

# Ridgefield Public Schools

## College Algebra and Trigonometry Curriculum at a Glance

### Overview

This course uses an algebraic approach for strengthening students' college-preparatory mathematical skills to prepare them for the next level of mathematics, including Precalculus. The course consists of an in-depth study of factoring, equation solving, rational expressions and functions, exponents and radicals. Topics also include the study of trigonometry, circular functions, trigonometric identities and equations. A graphing calculator is required for this course.

Units of Study	
Unit 1:	<b>Introduction to Trigonometry</b> <ul style="list-style-type: none"><li>• Radicals and Special Right Triangles</li><li>• Right Triangle Trigonometry</li><li>• Unit Circle</li><li>• Inverse Trigonometric Values</li><li>• Reciprocal Functions</li></ul>
Unit 2:	<b>Graphing Trig Functions</b> <ul style="list-style-type: none"><li>• Graphing Sine and Cosine<ul style="list-style-type: none"><li>○ Period</li><li>○ Phase Shift</li><li>○ Vertical Shift</li><li>○ Amplitude</li></ul></li><li>• Writing Equations of Sine and Cosine</li><li>• Sinusoidal Modeling</li></ul>
Unit 3:	<b>Solving Equations</b> <ul style="list-style-type: none"><li>• Quadratic Equations with Factoring, Completing the Square, and</li></ul>



# Ridgefield Public Schools

	Quadratic Formula <ul style="list-style-type: none"> <li>• Imaginary Solutions</li> <li>• Quadratic Modeling</li> <li>• Solving Higher Degree Polynomials by Factoring</li> <li>• Radical Equations</li> <li>• Equations with Rational Power</li> <li>• Literal Equations</li> <li>• Systems of Equations and Matrices</li> </ul>
Unit 4:	Rational Functions <ul style="list-style-type: none"> <li>• Solving Rational Equations</li> <li>• Graphing Rational Equations</li> <li>• Vertical Asymptotes, Horizontal Asymptotes, Intercepts, Domain, Range, Holes</li> <li>• Writing Rational Functions</li> </ul>
Unit 5:	Polynomials <ul style="list-style-type: none"> <li>• Graphing Polynomials               <ul style="list-style-type: none"> <li>○ Roots and Factors</li> <li>○ End Behavior</li> <li>○ Multiplicity</li> </ul> </li> <li>• Synthetic Division</li> <li>• Writing Polynomial Functions</li> </ul>
Unit 6:	Exponentials and Logarithms <ul style="list-style-type: none"> <li>• Exponential Growth and Decay</li> <li>• Graphing Exponential Functions</li> <li>• Writing Exponential Functions</li> <li>• Exponential Modeling</li> <li>• The Natural Number <math>e</math></li> <li>• Logarithmic Form and Evaluating Logarithms</li> <li>• Expanding and Condensing Logarithms</li> <li>• Solving Logarithmic Equations</li> <li>• Solving Exponential Equations with Logarithms</li> </ul>
Unit 7:	Sequences and Series <ul style="list-style-type: none"> <li>• Explicit and Recursive Formulas</li> </ul>



---

# Ridgefield Public Schools

---

	<ul style="list-style-type: none"><li>• Arithmetic Sequences and Series</li><li>• Summation Notation</li><li>• Geometric Sequences and Series</li><li>• Infinite Geometric Series</li></ul>
Unit 10:	<p>Probability</p> <ul style="list-style-type: none"><li>• Basic Probability</li><li>• Two-Way Tables</li><li>• Conditional Probability</li><li>• Multiplication Rule</li><li>• Addition Rule</li><li>• Counting Principle</li><li>• Combinations and Permutations</li></ul>

