

Algebra 1

Month	Content	Skills
September	<p>A. TOOLS OF ALGEBRA</p> <ol style="list-style-type: none"> 1. Variables 2. Operations of Real Numbers <ol style="list-style-type: none"> a. Adding b. Subtracting c. Multiplying d. Dividing 3. Expressions <ol style="list-style-type: none"> a. Exponents b. Order of Operations c. Distributive Property d. Properties of Real Numbers 4. The Coordinate Plane <p>B. EQUATIONS</p> <ol style="list-style-type: none"> 1. Equations <ol style="list-style-type: none"> a. One-Step equations b. Two Step equations c. Multi-Step equations d. Equations with Variables on Both Sides of the Equation e. Absolute Value equations f. Problem Solving 	<p>A. TOOLS OF ALGEBRA</p> <ol style="list-style-type: none"> 1. Transform English phrases into mathematical expressions and vice versa. ----- <p>IL_Learning_Standards Mathematics (1997) : Early High School</p> <ul style="list-style-type: none"> • Benchmark 8.A.4b Represent mathematical patterns and describe their properties using variables and mathematical symbols. <i>Mastered</i> • Benchmark 8.D.4 Formulate and solve linear and quadratic equations and linear inequalities algebraically and investigate nonlinear inequalities using graphs, tables, calculators and computers. <i>Introduced</i> <p>-----</p> <ol style="list-style-type: none"> 2. Calculate with whole numbers, decimals, fractions and integers. ----- <p>IL_Learning_Standards Mathematics (1997) : Early High School</p> <ul style="list-style-type: none"> • Benchmark 6.A.4 Identify and apply the associative, commutative, distributive and identity properties of real numbers, including special numbers such as pi and square roots. <i>Reinforced</i> • Benchmark 6.B.4 Select and use appropriate arithmetic operations in practical situations including calculating wages after taxes, developing a budget and balancing a checkbook. • Benchmark 6.C.4 Determine whether exact values or approximations are appropriate (e.g., bid a job, determine gas mileage for a trip). <i>Reinforced</i>

Month	Content	Skills
		<ul style="list-style-type: none"> • Benchmark 7.C.4a Make indirect measurements, including heights and distances, using proportions (e.g., finding the height of a tower by its shadow). <i>Reinforced</i> <p>-----</p> <p>3. Simplify expressions using the order of operations and distributive property.</p> <p>-----</p> <p>IL_Learning_Standards Mathematics (1997) : Early High School</p> <ul style="list-style-type: none"> • Benchmark 6.A.4 Identify and apply the associative, commutative, distributive and identity properties of real numbers, including special numbers such as pi and square roots. <i>Reinforced</i> • Benchmark 6.B.4 Select and use appropriate arithmetic operations in practical situations including calculating wages after taxes, developing a budget and balancing a checkbook. <i>Reinforced</i> • Benchmark 8.A.4b Represent mathematical patterns and describe their properties using variables and mathematical symbols. <i>Mastered</i> • Benchmark 9.C.4c Develop and communicate mathematical proofs (e.g., two-column, paragraph, indirect) and counter examples for geometric statements. <i>Introduced</i> <p>-----</p>

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		<p>4. Show the relationship between two sets of real data using scatterplots. -----</p> <p>IL_Learning_Standards Mathematics (1997) : Early High School</p> <ul style="list-style-type: none"> • Benchmark 8.B.4b Use the basic functions of absolute value, square root, linear, quadratic and step to describe numerical relationships. <i>Introduced</i> • Benchmark 10.A.4a Represent and organize data by creating lists, charts, tables, frequency distributions, graphs, scatterplots and box-plots. <i>Mastered</i> <p>-----</p> <p>B. EQUATIONS</p> <p>1. Solve various types of one variable equations using the properties of equality. -----</p> <p>IL_Learning_Standards Mathematics (1997) : Early High School</p> <ul style="list-style-type: none"> • Benchmark 6.B.4 Select and use appropriate arithmetic operations in practical situations including calculating wages after taxes, developing a budget and balancing a checkbook. <i>Mastered</i> • Benchmark 7.C.4a Make indirect measurements, including heights and distances, using proportions (e.g., finding the height of a tower by its shadow). <i>Introduced</i>

