

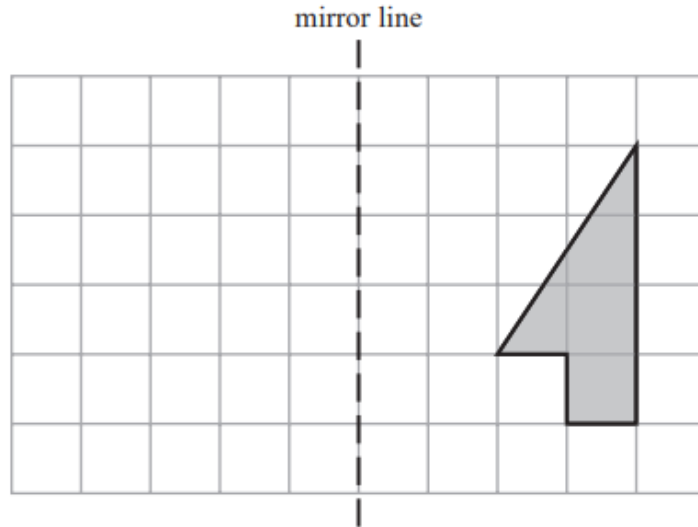
18

TRANSFORMATIONS

Pearson Edexcel - Tuesday 19 May 2020 - Paper 1 (Non-Calculator) Foundation Tier

1.

11

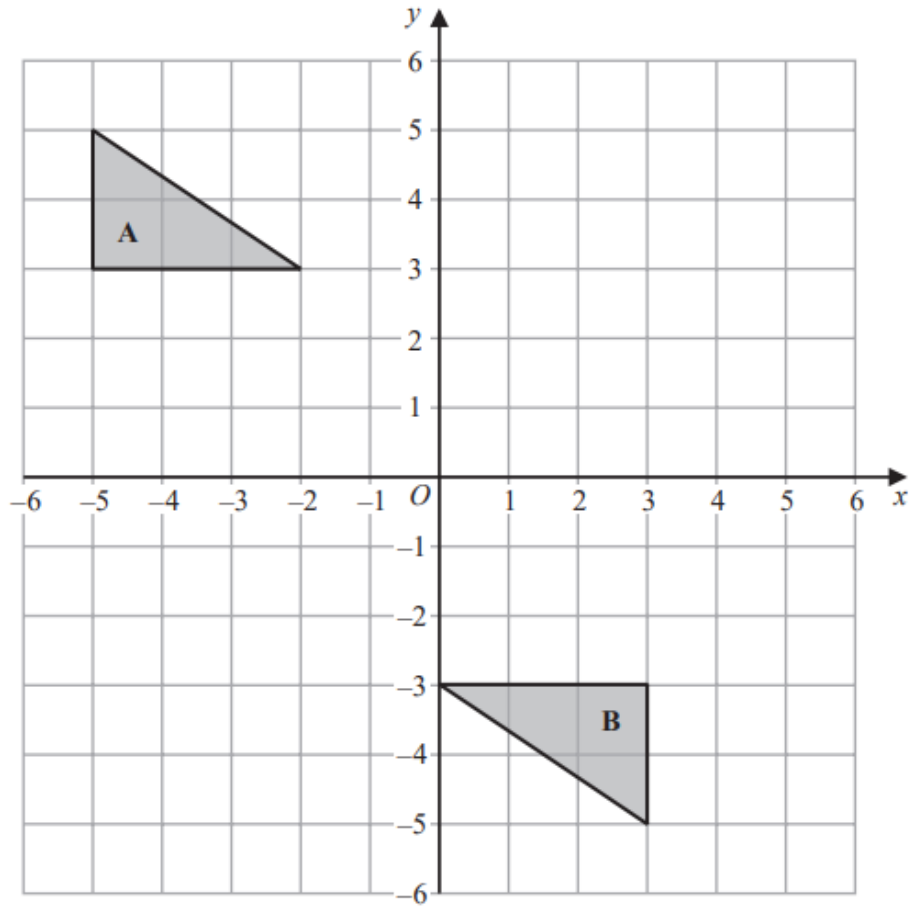


Reflect the shaded shape in the mirror line.

(Total for Question 11 is 2 marks)

2.

18



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

.....

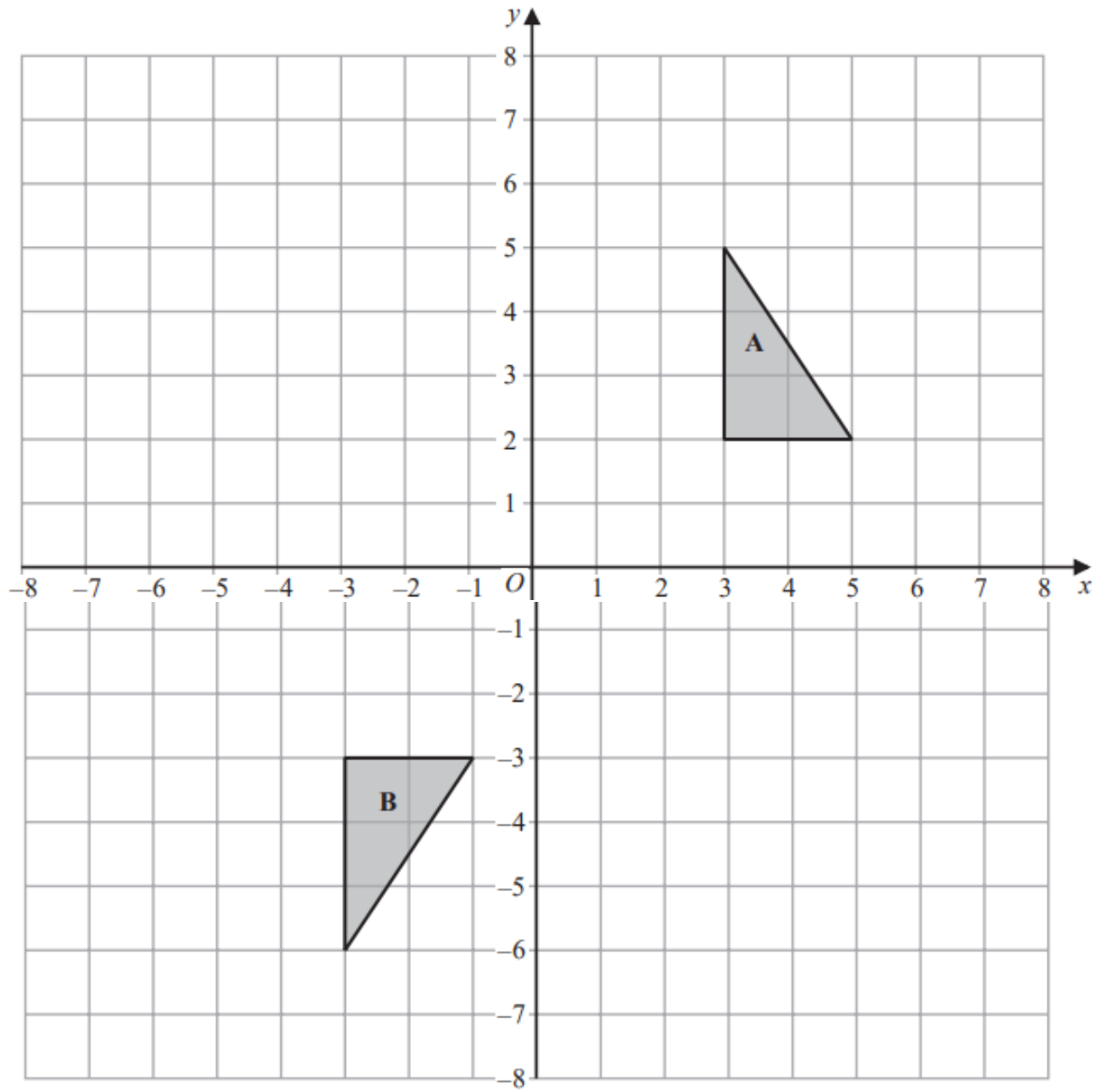
.....

.....

(Total for Question 18 is 2 marks)

3.

26



Shape **A** can be transformed to shape **B** by a reflection in the x -axis followed by a translation $\begin{pmatrix} c \\ d \end{pmatrix}$

Find the value of c and the value of d .

