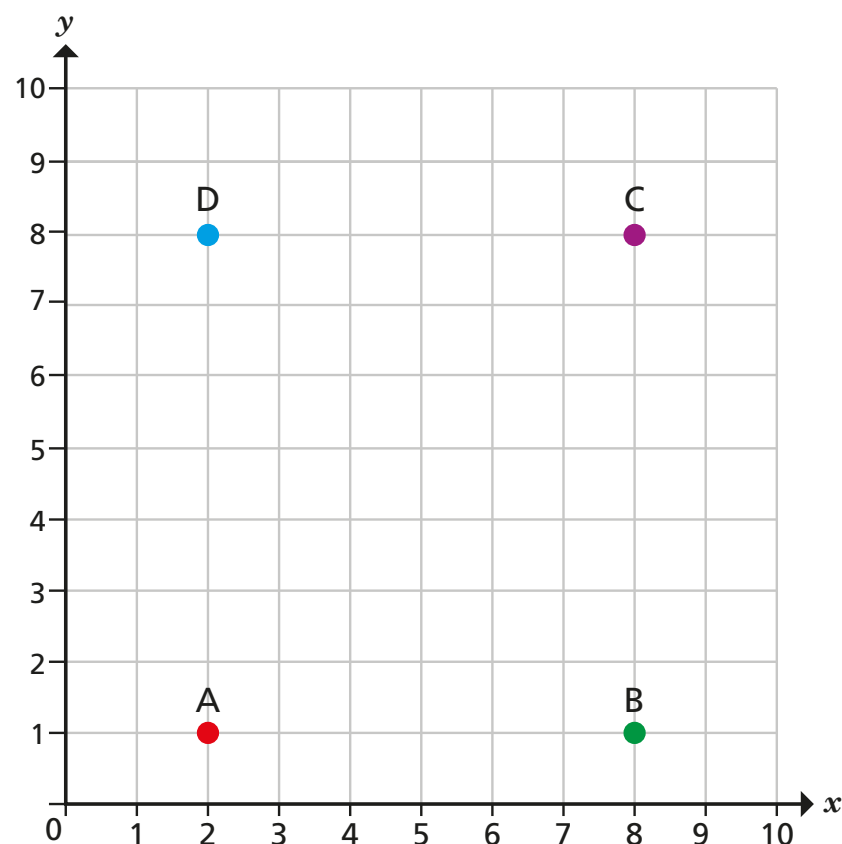


The first quadrant

1



a) Write the coordinates of the points A, B, C and D.

A (,)

C (,)

B (,)

D (,)

b) Draw lines to join the points A to D to form a rectangle.

c) Write the coordinates of 4 different points in each column of the table.

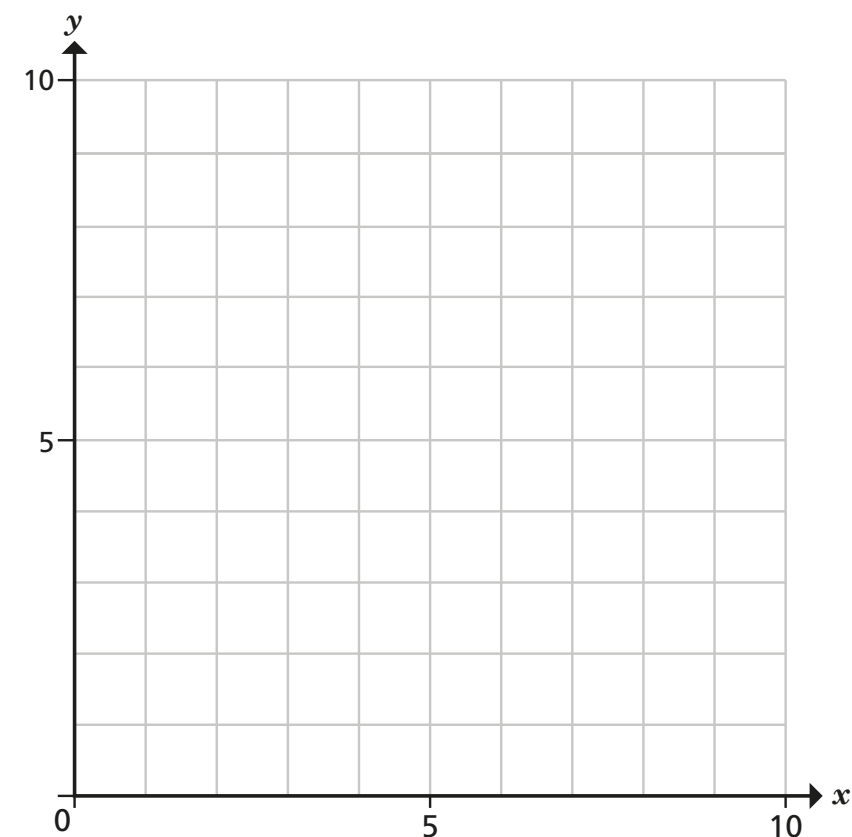
Inside the rectangle	Outside the rectangle	On the perimeter of the rectangle
(5, 3)		

2

Here are coordinates for three vertices of a rectangle.

(3, 6) (7, 3) (7, 6)

a) Plot the coordinates.



b) Write the coordinates of the fourth vertex.

(,)

3

Here are coordinates for two vertices of a square.

(5, 2) (5, 6)

What could the coordinates of the other two vertices be?

Give two possible solutions.

(,) and (,)

