

## CHAPTER-9 | Symmetry

QUIZ  
PART-09

1. Symmetry in this part is mainly about

- A. line symmetry
- B. rotational symmetry
- C. length symmetry
- D. fraction symmetry (B)

*Explanation:* Part-9 is titled "Rotational Symmetry."

2. The fixed point about which a figure rotates is called the

- A. midpoint
- B. turning edge
- C. centre of rotation
- D. symmetry side (C)

*Explanation:* The chapter defines the fixed point of turning as the centre of rotation.

3. An angle through which a figure rotates and looks the same is called

- A. interior angle
- B. straight angle
- C. angle of rotational symmetry
- D. reflex angle (C)

*Explanation:* The chapter directly gives this definition.

4. In the triangle example, each turn shown is of

- A.  $60^\circ$
- B.  $90^\circ$
- C.  $120^\circ$
- D.  $180^\circ$  (C)

*Explanation:* The pages show the figure at initial position, after  $120^\circ$ , after  $240^\circ$ , and after  $360^\circ$ .

5. After two turns of  $120^\circ$ , the total rotation is

- A.  $120^\circ$
- B.  $180^\circ$
- C.  $240^\circ$
- D.  $360^\circ$  (C)

*Explanation:*  $120^\circ + 120^\circ = 240^\circ$ .

6. After three turns of  $120^\circ$ , the total rotation is

- A.  $240^\circ$
- B.  $300^\circ$
- C.  $360^\circ$
- D.  $180^\circ$  (C)

*Explanation:*  $120^\circ + 120^\circ + 120^\circ = 360^\circ$ , which brings the figure back to its starting position.

7. A figure has rotational symmetry if it matches itself after a turn of

- A.  $0^\circ$  only
- B. some angle between  $0^\circ$  and  $360^\circ$
- C.  $360^\circ$  only
- D. any random angle always (B)

*Explanation:* Rotational symmetry means the figure looks the same after some turn greater than  $0^\circ$  and less than  $360^\circ$ .

8. Which of these is necessary for rotational symmetry?

- A. a fixed centre
- B. a ruler
- C. a square grid
- D. a curved boundary (A)

*Explanation:* Rotation always happens about a fixed point called the centre of rotation.

9. For a regular pentagon, the angle of rotation is

- A.  $60^\circ$
- B.  $72^\circ$
- C.  $90^\circ$
- D.  $108^\circ$  (B)

*Explanation:* A regular pentagon fits onto itself after a turn of  $360^\circ \div 5 = 72^\circ$ . The chapter's assessment should have said "regular pentagon" for clarity.

10. Which visible statement in the chapter needs correction?

- A. centre of rotation definition
- B.  $120^\circ$  triangle rotation example
- C. "angle of rotation is always between  $0^\circ$  to  $360^\circ$ "
- D. learning outcomes title (C)

*Explanation:* That sentence is incomplete in meaning. The correct idea is that the figure should match itself after a turn greater than  $0^\circ$  and less than  $360^\circ$ .