Section A — Translations — Grade D / C
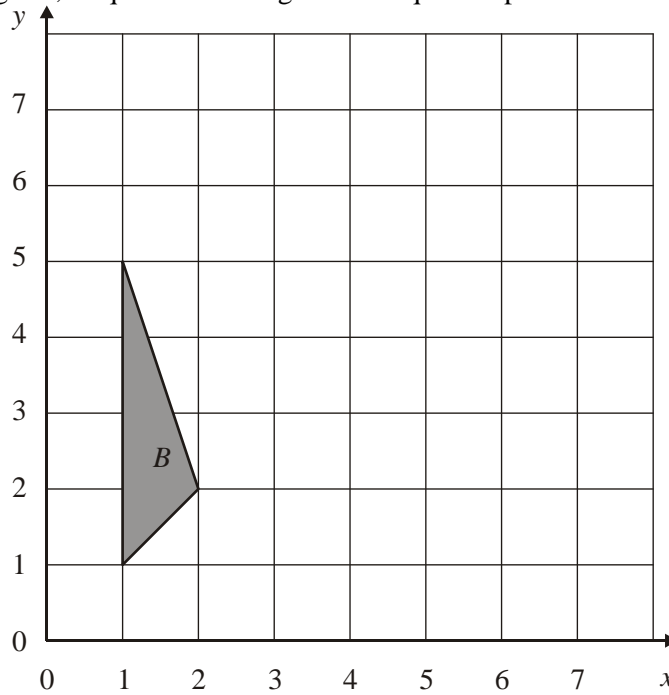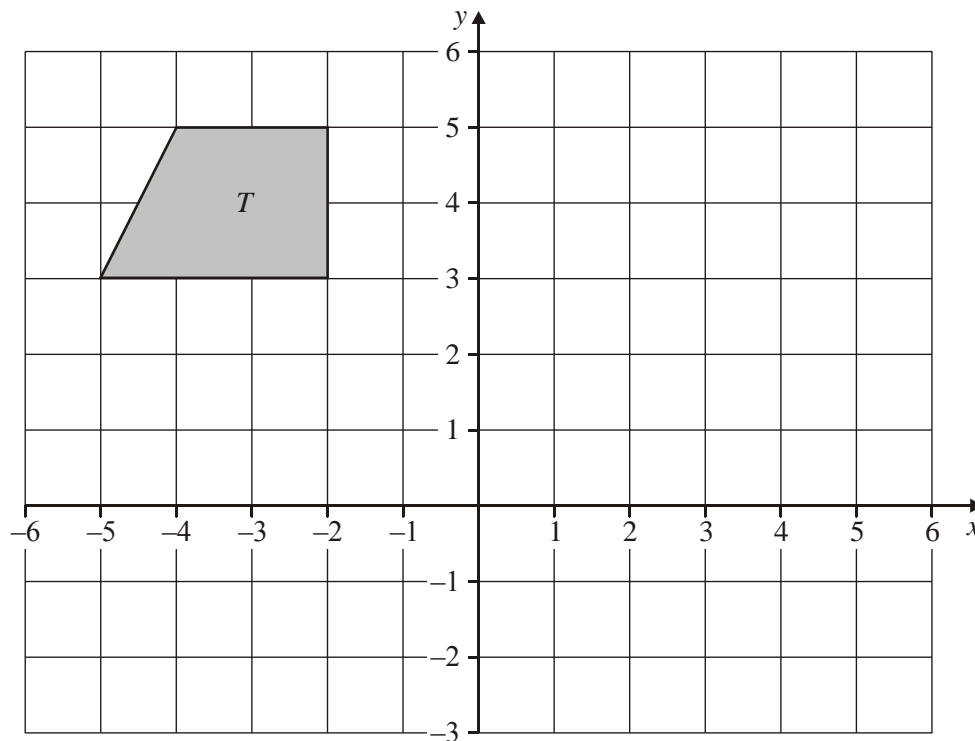
1. The grid shows a triangle *B*.

Translate triangle *B*, 3 squares to the right and 2 squares up.

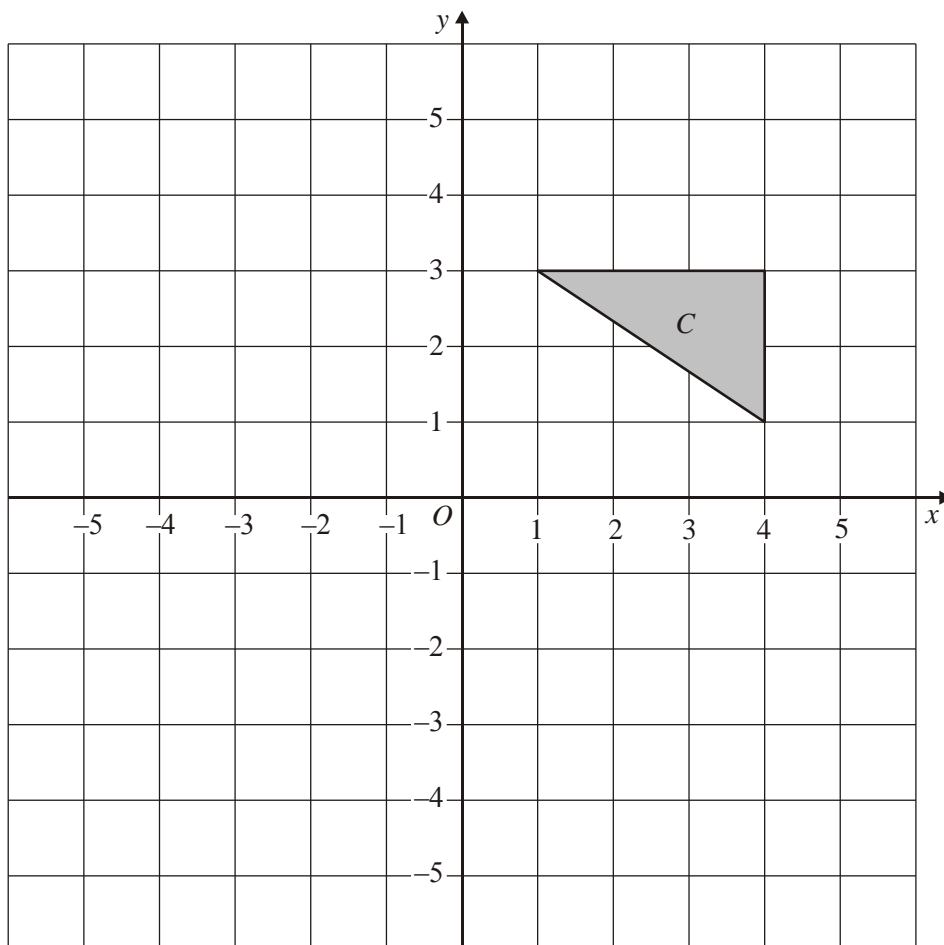**(Total 1 mark)**

2. The trapezium *T* has vertices at (–4,5), (–2,5), (–2,3) and (–5,3).

Translate trapezium *T* 6 squares right, 2 squares down and label it *B*.
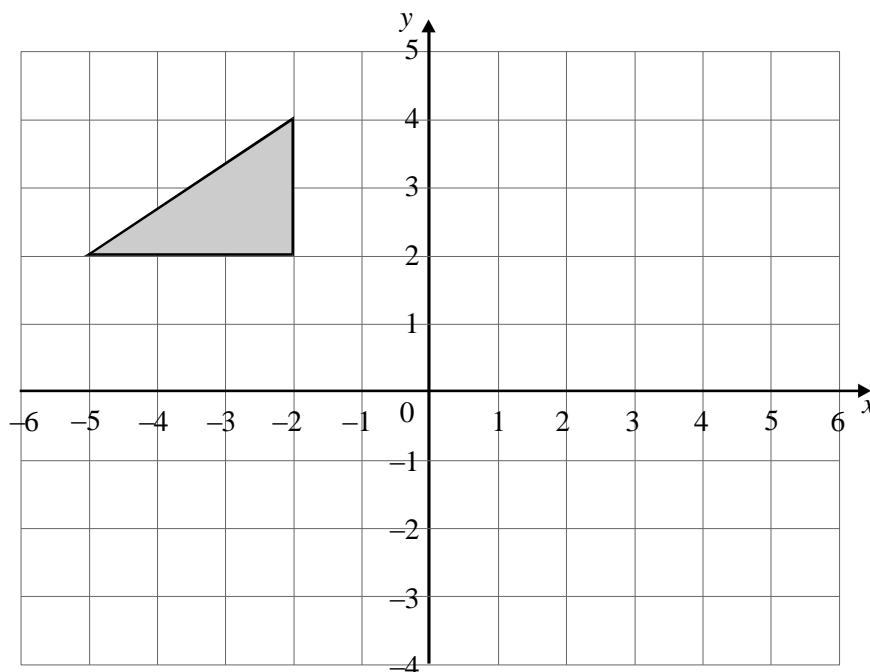
(Total 1 mark)

3.

Triangle *C* is translated by the vector $\begin{pmatrix} 1 \\ -4 \end{pmatrix}$

Draw the new position of triangle *C*.

(Total 2 marks)

4.

