

IGCSE · Cambridge (CIE) · Maths

40 mins



Calculator Questions

Transformations

Translations / Reflections / Rotations / Enlargements

Total Marks	/40
Very Hard (3 questions)	/9
Hard (3 questions)	/11
Medium (3 questions)	/11
Easy (4 questions)	/9

Scan here to return to the course

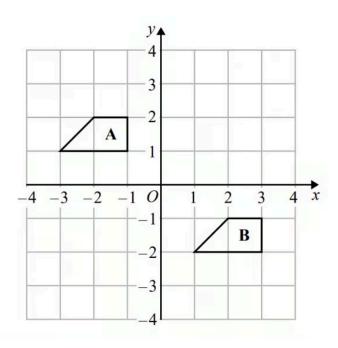




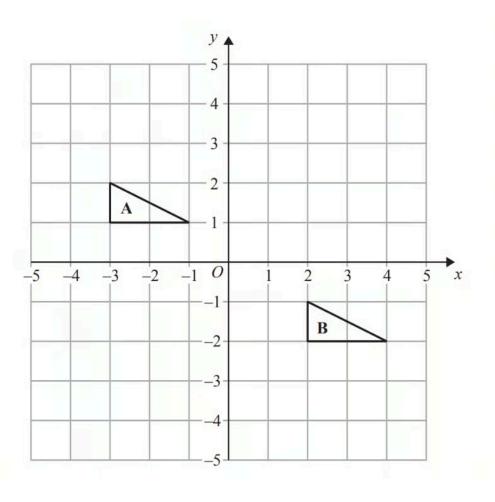


Easy Questions

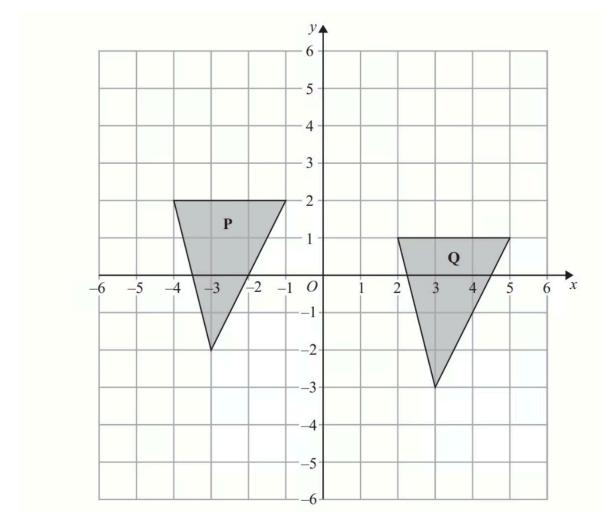
1



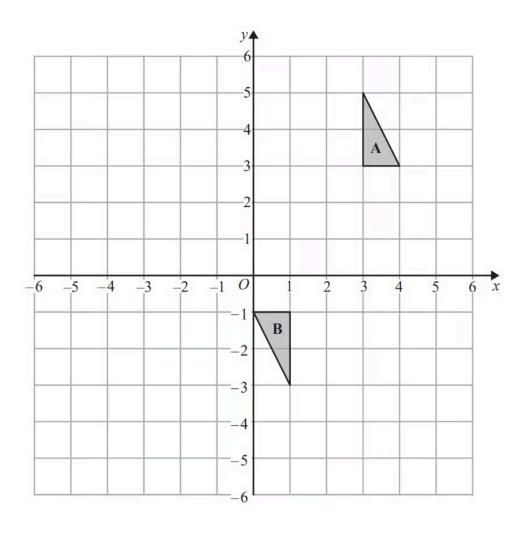
Describe the single transformation that maps shape **A** onto shape **B**.



Describe the single transformation that maps triangle ${\bf A}$ onto triangle ${\bf B}.$



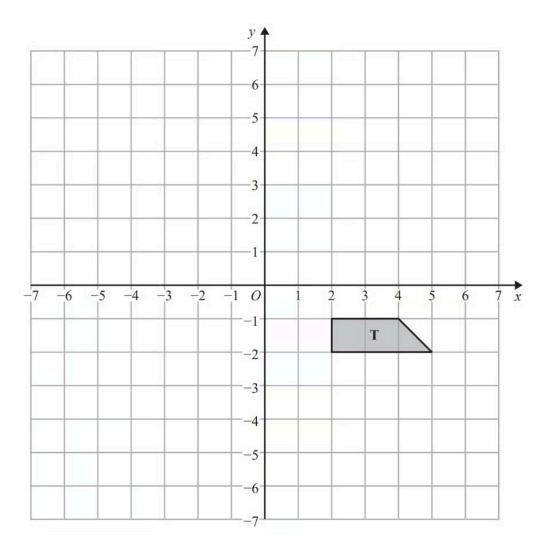
Describe fully the single transformation that maps triangle ${\bf P}$ onto triangle ${\bf Q}$.



Describe fully the single transformation that maps triangle ${\bf A}$ onto triangle ${\bf B}$.