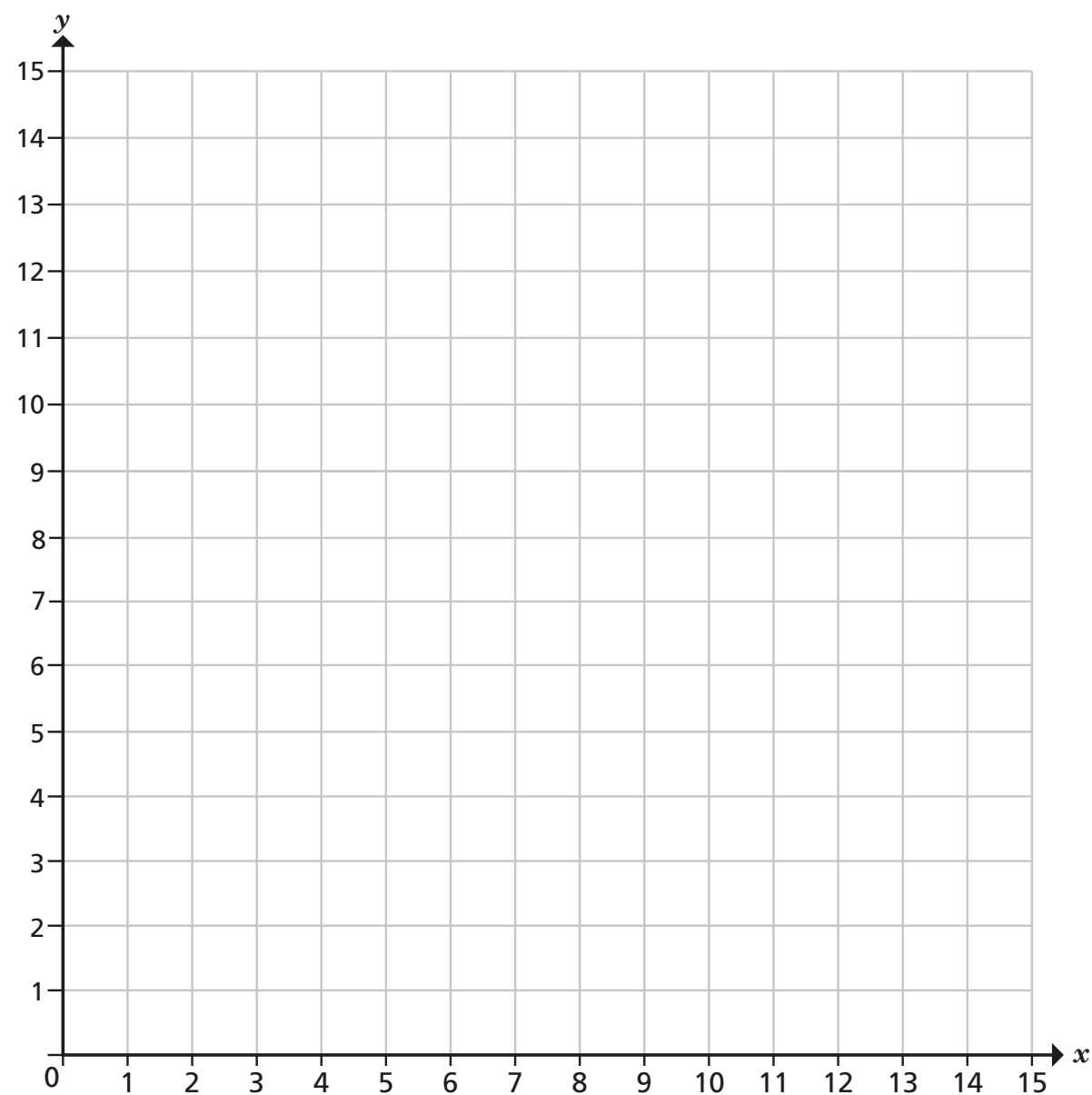
(,) and (,)

- 4
- Write a set of coordinates that would join to make a right-angled triangle.

 - Write a set of coordinates that would join to make a pentagon.

 - Write a set of coordinates that would join to make a trapezium.

 - Plot your points from parts a), b) and c) to check you are correct.

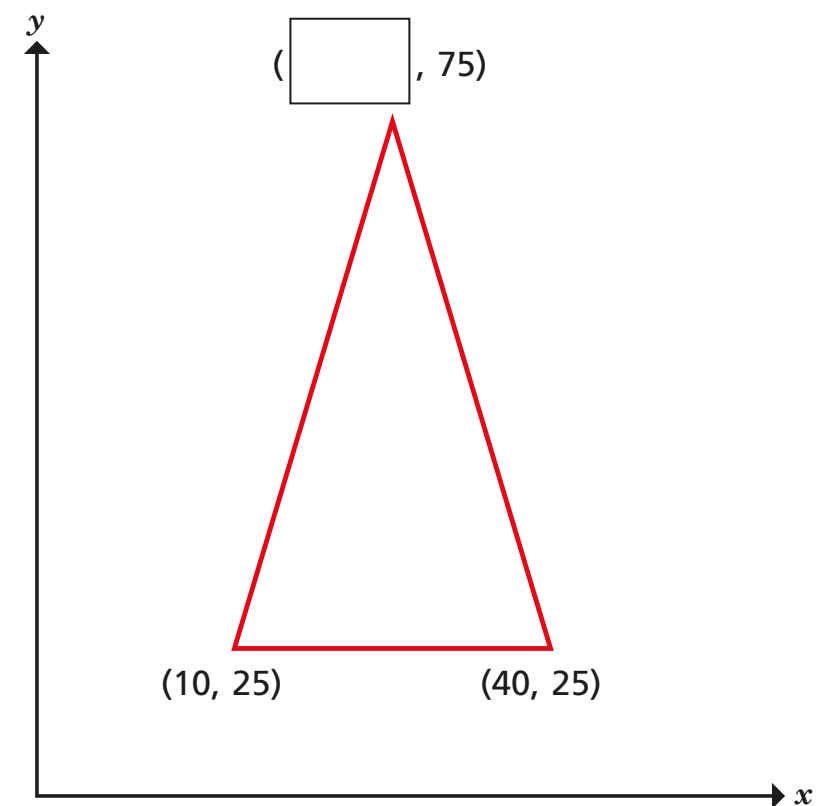


Compare shapes with a partner.

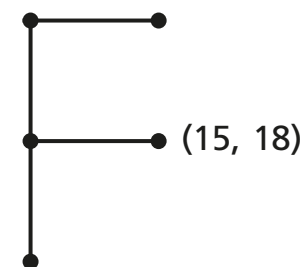
What is the same? What is different?



- 5 Complete the coordinate for the isosceles triangle.



- 6 Eva has drawn an F on a coordinate grid. One point is labelled. Suggest possible values for the other points and label them on the diagram.



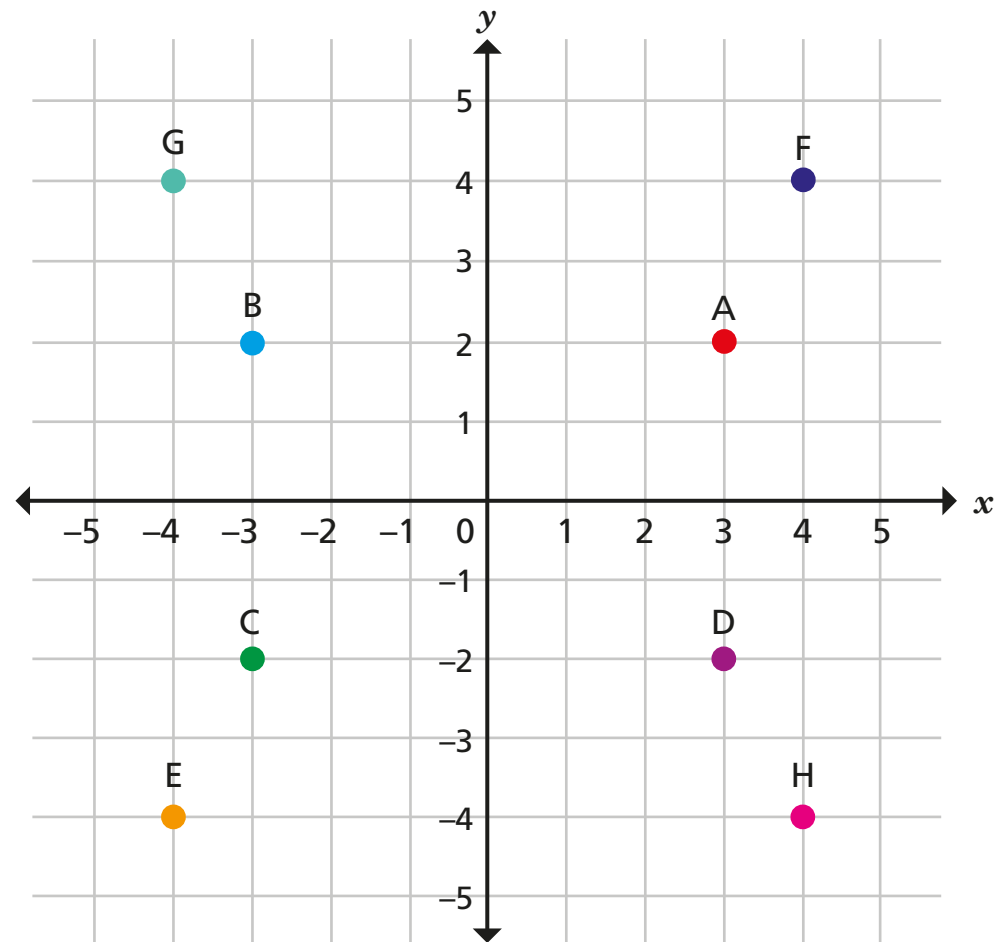
Compare answers with a partner.