$c = \dots\dots\dots$

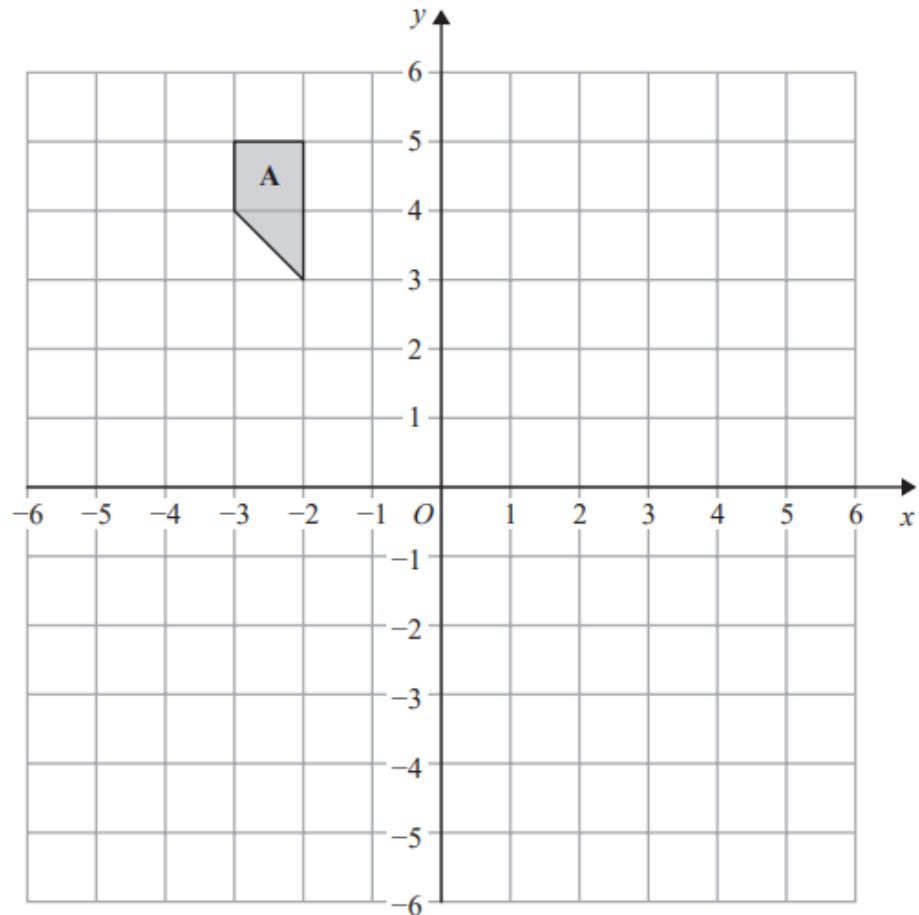
$d = \dots\dots\dots$

(Total for Question 26 is 3 marks)

Pearson Edexcel - Tuesday 6 November 2018 - Paper 1 (Non-Calculator) Foundation Tier

4.

19



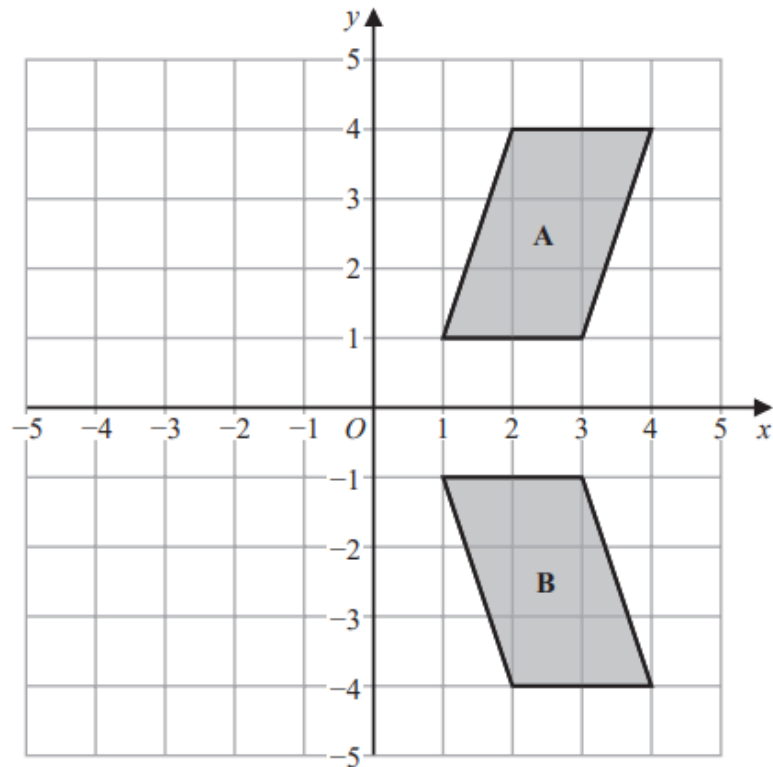
Rotate shape A 180° about $(1, 0)$

(Total for Question 19 is 2 marks)

Pearson Edexcel - Thursday 8 November 2018 - Paper 2 (Calculator) Foundation Tier

5.

16

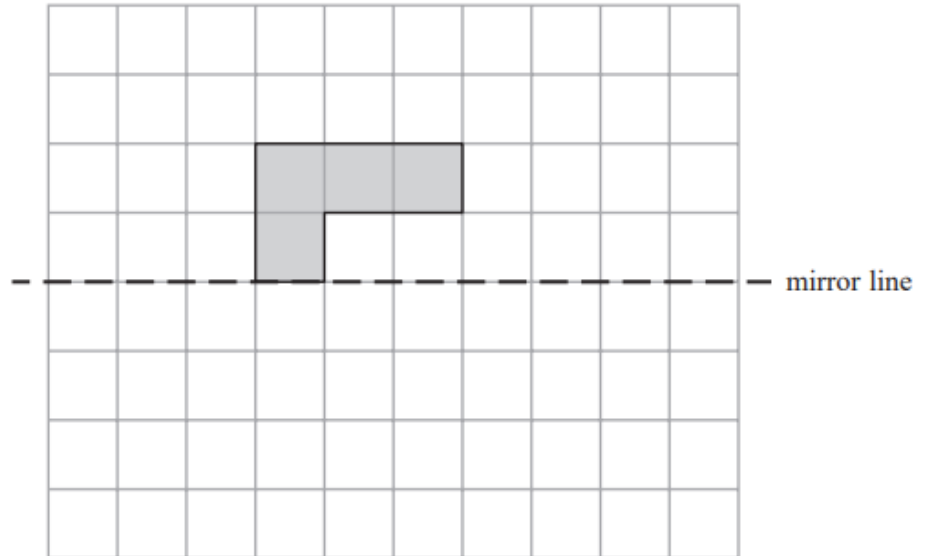


Describe fully the single transformation that maps shape A onto shape B.

(Total for Question 16 is 2 marks)

6.

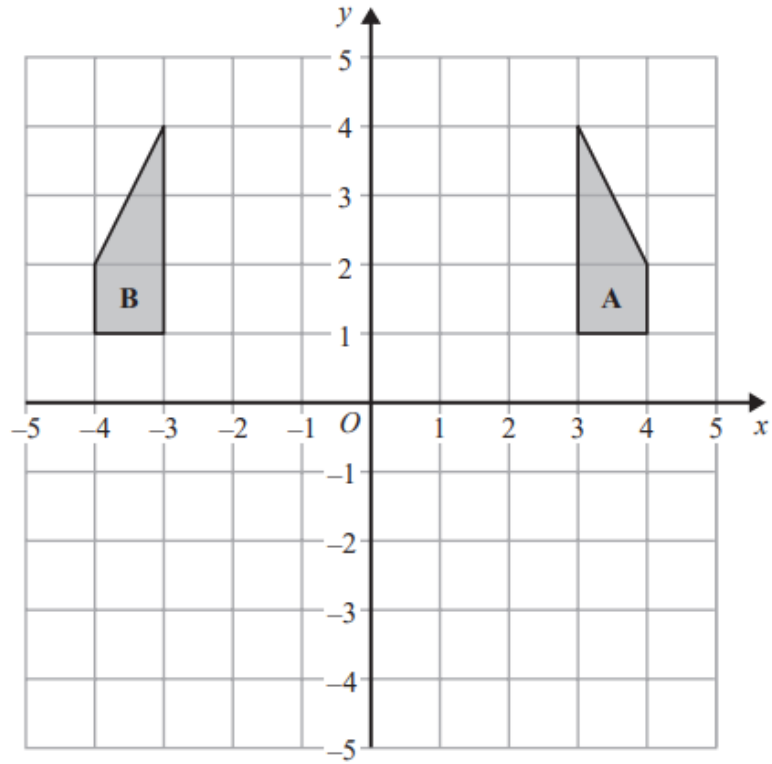
10 On the grid, reflect the shaded shape in the mirror line.



(Total for Question 10 is 1 mark)

7.

18



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

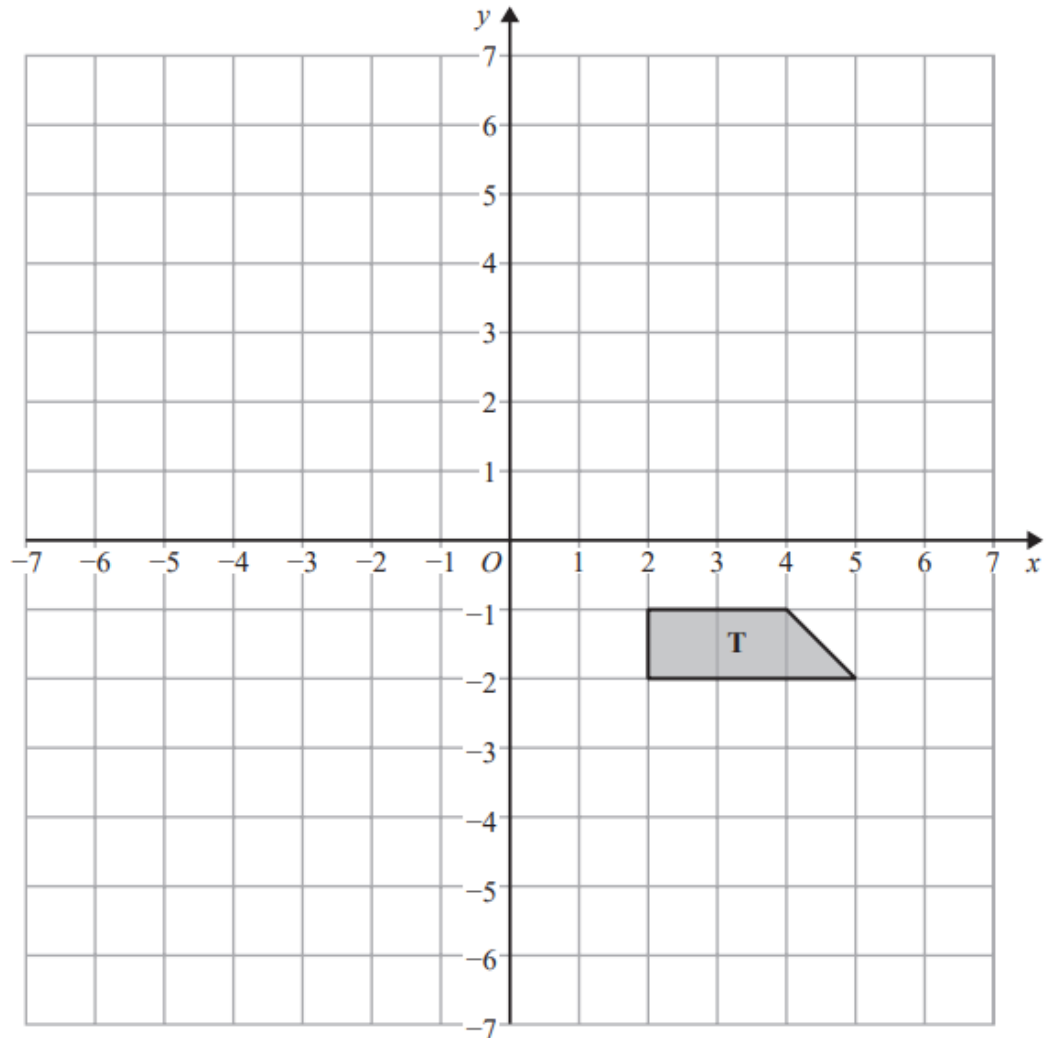
.....

