

WALT reflect shapes.

WILF:

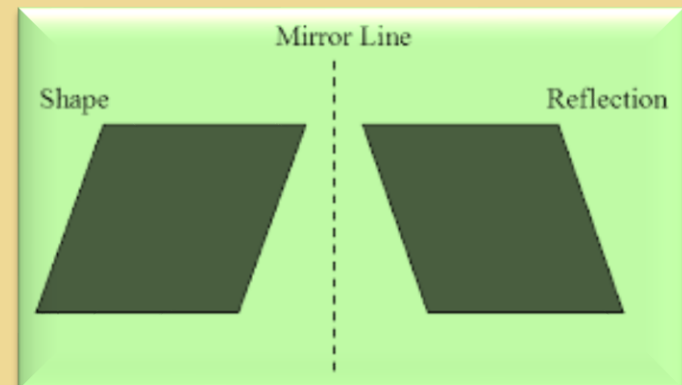
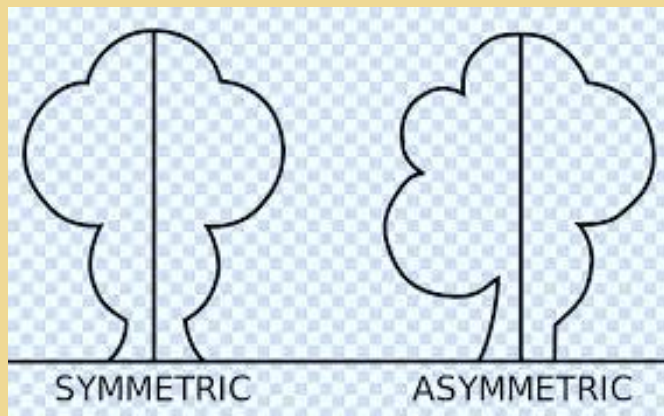
- Understand what reflection is.
- Know what the object and the image is.
- Reflect a shape
- Use reasoning to explain how to reflect.

What is reflection?

Reflection, or to reflect, is when you draw the object (original item on the graph) into an image (item after reflection) the same way that a mirror would.

You will always be given a 'mirror line', where the mirror would technically be placed to make this reflection (you can put a real mirror on this line, if it helps.)

So, imagine the line as a mirror! 😊



Introduction

Plot the coordinates on the grid to create a shape and its reflection.

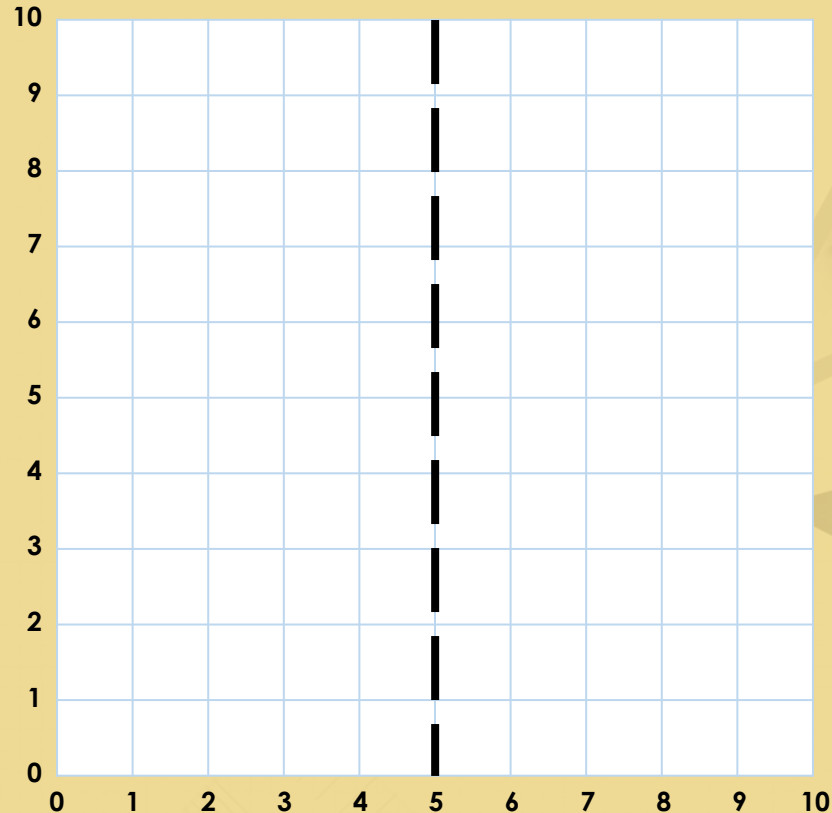
Shape:

