

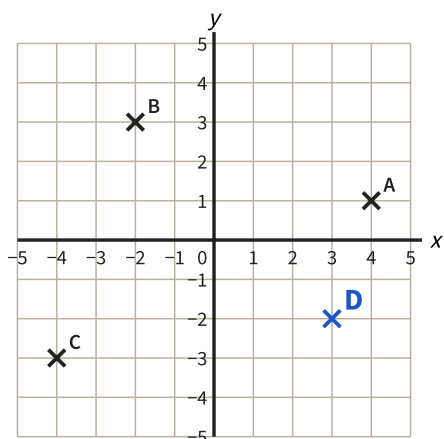
Transformations

ANSWERS

Ruler and tracing paper | 30 minutes | Total marks: 41

Name Class

1



(a) Write down the coordinates of point A.

Answer (4, 1) (1) [1 mark]

(b) Write down the coordinates of point B.

Answer (-2, 3) (1) [1 mark]

(c) Write down the coordinates of point C.

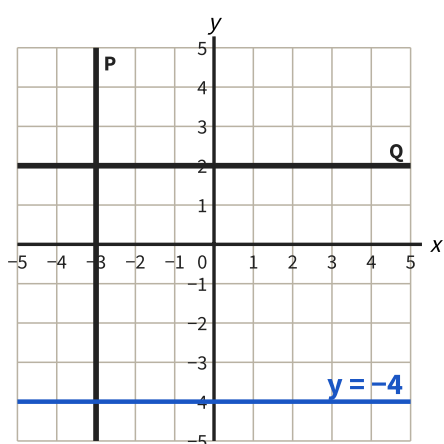
Answer (-4, -3) (1) [1 mark]

(d) Plot the point D (3, -2) on the grid.
Label it D.

Correct point (1)

[1 mark]

2



Lines P and Q are drawn on the grid.

(a) Write down the equation of line P.

Answer $x = -3$ (1) [1 mark]

(b) Write down the equation of line Q.

Answer $y = 2$ (1) [1 mark]

(c) Which of these points is on line Q?

(2, 5) (-4, 2) (2, 0) (0, -2)

Answer (-4, 2) (1) [1 mark]

(d) Draw the line $y = -4$ on the grid.

Horizontal line through $y = -4$ (1)

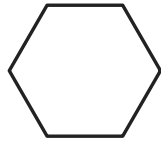
[1 mark]

3

(a) Here are three shapes.



A



B



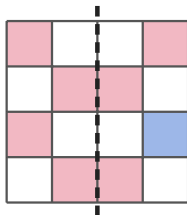
C

Complete the table.

Shape	Lines of symmetry	Order of rotational symmetry
A, a kite	1	1 (1)
B, a regular hexagon	6	6 (1)
C, a parallelogram	0	2 (1)

[3 marks]

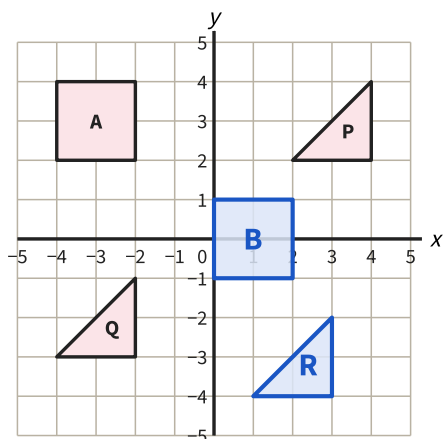
(b)



The dashed line is a line of symmetry of this pattern.
Shade one more square to complete the pattern.

Correct square shaded (1)

[1 mark]



- (a) Translate rectangle A 4 squares right and 3 squares down.

Label the new rectangle B.

4 right (1) 3 down (1)

[2 marks]

- (b) Describe in words the translation that maps triangle P onto triangle Q.

6 squares left (1)

5 squares down (1)

[2 marks]

- (c) Write the translation in part (b) as a column vector.

Answer $\begin{pmatrix} -6 \\ -5 \end{pmatrix}$ (1) [1 mark]

- (d) Translate triangle Q by the vector $\begin{pmatrix} 5 \\ -1 \end{pmatrix}$

Label the new triangle R.

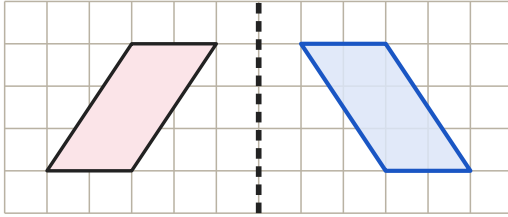
5 right (1) 1 down (1)

[2 marks]

5

(a) Reflect the shape in the mirror line.

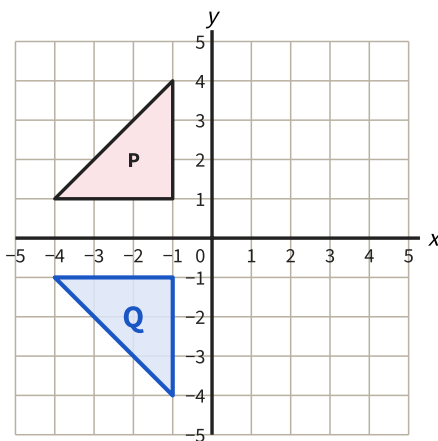
mirror line



3 corners correct (1) All correct (1)

[2 marks]

(b)

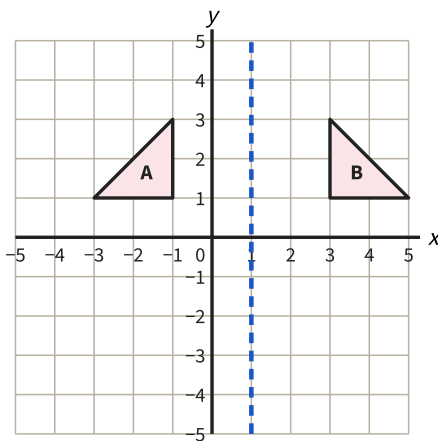


Reflect triangle P in the x-axis.
Label the new triangle Q.

