

Rotations

For AQA GCSE Mathematics (8300) • Foundation tier

Name _____

Total marks: **21**

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

- 1** The point (3,1) is rotated 180° about the origin.
Write down the coordinates of the image.

[1 mark]

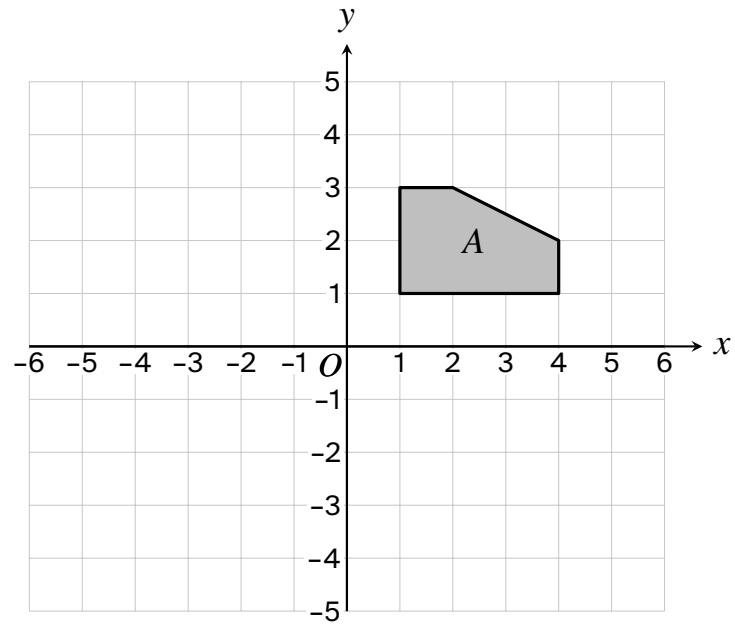
Answer (_____ , _____)

- 2** To describe a rotation fully you need to give
Tick **one** box.

[1 mark]

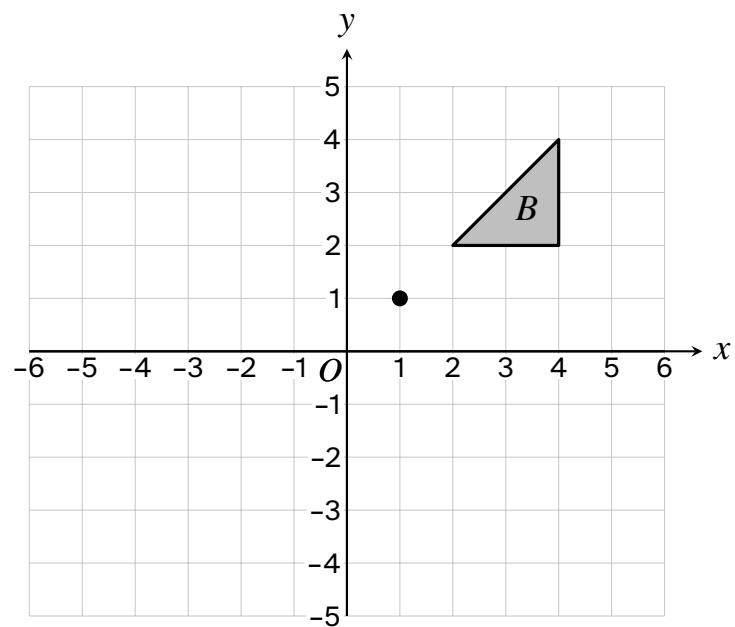
- ☐ the angle only
- ☐ the angle and the direction
- ☐ the angle, the direction and the centre
- ☐ the centre only

