**CUBE AND CUBE ROOTS**

**IMPORTANT POINTS**

1. When we multiply a number by itself 3 times, the product so obtained is called the perfect cube of that number.
2. There are only 10 perfect cubes from 1 to 1000
3. The number 1729 is the smallest Hardy- Ramanujan Number.
4. Cubes of even numbers are even and those of odd numbers are odd.
5. The cube of negative number is always negative.
6. If the digit in the one’s place of a number is 0,1,4,5,6 or 9 then its cube will end in the same digit.
7. If the digit in the one’s place of a number is 2 the its cube will end in 8 and vice – versa.
8. If the digit in the one’s place of a number is 3 the its cube will end in 7 and vice – versa.
9. If the prime factors of a number cannot be made into a group of 3 then the number is not a perfect cube
10. The symbol denotes the cube root of a number.

**LEVEL 1**

1. Find the cube of 6 and 11.
2. Find the one’s place digit of the cube of
3. 8888 (ii) 1005 (iii) 77
4. Is 243 perfect cube?
5. Is the cube of 345 odd or even number?
6. What is the one’s place digit in the cube root of 4096?
7. How many perfect cubes are there between 1 to 1000?

**LEVEL 2**

1. Find the smallest number by which the number 288 must be multiplied to obtained the perfect cube.
2. Find the smallest number by which the number 1296 must be divided to obtained the perfect cube.
3. Rahul makes a cuboid of plasticine of sides 5cm, 4cm and 2cm. how many such cuboids will be needed to form a cube?
4. Find the cube root of 2744 and 3375 by prime factorisation method.
5. Find the cube of .

**LEVEL 3**

1. What is the edge of the cube whose volume is 91125cm3 ?
2. Find the cube root of the following:
3.  (b) 
4. Find the cube root of the following by estimation method :
5. 10648 (b) 110592
6. Find the cube root of following by prime factorisation method:
7. 110592 (b) 91125
8. Show that if a number is doubled, then its cube become 8 times the cube of the given number.
9. Show that 0.001728 is a cube of the rational number?

**Worksheet**

1. Is 343 a perfect cube?
2. Find the cube root of 27000.
3. Is 392 a perfect cube? If not find the smallest natural number by which it must be multiplied so that the product is a perfect cube.
4. What is the number whose cube is 216?
5. Is cube of 4913 an odd number? Why?
6. By which smallest number 1188 should be divided so that quotient is a perfect cube?
7. Find the cube root of 658503 by estimation method

**ANSWERS**

**LEVEL 1**

1. 216 and 1331
2. (i) one’s place digit 2 (ii) one’s place digit 5 (iii) one’s place digit 3
3. No
4. Odd number
5. One’s place digit in the square root of 4096 is 6
6. 10

**LEVEL 2**

1. 6
2. 6
3. 25
4. 14 and 15
5. 

**LEVEL 3**

1. 45
2.  and 
3. 22 and 48
4. 48 and 45
5. ---------
6. 

**Worksheet**

1. Yes
2. 33
3. No, 7
4. 6
5. Odd number because one’s place digit is odd
6. 44
7. 87