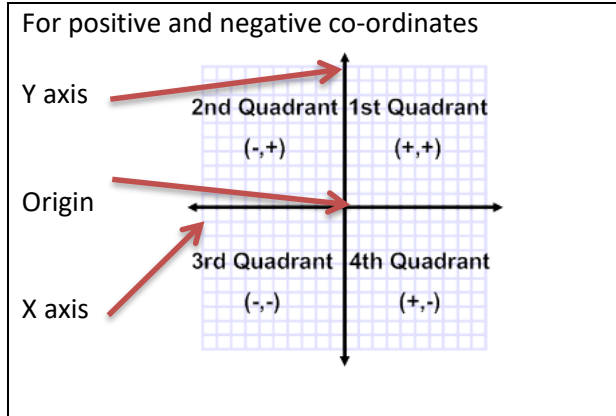
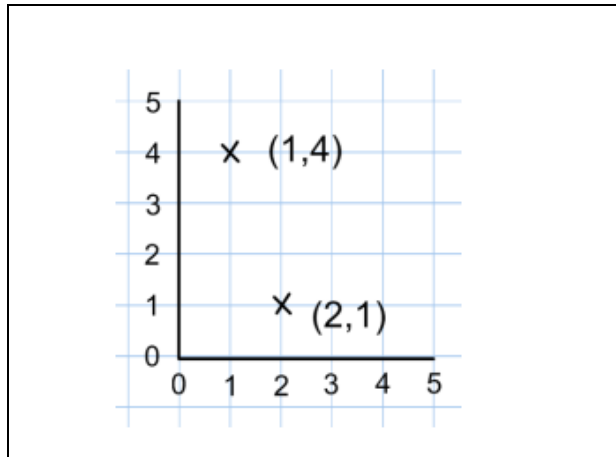


Key Vocabulary

(Cartesian) Co-ordinates	These co-ordinates give a position in terms of how far a position is across and how far up.
x-axis	A horizontal line with a scale
y-axis	A vertical line with a scale
Origin	The point (0,0) where the x and y axes cross over each other
Transformation	Moving or changing a shape following given rules
Reflection	“flipping” a shape over in a mirror line
Rotation	Turning a shape around a fixed point known as the centre of rotation
Translation	“sliding” a shape from one place to another keeping it the same way around
Object	The original shape before the transformation
Image	The copy of the shape after the transformation
Co-ordinate notation	(x, y) two values in brackets, separated by a comma. x is left or right from the origin and y is up or down
Vector notation	You can describe a translation “a” to the right and “b” up with the column vector $\begin{pmatrix} a \\ b \end{pmatrix}$

Key facts / Diagrams

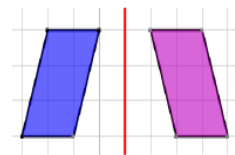


Common misconceptions

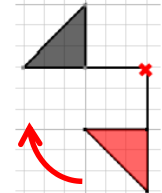
- Giving the co-ordinate the wrong way around.
- Forgetting to give **all** the information about the transformation, e.g. saying “a 90° rotation, with centre (2,3)” and not saying clockwise or anticlockwise.
- Having uneven scales on the axes or labelling the spaces instead of the lines.

Worked examples

A reflection in the y-axis



A 90° clockwise rotation around the centre of rotation



A translation 2 to the right and 3 down.

As a column vector this is

$$\begin{pmatrix} 2 \\ -3 \end{pmatrix}$$

