

ALGEBRA 2A

2012-2013

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Conference Period: Sixth (1:35 pm – 2:30 pm)

Description : Students are expected to have a working knowledge of Algebra 1 because this material will be reviewed, and more sophisticated ideas will be introduced. Many of the topics will be new, and it is expected that students can correctly handle the basic algebra so that emphasis can be placed on more abstract topics. Algebra 2A will cover the 1st half of Algebra 2 in one year. Some of the topics include equations, inequalities, systems, matrices, probability and statistics, functions (linear, absolute value, quadratic, and polynomial), and word problems relating to these topics. This course also has a computer component.

Tentative Course Outline:

Month	Chapter/ Section	Topic
Chapter 2 Linear Equations and Functions		
Sept.	2.1	Functions and Their Graphs
	2.2	Slope and Rate of Change
	2.3	Quick Graphs of Linear Equations
	2.4	Writing Equations of Lines
	2.5	Correlation and Best-Fitting Lines
	2.6	Linear Inequalities in Two Variables
	2.7	Piecewise Functions
Chapter 3 Systems of Linear Equations and Inequalities		
Oct.	3.1	Solving Linear Systems by Graphing
	3.2	Solving Linear Systems Algebraically
	3.3	Graphing and Solving Systems of Linear Inequalities
Chapter 4 Matrices and Determinants		
Nov.	4.1	Matrix Operations
	4.2	Multiplying Matrices
	4.3	Determinants and Cramer's Rule
	4.4	Identity and Inverse Matrices
	4.5	Solving Systems Using Inverse Matrices

Chapter 12 Probability and Statistics		
Dec. & Jan.	12.1	Fundamental Counting Principle and Permutations
	12.2	Combinations and the Binomial Theorem
	12.3	Introduction to Probability
	12.4	Probability of Compound Events
	12.5	Probability of Independent and Dependent Events
	7.7	Statistics and Statistical Graphs
Chapter 5 Quadratic Functions		
Feb. & March	2.8	Absolute Value Functions
	5.1	Graphing Quadratic Functions
	5.2	Solving Quadratic Equations by Factoring
	5.3	Solving Quadratic Equations by Finding Square Roots
	5.4	Complex Numbers
	5.5	Completing the Square
	5.6	The Quadratic Formula and the Discriminant
	5.7	Graphing and Solving Quadratic Inequalities
	5.8	Modeling with Quadratic Functions
Chapter 6 Polynomials and Polynomial Functions		
Apr. & May	6.1	Using Properties of Exponents
	6.2	Evaluating and Graphing Polynomial Functions
	6.3	Adding, Subtracting, and Multiplying Polynomials
	6.4	Factoring and Solving Polynomial Equations
	6.5	The Remainder and Factor Theorem
	6.6	Finding Rational Zeros
	6.7	Using the Fundamental Theorem of Algebra
	6.8	Analyzing Graphs of Polynomial Functions
	6.9	Modeling with Polynomial Functions