Model Question Paper prepared by www.educationobserver.com

SUMMATIVE ASSESSMENT – TERM II, 2026–27

MATHEMATICS (English Medium)

SET 2

Standard: IX **Time: 2½ Hours**

Total Score: 80

Instructions

- Use the first 15 minutes to read the questions and think about the answers.
- There are 26 questions, split into four sections A, B, C and D.
- Answer all questions; in questions of the type A or B, answer only one of them.
- You can answer the questions in any order, writing the correct question number.
- No need to simplify irrationals like $\sqrt{2}$, $\sqrt{3}$, π etc. using approximations unless you are asked to do so.
- Answers must be explained wherever necessary.

Section A

This section has 8 questions of score 1 each. Select the correct answer. **(8 × 1 = 8)**

1. If $2x + y = 11$ and $x - y = 1$, what is x? (1)

A) 2 B) 3 C) 4 D) 5

2. Which of the following is false? (1)

A) $|-6| = 6$ B) $|3 - 8| = 5$ C) $|-4| + |-4| = 0$ D) $-|5| = -5$

3. The sides of a triangle are 5 cm, 6 cm and 7 cm. What is the perimeter of a triangle with the same angles and sides scaled by ½? (1)

A) 9 cm B) 18 cm C) 36 cm D) 12 cm

4. Which of the following is an irrational number? (1)

A) $\sqrt{16}$ B) $\sqrt{25}$ C) $\sqrt{20}$ D) $\sqrt{49}$

5. What is the length of the diagonal of a square of side 1 cm? (1)

A) 1 cm B) $\sqrt{2}$ cm C) 2 cm D) $\sqrt{3}$ cm

6. $|x + 1| \leq 2$. Read the following statements about the number x. (1)

(i) x lies from −3 to 1.

(ii) x lies from −1 to 3.

(iii) The integer values of x are −3, −2, −1, 0, 1.

(iv) The integer values of x are −1, 0, 1, 2, 3.

A) Both (i) and (iii) are true B) Both (i) and (iv) are true

C) Both (ii) and (iii) are true D) Both (ii) and (iv) are true

7. Read the statements below. (1)

Statement 1: All equilateral triangles have the same angles.

Statement 2: If two triangles have the same angles, their sides are in the same ratio.

A) Statement 1 is true, Statement 2 is false.

B) Statement 1 is false, Statement 2 is true.

C) Both statements are true, and Statement 2 is the reason for Statement 1.

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D) Both statements are true, but Statement 2 is not the reason for Statement 1.

8. Read the statements below. (Take $\pi = 22/7$) (1)

Statement 1: The circumference of a circle of diameter 7 cm is 22 cm.

Statement 2: The area of a circle of radius 7 cm is 44 square centimetres.

A) Statement 1 is true, Statement 2 is false.

B) Statement 1 is false, Statement 2 is true.

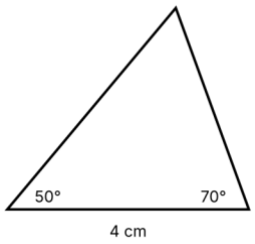
C) Both statements are true, and Statement 2 is the reason for Statement 1.

D) Both statements are true, but Statement 2 is not the reason for Statement 1.

Section B

This section has 6 questions of score 3 each. **(6 × 3 = 18)**

9. Draw the triangle shown in the rough figure. Draw another triangle with the same angles and sides scaled by 1½. (3)



10. $a = 4, b = -6, c = -1$. Find the following. (3)

(i) $a + b$

(ii) $b - c$

(iii) $ac - b$

11 A. The area of a square is 20 square centimetres. Find the length of its side up to millimetres. (3)

OR

11 B. (i) Prove that $(\sqrt{7} + \sqrt{2})(\sqrt{7} - \sqrt{2}) = 5$. (1)

(ii) Write $1 \div (\sqrt{7} - \sqrt{2})$ in a form without a square root in the denominator. (2)

12. $x = -5, y = 3$ (3)

(i) Find $|x| + |y|$.

(ii) Find $|x + y|$.

(iii) Find $|x - y|$.

