

CLASS IX MATHEMATICS SAMPLE PAPER – 2

Time: 3 Hours **Maximum Marks:** 80

Instructions: Attempt all questions. Show all necessary steps. Calculators are not allowed.

Section A – MCQs (10×1)

1. Which of the following is an irrational number?
2. Zero of polynomial $2x-8$ is ____.
3. Sum of angles of a quadrilateral is ____.
4. Distance between (0,0) and (3,4) is ____.
5. Value of $(a-b)^2 =$ ____.
6. Probability of an impossible event is ____.
7. A median joins a vertex to the ____.
8. Number of faces of a cube is ____.
9. Mean of 5,7,9,11 is ____.
10. A line has infinitely many ____.

Section B – Very Short

11. Express 0.2727... as a rational number.
12. Factorise x^2-9 .
13. Solve $5x-12=18$.
14. State Euclid's second axiom.
15. Find area of triangle with base 16 cm and height 11 cm.

Section C – Short

16. Represent $\sqrt{7}$ on the number line.
17. Verify identity $(a-b)^2$ for $a=8, b=3$.
18. Solve graphically: $x+y=6$ and $x-2y=0$.
19. Find total surface area of a cuboid of dimensions 10 cm, 8 cm, 6 cm.
20. Prepare a frequency distribution for suitable data.
21. State and prove one property of parallelograms.

Section D – Long

22. A cylindrical container has radius 7 cm and height 20 cm. Find its volume.
23. Prove that the angles in a triangle add up to 180° .
24. Draw a histogram for grouped data of heights of students.
25. A trader bought an item for ₹18,500 and sold it for ₹21,275. Find the profit percentage.

Section E – HOTS / Case-based

26. Explain the difference between terminating and recurring decimals using examples.

27. A school playground consists of a rectangle with two semicircular ends. Formulate expressions and calculate the total area using appropriate dimensions.