Is there more than one possible set of answers?



Four quadrants

1



Write the coordinates of points A to H.

A (,)

E (,)

B (,)

F (,)

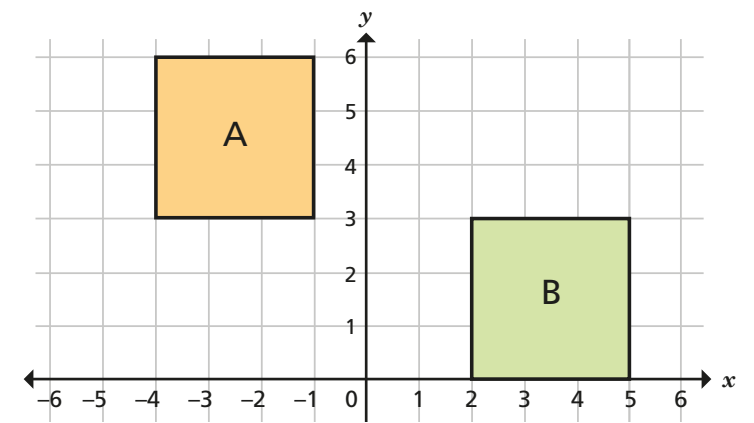
C (,)

G (,)

D (,)

H (,)

2

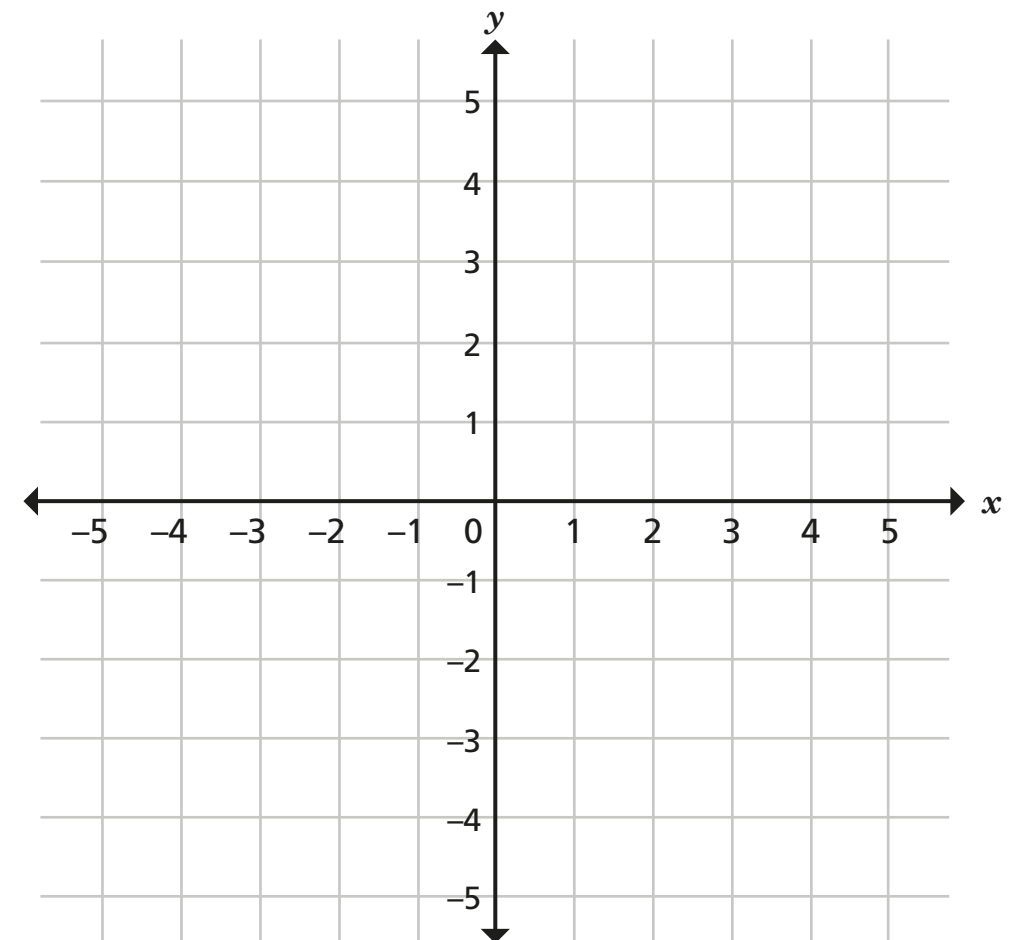


Write the coordinates for each vertex of each square.

square A = _____

square B = _____

3



a) Plot these coordinates.

(-3, 0) (4, 0) (-1, 5) (-1, -5)

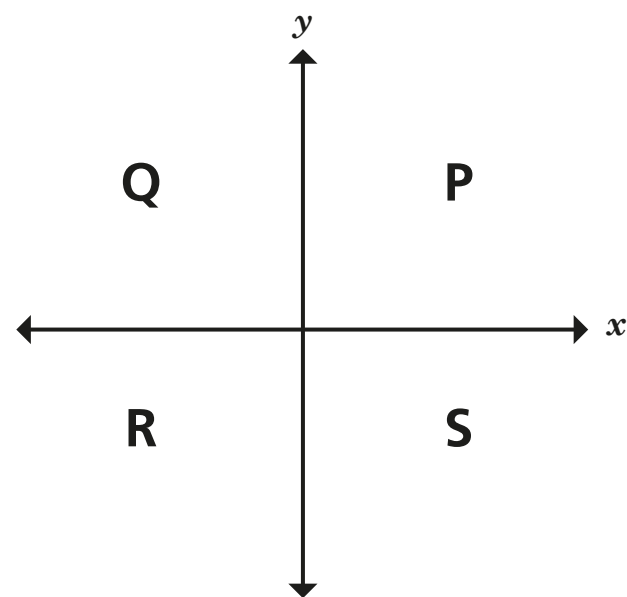
b) Join the points you have plotted to form a quadrilateral.

c) Complete the sentence to describe the shape you have drawn.