Translate the shaded triangle by the vector $\begin{pmatrix} 5 \\ -4 \end{pmatrix}$
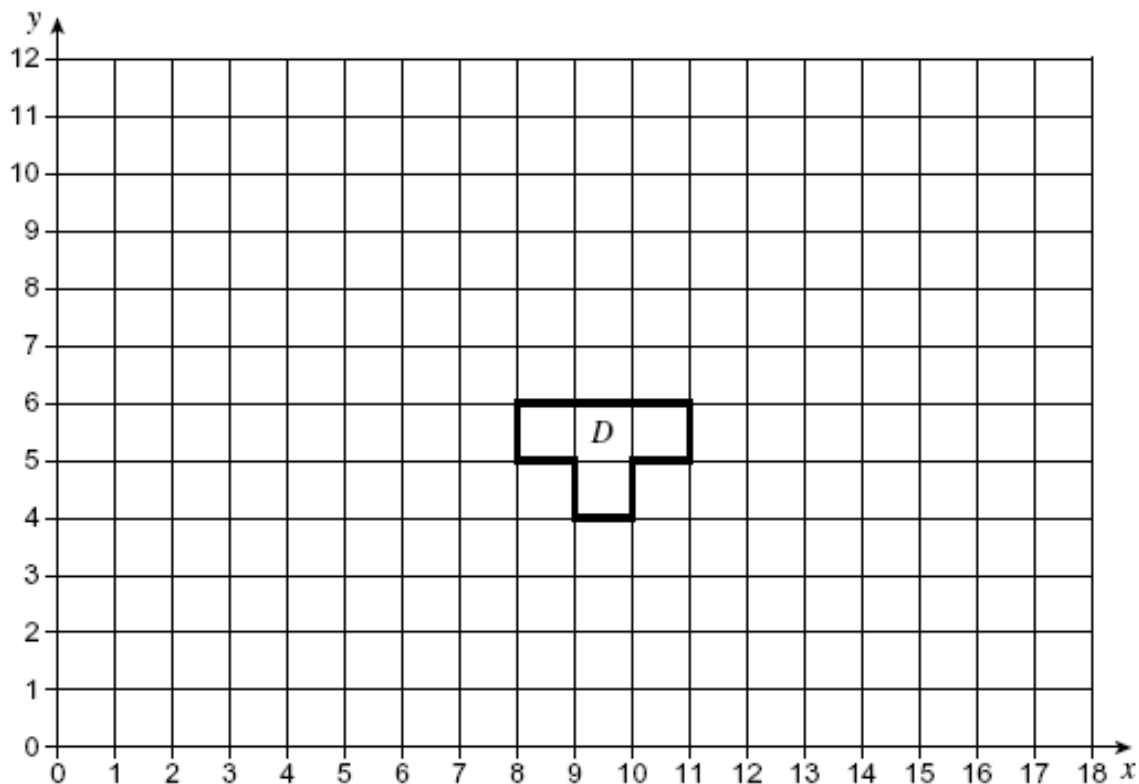
Label this triangle C.

(Total 2 marks)

5.   Shape C is **not** shown on the grid.
Shape D is a translation of shape C.

The translation vector from shape C to shape D is $\begin{pmatrix} 5 \\ -2 \end{pmatrix}$.

Draw shape C on the grid.

(Total 2 marks)

Success:

Target:

Teacher
Assessment
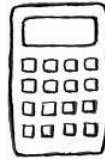
Section B   Reflections   Grade G → D

1.   Draw the reflection of the shape in the mirror line.
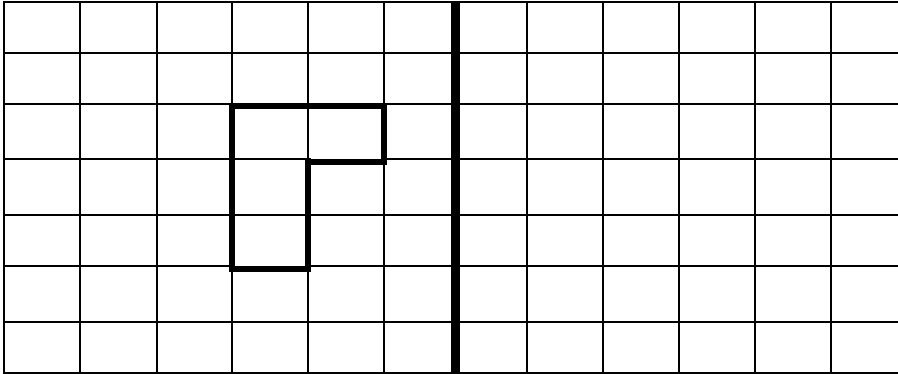
(Total 2 marks)

2.   Reflect the shape using the dotted line as the mirror line.
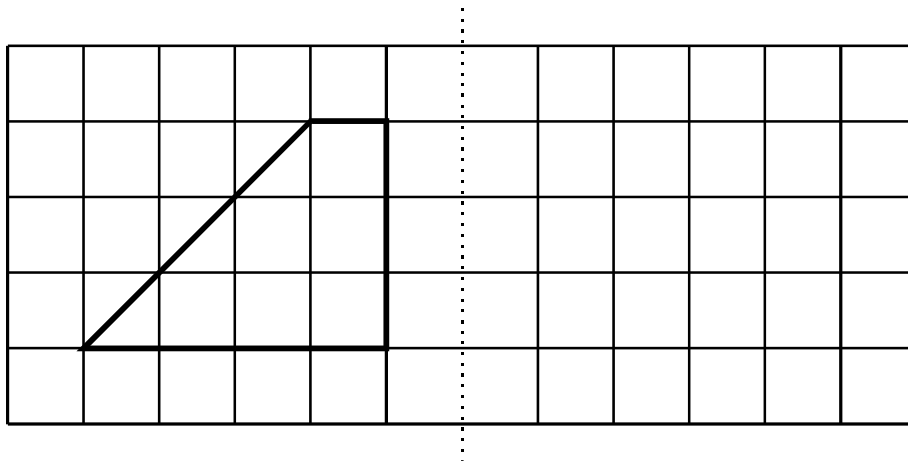
(Total 2 marks)

3.   Draw the reflection of the shape in the mirror line.
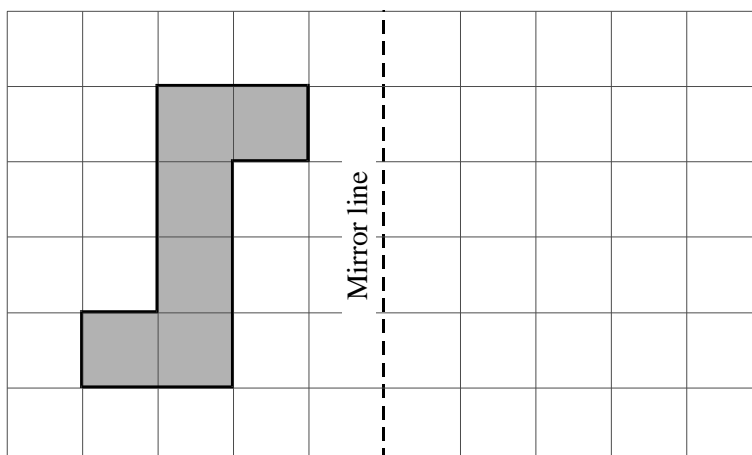
Mirror line

(Total 2 marks)

4.
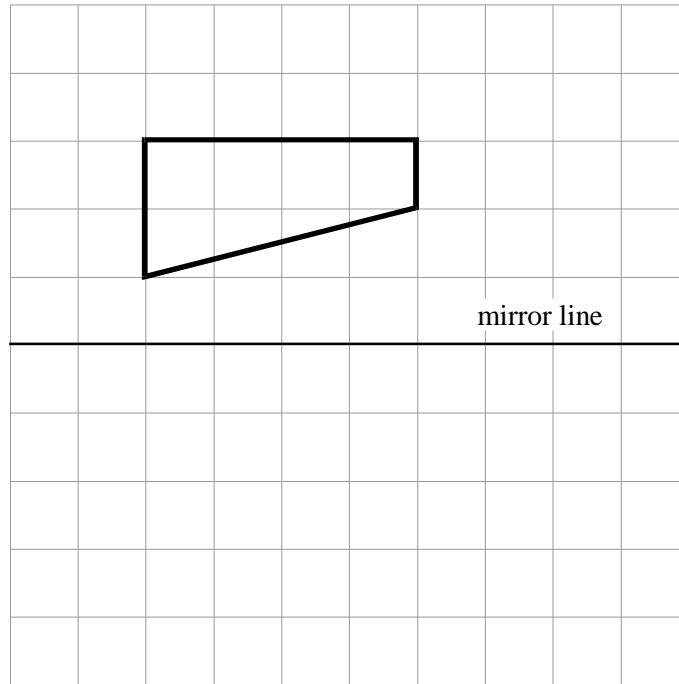
Draw the reflection of the shape in the mirror line.

(Total 2 marks)

5.   The diagram shows a triangle drawn on a centimetre square grid.
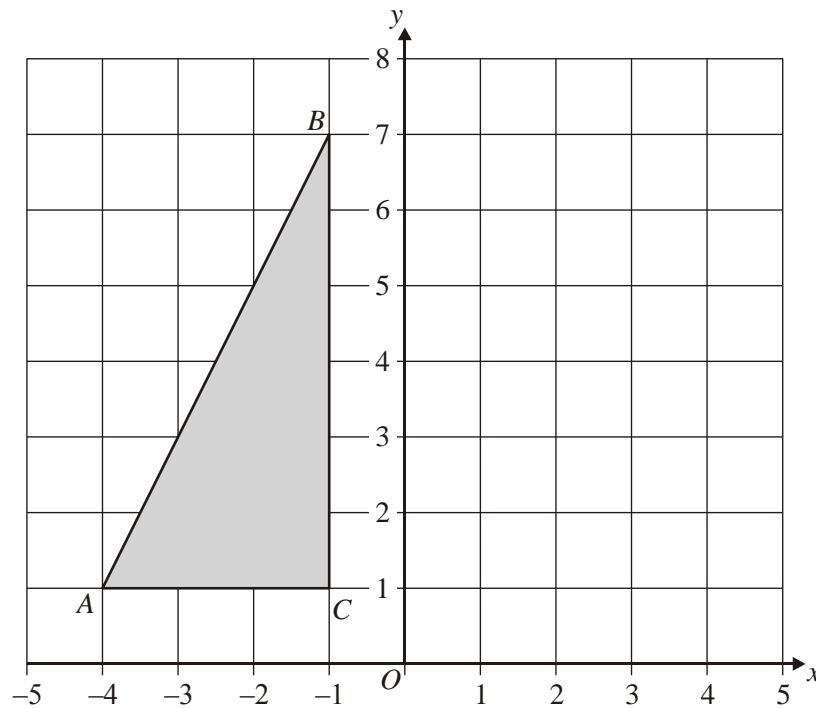
(a)   Write down the coordinates of *A*.

