



INDIAN SCHOOL SOHAR  
TERM I EXAMINATION – (2019-2020)  
MATHEMATICS

Class VIII  
Date: 22.9.2019

Max. Marks: 80  
Duration: 3hrs

**General Instructions:**

*All questions are compulsory.*

*This question paper consists of 40 questions divided into four sections A, B, C & D. Section A comprises of 20 questions of 1 mark each, Section B comprises of 6 questions of 2 marks each, Section C comprises of 8 questions of 3 marks each & Section D comprises of 6 questions of 4 marks each.*

*There is no overall choice in the paper. However an internal choice is provided in two questions of 1 mark, two questions of 2 marks, three questions of 3 marks and two questions of 4 marks.*

**SECTION A**

- The multiplicative inverse of  $\left(\frac{-1}{2}\right)$  is:  
a)  $\frac{1}{2}$                       b) 1                      c) 2                      d) (-2)
- Which of the following rational number lies between 0 and -1?  
a)  $\frac{-3}{5}$                       b)  $\frac{1}{2}$                       c)  $\frac{4}{7}$                       d)  $\frac{-5}{4}$
- Solution of the equation  $x + 7 = 5$  is:  
a) 12                      b) 2                      c) -12                      d) -2
- If 'x' is an even number, then which of the following is the next odd number?  
a)  $x + 1$                       b)  $x - 1$                       c)  $x + 2$                       d)  $x - 2$
- The sides of a pentagon are produced in order. Which of the following is the sum of its exterior angles?  
a)  $180^\circ$                       b)  $360^\circ$                       c)  $540^\circ$                       d)  $720^\circ$
- Which of the following quadrilaterals is a regular quadrilateral?  
a) Rectangle                      b) Rhombus                      c) Square                      d) Parallelogram
- Which of the following is the probability of an impossible event?  
a) (-1)                      b) 0                      c) 1                      d) none of these
- Which of the following is a perfect square number?  
a) 88888                      b) 22222                      c) 10000                      d) 1000
- A square board has an area of 144 square units. What is the length of each side of the board?  
a) 11 units                      b) 12 units                      c) 13 units                      d) 14 units

10. The one's digit of the cube of the number 123 is:

- a) 3                      b) 6                      c) 7                      d) 9

11. What is the product of a rational number and its reciprocal?

12. Write the rational number which is equal to its additive inverse.

13. Solve for y:  $\frac{9}{y} = 81$

14. The sum of the ages of three persons is 85. What will be the sum of their ages after 5 years?

15. The measure of the exterior angle of a regular polygon is  $108^\circ$ . What is the measure of its each interior angle?

16. Find the number of sides of a regular polygon with each exterior angle has a measure of  $45^\circ$ .

17. A die is rolled once. What is the probability of getting a factor of 36?

**OR**

Two unbiased dice are thrown. What is the probability of getting a sum of 7?

18. How many natural numbers lie between  $121^2$  and  $122^2$ ?

19. Evaluate  $1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 + 17 + 19 + 21 + 23$

20. What is the cube of  $(-9)$ .

**OR**

What is the cube root of 8000?

### **SECTION B**

21. Multiply  $\frac{9}{2}$  by the reciprocal of  $4\frac{1}{2}$ .

22. Two numbers are such that the ratio between them is 3:5. If each is increased by 10, the ratio between the new numbers so formed is 5:7. Find the original numbers.

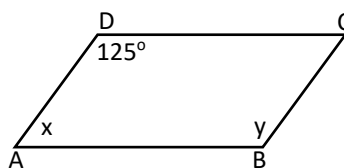
**OR**

Solve for x:  $\frac{9x}{7-6x} = 15$

23. In the figure,

ABCD is a parallelogram.

Find x and y.



24. A bag contains 4 red and 5 green and 3 blue balls. A ball is drawn at random. Find the probability of getting      a) a red ball.                      b) not a red ball.

25. Find the square of 104 without actual multiplication.

**OR**

Evaluate  $\sqrt{\frac{576}{676}}$

26. Find the Pythagorean triplet whose one member is 17.

**SECTION C**

27. Represent  $\frac{-2}{7}$  and  $\frac{3}{7}$  on a number line.

**OR**

Find three rational numbers between  $\frac{1}{2}$  and 1

28. Solve:  $\frac{m-1}{3} - \frac{m-2}{4} = 1$

**OR**

Solve:  $\frac{x}{2} - \frac{1}{5} = \frac{x}{3} + \frac{1}{4}$

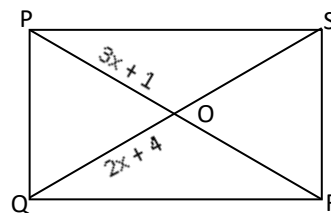
29. Three consecutive integers are such that when they are taken in increasing order and multiplied by 4, 5 and 6 respectively, they add up to 92. Find these numbers.

30. In the figure, PQRS is a rectangle.

Diagonals PR and QS intersect at O.

If  $OP = 3x + 1$  and  $OQ = 2x + 4$ ,

then find the value of x.



31. Construct a quadrilateral ABCD, where  $AB = 4.5\text{cm}$ ,  $BC = 5.5\text{cm}$ ,  $CD = 4\text{cm}$ ,  $AD = 6\text{cm}$  and  $AC = 7\text{cm}$ .

32. Find the square root of 27225 by prime factorization.

**OR**

Find the square root of 27225 by division method.

33. A PT teacher wants to arrange maximum possible number of 6000 students in a field such that the number of rows is equal to the number of columns. Find the number of rows if 71 were left out after arrangement.

34. Find the greatest 5-digit number which is a perfect square.

### SECTION D

35. Find using distributive property:  $\frac{4}{7} \times \left( \frac{-2}{5} \right) + \frac{4}{7} \times \frac{3}{4} - \frac{1}{3} \times \frac{4}{7}$

36. Construct a quadrilateral ABCD with AB = 4cm, BC = 5cm, CD = 4.5cm,  $\angle B = 60^\circ$  and  $\angle C = 90^\circ$ .

**OR**

Construct a parallelogram ABCD with AB = 5cm, BC = 6cm and  $\angle D = 75^\circ$

37. The marks obtained by 40 students of class VIII in an examination are given below.

16, 6, 15, 3, 19, 21, 15, 6, 25, 8,  
20, 13, 0, 11, 22, 17, 4, 12, 7, 21,  
7, 11, 14, 24, 9, 14, 23, 20, 4, 8,  
16, 16, 17, 18, 24, 6, 0, 17, 15, 19.

Present the data in the form of a frequency distribution table using the same class size, one such class being 15 – 20 (where 20 is not included).

38. Construct a histogram for the following data:

Monthly school fee	20-30	30-40	40-50	50-60	60-70	70-80	80-90
Number of schools	5	7	9	11	8	6	4

39. The number of students admitted in different faculties of a college are given below. Represent the information by a pie-chart.

Faculty	Commerce	Arts	Science	Law	Computer
No. of students	450	300	1200	1000	650

40. Find the least number which must be added to 6412 to get a perfect square. Also find the square root of the perfect square so obtained.

**OR**

Find the cube root of 74088 by prime factorization.