

Algebra 1 Credit (120 hours) Syllabus

Peddie Summer School

Welcome to the Algebra 1 summer course. In this course we develop the basic skills needed in algebra including solving various types of equations and inequalities, factoring, operations with rational expressions, and systems of linear equations in two variables, as well as functions and their graphs. It is important that students keep up with the pace of the course by participating in class and by completing all readings and homework assignments. Scientific and graphing calculator use is permitted. The instructor will be modeling with the TI-84 plus in class.

Textbook: BIG IDEAS MATH Algebra 1 Common Core Student Edition

By Houghton Mifflin Harcourt

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Grading Policy: 45% Tests

20% Quizzes

25% Final Exam

10% Homework and Participation

Below you will find an outline of the topics we will cover during the six weeks. Although every attempt to follow this timeline will be made, it can be adjusted at the discretion of the teacher.

Week 1

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| 1.1- Solving Simple Equations | 2.1- Writing and Graphing Inequalities |
| 1.2- Solving Multi-Step Equations | 2.2- Solving Inequalities Using Add. or Subt. |
| 1.3- Solving Equations with Variables on Both Sides | 2.3- Solving Inequalities Using Multi. or Div. |
| 1.4- Solving Absolute Value Equations | 2.4- Solving Multi-Step Inequalities |
| 1.5- Rewriting Equations and Formulas | 2.5- Solving Compound Inequalities |
| | 2.6- Solving Absolute Value Inequalities |
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Week 2

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| 3.1- Functions | 4.1- Write Equations in Slope-Intercept Form |
| 3.2- Linear Functions | 4.2- Write Equations in Point-Slope Form |
| 3.3- Function Notation | 4.3- Write Equations of Parallel and Perp. Lines |
| 3.4- Graph Linear Equations in Standard Form | 4.4- Scatter Plots and Lines of Fit |
| 3.5- Graph Linear Equations in Slope-Intercept Form | 4.5- Analyzing Lines of Fit |
| 3.6- Transformations of Graphs of Linear Functions | 4.6- Arithmetic Sequences |
| 3.7- Graphing Absolute Value Functions | 4.7- Piecewise Functions |
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Week 3

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| 5.1- Solve Systems of Linear Equations by Graphing | 6.1- Properties of Exponents |
| 5.2- Solve Systems of Linear Equations by Substitution | 6.2- Radicals and Rational Exponents |
| 5.3- Solve Systems of Linear Equations by Elimination | 6.3- Exponential Functions |
| 5.4- Solve Special Systems of Linear Equations | 6.4- Exponential Growth and Decay |
| 5.5- Solve Equations by Graphing | 6.5- Solving Exponential Equations |
| 5.6- Graph Linear Inequalities in Two Variables | 6.6- Geometric Sequences |
| 5.7- Systems of Linear Inequalities | 6.7- Recursively Defined Sequences |

Week 4

- 7.1- Adding and Subtracting Polynomials
 - 7.2- Multiplying Polynomials
 - 7.3- Special Products of Polynomials
 - 7.4- Solving Polynomial Equations in Factored Form
 - 7.5- Factoring $x^2 + bx + c$
 - 7.6- Factoring $ax^2 + bx + c$
 - 7.7- Factoring Special Products
 - 7.8- Factoring Polynomials Completely
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- 8.1- Graphing $f(x) = ax^2$
- 8.2- Graphing $f(x) = ax^2 + c$
- 8.3- Graphing $f(x) = ax^2 + bx + c$
- 8.4- Graphing $f(x) = a(x - h)^2 + k$
- 8.5- Using Intercept Form
- 8.6- Comparing Linear, Exponential, and Quadratic functions

Week 5

- 9.1- Properties of Radicals
 - 9.2- Solve Quadratic Equations by Graphing
 - 9.3- Solve Quadratic Equations Using Square Roots
 - 9.4- Solve Quadratic Equations by Completing the Square
 - 9.5- Solve Quadratic Equations Using the Quadratic Formula
 - 9.6- Solving Nonlinear Systems of Equations
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- 10.1- Graphing Square Root Functions
- 10.2- Graphing Cube Root Functions
- 10.3- Solving Radical Equations
- 10.4- Inverse of a Function

Week 6

- 11.1- Measures of Center and Variation
- 11.2- Box-and-Whisker Plots
- 11.3- Shapes of Distributions
- 11.4- Two-Way Tables
- 11.5- Choosing a Data Display

Final Exam Review
Final Exam