Answer   *A* (……………. , ……………)

(1)

(b)   Draw the reflection of the triangle in the *y*-axis.

(2)
(Total 3 marks)

6.
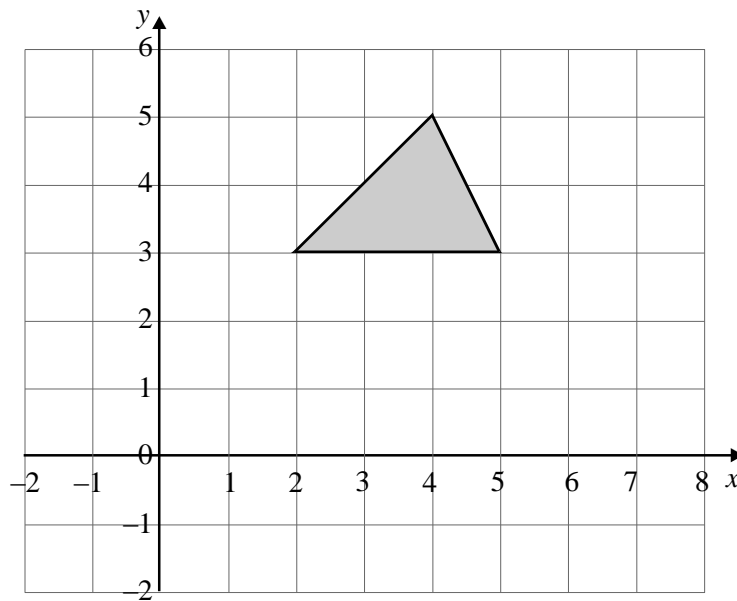
(a)   Draw the line $y = 2$ on the grid above.

(1)

(b)   Reflect the shaded triangle in the line $y = 2$.

(1)(Total 2 marks)

7.   The diagram shows two triangles A and B drawn on a centimetre square grid.
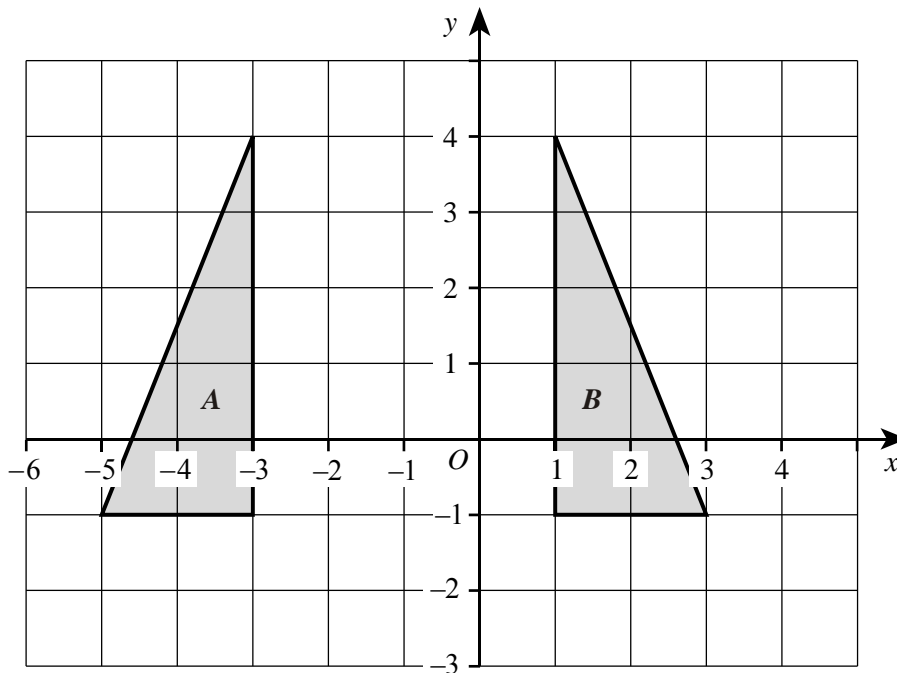
Describe fully the transformation that maps triangle A onto triangle B.

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(Total 2 marks)

8.
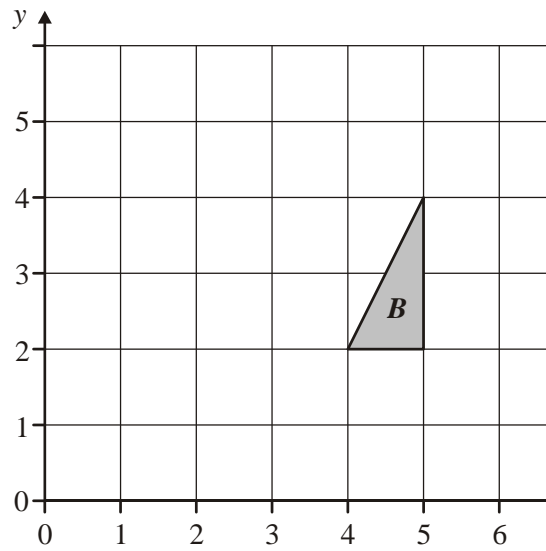
On the diagram draw the image of triangle **B** after it is reflected in the line $y = x$

(Total 2 marks)

9.
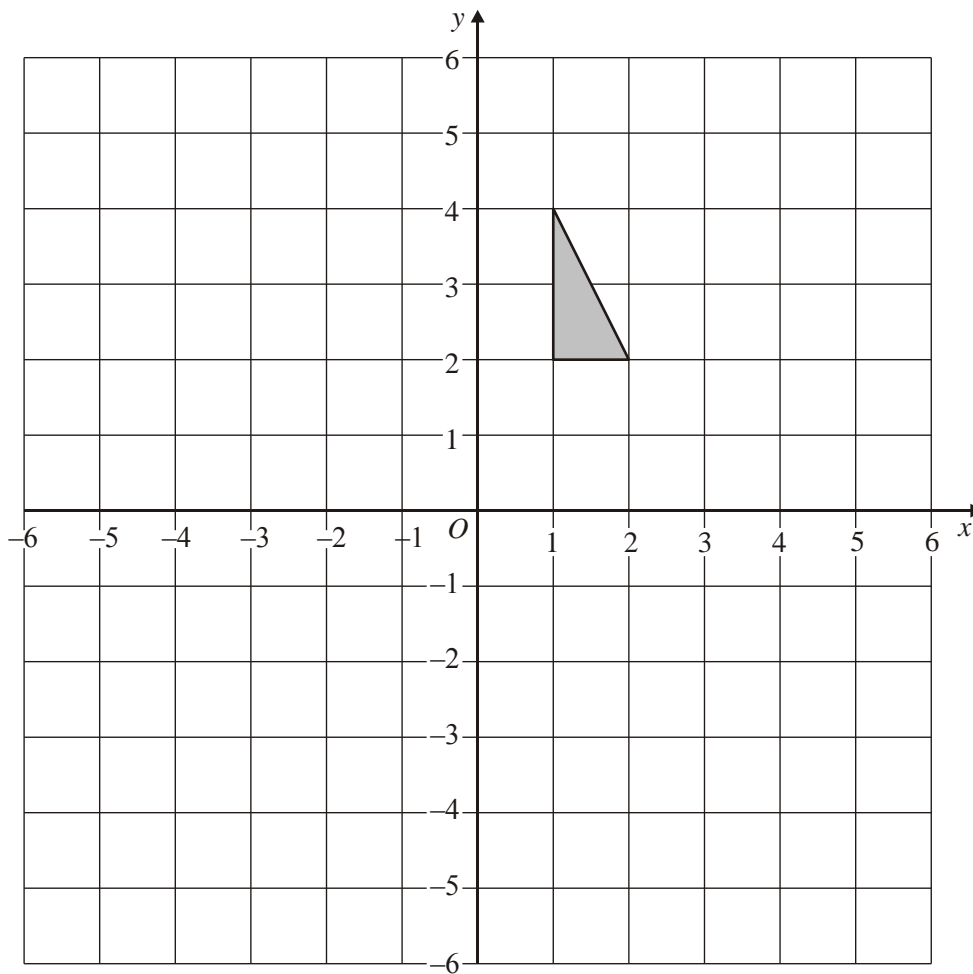
Reflect the shaded triangle in the line $y = -x$.
Label this new triangle with the letter A.

