

PRE-ALGEBRA/CALCULATOR MATH

SCOPE

This course in Pre-Algebra concepts and skills encompasses the use of whole numbers and theory; quantitative data; percents, ratios and proportions; and integers. Additionally, instruction in the use of the calculator assists in a better understanding of the manipulation of numbers.

SEQUENCE

UNIT I - Whole Numbers and Number Theory

1. Add, subtract, multiply and divide whole numbers.
2. Round whole numbers.
3. Identify prime and composite numbers.
4. Find all factors of a given number.
5. Factor a number using primes and exponents.
6. Find greatest common factor (GCF).
7. Find least common multiple (LCM).
8. Solve simple algebraic equations.
9. Use a calculator to solve problems.

UNIT II – Fractions, Decimals and Quantitative Data

1. Add, subtract, multiply and divide fractions.
2. Evaluate formulas.
3. Solve simple linear equations.
4. Add, subtract, multiply and divide decimals.
5. Change fractions to decimals and vice-versa.
6. Simplify fractions.
7. Solve problems using a calculator.

UNIT III – Percents, Ratio and Proportions

1. Change percents to decimals or fractions and vice-versa.
2. Use percents.
3. Use proportions.
4. Evaluate formulas.
5. Solve simple algebraic equations.
6. Evaluate algebraic expressions.
7. Solve problems using a calculator.

UNIT IV - Integers

1. Represent integers on a number line.
2. Add and subtract integers on a number line.
3. Find the opposite (additive inverse) of an integer.
4. Add, subtract, multiply and divide integers.
5. Add, subtract, multiply and divide rational numbers.
6. Simplify expressions.
7. Solve equations.
8. Solve problems using a calculator.

UNIT V - More Algebra

1. Solve 1, 2 or 3-step equations.
2. Solve inequalities.
3. Translate English phrases into algebraic phrases.
4. Factor polynomials.
5. Find approximations of square roots.
6. Use the Pythagorean Theorem.
7. Identify points in a plane.
8. Identify graphs of equations.
9. Identify graphs of inequalities.
10. Solve problems using a calculator.