Medium Questions

1 (a)

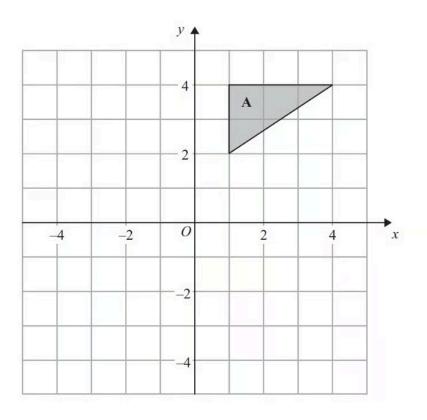


Rotate trapezium T 180° about the origin. Label the new trapezium A.

(1 mark)

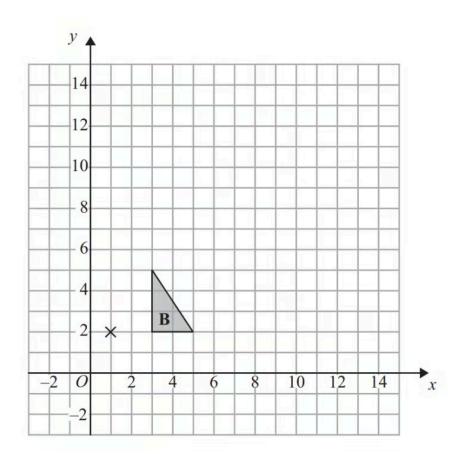
(b) Translate trapezium **T** by the vector
$$\begin{pmatrix} -1 \\ -3 \end{pmatrix}$$
 Label the new trapezium **B**. **(1 mark)**

2 (a)



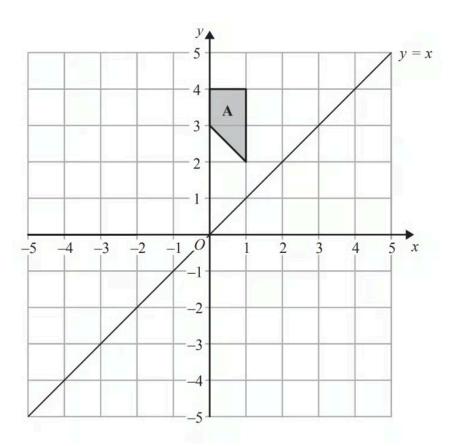
Rotate triangle A $90^{\rm o}$ clockwise, centre ${\it O}$.

(b)



Enlarge triangle ${\bf B}$ by scale factor 3, centre (1, 2).

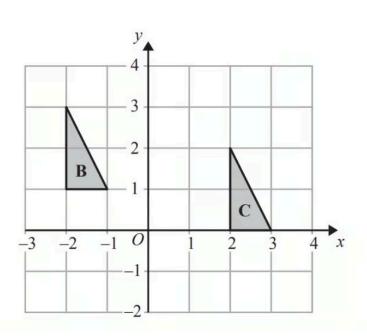
3 (a)



On the grid, reflect shape **A** in the line y = x.

(2 marks)

(b)

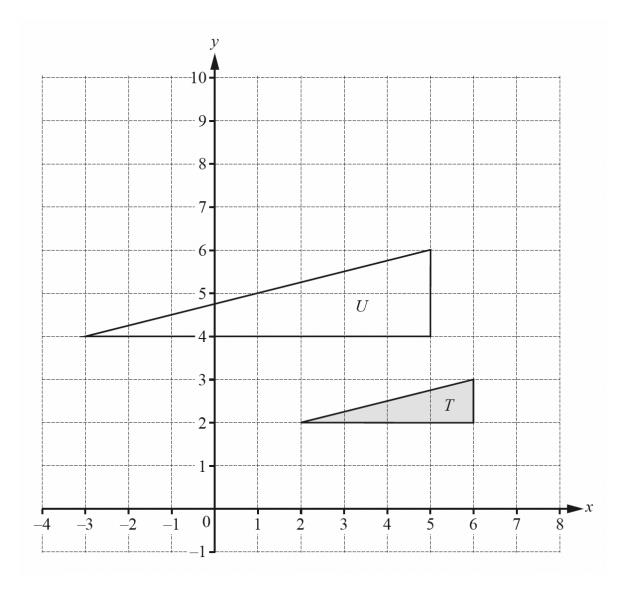


Describe fully the single transformation that maps triangle **B** onto triangle **C**.



Hard Questions

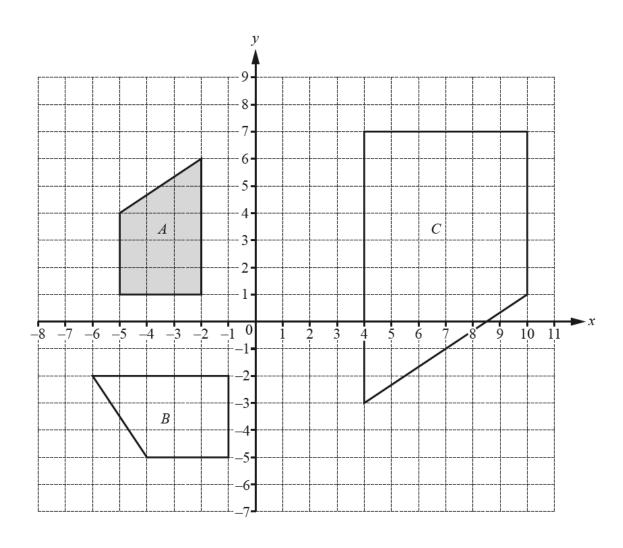
1 (a)



