ONE PAGE SUMMARY

Academic Education CBSE › Class 9 › Mathematics

Number Systems

Explore the world of Number Systems in Mathematics!

DEFINITION

> Number systems are ways to represent and classify numbers. They include natural, whole, integers, rational, and irrational numbers.

KEY CONCEPTS

Natural Numbers

Natural numbers are the counting numbers starting from 1, like 1, 2, 3, and so on.

Whole Numbers

Whole numbers include all natural numbers and zero, such as 0, 1, 2, 3, etc.

Integers

Integers are whole numbers that can be positive, negative, or zero, like -2, -1, 0, 1, 2.

Rational Numbers

Rational numbers can be expressed as a fraction of two integers, such as 1/2 or -3/4.

Irrational Numbers

Irrational numbers cannot be expressed as a simple fraction, like √2 or π.

EXAMPLES

→ The number 5 is a natural number.

→ 0 is a whole number but not a natural number.

→ 1/3 is a rational number.

MEMORY TIPS

★ Remember: Natural numbers = Counting numbers (1, 2, 3...).

★ Whole numbers = Natural numbers + 0.

★ Rational numbers = Ratios of integers.

COMMON MISTAKES

✗ Confusing natural numbers with whole numbers by excluding zero.

✗ Thinking all fractions are irrational.

✗ Misidentifying negative numbers as natural numbers.

QUICK RECAP

Number systems categorize numbers into different types like natural, whole, integers, rational, and irrational. Understanding these categories helps in solving various mathematical problems effectively.