

INTERNATIONAL INDIAN SCHOOL BURAIDAH
Term-1 Examination Sample Paper (2025-2026)

Class IX Mathematics

Date :21-09-2025

Duration: 3hrs

Max. Marks : 80M

General Instructions:

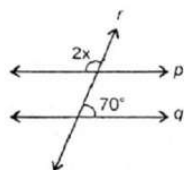
1. The question paper has 5 sections: A, B, C, D, and E.
2. Section A consists of 20 MCQs of 1 mark each, out of which Qs 19 & 20 are Assertion Reasoning questions.
3. Section B consists of 5 questions of 2marks each with 2 choice questions.
4. Section C consists of 6 questions of 3 marks each, with 2 choice questions.
5. Section D consists of 4 questions of 5 marks each, with 2 choice questions
6. Section E has 3 Case study-based questions of 4 marks with sub-parts of 1, 1, 2 marks and a choice is provided for 2-mark questions.

Section A

Choose the correct option from the brackets:

(20 × 1 = 20 M)

1. The decimal representation of an irrational number is:
a) terminating b) non-terminating recurring c) non-terminating non-recurring
d) finite
2. The degree of a non-zero constant polynomial is
a) 0 b) 2 c) 3 d) 1
3. The X-axis and Y-axis divide the plane into ____ quadrants.
a) 2 b) 3 c) 4 d) 5
4. In the given figure $p \parallel q$, the value of x is



- a) 35° b) 55° c) 70° d) 110°
5. A triangle cannot have:

- a) two right angles b) one obtuse angle c) three acute angles d) all angles equal
6. A line has ____ dimensions.
- a) 0 b) 1 c) 2 d) 3
7. A quadrilateral in which diagonals bisect each other but are not equal is a:
- a) square b) rectangle c) rhombus d) trapezium
8. $\sqrt{50} \times \sqrt{2}$ is equal to:
- a) $\sqrt{52}$ b) 100 c) 10 d) $5\sqrt{2}$
9. If two angles of a triangle are complementary, then the triangle is:
- a) acute angled b) right angled c) obtuse angled d) equilateral
10. 'Lines are parallel if they do not intersect' is stated in the form of
- a) an axiom b) a definition c) a postulate d) a proof
11. $4x^2 + 3x^{-1} + 7$ is:
- a) polynomial b) not a polynomial c) quadratic polynomial d) cubic polynomial
12. The expansion of $(a + b)^2$ is:
- a) $a^2 + b^2$ b) $a^2 + 2ab + b^2$ c) $a^2 - 2ab + b^2$ d) $a^2 + ab + b^2$
13. If $x - 1$ is a factor of $2x^2 + 6x - 4k$, then the value of k is
- a) -2 b) 2 c) 0 d) 1
14. The abscissa of a point is positive in:
- a) first and third quadrants b) first and fourth quadrants
- c) second and third quadrants d) third and fourth quadrants
15. A diagonal of a rectangle is inclined to one side of the rectangle at 25° . The acute angle between the diagonals is
- a) 55° b) 50° c) 40° d) 25°
16. If $3^x = 81$, then x =
- a) 2 b) 3 c) 4 d) 5
17. A polynomial of degree 4 will have at most ____ zeroes.
- a) 3 b) 4 c) 2 d) 1
18. The ordinate of all points on the X-axis is:
- a) 0 b) 1 c) any number d) -1

19. Assertion: If $p(x) = ax + b$, $a \neq 0$ is a linear polynomial, then $x = -b/a$ is the only zero of $p(x)$.

Reason: A linear polynomial has one and only one zero.

- a) A and R are true and R is the correct explanation of A
- b) A and R are true, but R is not the correct explanation of A
- c) A true, R false
- d) A false, R true

20. Assertion: $\triangle XYZ \cong \triangle PQR$ if $XY = PQ$, $YZ = QR$ and $\angle Y = \angle Q$.

Reason: SAS rule of congruence applies.

- a) A and R are true and R is the correct explanation of A
- b) A and R are true, but R is not the correct explanation of A
- c) A true, R false
- d) A false, R true

Section B

Answer the following Questions:

(5 × 2 = 10 marks)

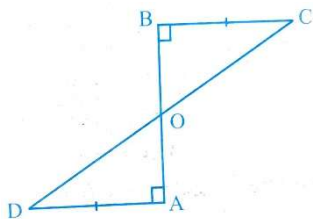
21. a) Find two irrational numbers between $\sqrt{2}$ and $\sqrt{3}$.

