

CHAPTER-4 | Exploring Some Geometric Themes

QUIZ PART-11

1. To find the shortest path on a cube, we usually first —
A. Fold the cube
B. Colour the faces
C. Unfold the cube into a net
D. Count the edges (C)

Explanation : Unfolding the cube into a net makes it easier to compare different paths.

2. In a cube net, the shortest path between two points is usually represented by a —
A. Curve B. Zig-zag line
C. Straight line D. Circle (C)

Explanation: In the unfolded net, the shortest distance between two points is a straight line.

3. Why do we convert a cube into a net while solving shortest-path problems?
A. To increase its size
B. To make the path easier to measure
C. To change its shape
D. To reduce the number of faces (B)

Explanation: A net lays the faces flat, making distance calculations easier.

4. The shortest path on the surface of a cube must lie —
A. Inside the cube
B. On the surface of the cube
C. Through the centre
D. Along only one edge (B)

Explanation: The ant moves only on the outer surface of the cube.

5. Which geometric idea is used to compare different paths on a cube?
A. Symmetry
B. Tessellation
C. Net of a solid
D. Reflection (C)

Explanation : The net helps visualize and compare possible paths.

6. In an unfolded cube net, a bent path on the cube may become a —
A. Circle
B. Straight line
C. Point
D. Polygon (B)

Explanation : Unfolding often converts the shortest surface path into a straight line.

7. The shortest distance between two points in a plane is a —
A. Circle B. Curve
C. Straight line D. Triangle (C)

Explanation : A straight line always gives the minimum distance in a plane.

8. While finding the shortest path, different nets may produce —
A. Different possible routes
B. Different cube sizes
C. Different numbers of faces
D. Different volumes (A)

Explanation : Different nets can show different valid routes on the cube's surface.

9. An ant moving to a laddu on a cube is an example used to study —
A. Volume
B. Surface area
C. Shortest surface path
D. Number patterns (C)

Explanation : The activity focuses on finding the minimum path along the surface.

10. The main learning outcome of this topic is to —
A. Draw circles accurately
B. Find shortest paths using cube nets
C. Measure angles
D. Calculate volume of cubes (B)

Explanation : The chapter teaches how nets help determine the shortest surface path on a cube.