This quadrilateral is a _____



4



a) Write coordinates for 4 possible points in each quadrant.

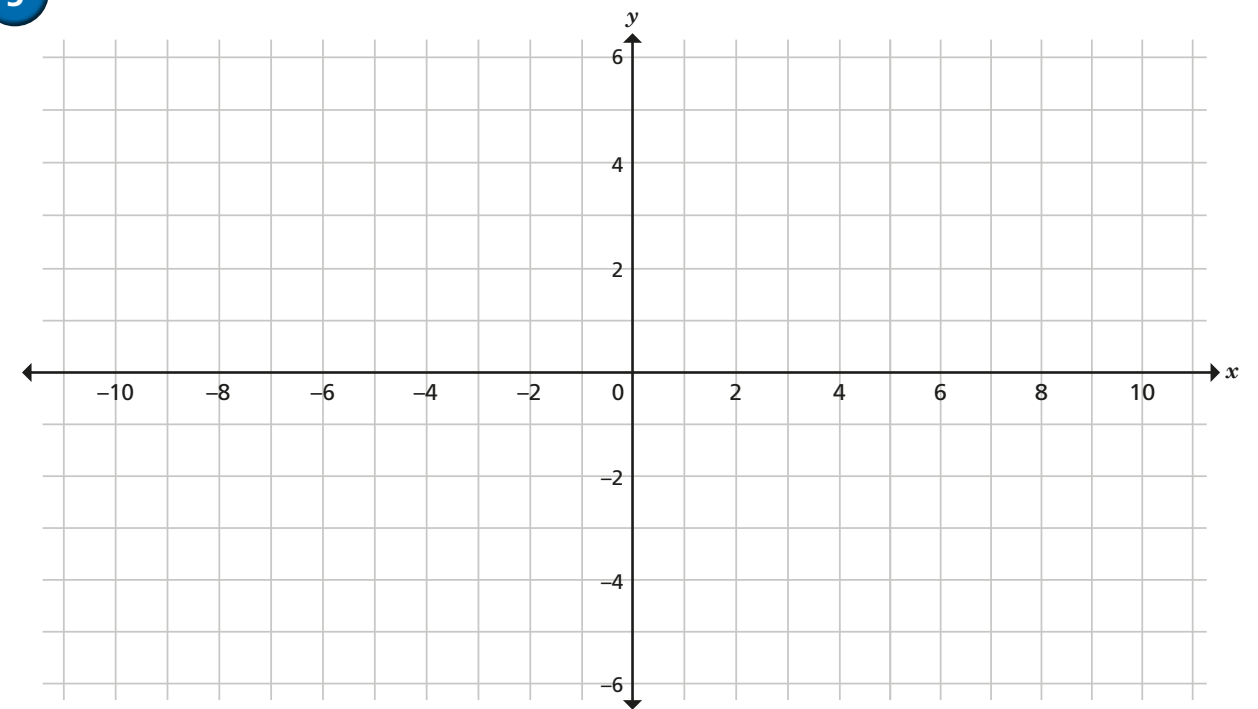
Quadrant P		Quadrant R	
(<input type="text"/> , <input type="text"/>)	(<input type="text"/> , <input type="text"/>)	(<input type="text"/> , <input type="text"/>)	(<input type="text"/> , <input type="text"/>)
(<input type="text"/> , <input type="text"/>)	(<input type="text"/> , <input type="text"/>)	(<input type="text"/> , <input type="text"/>)	(<input type="text"/> , <input type="text"/>)
Quadrant Q		Quadrant S	
(<input type="text"/> , <input type="text"/>)	(<input type="text"/> , <input type="text"/>)	(<input type="text"/> , <input type="text"/>)	(<input type="text"/> , <input type="text"/>)
(<input type="text"/> , <input type="text"/>)	(<input type="text"/> , <input type="text"/>)	(<input type="text"/> , <input type="text"/>)	(<input type="text"/> , <input type="text"/>)

b) Write 4 different coordinates that are not in any single quadrant.

(<input type="text"/> , <input type="text"/>)	(<input type="text"/> , <input type="text"/>)
(<input type="text"/> , <input type="text"/>)	(<input type="text"/> , <input type="text"/>)

What do you notice?

5



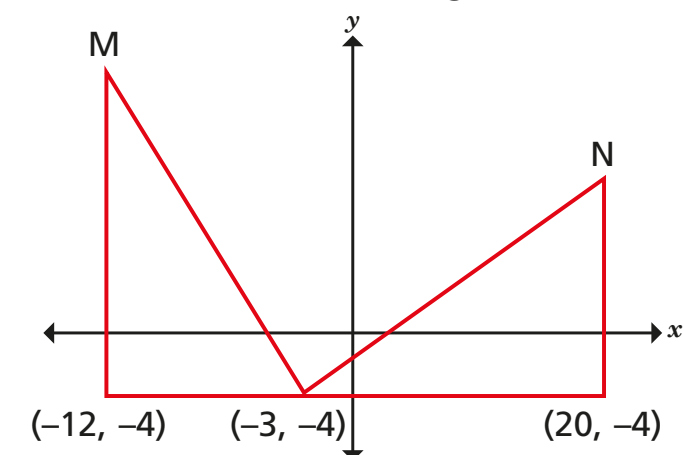
a) Plot these coordinates.

$(-8, 4)$ $(4, -2)$ $(10, -5)$ $(-4, 2)$ $(-6, 3)$

b) Write three other coordinates that would be in the same line.

6

The diagram shows two identical triangles.

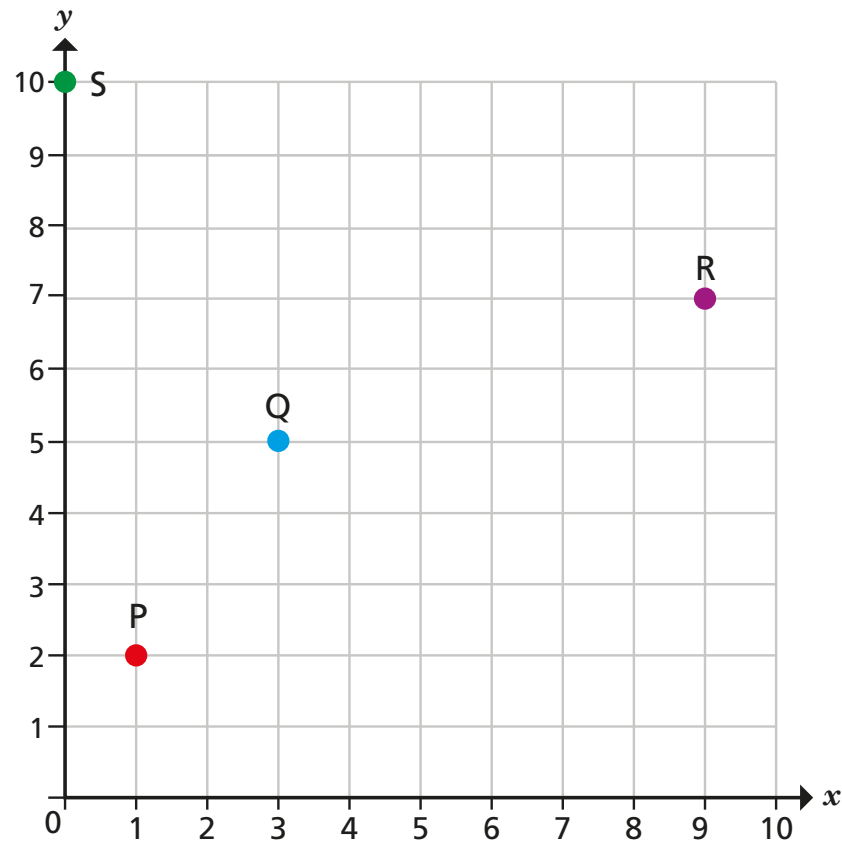


Write the coordinates of points M and N.

