CLASS-10

WORK SHEET **SUB - MATHS** **CHAPTER -1**

1-Euclid's division lemma states for any two positive integers a and b, there exists integers q and r such that a = bq + r. If a = 5, b = 8, then write the value of q and r.

2-If A = 2n + 13, B = n + 7, where n is a natural number, then HCF of A and B is:
(a) 2 (b) 1 (c) 3 (d) 4

3-The HCF of 2472, 1284 and a third number N is 12. If their LCM is $2^3 \times 3^2 \times 5 \times 10^3 \times 107$, then the number N is : (a) $22 \times 32 \times 7$ (b) $22 \times 33 \times 103$ (c) $22 \times 32 \times 5$ (d) $24 \times 32 \times 11$

4-The HCF and LCM of two numbers are 33 and 264 respectively. When the first number is completely divided by 2 the quotient is 33. The other number is _____.

5- Bells toll together at 9.00 am. They toll after 7, 8, 11 and 12 seconds respectively. How many times will they toll together again in the next 3 hours?
(a) 3 (b) 4 (c) 5 (d) 6

6-From the following, the rational number whose decimal expansion terminating is:

(a) $\frac{2}{15}$ (b) $\frac{11}{160}$

(c) $\frac{17}{60}$ (d) $\frac{6}{35}$

7-The HCF of two numbers is 145 and their LCM is 2175. If one number is 725, then find the other number.

8-Write the HCF of smallest composite number and smallest prime number.

9-The HCF of 45 and 105 is 15. Write their LCM.

10-If product of two numbers is 3691 and their LCM is 3691, find their HCF.

11-Use Euclid's division algorithm to find the HCF of 504 and 980.

12-Find HCF of 81445 and 687897

13-4 Bells toll together at 9.00 am. They toll after 7, 8, 11 and 12 seconds respectively. How many times will they toll together again in the next 3 hours?

14-Find HCF and LCM of 26676 and 337554 using fundamental theorem of arithmetic.

15-For any positive integer n, prove that $n^3 - n$ is divisible by 6.

16-Prove that $3\sqrt{5}$ is irrational.

17-If the HCF of 152 and 272 is expressible in the form $272 \times 8 + 152x$, then find x.

18-Prove that $\sqrt{3}$ is irrational.

19-If HCF of 144 and 180 is expressed in the form 13*m* – 3, find the value of *m*.

20-Find two numbers which on multiplication with $\sqrt{180}$ gives a rational number. Are these numbers rational or irrational?

21-Show that any positive odd integer is of the form 4*q* + 1 or 4*q* + 3, where *q* is a positive integer.

22-There is a circular path around a sports field. Kamal takes 32 minutes to drive one round of the field while Indu takes 24 minutes for the same. Suppose they both start at the same point, and go in the same direction. After how many minutes they meet again at the starting point?

23-Find the LCM of 2.5, 0.5 and 0.175.

24-A forester wants to plant 66 apple trees, 88 banana trees and 110 mango trees in equal rows (in terms of number of trees). Also he wants to make distinct rows of trees (i.e., only one type of trees in one row). Find the number of minimum rows required.

25-Prove that $7 - 2\sqrt{3}$ is an irrational number.