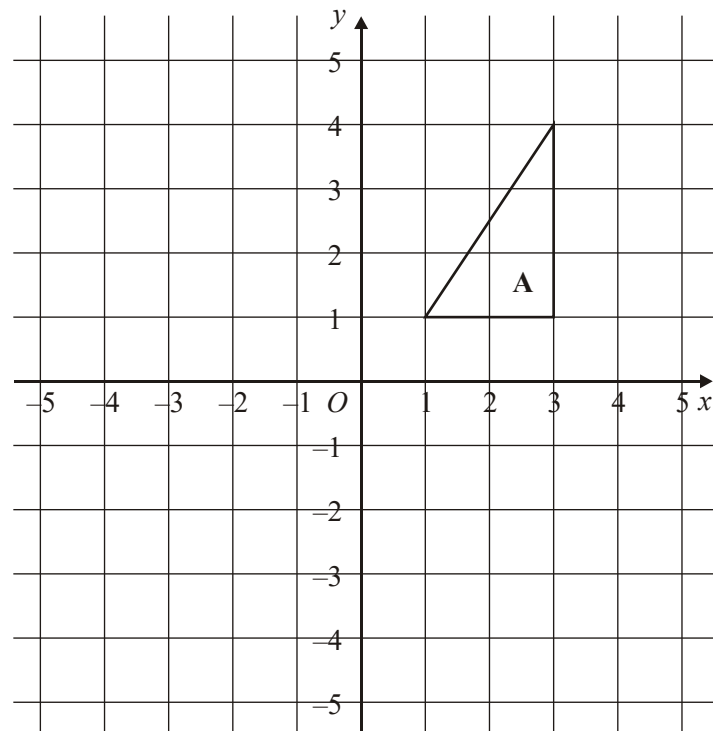


1.

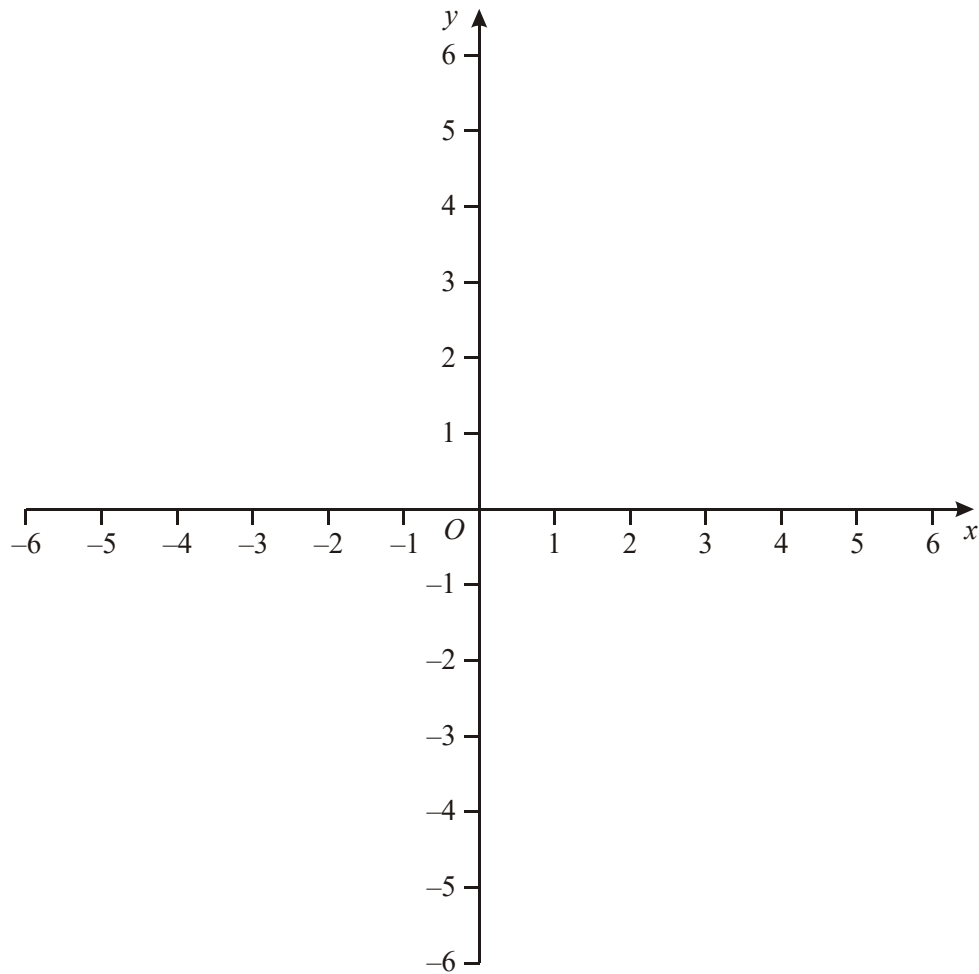


Triangle **A** is reflected in the y axis to give triangle **B**.
Triangle **B** is then reflected in the x axis to give triangle **C**.

Describe the **single** transformation that takes triangle **A** to triangle **C**.

.....
(Total 3 marks)

2.



R is a reflection in the y -axis.

S is a reflection in the line $y = 3$

Describe fully the single transformation that is equivalent to the combined transformation of **R** followed by **S**.

You may use the diagram to help you.

(Total 3 marks)

1. Rotation 180°
centre (0,0) 3

B1 for rotation

B1 for 180° or $\frac{1}{2}$ turn

B1 for (0, 0)

Or

B2 enlargement SF – 1

B1 centre (0,0)

If no marks awarded SC B1 for correct reflections

[3]

2. Rotation of 180° about the point (0, 3) 3

B1 for rotation

B1 for angle of 180°

B1 for centre (0, 3)

Alternative method:

B1 for enlargement

B1 for scale factor –1

B1 for centre (0, 3)

If no marks earned then

[SC: B1 for a diagram showing 2 correct successive reflections]

[3]

1. Specification A

Intermediate Tier

Two thirds of candidates gained at least one mark but it was disappointing that only 30% gained either two or three marks. The majority of candidates did not appreciate that the description required three elements. Rotation and 180° (often with clockwise or anti-clockwise) were frequently given but the centre of rotation was often omitted. Some used ‘turn’ or ‘flip’ instead of ‘rotation’. It was surprising that many candidates did not even draw the two reflections on the diagram.

Higher Tier

Many candidates obtained full marks for this question. Identifying the transformation as a rotation was more common than identifying it as an enlargement with a negative scale factor. Marks were lost through a failure to identify one of the three elements necessary to identify the transformation fully.

Specification B**Intermediate Tier**

Candidates often scored at least one mark in this question for either a correct diagram drawn or for a part correct description. Many candidates ignored the request for a single transformation, usually by describing the transformation as a rotation followed by a translation. This scored no marks. A significant number wrote of a *turn* through 180° . It should be noted that the word “rotation” only was required.

2. Over half of the candidates were able to score on this question but only a minority was able to gain full marks. A number of candidates made good use of the diagram although, due to the popular use of symmetrical shapes, the wrong transformation was given.