M (,) N (,)

Translations

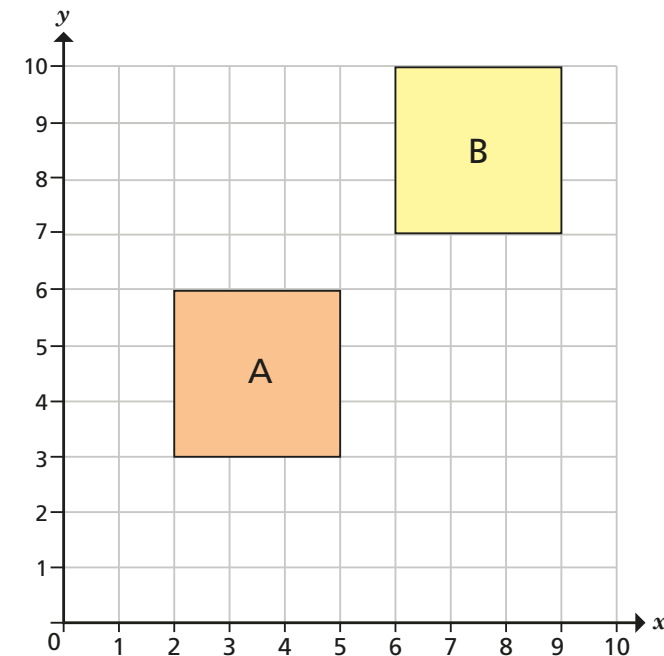
1



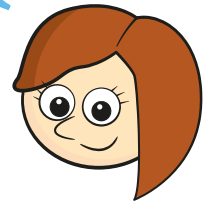
Describe the translations.

- a) From P to Q is right and up
- b) From Q to R is right and up
- c) From R to S is left and up
- d) From S to P is _____ and _____
- e) From Q to P is _____ and _____
- f) From R to Q is _____ and _____
- g) From S to R is _____ and _____
- h) From P to S is _____ and _____

2



The translation
from A to B is
1 right and 1 up.

