Name:

Exam Style Questions

Transformations: Mixture

Corbettmaths

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

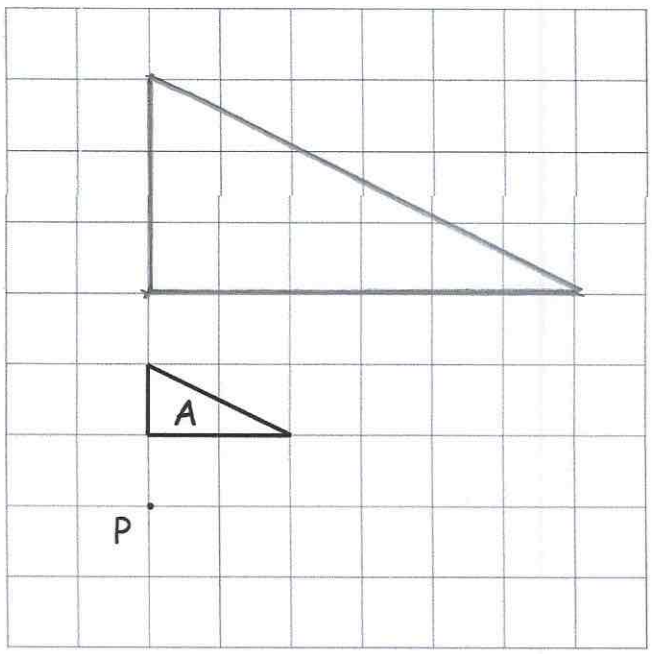
Video Tutorial

www.corbettmaths.com/contents

Video 322a

Answers and Video Solutions

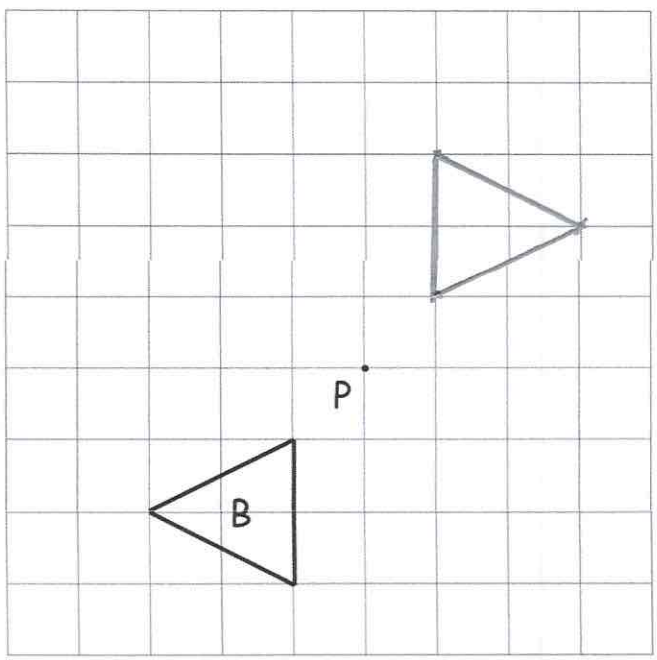
1. Triangle A is drawn on the grid below.



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

(2)

