

CLASS 6

MATHS

REVISION NOTES

Class 6 Maths Chapter 9 Symmetry – Revision Notes

Quick revision notes for Class 6 Maths Chapter 9 (Symmetry) — covering line symmetry and rotational symmetry, the two halves of this chapter.

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Quick revision notes for Class 6 Maths Chapter 9 (Symmetry) — covering line symmetry and rotational symmetry, the two halves of this chapter.

Key Definitions

Symmetrical figure: a figure whose parts repeat in a definite, balanced pattern.

Line of symmetry (axis of symmetry): a line along which a figure can be folded so both halves match exactly (mirror halves).

Rotational symmetry: a figure looks exactly the same after being rotated by some angle strictly between 0° and 360° about a fixed point.

Centre of rotation: the fixed point about which the figure is rotated.

Angle of symmetry: an angle of rotation that brings the figure back to its original appearance.

Order of rotational symmetry: the total number of angles of symmetry a figure has (how many times it matches itself in one full turn).

Key Rules

360° is always an angle of symmetry for every figure — but this alone does not mean the figure has rotational symmetry.

The smallest angle of symmetry must be a whole-number factor of 360° .

All other angles of symmetry are whole-number multiples of the smallest one.

A regular polygon with n sides has exactly n lines of symmetry and rotational symmetry of order n (angle of symmetry = $360^\circ/n$).

A circle has infinite lines of symmetry and infinite angles of symmetry.

Quick Reference Table: Lines of Symmetry

Line segment: 2

Isosceles triangle: 1

Equilateral triangle: 3

Scalene triangle: 0

Square: 4

Rectangle (non-square): 2

Rhombus (non-square): 2

Regular pentagon: 5

Regular hexagon: 6

Circle: infinite

Worked Real-World Examples

New Parliament Building, Delhi: 3 lines of symmetry; rotational symmetry order 3 (angles: 120° , 240° , 360°).

Ashoka Chakra (24 spokes): 12 lines of symmetry; smallest angle of symmetry = 15° ($360^\circ \div 24$).

Common Mistakes to Avoid

Don't assume every rectangle's diagonal is a line of symmetry — only a square's diagonals work.

Don't confuse "matches at 360° " with "has rotational symmetry" — a smaller angle must also work.

Don't assume a triangle can have exactly 2 lines of symmetry — it's impossible (2 forces a 3rd).

Remember: a circle has infinite (not a large finite number of) lines and angles of symmetry.

One-Line Summary

Symmetry in Class 6 covers two related ideas — mirror-image line symmetry and turn-based rotational symmetry — and ties both back to shapes you already know (squares, regular polygons) and to real Indian examples like the Ashoka Chakra and the new Parliament Building.

See also: [Chapter 1](#) | [Chapter 2](#) | [Chapter 3](#) | [Chapter 4](#) | [Chapter 5](#) | [Chapter 6](#) | [Chapter 7](#) | [Chapter 8](#) | [Chapter 9](#)

Practice more: [Chapter 1](#) | [Chapter 2](#) | [Chapter 3](#) | [Chapter 4](#) | [Chapter 5](#) | [Chapter 6](#) | [Chapter 7](#) | [Chapter 8](#) | [Chapter 9](#)

Quick revision: [Chapter 1](#) | [Chapter 2](#) | [Chapter 3](#) | [Chapter 4](#) | [Chapter 5](#) | [Chapter 6](#) | [Chapter 7](#) | [Chapter 8](#)