

Name of the School: _____

SUMMATIVE ASSESSMENT – I (2026–27)

Class IX — MATHEMATICS

English Medium

Model Question Paper — Set B

Time: 3 Hours

Max. Marks: 80

Name of the Student: _____ Roll No.: _____

Syllabus covered: Ch. 1 Real Numbers, Ch. 2 Polynomials and Factorisation, Ch. 3 The Elements of Geometry, Ch. 4 Lines and Angles, Ch. 5 Co-ordinate Geometry, Ch. 6 Linear Equations in Two Variables, Ch. 7 Triangles

Instructions:

1. Part A (60 marks) is to be answered in the answer booklet within the first 2 hours 30 minutes.
2. Section I: Q.1–6 are very short answer questions. Answer all. Each carries 2 marks.
3. Section II: Q.7–12 are short answer questions. Answer all. Each carries 4 marks.
4. Section III: Q.13–16 are essay type questions with internal choice. Answer one from each question. Each carries 6 marks.
5. Part B (20 marks) is to be answered on the question paper itself in the last 30 minutes.
6. Use of calculators is not allowed. Graph sheets will be supplied where required.

PART – A

Time: 2 Hours 30 Minutes

Marks: 60

SECTION – I

Note: Answer ALL the questions. Each question carries 2 marks. ($6 \times 2 = 12$)

1. Show that $1.272727\ldots$ can be expressed in the form p/q .
2. Find the values of $(64)^{1/2}$ and $(32)^{2/5}$.
3. If $p(y) = y^2 - y + 1$, find $p(0)$ and $p(1)$.
4. An angle is equal to its complement. Find the angle.
5. If the point $(3, y)$ lies on the line $2x - y = 1$, find the value of y .
6. In $\triangle ABC$, $AB = AC$ and $\angle B = 50^\circ$. Find $\angle C$ and $\angle A$.

SECTION – II

Note: Answer ALL the questions. Each question carries 4 marks. ($6 \times 4 = 24$)

7. If $(5 + 2\sqrt{3})/(7 + 4\sqrt{3}) = a + b\sqrt{3}$, find the values of a and b .
8. Using the remainder theorem, find the remainder when $x^3 + 3x^2 + 3x + 1$ is divided by $(x - 1/2)$.
9. Find the value of k if $(x - 1)$ is a factor of $kx^2 - \sqrt{2}x + 1$.
10. State any four of Euclid's axioms and give an example for each.
11. Plot the points $(-3, 2)$, $(0, 5)$, $(4, -1)$ and $(2, 0)$ on a graph sheet and write the quadrant or axis in which each point lies.
12. Write any four solutions of the equation $2x + y = 7$.

SECTION – III

Note: Answer ONE question (a or b) from each of Q.13 to 16. Each question carries 6 marks. ($4 \times 6 = 24$)

13. (a) Visualise 3.765 on the number line using successive magnification.

OR

(b) Simplify: (i) $2^{2/3} \times 2^{1/5}$ (ii) $(3^{1/3})^7$ (iii) $11^{1/2} \div 11^{1/4}$ (iv) $7^{1/2} \times 8^{1/2}$

14. (a) Factorise $x^3 - 23x^2 + 142x - 120$.

OR

(b) If $x + y + z = 0$, show that $x^3 + y^3 + z^3 = 3xyz$. Hence find the value of $(-12)^3 + 7^3 + 5^3$.

15. (a) Prove that if a side of a triangle is produced, the exterior angle so formed is equal to the sum of the two interior opposite angles.

OR

(b) In $\triangle ABC$, $\angle A = 2\angle B$ and $\angle C = 3\angle B$. Find all the angles of the triangle. Also, two supplementary angles differ by 34° . Find the angles.

16. (a) Draw the graph of $x + y = 4$. From the graph, find the value of y when $x = 1$, and check whether the point $(2, 2)$ lies on the line.

OR

(b) Line l is the bisector of $\angle A$ and B is any point on l . BP and BQ are perpendiculars from B to the arms of $\angle A$. Show that $\triangle APB \cong \triangle AQB$ and $BP = BQ$.

PART – B

Time: 30 Minutes

Marks: 20

I. Multiple Choice Questions*Choose the correct answer and write its letter in the bracket. ($10 \times 1 = 10$)*

1. A rational number between 2 and 3 is []
(A) $5/2$ (B) $7/2$ (C) $1/2$ (D) $10/3$
2. $\sqrt{3} \times \sqrt{12} =$ []
(A) 6 (B) 36 (C) $\sqrt{15}$ (D) $3\sqrt{2}$
3. $(x + 2)(x + 3) =$ []
(A) $x^2 + 6$ (B) $x^2 + 5x + 6$ (C) $x^2 + 6x + 5$ (D) $x^2 + 5x + 5$
4. If $p(x) = x^2 - 4$, then $p(2) =$ []
(A) 0 (B) 4 (C) -4 (D) 8
5. Euclid belonged to the country []
(A) India (B) Egypt (C) Greece (D) Babylon
6. The supplement of 70° is []
(A) 20° (B) 110° (C) 290° (D) 70°
7. A point whose both coordinates are negative lies in the []
(A) first quadrant (B) second quadrant (C) third quadrant (D) fourth quadrant
8. The distance of the point $(4, -3)$ from the x-axis is []
(A) 4 (B) 3 (C) -3 (D) 7
9. Which of the following is a linear equation in two variables? []
(A) $x^2 + y = 5$ (B) $3x + 2y = 5$ (C) $xy = 5$ (D) $x + 1/y = 5$
10. In $\triangle ABC$, if $AB = AC$, then []
(A) $\angle A = \angle B$ (B) $\angle B = \angle C$ (C) $\angle A = \angle C$ (D) $\angle A = 90^\circ$

II. Fill in the Blanks*($5 \times 1 = 5$)*

11. $0.333\dots$ in the form p/q is _____.
12. If $a + b + c = 0$, then $a^3 + b^3 + c^3 =$ _____.
13. The two angles in a linear pair are _____ angles.
14. The ordinate of every point on the x-axis is _____.
15. The sum of the three angles of a triangle is _____.

III. Match the Following*Write the correct letter from Group B in the bracket. ($5 \times 1 = 5$)*

No.	Group A		Group B
16.	Things equal to the same thing are equal to one another ()	A.	Euclid's axiom
17.	Coordinates of the origin ()	B.	$(0, 0)$
18.	Graph of a linear equation in two variables ()	C.	A straight line
19.	$(a - b)^2$ ()	D.	$a^2 - 2ab + b^2$
20.	Reflex angle ()	E.	Between 180° and 360°
		F.	90°

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