

CHAPTER-9 | Symmetry

QUIZ
PART-11

1. A circle has rotational symmetry for:

- A. Only 90°
- B. Only 180°
- C. Every angle
- D. Only 360° (C)

Explanation: A circle looks the same after rotation by any angle about its centre.

2. The smallest angle of rotational symmetry of a square is:

- A. 45°
- B. 90°
- C. 120°
- D. 180° (B)

Explanation: A square matches itself at 90° , 180° , 270° , and 360° . So the smallest angle is 90° .

3. If the smallest angle of symmetry of a figure is 60° , then the number of angles of symmetry in one full turn is:

- A. 3
- B. 4
- C. 6
- D. 8 (C)

Explanation: Number of angles of symmetry = $360^\circ \div 60^\circ = 6$.

4. If 60° is the smallest angle of symmetry, one other angle of symmetry is:

- A. 50°
- B. 90°
- C. 120°
- D. 150° (C)

Explanation: Multiples of 60° give the angles of symmetry: 60° , 120° , 180° , 240° , 300° , 360° .

5. Can a figure have rotational symmetry with smallest angle 45° ?

- A. Yes
- B. No
- C. Only circle
- D. Only triangle (A)

Explanation: Yes, because $360^\circ \div 45^\circ = 8$, which is a whole number. So such a figure is possible.

6. Can a figure have rotational symmetry with smallest angle 17° ?

- A. Yes
- B. No
- C. Only square
- D. Only rectangle (B)

Explanation: No, because $360^\circ \div 17^\circ$ is not a whole number. So the figure cannot match exactly after equal turns.

7. Which triangle has at least two lines of symmetry and rotational symmetry?

- A. Scalene triangle
- B. Right triangle
- C. Equilateral triangle
- D. Isosceles triangle (C)

Explanation: An equilateral triangle has 3 lines of symmetry and also rotational symmetry.

8. Which quadrilateral has rotational symmetry but no reflection symmetry?

- A. Square
- B. Rectangle
- C. Kite
- D. Parallelogram (D)

Explanation: A general parallelogram has rotational symmetry of 180° but no line of symmetry.

9. A regular hexagon has how many lines of symmetry?

- A. 4
- B. 5
- C. 6
- D. 8 (C)

Explanation: A regular hexagon has 6 equal sides and 6 lines of symmetry.

10. The Ashoka Chakra has how many angles of rotational symmetry?

- A. 12
- B. 18
- C. 24
- D. 36 (C)

Explanation: The Ashoka Chakra has 24 equally spaced spokes, so it matches after equal turns 24 times in one full rotation.