Year 10 foundation topic 10

Transformations

What careers would use these skills?

Designers, cartographers, architects

Lines of reflection

x = 2 is a vertical line through 2 on the x axis.
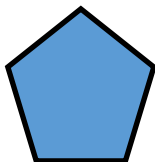
y = -3 is a horizontal line through –3 on the y axis.

y = x is a diagonal line through the origin (0,0)

Order of rotation

The order of rotation describes how many times a shape can fit into itself when rotated through 360°. Every shape has at least order 1 of rotational symmetry.

Parallelogram = order 2
Regular hexagon = order 5

Enlargement

A change I the size of the object, it could be bigger or smaller. To describe, you need to write:

a) "enlargement"
b) The scale factor
c) The centre of enlargement

If the scale factor is a fraction less than 1, then the image will be smaller.

If the scale factor is negative then the image will be on the opposite side of the centre of enlargement.
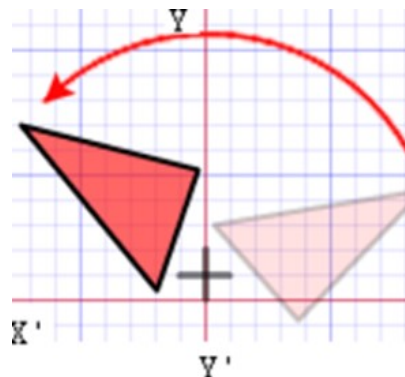
A to B is an enlargement SF 2 about the point (2,1)
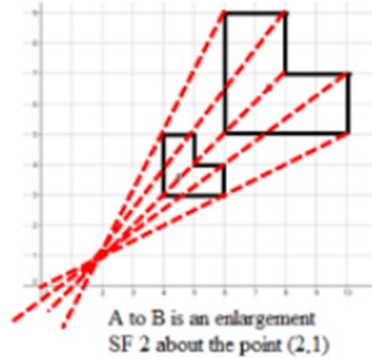
Rotation

A turning movement of an image about a fixed point. To describe, you need to write:

a) "rotation"
b) Angle of rotation
c) Centre of rotation
d) Direction of rotation

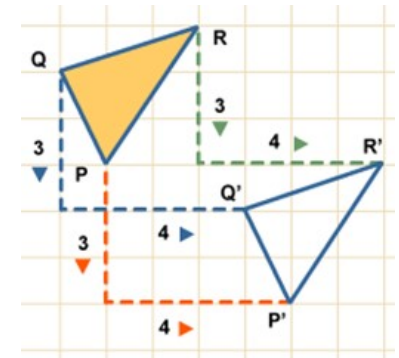Eg. Rotate shape A 90° anticlockwise about (0,1)

Translation

A sliding movement of an image. To describe, you need to write:

a) "translation"
b) The column vector

Eg. Translation with column vector

$$\begin{pmatrix} 4 \\ -3 \end{pmatrix}$$

Reflection

A flipping movement across a mirror line. To describe, you need to write:

a) "reflection"
B) The equation of the line of reflection

Eg. Reflect shape C in the line y = x