(Total 2 marks)

Success:

Target:
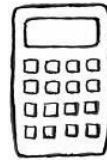
Section C Rotations Grade D / C

1. Rotate the triangle 90° clockwise about the point *C*.
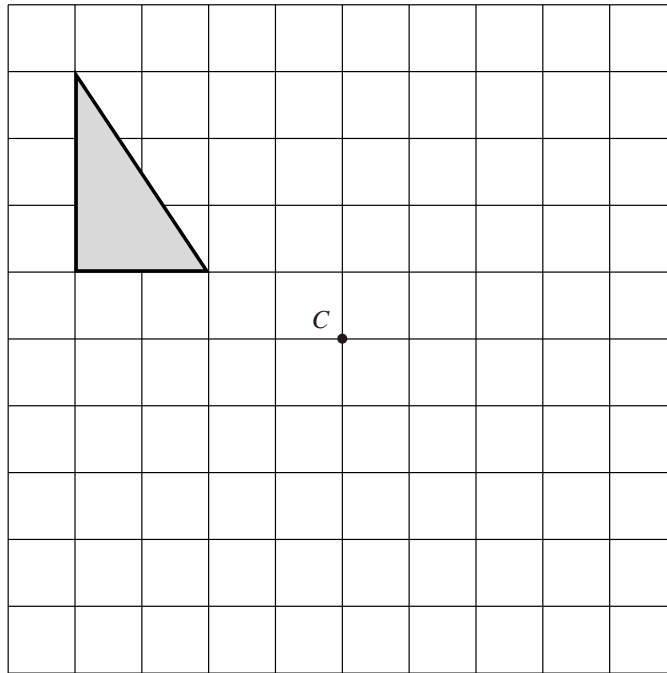
(Total 2 marks)

2. Triangle *A* has vertices (1,2), (1,5) and (3,2).
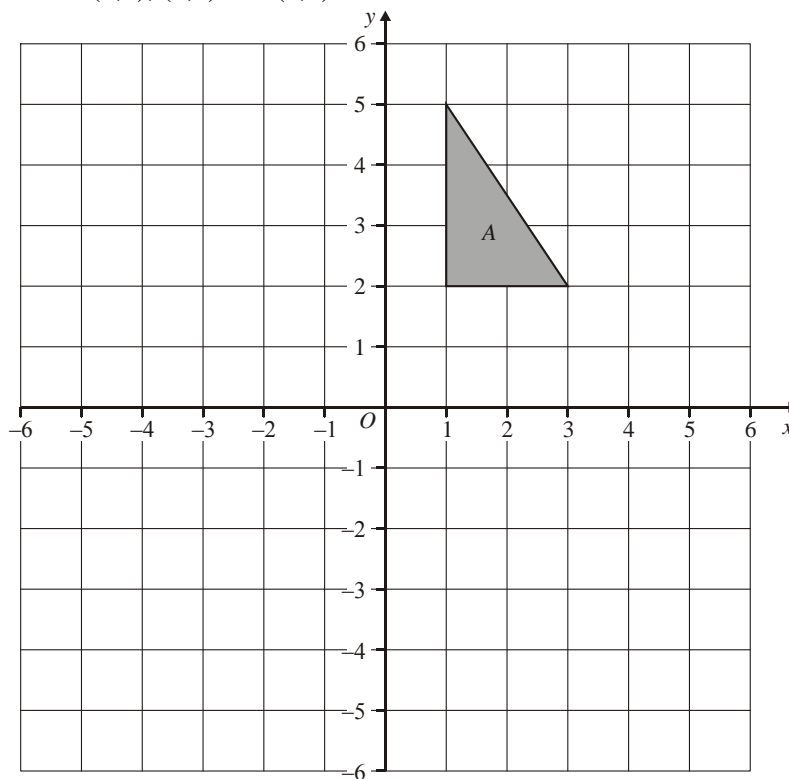
Draw the new position of triangle *A* after a rotation of 90° clockwise about the origin.

(Total 3 marks)

3. Triangle *A* is drawn on the grid below.
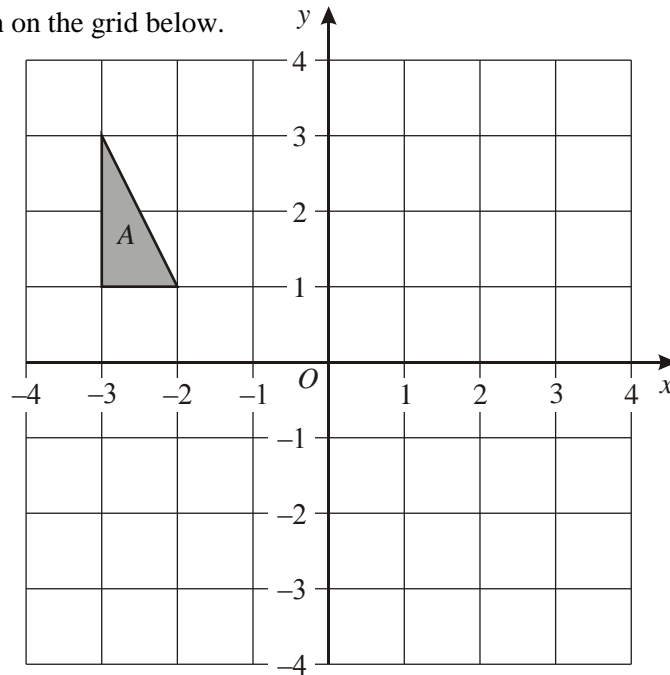
Rotate triangle *A* 90° clockwise about the origin *O*. Label the triangle *C*.

(Total 2 marks)

4.
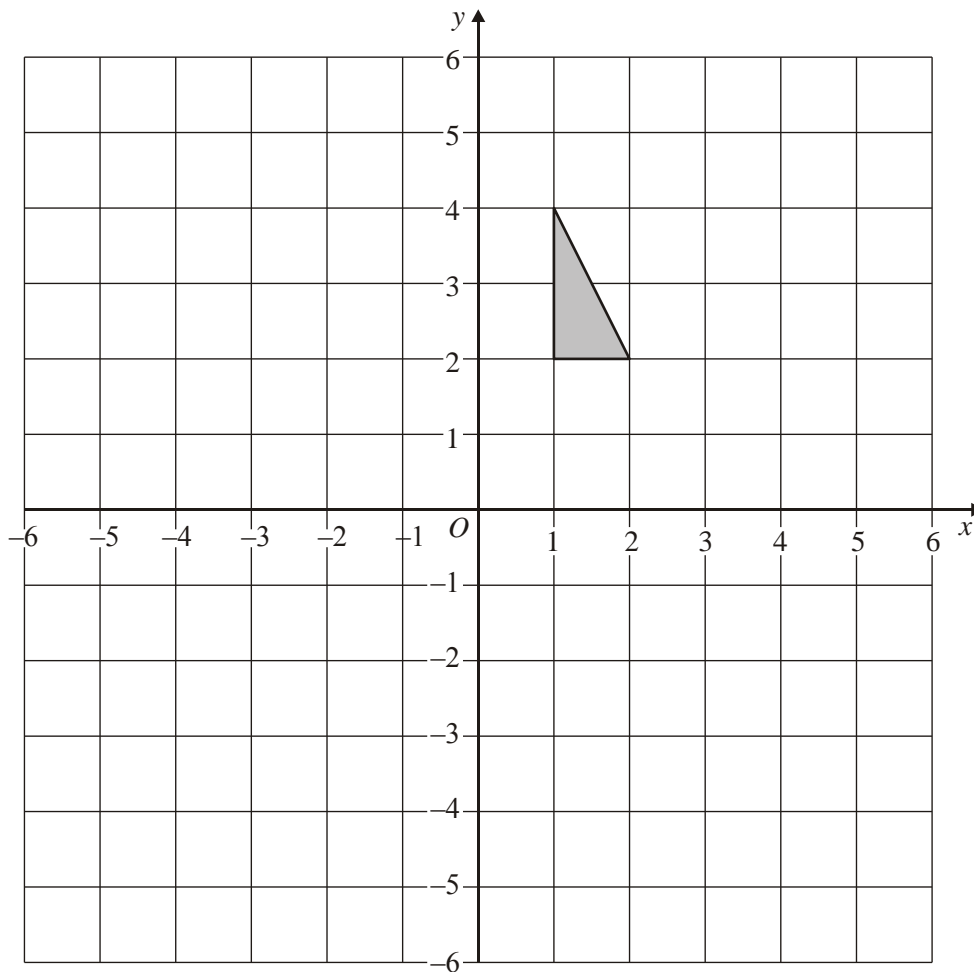
Rotate the original shaded triangle by a quarter-turn anticlockwise about (0,2).
Label this new triangle with the letter *B*.

(Total 2 marks)

5.
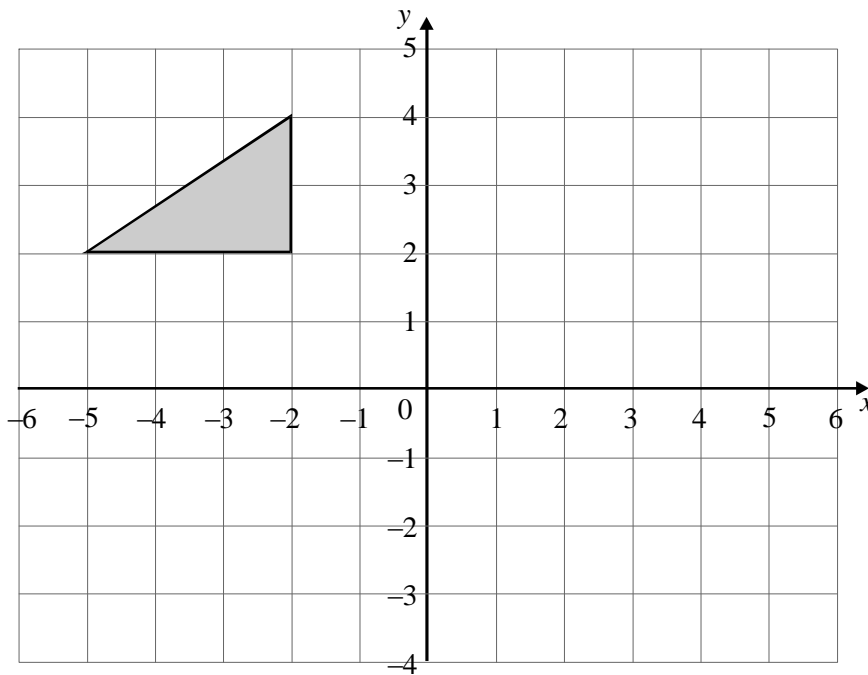
Rotate the shaded triangle through 90° clockwise about (−1, 1). Label this triangle D.

