Curriculum – Grade 8 Mathematics

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	Pre Algebra B	Principles of Algebra	Algebra I	Algebra II
What your child will learn	• Operations with integers • Algebraic expressions • Solving linear equations • Determine slope and graphs linear equations • Solving systems of linear equations • Laws of exponents • Irrational numbers • Geometry • Polynomials • Introduction to radicals *Optional* Algebra 1 Pre-Course Skills, Interest, Systems of linear equations and inequalities	• Real numbers • Algebraic expressions and variables • Solving linear equations • Proportions, percents, and inequalities • Slope and graphing linear equations • Systems of equations • Exponents • Polynomials • Factoring (basic) • Radicals (simplifying)	• Real numbers • Algebraic expressions and variables • Solving linear equations • Proportions, percents, and inequalities • Slope and graphing linear equations and inequalities • Systems of equations and inequalities • Exponents • Polynomials • Factoring • Radicals	• Properties, Number Sets, and Exponents Factoring • Numbers and Functions • More Numbers and Functions • Complex Numbers • Quadratic Equations • Quadratic Functions • Exponential and Logarithmic Functions • Polynomial Functions • Rational Expressions
What your child will do	• Use appropriate operations to solve problems and justify solutions • Solve single-step and	• Evaluate rational and irrational numerical expressions using correct order of operations	• Evaluate rational and irrational numerical expressions using correct order of operations	• Solve linear, quadratic, rational, absolute value, and radical equations • Perform operations with real and complex numbers,

	multi-step linear equations using appropriate algebraic strategies • Communicate mathematically and use logical reasoning to make conjectures and verify solutions • Determine slope and graph linear functions using a variety of methods • Simplify basic exponential expressions • Add, subtract, multiply, and divide polynomials • Learn the basics of simplifying radicals • Utilize the appropriate technology available for mathematical computation	• Evaluate algebraic expressions • Solve linear equations and inequalities • Determine slope and graph linear functions • Solve systems of equations • Simplify basic exponential expressions • Add, subtract, multiply, and divide polynomials • Factor basic polynomials • Simplify basic radical expressions • Utilize the appropriate technology available for mathematical computation	• Evaluate algebraic expressions • Solve linear equations and inequalities • Determine slope and graph linear functions using a variety of methods • Solve systems of equations and inequalities • Simplify exponential expressions • Add, subtract, multiply, and divide polynomials • Factor polynomials using a variety of strategies • Simplify, add, subtract, multiply, and divide radical expressions • Work on higher level problems with real-world applications • Utilize the appropriate technology available for mathematical computation	polynomials, and rational expressions. • Simplify expressions involving imaginary (complex) numbers • Graph linear and quadratic functions and inequalities • Solve and graph exponential and logarithmic functions • Factor polynomials completely using a variety of strategies • Focus on higher level thinking for more complex algebraic problems • Utilize the appropriate technology available for mathematical computation

What you'll see (products)	• Daily assignments concentrating on core problem solving skills • Projects focusing on applications for state standards • Algebraic and numeric expressions that have equal values • Equations, graphs, and tables • Concrete and pictorial models used in problem solving	• Daily assignments concentrating on core problem solving skills • Projects focusing on applications for state standards • Algebraic and numeric expressions that have equal values • Equations, graphs, and tables • Concrete and pictorial models used in problem solving	• Daily assignments concentrating on core problem solving skills • Projects focusing on applications for state standards • Equations and inequalities solved using algebraic strategies • Graphs and number lines used to display solutions • Various models and strategies for problem-solving	• Daily assignments concentrating on core problem solving skills • Projects focusing on applications for state standards • Equations and inequalities solved using algebraic strategies • Graphs and number lines used to display solutions • Various models and strategies for problem-solving
How you can help	• Ask students what they are learning and why they are learning it • Ask students to explain their problems and solutions • Discuss vocabulary words and their meanings • Ask about methods, vocabulary, and reasonable solutions • Ask students to explain the procedure he/she used in each problem • Use online textbook and resources • Monitor your child's homework and grades online			