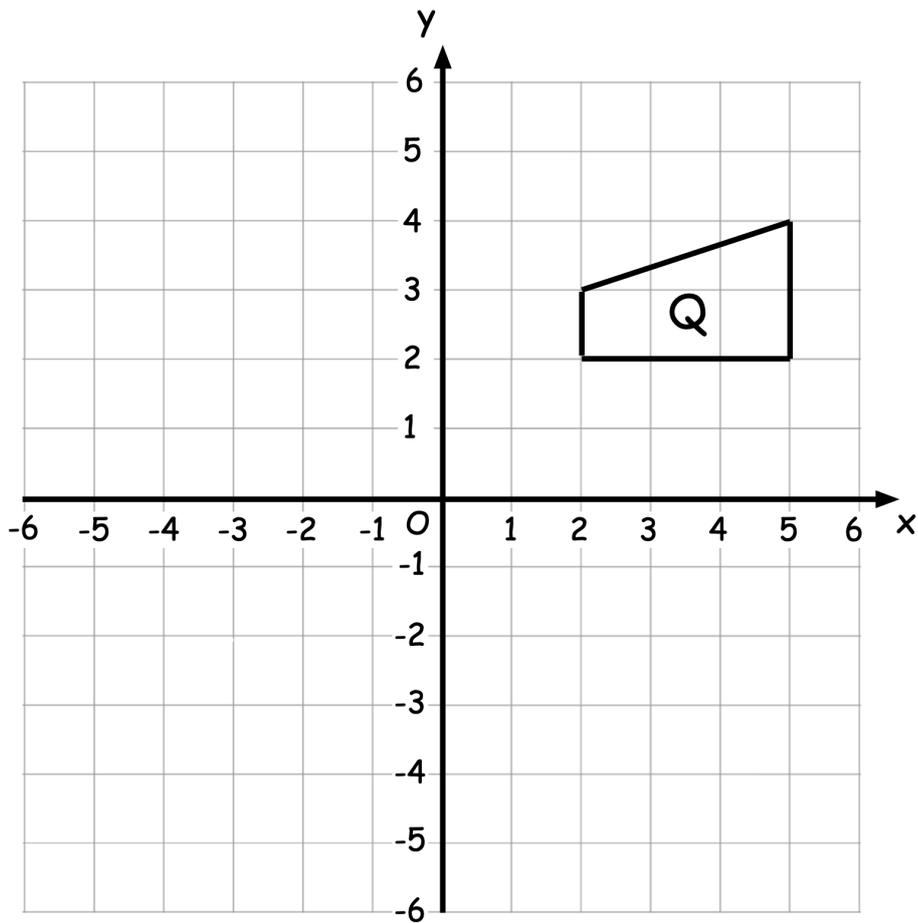
(b) Describe fully the single transformation that maps triangle A onto triangle B.

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(2)

11.



- (a) Enlarge shape Q by scale factor  $-1$  using the origin as the centre of enlargement.  
Label your answer R.

(2)

- (b) Describe fully a **different** single transformation that maps shape Q onto shape R.

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(2)