(Total 2 marks)

6. The diagram shows two identical shapes, *A* and *B*.

Success:

Target:
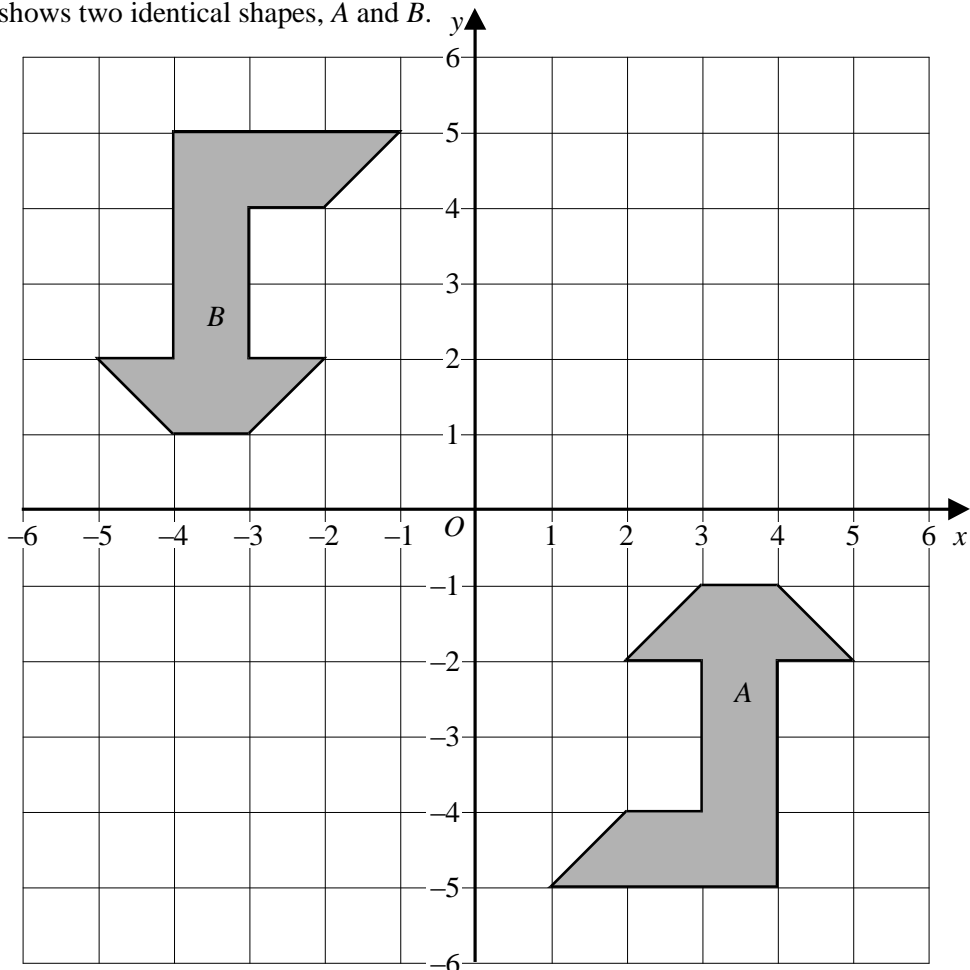
Describe fully the **single** transformation which takes shape *A* to shape *B*.

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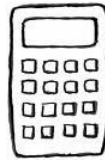
(Total 3 marks)

| **Section D** | **Enlargements** | **Grade D / C** |

1.   Enlarge the shape by a scale factor of 3.
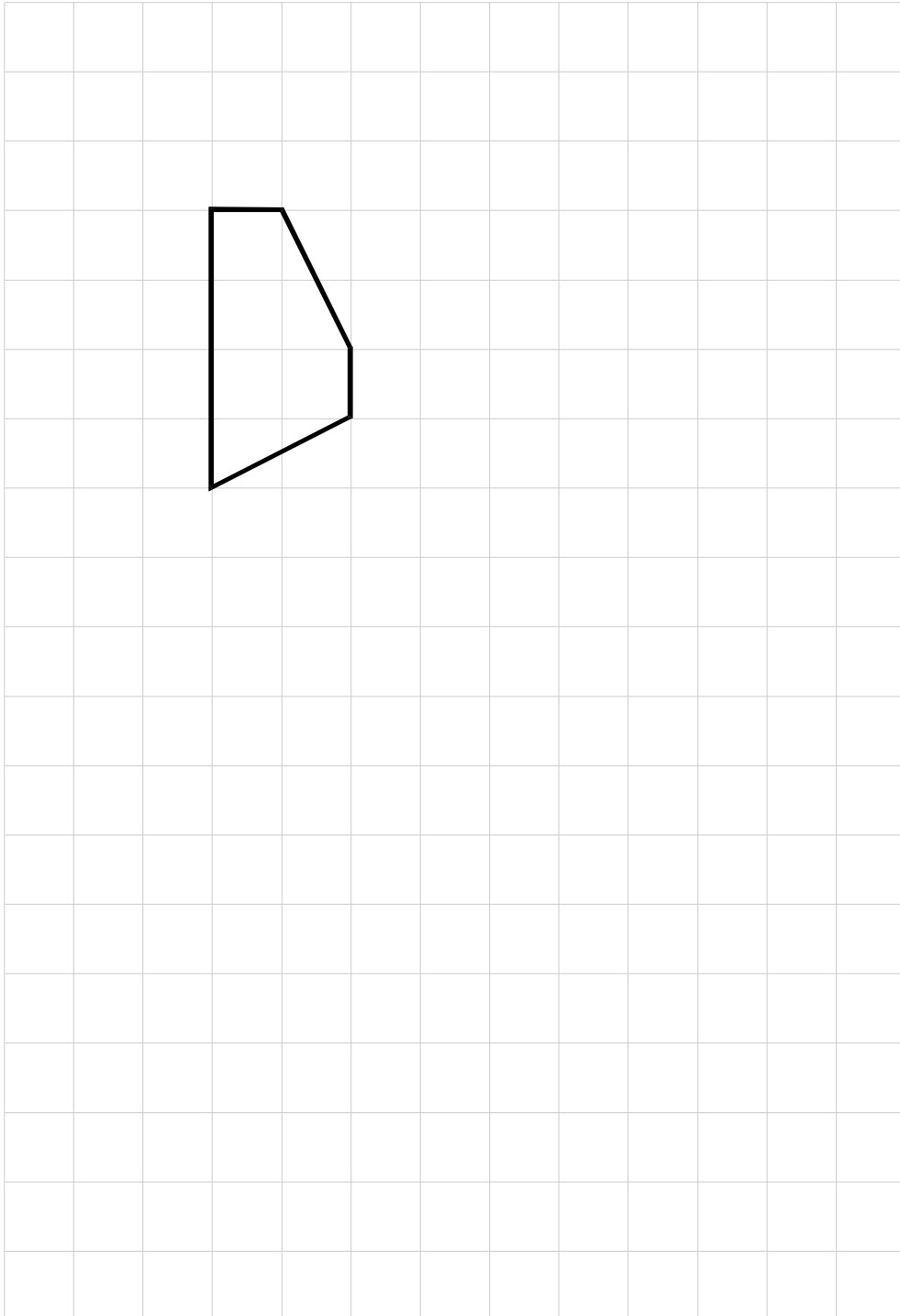
(Total 2 marks)

2.   The vertices of triangle T are (1,1), (1,2) and (4,1).
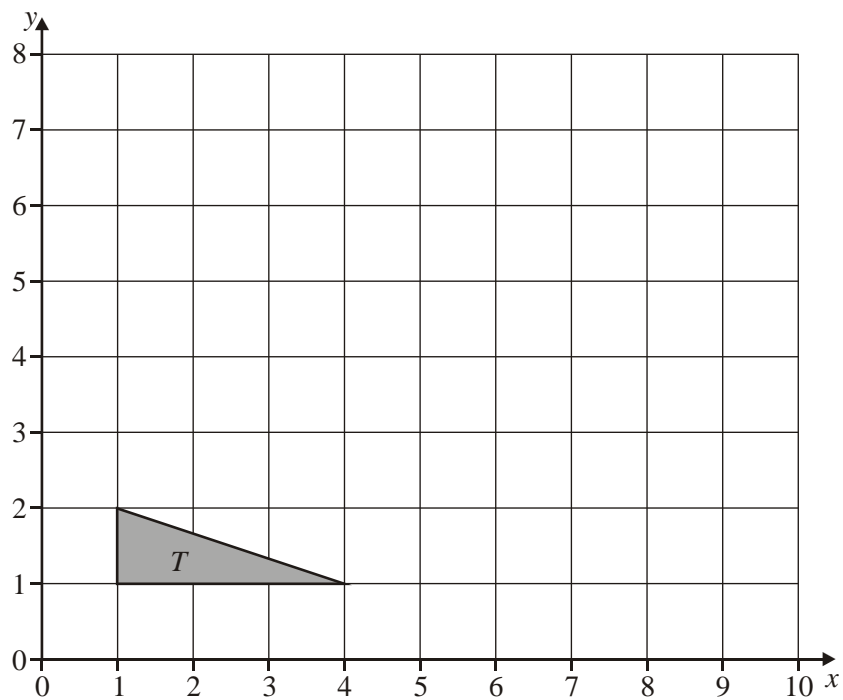
Enlarge triangle T by scale factor 2, using the origin as the centre of enlargement.

