



# INDIAN SCHOOL DARSAIT

## DEPARTMENT OF MATHEMATICS



Subject : Mathematics                      Topic : Real Numbers                      Date of Worksheet : 21- 3 -2019

Worksheet no: 1

Resource Person: Mrs. Anu Likson

Name of the Student : \_\_\_\_\_

Class & Division : X .....

Roll Number : \_\_\_\_

### Answer the following questions:

**Marks**

1. The decimal representation of  $\frac{6}{1250}$  will terminate after how many places of decimals? 1
2. If two positive integers  $p$  and  $q$  can be expressed as  $p = a^3b^2$  and  $q = ab^3c^2$  and  $a, b, c$  being prime numbers, then find the HCF and LCM of  $p$  and  $q$ . 1
3. If the HCF of 65 and 117 is expressible in the form of  $65m-117$ , then find the value of  $m$ . 1
4. A number  $N$  when divided by 14 gives the remainder 5. Find the remainder when the same number is divided by 7. 1
5. Write the number of zeroes in the end of a number whose prime factorization is  $2^2 \times 5^3 \times 3^2 \times 17$ . 2
6. Can two numbers have 15 as their HCF and 175 as their LCM? Give reasons. 2
7. Check whether  $(15)^n$  can end with digit 0 for any  $n \in \mathbb{N}$ ? 2
8. Prove that  $(\sqrt{3} + \sqrt{5})$  is irrational. 3
9. Show that only one of the numbers  $n, n+2$  and  $n+4$  is divisible by 3. 3
10. Using Euclid's division algorithm find the HCF of the following:  
(i) 1656, 4025  
(ii) 441, 567, 693. 3
11. For any positive integer  $n$ , prove that  $n^3-n$  is divisible by 6. 4
12. Find the greatest number of 5 digit which is exactly divisible by 12, 15 and 4. 4
13. If  $a$  and  $b$  are odd positive integers, then show that  $a^2 + b^2$  is even but not divisible by 4. 4
14. In a seminar the number of participants in Mathematics, Physics and Biology are 336, 240 and 96. Find the minimum number of rooms required if in each room same number of participants is to be seated and all of them being in the same subject. 4
15. Show that any positive odd integer is of the form  $6q + 1$  or  $6q + 3$  or  $6q + 5$  where  $q$  is some integer. 4