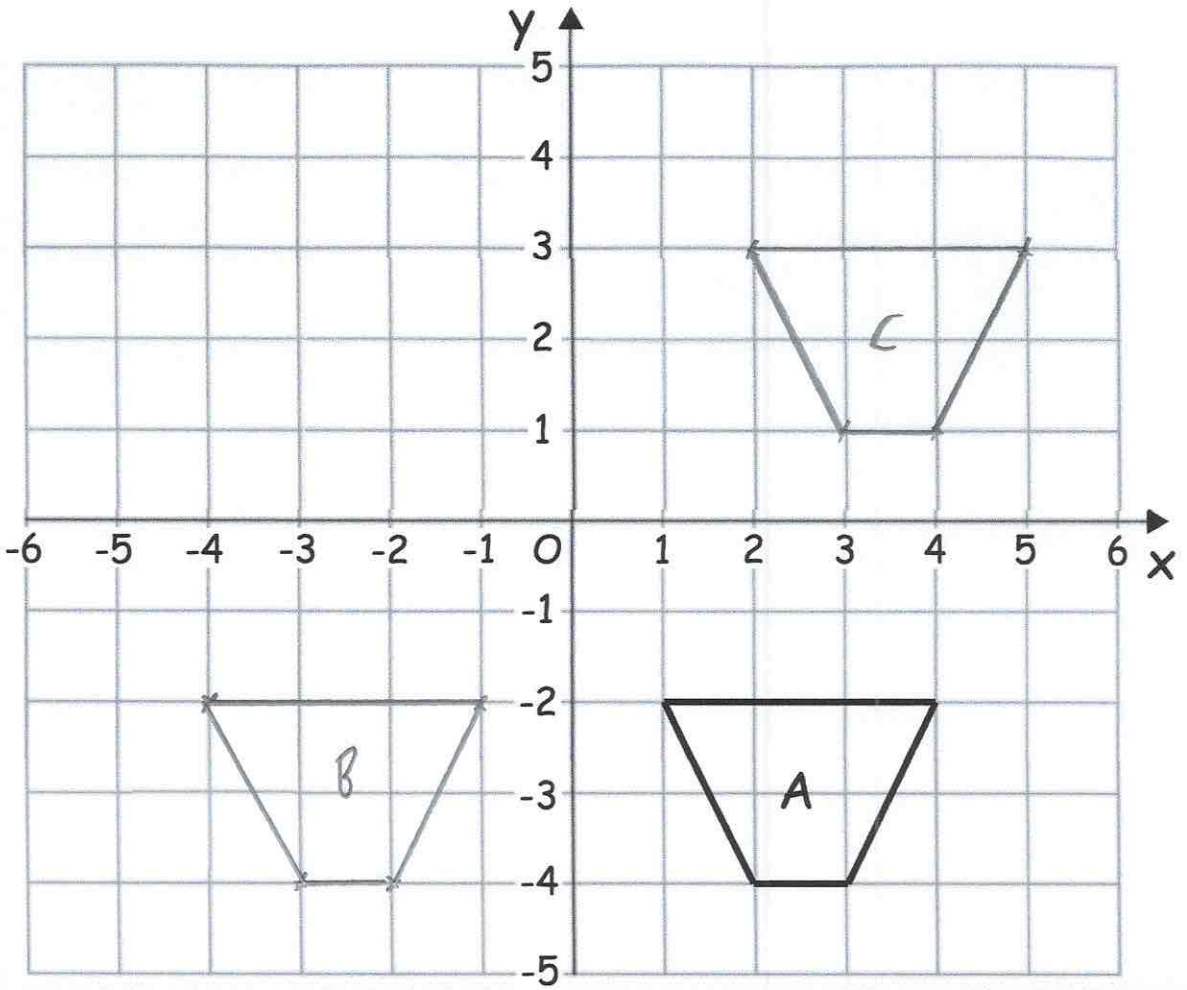
Triangle B is drawn on the grid below.



(b) Rotate triangle B 90° anticlockwise about the point P.

(2)

2.



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

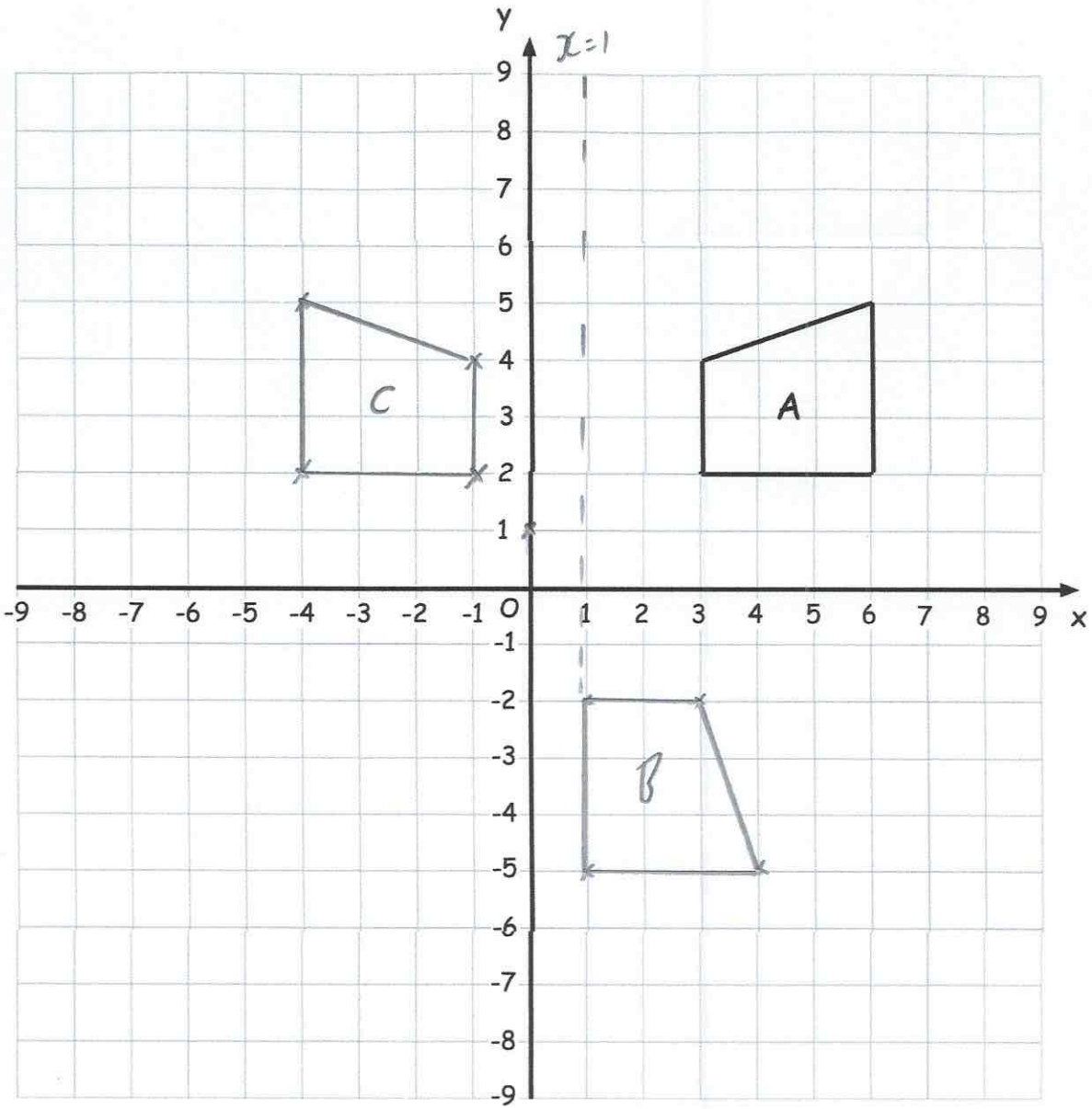
(2)