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		<ul style="list-style-type: none"> • Benchmark 8.A.4b Represent mathematical patterns and describe their properties using variables and mathematical symbols. <i>Mastered</i> • Benchmark 8.D.4 Formulate and solve linear and quadratic equations and linear inequalities algebraically and investigate nonlinear inequalities using graphs, tables, calculators and computers. <i>Introduced</i> • Benchmark 9.A.4b Make perspective drawings, tessellations and scale drawings, with and without the use of technology. <i>Introduced</i> • Benchmark 9.B.4 Recognize and apply relationships within and among geometric figures. <i>Introduced</i> • Benchmark 9.C.4c Develop and communicate mathematical proofs (e.g., two-column, paragraph, indirect) and counter examples for geometric statements. <i>Introduced</i> -----
<p>October</p>	<p>A. INEQUALITIES</p> <ol style="list-style-type: none"> 1. Inequalities <ol style="list-style-type: none"> a. Graphs b. Addition and Subtraction c. Multiplication and Division d. Multi-Step Inequalities 2. Compound Inequalities <ol style="list-style-type: none"> a. Compound Inequalities b. Absolute Value Inequalities 	<p>A. INEQUALITIES</p> <ol style="list-style-type: none"> 1.a. Graph Inequalities <p>-----</p> <p>IL_Learning_Standards Mathematics (1997) : Early High School</p> <ul style="list-style-type: none"> • Benchmark 8.D.4 Formulate and solve linear and quadratic equations and linear inequalities algebraically and investigate nonlinear inequalities using graphs, tables, calculators and computers. <i>Introduced</i>

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	<p>C. PROPORTIONS</p> <p>1. Ratios</p> <p>2. Proportions</p> <p>3. Percent Equations</p>	<p>-----</p> <p>1.b.,c.,d. Solve inequalities using various methods for different types of inequalities</p> <p>-----</p> <p>IL_Learning_Standards Mathematics (1997) : Early High School</p> <p>• Benchmark 8.D.4 Formulate and solve linear and quadratic equations and linear inequalities algebraically and investigate nonlinear inequalities using graphs, tables, calculators and computers. <i>Introduced</i></p> <p>-----</p> <p>2. Write and solve inequalities using the words <i>and</i> and <i>or</i>.</p> <p>-----</p> <p>IL_Learning_Standards Mathematics (1997) : Early High School</p> <p>• Benchmark 8.D.4 Formulate and solve linear and quadratic equations and linear inequalities algebraically and investigate nonlinear inequalities using graphs, tables, calculators and computers. <i>Introduced</i></p> <p>-----</p> <p>C. PROPORTIONS</p> <p>1,3. Model real world situations using ratios and rates</p> <p>-----</p> <p>IL_Learning_Standards Mathematics (1997) : Early High School</p>

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		<ul style="list-style-type: none"> • Benchmark 7.C.4a Make indirect measurements, including heights and distances, using proportions (e.g., finding the height of a tower by its shadow). <i>Introduced</i> • Benchmark 7.C.4b Interpret scale drawings and models using maps and blueprints. <i>Introduced</i> ----- 2. Measure items indirectly using proportions ----- IL_Learning_Standards Mathematics (1997) : Early High School • Benchmark 7.C.4a Make indirect measurements, including heights and distances, using proportions (e.g., finding the height of a tower by its shadow). <i>Introduced</i> • Benchmark 7.C.4b Interpret scale drawings and models using maps and blueprints. <i>Introduced</i> -----
<p>November</p>	<p>A. PROPORTIONS</p> <p>1. Percentage Equations and Percent of Change Problems</p> <p>B. GRAPHS AND FUNCTIONS</p>	<p>A. PROPORTIONS</p> <p>1. Solve problems involving interest, discounts, and taxes.</p> <p>-----</p> <p>IL_Learning_Standards Mathematics (1997) : Early High School</p> <ul style="list-style-type: none"> • Benchmark 6.D.4 Solve problems involving recipes or mixtures, financial

