

SAMPLE PAPER
TERM 1
CLASS – VII (2026-27)
MATHEMATICS

Time Allowed: 3 hours

Maximum Marks: 80

General Instructions:

- 1) *The question paper consists of five sections:*
 - ☐ *Section A Question No. 1 to 20 are of 1 mark each. (18 are MCQ Type and 2 are Assertion reasoning type Questions)*
 - ☐ *Section B Question No. 21 to 25 are Short Answer Type-1 questions of 2 marks each.*
 - ☐ *Section C Question No. 26 to 31 are Short Answer Type- 2 questions of 3 marks each.*
 - ☐ *Section D Question No. 32 to 35 are Long Answer Type questions of 5 marks each.*
 - ☐ *Section E Question No. 36 to 38 are of Case Study Based Questions. Each case study has 3 case-based sub-parts, two are of 1mark each and third subpart is a short answer type (2 marks) having internal choice.*
- 2) *Please write the serial number of the question before attempting it.*
- 3) *In questions of constructions/ graph, the drawing should be neat, clean and exactly as per the given measurements. Use the ruler and compasses only.*
- 4) *All questions are compulsory. However, internal choices have been given in some questions.*

Section – A

1. On a number line, the length of the line segment joining $-\frac{3}{2}$ and $-\frac{5}{2}$ is:
A) -1 B) 1 C) -4 D) 4
2. Sum of a number and its additive inverse is:
A) -1 B) 0 C) 1 D) $\frac{1}{2}$
3. Decimal representation of $-3\frac{9}{100}$ is:
A) -3.09 B) -3.9 C) -3.009 D) -0.39
4. If $5x - 7 = 28$, then the value of $4x$ is:
A) 7 B) 21 C) 28 D) 35

5. Range of the data 0.5, 3, 4, 4.5, 1, 2.3, 2, 5.5, 1.2 is:
 A) 0 B) 5 C) 10 D) 15
6. Multiplicative inverse of $6\frac{4}{3}$ is:
 A) $\frac{4}{3}$ B) $\frac{3}{4}$ C) $\frac{22}{3}$ D) $\frac{3}{22}$
7. The value of $0.84 \div 0.07$ is:
 A) 1.2 B) 12 C) 120 D) 0.12
8. The point of concurrence of altitudes of a triangle is:
 A) incentre B) orthocentre C) centroid D) circumcentre
9. The value of $(2^3)^0$ is:
 A) 2 B) 8 C) 0 D) 1
10. The standard form of $\frac{91}{-78}$ is:
 A) $\frac{-91}{78}$ B) $\frac{-7}{6}$ C) $\frac{7}{-6}$ D) $\frac{91}{-78}$
11. 4.6×10^{-2} is equal to:
 A) 0.046 B) 0.0046 C) 46 D) 460
12. If an exterior angle of a triangle is 120° , then the sum of interior opposite angles is:
 A) 60° B) 90° C) 120° D) 180°
13. $2.0\overline{12}$ is equal to:
 A) 2.0121212... B) 2.012 C) 2.012012.... D) 2.0122222.....
14. If the sum of two consecutive natural numbers is 57 then the smaller number is:
 A) 28 B) 18 C) 38 D) 29
15. The mode of the following observations is:
 3, 6, 4, 1, 8, 5, 8, 3, 6, 3
 A) 6 B) 3 C) 8 D) 5

16. The circumcentre of a right angled triangle lies:
A) at the midpoint of the hypotenuse B) at the vertex of the right angle
C) in the interior of the triangle D) in the exterior of the triangle
17. If $x = 5$ is a solution of the equation $3x + K = 2x + 8$, then the value of K is:
A) 3 B) 5 C) 8 D) 2
18. The quotient when $\frac{-6}{-5}$ is divided by (-18) is:
A) $\frac{1}{15}$ B) $\frac{-1}{15}$ C) $\frac{3}{5}$ D) $\frac{-3}{5}$

Assertion Reason Based Questions:

In the question number 19 and 20, statement of Assertion (A) is followed by a statement of Reason(R)

