Real Numbers:

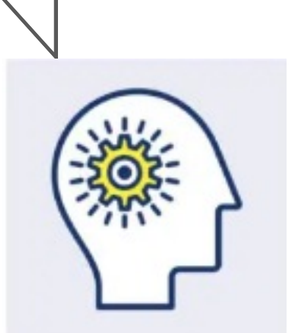
Topics To Be Continued:

- Fundamental Theorem of Arithmetics
- Theorem 1.1
- NCERT Questions + PYQ's

Note:This is a Demo PDF.
This is How the lectures are going to be...

Fundamental Theorem of Arithmetics:

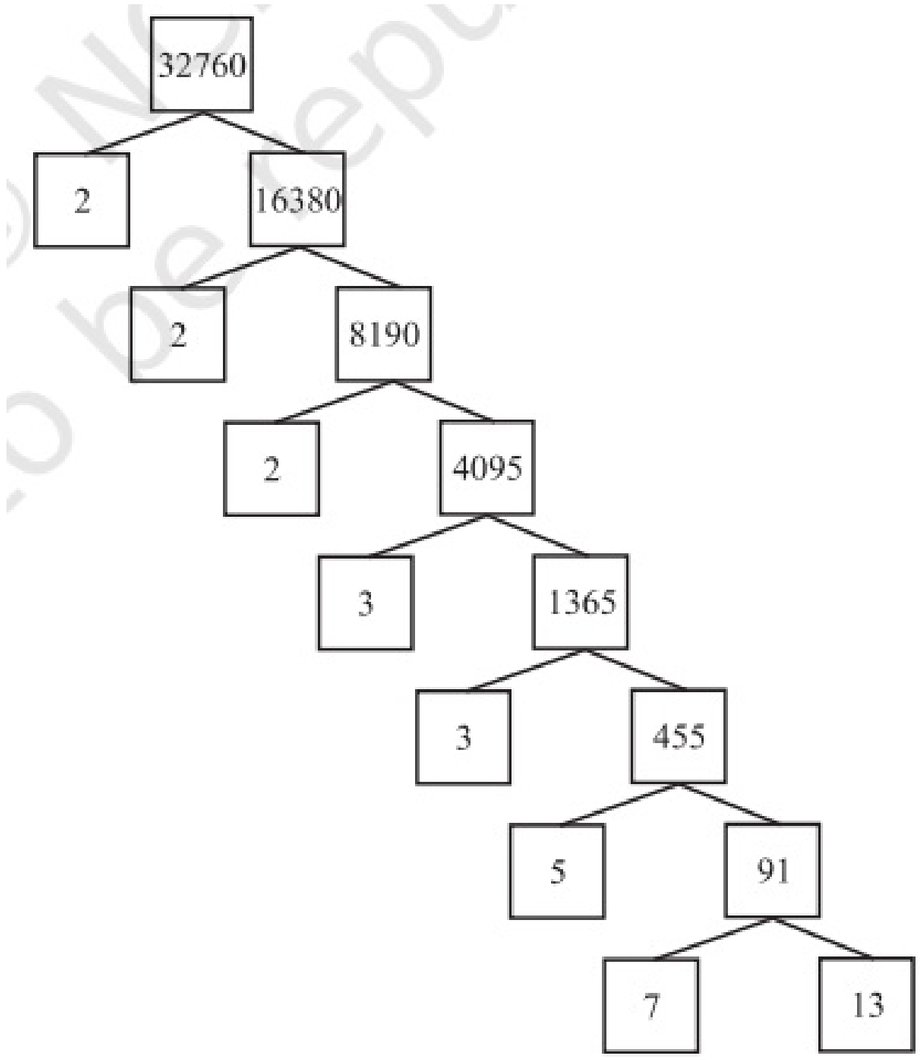
What are Real Numbers?



What are the types of the Real Numbers

Theorem 1.1 (Fundamental Theorem of Arithmetic) : *Every composite number can be expressed (factorised) as a product of primes, and this factorisation is unique, apart from the order in which the prime factors occur.*

Examples:



Example 1 : Consider the numbers 4^n, where n is a natural number. Check whether there is any value of n for which 4^n ends with the digit zero.

The total number of factors of the square of a prime number is :

(A) 1 (B) 2

(C) 3 (D) 4

Concept: For any two positive integers a and b, HCF (a, b) × LCM (a, b) = a × b.

What is LCM and
What is HCF?

How to apply this concept in Questions

Example 2 : Find the LCM and HCF of 6 and 20 by the prime factorisation method.

Example 3: Find the HCF of 96 and 404 by the prime factorisation method. Hence, find their LCM.

Example 4 : Find the HCF and LCM of 6, 72 and 120, using the prime factorisation method.

Find the LCM and HCF of the following pairs of integers and verify that LCM × HCF = product of the two numbers.

(i) 26 and 91 (ii) 510 and 92 (iii) 336 and 54

Explain why $7 \times 11 \times 13 + 13$ and $7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1 + 5$ are composite numbers.

There is a circular path around a sports field. Sonia takes 18 minutes to drive one round of the field, while Ravi takes 12 minutes for the same. Suppose they both start at the same point and at the same time, and go in the same direction. After how many minutes will they meet again at the starting point?

Ranjita, Neha and Salma start weaving sweaters at the same time for the children of an orphan home. They need 15, 18 and 20 days, respectively, to complete a sweater. After how many days will all of them start making a new sweater again ? By that time how many sweaters will have been competed by them ?