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	<p>1. Relationships between graphs and events</p> <p>2. Relations and Functions</p> <p>3. Function rules, Tables and Graphs</p> <p>4. Direct Variations</p>	<p>calculations and geometric similarity using ratios, proportions and percents. <i>Mastered</i></p> <p>-----</p> <p>B. GRAPHS AND FUNCTIONS</p> <p>1. Interpret, sketch, and analyze graphs from situations -----</p> <p>IL Learning Standards Mathematics (1997) : Early High School</p> <ul style="list-style-type: none"> • Benchmark 7.C.4a Make indirect measurements, including heights and distances, using proportions (e.g., finding the height of a tower by its shadow). <i>Introduced</i> • Benchmark 7.C.4b Interpret scale drawings and models using maps and blueprints. <i>Mastered</i> • Benchmark 7.C.4c Convert within and between measurement systems and monetary systems using technology where appropriate. <i>Introduced</i> <p>-----</p> <p>2. Evaluate functions -----</p> <p>IL Learning Standards Mathematics (1997) : Early High School</p> <ul style="list-style-type: none"> • Benchmark 8.B.4a Represent algebraic concepts with physical materials,

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		<p>words, diagrams, tables, graphs, equations and inequalities and use appropriate technology. <i>Mastered</i></p> <ul style="list-style-type: none"> • Benchmark 8.C.4a Analyze and report the effects of changing coefficients, exponents and other parameters on functions and their graphs. <i>Mastered</i> <p>-----</p> <p>3. Model functions using rules, tables, and graphs</p> <p>-----</p> <p>IL_Learning_Standards Mathematics (1997) : Early High School</p> <ul style="list-style-type: none"> • Benchmark 7.A.4b Apply formulas in a wide variety of theoretical and practical real-world measurement applications involving perimeter, area, volume, angle, time, temperature, mass, speed, distance, density and monetary values. <i>Mastered</i> • Benchmark 8.A.4b Represent mathematical patterns and describe their properties using variables and mathematical symbols. <i>Mastered</i> • Benchmark 9.A.4a Construct a model of a three-dimensional figure from a two-dimensional pattern. <i>Mastered</i> <p>-----</p> <p>4. Write an equation of a direct variation and use ratios and proportions with direct variations.</p> <p>-----</p> <p>IL_Learning_Standards Mathematics (1997) : Early High School</p>

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		<ul style="list-style-type: none"> • Benchmark 6.D.4 Solve problems involving recipes or mixtures, financial calculations and geometric similarity using ratios, proportions and percents. <i>Mastered</i> <p>-----</p>
<p>December</p>	<p>A. LINEAR EQUATIONS AND THEIR GRAPHS</p> <ol style="list-style-type: none"> 1. Rate of change and Slope 2. Forms of Linear Equations 3. Graphs of Linear Equations 4. Parallel and Perpendicular Lines 	<p>A. LINEAR EQUATIONS AND THEIR GRAPHS</p> <ol style="list-style-type: none"> 1. Find rate of change(slope) from tables and graphs ----- <p>IL_Learning_Standards Mathematics (1997) : Early High School</p> <ul style="list-style-type: none"> • Learning Standard 9.A Demonstrate and apply geometric concepts involving points, lines, planes and space. <i>Reinforced</i> • Benchmark 8.A.4b Represent mathematical patterns and describe their properties using variables and mathematical symbols. <i>Reinforced</i> • Benchmark 8.B.4a Represent algebraic concepts with physical materials, words, diagrams, tables, graphs, equations and inequalities and use appropriate technology. <i>Reinforced</i> <p>-----</p> <ol style="list-style-type: none"> 2. Write and use equations in slope-intercept and stand forms, as well as point-slope form. ----- <p>IL_Learning_Standards Mathematics (1997) : Early High School</p>

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		<ul style="list-style-type: none"> • Benchmark 8.A.4b Represent mathematical patterns and describe their properties using variables and mathematical symbols. <i>Reinforced</i> • Benchmark 8.B.4a Represent algebraic concepts with physical materials, words, diagrams, tables, graphs, equations and inequalities and use appropriate technology. <i>Reinforced</i> ----- 3. Graph equations infrom the different forms, using points, intercepts, and slope. ----- IL_Learning_Standards Mathematics (1997) : Early High School • Learning Standard 8.A Describe numerical relationships using variables and patterns. <i>Reinforced</i> ----- 3. Write equations using data. ----- IL_Learning_Standards Mathematics (1997) : Early High School • Learning Standard 9.A Demonstrate and apply geometric concepts involving points, lines, planes and space. <i>Reinforced</i> • Learning Standard 10.A Organize, describe and make predictions from existing data.

