SPECTRA SAMPLE PAPER 2025-26
SPECTRA CLASSES
Class 7th (Mathematics)

Maximum Marks: 80   **Time Allowed: 3 hours**

General Instructions

1. This question paper consists of 38 questions. All questions are compulsory.
2. The paper is divided into five Sections – A, B, C, D and E.
3. Section A: Q1–18 are MCQs and Q19–20 are Assertion–Reason (1 mark each).
4. Section B: Q21–25 are VSA (2 marks each).
5. Section C: Q26–31 are SA (3 marks each).
6. Section D: Q32–35 are LA (5 marks each).
7. Section E: Q36–38 are Case-Study questions (4 marks each).
8. Draw diagrams wherever required.
9. Use of calculators is NOT allowed.

SECTION – A (MCQs)   (1 mark each)

1. Which number is 75 more than –25?
   (a) 40   (b) 50   (c) 60   (d) 55

2. If 3 more than a number x is written as an equation, it is:
   (a) x – 3 = 0   (b) x + 3 = 0   (c) x + 3 = something
   (d) 3x = 1

3. In ΔABC, if AB = BC, then the triangle is:
   (a) Scalene   (b) Equilateral   (c) Isosceles   (d) Right-angled

4. The value of $5^2 \times 5^3$ is:
   (a) 25   (b) 125   (c) 625   (d) 5^5

5. A rectangle has length 12 cm and breadth 5 cm. Its area is:
   (a) 60 cm²   (b) 17 cm²   (c) 24 cm²   (d) 6 cm²

6. 30% of 80 is:
   (a) 24   (b) 30   (c) 26   (d) 40

7. The supplement of 45° is:
   (a) 90°   (b) 135°   (c) 180°   (d) 45°

8. The HCF of 18 and 24 is:
   (a) 6   (b) 12   (c) 3   (d) 2

9. Which of the following is a rational number?
   (a) √2   (b) π   (c) 3/7   (d) √5

10. $2^5 \div 2^3 =$
(a) 2^2 (b) 2^5 (c) 2^8 (d) 2^0

11. The mode of 10, 14, 14, 9, 7, 14, 8 is:
(a) 10 (b) 8 (c) 14 (d) 7

12. If x = 4, evaluate: $x^2 - 3x$
(a) 4 (b) 5 (c) 16 (d) 10

13. Which figure has infinite lines of symmetry?
(a) Square (b) Circle (c) Rectangle (d) Triangle

14. Perimeter of a square of side 9 cm is:
(a) 36 cm (b) 45 cm (c) 81 cm (d) 18 cm

15. Find the reciprocal of 3/4.
(a) 4/3 (b) 3/4 (c) 1 (d) 7/4

16. Which of these fractions is in simplest form?
(a) 12/20 (b) 9/18 (c) 21/28 (d) 5/7

17. Find: 2(3a – 5)
(a) 6a – 10 (b) 6a + 10 (c) 3a – 10 (d) 6a – 5

18. The number of edges in a cube is:
(a) 10 (b) 8 (c) 12 (d) 6

19. **Assertion (A):** A square is also a rectangle.
Reason (R): A square has all angles equal to 90°.
(a) A and R both true and R is correct explanation
(b) A and R both true but R not explanation
(c) A true, R false
(d) A false, R true

20. **Assertion (A):** 5/8 is a proper fraction.
Reason (R): A proper fraction has numerator smaller than denominator.
(a) Both true & R explains A
(b) Both true but R does not explain A
(c) A true, R false
(d) A false, R true

SECTION – B (VSA) (2 marks each)

21. Find the value of:
7/9 + 5/18

22. Convert 4.75 into a rational number.

23. A box contains 36 red balls and 24 blue balls. Find the ratio of red to blue balls.

24. Simplify:

2a + 3b – a + 5b

25. Draw a line segment of 6 cm and construct its perpendicular bisector.

SECTION – C (SA)   (3 marks each)

26. A book costs ₹125. Find the cost of 18 such books.

27. Solve the equation:

4x – 7 = 21

28. A bag has 50 balls, of which 12 are green, 15 are red and the rest are blue.

Find the percentage of blue balls.

29. Construct ∠75° using compass and ruler only.

30. A triangle has sides 7 cm, 8 cm and 9 cm. Find its perimeter.

Is it a valid triangle? Why?

31. A farmer bought 15 kg rice at ₹42 per kg and 12 kg wheat at ₹38 per kg.

Find his total cost.

SECTION – D (LA)   (5 marks each)

32. A quadrilateral has vertices A(2,3), B(6,3), C(6,7), and D(2,7).
(a) Plot the points on graph paper.
(b) Name the quadrilateral.
(c) Find its perimeter.
(d) Is it symmetric? Explain.

33. The following table shows marks of students:

Marks	40	50	60	70	80
Students	6	8	12	9	5

Find:
(a) Mean
(b) Median
(c) Mode
(d) Range

34. A car travels 240 km in 4 hours.
(a) Find its speed.
(b) How much distance will it cover in 9 hours?
(c) How long will it take to cover 625 km?

35.   In ΔABC, AB = 10 cm, AC = 8 cm and BC = 6 cm.
Construct the triangle and measure ∠A.

SECTION – E (CASE STUDY)   (4 marks each)

36. Water Tank Case

A water tank fills 45 litres in 15 minutes.
(a) How much water is filled in 1 minute?
(b) Calculate water filled in 1 hour.
(c) How long will it take to fill 180 litres?
(d) If the tank needs 500 litres to fill completely, how much more water is needed?

37. Geometry Lab Activity

Students observe objects:
• A clock (circle)
• A notebook (rectangle)
• A pizza slice (triangle)

(a) Which object has one line of symmetry?
(b) Which object has infinite lines of symmetry?
(c) How many lines of symmetry does a rectangle have?
(d) Draw one symmetrical figure of your choice.

38. Bar Graph Case

A bar graph shows monthly pocket money of a student:
Jan – ₹200
Feb – ₹250
Mar – ₹300
Apr – ₹350
May – ₹400

Answer:
(a) In which month pocket money was highest?
(b) Find the range.
(c) Find the average pocket money.
(d) In which month did pocket money increase the most compared to previous month?