.....

(Total for Question 18 is 2 marks)

8.

20



- (a) Rotate trapezium **T** 180° about the origin.
Label the new trapezium **A**.

(1)

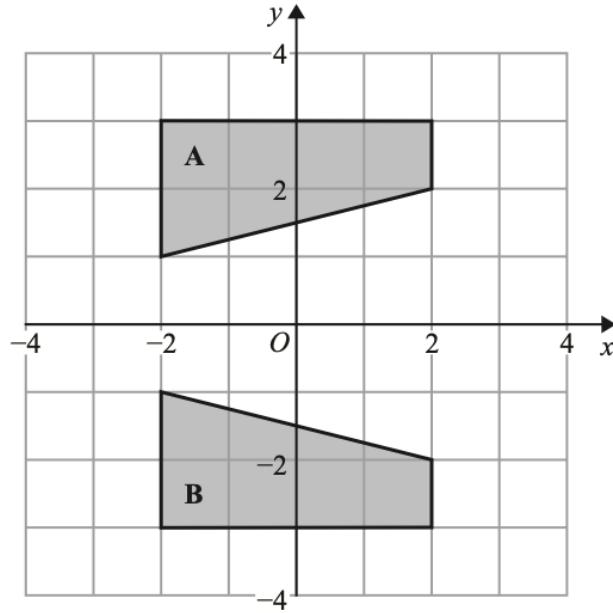
- (b) Translate trapezium **T** by the vector $\begin{pmatrix} -1 \\ -3 \end{pmatrix}$.
Label the new trapezium **B**.

(1)

(Total for Question 20 is 2 marks)

9.

14

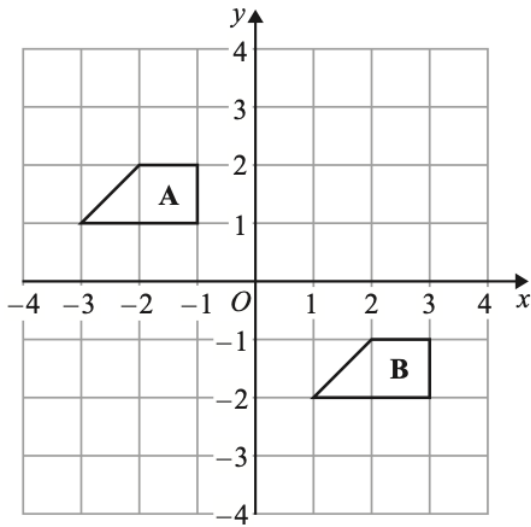


Describe fully the single transformation that maps shape A onto shape B.

(Total for Question 14 is 2 marks)

10.

22



Describe the single transformation that maps shape A onto shape B.

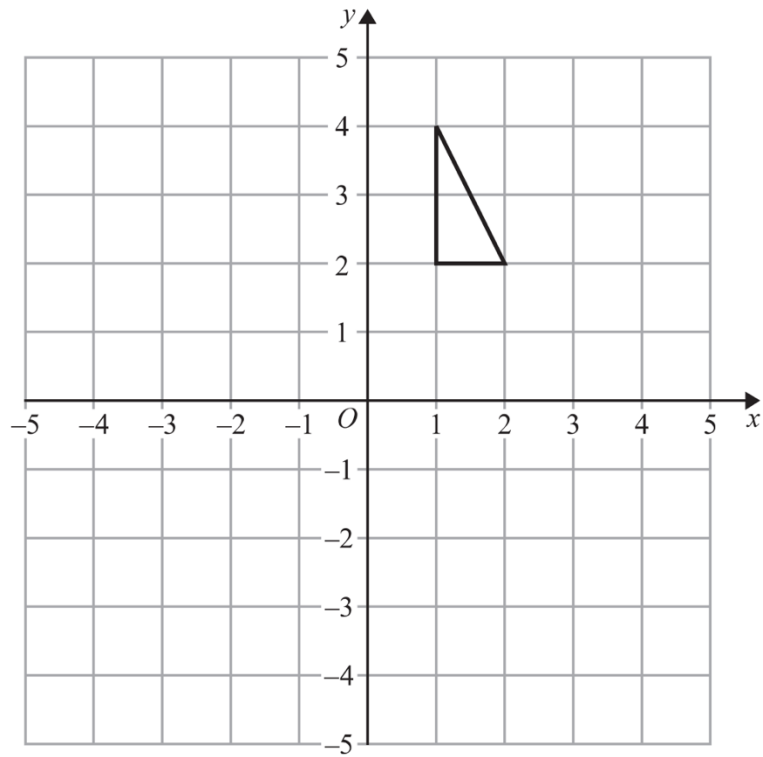
.....

.....

(Total for Question 22 is 2 marks)

11.

17

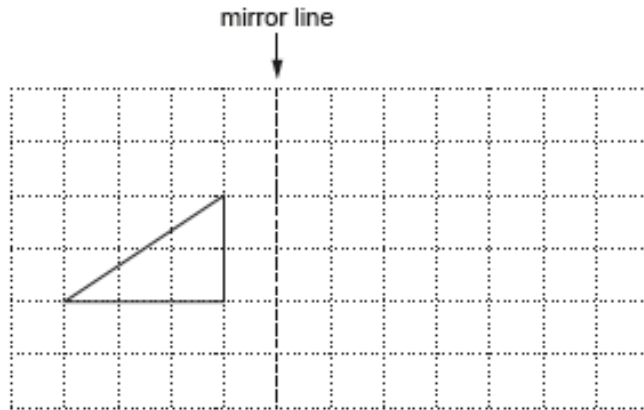


On the grid, rotate the triangle 90° clockwise about $(0, 0)$.

(Total for Question 17 is 2 marks)

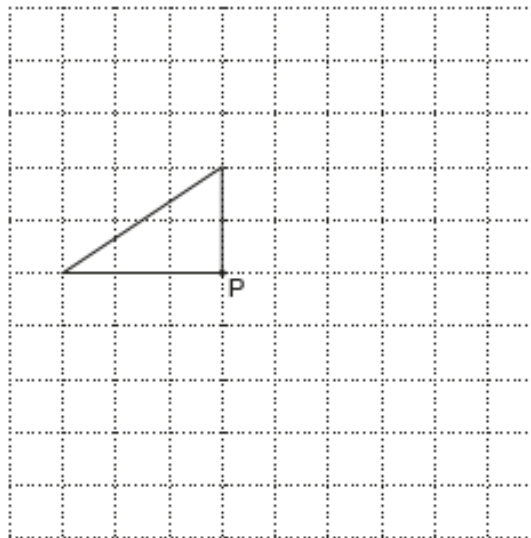
12.

- 2 (a) Reflect the triangle in the mirror line.



[2]

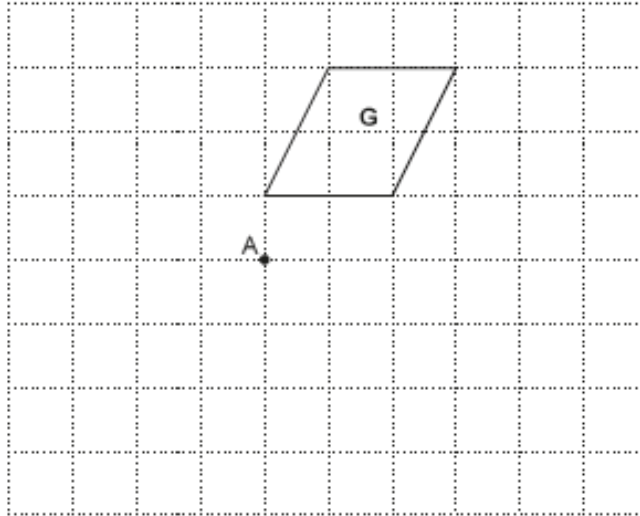
- (b) Rotate the triangle 90° clockwise about the point P.



[2]

13.

