B.K. BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS
A CBSE DAY-CUM-BOYS' RESIDENTIAL SCHOOL

TERM-1 EXAMINATION (2025-26)
MATHEMATICS (QP)

Class: VIII **Time: 3 hrs.**
Date: 08.09.25 **Max Marks: 80**
Admission no: **Roll no:**

General Instructions:

1. This Question Paper has 5 Sections A, B, C, D and E.
2. Section A has 20 MCQs carrying 1 mark each.
3. Section B has 5 questions carrying 02 marks each.
4. Section C has 6 questions carrying 03 marks each.
5. Section D has 4 questions carrying 05 marks each.
6. Section E has 3 case based integrated units of assessment (04 marks each) with sub- parts of the values of 1, 1 and 2 marks each respectively.
7. All Questions are compulsory. However, an internal choice in 2 Qs of 5 marks, 2 Qs of 3 marks and 2 Questions of 2 marks has been provided.

SECTION A

1. The value of $(-1)^{-1}$ is

   a) 0 b) -1 c) 1 d) None of these

2. 1 micron = $\frac{1}{1000000}$ m , its standard form is :

   a) 1.1×10^{-5} m b) 1.6×10^{-5} m c) 0.1×10^{-6} m d) 1×10^{-6} m

3. If 'x' and 'y' are in a direct proportion then which of the following is correct?

   a) x – y = constant. b) x + y = constant c) x × y = constant d) None of these

4. 120 copies of a book cost Rs 600. The cost of 40 copies is:

   a) Rs 300 b)) Rs 100 c)) Rs 200 d)) Rs 400

5. A rational number can be represented in the form:

   a) p x q b) p -q c) p + q d) $\frac{p}{q}$

6. An integer can be one of the following options:

   a) Only Positive b) Only Negative c) Both positive and negative d) None of these.

7. Pick the equation from the given one's which have solution as z = 2.

   a) 2z -2 = 3 b) 3z -2 = -2 c) 3z -3 = 3 d) 4z + 3 = 3

8. The solution of 2 y - 3 = 7 is:

   a) y = -5 b) y = 5 c) y = 6 d) y = -6

9. If $\frac{2x}{5}$ = 4, the value of x is

   a) 10 b) 20 c) 8 d) - 10

10. Which of the quadrilateral has all angles as right angles, opposite sides equal?

    a) Rectangle b) Rhombus c) Parallelogram d) none of these.

11. If ∠A and ∠B are two adjacent angles of a parallelogram. If ∠A = 70°, then ∠B = ?

a) 70^0 b) 90^0 c) 110^0 d) 180^0

12. The sum of all the exterior angles of any polygon is :

a) 180^0 b) 120^0 c) 360^0 d) 90^0

13. If the digit in one's place of a number is 6, then the last digit of its cube will be:

a) 6 b) 2 c) 3 d) 8

14. Which of the following is a perfect cube?

a) 10000 b) 243 c) 343 d) 270000

15. The cube root of $\frac{64}{216}$ is

a) $\frac{4}{5}$ b) $\frac{4}{7}$ c) $\frac{4}{6}$ d) none of these

16. The number of zeros in the square of 900 is

a) 3 b) 4 c) 5 d) 2

17. $\sqrt{2.25}$ is equal to

a) 15 b) 0.15 c) 1.5 d) 0.015

18. Squares of Odd numbers are always:

a) odd b) prime c) even d) composite

19. Assertion : The product of any two rational numbers is always a rational number ..
Reason : The product of two rational number can never be an integer..

a) Both assertion and reason are true and reason is the correct explanation of assertion.

b) Both assertion and reason are true but reason is not the correct explanation of assertion.

c) Assertion is true but reason is false.

d) **A**ssertion is false but reason is true.

20. Assertion : y + 10 = 0 is a linear equation.
Reason : Highest power of a variable y is **1**.

a) Both assertion and reason are true and reason is the correct explanation of assertion.

b) Both assertion and reason are true but reason is not the correct explanation of assertion.

c) Assertion is true but reason is false.

d) Assertion is false but reason is true.