- 3 Rotate shape *A* 90° clockwise about the origin $(0,0)$



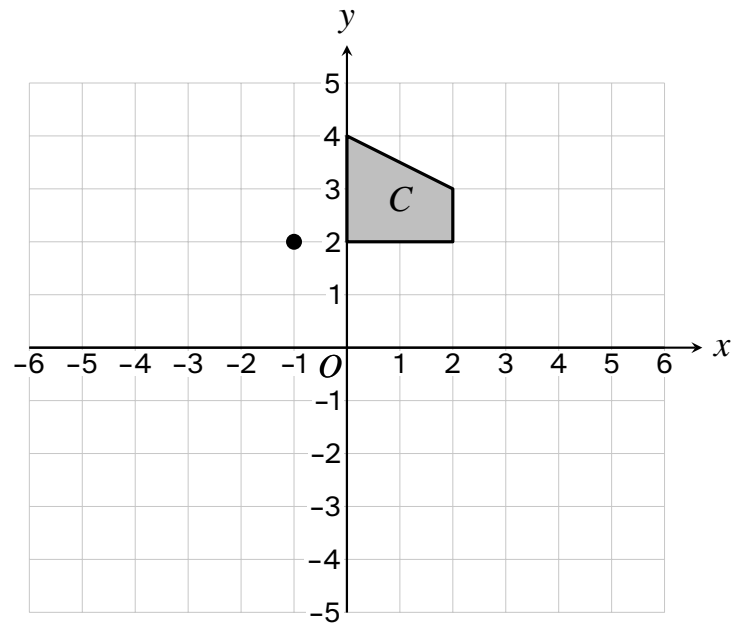
[2 marks]

- 4 Rotate triangle *B* 180° about the point $(1,1)$



[2 marks]

- 5 Rotate shape C 90° anticlockwise about the point $(-1, 2)$



[2 marks]

- 6 Ella rotates a shape 90° clockwise about the origin.
She says,
‘The vertex at $(4, 1)$ moves to $(-1, 4)$ ’

Is Ella correct?

Tick a box.

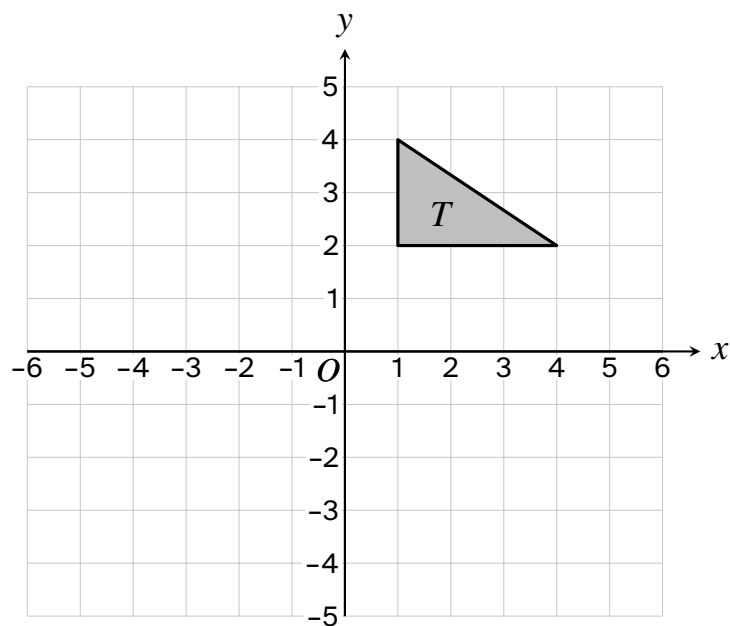
Give a reason for your answer.

[2 marks]

☐ Yes

☐ No

- 7 Here is triangle T on a grid.



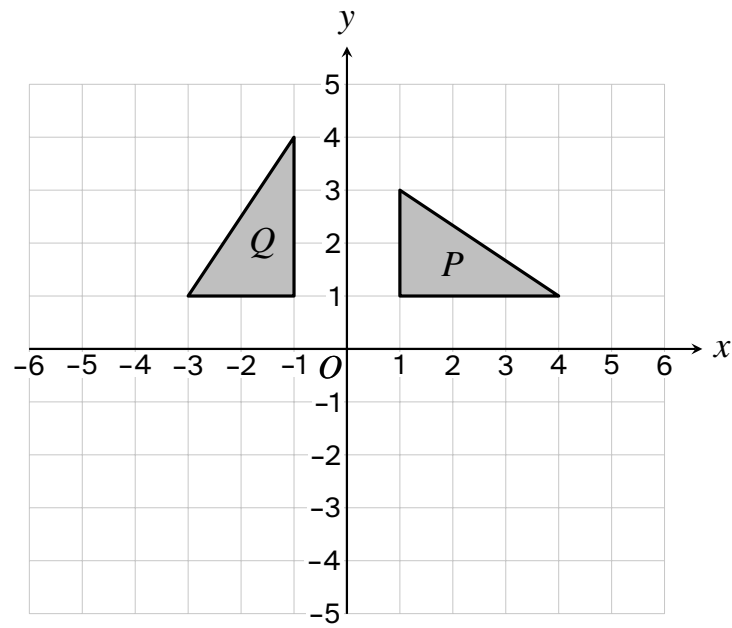
- (a) Rotate triangle T 90° clockwise about $(0, 0)$
Label the image U .