(4, 7)

(2, 7)

(1, 3)

(3, 3)



Reflection:

(6, 7)

(8, 7)

(9, 3)

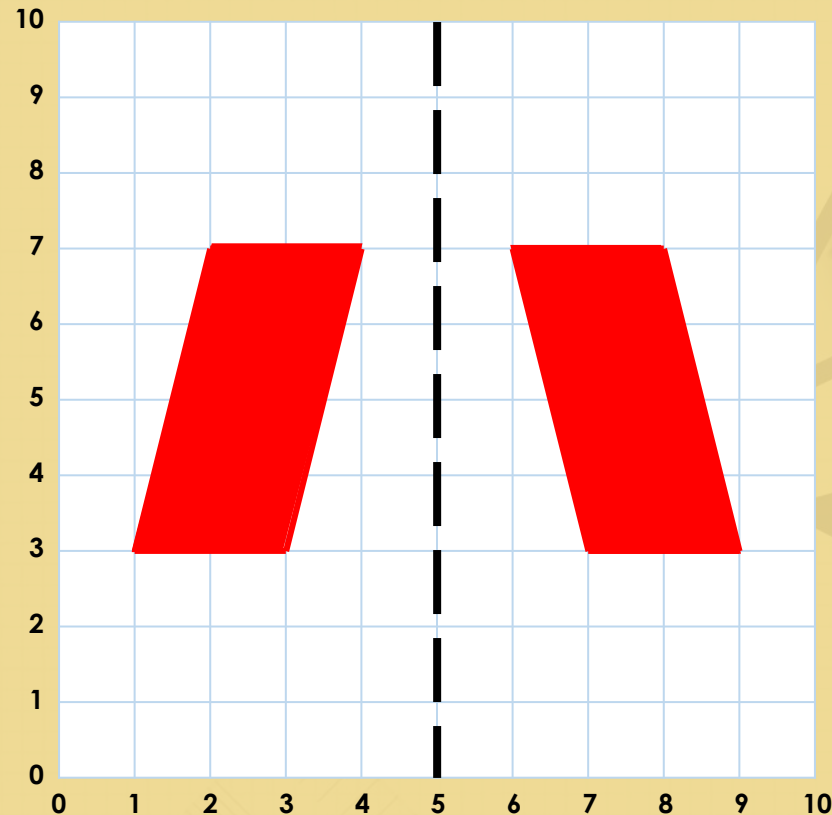
(7, 3)

Introduction

Plot the coordinates on the grid to create a shape and its reflection.

Shape:

(4, 7)
(2, 7)
(1, 3)
(3, 3)



Reflection:

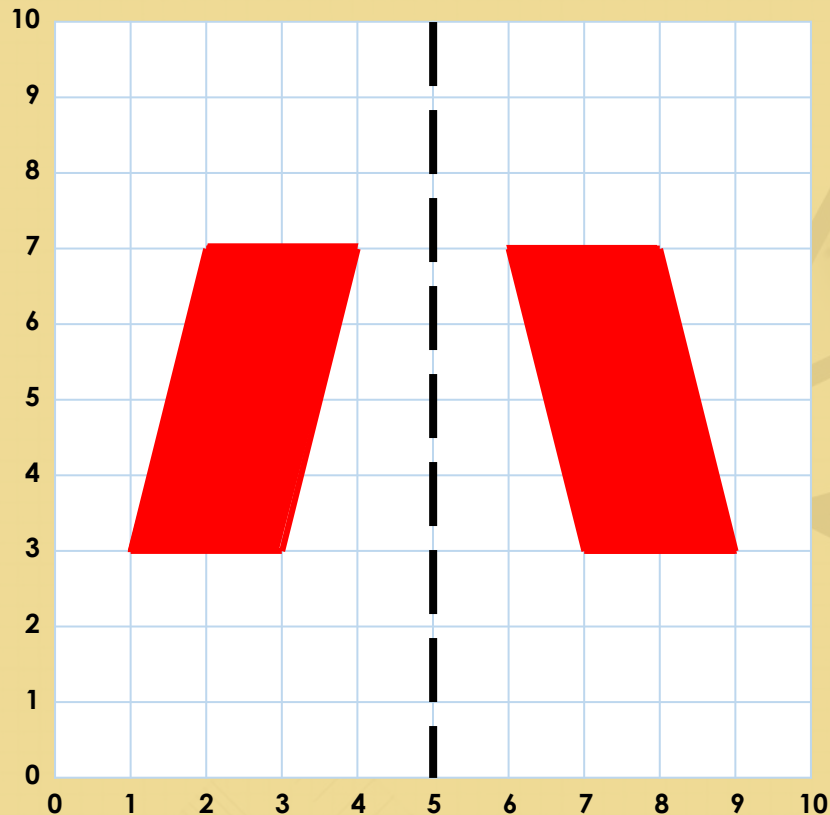
(6, 7)
(8, 7)
(9, 3)
(7, 3)

