Math 8-1 Curriculum Guide

Unit 1: Tools of Algebra, Solving Linear Equations & Inequalities

* Use of variables, properties, evaluating & simplifying expressions
* Solving multi-step equations
* Solving & Graphing Inequalities
* Word Problems to Represent Linear Equations and Inequalities in Real-World Context
* Literal Equations/ Rewriting Formulas

Unit 2: Introduce Functions, & Transformations

* Domain and Range
* Define and Evaluate Functions
* Function Notation
* Sketch/Story of a Function
* Introduce Functions Including Linear, Quadratic, Exponential

Unit 3: Graphing & Writing Linear Equations & Inequalities

* Slope
* Graphing Using Slope-intercept
* Solving Linear Inequalities by Graphing
* Scatterplot & Line of Best Fit
* Writing the Equation of a Line Given Certain Information (2 points, // lines, lines, horizontal, vertical)

Unit 4: Linear Systems

* Solving by Graphing
* Solving by Substitution
* Solving by Elimination
* Word Problems to Represent Linear Equations and Inequalities with Two Variables in a Real-World Context

Unit 5: Exponents

* Laws of Exponents
* Scientific Notation

Unit 6: Radicals

* Square Roots & Cube Roots
* Approximating square roots
* Simplify Radicals
* Operations with Radicals
* Equations with Square Roots
* The Pythagorean Theorem and its Converse

Unit 7: Geometry

* Geometric Transformations (translations, reflections, rotations and dilations)
* Parallel Lines and transversals
* Triangles (angle sum, exterior angle theorem, triangle inequality)
* Volume of Solids including compound shapes

Unit 8: Polynomials & Factoring

* Polynomials – standard form, number of terms and degree
* Adding & Subtracting Polynomials
* Multiplying Polynomials
* Factoring Polynomials (a = 1)

Unit 9: Ratio, Proportion & Percent

* Review ratio, proportion and percent applications
* Word Problems