**Algebra 1 Syllabus & Course Layout**

Ms. Davis

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Room C204

SEM 1- Fall- Algebra 1

**Student Responsibilities:**

* Ask questions to deepen understanding
* Engage in your learning
  + Take notes
  + Complete all assignments
* Be respectful to your teachers and your peers
* Interact with your teacher and your classmates
  + Attend Office Hours during common lunch, especially if you are absent and need to make up any work.
* Open your mind to new ways of thinking
* Use what you have learned in prior math classes to acquire new knowledge

**Grading:**

* 20% Classwork (Participation)
  + Examples of Classwork:
    - Blooket
    - Desmos Activities
    - Handouts
    - Active note-taking
    - Engage in the lesson
* 20% Homework
  + Examples of Homework:
    - Handout
    - Problems from book page
    - Online assignment
  + Speak with the teacher about extended time due to absences/extenuating circumstances.
* 60% Assessments (Tests, Quizzes, etc.)

**Materials and Access:**

* Google Classroom
  + Assignment posts, objectives, etc.
* Desmos virtual Calculators (Scientific/Graphing)
  + Student.Desmos.com
* Savvas Envision digital Student Materials
* IXL.com
* Printed Guided Notes & Homework Packet

**Course Layout:**

* Each Topic is divided into sections corresponding with the standards tested both on the final exam and standardized testing
* Each section is allotted approximately one class period
* There will be two benchmark exams given throughout the semester, then the course will be concluded with the final exam

***Topic 1 Solving Equations and Inequalities***

1-1 Operations on Real Numbers

1-2 Solving Linear Equations

1-3 Solving Equations with Variables on Both Sides

1-4 Literal Equations and Formulas

1-5 Solving Inequalities in One Variable

***Topic 2 Linear Equations***

2-1 Slope-Intercept Form

2-2 Point-Slope Form

2-3 Standard Form

***Topic 3 Linear Functions***

3-1 Domain and Range of Functions

3-2 Linear Functions

3-3 Transforming Linear Functions

3-4 Arithmetic Sequences

3-5 Scatter Plots and Lines of Fit

3-6 Analyzing Lines of Fit

***Topic 4 Systems of Linear Equations and Inequalities***

4-1 Solving Systems of Equations by Graphing

4-2 Solving Systems of Equations by Substitution

4-3 Solving Systems of Equations by Elimination

4-4 Linear Inequalities in Two Variables

4-5 Systems of Linear Inequalities

***Topic 5 Piecewise Functions***

5-1 The Absolute Value Function

5-2 Piecewise-Defined Functions

5-3 Step Functions

***Topic 6 Exponents and Exponential Functions***

6-3 Exponential Functions

6-4 Exponential Growth and Decay

6-5 Geometric Sequences

***Topic 7 Polynomials and Factoring***

7-1 Adding and Subtracting Polynomials

7-2 Multiplying Polynomials

7-3 Multiplying Special Cases

7-4 Factoring Polynomials

7-5 Factoring x2 + bx + c

7-6 Factoring ax2 + bx + c

***Topics 8 Quadratic Functions***

8-1 Key Features of Graphs of Quadratic Functions

8-2 Quadratic Functions in Vertex Form

8-3 Quadratic Functions in Standard Form

8-4 Modeling with Quadratic Functions

8-5 Linear, Exponential, and Quadratic Models

***Topic 9 Solving Quadratic Equations***

9-1 Solving Quadratic Equations Using Graphs and Tables

9-2 Solving Quadratic Equations by Factoring

9-3 Solving Quadratic Equations Using Square Roots

9-4 Completing the Square

9-5 The Quadratic Formula and the Discriminant

***Topic 10 Working with Functions***

10-1 The Square Root Function

10-2 The Cube Root Function

***Topic 11 Statistics***

11-1 Analyzing Data Displays

11-2 Comparing Data Sets

11-3 Interpreting the Shapes of Data Displays

11-4 Standard Deviation

11-5 Two-Way Frequency Tables