(b) Translate shape A by the vector $\begin{pmatrix} 1 \\ 5 \end{pmatrix}$ right up

Label the new shape C.

(2)

3.



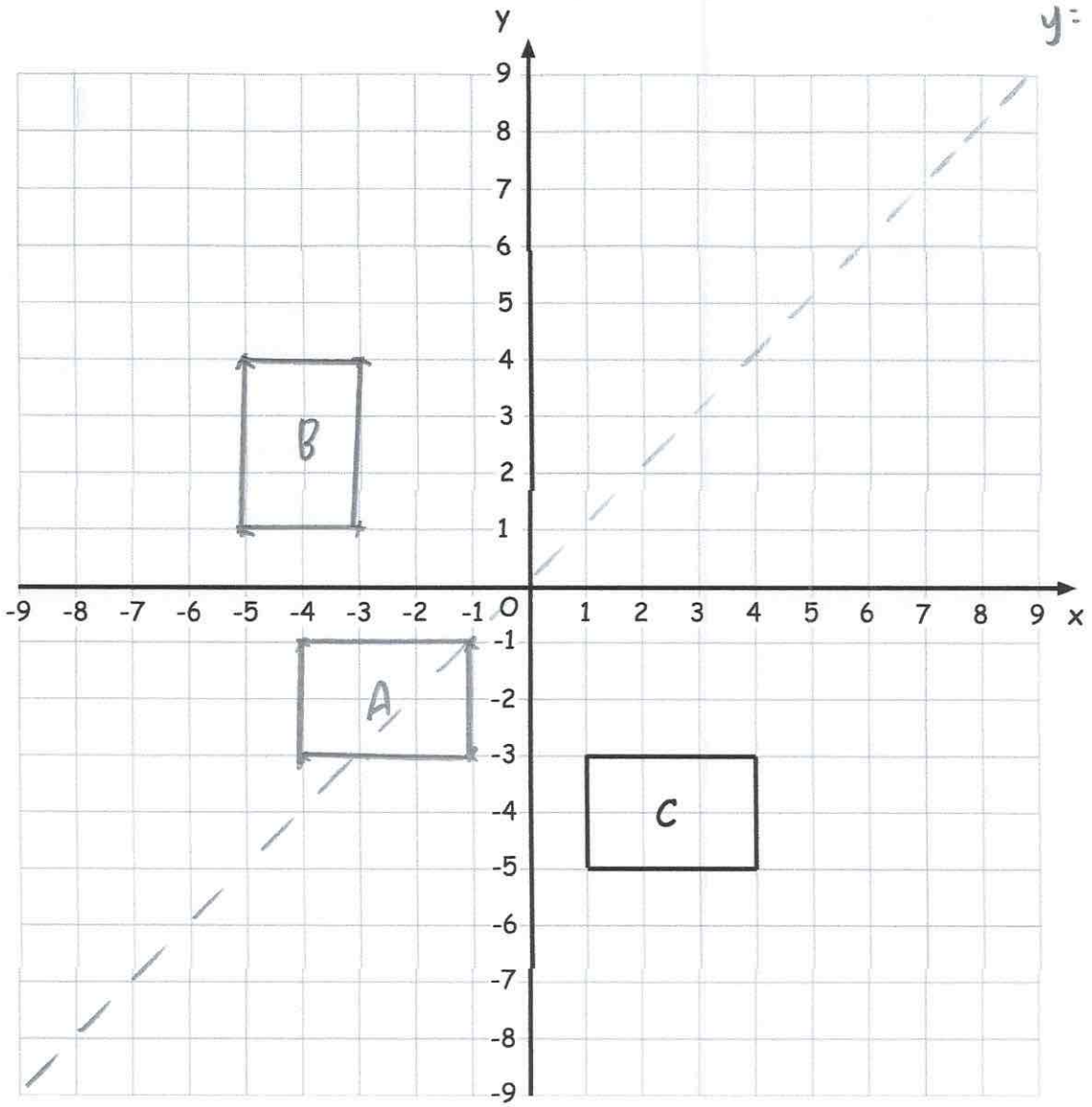
(a) Rotate trapezium A 90° clockwise about the point (0, –1)
Label the new trapezium B.