13 A. The sum of two numbers is 52 and their difference is 14. Find the numbers. (3)

OR

13 B. The price of 4 chairs and 3 tables is 5600 rupees. The price of 2 chairs and 5 tables is 7000 rupees. Find the price of a chair and of a table. (3)

14. $p(x) = 3x^2 + 2x - 5$. Find $p(1)$, $p(0)$ and $p(-2)$. (3)

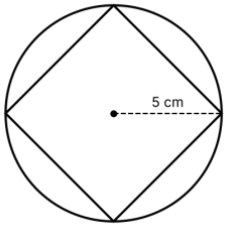
Section C

This section has 6 questions of score 4 each. **(6 × 4 = 24)**

15. Draw a triangle of perimeter 12 centimetres with sides in the ratio 3 : 4 : 5. (4)

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16. A square is drawn with its vertices on a circle of radius 5 centimetres. (Take $\pi = 3.14$)

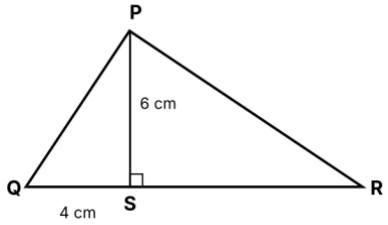


(i) What is the length of the diagonal of the square? (1)

(ii) Find the perimeter of the square. (2)

(iii) How much longer is the circumference of the circle than the perimeter of the square? (1)

17 A. In the figure, $\angle P = 90°$ and PS is perpendicular to QR. QS = 4 cm and PS = 6 cm.



(i) Prove that the angles of triangles PQS and RPS are the same. (1)

(ii) Find the length of SR. (2)

(iii) Find the length of QR. (1)

OR

17 B. Triangles ABC and PQR have the same angles. AB = 6 cm, BC = 8 cm, CA = 10 cm and PQ = 9 cm (PQ corresponds to AB).

(i) What is the scale factor? (1)

(ii) Find QR and RP. (2)

(iii) Find the perimeter of triangle PQR. (1)

18. (i) In the equation $y = (x - 3)^2$, find y when x = 3. (1)

(ii) In the equation $y = x^2 + 6x + 9$, calculate y when $x = -3$ and $x = 1$. (2)

(iii) What is the least value that $y = x^2 + 6x + 9$ can take? Why? (1)

19. The sides of a triangle are 5 cm, 12 cm and 13 cm.

(i) Find the perimeter of the triangle. (1)

(ii) Calculate its area using the lengths of its sides. (3)

20 A. Find x satisfying the following equations.

(i) $|x + 4| = 6$ (2)

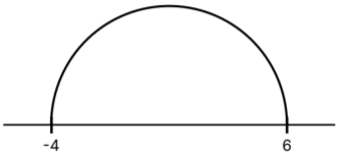
(ii) $|x - 1| = |x + 7|$ (2)

OR

20 B. (i) On the number line, what are the numbers at a distance of 3 from −1? (2)

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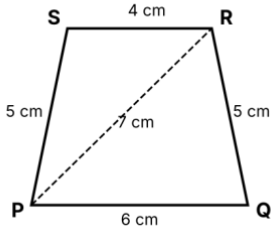
(ii) Find the diameter of the semicircle drawn on the number line. What number denotes its centre? (2)



Section D

This section has 6 questions of score 5 each. **(6 × 5 = 30)**

21. Draw the quadrilateral PQRS shown in the rough figure. Then draw a quadrilateral with the same angles and sides scaled by ½. (5)



22. Answer the following.

(i) Draw a line of length $\sqrt{3}$ centimetres. (1)

(ii) Find $\sqrt{18} + \sqrt{8}$. (1)

(iii) Find $\sqrt{27} \div \sqrt{3}$. (1)

(iv) Find $(\sqrt{5} - 1)^2$. (2)

23 A. A wire 88 centimetres long is bent into a circle. (Take $\pi = 22/7$)

(i) Find the radius of the circle. (1)

(ii) Find the area of the circle. (2)

(iii) If the same wire is bent into a square, which shape has the greater area? By how much? (2)

OR

23 B. The radius of a cycle wheel is 35 centimetres. (Take $\pi = 22/7$)

(i) Find the distance covered in one revolution. (2)

(ii) How many revolutions are needed to cover 1.1 kilometres? (1)

(iii) If the wheel makes 50 revolutions in a minute, how many metres does the cycle travel in a minute? (2)

24. $p(x) = 2x^3 - x^2 + 3$

(i) Find $p(1)$. (1)

(ii) Find $p(-1)$. (1)

(iii) Find $p(2)$. (1)

(iv) Write the polynomial $p(x) - 2x^3$ in its simplest form. (2)

25 A. The sum of the digits of a two-digit number is 11. When the digits are interchanged, the new number is 45 less than the original number. Find the number. (5)

OR

25 B. If 3 is added to both the numerator and the denominator of a fraction, it becomes 2/3. If 1 is subtracted from both, it becomes 1/2. Find the fraction. (5)

26. The sides of two similar triangles are in the ratio 3 : 4.

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(i) What is the ratio of their perimeters? (1)

(ii) What is the ratio of their areas? (1)

(iii) The area of the smaller triangle is 27 square centimetres. What is the area of the larger one? (1)

(iv) A triangle has sides 9 cm, 12 cm and 15 cm. Is it a right triangle? Find the area of a triangle with the same angles and sides scaled by ⅔. (2)

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