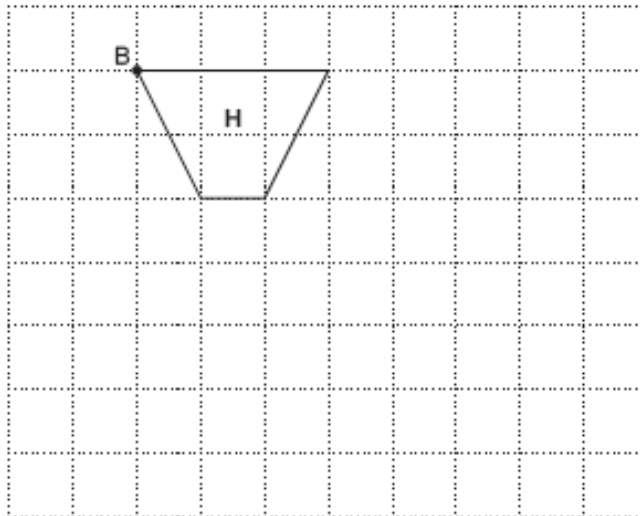
- 8 (a) Shape G is drawn on the grid.



Rotate shape G by 180° about the point A.

[2]

- (b) Shape H is drawn on the grid.



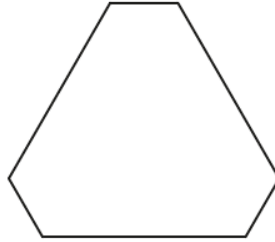
Enlarge shape H with scale factor 2 and the centre of enlargement at point B.

[2]

OCR Tuesday 21 May 2019 – Morning (Calculator) Foundation Tier

14.

1 (a) Write down the mathematical name of this polygon.



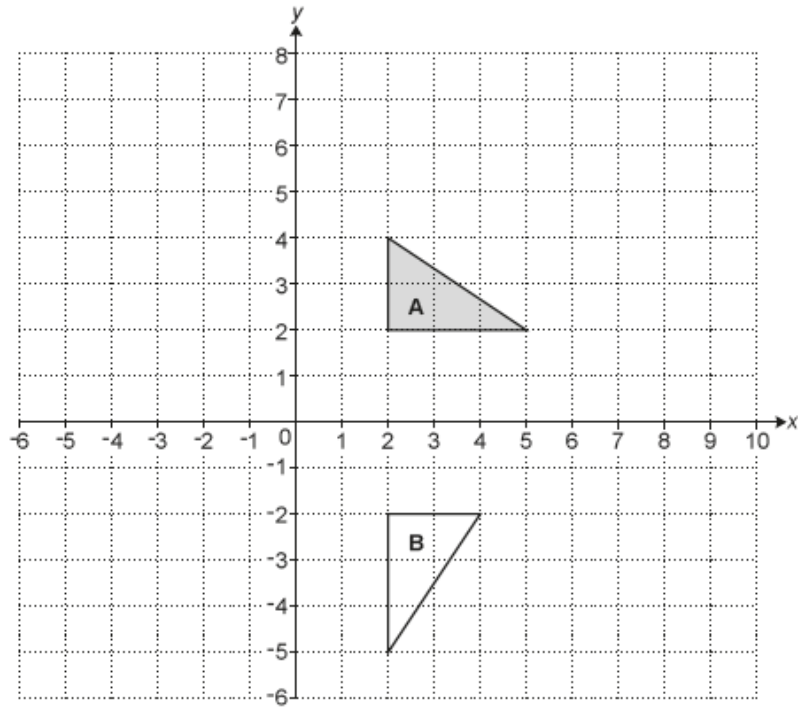
(a) [1]

(b) Write down the order of rotation symmetry of the polygon.

(b) [1]

15.

11 Triangles **A** and **B** are drawn on the coordinate grid.



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

.....
..... [3]

(b) (i) On the grid, reflect triangle **A** in the line $x = 0$.

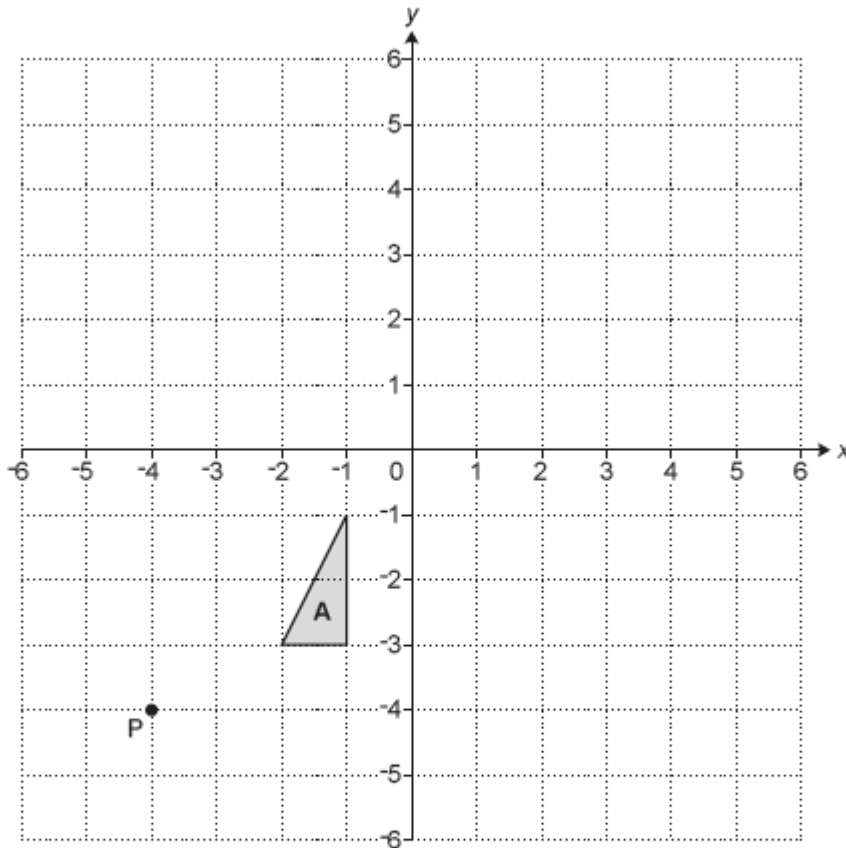
Label the image **C**. [2]

(ii) On the grid, translate triangle **A** by vector $\begin{pmatrix} -5 \\ -4 \end{pmatrix}$.

Label the image **D**. [2]

16.

14 Triangle A is drawn on the grid below.



(a) Enlarge triangle A with scale factor 3 from the centre of enlargement P.
Label the image B.

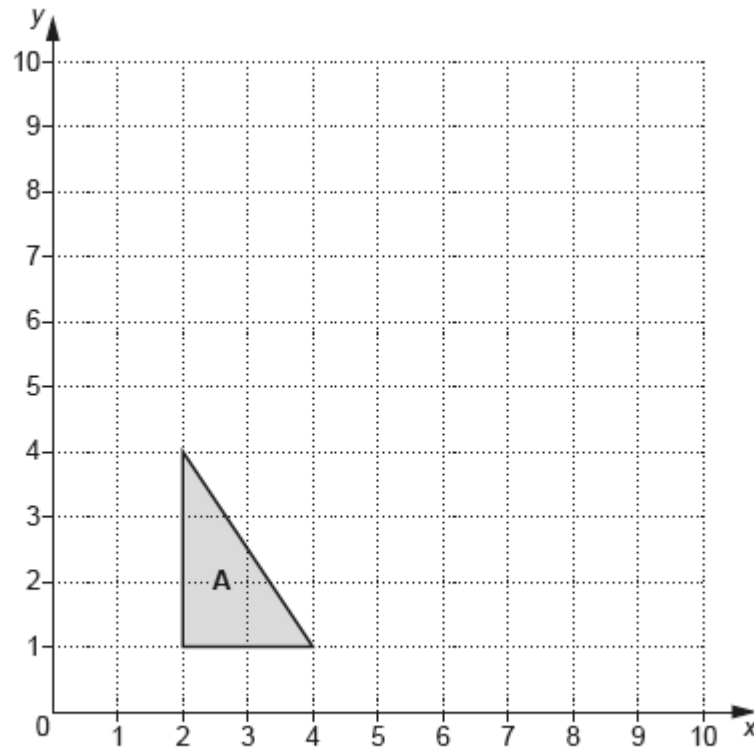
[3]

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

.....
..... [3]

17.

10 Triangle A is drawn on the grid below.

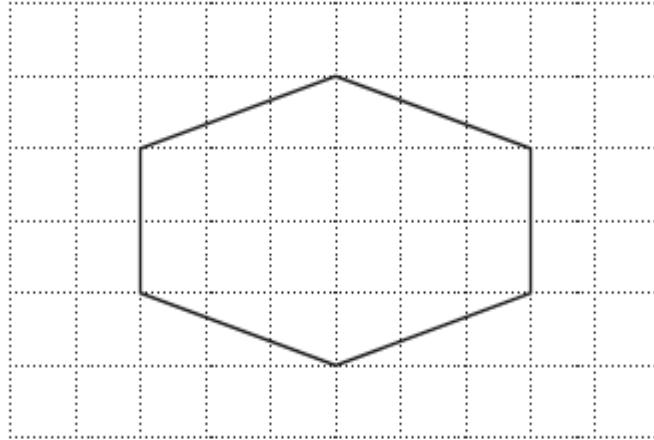


Enlarge triangle A with scale factor 2 and centre of enlargement (0, 0).

[3]

18.

