Pre-Algebra Course Information

Overview: Pre-Algebra is an important bridge between the abstract nature of Algebra and the more concrete nature of arithmetic in the younger grades. This course has a general goal of moving students toward a more abstract way of thinking. Additionally, the foundations of Algebra start here, and are essential to master before moving on to the next step.

Scope and Sequence: The course is broken down into units. Below are the primary concepts from each unit. Note: This is not a complete list of course content.

- **Unit 1:** Exponents, Square Roots, Order of Operations, Algebraic Expressions
- **Unit 2:** Absolute Value, Adding, Subtracting, Multiplying and Dividing Integers
- **Unit 3:** Terms and Like Terms, Distrbution, One-Step Equations
- **Unit 4:** Solving Equations, Perimeter and Area, Problem Solving Strategies
- **Unit 5:** Rational Numbers, Exponent Laws, Scientific Notation, GCF, LCM
- **Unit 6:** Negative and Algebraic Fractions, Percent Increase/Decrease, Word Problems
- **Unit 7:** Rates, Ratios, Proportions, Combinations, Permutations, Probability
- **Unit 8:** Solving Square Root Equations, Solving and Graphing Inequalities
- **Unit 9:** Angles, Classifying Triangles, Relationships in a Triangle, Polygons
- **Unit 10:** Similar Figures, Scale Factor, Transformations, Area of a Circle, Circumference
- **Unit 11:** Properties of Solids, Surface Area, Volume, Formulas
- **Unit 12:** Linear Equations, Polynomial Basics, Operations with Polynomials
- **Unit 13:** Measures of Central Tendency, Box and Whisker Plos, Charts and Graphs

Assignments/Homework: Assignments are usually about 15-20 problems. Normally, an assignment will be a mix of problems covering the day's lesson and a scattered review of past concepts. Assignments should take about 30-45 mins. to complete. Upon completion, assignments are to be corrected by the student using the answer key and investigated to determine what (if any) areas require review.

Quizzes and Tests: Regular quizzes are taken online and students receive instant feedback on how they did. Quizzes are meant to be taken without books, notes, or other forms of help. Formal tests are taken via the traditional "paper and pencil" format.

Materials/Supplies:

- Students are expected to take notes. A binder or notebook typically works the best.
- Graph paper
- Protractor
- Ruler/straightedge
- Scientific calculator
- Compass