



★ CLASS 10 MATHEMATICS ★

CHAPTER 1

REAL NUMBERS



FORMULA SHEET

1 FUNDAMENTAL THEOREM OF ARITHMETIC

Every composite number can be expressed as a product of prime numbers.

EXAMPLE:

$$60 = 2^2 \times 3 \times 5$$



2 HCF (HIGHEST COMMON FACTOR)



HCF = Product of Common Prime Factors (Smallest Powers)

EXAMPLE:

$$12 = 2^2 \times 3$$

$$18 = 2 \times 3^2$$

$$\text{HCF} = 2 \times 3 = 6$$

3 LCM (LEAST COMMON MULTIPLE)

LCM = Product of All Prime Factors (Greatest Powers)

EXAMPLE:

$$12 = 2^2 \times 3$$

$$18 = 2 \times 3^2$$

$$\text{LCM} = 2^2 \times 3^2 = 36$$

4 RELATION BETWEEN HCF & LCM

HCF $\times$ LCM = Product of the Two Numbers

or

$$\text{HCF}(a, b) \times \text{LCM}(a, b) = a \times b$$

5 RATIONAL NUMBERS

A number that can be written as

$$\frac{p}{q}$$

where

- p and q are integers
- $q \neq 0$

EXAMPLES:

$$\frac{3}{5}, -\frac{7}{4}, 0, \frac{9}{11}$$



6 IRRATIONAL NUMBERS

Cannot be written in the form p/q .

EXAMPLES:

- $\sqrt{2}$
- $\sqrt{3}$
- $\sqrt{5}$
- π (pi)



7 REAL NUMBERS

Real Numbers
=
Rational Numbers
+
Irrational Numbers

8 COPRIME NUMBERS

Two numbers are called coprime if their HCF = 1.

EXAMPLES:

$$(8, 15), (9, 10), (14, 25)$$



9 IMPORTANT PROOFS

- ✓ $\sqrt{2}$ is Irrational
- ✓ $\sqrt{3}$ is Irrational
(Method of Contradiction)

BOARD EXAM TIPS

- ✓ Learn Prime Factorisation Method.
- ✓ Remember:
HCF $\times$ LCM = Product of Two Numbers
- ✓ Revise the definitions of Rational & Irrational Numbers.
- ✓ Practice proofs of $\sqrt{2}$ and $\sqrt{3}$.



Online Teaching With Nikita

— Your Learning Partner —



NikitaDigiStore.com

CBSE 2026-27

NCERT MATHEMATICS

CHAPTER 1 – REAL NUMBERS