

ALGEBRA 1 SYLLABUS

2018-2019 Academic School-Year

1st Marking Period

Chapter 1: Solving Linear Equations (Test 1.1-1.5)

- 1.1 Solving Simple Equations (*NJSLS-A-CED.A.1, NJSLS-A-REI.A.1, NJSLS-A-REI.B.3*)
- 1.2 Solving Multi-Step Equations (*NJSLS-N-Q.A.1, NJSLS-A-CED.A.1, NJSLS-A-REI.B.3*)
- 1.3 Solving Equations with Variables on Both Sides (*NJSLS-A-CED.A.1, NJSLS-A-REI.B.3*)
- 1.4 Solving Absolute Value Equations (*NJSLS-A-CED.A.1, NJSLS-A-REI.B.3*)
- 1.5 Rewriting Equations and Formulas (*NJSLS-A-CED.A.4*)

Chapter 2: Solving Linear Inequalities (Test 2.1-2.6)

- 2.1 Writing and Graphing Inequalities (*NJSLS-A-CED.A.1*)
- 2.2 Solving Inequalities Using Addition or Subtraction (*NJSLS-A-CED.A.1, NJSLS-A-REI.B.3*)
- 2.3 Solving Inequalities Using Multiplication or Division (*NJSLS-A-CED.A.1, NJSLS-A-REI.B.3*)
- 2.4 Solving Multi-Step Inequalities (*NJSLS-A-CED.A.1, NJSLS-A-REI.B.3*)
- 2.5 Solving Compound Inequalities (*NJSLS-A-CED.A.1, NJSLS-A-REI.B.3*)
- 2.6 Solving Absolute Value Inequalities (*NJSLS-A-CED.A.1, NJSLS-A-REI.B.3*)

Chapter 3: Graphing Linear Functions (Test 3.1-3.5, 3.7)

- 3.1 Functions (*NJSLS-F-IF.A.1*)
- 3.2 Linear Functions (*NJSLS-A-CED.A.2, NJSLS-A-REI.D.10, NJSLS-F-IF.B.5, NJSLS-F-IF.C.7a, NJSLS-F-LE.A.1b*)
- 3.3 Function Notation (*NJSLS-A-CED.A.2, NJSLS-F-IF.A.1, NJSLS-F-IF.A.2, NJSLS-F-IF.C.7a, NJSLS-F-IF.C.9*)
- 3.4 Graphing Linear Equations in Standard Form (*NJSLS-A-CED.A.2, NJSLS-F-IF.C.7a*)
- 3.5 Graphing Linear Equations in Slope-Intercept Form (*NJSLS-A-CED.A.2, NJSLS-F-IF.B.4, NJSLS-F-IF.C.7a, NJSLS-F-LE.B.5*)
- 3.7 Graphing Absolute Value Functions (*NJSLS-A-CED.A.2, NJSLS-A-REI.D.10, NJSLS-F-IF.C.7b, NJSLS-F-BF.B.3*)

2nd Marking Period

Chapter 4: Writing Linear Functions (Test 4.1-4.3)

- 4.1 Writing Equations in Slope-Intercept Form (*NJSLS-A-CED.A.2, NJSLS-F-BF.A.1a, NJSLS-F-LE.A.1b, NJSLS-F-LE.A.2*)
- 4.2 Writing Equations in Point-Slope Form (*NJSLS-A-CED.A.2, NJSLS-F-BF.A.1a, NJSLS-F-LE.A.1b, NJSLS-F-LE.A.2*)
- *Supplement Writing Equations in Standard Form (*NJSLS-A-CED.A.2, NJSLS-F-BF.A.1a, NJSLS-F-LE.A.1b, NJSLS-F-LE.A.2*)
- 4.3 Writing Equations of Parallel and Perpendicular Lines (*NJSLS-A-CED.A.2, NJSLS-F-LE.A.2*)

Chapter 5: Solving Systems of Linear Equations (Test 5.1-5.4, 5.6-5.7)

