23 October 2023 13:32

CHAPTER 1: REAL NUMBER

-PRATHAM.M

OVER VIEW

1.What Is Real Number?
2.Euclid's Division Lemma
3.Euclid's Division Algorithm
4.Fundamental Theorem of Arithmetic
5.Exercises

1.Real numbers is a combination of both **Rational and Irrational Number** in a number system.
The set of real number is denoted by **R**.

2.**Euclid's Division Lemma**: Given positive integer a and b, there exist a whole number q and r satisfying a=b*q + r, where 0=r=b.

3.**Euclid's Division Algorithm**: According to this, which is based on **Euclid's Division Lemma**, The HCF of any two positive integer a and b with **a>b** is obtained as follows:

Step1: Apply the Division lemma to find q and r where a=b*q+r, 0=r<b.
Step2: If r=0, the HCF is b, if r is not equal to 0, Apply Euclid's Lemma to b and r.
Step3: Continue the process till the remainder is Zero. The divisor at this stage is HCF(a,b).

4**.Fundamental Theorem of Arithmetic: Every composite number can be expressed as a product of prime numbers**
Example: prime numbers: 2,3,7,11.
a)2*3=6
b)3*7=21