What has happened to this shape on the reflection?
Has it stayed the same or changed?

The position of the shape changes, however the lengths, angles, size or colour do not change. The object (original shape) and image (reflected shape) are always the same distance from the mirror line.

Shape:

(4, 7)
(2, 7)
(1, 3)
(3, 3)

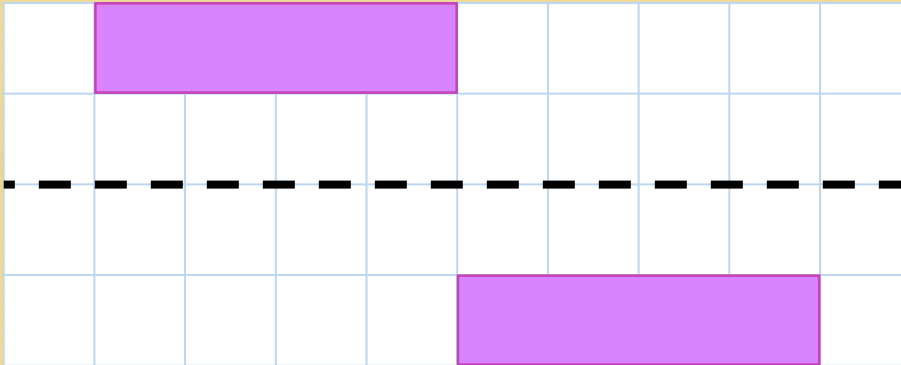


Reflection:

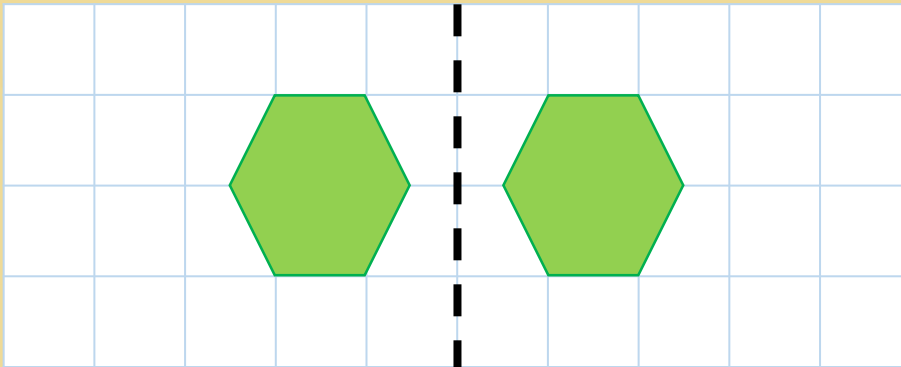
(6, 7)
(8, 7)
(9, 3)
(7, 3)

Are the reflected images correct or incorrect? Why?

A.

