

Describing and Combining Transformations

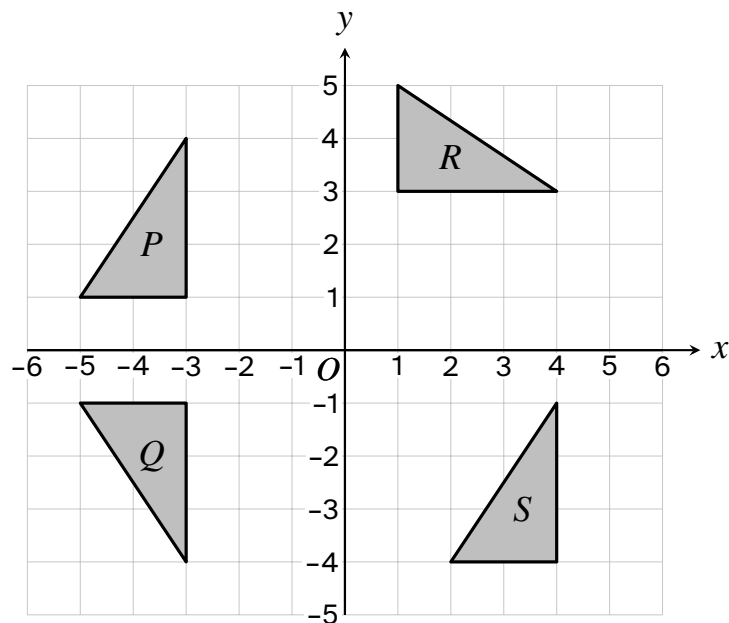
For AQA GCSE Mathematics (8300) • Foundation tier

Name _____

Total marks: **22**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

- 1 The grid shows four triangles, P , Q , R and S .



- (a) Which shape is a translation of shape P ?

[1 mark]

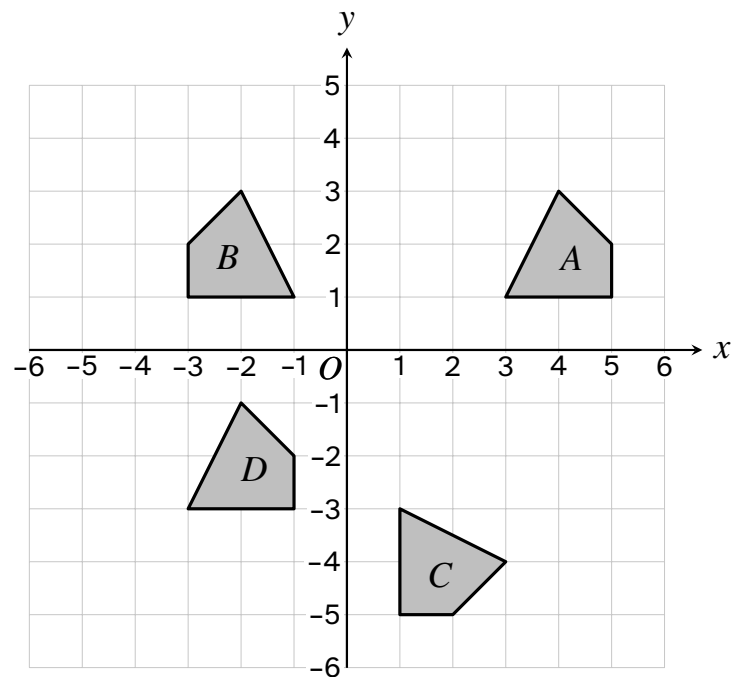
Answer _____

- (b) Which shape is a reflection of shape P ?

[1 mark]

Answer _____

- 2 The grid shows four shapes, A , B , C and D .



- (a) Describe fully the single transformation that maps shape A onto shape B .
[2 marks]

- (b) Describe fully the single transformation that maps shape A onto shape C .
[3 marks]

- (c) Describe fully the single transformation that maps shape A onto shape D .
[2 marks]

- 3 Which of these transformations can change the size of a shape?
Circle your answer.

[1 mark]

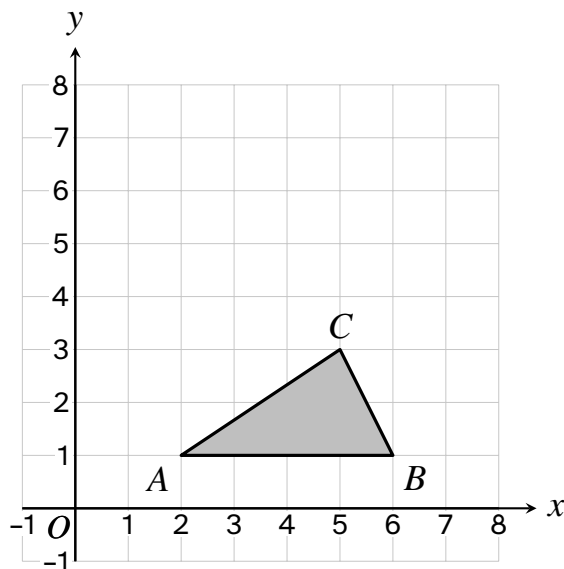
rotation

reflection

translation

enlargement

- 4 Here is triangle ABC on a grid.



The triangle is reflected in a horizontal line.
The image of vertex A is at $(2, 7)$

- (a) Write down the equation of the mirror line.