(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.

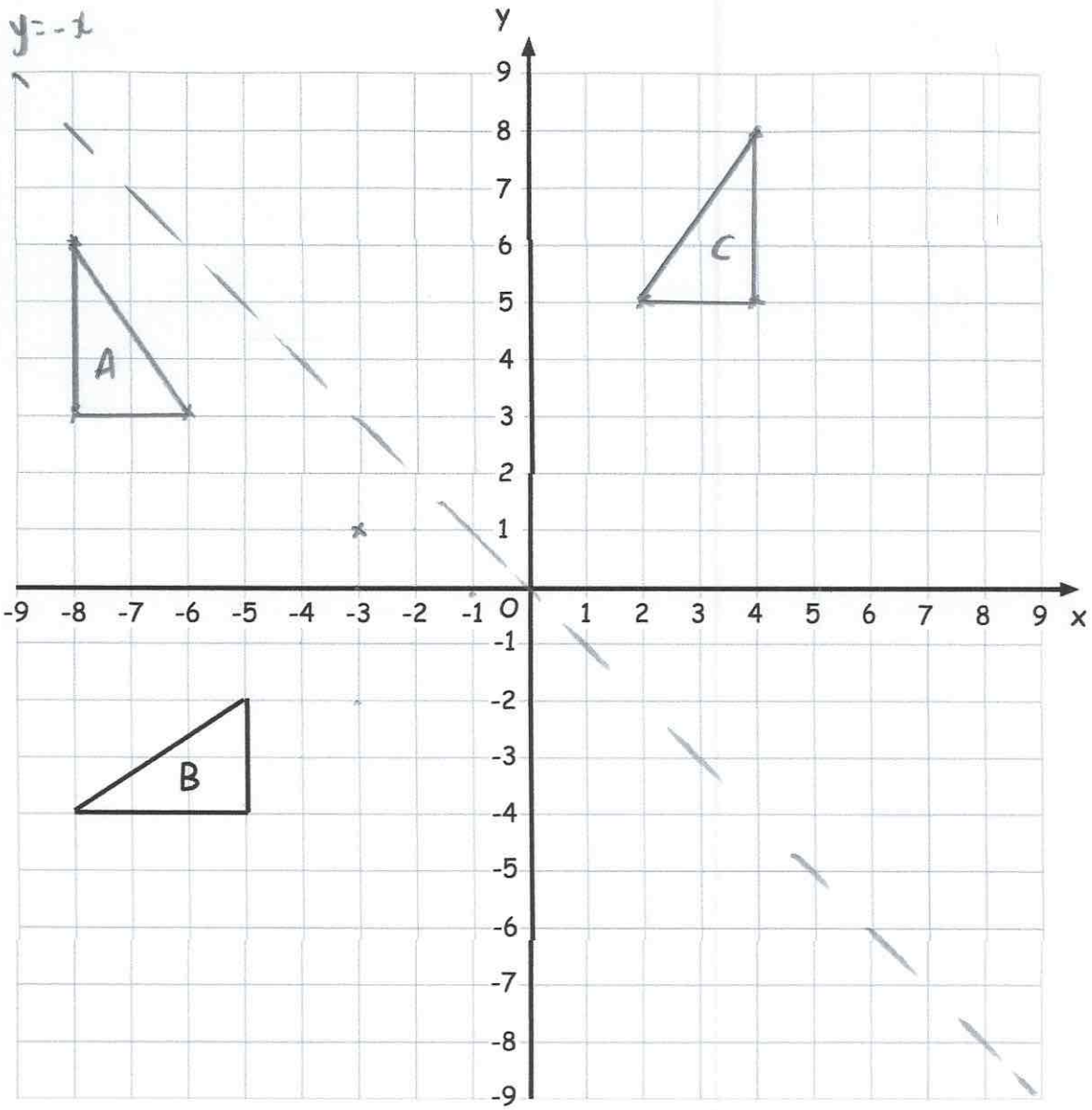
(2)

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° anticlockwise about the (–3, 1) to give triangle B.