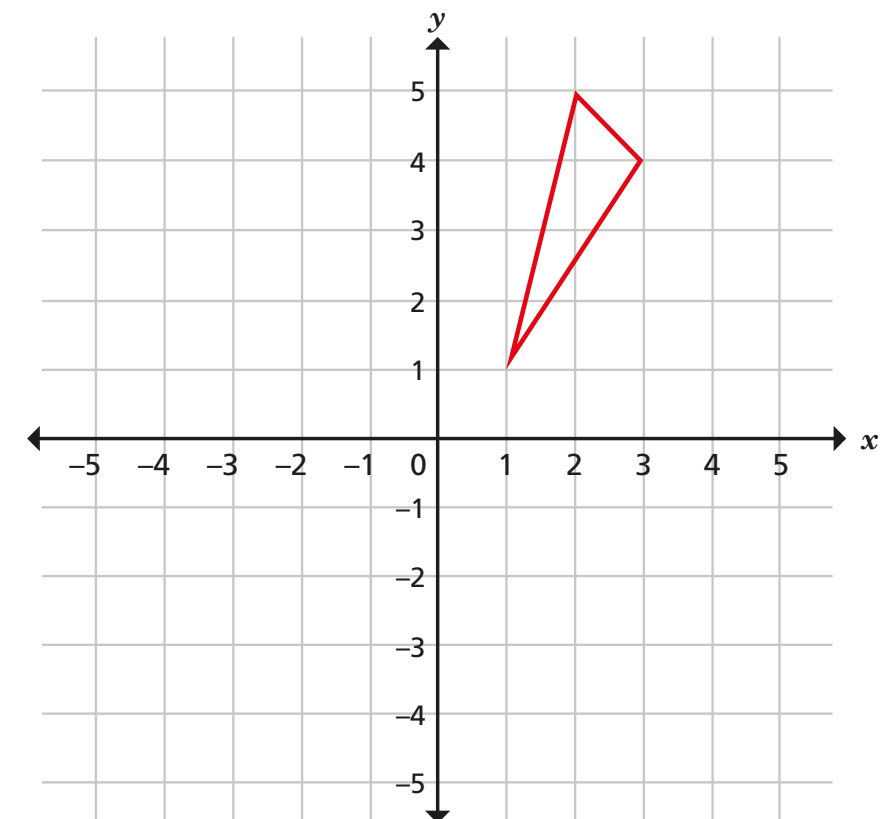


Do you agree with Rosie? _____

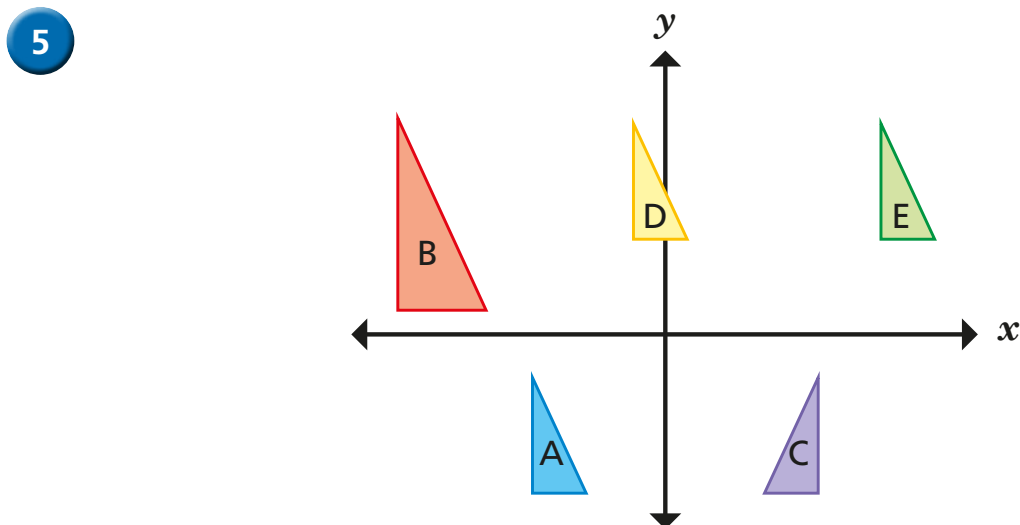
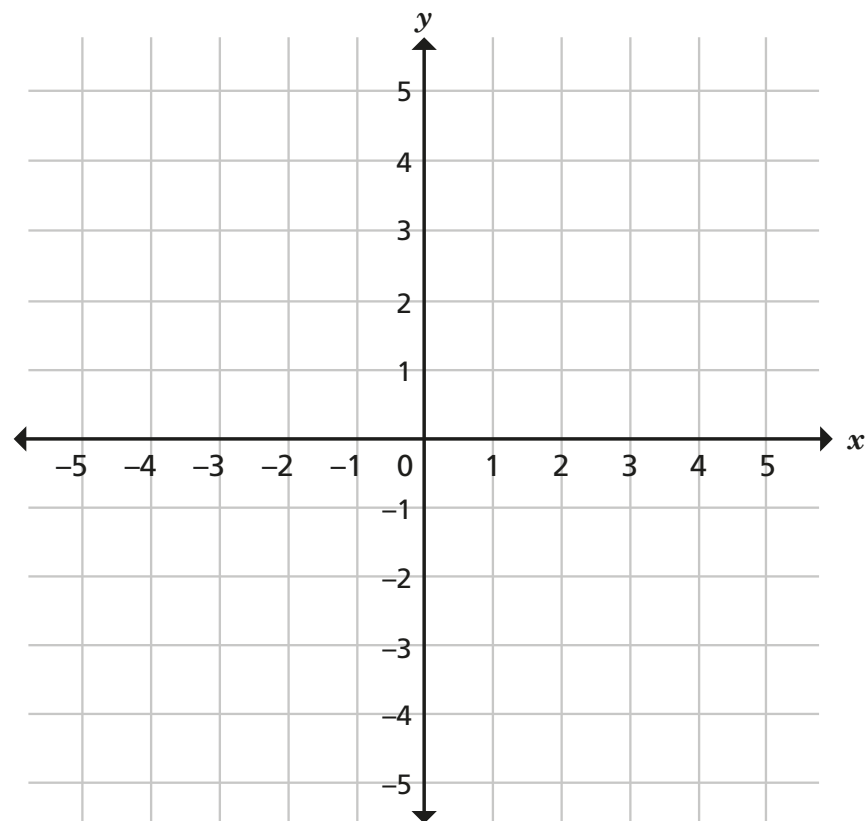
Explain your answer.

3

Translate the triangle 6 left.



- 4 These coordinates form a quadrilateral: $(-5, 5)$, $(-5, 1)$, $(-1, 4)$, $(-1, 2)$
It is translated 3 right and 4 down.
Draw the quadrilateral on the grid in its **new** position.

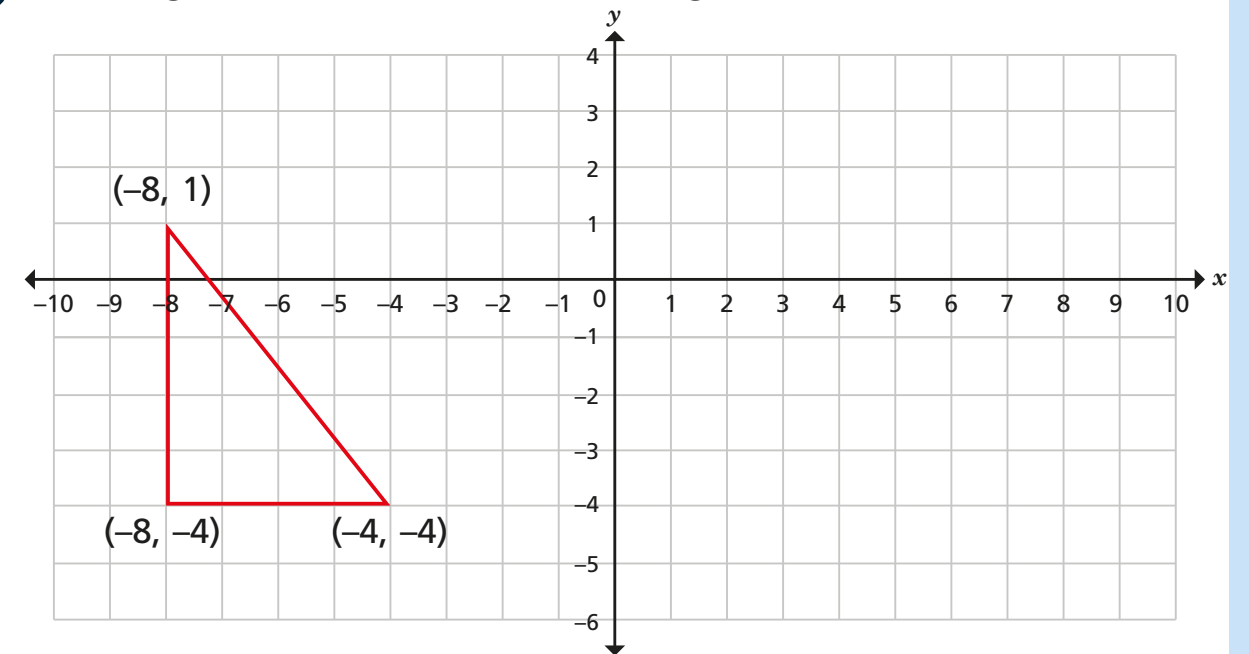


Which triangles are translations of each other?

Explain why the others are not translations.

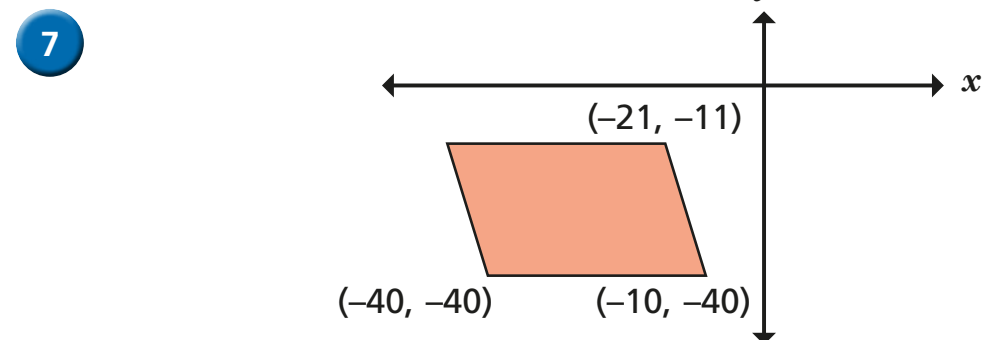


- 6 A triangle is drawn on the coordinate grid.



- a) Translate the triangle 9 right and 1 down.
b) Tick the correct box for each coordinate.