[2 marks]

- (b) Rotate triangle T 90° anticlockwise about $(-1, 0)$
Label the image V .

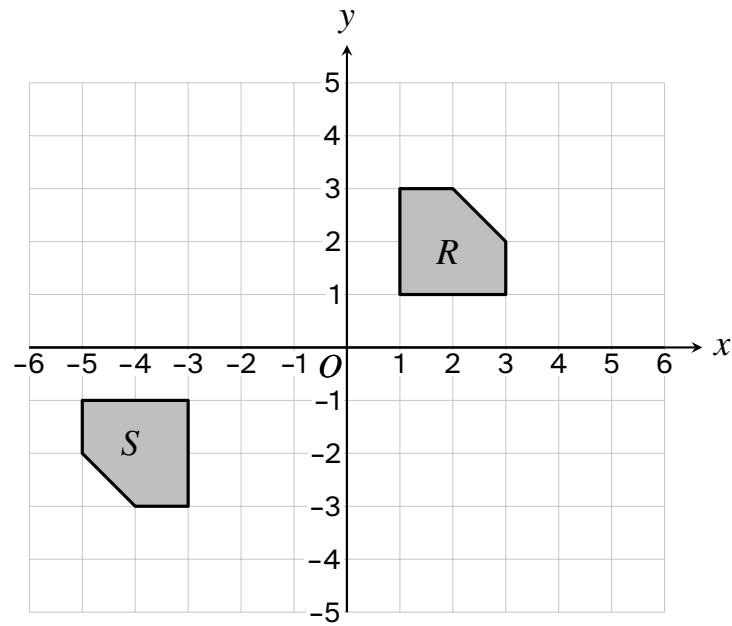
[2 marks]

- 8 Describe fully the single transformation that maps triangle P onto triangle Q .



[3 marks]

- 9 Here are two shapes, R and S .



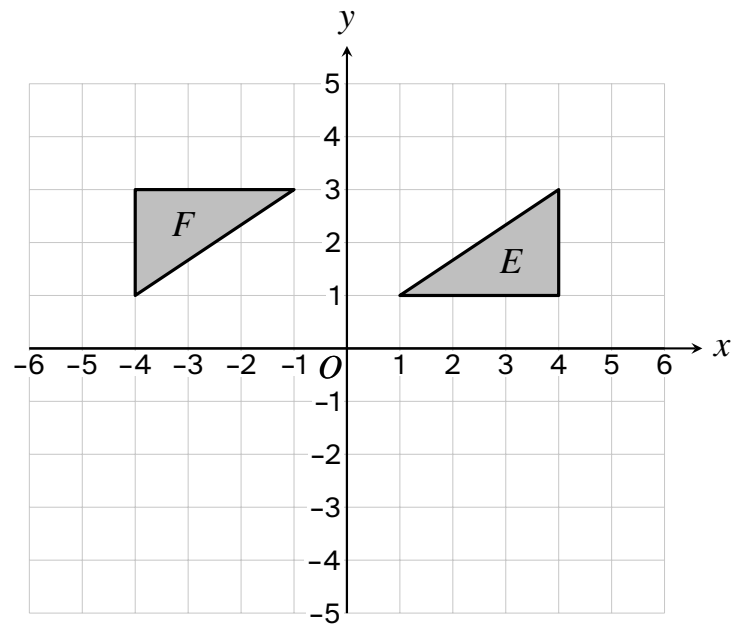
Kai says,

‘Shape R maps onto shape S by a rotation of 180° about the origin.’

Explain why Kai is wrong.

[1 mark]

- 10 Describe fully the single transformation that maps triangle E onto triangle F .



[3 marks]