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		<ul style="list-style-type: none"> • Benchmark 8.B.4a Represent algebraic concepts with physical materials, words, diagrams, tables, graphs, equations and inequalities and use appropriate technology. <i>Reinforced</i> • Benchmark 10.A.4a Represent and organize data by creating lists, charts, tables, frequency distributions, graphs, scatterplots and box-plots. <i>Reinforced</i> • Benchmark 10.A.4c Predict from data using interpolation, extrapolation and trend lines, with and without the use of technology. <i>Introduced</i> ----- 5. Determine whether lines are parallel or perpendicular or neither using slope ----- IL_Learning_Standards Mathematics (1997) : Early High School • Learning Standard 9.A Demonstrate and apply geometric concepts involving points, lines, planes and space. <i>Reinforced</i> -----
<p>January</p>	<p>A. SYSTEMS OF EQUATIONS AND INEQUALITIES</p> <p>1. Systems of Equations</p> <p>a. Solutions from Graphing</p>	<p>A. SYSTEMS OF EQUATIONS AND INEQUALITIES</p> <p>1a. Solve systems of equations by graphing and analyze special types of systems -----</p> <p>IL_Learning_Standards</p>

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	<p>b. Substitution</p> <p>c. Elimination</p>	<p>Mathematics (1997) : Early High School</p> <ul style="list-style-type: none"> • Benchmark 8.A.4b Represent mathematical patterns and describe their properties using variables and mathematical symbols. <i>Reinforced</i> • Benchmark 8.D.4 Formulate and solve linear and quadratic equations and linear inequalities algebraically and investigate nonlinear inequalities using graphs, tables, calculators and computers. <i>Reinforced</i> <p>-----</p> <p>1b. Solve systems of equations using substitution</p> <p>-----</p> <p>IL Learning Standards Mathematics (1997) : Early High School</p> <ul style="list-style-type: none"> • Benchmark 8.A.4b Represent mathematical patterns and describe their properties using variables and mathematical symbols. <i>Reinforced</i> • Benchmark 8.D.4 Formulate and solve linear and quadratic equations and linear inequalities algebraically and investigate nonlinear inequalities using graphs, tables, calculators and computers. <i>Reinforced</i> <p>-----</p> <p>1c. Solve systems of equations by using Elimination, meaning adding or subtracting equations and sometimes multiplying the equations first.</p> <p>-----</p> <p>IL Learning Standards Mathematics (1997) : Early High School</p> <ul style="list-style-type: none"> • Benchmark 8.A.4b Represent mathematical patterns and describe their

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		<p>properties using variables and mathematical symbols. <i>Reinforced</i></p> <p>• Benchmark 8.D.4 Formulate and solve linear and quadratic equations and linear inequalities algebraically and investigate nonlinear inequalities using graphs, tables, calculators and computers. <i>Reinforced</i></p> <p>-----</p>
<p>February</p>	<p>A. SYSTEMS OF EQUATIONS AND INEQUALITIES</p> <p>1. Applications of Linear Systems</p> <p>2. Linear Inequalities</p> <p>3. Systems of Linear Inequalities</p> <p>B. EXPONENTS AND EXPONENTIAL FUNCTIONS</p> <p>1. Zero and Negative Exponents</p> <p>2. Scientific Notation</p> <p>3. Properties of exponents</p> <p>4. Exponential Functions</p>	<p>A. SYSTEMS OF EQUATIONS AND INEQUALITIES</p> <p>1. Write and use linear systems to model real-life situations</p> <p>2. Graph linear inequalities</p> <p>3. Write and use linear inequalities to model real-life situations</p> <p>B. EXPONENTS AND EXPONENTIAL FUNCTIONS</p> <p>1. Simplify expressions with zero and negative exponents</p> <p>-----</p> <p>IL_Learning_Standards Mathematics (1997) : Early High School</p> <p>• Benchmark 8.D.4 Formulate and solve linear and quadratic equations and linear inequalities algebraically and investigate nonlinear inequalities using graphs, tables, calculators and computers. <i>Reinforced</i></p> <p>-----</p> <p>2. a. Write numbers in standard and scientific notation and convert back and forth</p> <p>b. Work with scientific notation, multiplying and dividing</p> <p>-----</p> <p>IL_Learning_Standards</p>