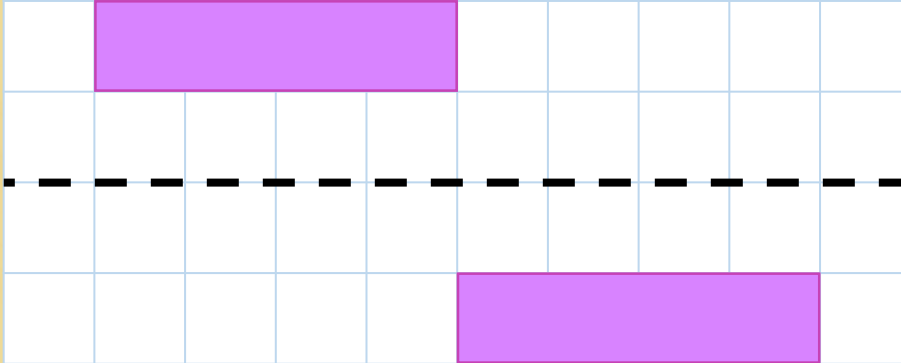


B.



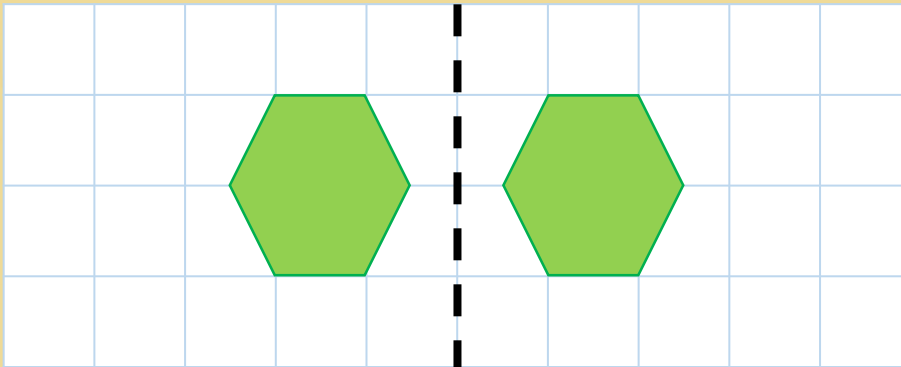
Are the reflected images correct or incorrect?

A.



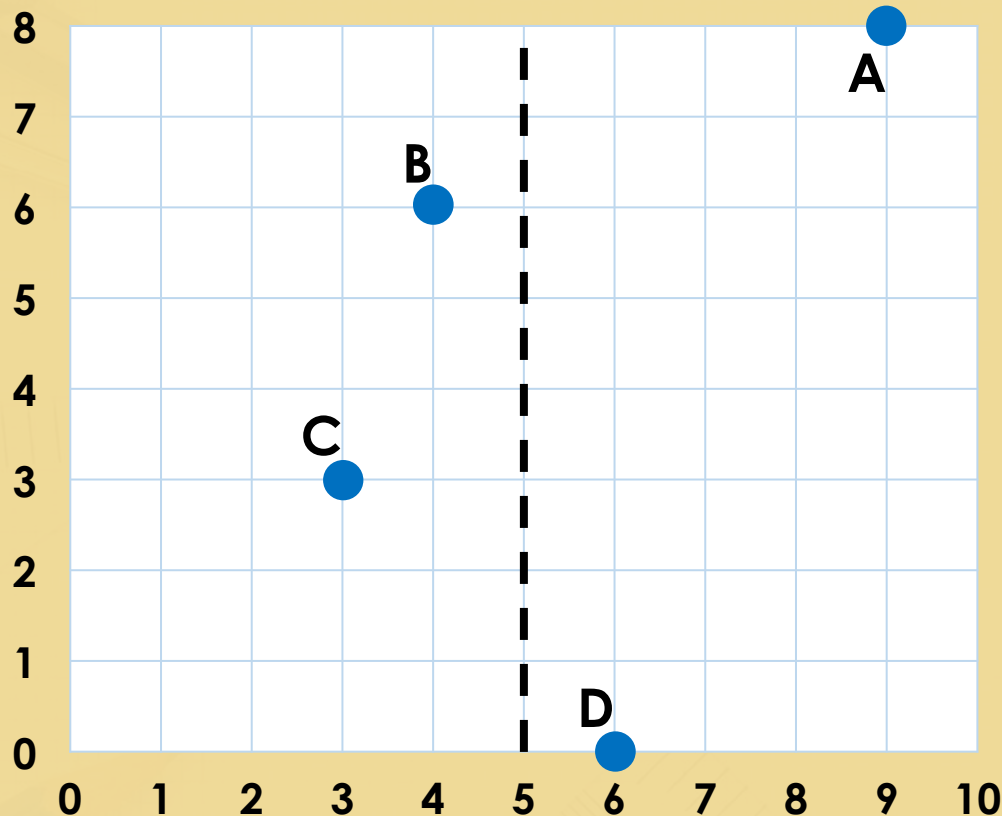
Shape A is incorrect as it has been moved along, so it is not opposite the object from the mirror line.

