CBSE - Class 10th - MATHEMATICS

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2024

REAL NUMBERS

- Summary
- What to learn - Quick points

Source – NCERT Class 10th Maths, Rationalised 2023-24

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REAL NUMBERS (Ch-1)

1. *The Fundamental Theorem of Arithmetic*

2. If ***p*** is a prime and ***p*** divides a^2, then ***p*** divides ***a***, where ***a*** is a positive integer.

3. To prove that $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$ are irrationals. *(example and practice questions)*

4. Also prove that $5-\sqrt{3}$, $6+\sqrt{2}$ are irrationals. *(example and practice questions)*

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REAL NUMBERS (Ch-1)

5. Finding **LCM** and **HCM** – using *prime factorisation method*.

*The prime factorisation of a natural number is **unique**, except for the order of its factors.*

6. **HCF** = Product of the smallest power of each common prime factor in the numbers.

LCM = Product of the greatest power of each prime factor, involved in the numbers.

REAL NUMBERS (Ch-1)

7. **HCF (a, b) × LCM (a, b) = a × b**

8. HCF $(p, q, r) \times$ LCM $(p, q, r) \neq p \times q \times r$, where p, q, r are positive integers. However, the following results hold good for three numbers p, q and r :

$$\text{LCM}(p, q, r) = \frac{p \cdot q \cdot r \cdot \text{HCF}(p, q, r)}{\text{HCF}(p, q) \cdot \text{HCF}(q, r) \cdot \text{HCF}(p, r)}$$

$$\text{HCF}(p, q, r) = \frac{p \cdot q \cdot r \cdot \text{LCM}(p, q, r)}{\text{LCM}(p, q) \cdot \text{LCM}(q, r) \cdot \text{LCM}(p, r)}$$

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Thank you!

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