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## INDIAN SCHOOL SALALAH

FIRST TERM EXAMINATION – SEPTEMBER (AY-2024-25)



Class: VIII

MATHEMATICS (041)





Date: 23/09/2024

Time: 3 hours

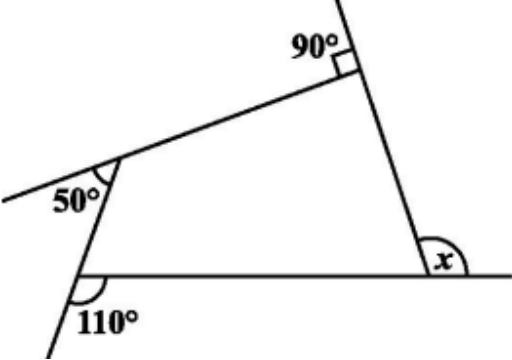
Maximum Marks: 80

**General Instructions:**

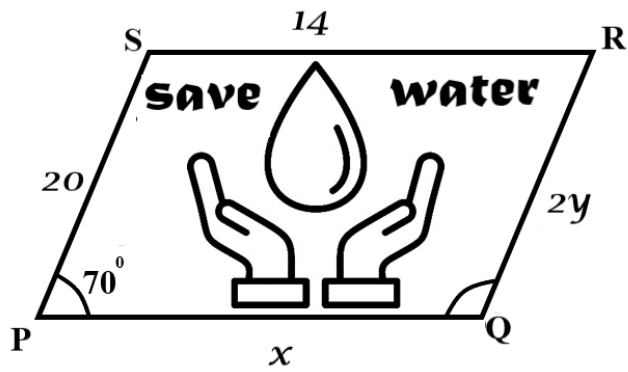
- All questions are compulsory.
- This question paper consists of 30 questions divided into 5 sections.
- Section A contains 6 questions of 1 mark each. Section B contains 6 questions of 2 marks each. Section C contains 10 questions of 3 marks each. Section D contains 7 questions of 4 marks each and section E contains one case study question of 4 marks.
- Internal choices have been provided in Section C and Section D. You have to attempt only one of the choices in such questions.

NO	SECTION A	MARKS
1	When a number is multiplied by itself, the product obtained is a _____. a) square      b) square root      c) cube      d) cube root	1
2	Which among the following is not a rational number? a) $9 + 0$ b) $9 - 0$ c) $9 \times 0$ d) $9 \div 0$	1
3	The solution of the equation $3x - 5 = 10$ is a) $x = 5$ b) $x = -3$ c) $x = -5$ d) $x = 15$	1
4	Which among the following is a convex polygon? a)  b)  c)  d) 	1
5	Discount is always calculated on the _____. a) Sale price      b) Marked price      c) Service tax      d) Value added tax	1
6	Which among the following is both a perfect square and a perfect cube? a) Only 1      b) Only 64      c) Both 1 and 64      d) None of these	1

<b>SECTION B</b>		
7	Find the ratio of 18 minutes to 1 hour.	2
8	How many sides does a regular polygon have if each of its interior angles is $140^\circ$ ?	2
9	Solve the following equation: $6p - 3 = 2p + 13$	2
10	Using the given pattern, find the missing numbers A, B, C and D. $10^2 - 10 + 1 = 91$ $10^4 - 10^2 + 1 = 9901$ $10^6 - 10^3 + 1 = 999001$ $10^8 - \underline{A} + 1 = \underline{B}$ $\underline{C} - 10^5 + 1 = \underline{D}$	2
11	Is 3375 a perfect cube? Give reason.	2
12	Answer the following: a) _____ is the additive identity and _____ is the multiplicative identity of Rational numbers. b) What is the sum of the rational number $\frac{1}{2}$ and its reciprocal?	2
<b>SECTION C</b>		
13	Write a Pythagorean triplet whose smallest member is 12.	3
14	Solve for $x$ : a) $x = \frac{3}{5}(x - 10)$ b) $\frac{5x}{3} + \frac{1}{2} = \frac{2x}{3} + \frac{3}{2}$	3
15	a) Which of the following are the cubes of odd numbers? i) 343      ii) 2197      iii) 1728      iv) 4096 b) Write the next two numbers in the pattern: 64, 125, 216, _____, _____. c) What is the cube of 14?	3
16	The measures of two adjacent angles of a parallelogram are in the ratio 5:4. Find the measures of each of the angles of the parallelogram.	3

17	<p>Answer the following:</p> <p>a) Express 64 as the sum of consecutive odd numbers.</p> <p>b) What will be the number of zeros in the square of the number 600?</p> <p>c) Find the square root of the expression <math>5 \times 5 \times 7 \times 7 \times 11 \times 11</math>.</p>	3
18	<p>Find <math>x</math> in the following figure.</p> 	3
19	<p>Simplify and solve the following linear equation:</p> $5(2y - 1) = 4(2y + 3) + 7$ <p style="text-align: center;"><b>OR</b></p> <p>Solve <math>5x - 2(2x - 7) = 2(3x - 1)</math></p>	3
20	<p>A table marked at ₹ 1600 is sold for ₹ 1360. Find the discount given and the discount percentage.</p>	3
21	<p>State True or False.</p> <p>a) The product of two rational numbers is always a rational number.</p> <p>b) The additive inverse of the rational number <math>\frac{3}{2}</math> is <math>\frac{2}{3}</math>.</p> <p>c) Every rational number is an integer.</p>	3
22	<p>What is the smallest natural number by which 1080 must be divided to obtain a perfect cube?</p>	3
<b>SECTION D</b>		
23	<p>The area of a square plot is <math>2304 \text{ m}^2</math>. Find the side of the square plot. Also find its perimeter.</p>	4

24	Name the property under multiplication used in each of the following: a) $\frac{3}{2} \times \frac{1}{2} = \frac{3}{4}$ , a rational number. b) $\frac{3}{2} \times \frac{5}{3} = \frac{5}{3} \times \frac{3}{2}$ c) $1 \times \frac{-5}{8} = \frac{-5}{8} \times 1 = \frac{-5}{8}$ d) $\frac{1}{4} \times (5 \times \frac{2}{3}) = (\frac{1}{4} \times 5) \times \frac{2}{3}$	4
25	Solve the following linear equation: $\frac{5t - 3}{2} = \frac{2t + 3}{5}$	4
26	Name the following: a) A regular polygon with three sides. b) A quadrilateral that is not a parallelogram but has exactly two opposite angles of equal measure. c) A parallelogram with a right angle. d) A quadrilateral in which exactly one pair of opposite sides are parallel.	4
27	a) How many natural numbers lie between $24^2$ and $25^2$ ? b) What is the least number that must be subtracted from 1372 to make it a perfect square?	4
28	Calculate the amount on ₹ 12600 for 2 years at 10% per annum compounded annually. Also find the compound interest. <p style="text-align: center;"><b>OR</b></p> The population of a city was 30,000 in the year 2021. It increased at the rate of 5% per annum. Find the population at the end of the year 2023.	4
29	Find the cube root of 10648 by the prime factorisation method.	4
<b>SECTION E</b>		
30	<b>Case Study: -</b> The students of class VIII are asked to cut different types of quadrilaterals from coloured sheets of paper and prepare a poster on ‘Save Water’. Aman cuts a parallelogram and prepares a poster on it. Look at the poster and answer the following questions.	



- a) What is the value of  $x$ ? 1
- b) Find the value of  $y$ . 1
- c) If the measure of  $\angle P$  is  $70^\circ$ , then what will be the measure of  $\angle Q$ ? 1
- d) Write any one property of parallelogram. 1

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