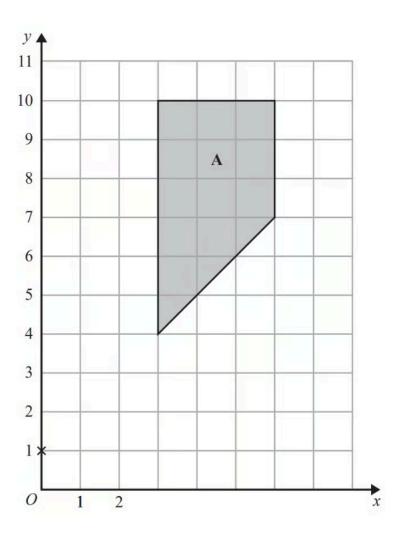
Describe fully the **single** transformation that maps triangle \it{T} onto triangle \it{U} .

(3 marks)

(b) On the grid, draw the image of triangle T after a rotation through 90° clockwise about the point (7, 3).



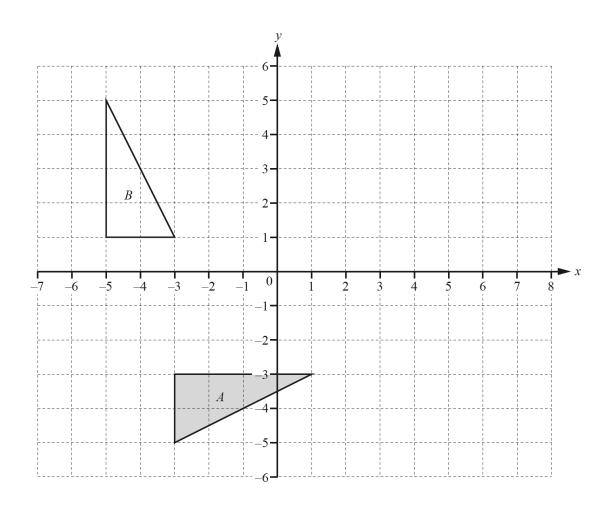
Describe fully the **single** transformation that maps shape A onto shape B.



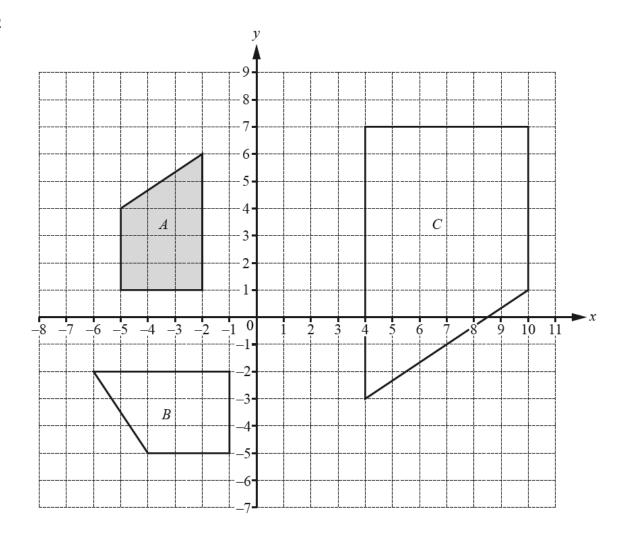
Enlarge shape **A** by scale factor $\frac{1}{3}$ centre (0, 1).

Very Hard Questions

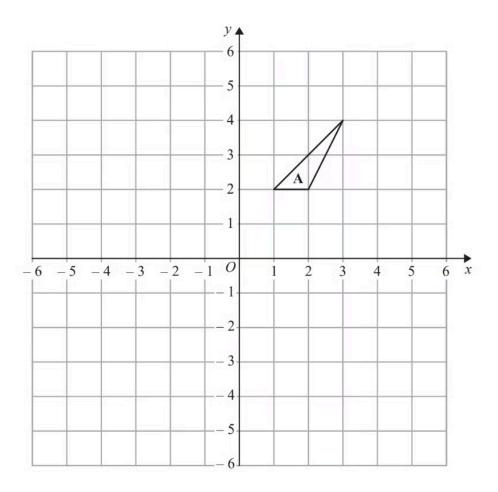




Draw the image of triangle A after an enlargement by scale factor $-\frac{1}{2}$, centre (3, 1). (3 marks)



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



Triangle ${\bf A}$ is rotated $90^{\rm o}$ clockwise about the point (0, 1) to give triangle ${\bf B}$.

Triangle **B** is translated by the vector
$$\begin{pmatrix} -3 \\ -1 \end{pmatrix}$$
 to give triangle **C**.

Describe fully the single transformation that maps triangle **A** onto triangle **C**.