[1 mark]

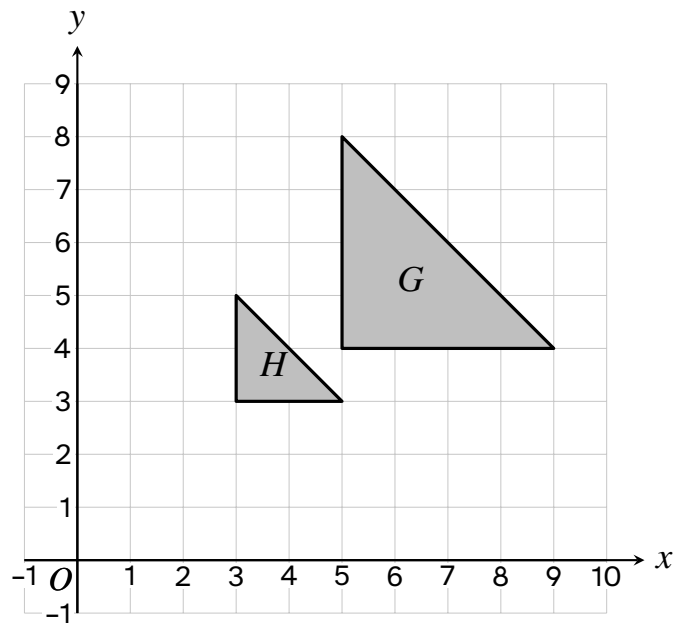
Answer _____

- (b) Work out the coordinates of the image of vertex C .

[1 mark]

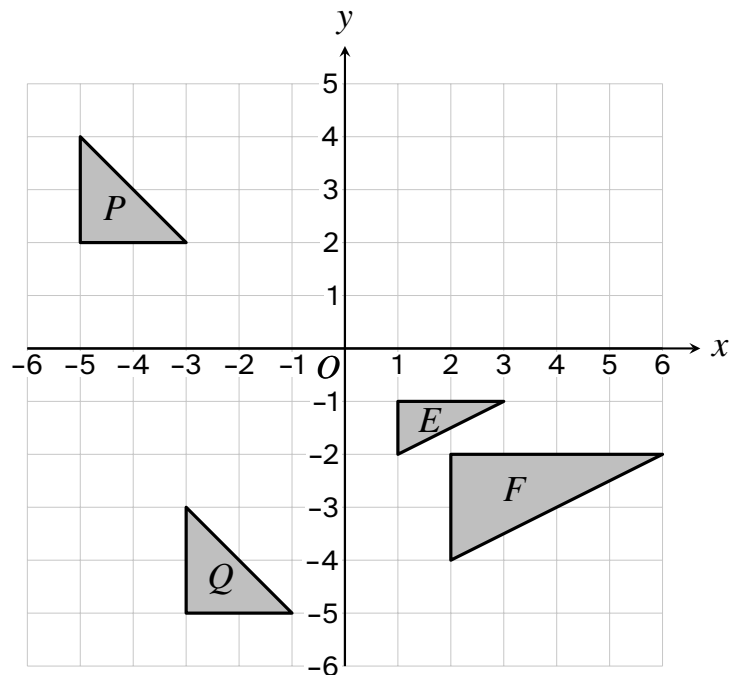
Answer (_____ , _____)

- 5 Describe fully the single transformation that maps triangle G onto triangle H .



[3 marks]

- 6 The grid shows four triangles, P , Q , E and F .



- (a) Jess says,

' P is mapped onto Q by a translation by the vector $\begin{pmatrix} -2 \\ 7 \end{pmatrix}$,

Make **one** criticism of what Jess says.

[1 mark]

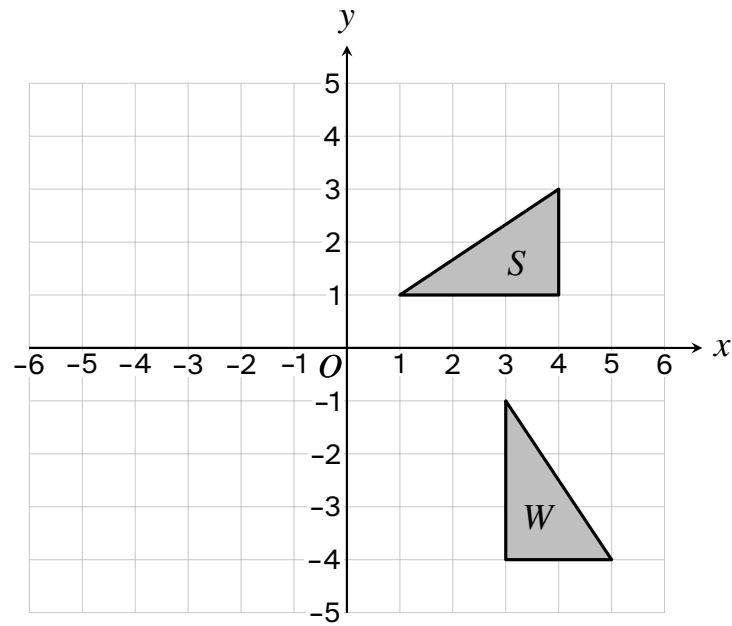
- (b) Jess says,

' E is mapped onto F by an enlargement, scale factor $\frac{1}{2}$, centre $(0, 0)$ '

Make **one** criticism of what Jess says.

[1 mark]

- 7 Here are shapes S and W on a grid.



- (a) On the grid, reflect shape S in the y -axis.
Label the image T .

[1 mark]

- (b) On the grid, reflect shape T in the x -axis.
Label the image U .

[1 mark]

- (c) Describe fully the single transformation that maps shape S onto shape W .

[3 marks]