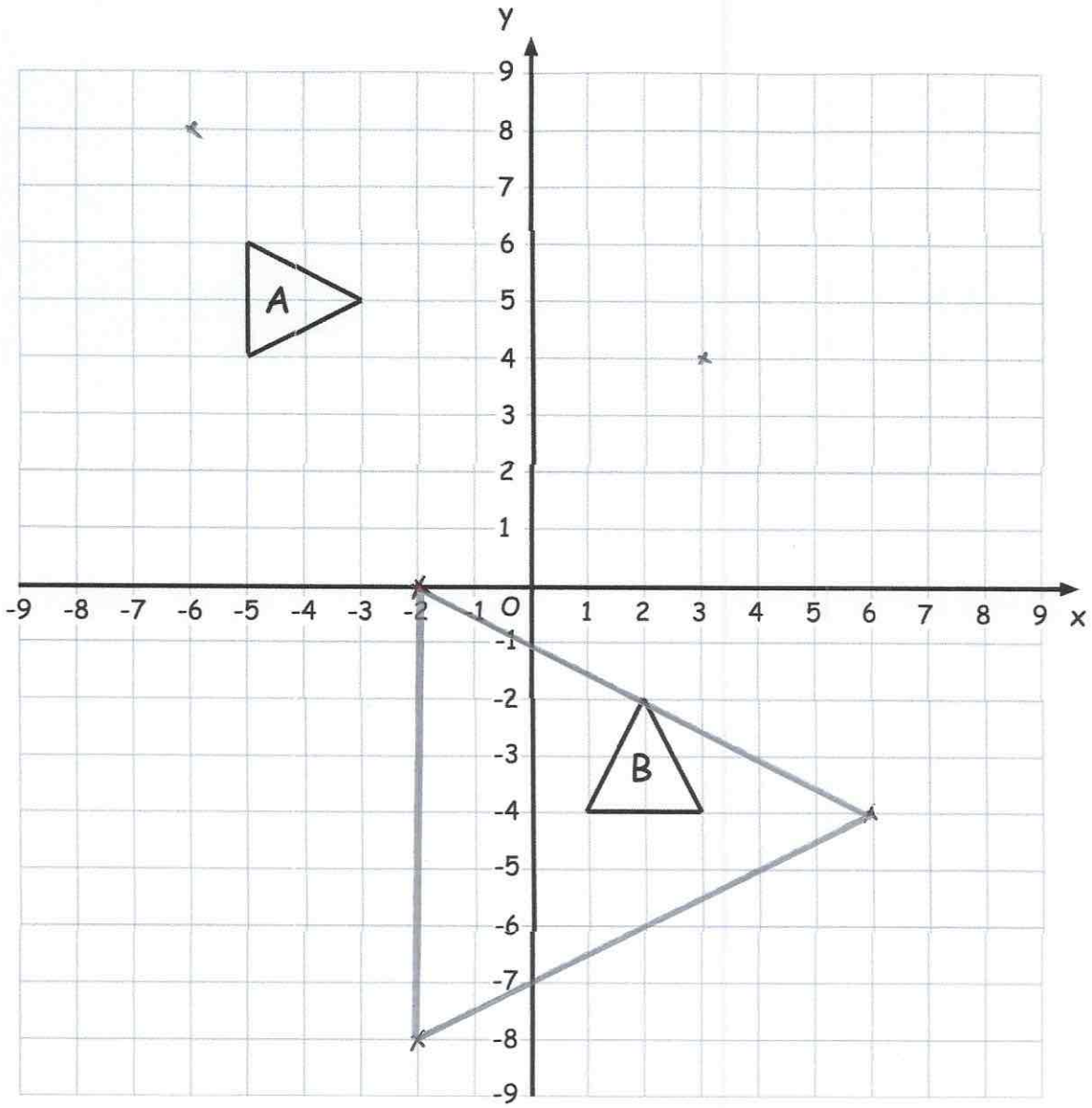
(a) Draw triangle A on the grid.

(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.

90° anticlockwise Rotation about (3,4)

.....