1 Here is a hexagon.



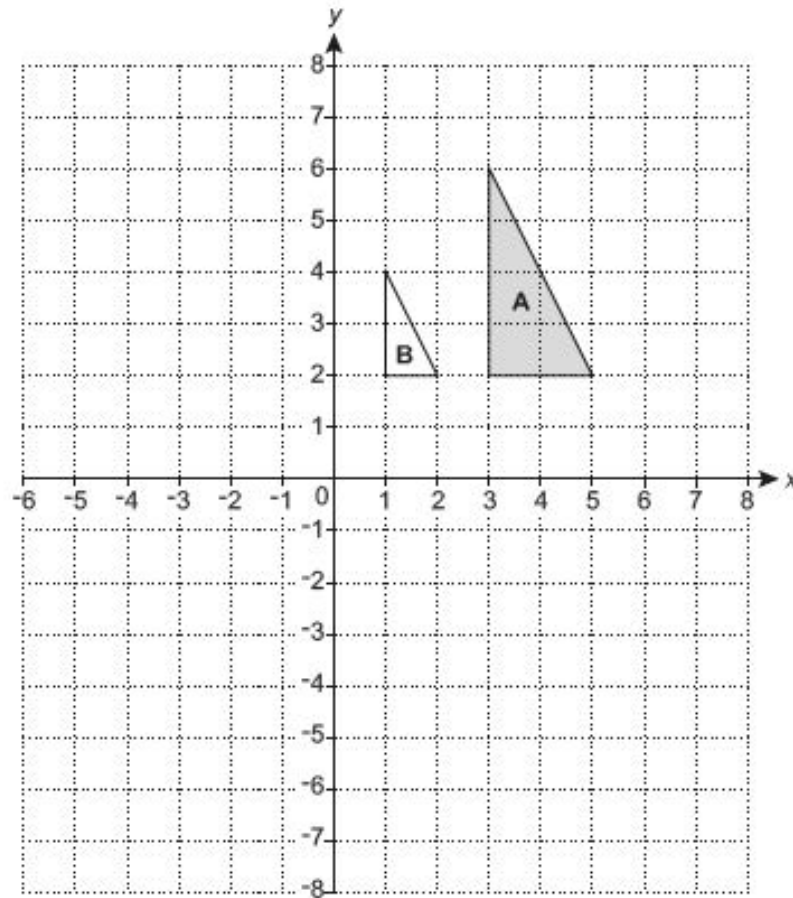
(a) On the diagram, draw the hexagon's two lines of symmetry. [1]

(b) Write down the order of rotation symmetry of the hexagon.

(b) [1]

19.

19 Triangle A and triangle B are drawn on the coordinate grid.



(a) (i) Draw the image of triangle A after a rotation of 180° about $(0, 0)$. [2]

(ii) Draw the image of triangle A after a translation by the vector $\begin{pmatrix} 2 \\ -7 \end{pmatrix}$. [2]

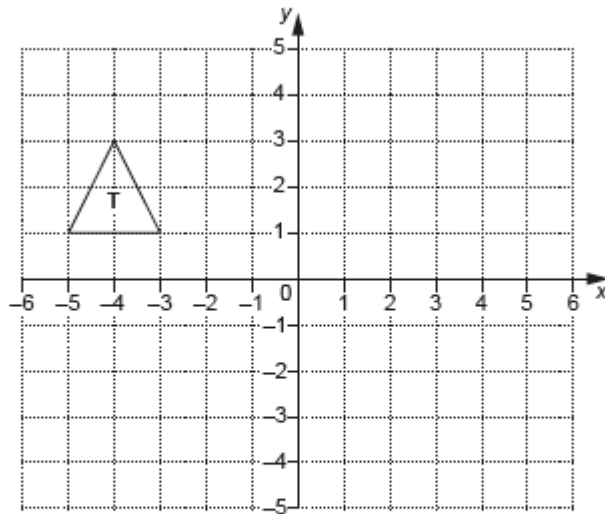
(b) Describe fully the **single** transformation that maps triangle A onto triangle B.

.....
..... [3]

OCR Monday 24 May 2018 – Morning (Calculator) Foundation Tier

20.

8 Triangle **T** is drawn on a coordinate grid.



(a) Rotate triangle **T** through 180° about $(0, 0)$.
Label your image **A**.

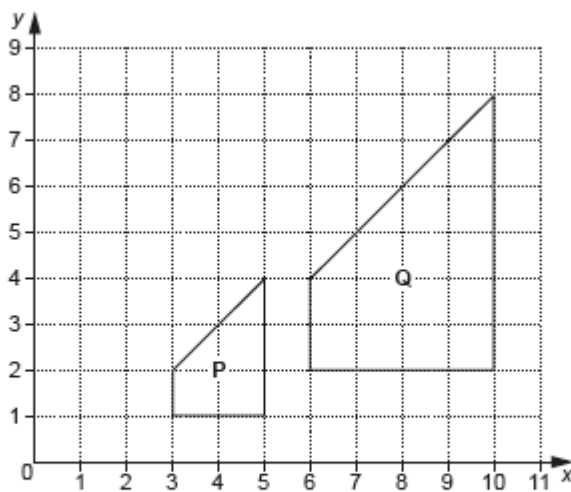
[2]

(b) Reflect triangle **T** in the line $x = -1$.
Label your image **B**.

[2]

21.

9 Two shapes are drawn on the grid below.

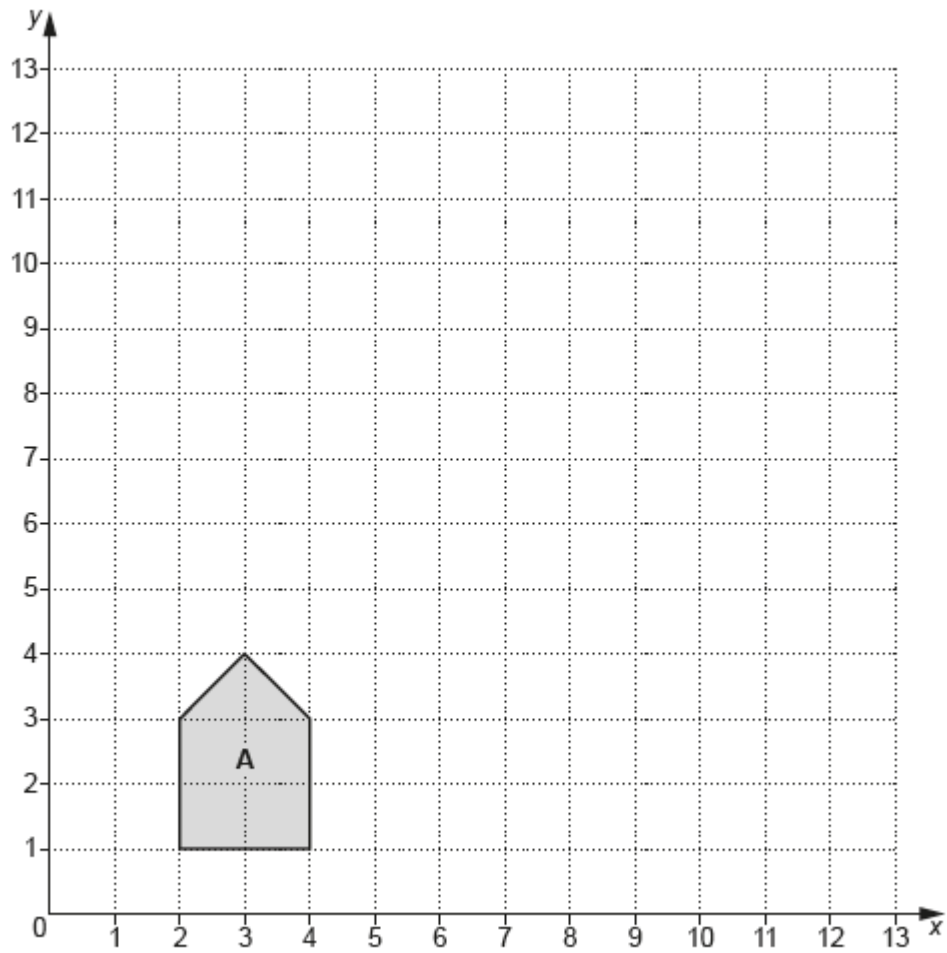


Describe fully the **single** transformation which maps shape **P** onto shape **Q**.

.....
..... [3]

22.

9 Shape A is drawn on the grid below.

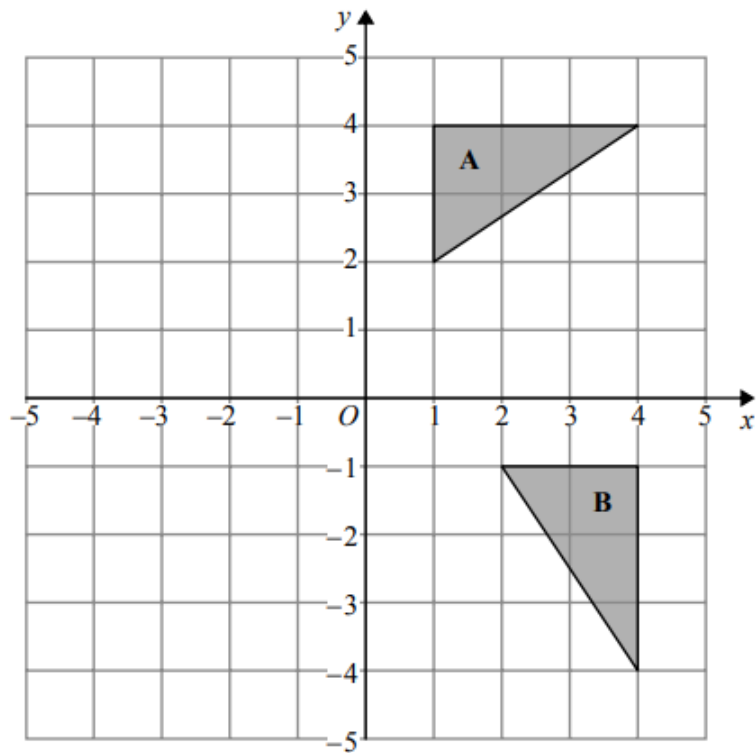


Enlarge shape A with scale factor 3 and centre of enlargement (0, 0).