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		<p>Mathematics (1997) : Early High School</p> <ul style="list-style-type: none"> • Benchmark 7.B.4 Estimate and measure the magnitude and directions of physical quantities (e.g., velocity, force, slope) using rulers, protractors and other scientific instruments including timers, calculators and computers. <i>Reinforced</i> <p>-----</p> <p>3. a. Evaluate exponential expressions b. Multiply powers c. raise a product to a power</p> <p>-----</p> <p>IL Learning Standards Mathematics (1997) : Early High School</p> <ul style="list-style-type: none"> • Benchmark 8.D.4 Formulate and solve linear and quadratic equations and linear inequalities algebraically and investigate nonlinear inequalities using graphs, tables, calculators and computers. <i>Reinforced</i> <p>-----</p> <p>4. Evaluate and graph exponential functions</p> <p>-----</p> <p>IL Learning Standards Mathematics (1997) : Early High School</p> <ul style="list-style-type: none"> • Benchmark 8.D.4 Formulate and solve linear and quadratic equations and linear inequalities algebraically and investigate nonlinear inequalities using graphs, tables, calculators and computers. <i>Reinforced</i> <p>-----</p>

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March	<p>A. POLYNOMIALS AND FACTORING</p> <ol style="list-style-type: none"> 1. Polynomials 2. Polynomial Multiplication <ol style="list-style-type: none"> a. binomials b. special cases c. other polynomials 3. Polynomial Factorization <ol style="list-style-type: none"> a. trinomials b. special cases c. grouping 	<p>A. POLYNOMIALS AND FACTORING</p> <ol style="list-style-type: none"> 1. <ol style="list-style-type: none"> a. Describe polynomials, using degree and number of terms b. add and subtract polynomials, after identifying like terms <p>-----</p> <p>IL_Learning_Standards Mathematics (1997) : Early High School</p> <ul style="list-style-type: none"> • Learning Standard 8.A Describe numerical relationships using variables and patterns. <i>Mastered</i> • Benchmark 8.D.4 Formulate and solve linear and quadratic equations and linear inequalities algebraically and investigate nonlinear inequalities using graphs, tables, calculators and computers. <i>Mastered</i> <p>-----</p> <ol style="list-style-type: none"> 2. <ol style="list-style-type: none"> a. <ol style="list-style-type: none"> i. Multiply monomials by polynomials ii. Multiply binomials using FOIL b. Multiply special cases resulting in perfect square trinomials or difference of 2 squares c. Multiply polynomials by other polynomials using the distributive property <p>-----</p> <p>IL_Learning_Standards Mathematics (1997) : Early High School</p> <ul style="list-style-type: none"> • Learning Standard 8.A Describe numerical relationships using variables and patterns. <i>Mastered</i> • Benchmark 8.D.4 Formulate and solve linear and quadratic equations and linear inequalities algebraically and investigate nonlinear inequalities using graphs, tables, calculators and computers. <i>Mastered</i>

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		<p>-----</p> <p>3. a. Factor trinomials using various methods b. Factor using the difference of two squares and perfect square trinomials c. Factor polynomials using grouping</p> <p>-----</p> <p>IL_Learning_Standards Mathematics (1997) : Early High School</p> <ul style="list-style-type: none"> • Learning Standard 8.A Describe numerical relationships using variables and patterns. <i>Mastered</i> • Benchmark 8.D.4 Formulate and solve linear and quadratic equations and linear inequalities algebraically and investigate nonlinear inequalities using graphs, tables, calculators and computers. <i>Mastered</i> <p>-----</p>
<p>April</p>	<p>A. QUADRATIC EQUATIONS AND FUNCTIONS</p> <p>1. Quadratic Functions and their graphs</p> <p>2. Square Roots</p> <p>3. Quadratic Equations</p> <p>a. factoring</p> <p>b. Quadratic Formula</p> <p>c. Discriminants</p>	<p>A. QUADRATIC EQUATIONS AND FUNCTIONS</p> <p>1. Graph quadratic functions of different types and explore the differences between them</p> <p>-----</p> <p>IL_Learning_Standards Mathematics (1997) : Early High School</p> <ul style="list-style-type: none"> • Benchmark 6.A.4 Identify and apply the associative, commutative, distributive and identity properties of real numbers, including special numbers such as pi and square roots. <i>Reinforced</i> • Benchmark 6.B.4 Select and use appropriate arithmetic operations in

