Mathematics

Practice Test Paper 9

(Ganita Prakash Part 2 | Chapter 4: Exploring Some Geometric Themes)

Class VIII | 2026–27

Time Allowed: 45 Minutes | Maximum Marks: 25

General Instructions

1. All 13 questions are compulsory. The paper has four sections: A, B, C and D.
2. Section A - 5 marks; Section B - 8 marks; Section C - 9 marks; Section D - 3 marks.
3. Choose one correct option in Section A. Show the necessary working in Sections B, C and D.
4. Study the diagrams carefully before answering the related questions.

SECTION A

(5 questions × 1 mark = 5 marks)

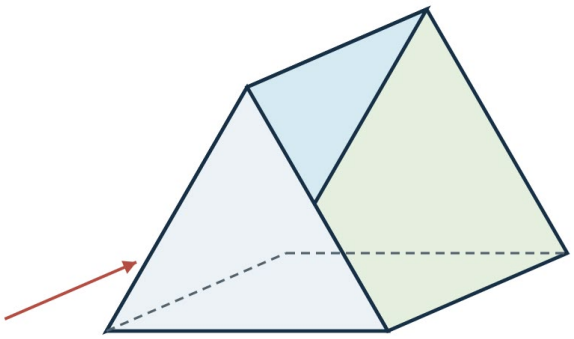
1. At each corner of a cuboid, how many faces meet?

(A) 6 (B) 4
(C) 2 (D) 3

2. A net is best described as:

(A) A shadow made by a lamp
(B) Only the front view of a solid
(C) A flat arrangement of connected faces that folds into a solid
(D) Any sketch of a solid

3. The solid below is viewed in the direction of the arrow, directly towards its triangular end. What is its outline?



(A) Circle (B) Triangle
(C) Pentagon (D) Rectangle

4. The height direction in a usual upright isometric drawing is shown by:

(A) Circles (B) The page border
(C) Vertical lines (D) Only horizontal lines

5. An octahedron is formed by joining two square pyramids along their bases. How many outside edges does it have?

(A) 12 (B) 8

(C) 16 (D) 10

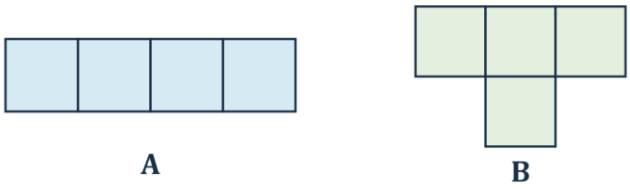
SECTION B

(4 questions × 2 marks = 8 marks)

6. One face of a cube has been coloured red. When the cube is unfolded into a net, can two separate squares in that net both represent this one face? Explain.

7. A right circular cone is cut along one slant line and opened into a sector. The curved arc of the sector is 15 cm long. Find the circumference of the cone's base and explain how the two straight sides of the sector fit when the cone is formed again.

8. The four-square patterns A and B are shown below. Can one be changed into the other by turning or flipping the paper? Explain using a feature of the arrangements.



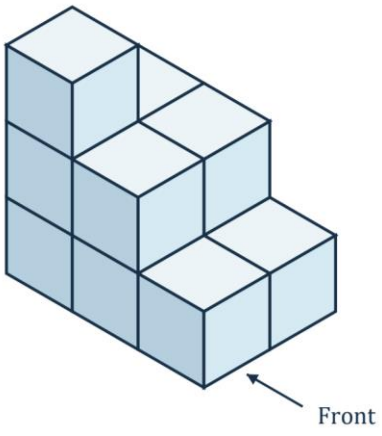
9. A pyramid has 9 vertices. Find the number of triangular side faces and the total number of edges.

SECTION C

(3 questions × 3 marks = 9 marks)

10. A Koch snowflake at Step 2 has 48 segments. Its perimeter is 96 cm. Find the length of each segment, the side of the starting triangle and its starting perimeter.

11. The drawing shows a stack of unit cubes. The bottom layer is a complete 2 × 3 rectangle, the next layer is a 2 × 2 rectangle at the back, and the top layer is one cube at the back-left. Find the total number of cubes and the number added if the stack is completed to a 2 × 3 × 3 cuboid.



12. An unfolded surface route is the diagonal of a 15 cm by 20 cm rectangle. A second valid route is 28 cm long. Calculate the first length, compare the two, and state why this comparison alone may not prove the shortest possible route on the solid.

SECTION D

(Application Based Question - 3 marks)

13. An art club starts with a square card and a triangular card, each of area 36 cm^2. They make one Sierpiński carpet step on the square and one Sierpiński triangle step on the triangle.

(i) Find the area removed from the square.

(ii) Find the area removed from the triangle.

(iii) Which card has more area left, and by how much?