

# ALGEBRA I Part 1

## DESIGNING YOUR OWN TEXTBOOK PROJECT

Your assignment is to create **your own Algebra 1 textbook**. The focus is to write it as simple as possible, in your own terms and explanations, so that someone just starting in Algebra could pick up your textbook and be able to follow along easily. You are encouraged to use the computer, colored paper, comics, drawings, animated designs, humor, and most of all **BE CREATIVE**. See my website for samples: [www.brunswick.k12.me.us/pgroves/home/algebra-i-part-1/](http://www.brunswick.k12.me.us/pgroves/home/algebra-i-part-1/)

The **ALGEBRA 1** topics you must teach are:

- 1) Positive and Negative numbers
  - Plotting real numbers on a number line (integers, fractions, positives, negatives, 0)
  - Adding, subtracting, multiplying, and dividing
  
- 2)  Order of Operations **P. E. M. D. A. S**
  
- 3) Simplifying Algebraic Expressions:
  - Collecting Like Term
  - Using the Distributive Property
  
- 4) Solving Equations:
  - 1 steppers (using addition, subtraction, multiplication, and division)
  - 2 steppers
  - multi-stepper with the variable X on both sides
  - equations with fractions in front of X
  
- 5) Understanding Points and Lines
  - The Basics**: plotting points, ordered pairs, x-axis, y-axis, origin, and 4 quadrants
    - Finding the Y-Intercept
  - Slope**:
    - Given a graph, using:  $m = \text{rise/run}$
    - Given 2 points, using:  $m = \Delta y / \Delta x$
    - Given examples of graphs with slopes: positive, negative, 0, & undefined
  - Putting equations in Slope-Intercept Form ( $Y = MX + B$ )
  
- 6) Graphing Lines
  - Graphing using a Table
  - Graphing using the X-Intercept and Y-Intercept
  - Graphing using Slope-Intercept Form

\* **The Textbook must have:** A Cover and Table of Contents

\* **Time line:** Sections 1-4 due **June 4<sup>th</sup>** ; Textbook **due JUN12**

\* **Grading Criteria:** The Textbook will counts as: 2 Test Grades

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|---|--|
| 1) Mathematically Correct, Clarity,<br>and Thoroughness of Explanations | _____/60 (4pts / bullet)   |
| 2) Cover and Table of Contents (10 pts)                                 | _____/10 <input type="checkbox"/> cover <input type="checkbox"/> TOC |
| 2) Visual Presentation and Examples                                     | _____/10   |
| 3) Creativity (10 pts)  | _____/10   |
| 4) Artwork/Humor... (10 pts)  | _____/10   |
|   | Grade: _____   |