

Half-Yearly Examination - (2026-27)
SUBJECT – MATHEMATICS (SET - 2)

TIME – 2½ Hours

Class- VII

M.M – 60

General Instructions: All questions are compulsory. Total 29 questions in 4 Sections (A, B, C, D).

SECTION – A (1 x 12 = 12M)

Q1. The product of the place value and face value of '5' in 4,52,380 is:

- (A) 25,00,000 (B) 5,00,000 (C) 50,000 (D) 2,50,000

Q2. Rounding off 78,495 to the nearest hundred gives:

- (A) 78,400 (B) 78,500 (C) 78,000 (D) 79,000

Q3. Simplify using BODMAS: $36 \div 4 \times (5 - 2) + 6$

- (A) 33 (B) 27 (C) 39 (D) 30

Q4. Express 7 rupees 5 paise in decimals (in rupees):

- (A) ₹7.50 (B) ₹7.05 (C) ₹7.005 (D) ₹0.75

Q5. Perimeter of a regular pentagon of side 's' is given by:

- (A) 4s (B) 5s (C) 6s (D) s/5

Q6. Lines that meet at right angles (90°) to each other are called:

- (A) Parallel lines (B) Perpendicular lines (C) Intersecting lines (D) Concurrent lines

Q7. The sum of all interior angles on the same side of a transversal intersecting two parallel lines is:

- (A) 90° (B) 180° (C) 360° (D) 270°

Q8. In triangle PQR, if $\angle P = 70^\circ$ and $\angle Q = 50^\circ$, then the exterior angle corresponding to $\angle R$ is:

- (A) 120° (B) 60° (C) 110° (D) 100°

Q9. Which of the following is always an even number?

- (A) Sum of two odd numbers (B) Product of two odd numbers (C) Sum of two even numbers
(D) Both A and C

Q10. Two angles that add up to 90° are known as:

- (A) Supplementary angles (B) Complementary angles (C) Adjacent angles (D) Vertically opposite angles

Q11. Assertion(A): Reciprocal of a proper fraction is an improper fraction.

Reason(R): The numerator of a proper fraction is always less than its denominator.

- (A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) Assertion A is true but Reason R is false.
(D) Assertion A is false but Reason R is true.

Q12. Assertion: A triangle can have all its angles less than 60° .

Reason: The sum of all three angles of a triangle is always 180° .

- (A) Both A and R are true and R is the correct explanation of A.
- (B) Both A and R are true but R is not the correct explanation of A.
- (C) Assertion A is true but Reason R is false.
- (D) Assertion A is false but Reason R is true.

SECTION - B (2 x 7 = 14M)

Q13. Convert: (i) 625 centimetres into kilometres (in decimals) (ii) 4 kg 50 g into kilograms.

Q14. Evaluate: $25 - [18 - \{12 - (6 - 3)\}]$.

Q15. Find the unknown value: (a) $45 \div \underline{\hspace{1cm}} = 9$ (b) $14 \times \underline{\hspace{1cm}} = 112$

Q16. Compare and put $<$, $>$, or $=$: (i) $7.03 \underline{\hspace{1cm}} 7.30$ (ii) $25.405 \underline{\hspace{1cm}} 25.45$

Q17. In the given figure, if line $l \parallel$ line m and t is a transversal, find angle y if one interior alternate angle is 68° .

Q18. The angles of a triangle are in the ratio $2 : 3 : 4$. Find the measure of each angle.

Q19. Write algebraic equations/expressions for:

- (i) 12 subtracted from 3 times y
- (ii) Half of a number x added to 10.

SECTION - C (3 x 6 = 18M)

Q20. Subtract $5x^2 - 3x + 8$ from the sum of $2x^2 + x - 4$ and $3x^2 + 4x + 10$.

Q21. (i) Convert $7/8$ into decimal form. (ii) Arrange in ascending order: 9.01, 9.101, 9.001, 9.11, 9.0

Q22. A library charges a fixed fine of ₹5 per day for late submission of books. If Rohit kept 3 books for 4 days late each, and Amit kept 2 books for 6 days late each, find the total fine collected from both.

Q23. Write the number 4,08,90,500 according to the Indian System of Numeration using commas, and write its number name.

Q24. Check whether a triangle can be formed with the following side lengths, giving reasons:

- (i) 4 cm, 3 cm, 8 cm (ii) 6 cm, 7 cm, 10 cm

Q25. Construct an angle of 75° using a compass and ruler, and write brief steps of construction.

SECTION - D (4 x 4 = 16M)

Q26. A wholesale fruit dealer buys 250 kg of apples at ₹45.50 per kg and 150 kg of mangoes at ₹60.20 per kg.

- (i) What is the total cost of apples?

- (ii) What is the total cost of mangoes?
- (iii) If he sells the entire stock for ₹20,000, did he make a profit or loss? Find its amount.

Q27. Observe the matchstick pattern for pentagons ($\triangle$):

1 pentagon = 5 matchsticks, 2 pentagons = 9 matchsticks, 3 pentagons = 13 matchsticks.

- (i) How many matchsticks are required for 12 pentagons?
- (ii) Find the algebraic expression for 'n' pentagons.

Q28. In a figure, line $AB \parallel$ line CD , and a transversal intersects them. If one interior angle is $(3x + 15)^\circ$ and its consecutive interior angle is $(2x + 25)^\circ$, find the value of x .

Q29. A survey on favorite ice-cream flavors among 600 students showed: $\frac{1}{3}$ liked Vanilla, $\frac{1}{4}$ liked Chocolate, $\frac{1}{6}$ liked Strawberry, and the rest liked Butterscotch.

- (i) How many students liked Vanilla?
- (ii) What fraction of students liked Butterscotch?
- (iii) Find the difference between the number of students who liked Chocolate and Strawberry.