

RATIONAL NUMBERS REFERENCE GUIDE

Mathematics Resource for Students & Teachers

Definition: A **Rational Number** is any number that can be expressed as a fraction p/q , where p and q are integers and q is not zero.

Key Characteristics

- Can be written as a ratio
- Terminating decimals (e.g., 0.75)
- Repeating decimals (e.g., 0.333...)
- Includes all integers

Examples

- Fractions: $1/2$, $-3/4$, $7/2$
- Integers: 5, -12, 0
- Square Roots: $\sqrt{4}$, $\sqrt{16}$, $\sqrt{100}$
- Decimals: 0.5, 0.66...

Conversion Table

Fraction	Decimal	Percent	Type
$1/2$	0.5	50%	Terminating
$1/3$	0.333...	33.3%	Repeating
$3/4$	0.75	75%	Terminating
$1/8$	0.125	12.5%	Terminating

The Real Number Hierarchy

Rational Numbers $\supset$ Integers $\supset$ Whole Numbers $\supset$ Natural Numbers

Teacher Resource Tool $\supset$ Rational Numbers Chapter $\supset$ Grade 6-8 Math