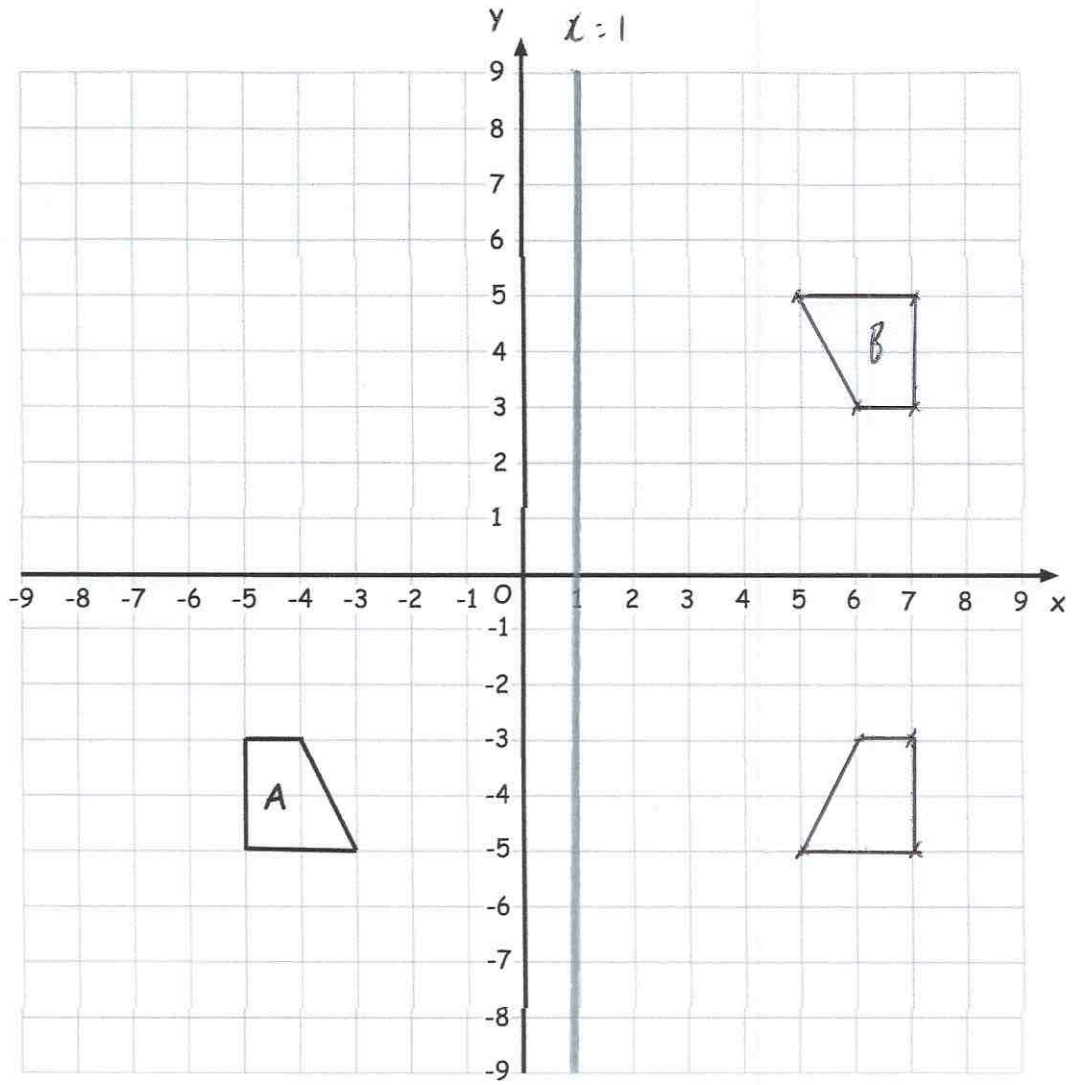
.....

(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.

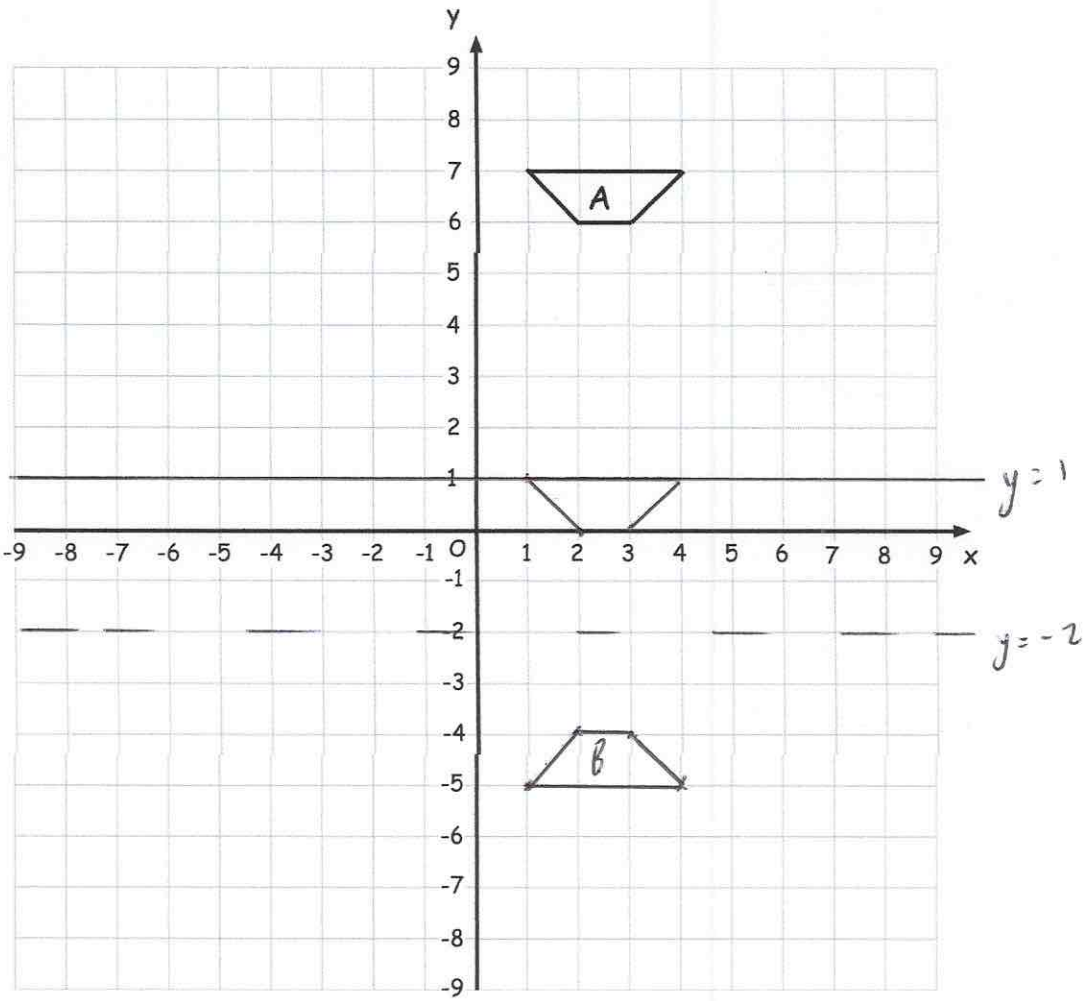
(3)

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

A rotation of 180° about the origin (0, 0)

(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 $y = -2$

6 down.

