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INDIAN SCHOOL SOHAR
FIRST TERM EXAM 2017-18
MATHEMATICS

Date: 14.09.2017 Marks: 80

Class: VIII Time: 3 Hours

General Instructions:

1. All questions are compulsory.
2. The question paper consists of 30 questions divided into four sections A, B, C and D. Section A comprises of 6 questions of 1 mark each, Section B comprises of 6 questions of 2 marks each, Section C comprises of 10 questions of 3 marks each and Section D comprises of 8 questions 4 marks each.

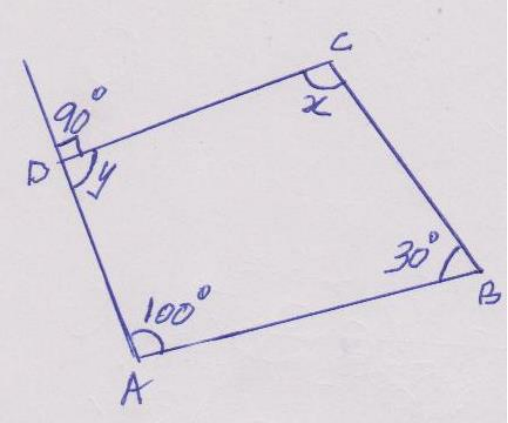
SECTION-A (Each question carries 1 mark)

1. Is $\frac{5}{9}$ the multiplicative inverse of $\frac{-5}{9}$? Why or why not?
2. Solve: $14 - 2x = 2$
3. Find the measure of an exterior angle of a regular decagon.
4. Numbers 1-10 are written on ten separate slips (one number on each slip) kept in a box and mixed well. One slip is chosen from the box without looking into it. What is the probability that the number obtained is greater than 7?
5. Express 36 as the sum of 6 odd numbers.
6. Find the cube root of 24389 by estimation.

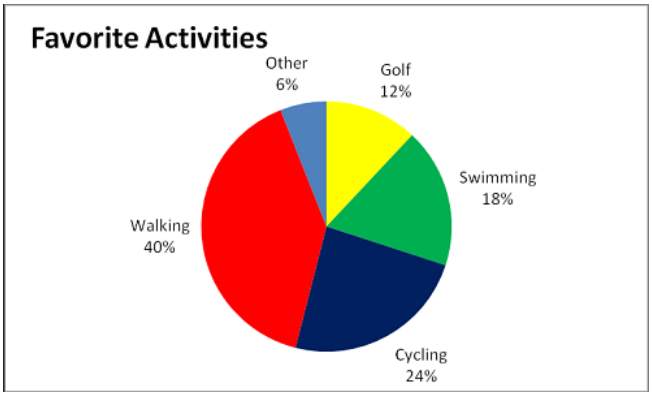
SECTION – B (Each question carries 2 marks)

7. Using appropriate properties find the value of $\frac{2}{3} \times \frac{5}{7} + \frac{2}{3} \times \frac{5}{9}$.
8. Solve: $\frac{x}{5} + \frac{7}{2} = \frac{-3}{2}$
9. Find the square root of 11025 by prime factorization method.
10. Is 1188 a perfect Cube? If not by which smallest natural number it should be divided so that the quotient is a perfect cube?

11. Find the angle measure x in the following figure.



12. Following Pie-chart shows the favourite activities of the members of a club. Observe the Pie-chart and answer the question given below



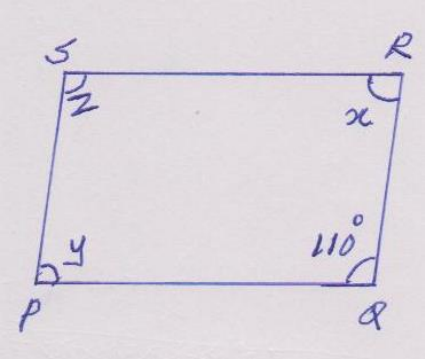
If 384 members like Cycling what is the total number of members in the club?

SECTION – C (Each question carries 3 marks)

13. Represent the numbers 0, 1, -1, 2, -2, $1\frac{1}{2}, \frac{1}{4}, 1\frac{3}{4}, \frac{-1}{2}$ and $-1\frac{1}{4}$ on a number line.
14. Find four rational numbers between $\frac{-3}{5}$ and $\frac{-2}{7}$.
15. Solve: $\frac{3x-1}{5} - \frac{2x+3}{3} = \frac{2}{3} - x$
16. The ages of Shyam and Reema are in the ratio 3:5. Five years from now their ages will be in the ratio 2:3. Find their present ages.
17. The weights in kg of 20 students in a class are given below. Make a frequency table with intervals as 30-35, 35-40 and so on for the data.

    35, 40, 50, 38, 45, 52, 33, 48, 54, 37, 40, 55, 39, 47, 50, 48, 54, 59, 44, 55.
18. Construct a quadrilateral ABCD with AB = 4 cm, BC =6cm, CD = 5 cm, AD = 5.5 cm, and AC = 7 cm.
19. Find the square root of 27225 by prime factorization.

20. Consider the parallelogram PQRS. Find the values $x, y \ and \ z$. Give reasons for the steps.



21. Find the smallest number by which 4394 must be divided so that the quotient will be a perfect cube.
22. Observe the following frequency distribution of marks obtained by 35 students in a Mathematics test and answer the questions given below.

Class Interval (Marks)	Frequency
0-10	1
10-20	3
20-30	3
30-40	6
40-50	11
50-60	7
60-70	4
Total	35

a) What is the size of the class intervals?

b) Which class has the highest frequency?

c) Which class has the lowest frequency?

d) What is the upper limit of the class interval 40-50?

e) Which two classes have the same frequency?

f) How many students scored marks 40 and more?

SECTION – D (Each question carries 4 marks)

23. Construct a quadrilateral ABCD with AB = 4.5 cm, BC= 5.6 cm, CD = 7.2 cm, $\angle B = 105^{o}$, and $\angle C = 80^{o}$.
24. The measures of two adjacent angles of a parallelogram are in the ratio 7:11. Find the measures of each angle of the parallelogram.

25. A cuboid of plasticine has sides 6 cm, 3 cm, 2 cm. How many such cuboids will be required to form a cube?
26. The sum of the digits of a two digit number is 7. The number obtained by reversing the digits exceeds the original number by 27. Find the original number.
27. The following table shows the daily wages of 60 workers in a factory. Construct a histogram to represent the data.

Classes (Wages in Rs)	Frequency (Number of Workers)
0-50	2
50-100	3
100-150	8
150-200	15
200-250	18
250-300	14
Total	60

28. Find the smallest number that should be added to 60509 to get a perfect square number. Also find the square root of the number so obtained.
29. Name the property of rational numbers used in the following.

    Example: 15×16 = 16×15 Answer: Commutative property of multiplication.

    a) (18+17) + 13 = 18 + (17+13)

    b) $\left(\frac{-4}{5} \times \frac{3}{7}\right) \times \frac{15}{16} = \left(\frac{-4}{5} \times \frac{15}{16}\right) \times \frac{3}{7}$

    c) 20 × (-3+7) =(20 ×-3) + (20×7)

    d) $\frac{7}{9}\ and\ \frac{-8}{11}$ are rational numbers. Their product $\frac{-56}{99}$ is also a rational number.
30. Find the square root of a) 57.76 and b) 7569 by division method.