SECTION B

21. A car travels 432 km on 48 litres of petrol. How far would it travel on 20 litres of petrol.?

22. Solve : $x = \frac{4}{5}(x + 10)$

OR

Solve : $5x + 9 = 5 + 3x$

23. Two adjacent angles of a parallelogram are in the ratio 2:3. Find all the angle.

24. Solve for x: $7(x - 3) = 4(x + 1)$

25. What will be the unit digit of cubes the following?

i) 81 b) 272 c) 1234 d) 55555

OR

Find the prime factors of: 600

SECTION C

26. Find : $(2^{-1} + 5^{-1} + 10^{-1}) \times (\frac{5}{8})^{-1}$

27. A machine in a soft drink factory fills 840 bottles in six hours. How many bottles will fill in five hours ?

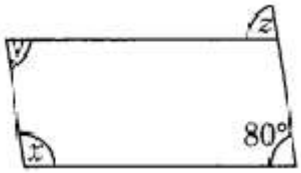
OR

If 18 men can do a piece of work in 50 days, in how many days will 15 men do the same work ?

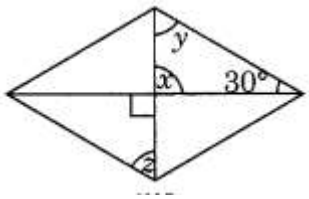
28. Simplify: i) $\frac{3}{4} \times \frac{2}{5} \times \frac{3}{10}$ ii) $\frac{54}{28} \div \frac{66}{35}$

29. Evaluate : $\frac{4}{5} + \frac{8}{3} + \frac{2}{5} - \frac{2}{3}$

30. Consider the following parallelogram. Find the values of the x, y, z.



OR



31. Find the cube root by prime factorisation method : 13824

SECTION D

32. a) Express in standard form: i) 0.00000012 ii) 4050000 iii) 0.0000056

b) Express in usual form: i) 5.412×10^{5} ii) 9.543×10^{-6}

33. Simplify: $\frac{2}{3} + \frac{5}{11} - \frac{1}{3} - \frac{3}{11} + \frac{7}{11}$

34. Find the square root by long Division method: a) 5776
b) Find the length of the Square whose area is 441 m^2.

OR

Find the smallest number by which the **2645** number to be divided so as to get perfect square number. Also find the square root of the square number so obtained.

35. If x and y varies inversely, complete the below given table.

x	12	----	4	----	----	48
y	---	9	36	8	72	----

OR

11 men can dig 6 ¾ metre long trench in one day. How many men should be employed for

digging 27 metre long trench of the same type in one day?

SECTION E

36. Smart watches are a big innovation in the wearable industry, performing too many functions. The most common now a days is to count the number of steps. This has a big impact on health. Gunjan noticed the number of steps she walked on her smart watch in the evening and found it to be 2560 .

Based on the above information, answer the following questions:

(i) Is the given number a perfect cube? 2

(ii) If not, then what is the smallest number to be multiplied to make it a perfect cube? 1

OR

What is the cube-root of the resulting number? 1

(iii) Find the one's digit in the cube of the number 9999. 1

37. During dance practice in a school 6570 students of different schools are arranged in rows such that the number of students in each row is equal to number of rows. In doing so the instructor finds out that 9 children are left out.

Using above information, answer the following questions.

i) How many students were left out in an arrangement.? 2

ii) Is 6570 a perfect Square? 1

OR

What is the number of students forming a square? 1

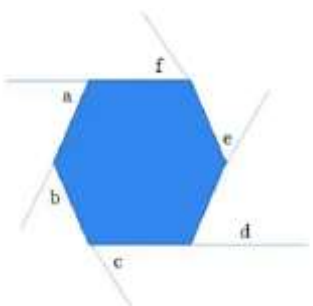
iii) Find the number of children in each row. 1

38.

HEXAGONAL SNOWFLAKES

A snowflake is formed when water molecules join together to make a rigid shape. The water molecules combine more molecules, they extend and form a rigid crystalline structure i.e., hexagon shape. Sometimes we can see snowflakes with 12 sides, when two snowflakes grow together.

Consider a regular hexagon and answer the following questions:



(i) What is the sum of measure of its exterior angles a, b, c, d, e, f ? 1

(ii) Is a = b = c = d = e = f? Why? 2

OR

What is the measure of each 2

(i) Exterior angle (ii) Interior angle

(iii) Is a rectangle a regular polygon? Why? 1

******* ALL **THE BEST** *****