

Scope and Sequence

Mathematics

Algebra 1 300

Description: Students will use fundamental operations, properties and algebraic transformations to solve equations and inequalities, to problem solve and solve systems of equations; they will also study graphs, factoring, quadratic equations, informal geometry, probability, data analysis, and matrices. Designed to have students understand the structure of the field of real numbers and develop skills in applying properties of elementary algebra. A Texas Instruments graphing calculator is required.

Departmental assessments are given to measure individual student, class, and grade level achievement in math. Data are collected by each teacher and used to monitor progress and make plans for instruction. At the grade level, the data are used to monitor and adjust curriculum and instruction. End of quarter, end of semester, and/or end of course exams may be used.

Unit Name/Description	Content and/or Skills
Pre-Algebra Review	Adding & Subtracting rational numbers Multiplying & Dividing rational numbers Order of Operations Solving Basic Equations (1 Step)
Unit 1: Solving Linear Equations & Inequalities	Solving multi-step equations Equations with variables on both sides Translating phrases into algebraic expressions Translating problems into algebraic equations

	<p>Consecutive integer word problems</p> <p>Literal Equations</p> <p>Solving linear inequalities</p> <p>Word problems with inequalities</p>
Unit 2: Linear Functions	<p>Graphing by making a table</p> <p>Slope</p> <p>Slope-Intercept form</p> <p>Point-Slope form</p> <p>Standard form</p> <p>Parallel and Perpendicular lines</p> <p>x and y intercepts</p> <p>Graphing using all methods</p>
Unit 3: Linear Applications & Data Analysis	<p>Linear Word Problems</p> <p>Scatterplots</p> <p>Line of Best Fit</p> <p>Linear Regression with the TI Graphing Calculator</p> <p>Correlation Coefficient</p>
Unit 4: Systems of Equations	<p>Solving Systems of Equations By Graphing</p> <p>Solving Systems of Equations by Substitution</p> <p>Solving Systems of Equations by Elimination / Linear Combinations</p> <p>Systems of Equations Application Problems</p>
Unit 5: Relations and Functions	<p>Relations vs. Functions</p>

	<p>Domain and Range</p> <p>Function Notation</p> <p>Graphing Absolute Value Functions</p>
MIDTERM	
<p>Unit 6: Properties of Exponents & Simplifying Radical Expressions</p>	<p>Exponent Terminology & Definitions</p> <p>Degree of Monomials / Polynomials</p> <p>Combining Like Terms by Addition & Subtraction</p> <p>Multiplying Monomials</p> <p>Distributing Monomials Over Polynomials</p> <p>Multiplying Polynomials (Double Distribution / FOIL)</p> <p>Powers of Monomials</p> <p>Dividing Monomials</p> <p>Negative and Zero Exponents</p> <p>Simplifying Radical Expressions</p> <p>Multiplying Radicals</p> <p>Adding / Subtracting Radicals</p> <p>Distributing Radicals</p> <p>Dividing Radicals / Rationalizing Single Term Denominators</p> <p>Solving Radical Equations</p>
<p>Unit 7: Quadratic Equations</p>	<p>Factoring polynomials using a GCF</p> <p>Factoring quadratics where $a = 1$</p> <p>Factoring using difference of 2 squares</p> <p>Factoring quadratics where $a \neq 1$</p>

	Zero-product property Solving quadratics using factoring Solving quadratics using the quadratic formula Graphing quadratics Quadratic Applications (projectile motion)
Final Exam	Departmental review and final exam