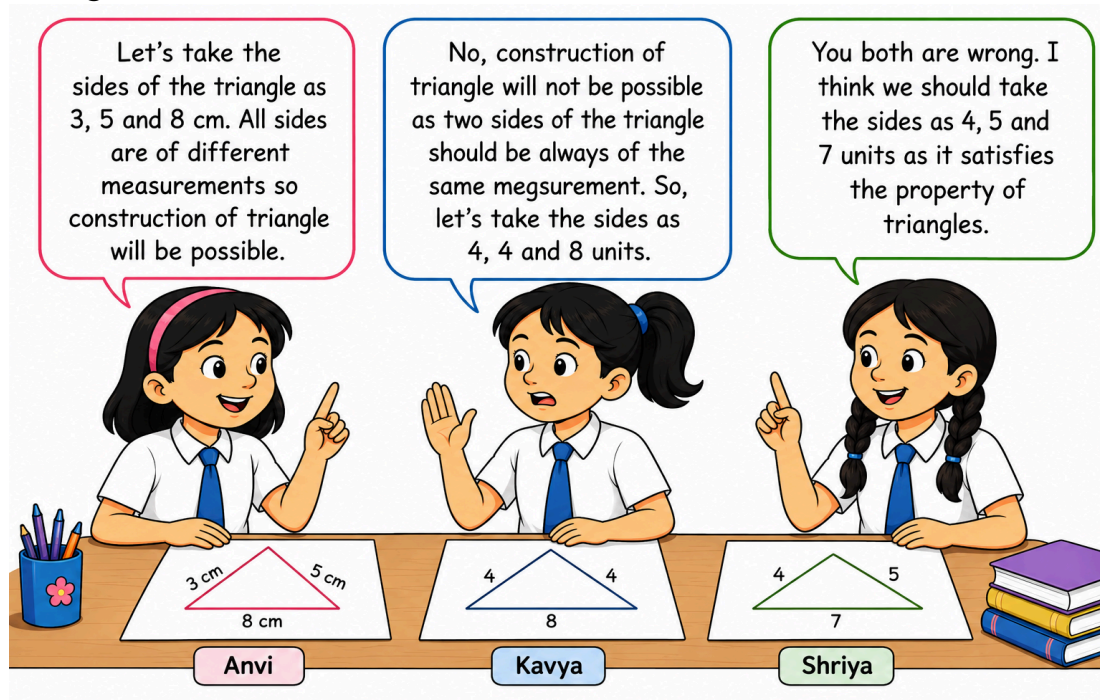
Choose the correct answer out of the following choices.

- 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) (A) is true but (R) is false.
D) (A) is false but (R) is true.
19. **Assertion (A) :** If the sum of 10 observations is 950, then their mean is 95.
Reason (R): Mean of the number of observations is the sum of all observations multiplied by the number of observations.
20. **Assertion (A) :** Identity element for multiplication of rational numbers is 0.
Reason (R): Multiplying any rational number by 0 gives the product as 0.

Section – B

21. Represent $\frac{5}{-8}$ on a number line.
22. The average daily sales of a shop for the first 6 days of a week is ₹5,500. If the sales on Sunday is ₹9,000 then find the average daily sales for the entire week.
- OR**
- The mean weight of 6 boxes is 30 kg. If one box is removed, the mean weight of the remaining boxes becomes 28 kg. Find the weight of the removed box.

23. Read the conversation between Anvi, Kavya and Shriya on the construction of triangles:



Who among them is correct? Just your answer by giving explanation.

24. If $\frac{p}{q} = \left(\frac{5}{6}\right)^2 \times \left(\frac{7}{3}\right)^0$, find the value of $\frac{q}{p}$.

OR

Simplify and express the result as a rational number:

$$\left(\frac{3}{4}\right)^5 \times \left(\frac{3}{4}\right)^{-3}$$

25. Solve for x (checking not required):
 $4(2x - 3) = 20$

Section – C

26. By what number should we multiply $(3)^5$ so that the product may be equal to $(3)^2$?
27. The length of a rectangle is 20 cm more than its breadth. If the perimeter is 100 cm, find the dimensions of the rectangle.

OR

Mahesh is twice as old as Ramesh. If six years is subtracted from Ramesh's age and four years are added to Mahesh's age, Mahesh will be four times Ramesh's age. Find their present ages.

28. Arrange the rational numbers $\frac{-5}{-3}$, $\frac{-14}{9}$, $\frac{19}{-27}$ in ascending order.
29. From a rope of the length 24 m, a man cuts some equal sized pieces. How many pieces can be cut if each piece is of length $\frac{12}{11}$ m?
30. Find the value of y and z if $\frac{-3}{5} = \frac{9}{y} = \frac{z}{-15}$

OR

Compare: $\frac{7}{-3}$ and $\frac{-4}{5}$

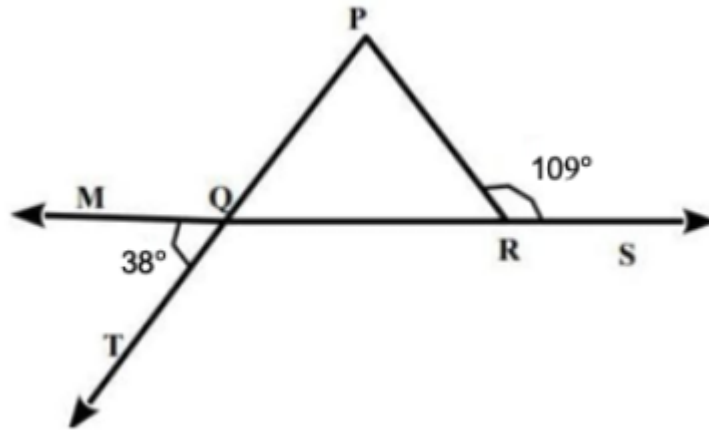
31. Without actual division, determine whether $\frac{51}{60}$ is a terminating decimal representation or non terminating decimal representation.

