INDIAN SCHOOL NIZWA- WORKSHEET

Chapter 1 A square and a cube (Questions based on square)

Name: **Class :VIII Sec:**

Multiple choice questions

1. The square root of 7744 is:
   (a) 84 (b) 88 (c) 92 (d) 96
2. The least number to be multiplied with $2^3 \times 3^2 \times 5^3$ to make it a perfect square is:
   (a) 2 (b) 5 (c) 10 (d) 15
3. If $x = \sqrt{5041}$, then the unit's digit of x is:
   (a) 2 (b) 3 (c) 7 (d) 1
4. The number of non–perfect squares between 150^2 and 151^2 is:
   (a) 299 (b) 300 (c) 301 (d) 302
5. **Assertion (A):** The number of non-perfect square numbers between 345^2 and 346^2 is 690.
   Reason (R): The numbers between $n^2$and $(n+1)^2$ are $(2n)$ in count
   a) Both A and R are true, and R is the correct explanation of A.
   b) Both A and R are true, but R is not the correct explanation of A.
   c) A is true, but R is false.
   d) A is false, but R is true.
6. **Assertion (A):** A number ending with 2 cannot be a perfect square.
   Reason (R): The square of any integer ends with 0, 1, 4, 5, 6, or 9.
   a) Both A and R are true and R is the correct explanation of A
   b) Both A and R are true but R is not the correct explanation of A
   c) A is true but R is false
   d) A is false but R is true
7. Find the square root of 7569 using the prime factorization method.
8. By what least number should 2028 be divided to make it a perfect square? Also find the square root of the number obtained.
9. How many non–perfect square numbers lie between 250^2 and 251^2?
10. The square of a two–digit number is 4225. Find the number using:
    (i) Prime factorization method
    (ii) Estimation method.
11. By what smallest number must 39600 be divided to make it a perfect square? Find the square root of the resulting number.

12. Without finding the square root, find whether 7921 is a perfect square.
13. Show that 1089 and 9801 are both perfect squares, and hence deduce the relationship between their square roots.
14. A farmer has a square field of area 3136 m². He wants to plant trees in equally spaced rows and columns such that the number of trees along each side is equal. How many trees will be there in total in each row?
15. In the following pattern, fill in the missing numbers:

$$1^2 + 2^2 + 2^2 = (\_\_)^2$$
$$2^2 + 3^2 + 6^2 = (\_\_)^2$$
$$3^2 + 4^2 + 12^2 = (\_\_)^2$$
$$4^2 + 5^2 + 20^2 = (\_\_)^2$$
$$9^2 + 10^2 + (\_\_)^2 = (\_\_)^2$$

16. If $\sqrt{29.16} = 5.4$, then find the value of $(\sqrt{0.2916} + \sqrt{0.002916} + \sqrt{291600})$
17. In the following pattern, fill in the missing numbers:

$$2^2 + 4^2 + 4^2 = (\_\_)^2$$
$$4^2 + 6^2 + 12^2 = (\_\_)^2$$
$$6^2 + 8^2 + 24^2 = (\_\_)^2$$
$$8^2 + 10^2 + 40^2 = (\_\_)^2$$
$$10^2 + 12^2 + 60^2 = (\_\_)^2$$

18. A school collected ₹7056 for flood relief. If each student contributed as many rupees as the total number of students in the school, find the number of students.
19. **Case study based question:**

    A landscape designer is planning a square garden with a total area of 3969 m².

    Each tree is to be planted in a square section measuring 9 m × 9 m.

    a) Find the length of one side of the garden.

    b) If the entire garden area is used, find how many trees can be planted.

    c) If the area of each tree section is increased seven times, find the new number of trees that can be planted within the same garden area.
20. **Case study based question:**

    A farmer owns a square plot of land with a total area of 7056 m².

    a) Find the length of one side of the plot.

    b) The farmer plans to divide the entire plot into equal square beds, each with a side length of 7 m. Find how many such square beds can be made.

    c) If the entire square plot is to be fenced once around the boundary, find the total length of fencing required.