

ASSIGNMENT

MATHEMATICS CLASS X

CHAPTER-REAL NUMBERS

Q1) If H.C.F (24,x) =6 and L.C.M (24,x) = 144,find the value of x.

Q2) Is the number $5 \times 3 \times 17 + 17$ a prime number?

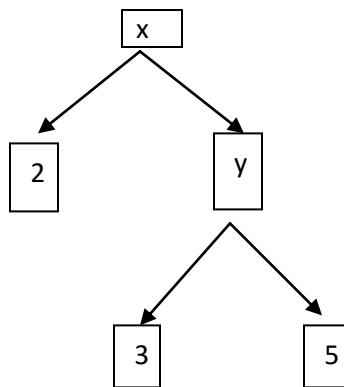
Q3) Find one irrational number between $a = 0.2202$ and $b = 0.2212$.

Q4) If H.C.F of two given numbers a and b is 1. What is terminology given to numbers a and b ?

Q5) Write a rational number between $\sqrt{2}$ and $\sqrt{3}$.

Q6) State Fundamental theorem of Arithmetic.

Q7) Find x and y in the following diagram



Q8) Express 156 as product of primes.

Q9) Write the decimal representation of $\frac{77}{210}$.

Q10) If $\frac{p}{q}$ is a rational number and $q \neq 0$, what is the condition on q so that decimal representation of $\frac{p}{q}$ is terminating ?

Q11) Without actually performing the long division ,state whether the rational number $\frac{129}{2^2 \cdot 5 \cdot 7^5}$ will have a terminating or a non terminating but repeating decimal representation.

Q12)For any two positive integers state the relation between the numbers ,their H.C.F and L.C.M .Is this result true for three positive integers?

Q13) Find H.C.F and L.C.M of the numbers 72 and 96 using the Fundamental theorem of Arithmetic.

Q14) Using Euclids division Algorithm find H.C.F of

Q15) Show that $\sqrt{2}$ is irrational. Also show that $6 + \sqrt{2}$ is irrational.

Q16) Prove that $\sqrt{5} + \sqrt{3}$ is an irrational number.

Q17) Find the greatest number that will divide 445, 572 and 699 leaving the remainders 4, 5 and 6 respectively. **(HOTS)**

Q18) The decimal expansion of $\frac{47}{2^4 \cdot 5^3}$ will terminate after how many places of decimal? Also write the decimal representation.

Q19) Check whether 7^n can end with digit 0, for any n which is a natural number. **(HOTS)**

Q20) If $p = ab^2$ and $q = a^3b$ where p and q are positive integers and a, b being prime numbers. Then find

a) H.C.F.(p, q)

b) L.C.M(p, q)

Q21) The length, breadth and height of a room are 8.25 m, 6.75 m and 4.50 m respectively. Find the length of the longest rod which can measure the dimensions of the room exactly.

Q22) In a seminar the number of participants in Hindi, English and Maths are 60, 84 and 108 respectively. Find the minimum number of rooms required if in each room the same number of participants are to be seated and all of them being in the same subject. **(HOTS)**.

Q23) Find H.C.F of 52 and 117 and express it in form $52x + 117y$. **(H.O.T.S)**

Q24) Priya and Ravish planned to participate in a cycle race to be organised for National Integration. They decided to practice on a circular path around a sports field. Priya takes 18 minutes to complete one round, while Ravish takes 12 minutes for the same. Suppose they both start at the same time and go in same direction.

a) After how many minutes will they meet again at the starting point?

b) What value is depicted by Priya and Ravish? **(Value based question)**

Q25) Prove that product of three consecutive positive integers is divisible by 6. **(H.O.T.S)**

Q26) Prove that one and only one out of $n, n+2$ and $n+4$ is divisible by 3, where n is any positive integer.

Q27) Show that square of any positive integer is either of the form $4q$ or $4q+1$ for some integer q .