

# BRAIN INTERNATIONAL SCHOOL

Mathematics Assignment

Class: VIII

July 2024

## SQUARE AND SQUARE ROOTS

1. A perfect square number can never have the digits \_\_\_\_\_ at the units place.
2. Find the value of  $\sqrt{45} \times \sqrt{20}$ .
3. Write a Pythagorean triplet whose smaller member is 6.
4. Find the value of  $27^2 - 26^2$  without calculating squares.
5. Express 144 as the sum of odd numbers.
6. Without adding, find the sum :  $(1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 + 17)$
7. Find the square root of 144 by the method of repeated subtraction.
8. Find the smallest number by which 1800 must be multiplied so that it becomes a perfect square. Also find the square root of the perfect square so obtained.
9. The area of a square field is  $8281 \text{ m}^2$ . Find the length of its side.
10. Simplify:

$$(\sqrt{81} + \sqrt{0.81} + \sqrt{0.0081}) \times \sqrt{10000}$$

11. 1225 plants are to be planted in a garden in such a way that each row contains as many plants as the number of rows. Find the number of rows and the number of plants in each row.
12. What least number must be added to 6072 to make it a perfect square?
13. Given  $n = 12$ , find the difference between  $n^2$  and  $(n+1)^2$ .
14. What is the least number that must be subtracted from 3793 so as to get a perfect square? Also, find the square root of the number so obtained.

## CUBE AND CUBE ROOTS

1. Is 392 a perfect cube? If not, find the smallest natural number by which 392 should be multiplied so that the product is a perfect cube.
2. Find the smallest number by which 128 must be divided to obtain a perfect cube.
3. Find the cube root of  $-8000$ .
4. Find the cube root of 91125 by prime factorisation method.
5. Find the smallest number by which 1323 may be multiplied so that the product is a perfect cube.
6. What is the smallest number by which 2916 should be divided so that the quotient is a perfect cube?
7. If one side of a cube is 13m find the volume of the cube.
8. The volume of a cube is  $216 \text{ cm}^3$ . What will be the volume of another cube whose sides are double of this cube?
9. Evaluate:

(i)  $\{\sqrt{7^2 + 24^2}\}^3$

(ii)  $\{\sqrt{8^2 + 6^2}\}^3$