S3.2 Rotations

This spread will show you how to:

- Recognise and visualise rotations
- Understand that rotations are specified by a centre of rotation and an angle and direction of turn

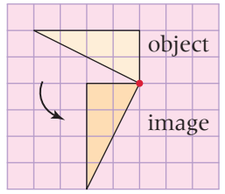
Keywords

Anticlockwise
Centre of rotation
Clockwise
Degrees (°)
Rotation
Turn

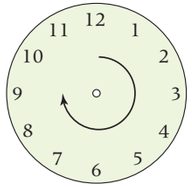
- A **rotation** turns a shape.

To describe a rotation you give

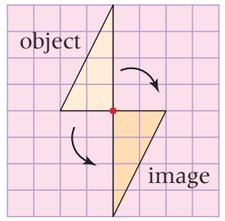
- the **centre of rotation** – the point about which it **turns**
- the angle or measure of turn
- the direction of turn – either **clockwise** or **anticlockwise**.



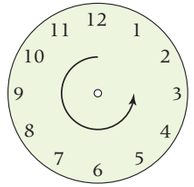
The dot is the centre of rotation.
The turn is 90° or $\frac{1}{4}$ of a turn.
The direction is anticlockwise.



Clockwise



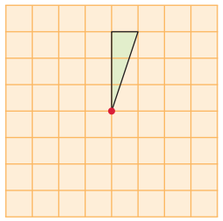
The dot is the centre of rotation.
The turn is 180° or $\frac{1}{2}$ a turn.
The direction is either clockwise or anticlockwise.



Anticlockwise

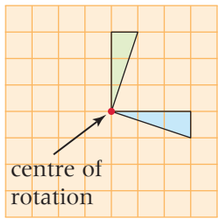
Example

a Draw the position of the green triangle after a rotation of 90° clockwise about the dot (•).



b What rotation would return the triangle to its starting position?

a

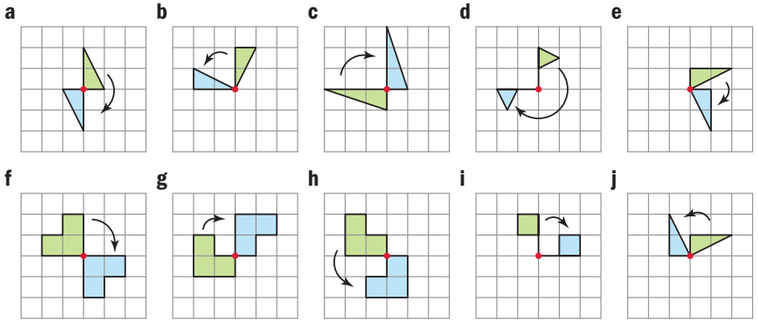


b Rotation of 90° anticlockwise about the dot (•).

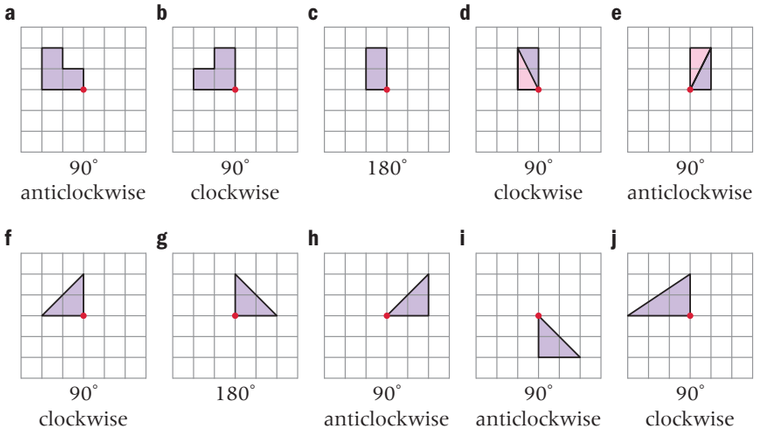
Use tracing paper to find the position of the blue triangle.

Exercise S3.2

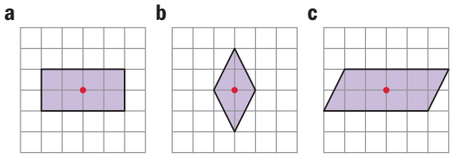
1 State the angle and direction of turn for each of these rotations (green shape to blue shape).

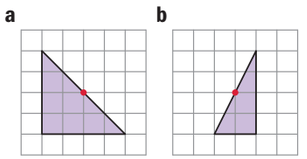


2 Copy these shapes onto square grid paper.
Rotate the shapes through the given angle and direction about the dot (•).



3 Copy the shapes onto square grid paper.



Rotate each shape through 180° about the dot (•).
Describe your results.

4 Copy the triangles onto square grid paper.
Rotate each triangle through 180° about the dot (•).
Give the mathematical name of the new shape you have created.