B.



Shape B is correct. As you can see, the size and colour of the shape are the same and it is the same distance away from the mirror line as the object.

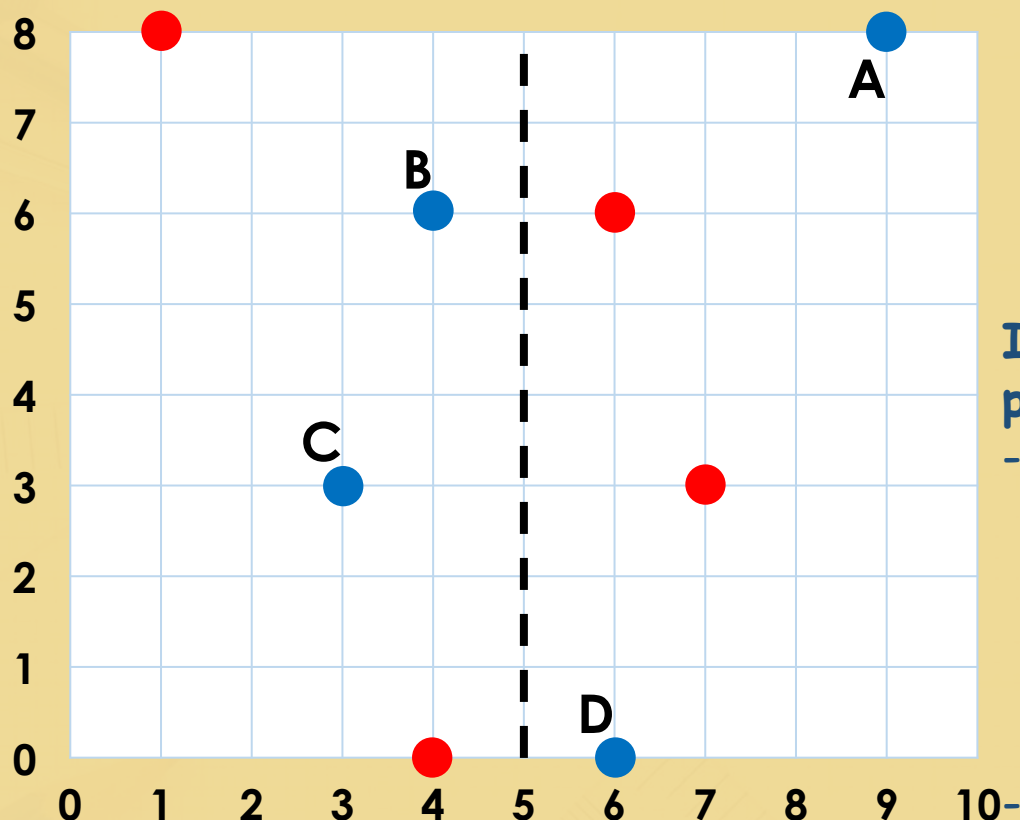
To reflect coordinates on a mirror line, you need to count the squares from the co-ordinate to the mirror line, then count them on the other side from the mirror line to find the new position.



Have a go at writing the coordinates of the points when they are reflected. (You will need to reflect them, first!)

Answer

Reflect the points in the mirror line.
Write the coordinates of the reflected points.



