



TOMORROW'S GENIUS
EMPOWER YOUR LEARNING

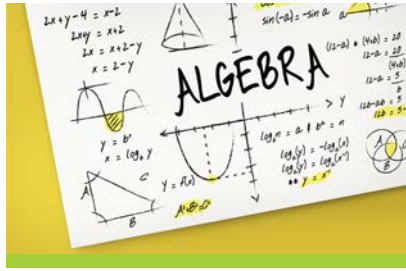
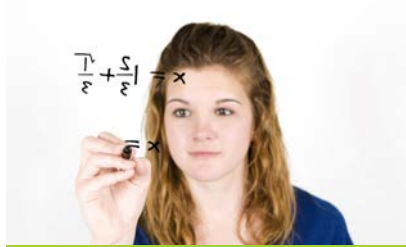
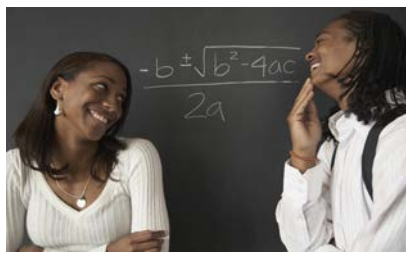
ALGEBRA 1



Course Description:

To study advanced forms of math, students must first develop a foundational mastery of Algebra 1. Algebra 1 includes the conceptual categories of number and quantity, functions and statistics. This incorporates the many situations of the unknown value of a number as well as knowledge of formulae, which are sets of instructions for solving problems. Students learn to analyze, solve, create, express, and exchange algebraic formulae and graphs in several formats including linear, exponential and quadratic functions. Algebra is the basis of infinite physical problems, making it a powerful problem solving tool. TG's Algebra 1 Regents program maps a comprehensive path to mastery from the foundations of Algebra 1 to the tools students need to continue their studies in advanced mathematics.

Unit	
Introduction and Course Overview	Introduction to the Foundations of Algebra
1 Properties of Algebra and solving Linear Equations in Algebra	One Step Algebra Equations Solving Linear Equations by Adding and Subtracting Solving Linear Equations by Multiplying and Dividing Combining Like Terms Before Solving Variable on both Sides of the Equation.
2 Polynomial Arithmetic	Classifying Polynomials Multiplying and Dividing Monomials Adding and Subtracting Polynomials Multiplying Monomials and Polynomials Multiplying Binomials Factoring Polynomials More Complicated Factoring Multiplying a Polynomial by a Polynomial Using FOIL Method.
3 Graphs of Linear Equations	Graphing Solution Set of a Linear Equation by making a Table of Values Graphing a Linear Equation Using the Intercept Method Calculating and Interpreting Slope Graphing Linear Equation in Slope-Intercept Form Graphing Linear Equation on the graphic Calculator



Unit		
		Equations of Vertical and Horizontal Lines Solving System of linear equation Graphically Determining the Slope of the Line Interpreting the Slope of the Line Finding the Equation of a Line given Two Points
4	Systems of Linear Equations	Solving System of linear equation
5	Graphs of Quadratic Equations	Graphing a Quadratic Equation with a Chart Graphing a Parabola by Finding the Vertex Graphing a Quadratic Equation on the graphic Calculator Using the Graphic Calculator to solve Quadratic Equations Solving a Linear-Quadratic System of Equations by Graphing Word Problem Involving the Graph of a Quadratic Equation
6	Quadratic Equations	Methods of Solving Quadratic Equations The Relationship Between the Factors and The Zeros Word Problems Involving Quadratic Equations
7	Linear Inequalities	One Variable Linear Inequalities Graphing Two-Variable Linear Inequalities Graphing system of Linear Inequalities Graphing Inequalities on the graphic Calculator
8	Exponential Equations	Evaluating Exponential Expressions Exponential Growth VS. Exponential Decay Graphs of Exponential Equations
9	Creating and Interpreting Equations	Creating and Interpreting Linear Equations Creating and Interpreting Exponential Equations
10	Functions	Different Representations of Functions Domain & range of the function Graphing Functions How to tell when a Graph or a list cannot define a Function Graphing Transformed Functions
11	Sequences	Types of Sequences Describing a Sequence with a Direct Formula Describing a Sequence with a Recursive Formula
12	Statistics	Mean, Median and Mode First Quartile and Third Quartile Box Plots Using the Graphic Calculator to Determine Maximum, Minimum, And Median Using the Graphic Calculator to Determine First Quartile, And Third Quartile
13	Regression Curves	The Line of Best Fit The Correlation Coefficient The Correlation Coefficient using Graphic Calculator Parabolas and Exponentials of Best Fit