

Mathematics Content Standards

Domain 1: Number Sense

Topic 1: Number Sense

- 1.1.01 Represent real numbers as points on the line and as decimals (possibly infinite).
- 1.1.02 Express rational numbers as fractions, finite or repeating decimals, or percents; convert between these.
- 1.1.03 Understand the density of rational and irrational numbers in real numbers, i.e., between every two real numbers there are rational and irrational numbers.
- 1.1.04 Identify and use the arithmetic properties of subsets of integers and rational, irrational, and real numbers, including closure properties for the four basic arithmetic operations where applicable.
- 1.1.05 Compare and order rational numbers in various forms including integers, percents, and positive and negative fractions and decimals.
- 1.1.06 Know, understand and use the standard algorithms for addition, subtraction, multiplication and division of whole numbers and decimals.
- 1.1.07 Add, subtract, multiply, and divide rational numbers in problem situations.
- 1.1.08 Know and apply the Fundamental Theorem of Arithmetic.
- 1.1.09 Understand number theoretic concepts of primes, factors, and multiples; be able to calculate least common multiple and greatest common factor.
- 1.1.10 Understand “absolute value” for real numbers, its interpretation as distance from the zero on the number line, and recognize that $\sqrt{a^2} = |a|$ for both positive and negative numbers a .
- 1.1.11 Use algebraic techniques to solve rate, ratio and proportion problems, such as problems involving percent mixtures, rates of work, unit rates, rates of change, speed, density, pressure, scale drawings, and similar triangles.
- 1.1.12 Solve consumer problems involving sales tax, tips, interest, discounts, compound interest, markups, commissions, percent increase, and percent decrease using whole numbers, fractions, decimals and percents.