

Algebra Focus: Linear Equations

Dates: September 11, 2013 - October 23, 2013 (7 weeks)

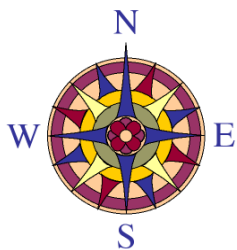
Instructor: Sarah Hogue

Objective: Algebra Focus is a class series that drills down and explores key concepts in algebra to ensure a deep understanding of challenging topics. Students will work methodically through complex algebra concepts that are critical to success in advanced algebra, geometry, calculus, AP, and college entrance exams.

In this course, students will examine linear equations in which two variables are used to represent various linear models. Topics in this course cover the slope of a line, relate the slope to the rate of change, and explore the relationship among tables, graphs and symbolic representations of a line. The activities will also include contextual applications of linear functions.

Preliminary Course Outline

<u>Week</u>	<u>Theme/Topic</u>
1.	Functions and Their Graphs <ul style="list-style-type: none">• Different Ways to Model Relations• Domain and Range• Function Notation
2.	Slope and Rate of Change <ul style="list-style-type: none">• Positive or Negative Correlation• Methods for Calculating Slope• Horizontal and Vertical Lines
3.	Slope-Intercept Form ($y = Mx + B$) <ul style="list-style-type: none">• Graphing Lines Using Slope and Intercept• Writing Equations of Lines



Compass Homeschool Enrichment LLC

4. Standard Form ($Ax + By = C$)
 - Graphing Lines Using Intercepts
 - Changing Forms

5. Point-Slope Form ($y - y_1 = m(x - x_1)$)
 - Graphing Lines Using a Point and Slope
 - Writing Equations of Lines

6. Approximating the Line of Best Fit
 - Collecting Data
 - Drawing Scatterplots
 - Determining Correlation

7. Linear Applications
 - Approximately Linear Equations
 - Interpolating and Extrapolating

Compass Homeschool Enrichment LLC

PO Box 21, Centreville, VA 20122

Office: 703-544-5332 Fax: 703-562-1930

E-mail: admin@compassclasses.com Website: www.compassclasses.com