

Algebra 2 Course Description

First Trimester	Second Trimester	Third Trimester
Text:	Text:	Text:
Ron Larson ; Algebra 2, Holt McDougal	Ron Larson ; Algebra 2, Holt McDougal	Ron Larson ; Algebra 2, Holt McDougal
Outside Sources: CollegeBoard AP, Khan Academy, IXL	Outside Sources: CollegeBoard AP, Khan Academy, IXL	Outside Sources: CollegeBoard AP, Khan Academy, IXL
Objectives:	Objectives:	Objectives:
<ul style="list-style-type: none"> * Introduce the basic concepts of linear and quadratic functions. * Connect functions and their properties to solving matrices. * Introduce slope as a rate of change * Model Direct Variation and draw scatterplots to represent data and make predictions 	<ul style="list-style-type: none"> * Continue study of quadratics: solving, factoring, graphing, * Review of quadratic inequalities, including modeling and solving real-life applications. * Solve quadratics by “completing the square” and using calculators * Introduce growth and decay concepts and relate them to exponential properties. 	<ul style="list-style-type: none"> * Introduce algebra concepts as they relate to pre-calculus and calculus. * Introduce the concept of trigonometry using natural and common logarithms * Emphasize solving applications using graphing and algebra techniques * Graph, solve, and write equations for conic sections: circles, ellipses, hyperbolas, and parabolas * Solve equations using trigonometry, combined with algebra processes. * Investigate the Unit Circle and draw trigonometric graphs of sine, cosine, and tangent
Topics:	Topics:	Topics:
<ul style="list-style-type: none"> * Review of essential algebra operations, including but not limited to solving equations. * Find slopes of lines and relate the slope as a rate of change. * Investigate Relations and Functions and associate their properties to modeling * Graph and apply linear inequalities and absolute value inequalities using transformations * Study of matrices; how to solve with and without calculators. Apply operations of inverses to matrices. * Initial study of quadratic functions including graphing and identifying different parts of quadratics 	<ul style="list-style-type: none"> * Solve quadratic functions by: finding square roots, using discriminant, quadratic formula, factoring. * Study properties of exponents * Evaluate and graph polynomial functions * Perform arithmetic operations with polynomials: add, subtract, multiply, divide * Analyze and graph polynomial functions * Use properties of exponents to solve and/or graph growth and decay functions * Introduce the concept of a natural logarithm with the value of “e”. * Solve exponential growth and 	<ul style="list-style-type: none"> * Model inverse, direct, and joint variation * Graph simple and complex rational functions. * Perform arithmetic operations with rational functions. * Analyze conic sections including parabolas, ellipses, hyperbolas, and circles * Solve applications using conic style equations * Graph conic sections using the concept of transformations * Introduce unit circle and radian values * Use trigonometry with right triangles * Define general angles: use radian measure and degree measure to

	decay applications involving the natural and common logarithm.	express solutions <ul style="list-style-type: none">* Solve real-life applications using trigonometry functions of sine, cosine, and tangent.* Graph trig functions: sine , cosine, and tangent* Express angle measures in different forms: degrees, pi, radians
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