Planner

Rotation

- Describing a rotation
- Rotating a shape using tracing paper
- Rotating a shape on a rectangular grid
- Mapping one point to another under a rotation

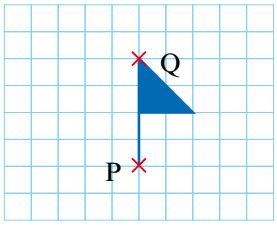
Keywords

You should know

explanation 1 online

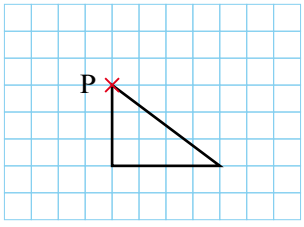
1 Copy this diagram. Show the new position of the shape after a 90° clockwise rotation with these centres.

a P **b** Q

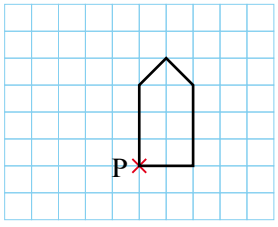


2 Copy these diagrams. Show the new position of each shape after an anticlockwise rotation of 90° with centre P.

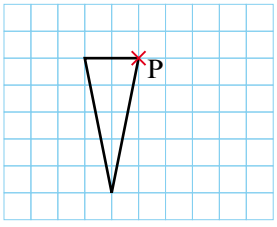
a



b

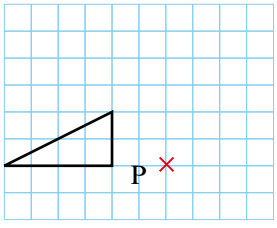


c

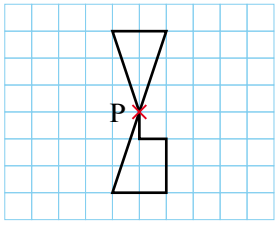


3 Copy these diagrams. Show the new position of each shape after a clockwise rotation of 90° with centre P.

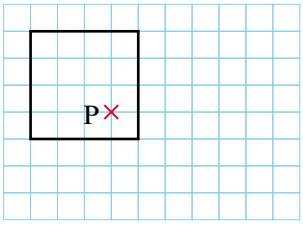
a



b

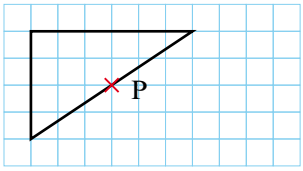


c



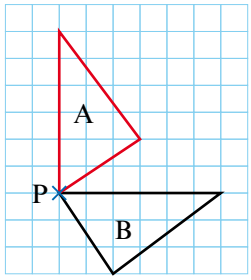
4 Copy this diagram and rotate the triangle through 180° with centre P.

Explain why it isn't necessary to give the direction of rotation.

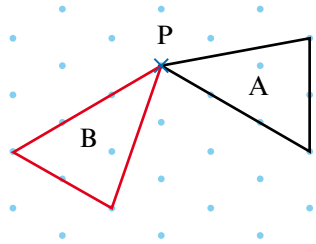


5 Describe the rotation that maps shape A to shape B in each of these diagrams.

a



b

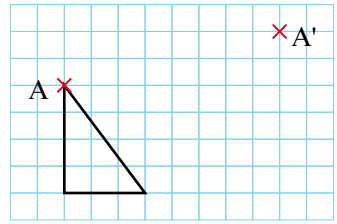


Every line of shape A is rotated through the same angle to make shape B.

Choose the simplest pair of matching lines to work out the angle.

6 The triangle shown here is rotated through 90° clockwise so that A→ A'.

Copy the diagram and draw the triangle in its new position.

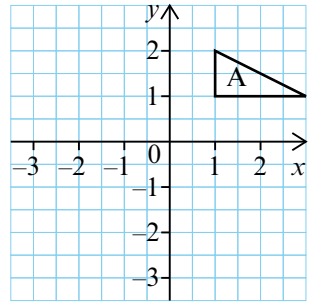


7 Copy this diagram.

a Rotate triangle A through 90° clockwise about (0, 0). Label the image B.

b Rotate triangle A through 90° anticlockwise about (0, 0). Label the image C.

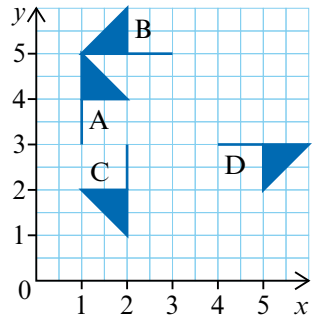
c Rotate triangle A through 180° about (0, 0). Label the image D.



8 Describe these rotations.

a A→ B **b** A→ C

c B→ D **d** C→ D



9 Triangle ABC has coordinates A(2, −1), B(4, 1) and C(−1, 3).

The triangle is rotated through 180° with centre (0, 0) to make triangle A' B' C'.

Find the coordinates of A', B' and C'.