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		<p>practical situations including calculating wages after taxes, developing a budget and balancing a checkbook. <i>Reinforced</i></p> <ul style="list-style-type: none"> • Benchmark 8.B.4a Represent algebraic concepts with physical materials, words, diagrams, tables, graphs, equations and inequalities and use appropriate technology. <i>Reinforced</i> • Benchmark 8.B.4b Use the basic functions of absolute value, square root, linear, quadratic and step to describe numerical relationships. <i>Reinforced</i> • Benchmark 8.C.4a Analyze and report the effects of changing coefficients, exponents and other parameters on functions and their graphs. <i>Reinforced</i> • Benchmark 8.C.4b Apply algebraic properties and procedures with matrices, vectors, functions and sequences using data found in business, industry and consumer situations. <i>Reinforced</i> • Benchmark 8.D.4 Formulate and solve linear and quadratic equations and linear inequalities algebraically and investigate nonlinear inequalities using graphs, tables, calculators and computers. <i>Reinforced</i> • Benchmark 9.A.4a Construct a model of a three-dimensional figure from a two-dimensional pattern. <i>Reinforced</i> • Benchmark 9.A.4b Make perspective drawings, tessellations and scale drawings, with and without the use of technology. <i>Reinforced</i> • Benchmark 9.B.4 Recognize and apply relationships within and among geometric figures. <i>Reinforced</i>

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		<ul style="list-style-type: none"> • Benchmark 10.A.4a Represent and organize data by creating lists, charts, tables, frequency distributions, graphs, scatterplots and box-plots. <i>Reinforced</i> • Benchmark 10.A.4b Analyze data using mean, median, mode, range, variance and standard deviation of a data set, with and without the use of technology. <i>Reinforced</i> • Benchmark 10.A.4c Predict from data using interpolation, extrapolation and trend lines, with and without the use of technology. <i>Reinforced</i> ----- 2. Find Square roots, simplify square roots, estimate and use square roots ----- IL_Learning_Standards Mathematics (1997) : Early High School • Benchmark 6.A.4 Identify and apply the associative, commutative, distributive and identity properties of real numbers, including special numbers such as pi and square roots. <i>Reinforced</i> • Benchmark 6.B.4 Select and use appropriate arithmetic operations in practical situations including calculating wages after taxes, developing a budget and balancing a checkbook. <i>Reinforced</i> • Benchmark 8.B.4a Represent algebraic concepts with physical materials, words, diagrams, tables, graphs, equations and inequalities and use appropriate technology. <i>Reinforced</i> • Benchmark 8.B.4b Use the basic functions of absolute value, square root, linear, quadratic and step to describe numerical relationships. <i>Reinforced</i>

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		<ul style="list-style-type: none"> • Benchmark 8.C.4a Analyze and report the effects of changing coefficients, exponents and other parameters on functions and their graphs. <i>Reinforced</i> • Benchmark 8.C.4b Apply algebraic properties and procedures with matrices, vectors, functions and sequences using data found in business, industry and consumer situations. <i>Reinforced</i> • Benchmark 8.D.4 Formulate and solve linear and quadratic equations and linear inequalities algebraically and investigate nonlinear inequalities using graphs, tables, calculators and computers. <i>Reinforced</i> • Benchmark 9.A.4a Construct a model of a three-dimensional figure from a two-dimensional pattern. <i>Reinforced</i> • Benchmark 9.A.4b Make perspective drawings, tessellations and scale drawings, with and without the use of technology. <i>Reinforced</i> • Benchmark 9.B.4 Recognize and apply relationships within and among geometric figures. <i>Reinforced</i> • Benchmark 10.A.4a Represent and organize data by creating lists, charts, tables, frequency distributions, graphs, scatterplots and box-plots. <i>Reinforced</i> • Benchmark 10.A.4b Analyze data using mean, median, mode, range, variance and standard deviation of a data set, with and without the use of technology. <i>Reinforced</i> • Benchmark 10.A.4c Predict from data using interpolation, extrapolation and

