SAMPLE PAPER (TERM-I)
SESSION 2019-20
CLASS -VIII
SUBJECT - MATHEMATICS

Time - 3 hrs   **Maximum Marks: 80**

General Instructions:

(i)   **All questions are compulsory.**
(ii) **This question paper consists of 30 questions divided into four sections – A, B, C and D.**
(iii) **Section A contains 6 questions of 1 mark each. Section B contains 6 questions of 2 marks each, Section C contains 10 questions of 3 marks each and Section D contains 8 questions of 4 marks each.**
(iv) **There is no overall choice. However, an internal choice has been provided in four questions of 3 marks each and 3 questions of 4 marks each. You have to attempt only one of the alternatives in all such questions.**


SECTION – A
(Question numbers 1 to 6 carry 1 mark each.)

1. The length of each diagonal of a quadrilateral is 7 cm. If its diagonals bisect each other at 90^0, what special name will be given to this quadrilateral?

2. If $10\,m - 28 = 6 - 7\,m$, find m.

3. Write ones digit in the squares of 27 and 64.

4. How many numbers lie between the squares of 91 and 92?

5. Find the cube root of 216.

6. A letter is chosen at random from the word 'PROBABILITY'. Find the probability that the letter chosen is a vowel.

SECTION – B
(Question numbers 7 to 12 carry 2 marks each.)

7. In the adjoining figure, find the value of p.
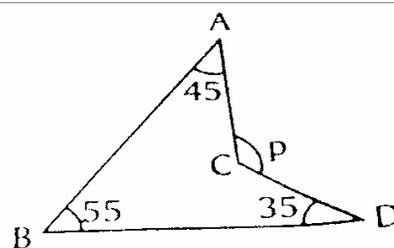
8. Solve the equation and find the value of x.

$5(x - 13) = 10\ x - (2x + 5)$

9. Multiply the additive inverse of $\dfrac{-3}{7}$ with the multiplicative inverse of $\dfrac{6}{49}$.

10. Using prime factorization, find $\sqrt[3]{175616}$

11. Prime numbers between 1 and 25 are written on identical slips and put in a box and mixed up. If a slip is drawn at random, find the probability of getting an odd number.

12. The area of a square is equal to the area of rectangle whose length is 7.26 m and breadth is 6 m. Find each side of the square.

SECTION – C
(Question numbers 13 to 22 carry 3 marks each.)

13. Construct a parallelogram ABCD in which AB = 6 cm, BC = 4.5 cm and diagonal AC = 6.8 cm.

**14.** Find the square root of 289 by repeated subtraction.

15. How many kg of basmati rice worth ☐ 96 per kg should be mixed with 15 kg of basmati rice worth ☐ 80 per kg to obtain a mixture costing ☐ 90 per kg?

OR

In a bus $(2x + 5)$ passengers bought ☐ 5tickets and $(3x - 2)$ bought ☐ 15tickets. If the bus was 48 seater and was just full, find the number of passengers for each category.

16. In the following figure, the diagonals of a parallelogram ABCD intersect each other at O. X and Y are the points on the opposite sides of the parallelogram such that XY passes through O. Give reasons for each of the following.

a. OB = OD

b. $\angle BOY = \angle DOX$

c. $\angle OBY = \angle ODX$
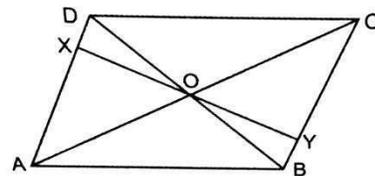
17. Find the smallest number by which 9408 must be divided so that the quotient is a perfect square. Also find the square root of the quotient.

18. Construct a square PQRS whose diagonal is 6 cm.

OR

Construct a rhombus whose diagonals are 3 cm and 4 cm.

19. Maria invested ☐ $7\dfrac{1}{2}$ lakhs in the beginning of a business. After one year, her loss was $\dfrac{2}{15}$

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of the investment. How much money or capital is left in her business?

20. 180 people were surveyed to know which brand of perfume they like to use and recorded data was as follows:

Brand	Brand A	Brand B	Brand C	Brand D
Number of people	32	36	42	70

Draw a pie chart using this data.

OR

Paresh has planted four varieties of plants and trees in his garden. He planted 40 rose plants, 30 sunflower plants, 20 gulmohar trees, and 10 dahlia plants. Draw a pie chart to represent this data.

21. The length of a rectangle exceeds its width by 2 m. If its perimeter is 20 m, find its dimensions and its area.

22. The three angles of a quadrilateral are in the ratio 2:5:4 respectively. If the sum of these angles is 77°. Find all the angles of quadrilateral.

OR

ABCD is a rhombus whose diagonals AC and BD intersect at O. If AB = 10 cm, diagonal BD = 16 cm, find the length of diagonal AC.

SECTION – D
(Question numbers 23 to 30 carry 4 marks each.)

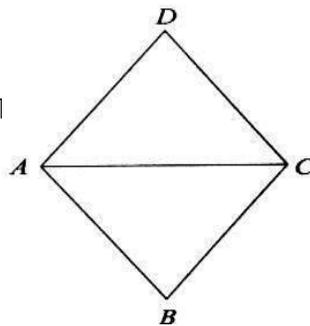**23.** Construct a kite PQRS where PS = 4 cm, QS = 8 cm and SR = 6 cm.

OR

Construct a quadrilateral PQRS in which PQ = 3 cm, QR = 4 cm, $\angle P = 120°$, $\angle R = 90°$ and $\angle S = 60°$.

24. Write the value of each of the following:

(a) $(0.12)^3$ **(b)** $11^3 - 10^3$ **(c)** $(-4)^3$ **(d)** $\sqrt[3]{\overline{27}}$

25. In a rhombus ABCD, AC=AB. State the measures of $\angle D$ and $\angle BAD$.   343

26. Find the greatest 4-digit number which is a perfect square.

OR

What is the least number added to 1700 to obtain a perfect square? Also find the square root of the resulting number.

27. Construct a quadrilateral ABCD in which AB = 5 cm, BC = 4.3 cm, CD = 4.5 cm, $\angle B = 60°$ and $\angle C = 105°$.

28. The students of Jaipuria school decided that each class would contribute ⬜ 1000 towards relief fund to help Kerala flood victims. In class VIII, $\frac{2}{3}$ rd of the class gave ⬜ 20 each, $\frac{1}{6}$ th of the class gave ⬜ 15 each, and the rest of the class gave ⬜ 30 each. Find the total number of students in class VIII. What value is depicted through this act of the students?

OR

Mr. Ram distributed his money among his sons and daughter. He gave $\frac{1}{3}$ of money to his elder son, $\frac{1}{4}$ to the second son and remaining to his youngest daughter. If her daughter got ⬜32000, how much money did Mr. Ram have? What was the share of each child? His elder son was a social worker so he donated half of his share to Kerala flood victims. What value is depicted through this act?

29. Find the square root of 15129 by long division method.

30. Following is the data showing income of one day of the workers of a factory.

Income of one day (in ⬜)	Number of people
1000-1500	5
1500-2000	6
2000-2500	2
2500-3000	8

Draw a histogram of the above data.