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

A reflection in the line $y = 1$

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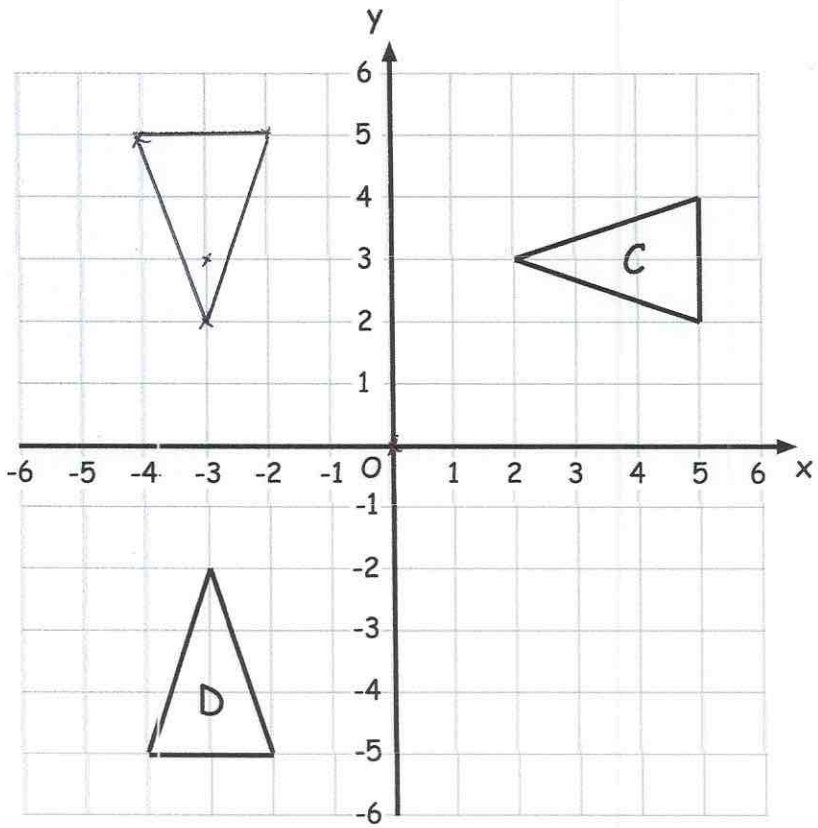
.....

(2)

9.



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

(1) 90° clockwise rotation about (-3, 3)

or (2) reflection in the line $y = -x$

(2)

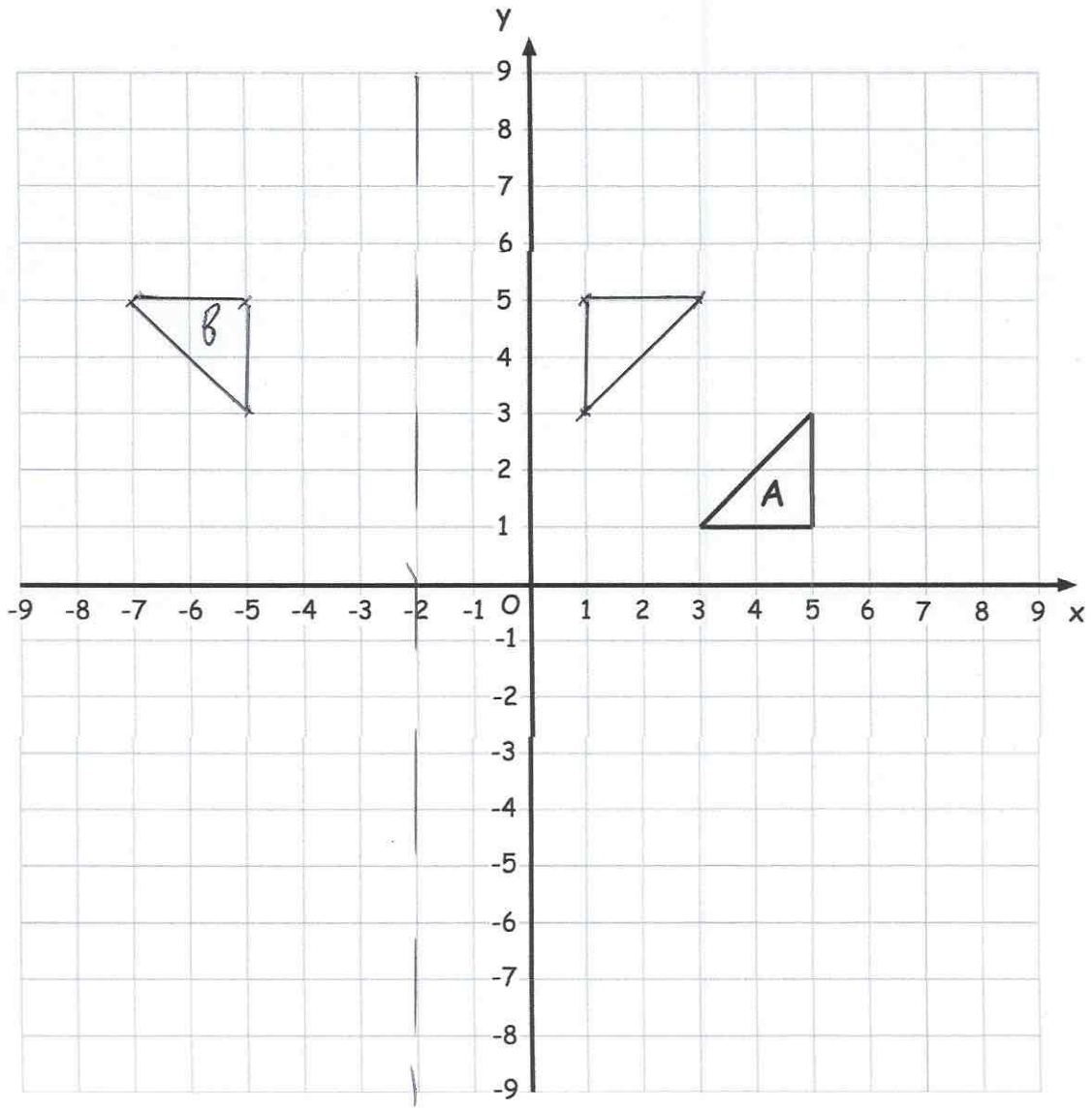
Noel says that triangle C can be mapped by triangle D by using two transformations: a rotation and then a reflection in the x-axis.

