

Year 5 – Maths – Geometry: Position and Direction

Key vocabulary

coordinate

quadrant

x-axis

y-axis

reflection

mirror line

translation

horizontal

vertical

Links to other learning

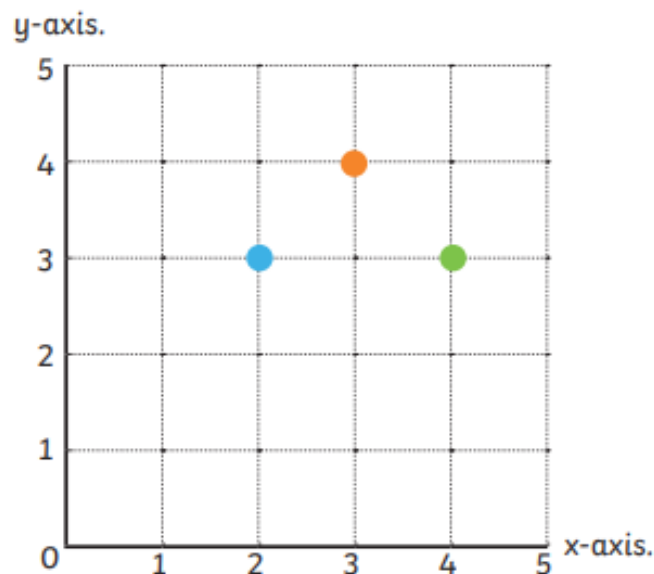
Year 4 - Describe positions on a 2-D grid as coordinates in the first quadrant; Describe movements between positions as translations of a given unit to the left/right and up/down; Plot specified points and draw sides to complete a given polygon.

Year 6 - Describe positions on the full coordinate grid (all 4 quadrants); Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.

Key questions

What is the position of the green spot? The blue spot?
Which axis do you refer to first?
Can you translate a shape on a grid and record its new coordinates?

Position in the first quadrant



Coordinates are a useful way to locate a position on a map or grid.

The numbers across the horizontal line of the grid are on the **x-axis**.

The numbers on the vertical line of the grid are on the **y-axis**.

We always read or write the number on the x-axis before the y-axis.

The x and y position are written in brackets with a comma.

The coordinate of the orange spot is **(3, 4)**.

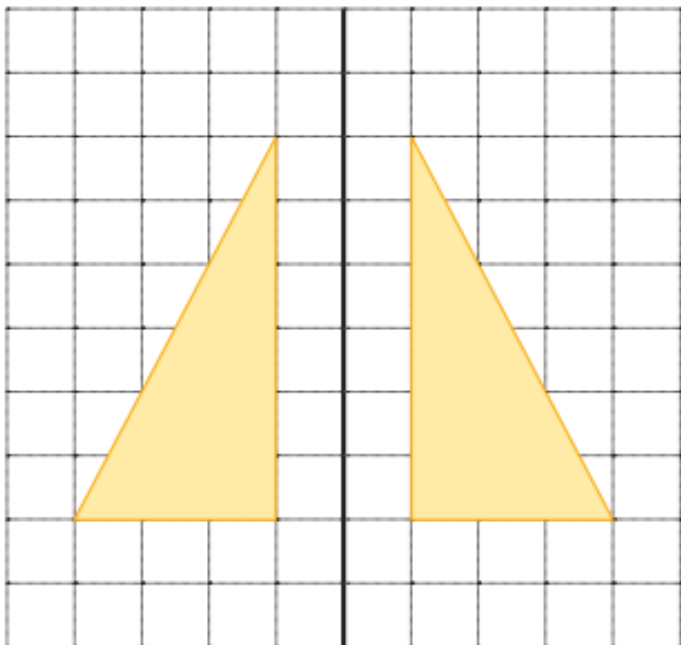
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Reflection

A shape is reflected when it is flipped over a mirror line.

The reflected image is congruent to the original. This means that the measurements of the sides and angles have not changed.

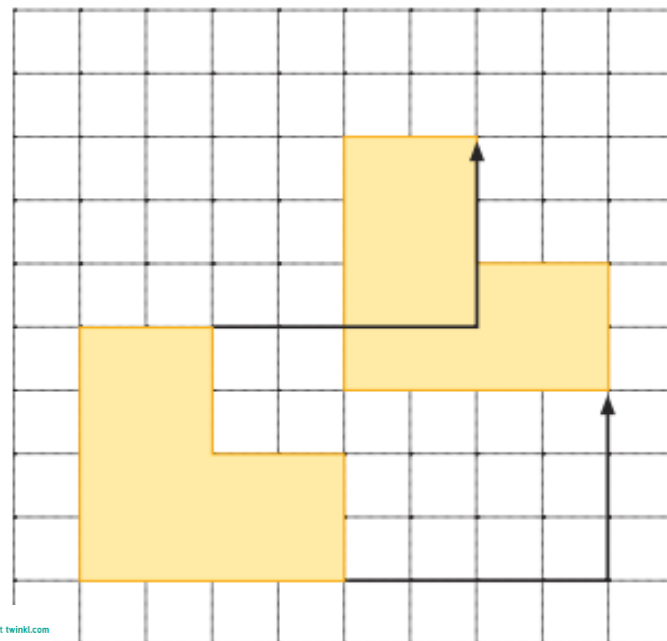
Each point of the reflected shape is the same distance from the mirror line as the original shape.



Translation

In maths, translation means moving an object on a grid. The object is moved without changing the size, turning or reflecting it.

When translating an object on a grid, it can move up or down, left or right.



Remember: along the corridor, up the stairs. I.e. move along the x axis and then up the y axis.