[2 marks]

2 corners correct (1) All correct (1)

(c)



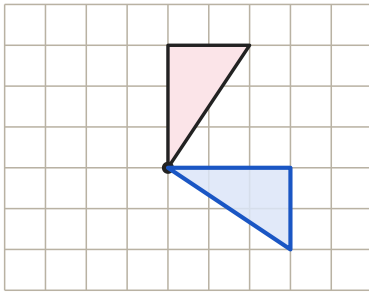
Triangle A is reflected to give triangle B.
Write down the equation of the mirror line.

Answer $x = 1$ (1) [1 mark]

6

You may use tracing paper.

(a)

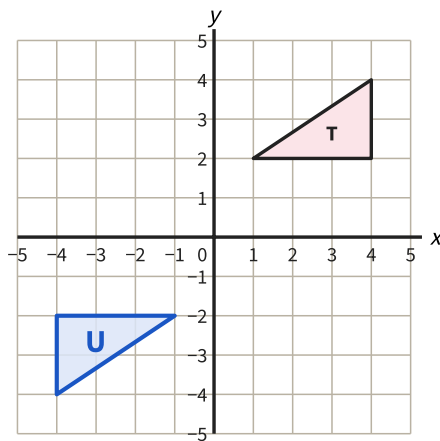


Rotate the triangle 90° clockwise about the point marked with a dot.

[2 marks]

Correct turn (1) Correct position (1)

(b)



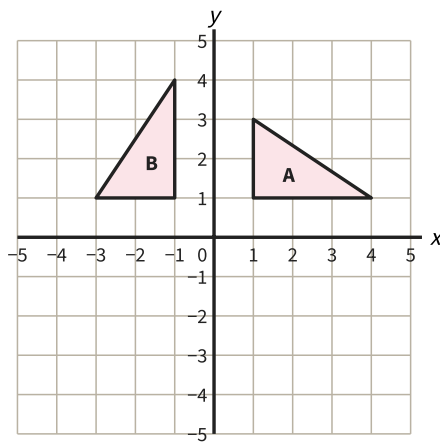
Rotate triangle T 180° about the point (0, 0)

Label the new triangle U.

[2 marks]

2 corners correct (1) All correct (1)

(c)



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

Rotation (1)

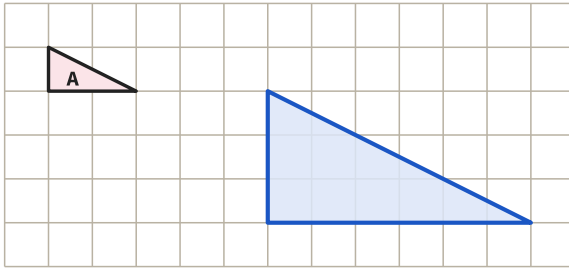
 90° anticlockwise (1)

about (0, 0) (1)

[3 marks]

7

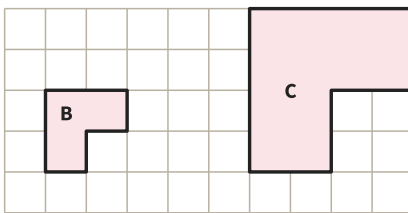
- (a) On the grid, draw an enlargement of triangle A with scale factor 3



Base 6 squares (1) Height 3 squares (1)

[2 marks]

- (b) Shape C is an enlargement of shape B.



Write down the scale factor.

Answer 2 (1)

[1 mark]

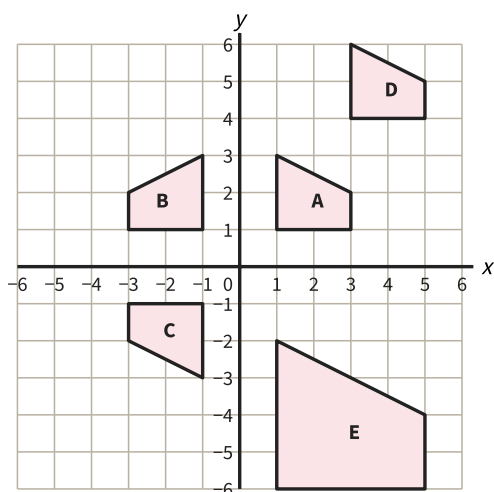
- (c) A rectangle is 5 cm long and 2 cm wide.
It is enlarged by scale factor 4
Work out the length and the width of the enlarged rectangle.

Length 20 (1) cm

Width 8 (1) cm

[2 marks]

8



- (a) Shape A is mapped onto shapes B, C, D and E. Write down the name of each transformation.

A onto B reflection (1)

A onto C rotation (1)

A onto D translation (1)

A onto E enlargement (1)

[4 marks]

- (b) Which shape is **not** congruent to shape A?

Answer E (1) [1 mark]

Question	Topic	RAG
1	I can read and plot coordinates in all four quadrants	
2	I know the equations of horizontal and vertical lines	
3	I can describe line and rotational symmetry	
4	I can translate a shape and describe a translation in words and as a vector	
5	I can reflect a shape and find a mirror line	
6	I can rotate a shape and describe a rotation	
7	I can enlarge a shape and find a scale factor	
8	I can recognise a transformation and know which are congruent	