[3]

23.

29



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

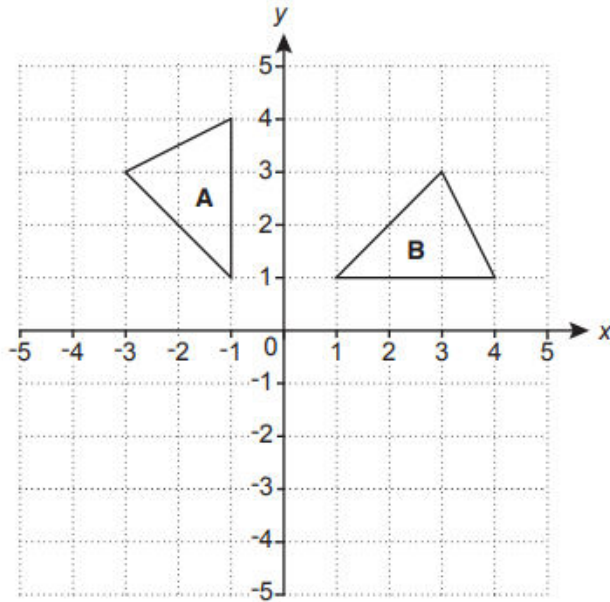
.....

.....

(Total for Question 29 is 2 marks)

24.

14 Triangle **A** and triangle **B** are drawn on the coordinate grid.



(a) Translate triangle **A** by vector $\begin{pmatrix} 3 \\ -5 \end{pmatrix}$. [2]

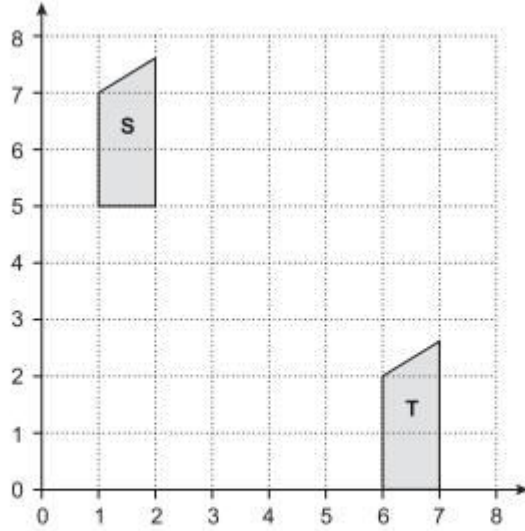
(b) Describe fully the **single** transformation that maps triangle **A** onto triangle **B**.

.....
..... [3]

OCR Sample Question Paper 2 – Morning/Afternoon (Non - Calculator) Foundation Tier

25.

14 (a) Here is a coordinate grid.



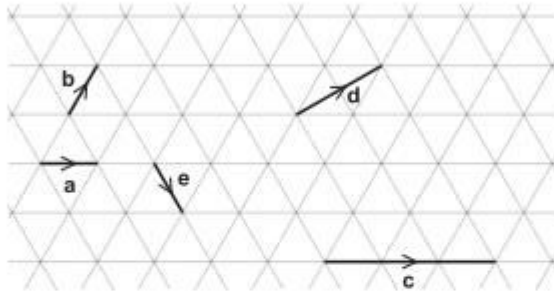
Shape S is translated to Shape T using vector $\begin{pmatrix} p \\ q \end{pmatrix}$.

Write down the values of p and q .

(a) $p = \dots\dots\dots$

$q = \dots\dots\dots$ [2]

(b) Vectors **a**, **b**, **c**, **d** and **e** are drawn on an isometric grid.



Write each of the vectors **c**, **d** and **e** in terms of **a** and/or **b**.

c =

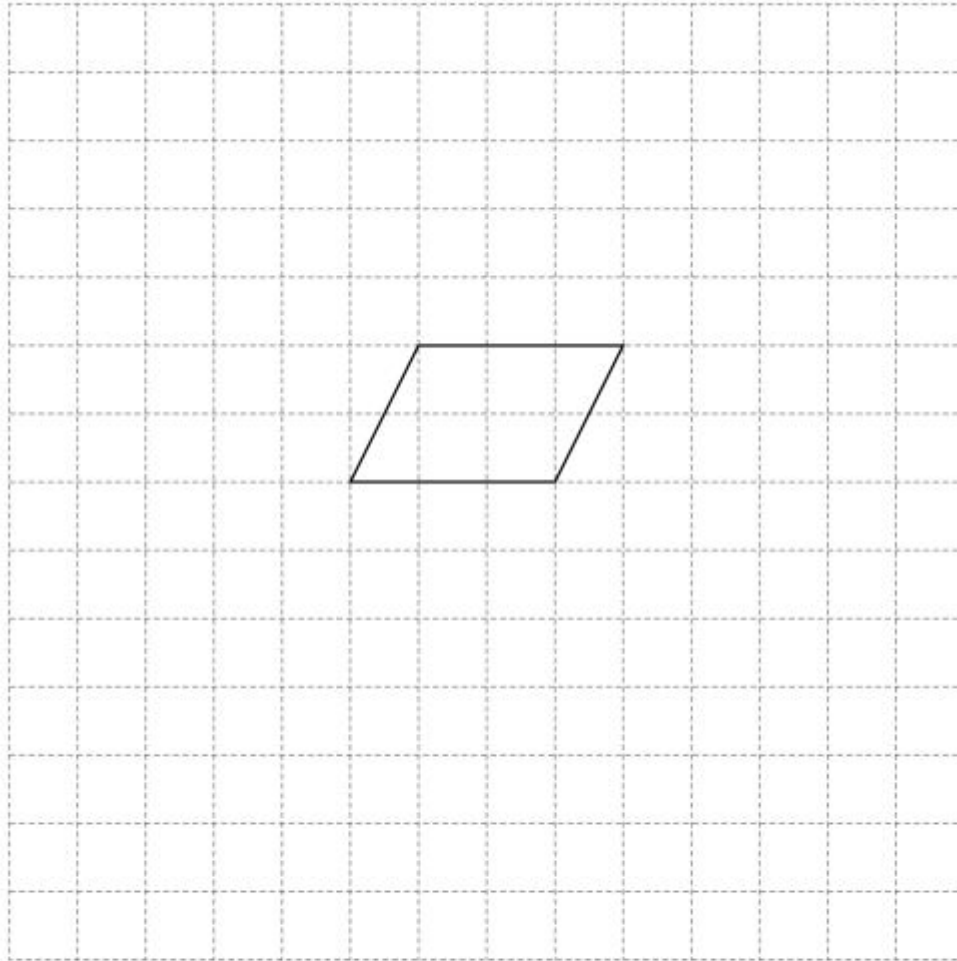
d =

e =

[3]

26.

13 Here is a parallelogram.



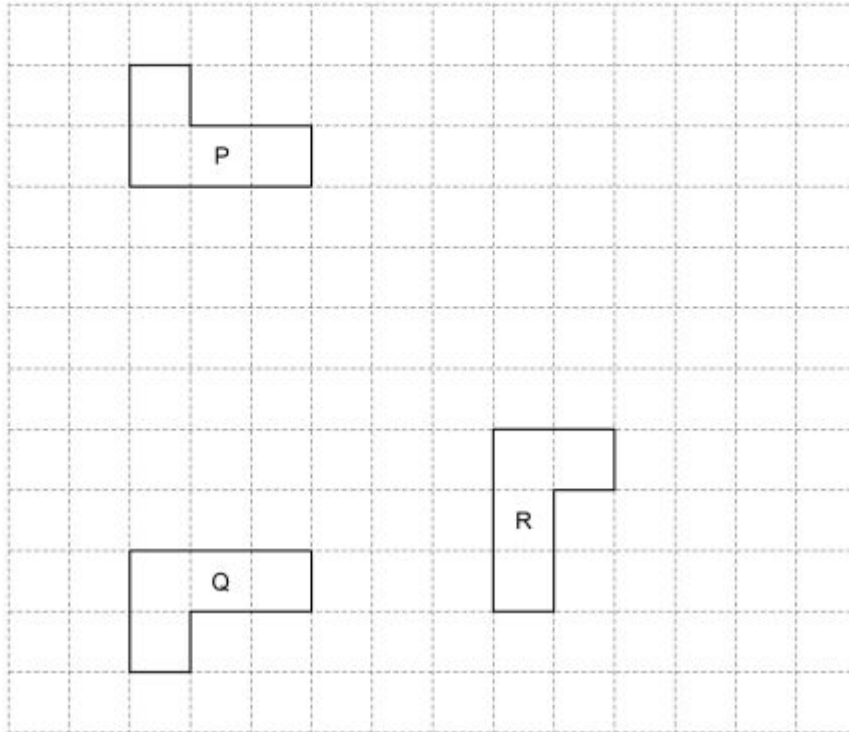
The parallelogram is translated 4 squares to the left and 3 squares up.

