SUBJECT-MATHEMATICS, CLASS-X
CHAPTER-1(REAL NUMBERS)
WORKSHEET (BASICS)

TIME-45 MIN MAX.MARK-20

Choose the correct option: (2×1=2)

1. For some integer q. every odd integer is of the form

a. q b. q+1 c. 2q d. 2q+1

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

a. always irrational c. always rational

b. rational or irrational d. one

Fill in the blanks: (2×1=2)

3. $\sqrt{2},\sqrt{3},\sqrt{7}$, etc. are _____ numbers.

4. A rational number can be expressed as terminating decimal when the factors of the denominator are _____.

Answer the following (2×1=2)

5. What is the HCF of the smallest composite number and smallest prime number?

6. If HCF (336, 54) =6, find LCM (336, 54)

Short Answer Type Question-I (2×2=4)

7. Explain why 3×5×7+7 is a composite number?

8. After how many decimal places will the decimal expansion of $\frac{17}{8}$ terminate and find its decimal without performing the long division.

Short Answer Type Question-II (2×3=6)

9. Apply Euclid's division algorithm to find HCF of 4052 and 420.

10. Show that any positive odd integer is the form 4m+1 or 4m+3, where m is some integer.

Long Answer Type Question (1×4=4)

11.Prove that $\sqrt{5}$ is an irrational number.

SUBJECT-MATHEMATICS, CLASS-X
CHAPTER-1(REAL NUMBERS)
WORKSHEET (STANDARD)

TIME-45 MIN MAX.MARK:20

Choose the correct option: (2×1=2)

1. If the HCF of 65 and 117 is expressible in the form of 65m-117,then the value of m is
   a. 4 b. 2 c. 1 d. 3

2. The decimal expansion of the rational number $\frac{14587}{1250}$ will terminate after:
   a. One decimal place
   b. Two decimal place
   c. Three decimal place
   d. Four decimal place

Fill in the blanks: (2×1=2)

3. Every real number is either a _____number or an _____ number.
4. The product of three numbers is _____ to the product of their HCF and LCM.

Answer the following: (2×1=2)

5. If 3.124 is expressed in $\frac{p}{q}$ form, what can you say about q?
6. Can 12^n end with the digit 0, for any natural number n? Justify your answer.

Short Answer Type Question-I (2×2=4)

7. Find HCF of 612 and 1314 using prime factorization.
8. Show that $2\sqrt{3}-5$ is irrational.

Short Answer Type Question-II (2×3=6)

9. Three bells toll at intervals of 12 min, 15 min and 18 min respectively. If they start tolling together, after what time will they next toll together?
10. Find the LCM and HCF of 336 and 54 and verify that HCF ×LCM= product of two numbers.

Long Answer Type Question (1×4=4)

11. Use Euclid's division lemma to show that square of any positive integer is either of the form 3m or 3m+1 for some integer m.

SUBJECT-MATHEMATICS, CLASS-X
CHAPTER-1(REAL NUMBERS)
WORKSHEET (HOTS)

1. "The product of two consecutive positive integers is divisible by 2".Is this statement true or false? Justify your answer.
2. "The product of three consecutive positive integers is divisible by 6".Isthis statement true or false? Justify your answer.
3. Prove that $\sqrt{p}+\sqrt{q}$ is irrational, where p, q are primes.
4. Using Euclid's division algorithm. Find the largest number that divides 1251.9377 and 13628 leaving reminders 1, 2 and 3 respectively.
5. Two alarm clocks ring their alarms at regular intervals of 50 sec and 48 sec. If they first beep together at 12 noon.at what time willbeep again for the first time?
6. Show the reciprocal of $3+2\sqrt{2}$ is an irrational number.
7. Show that $(\sqrt{3}+\sqrt{5})^2$ is an irrational number.
8. Prove that $(\sqrt{2}+\frac{1}{\sqrt{2}})^2$ is rational.
9. If h is the HCF of 56 and 72, find x and y satisfying h=56x+72y.
10. Show that only one of the numbers n, n+2 and n+4 is divisible by 3.
11. Prove that n^2-n is divisible by 2 for any positive integer n.
12. Use Euclid's division lemma to show that the square of any positive integer is either of the form 5m, 5m+1 or 5m+4 for some integer m.