A: (1, 8)

B: (6, 6)

C: (7, 3)

D: (4, 0)

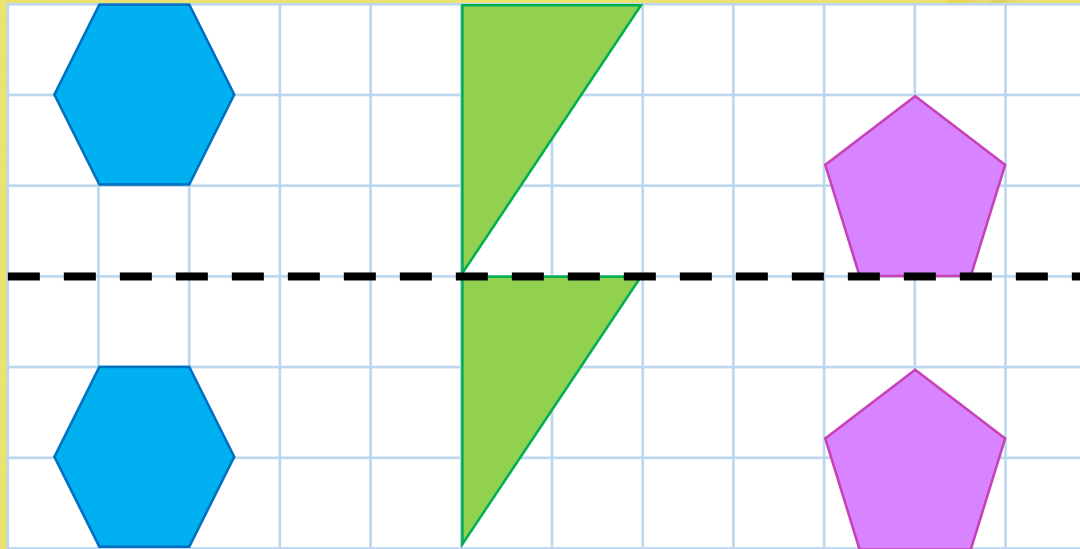
If yours are not in the right place, check that:

- You counted the squares correctly from the object (original co-ordinate) to the mirror line, then from the mirror line to the image (plotted reflection)
- That your first co-ordinate is the x axis, followed by the y.

Susan has reflected three shapes.



I've reflected by making sure the shape is in the same place in the mirror line.

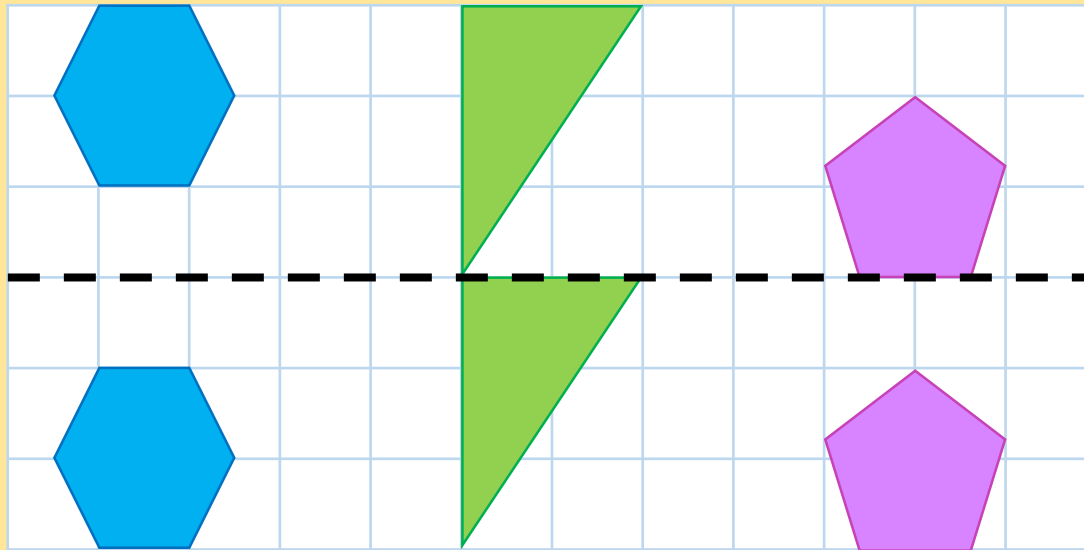


Do you agree? Explain your answer.

Reasoning 1

Susan has reflected three shapes.

I've reflected by making sure the shapes in the same place in the mirror line.



Do you agree? Explain your answer.

Susan is incorrect because although it works for the hexagon, the other two shapes have only been moved, not reflected.

Have a go at today's activity.

I would like you to try A, B or C from question 1.
Then, see how far you can get with the rest of the sheet. 😊

If you finish and would like an extension, try creating your own irregular polygon, then reflect it on a mirror line. Explain why you are correct.

Give an example of an incorrect reflection.