Point	Inside the new triangle	Outside the new triangle	On the perimeter of the new triangle
$(0, 0)$			
$(4, -5)$			
$(2, -1)$			
$(-6, -3)$			
$(3, -4)$			

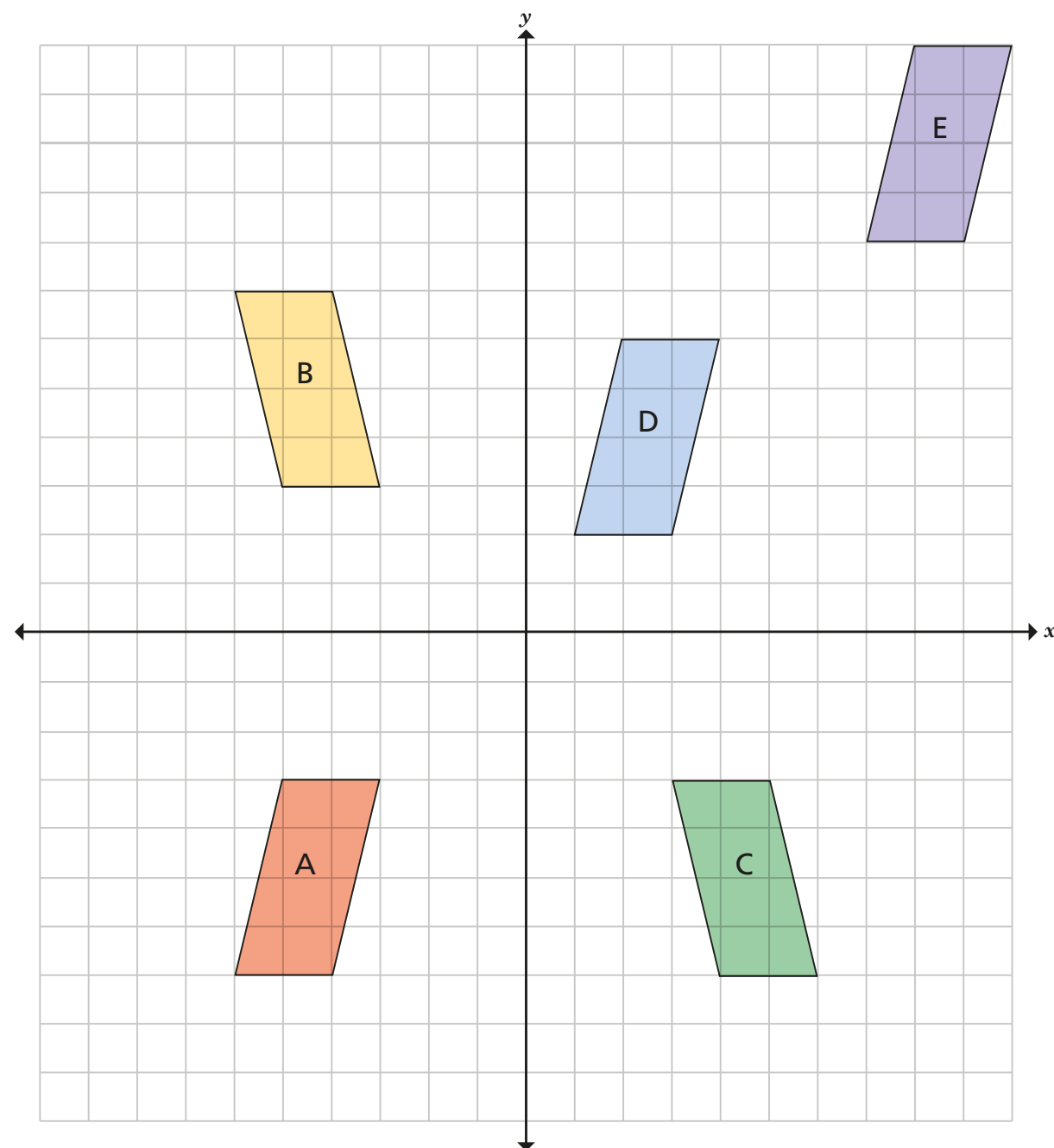


This parallelogram has been translated 50 left and 25 down.
What were the coordinates of **all four** vertices before it was translated?



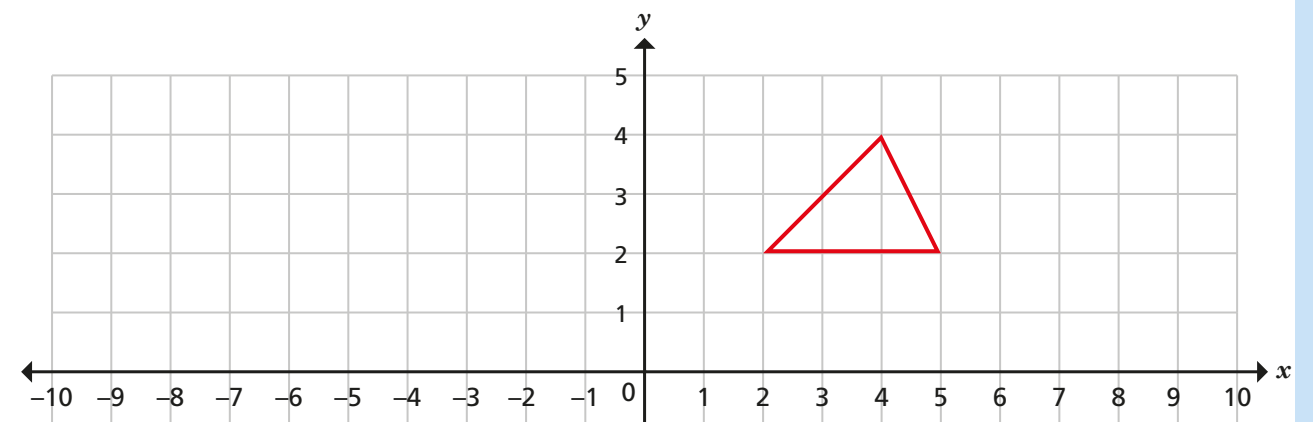
Reflections

- 1 Five parallelograms are shown on the coordinate grid.

