



Indian School Al Wadi Al Kabir
MATHEMATICS
QUESTION BANK - Class VIII

General Instructions:

Section A: Multiple Choice Questions (Q.1 to Q.14)

Section B: Source based questions (Q.15 to Q.18)

Section C: Long Answer Questions (Q.19 to Q.31)

Section D: 4 Marks Case study Questions (Q.32 & Q.33).

NOTE: This question bank consists of 3 printed pages.

10.05.2026

Section A Multiple Choice Question (Q.1 to Q.14)

1. Which of the following numbers can be identified as NOT a perfect square just by looking at its units digit?
A. 144 **B.** 225 **C.** 347 **D.** 289 1M
2. The $\sqrt[3]{4913}$ is:
A. 13 **B.** 17 **C.** 19 **D.** 23 1M
3. Which among the following number have odd number of factors?
A. 169 **B.** 237 **C.** 115 **D.** 18 1M
4. $\frac{\sqrt[3]{343} + \sqrt[3]{1331}}{\sqrt[3]{216} \times \sqrt[3]{27}}$ equals:
A. 2 **B.** 1 **C.** 4 **D.** 18 1M
5. If a perfect square ends with eight zeros, the number must end with _____ zeros.
A. 6 **B.** 5 **C.** 3 **D.** 4 1M
6. If a number can be expressed as the sum of first 12 odd numbers, it is equal to:
A. 12^2 **B.** 12^3 **C.** 2×12^2 **D.** $12^2 + 1$ 1M
7. The digit in the ones place of the cube of a number having 6 at its ones place is _____.
A. 3 **B.** 4 **C.** 6 **D.** 2 1M
8. To find the square root of 361 by repeated subtraction, how many steps of odd numbers are required?
A. 16 **B.** 17 **C.** 18 **D.** 19 1M
9. What smallest number should be added to 776 to get a perfect square?
A. 8 **B.** 47 **C.** 9 **D.** 65 1M
10. Without actually adding, the value of $91+93+95+97+99+101+103+105+107+109$ is:
A. 901 **B.** 10^2 **C.** 1000 **D.** 11^2 1M
11. The smallest number by which 648 must be multiplied to get a perfect cube is _____.
A. 3 **B.** 2 **C.** 9 **D.** 8 1M

12. If 15^3 is expressed as the sum of consecutive odd numbers, then the first odd number in that sequence is_____.
- A.** 211 **B.** 239 **C.** 209 **D.** 241 1M
13. The number of non-perfect square numbers lying between squares of 9001 and 9002 are:
- A.** 9003 **B.** 18004 **C.** 1800 **D.** 18002 1M
14. The square root of the number 5.29 is:
- A.** 0.021 **B.** 2.3 **C.** 23 **D.** 0.23 1M

Section B: Source based questions (Q.15 to Q.18)

Mohan and Sam are exploring numerical patterns in their Math Lab. They are studying the spacing between consecutive squares, predicting the length of square roots, and calculating the expansion of zeros in cubes. By evaluating radical expressions, they are uncovering the logic behind squares and cubes properties.



15. How many non-square numbers are there in between 1728^2 and 1729^2 ?
- A.** 1728 **B.** 3458 **C.** 3456 **D.** 3457 1M
16. Number of digits in the square root of 1042441 is:
- A.** 4 **B.** 5 **C.** 3 **D.** 2 1M
17. How many zeros are in the cube of 1,300?
- A.** 3 **B.** 4 **C.** 6 **D.** 9 1M
18. Simplify: $(\sqrt{121} - \sqrt{14 + \sqrt{4}})^2$ **(CBQ)**
- A.** 7 **B.** 49 **C.** 14 **D.** 105 1M

Section C: Long Answer Questions (Q19 to Q.31)

19. A square-shaped flex banner is printed for a school annual function. If the total area of the painted flex is 3136 cm^2 , find the length of each side of the banner. 2M
20. Express 21^3 as the sum of consecutive odd numbers. 2M
21. Find the square root of 11664 by the method of prime factorisation. 2M
22. Find the volume of a cube whose side is 2.2 cm. 2M
23. Without actual addition, find the sum of:
 $1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 + 17 + 19 + 21 + 23 + 25 + 27 + 29$. 2M
24. Find the smallest number by which 3087 must be divided to obtain a perfect cube. 2M
25. Given $143^2 = 20449$, what is the value of 144^2 . 2M
26. Estimate the square root of 676. 2M
27. Find the smallest number by which 1152 must be multiplied so that the product becomes a perfect square. Also, find the square root of the perfect square so obtained. 3M
28. Find the cube root of each of the following numbers by prime factorization method.
 (i) 2197 (ii) 5832 3M

29. Find the smallest square number divisible by each one of the numbers 6, 10, 15, and 18. 3M
30. Find the smallest natural number by which 53240 must be divided so that the quotient obtained is a perfect cube. 3M
31. Three numbers are in the ratio 1:2:3. Sum of their cubes is 7776. Find the numbers. (CBQ) 3M

Section D: (Case study Questions)

32. **Case Study 1:** Arjun and Sneha are playing a game called "Grid Master". Sneha creates a 6x6 grid of numbers and challenges Arjun to identify the properties of the hidden squares. Arjun must use his knowledge of square and square roots to win the game. 4M

144	550	1,024	2,000	3,136	1,250
625	4,500	8,100	729	150	992
441	1,000	2,500	121	1,600	2,2000
3,600	841	5,625	4,000	169	225
4,096	300	484	7,225	1,300	961
64	10,000	5,000	2,116	289	1,157

- From the 3rd row, identify the number whose square root is a prime number.
 - How many perfect squares are present in the sixth column (the far right column) of the grid? Which are they?
 - Sneha finds the number 300. Is it a perfect square? If not, what will be the next perfect square number?
33. **Case Study 2:** Aaryan and Sarah are building a miniature architectural model for their school project. They are using small wooden cubic blocks to build a large central tower that must be a perfect cube. Sarah counts their current stock and finds they have 1,372 blocks. 4M
- What is the smallest natural number that should be multiplied by 1,372 so that the product becomes a perfect cube?
 - After multiplying 1,372 by that smallest number, find the cube root of the new number obtained.
 - What is the smallest three-digit number which is a perfect cube?
 - Find the cube root of 4096 by estimation method.

All the Best!

ANSWER KEY

1	C. 347	2	B. 17	3	A. 169	4	B. 1
5	D. 4	6	A. 12^2	7	C. 6	8	D. 19
9	A. 8	10	C. 1000	11	C. 9	12	A. 211
13	D. 18002	14	B. 2.3	15	C. 3456	16	A. 4
17	C. 6	18	B. 49	19	56	20	$421+423+425+427+429+....+ 461$
21	108	22	10.648 cm^3	23	225	24	9
25	20736	26	26	27	2, 48	28	i) 13, ii) 18
29	900	30	5	31	6, 12, 18	32	i)121 ii) 2, 225&961 iii) No, 324
33	i) 2, ii) 2744, 14 iii) 125, iv) 16						