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Academic Education CBSE › Class 10 › Mathematics

Real Numbers

Mastering Real Numbers for Class 10 Success

DEFINITION

Real numbers include all rational and irrational numbers, forming the basis of mathematics. They can be represented on a number line.

KEY CONCEPTS

Rational Numbers

Numbers that can be expressed as a fraction of two integers, like 1/2 or -3.

Irrational Numbers

Numbers that cannot be expressed as a simple fraction, such as √2 or π.

Real Number Line

A line that represents all real numbers, where each point corresponds to a real number.

Decimal Representation

Real numbers can be represented in decimal form, either terminating or non-terminating.

Properties of Real Numbers

Includes closure, commutativity, associativity, and distributive properties that apply to real numbers.

EXAMPLES

→ 0.75 is a rational number.

→ √3 is an irrational number.

→ The number line includes -1, 0, and 2.5.

MEMORY TIPS

★ Remember 'Rational = Ratio' to recall rational numbers.

★ Use 'Irrational = Infinite' to remember that irrational numbers have non-repeating decimals.

★ Think of the number line as a 'real' path where all numbers exist.

COMMON MISTAKES

✗ Confusing rational numbers with integers.

✗ Assuming all decimals are rational.

✗ Misplacing numbers on the number line.

QUICK RECAP

Real numbers encompass both rational and irrational numbers. Understanding their properties and representations is essential for solving mathematical problems.