(Total 3 marks)

3. (a) Enlarge the shaded shape by a scale factor of 3.
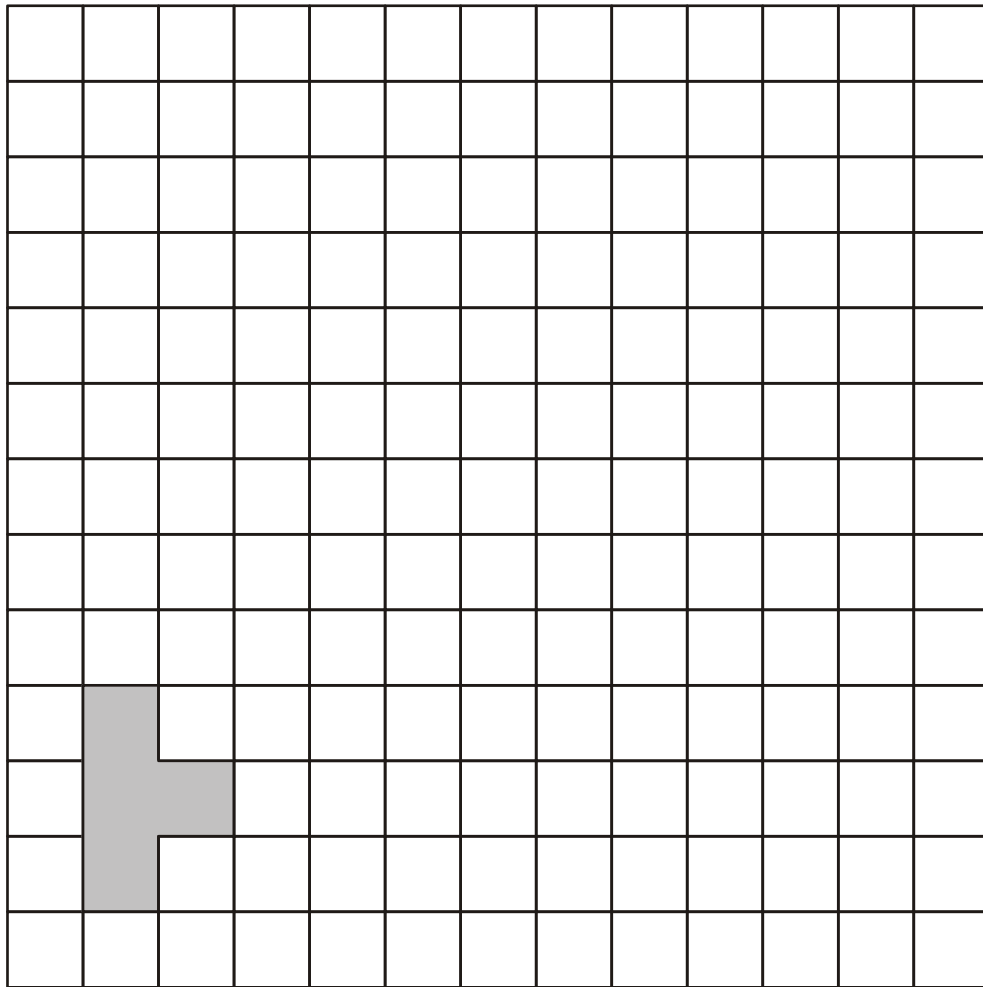
(2)

(b) How many times bigger is the area of the enlarged shape than the area of the small shape?

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Answer ……………………………………

(2)
(Total 4 marks)

4. Rectangle *A* is enlarged to give rectangle *B* on the centimetre grid.
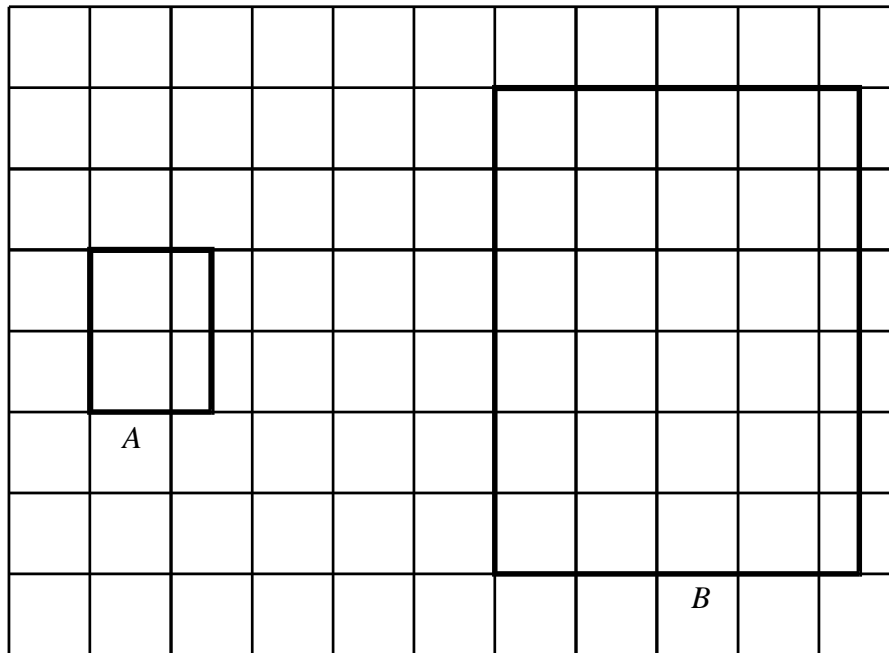
(a) What is the scale factor of the enlargement?

....

Answer ....

(1)

(b) **Rectangle *B*** is enlarged by scale factor 5 to give rectangle *C*.
Write down the length and width of rectangle *C*.

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....

Answer Length .... cm

Width .... cm

(2)
(Total 3 marks)

Success:

Target:

Teacher
Assessment
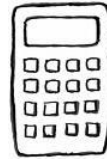
| Section E | Transformations | Grade D / C |

1. The grid shows several transformations of the shaded triangle.
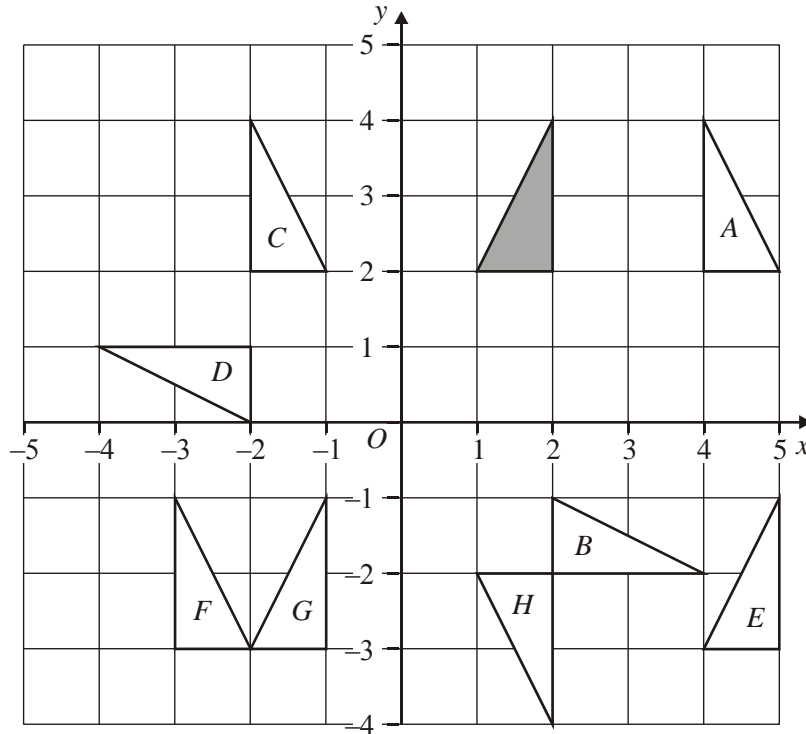
(a) Write down the letter of the triangle

(i) after the shaded triangle is reflected in the line $x = 3$,

Answer ....

(1)

(ii) after the shaded triangle is translated by 3 squares to the right and 5 squares down,

Answer ....

(1)

(iii) after the shaded triangle is rotated 90° clockwise about O.

Answer ....

(1)

(b) Describe fully the **single** transformation which takes triangle F onto triangle G.

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(2)

2.
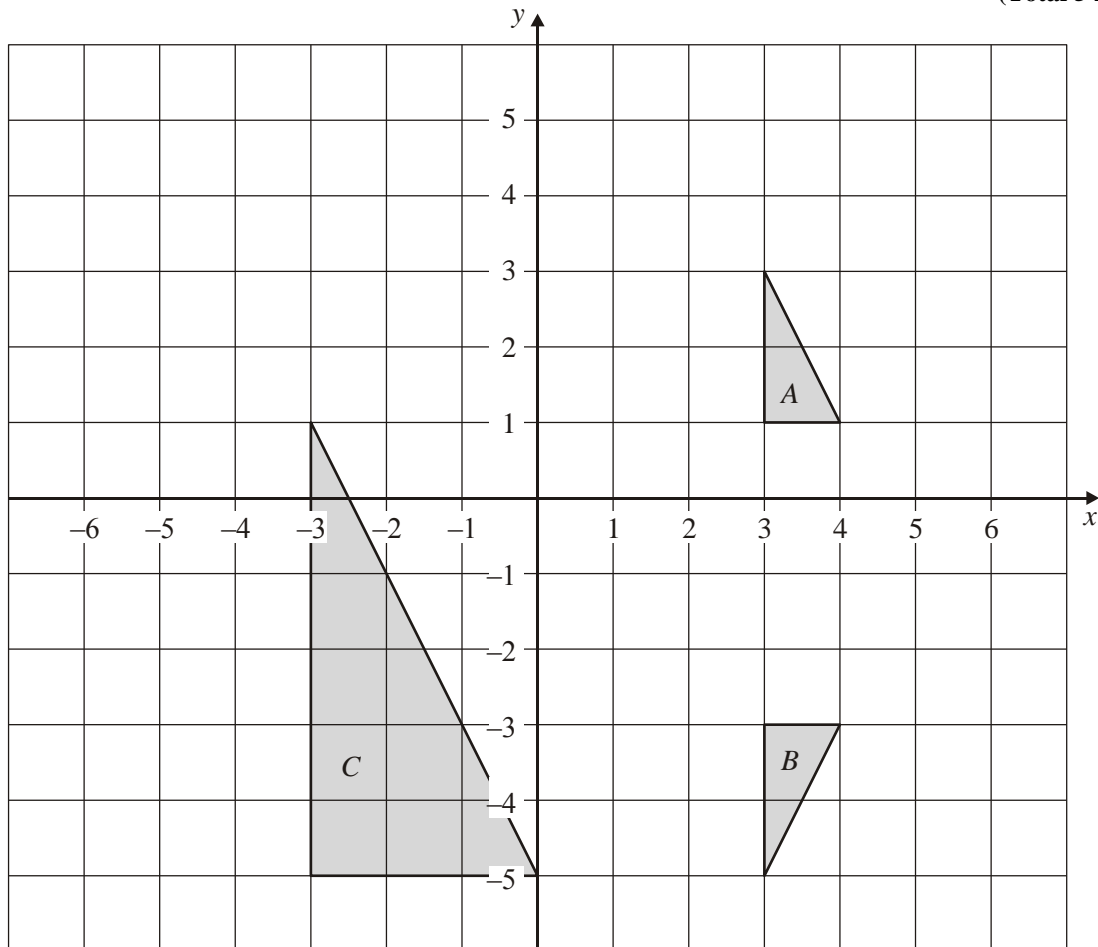
(a)   Describe the transformation that maps triangle *A* to triangle *B*.

