

Chapter – 4 | Exploring Some Geometric Themes

QUIZ-01

1. A fractal is a shape that:

- A. Has only straight lines
- B. Is self-similar at different scales
- C. Has equal sides only
- D. Has no pattern (B)

Explanation : Fractals repeat the same or similar pattern at smaller and smaller scales.

2. In the Sierpinski Carpet, each remaining square produces:

- A. 4 squares
- B. 6 squares
- C. 8 squares
- D. 9 squares (C)

Explanation : The central square is removed, leaving 8 smaller squares.

3. The Sierpinski Gasket starts with a:

- A. Square
- B. Rectangle
- C. Circle
- D. Equilateral triangle (D)

Explanation : The construction begins with an equilateral triangle.

4. The Koch Snowflake is generated from a:

- A. Circle
- B. Square
- C. Equilateral triangle
- D. Pentagon (C)

Explanation : Each side of an equilateral triangle is repeatedly modified.

5. Which of the following is a natural example of a fractal?

- A. Fern
- B. Coin
- C. Brick
- D. Dice (A)

Explanation : Fern leaves contain smaller copies of the same pattern.

6. A prism has:

- A. One circular face
- B. Two congruent polygonal faces
- C. No edges
- D. Only triangular faces (B)

Explanation : A prism always has two congruent and parallel polygonal faces.

7. A triangular pyramid is also called:

- A. Hexahedron
- B. Octahedron
- C. Tetrahedron
- D. Dodecahedron (C)

Explanation : A triangular pyramid has four triangular faces and is called a tetrahedron.

8. A cube has:

- A. 6 faces, 12 edges, 8 vertices
- B. 8 faces, 12 edges, 6 vertices
- C. 6 faces, 8 edges, 12 vertices
- D. 12 faces, 8 edges, 6 vertices (A)

Explanation : These are the standard properties of a cube.

9. A net of a solid is obtained by:

- A. Stretching the solid
- B. Rotating the solid
- C. Unfolding the solid onto a plane
- D. Cutting the solid into pieces (C)

Explanation : A net is the flat pattern that folds to form the solid.

10. In inverse projection drawing, the front view, top view, and side view help to:

- A. Measure weight
- B. Show colour
- C. Represent a solid on a plane
- D. Find volume directly (C)

Explanation : Multiple views help describe the shape of a solid accurately.