OR

b) Represent $\sqrt{5}$ on the number line

22. Solve $x - 15 = 40$ using Euclid's Axiom. State the axiom used.

23. AD and BC are equal perpendiculars to a line segment AB. Show that CD bisects AB



24. a) $\sqrt[4]{81} - \sqrt[3]{125} + \sqrt[5]{32}$

OR

b) Evaluate 105×95 using suitable identity

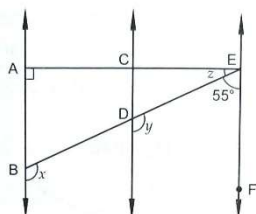
25. Show that each angle of a rectangle is a right angle

Section C

Answer the following Questions:

(6 × 3 = 18M)

26. In the given figure $AB \parallel CD$ and $CD \parallel EF$. Also, $EA \perp AB$. If $\angle BEF = 55^\circ$ find the values of x, y, z



27. a) Expand $(3a - 7b - c)^3$

OR

b) $27x^3 + y^3 + z^3 - 9xyz$

28. Identify in which quadrant the following points lie:

a) $(-3, 2)$ b) $(4, -5)$ c) $(-2, -4)$

29. a) BE and CF are two equal altitudes of a $\triangle ABC$. Using RHS congruency rule, prove that $\triangle ABC$ is isosceles

OR

- b) In $\triangle ABC$, $AB = AC$, and the bisectors of angles B and C intersect at O. Prove that $BO = CO$ and the ray AO is the bisector of $\angle BAC$

30. $\triangle ABC$ is a triangle right angled at C. A line through the mid-point M of hypotenuse AB and parallel to BC intersect AC at D. Show that

1) D is the midpoint of AC

2) $MD \perp AC$

31. If $f(x) = x^2 - 2x + 1$, find $f(3) + f(-1) - f(0)$

Section D

Answer the following Questions:

(4 × 5 = 20M)

32. ABCD is a rectangle and P, Q, R, S are mid-points of sides AB, BC, CD and DA respectively. Show that the quadrilateral PQRS is a rhombus

33. a) Find the values of a and b, if $\frac{5+2\sqrt{3}}{7+4\sqrt{3}} = a + b\sqrt{3}$

OR

b) Simplify: $\left(\frac{81}{16}\right)^{-\frac{3}{4}} \times \left(\frac{25}{9}\right)^{-\frac{3}{2}} \times \left(\frac{5}{2}\right)^{-3}$

34. Factorise: $x^3 - 6x^2 + 11x - 6$

35. a) Represent the following data by histogram:

Weekly Wages (₹)	10-15	15-20	20-25	25-30	30-40	40-60	60-80
No of workers	7	9	8	5	12	12	8

OR

b) For the following data, draw a frequency polygon:

marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No. of students	5	10	4	6	7	3	2	3

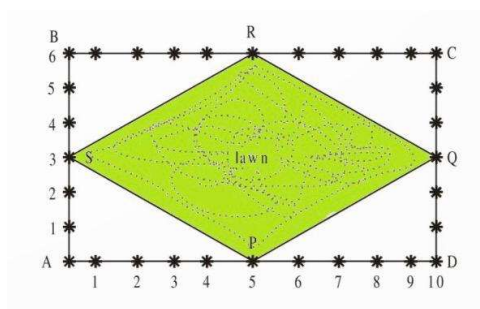
Section E

Answer the following Questions:

(3 × 4 = 12 marks)

Case study 1:

36. The Class IX students at a secondary school in Krishnagar have been allotted a rectangular plot of land for their gardening activity. Sapling of Gulmohar is planted on the boundary at a distance of 1m from each other. There is a lawn PQRS in the ground as shown in below figure:



- What are the co-ordinates of C, taking A as the origin
- What are the co-ordinates of R, taking A as the origin
- Find the side of the lawn

(1M)

(1M)

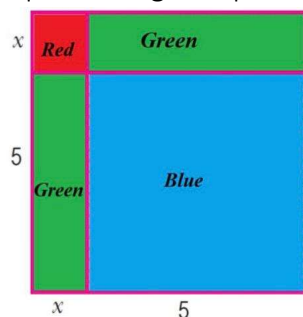
OR

(2M)

- Find the area of the lawn

Case study 2:

37. Amar formed a square using four pieces of origami, as shown in the figure:



a) Write the polynomial which describe the area of the given square?

OR

(2M)

b) If the area of the square is given by $x^2 - 10x + 25$, then what will be the side of the square?

c) If $p(y) = y^2 - 2y + 1$, then find the value of $p(y) + p(-y)$

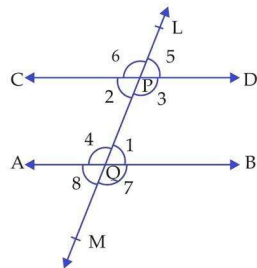
(1M)

d) What is the degree of the polynomial $x^3 + 2x^2 + 3x + 4$

(1M)

Case study 3:

38. Two lines are parallel to each other, if the distance between these 2 lines always remains constant throughout and they never meet. There are various examples of parallel lines that we see in our daily life like railway line, 2 steps ladder, opposite sides of a table etc. A line which cuts a pair of parallel lines is called a transversal as shown in the figure:



a) If $\angle 5 = 65^\circ$, then value of $\angle 8$

(1M)

b) $\angle 2 + \angle 4 = 180^\circ$. Write the reason

(1M)

c) $\angle 6 = 2x$ and $\angle 1 = 70^\circ$, then find the value of x

OR

(2M)

d) If $\angle 6 : \angle 5 = 2 : 3$, then find the value of $\angle 1$