Draw the translated parallelogram.

[2 marks]

27.

17 Here are shapes P, Q and R.



17 (a) P is mapped to Q by a single transformation.

Circle the type of transformation.

[1 mark]

rotation reflection translation enlargement

17 (b) P is mapped to R by a single transformation.

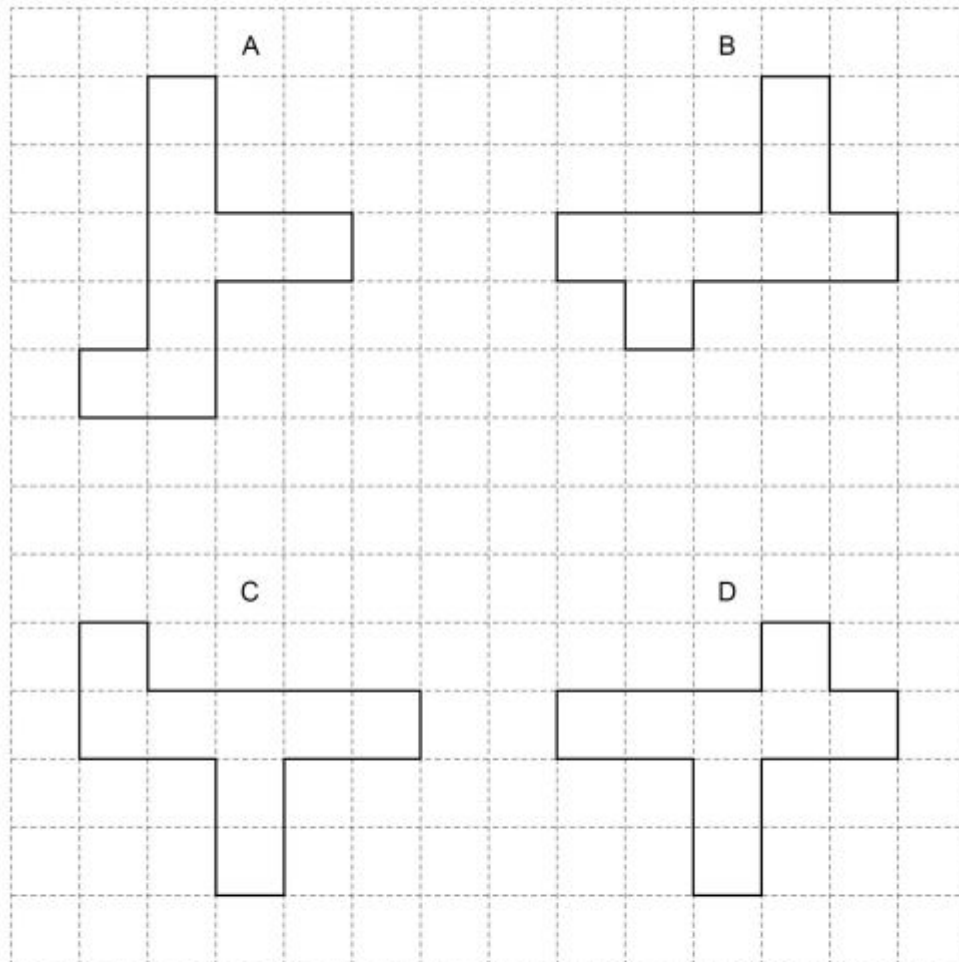
Circle the type of transformation.

[1 mark]

rotation reflection translation enlargement

28.

4 Shapes A, B, C and D are on a square grid.



Which two shapes are congruent?

Circle your answer.

[1 mark]

A and C

B and A

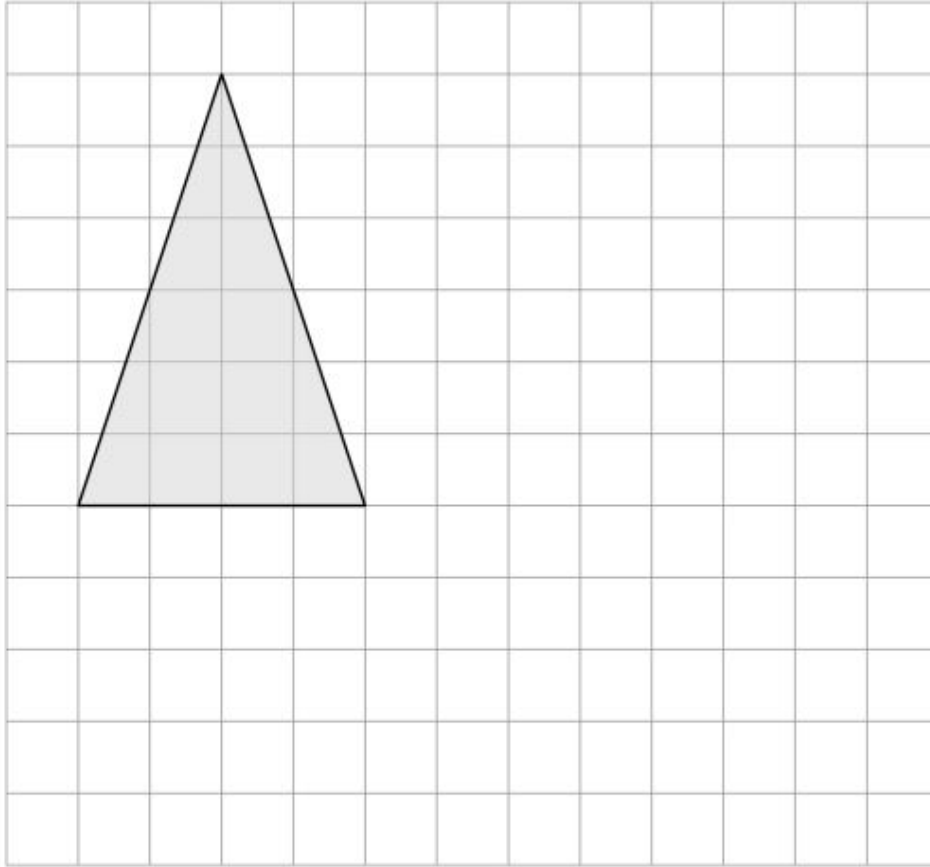
C and D

D and B

29.

18 On the grid, draw an enlargement of the triangle with scale factor $\frac{1}{2}$

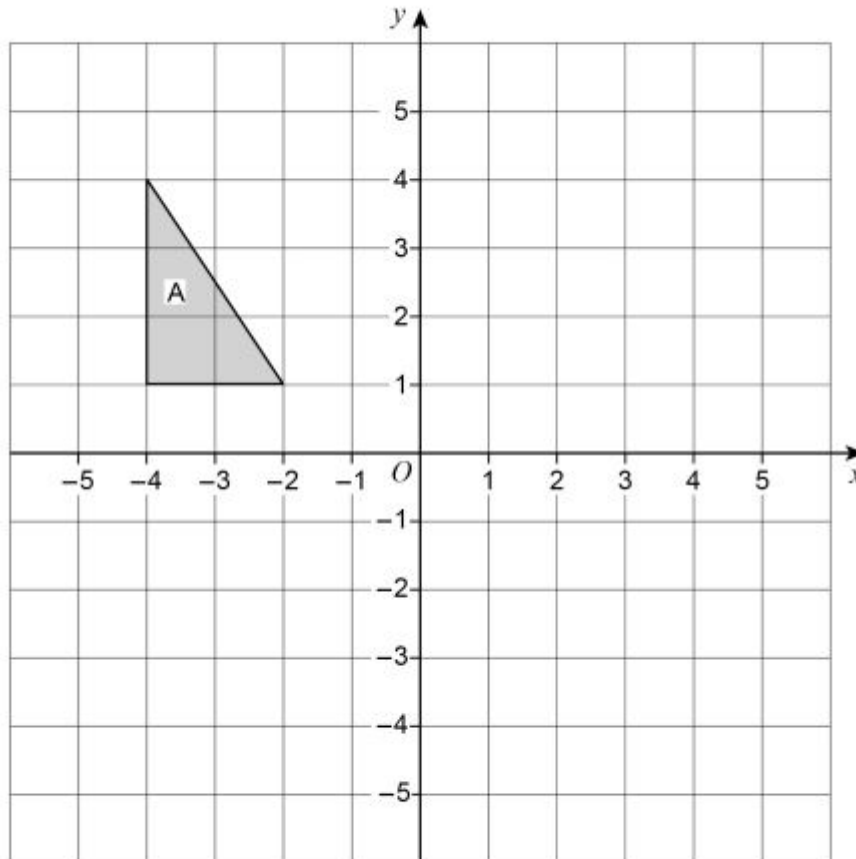
[2 marks]



30.

