

Scope and Sequence

Subject: Math

Grade: HS

Course: Intermediate Algebra

<u>Unit 1</u>	<u>Unit 2</u>	<u>Unit 3</u>	<u>Unit 4</u>
<p>Unit title: Graphs and Introduction to Functions Duration: 10 days</p> <ul style="list-style-type: none"> • Graphing Linear Equations y-intercepts • Use the relationship between rise and run to find the slope of a line from its graph • Find the slope of horizontal and vertical lines • Use the slope formula to find the slope of a line between two points • Graph a line given a point and the slope • Determine the slope in applications Slope-Intercept Form of an Equation of a Line • Use slopes to identify parallel lines • Use slopes to identify perpendicular lines • Find an equation of the line given the slope and y-intercept • Find an equation of the line given the slope and a point • Find an equation of the line given two points • Find an equation of 	<p>Unit Title: Systems of Equations Duration: 20 days</p> <ul style="list-style-type: none"> • Solving Systems of Linear Equations by Graphing • Determine whether an ordered pair is a solution of a system of linear equations • Determine the number of solutions of a linear system • Solve applications of systems of linear equations by graphing • Solve applications of systems of linear equations by substitution • Solve a system of linear equations by elimination • Solve a system of linear equations using a variety of methods • Systems of Linear Equations and Problem Solving • Solve an application in geometry using a system of equations • Solve uniform motion applications using a system of equations • Mixture Problems and Systems of Equations 	<p>Unit title: Polynomials Duration:</p> <ul style="list-style-type: none"> • Adding and Subtracting Polynomials • Evaluate a polynomial for a given value • Product Properties of Exponents • Simplify numerical expressions containing exponents • Multiplying conjugates using the product of conjugates pattern • Recognize and use the appropriate special product pattern • Quotient Properties of Exponents and Dividing Monomials • Simplify expressions using the quotient property for exponents and the exponent of zero • Divide a polynomial by a binomial using polynomial long division • Synthetic Division and the Remainder and Factor Theorems • Use synthetic division to divide polynomials 	<ul style="list-style-type: none"> • Factoring Trinomials with a Leading Coefficient of 1 • Factor a trinomial of the form x^2+bx+c where c is positive • Factor a trinomial of the form x^2+bx+c where c is negative • Factor a trinomial of the form $x^2+bxy+cy^2$ 7.3 Factor Quadratic Trinomials with Leading Coefficient Other than 1 • Factoring Trinomials with a Leading Coefficient Other than 1 • Factor a trinomial using the 'ac' method • Factoring Special Products • Factor a perfect square trinomial • Factor a difference of squares • Factor sums and differences of cubes • Choosing a Factoring Strategy • Solving Quadratic Equations by Factoring • Solve a factored quadratic equation using the zero product property • Solve a quadratic

<p>a line parallel to a given line</p> <ul style="list-style-type: none"> • Find an equation of a line perpendicular to a given line 4 • Graphing Linear Inequalities <ul style="list-style-type: none"> • Find the domain and range of a relation • Determine if a relation is a function • Function Notation • Use the vertical line test to determine if a graph represents a function • Identify graphs of basic functions <ul style="list-style-type: none"> • Read information from the graph of a function 	<ul style="list-style-type: none"> • Solve interest applications using a system of equations • Solving Systems of Linear Equations in Three Variables <ul style="list-style-type: none"> • Determine whether an ordered triple is a solution of a system of three linear equations with three variables • Identify inconsistent and dependent systems of equations with three variables • Solve applications using systems of linear equations in three variables Solve Systems of Equations Using Matrices equations in three variables • Determine whether an ordered pair is a solution of a system of linear inequalities • Solve a system of linear inequalities by graphing 	<ul style="list-style-type: none"> • Use the remainder and factor theorems 	<p>equation by factoring</p> <ul style="list-style-type: none"> • Solve applications modeled by quadratic equations • Solving Polynomial Equations by Factoring <ul style="list-style-type: none"> • Use the zero product property to solve a factored polynomial equation • Solve polynomial equations by factoring <ul style="list-style-type: none"> • Find zeros and intercepts of a polynomial function by factoring • Use factoring to solve application problems involving polynomial equations
<u>Unit 5</u>	<u>Unit 6</u>	<u>Unit 7</u>	<u>Unit 8</u>
<p>Unit Title:Simplify Rational Expressions</p> <p>Duration: 10 days</p> <ul style="list-style-type: none"> • Domain of Rational Expressions and Simplifying Rational Expressions • Determine the values for which a rational expression is undefined 	<p>Unit Title: Radicals</p> <p>Duration: 10 days</p> <ul style="list-style-type: none"> • Add and Subtract Square Roots • Multiplying Square square roots •Dividing Square Root Expressions and Rationalizing Denominators d • Introduction to 	<p>Unit title: Solve Quadratic Equations</p> <p>Duration: 10 days</p> <ul style="list-style-type: none"> • Solving Quadratic Equations Using the Square Root Property • Solve a quadratic equation using the square root property • Solve a quadratic equation with a 	<p>Unit title: Finding Composite and Inverse Functions</p> <p>Duration: 15 days</p> <ul style="list-style-type: none"> • Perform a composition of functions • Evaluate a composition of functions for a specific value • One-

<ul style="list-style-type: none"> • Evaluate a rational expression • Simplify a rational expression • Multiplying and Dividing Rational Expressions • Adding and Subtracting Rational Expressions with a Common Denominator • Simplify Complex Rational Expressions • Simplify a complex rational expression by writing it as division • Solving Rational Equations 	<p>Complex Numbers</p> <ul style="list-style-type: none"> • Evaluate the square root of a negative number and understand the complex number system • Add or subtract complex numbers • Multiplying and Dividing Complex Numbers and Powers of i • Multiply two complex conjugates • Divide complex numbers • Simplify powers of i 	<p>binomial as the quadratic term using the square root property</p> <ul style="list-style-type: none"> • Solve a quadratic equation where factoring results in a perfect square binomial 10.2 Solve Quadratic Equations by Completing the Square • Solving Quadratic Equations by Completing the Square • Complete the square of a binomial expression • Solve a quadratic equation with a leading coefficient of 1 by completing the square • Solving Quadratic Inequalities 	<p>to-One Functions</p> <ul style="list-style-type: none"> • Determine whether a function is one-to-one given a set of ordered pairs • Use the horizontal line test to determine whether a graph represents a one-to-one function • Inverse Functions • Find the inverse of a function given a set of ordered pairs or a graph • Verify that two functions are inverses of each other • Find the inverse of a function algebraically
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