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		<p>trend lines, with and without the use of technology. <i>Reinforced</i></p> <p>-----</p> <p>3. a. solve quadratic equations using factoring b. solve quadratic equations using the quadratic formula c. find the number of solutions of a quadratic equation using the discriminant d. Determine which is the best method for solving quadratic equations.</p> <p>-----</p> <p>IL Learning Standards Mathematics (1997) : Early High School</p> <ul style="list-style-type: none"> • Benchmark 6.A.4 Identify and apply the associative, commutative, distributive and identity properties of real numbers, including special numbers such as pi and square roots. <i>Reinforced</i> • Benchmark 6.B.4 Select and use appropriate arithmetic operations in practical situations including calculating wages after taxes, developing a budget and balancing a checkbook. <i>Reinforced</i> • Benchmark 8.B.4a Represent algebraic concepts with physical materials, words, diagrams, tables, graphs, equations and inequalities and use appropriate technology. <i>Reinforced</i> • Benchmark 8.B.4b Use the basic functions of absolute value, square root, linear, quadratic and step to describe numerical relationships. <i>Reinforced</i> • Benchmark 8.C.4a Analyze and report the effects of changing coefficients, exponents and other parameters on functions and their graphs. <i>Reinforced</i> • Benchmark 8.C.4b Apply algebraic properties and procedures with matrices,

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		<p>vectors, functions and sequences using data found in business, industry and consumer situations. <i>Reinforced</i></p> <ul style="list-style-type: none"> • Benchmark 8.D.4 Formulate and solve linear and quadratic equations and linear inequalities algebraically and investigate nonlinear inequalities using graphs, tables, calculators and computers. <i>Reinforced</i> • Benchmark 9.A.4a Construct a model of a three-dimensional figure from a two-dimensional pattern. <i>Reinforced</i> • Benchmark 9.A.4b Make perspective drawings, tessellations and scale drawings, with and without the use of technology. <i>Reinforced</i> • Benchmark 9.B.4 Recognize and apply relationships within and among geometric figures. <i>Reinforced</i> • Benchmark 10.A.4a Represent and organize data by creating lists, charts, tables, frequency distributions, graphs, scatterplots and box-plots. <i>Reinforced</i> • Benchmark 10.A.4b Analyze data using mean, median, mode, range, variance and standard deviation of a data set, with and without the use of technology. <i>Reinforced</i> • Benchmark 10.A.4c Predict from data using interpolation, extrapolation and trend lines, with and without the use of technology. <i>Reinforced</i> <p>-----</p>
<p>May</p>	<p>A. RADICAL EXPRESSIONS AND EQUATIONS</p>	<p>A. RADICAL EXPRESSIONS AND EQUATIONS</p>

Month	Content	Skills
	1. radicals 2. Pythagorean Theorem 3. Distance and Midpoint Formulas If time allows: 4. Operations with Radical Expressions 5. Radical Equations 6. Trigonometric Functions	1. Simplify radicals involving products and quotients ----- IL_Learning_Standards Mathematics (1997) : Early High School <ul style="list-style-type: none"> • Benchmark 6.C.4 Determine whether exact values or approximations are appropriate (e.g., bid a job, determine gas mileage for a trip). <i>Reinforced</i> • Benchmark 6.D.4 Solve problems involving recipes or mixtures, financial calculations and geometric similarity using ratios, proportions and percents. <i>Reinforced</i> • Benchmark 8.C.4a Analyze and report the effects of changing coefficients, exponents and other parameters on functions and their graphs. <i>Reinforced</i> • Benchmark 8.C.4b Apply algebraic properties and procedures with matrices, vectors, functions and sequences using data found in business, industry and consumer situations. <i>Reinforced</i> • Benchmark 8.D.4 Formulate and solve linear and quadratic equations and linear inequalities algebraically and investigate nonlinear inequalities using graphs, tables, calculators and computers. <i>Reinforced</i> • Benchmark 9.A.4a Construct a model of a three-dimensional figure from a two-dimensional pattern. <i>Reinforced</i> • Benchmark 9.A.4b Make perspective drawings, tessellations and scale drawings, with and without the use of technology. <i>Reinforced</i> • Benchmark 9.B.4 Recognize and apply relationships within and among geometric figures. <i>Reinforced</i>