12 Reflect shape A in the x -axis.

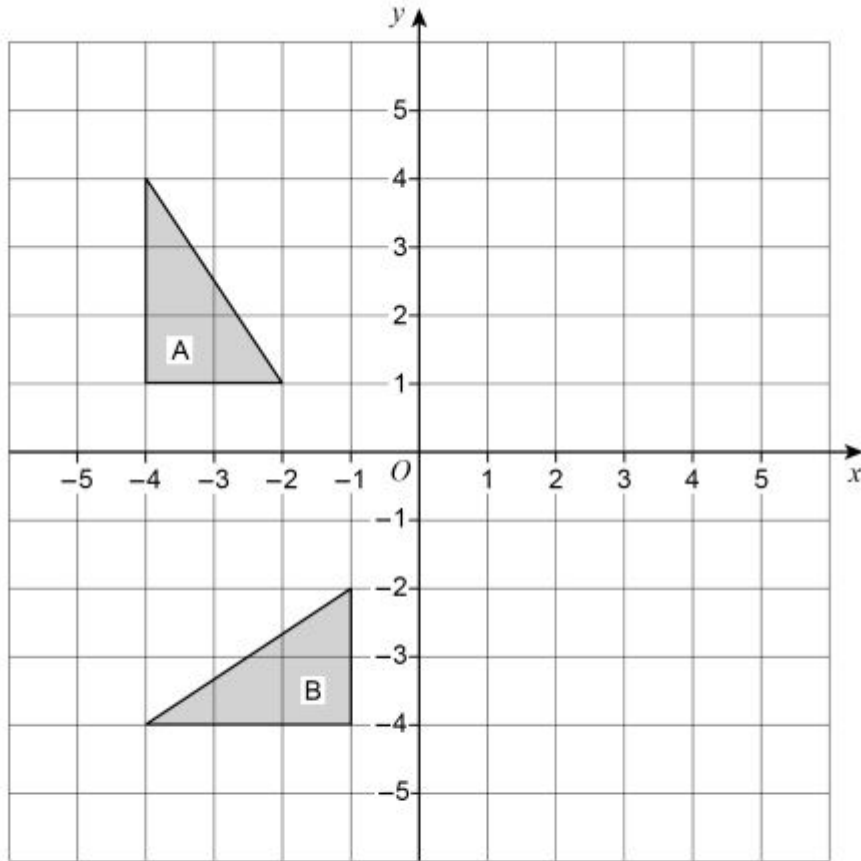
[2 marks]



31.

15 Describe fully the **single** transformation that maps shape A to shape B.

[3 marks]



AQA Monday 12 November 2018 – Morning (Calculator) Foundation Tier

32.

20 A shape is translated by the vector $\begin{pmatrix} 0 \\ 4 \end{pmatrix}$

In which direction does the shape move?

Circle your answer.

[1 mark]

up

down

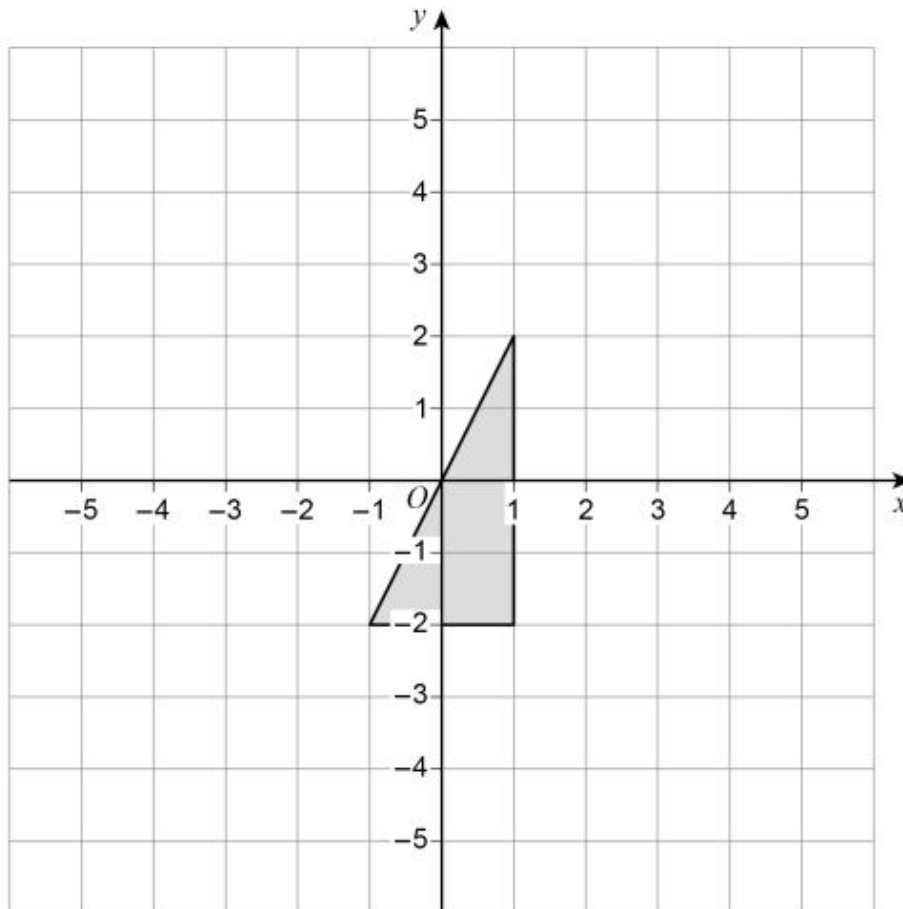
left

right

33.

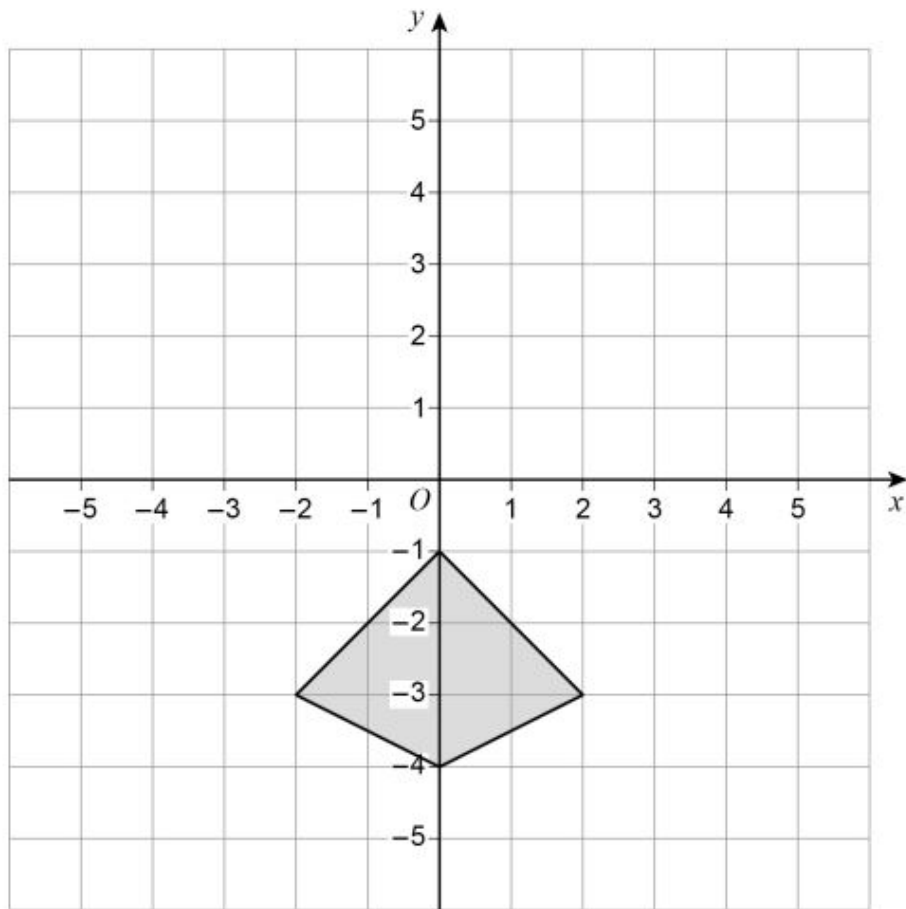
21 (a) Reflect the triangle in the line $x = 2$

[2 marks]



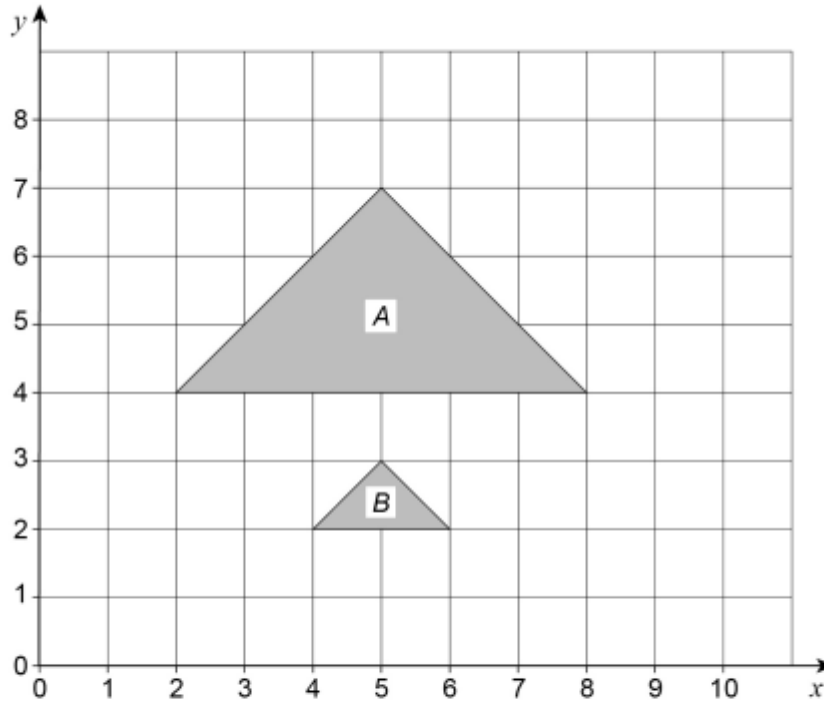
21 (b) Rotate the kite 90° anticlockwise about $(0, 0)$

[2 marks]



34.

24 Describe fully the **single** transformation that maps triangle *A* to triangle *B*.



[3 marks]
