DELHI PUBLIC SCHOOL, GAYA
WORKSHEET-1

Subject : Mathematics   **Class : X**

Choose the correct option :

1.   Which of the following is a pair of co-prime

    (a) (14, 35)   (b) (13, 25)   (c) (31, 93)   (d) (32, 62)

2.   A positive integer n when divided by 9, gives remainder 7. What will be the remainder when $(3n - 1)$ is divided by 9?

    (a) 1   (b) 2   (c) 3   (d) 4

3.   The decimal expansion of the rational number $\frac{37}{2^2 \times 5}$ will terminate after

    (a) one decimal place   (b) two decimal place

    (c) three decimal place   (d) four decimal place

4.   For some positive integer n, every positive odd integer is of the form

    (a) n (b) $n + 1$ (c) $2n$ (d) $2n + 1$

5.   The HCF of two numbers is 27 and their LCM is 162. If one of the number is 54, what is the other number?

    (a) 36   (b) 45   (c) 9   (d) 81

Fill in the blanks :

6.   The product of a non zero rational and an irrational number is _____.

7. π is _____.

8.   If the HCF of 65 and 177 is of the form (65m - 117), then m = _____.

9.   LCM of $(2^3 \times 3 \times 5)$ and $(2^4 \times 5 \times 7)$ is _____.

10.   2.35 35 35 ……. is _____.

Short Questions :

11.   Evaluate : $0.\overline{68} + 0.\overline{73}$

12.   Examine whether $\frac{17}{30}$ is a terminating decimal.

13.   Find the largest number which divides 546 and 764, leaving remainders 6 and 8 respectively.

14.   Give an example of two irrationals whose sum is rational.

15.   Prove that $(2 + \sqrt{3})$ is irrational.

Long Questions :

16. Prove that $\sqrt{7}$ is irrational.

17. Show that every positive odd integer is of the form $(4q + 1)$ or $(4q + 3)$ for some integer q.

18. Show that one and only one out of n, $(n + 2)$ and $(n + 4)$ is divisible by 3, where n is any positive integer.

19. Six bells commence tolling together and toll at internals of 2, 4, 6, 8, 10, 12 minutes respectively. In 30 hours, how many time do they toll together?

20. Using Euclid's division lemma, show that the cube of any positive integer is of the form $9q$ or $(9q + 1)$ or $(9q + 8)$ for some integer q.

--------------X--------------