....

....

....

(2)

(b)   Triangle *A* is rotated 90° anti-clockwise about (0, −1).

Draw the image of *A* after this transformation.

(2)

(c)   Triangle *C* is an enlargement of triangle *A*.

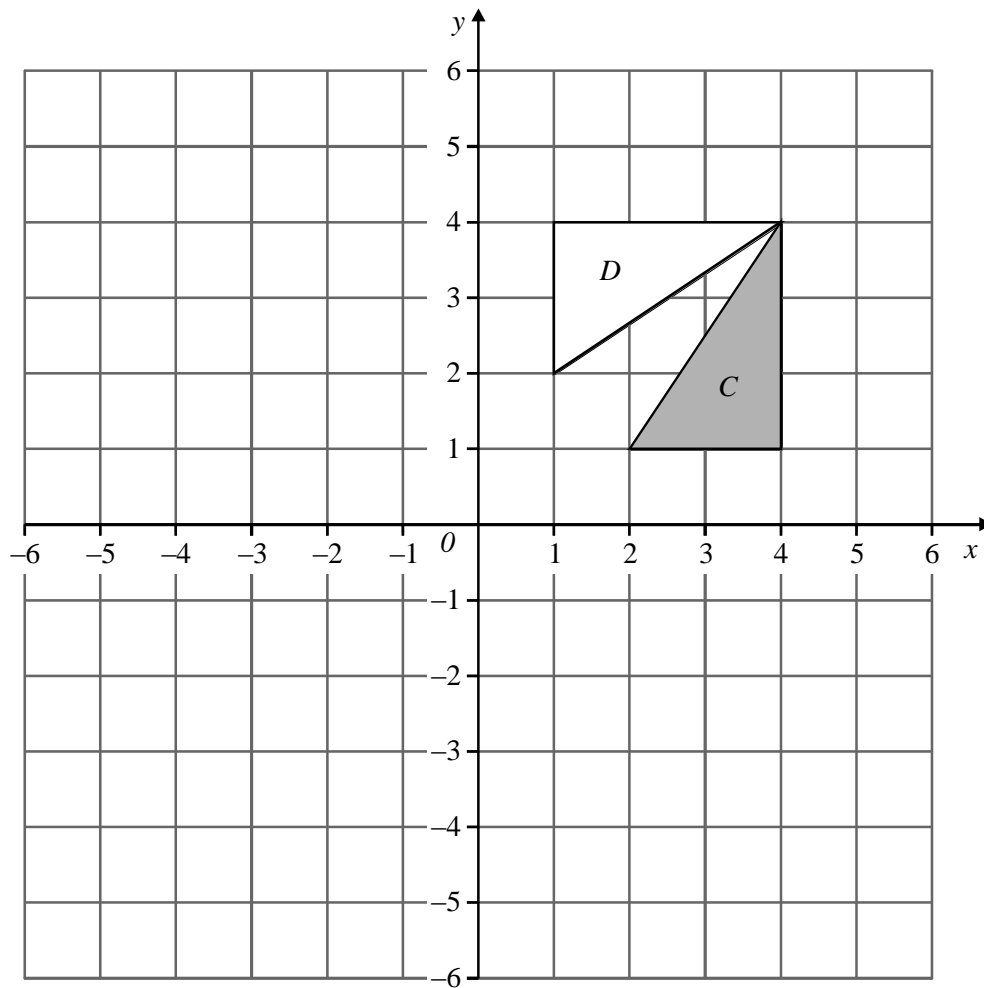(i)   Write down the scale factor of the enlargement.

Answer ....

(1)

(ii)   Write down the coordinates of the centre of the enlargement.

Answer   (.............. , ...)

(1)(Total 6 marks)

3. The diagram shows two triangles, *C* and *D*.

(i) Translate the shaded triangle *C* by the vector $\begin{pmatrix} -4 \\ -3 \end{pmatrix}$

Label the new triangle *E*.

(2)

(ii) Describe fully the **single** transformation which maps triangle *C* to triangle *D*.

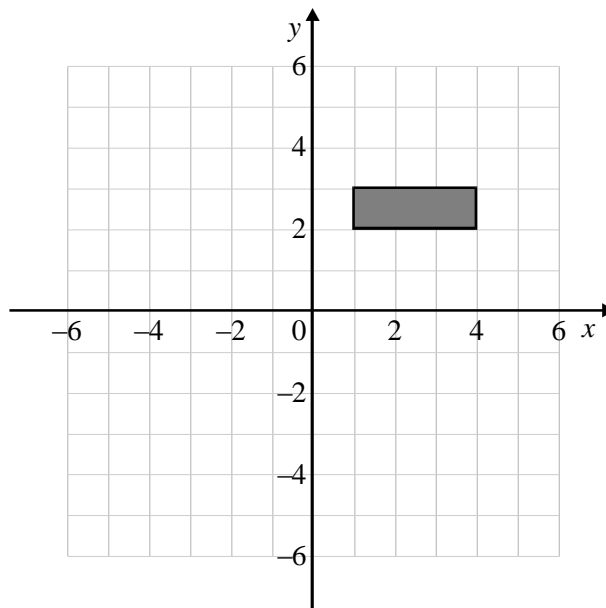...

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(2)
(Total 4 marks)

4. (a)
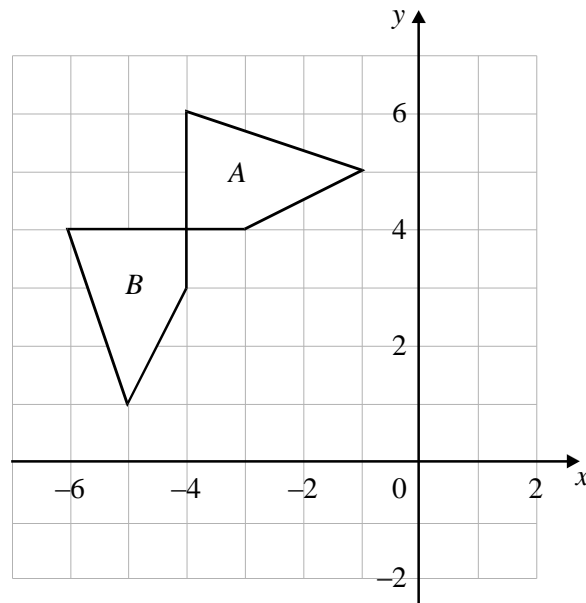
Describe fully the transformation which maps shape A onto shape B.

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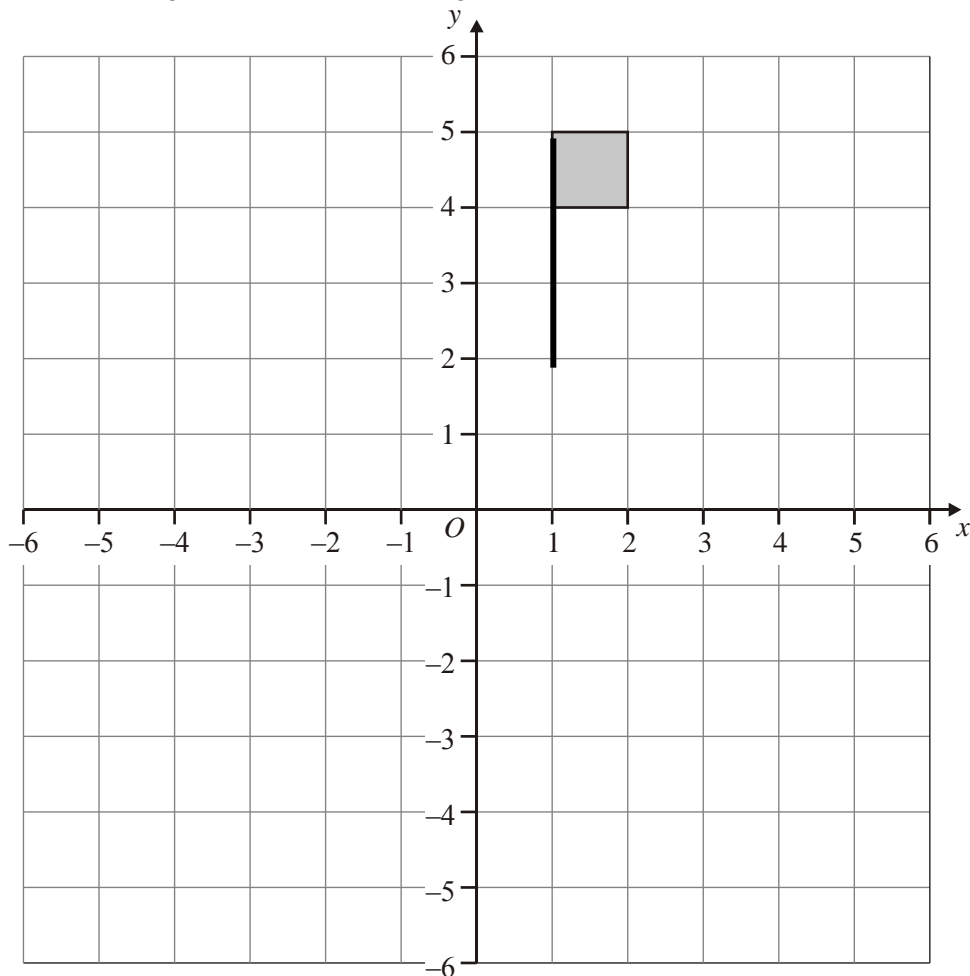
(2)

(b)

The rectangle is rotated 90' clockwise about the point (− 1, 0) and then translated by

vector $\begin{pmatrix} -4 \\ 5 \end{pmatrix}$

Draw the Final position of the rectangle after these transformations.