Section – D

32. (A) Find the value of n : $\left(\frac{3}{2}\right)^4 \times \left\{\left(\frac{3}{2}\right)^3\right\}^5 = \left(\frac{3}{2}\right)^{2n+1}$
- (B) Express 0.0000018 in the form $k \times 10^n$ where $1 \leq k < 10$ and n is an integer.
33. Two vertical pillars of heights 9 m and 24 m stand upright on a level school playground. If the horizontal distance between the bases of the pillars is 20 m, find the distance between the topmost points of the two pillars.

OR

In the given figure, sides PQ and QR of a ΔPQR have been produced to T and S respectively. If $\angle MQT = 38^\circ$ and $\angle PRS = 109^\circ$, find the measure of all angles of ΔPQR . Give reasons.



34. Divide the sum of $\frac{2}{3}$ and $\frac{-5}{6}$ by the product of $\frac{-4}{5}$ and $\frac{3}{8}$.

OR

Verify that: $a \times (b + c) = (a \times b) + (a \times c)$ for $a = \frac{2}{5}$, $b = \frac{-3}{10}$, and $c = \frac{4}{15}$

35. Consider the following data gathered from a survey on watching and participating in the favourite sports of the residents of a colony. Draw a double bar graph choosing an appropriate scale.

Favourite Sport	Cricket	Basketball	Swimming	Hockey
Watching	1200	450	500	400
Participating	600	300	350	250

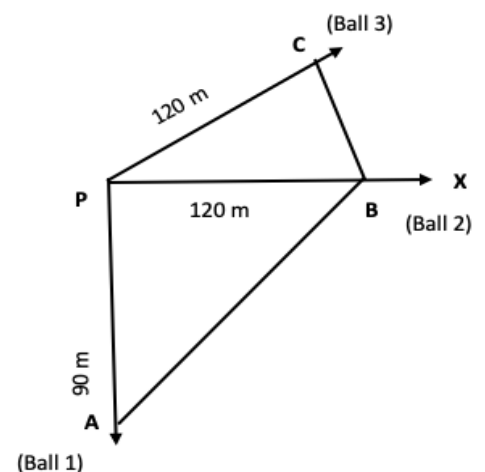
Section – E

36. A golfer Dylan hits three balls from the same point P one by one in different directions as shown in the figure. First hit towards South with range PA = 90 m, Second hit towards East with range PB = 120 m and third hit towards 60° North East with range PC = 120 m.

Based on the above information answer the following questions:

(A) Name the right-angled triangle being formed in the figure.

(B) Name the theorem used to find the distance between ball 1 and ball 2.



(C) Find the distance between ball 1 and ball 2.

OR

Find all the angles of $\triangle PBC$. What type of triangle is $\triangle PBC$?

37. A Healthy Cooking Club exhibition was being organized in a school. Aryan, Rahul, and Ananya were in one group and Aryan was made the leader. They decided to bring different quantities of organic wheat flour to bake healthy multi-grain bread loaves.

Aryan decided that Ananya would bring $7\frac{3}{5}$ kg of flour, Rahul would bring 5.4 kg and he himself would bring 4.125 kg. They brought all the ingredients and started baking.

Based on the above information, answer the following questions:

- (A) Convert the quantity of flour brought by Ananya into decimal form.
- (B) Convert the quantity of flour brought by Aryan into a rational number in its lowest form.
- (C) Find the total quantity of flour brought by the team. If the team used only 9.6 kg of flour for the exhibition, find the weight of the flour left with them.

OR

If each baking project requires 9.6 kg of flour, how much flour will be needed to make five such projects? Also, find the quantity of flour that needs to be brought by each student if they decide to contribute an equal amount.

38. Developing a habit of saving money early in life teaches kids the difference between wishes and needs. It helps individuals navigate financial uncertainties and build a secure retirement. Under a school community outreach program, Sneha started tracking her weekly savings. She deposits all her money into a wooden money box.

Currently, she has a total of ₹275 saved inside the box, consisting entirely of ₹5 and ₹10 coins. The number of ₹5 coins she has is 3 times the number of ₹10 coins.

Based on the above information, answer the following questions:

- (A) Taking the number of ₹10 coins as x , find the number of ₹5 coins in terms of x .
- (B) Find the total value of the ₹10 coins in terms of x .
- (C) Find the actual number of ₹5 coins inside the money box.

OR

If the total savings increase to ₹325 while the number of ₹5 coins remains three times the number of ₹10 coins, then find the number of ₹10 coins.