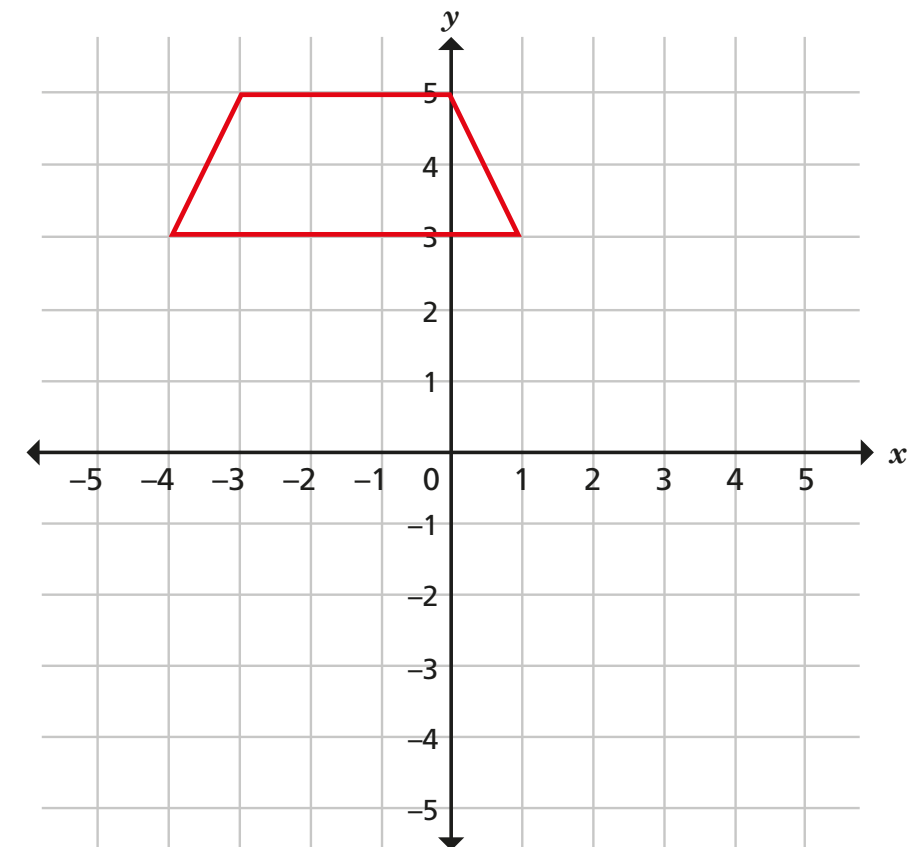


- a) Tick the shapes that are translations of shape A.
- b) Circle the shapes that are reflections of shape A.

- 2 Reflect the triangle in the y -axis.



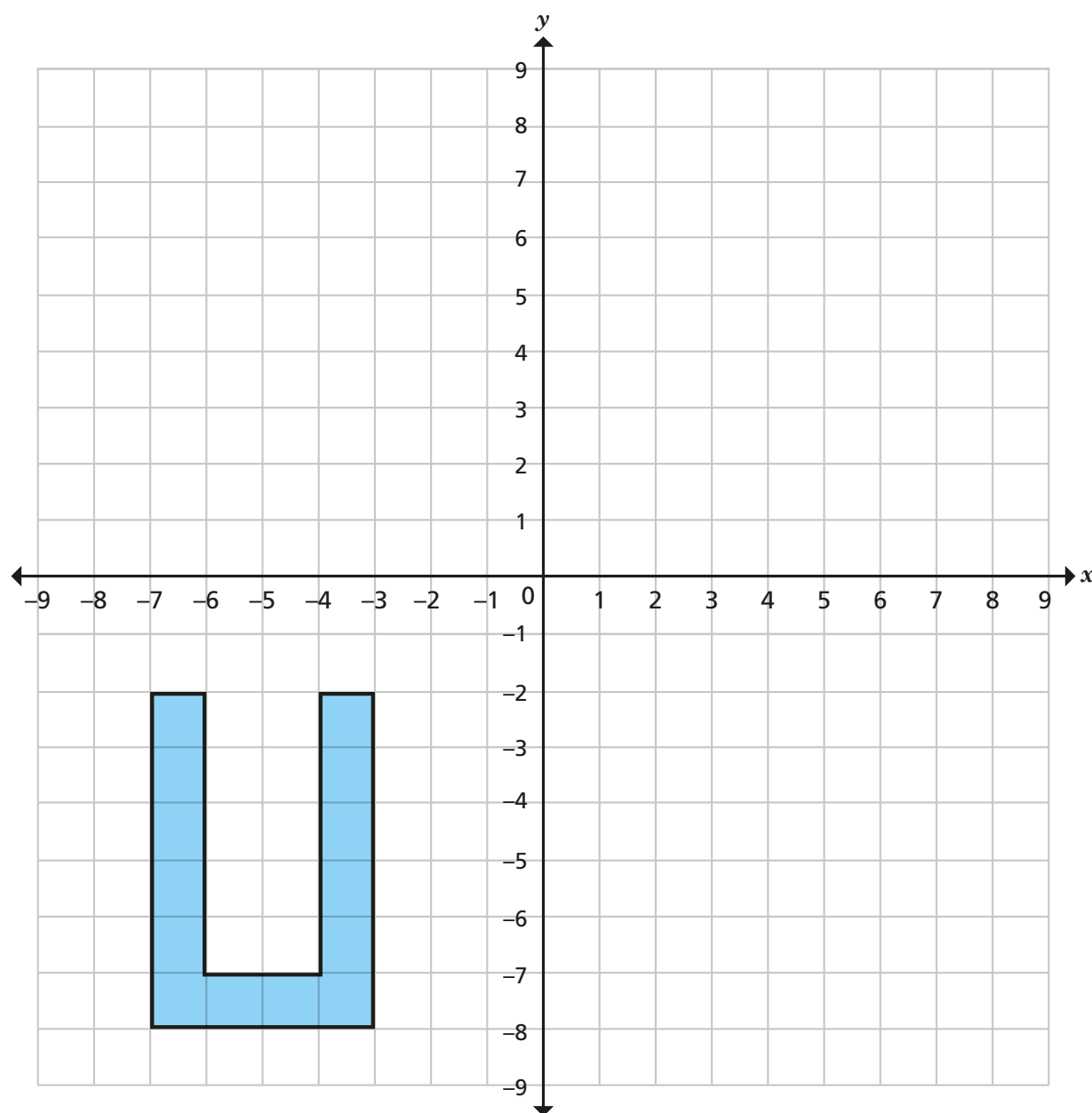
- 3



- a) What is the name of the shape plotted on the grid?

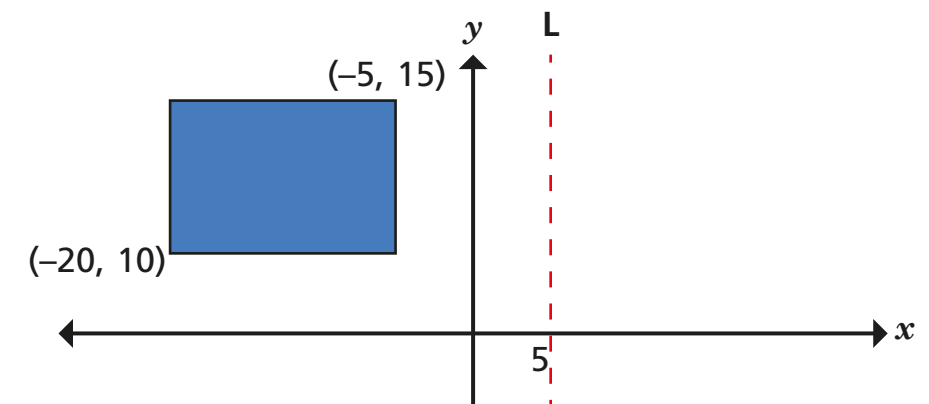
- b) Reflect the shape in the x -axis.

- 4 An octagon is shown on the coordinate grid.



- Reflect the shape in the x -axis.
- Translate the new shape 10 right and 10 down.
- Reflect the new shape in the x -axis.
- What do you notice?
- Create a similar question for your partner to complete.

- 5 The shape is reflected in the line marked L.



Work out the coordinates of the new vertices.

The new vertices are at

(,) (,) (,) (,)

- 6 The isosceles triangle has been reflected in the line marked L.

Work out the missing values.