(4)
(Total 6 marks)

5. The diagram shows a shaded flag.

(a) Rotate the shaded flag 90° anticlockwise about the origin.
Label this new flag with the letter *A*.

(3)

(b) Reflect the original shaded flag in the line $y = 1$.
Label this new flag with the letter *B*.

(2)

(c) Rotate the original shaded flag by a quarter-turn clockwise about (0, 2).
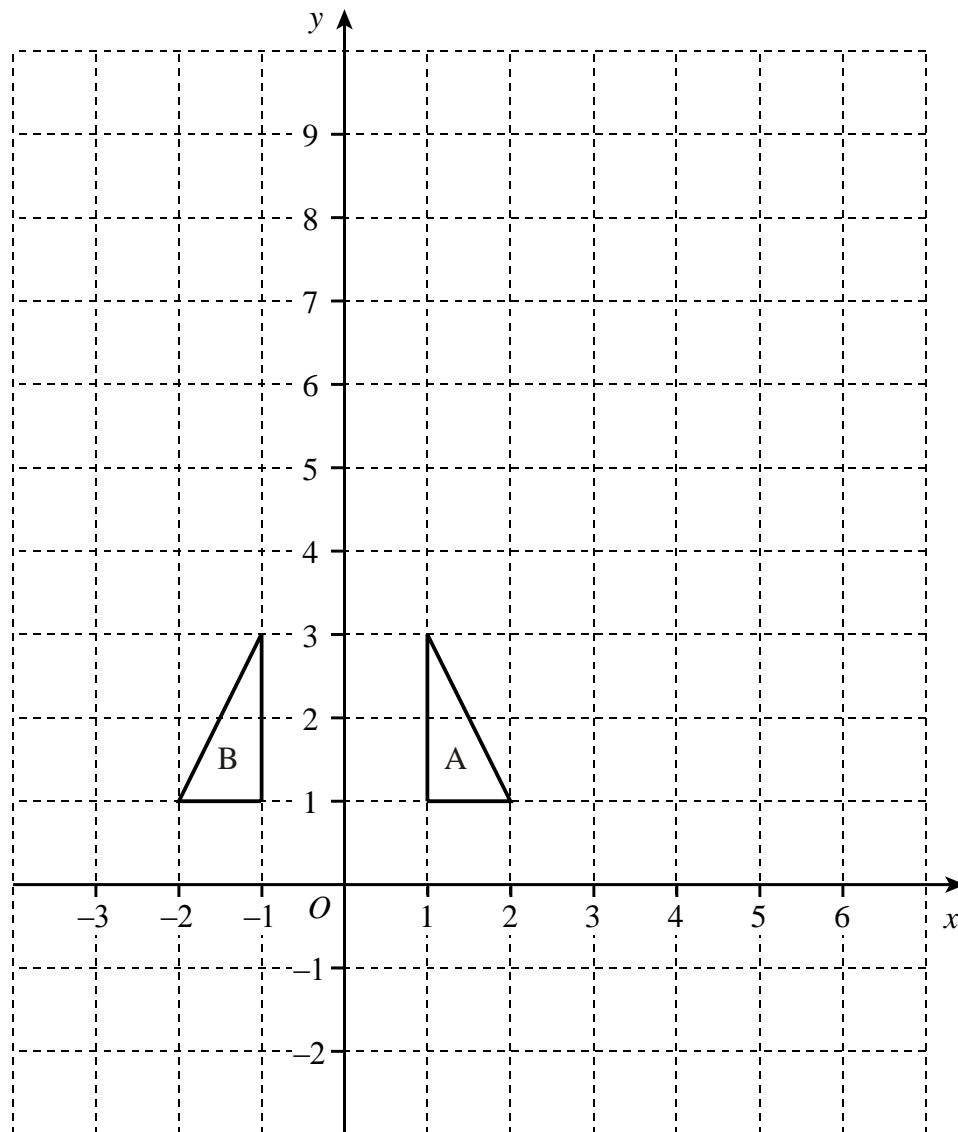Label this new flag with the letter *C*.

(2)
(Total 7 marks)

6. This question is about transformations of triangle A.

(a) Describe fully the single transformation that takes triangle A onto triangle B.

…………………………………………………………………………………………

…………………………………………………………………………………………

(2)

(b) Translate triangle A, 2 units to the left and 3 units down.
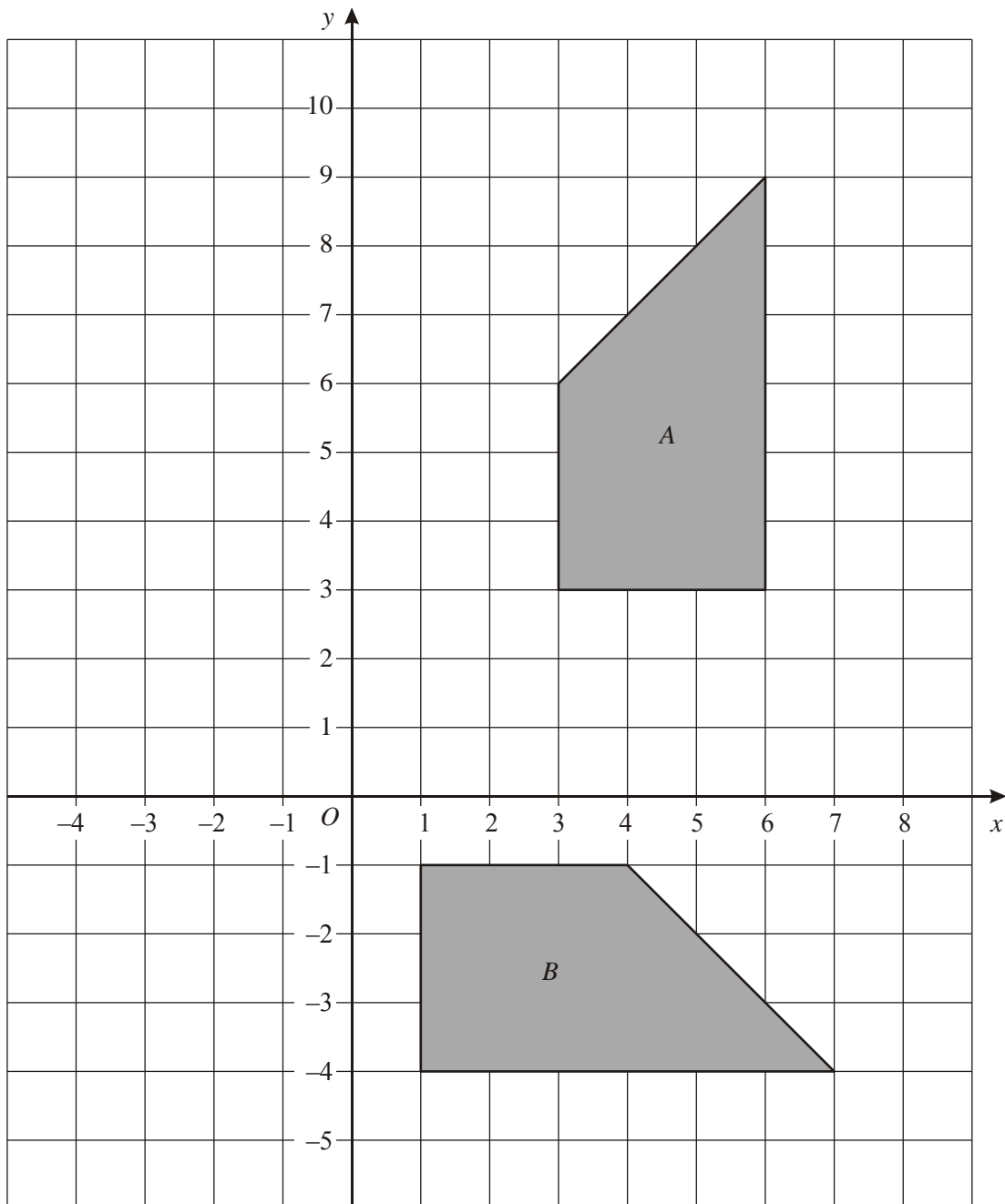Label the new triangle C.

(1)

(c) Enlarge triangle A by a scale factor of 3, centre (0, 1).
Label the new triangle D.

(3)
(Total 6 marks)

7. On the grid below there are two shapes, *A* and *B*.

Describe fully the **single** transformation that takes shape *A* to shape *B*

....

....

(Total 3 marks)

Success:

Target: