SAINIK SCHOOL GOPALGANJ
SUB: MATHEMATICS
CLASS - X

ASSIGNMENT

Lesson: 1: Real Numbers

WORKSHEET-I

1. A **……** is a proven statement used for proving another statement.
(a) axiom (b) theorem (c) lemma (d) algorithm
2. The product of non-zero rational and an irrational number is
(a) always rational (b) always irrational (c) rational or irrational (d) one
3. The HCF of smallest composite number and the smallest prime number is
(a) 0 (b) 1 (c) 2 (d) 3
4. Given that HCF (1152, 1664) = 128 and the LCM (1152, 1664) is
(a) 14976 (b) 1664 (c) 1152 (d) none of these
5. The HCF of two numbers is 23 and their LCM is 1449. If one of the numbers is 161, then the other number is
(a) 23 (b) 207 (c) 1449 (d) none of these
6. Which one of the following rational number is a non-terminating decimal expansion?
(a) 33/50 (b) 66/180 (c) 6/15 (d) 41/1000
7. A number when divided by 61 gives 27 quotient and 32 as remainder is
(a) 1679 (b) 1664 (c) 1449 (d) none of these
8. The product of L.C.M and H.C.F. of two numbers is equal to
(a) Sum of numbers (b) Difference of numbers
(c) Product of numbers (d) Quotients of numbers
9. L.C.M. of two co-prime numbers is always
(a) Product of numbers (b) sum of numbers
(c) difference of numbers (d) none of these
10. What is the H.C.F. of two consecutive even numbers?
(a) 1 (b) 2 (c) 4 (d) 8

WORKSHEET-II

1. For some integer m, every even integer is of the form
(a) m (b) m + 1 (c) 2m (d) 2m + 1
2. For some integer q, every odd integer is of the form
(a) q (b) q + 1 (c) 2q (d) 2q + 1
3. $n^2 - 1$ is divisible by 8, if n is
(a) an integer (b) a natural number
(c) an odd integer (d) an even integer
4. If the HCF of 65 and 117 is expressible in the form 65m – 117, then the value of m is
(a) 4 (b) 2 (c) 1 (d) 3
5. The largest number which divides 70 and 125, leaving remainders 5 and 8, respectively, is
(a) 13 (b) 65 (c) 875 (d) 1750
6. If two positive integers a and b are written as $a = x^3y^2$ and $b = xy^3$; x, y are prime numbers, then HCF (a, b) is
(a) xy (b) xy^2 (c) x^3y^3 (d) x^2y^2

7. If two positive integers p and q can be expressed as $p = ab^2$ and $q = a^3b$; where a, b being prime numbers, then LCM (p, q) is

(a) ab (b) a^2b^2 (c) a^3b^2 (d) a^3b^3

8. The product of a non-zero rational and an irrational number is

(a) always irrational (b) always rational (c) rational or irrational (d) one

9. The least number that is divisible by all the numbers from 1 to 10 (both inclusive) is

(a) 10 (b) 100 (c) 504 (d) 2520

10. The decimal expansion of the rational number 14587/1250 will terminate after:

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

(c) three decimal places (d) four decimal places

WORKSHEET-III

1. Using Euclid's Division Algorithm find the HCF of 9828 and 14742.

2. A sweet seller has 420 kaju burfis and 130 badam burfis she wants to stack them in such a way that each stack has the same number, and they take up the least area of the tray. What is the number of burfis that can be placed in each stack for this purpose?

3. In a morning walk, three persons step off together. Their steps measure 80 cm, 85 cm and 90 cm respectively. What is the minimum distance each should walk so that all can cover the same distance in complete steps?

4. Determine the greatest 3-digit number exactly divisible by 8, 10 and 12.

5. Prove that $15 + 17\sqrt{3}$ is an irrational number.

6. Find two rational numbers and two irrational number between $\sqrt{2}$ and $\sqrt{3}$.

7. (a) Write two example of Euclid's division lemma.
   (b) Use of Euclid's division algorithm to find the HCF of 196 and 38220.
   (c) Use of Fundamental Theorem of Arithmetic in two examples.
   (d) Show $\sqrt{3}$ is irrational numbers.
   (e) Give five examples of rational numbers and their decimal expansion.

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