(b) Describe fully the rotation.

90° anticlockwise about the origin (0, 0)

(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.

90° anticlockwise rotation about (-2, -2)

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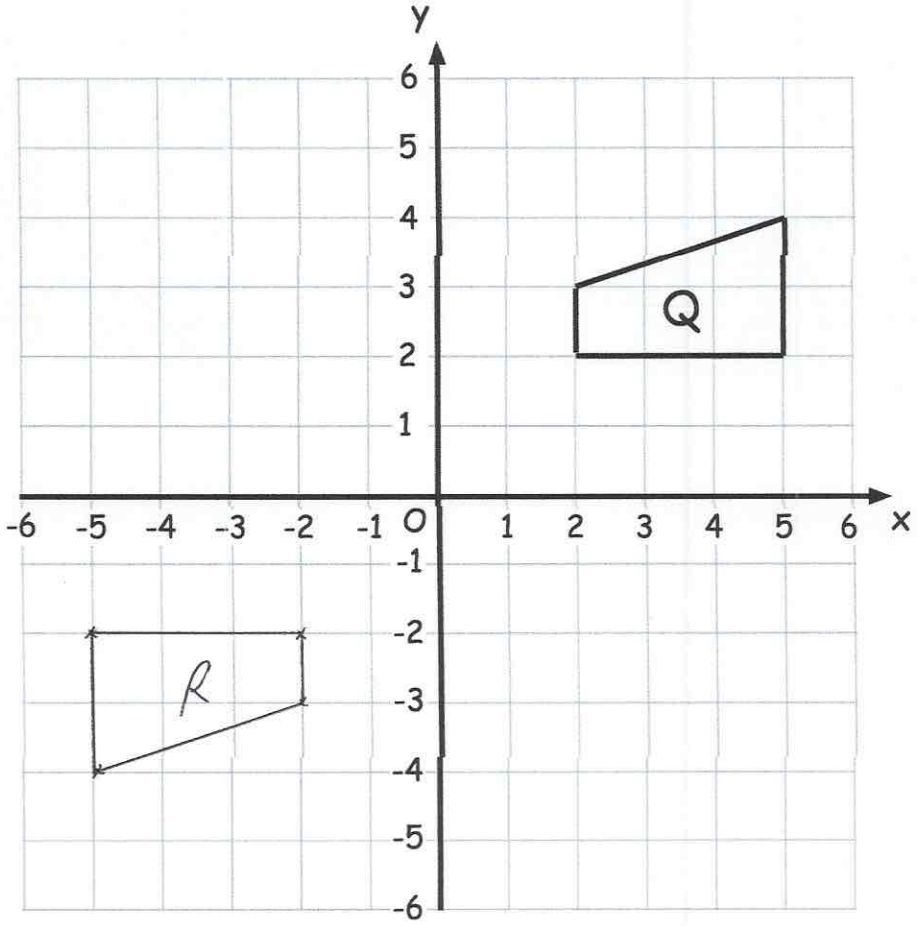
(2)

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.

180° rotation about the origin (0, 0).

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(2)