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		<ul style="list-style-type: none"> • Benchmark 9.D.4 Analyze and solve problems involving triangles (e.g., distances which cannot be measured directly) using trigonometric ratios. <i>Reinforced</i> <p>-----</p> <p>2. Solve problems using the Pythagorean theorem</p> <p>-----</p> <p>IL_Learning_Standards Mathematics (1997) : Early High School</p> <ul style="list-style-type: none"> • Benchmark 6.C.4 Determine whether exact values or approximations are appropriate (e.g., bid a job, determine gas mileage for a trip). <i>Reinforced</i> • Benchmark 6.D.4 Solve problems involving recipes or mixtures, financial calculations and geometric similarity using ratios, proportions and percents. <i>Reinforced</i> • Benchmark 8.C.4a Analyze and report the effects of changing coefficients, exponents and other parameters on functions and their graphs. <i>Reinforced</i> • Benchmark 8.C.4b Apply algebraic properties and procedures with matrices, vectors, functions and sequences using data found in business, industry and consumer situations. <i>Reinforced</i> • Benchmark 8.D.4 Formulate and solve linear and quadratic equations and linear inequalities algebraically and investigate nonlinear inequalities using graphs, tables, calculators and computers. <i>Reinforced</i> • Benchmark 9.A.4a Construct a model of a three-dimensional figure from a two-dimensional pattern. <i>Reinforced</i>

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		<p>calculations and geometric similarity using ratios, proportions and percents. <i>Reinforced</i></p> <ul style="list-style-type: none"> • Benchmark 8.C.4a Analyze and report the effects of changing coefficients, exponents and other parameters on functions and their graphs. <i>Reinforced</i> • Benchmark 8.C.4b Apply algebraic properties and procedures with matrices, vectors, functions and sequences using data found in business, industry and consumer situations. <i>Reinforced</i> • Benchmark 8.D.4 Formulate and solve linear and quadratic equations and linear inequalities algebraically and investigate nonlinear inequalities using graphs, tables, calculators and computers. <i>Reinforced</i> • Benchmark 9.A.4a Construct a model of a three-dimensional figure from a two-dimensional pattern. <i>Reinforced</i> • Benchmark 9.A.4b Make perspective drawings, tessellations and scale drawings, with and without the use of technology. <i>Reinforced</i> • Benchmark 9.B.4 Recognize and apply relationships within and among geometric figures. <i>Reinforced</i> • Benchmark 9.D.4 Analyze and solve problems involving triangles (e.g., distances which cannot be measured directly) using trigonometric ratios. <i>Reinforced</i> <p>-----</p> <p>5. Solve equations involving radicals</p> <p>-----</p>

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		<ul style="list-style-type: none"> • Benchmark 9.D.4 Analyze and solve problems involving triangles (e.g., distances which cannot be measured directly) using trigonometric ratios. <i>Reinforced</i> <p>-----</p> <p>6. Find trig ratios and solve problems using trig ratios</p> <p>-----</p> <p>IL_Learning_Standards Mathematics (1997) : Early High School</p> <ul style="list-style-type: none"> • Benchmark 6.C.4 Determine whether exact values or approximations are appropriate (e.g., bid a job, determine gas mileage for a trip). <i>Reinforced</i> • Benchmark 6.D.4 Solve problems involving recipes or mixtures, financial calculations and geometric similarity using ratios, proportions and percents. <i>Reinforced</i> • Benchmark 8.C.4a Analyze and report the effects of changing coefficients, exponents and other parameters on functions and their graphs. <i>Reinforced</i> • Benchmark 8.C.4b Apply algebraic properties and procedures with matrices, vectors, functions and sequences using data found in business, industry and consumer situations. <i>Reinforced</i> • Benchmark 8.D.4 Formulate and solve linear and quadratic equations and linear inequalities algebraically and investigate nonlinear inequalities using graphs, tables, calculators and computers. <i>Reinforced</i> • Benchmark 9.A.4a Construct a model of a three-dimensional figure from a two-dimensional pattern. <i>Reinforced</i>

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