- 5.1 Solving Systems of Linear Equations by Graphing (*NJSLS-A-CED.A.3, NJSLS-A-REI.C.6*)
- 5.2 Solving Systems of Linear Equations by Substitution (*NJSLS-A-CED.A.3, NJSLS-A-REI.C.6*)
- 5.3 Solving Systems of Linear Equations by Elimination (*NJSLS-A-CED.A.3, NJSLS-A-REI.C.5, NJSLS-A-REI.C.6*)
- 5.4 Solving Special Systems of Linear Equations (*NJSLS-A-CED.A.3, NJSLS-A-REI.C.6*)
- 5.6 Graphing Linear Inequalities in Two Variables (*NJSLS-A-CED.A.3, NJSLS-A-REI.D.12*)
- 5.7 Systems of Linear Inequalities (*NJSLS-A-CED.A.3, NJSLS-A-REI.D.12*)

Chapter 6: Exponential Functions and Sequences (Test 6.1, 6.3-6.4)

- 6.1 Properties of Exponents (*NJSLS-N-RN.A.2*)
- 6.2 Radicals and Rational Exponents (*NJSLS-N-RN.A.1, NJSLS-N-RN.A.2*)
- **6.2 is an optional extension for high performing students
- 6.3 Exponential Functions (*NJSLS-A-CED.A.2, NJSLS-F-IF.B.4, NJSLS-F-IF.C.7e, NJSLS-F-LE.A.1a, NJSLS-F-LE.A.2*)
- 6.4 Exponential Growth and Decay (*NJSLS-A-SSE.B.3c, NJSLS-A-CED.A.2, NJSLS-F-IF.C.7e, NJSLS-F-IF.C.8b, NJSLS-F-BF.A.1a, NJSLS-F-LE.A.1c, NJSLS-F-LE.A.2*)

3rd Marking Period

Chapter 7: Polynomial Equations and Factoring (Test 7.1 – 7.4)

7.1 Adding and Subtracting Polynomials (*NJSLS.A.APR.A.1, NJSLS.F.IF.C.7c*)

7.2 Multiplying Polynomials (*NJSLS.A.APR.A.1*)

7.3 Special Products of Polynomials (*NJSLS.A.APR.A.1*)

7.4 Solve Polynomial Equations in Factored Form (*NJSLS.A.CED.A.1, NJSLS.F.IF.C.8a*)

Chapter 7: Polynomial Equations and Factoring (Test 7.5 – 7.8)

7.5 Factoring $x^2 + bx + c$ (*NJSLS.A.CED.A.1, NJSLS.A.REI.B.4b, NJSLS.F.IF.C.8a*)

7.6 Factoring $ax^2 + bx + c$ (*NJSLS.A.SSE.B.3, CNJSLS.A.CED.A.1, NJSLS.A.REI.B.4b, NJSLS.F.IF.C.8a*)

7.7 Factoring Special Products (*NJSLS.A.SSE.B.3, NJSLS.A.APR.C.4, NJSLS.A.CED.A.1, NJSLS.A.REI.B.4b*)

7.8 Factoring Polynomials Completely (*NJSLS.A.SSE.B.3, NJSLS.A.CED.A.1, NJSLS.A.REI.B.4b*)

Chapter 8: Graphing Quadratic Functions (Test 8.1-8.4 and 8.6)

8.1 Graph $f(x) = ax^2$ (*NJSLS.A.CED.A.2, NJSLS.A.CED.A.3, NJSLS.F.IF.B.4, NJSLS.F.IF.B.5, NJSLS.F.IF.B.5, NJSLS.F.IF.C.7c, NJSLS.F.BF.B.3*)

8.2 Graph $f(x) = ax^2 + c$ (*NJSLS.A.CED.A.2, NJSLS.A.CED.A.3, NJSLS.F.IF.C.7a, NJSLS.F.IF.C.7c, NJSLS.F.IF.B.4, NJSLS.F.BF.B.3*)

8.3 Graph $f(x) = ax^2 + bx + c$ (*NJSLS.A.CED.A.2, NJSLS.A.CED.A.3, NJSLS.F.IF.C.7a, NJSLS.F.IF.C.7c, NJSLS.F.BF.B.3*)

8.4 Graphing $f(x) = a(x - h)^2 + k$ (*NJSLS.A.CED.A.2, NJSLS.F.IF.B.4, NJSLS.F.BF.B.3*)

8.6 Comparing Linear, Exponential, and Quadratic Functions (*NJSLS.A.CED.A.2, NJSLS.A.CED.A.3, NJSLS.F.IF.B.4, NJSLS.F.IF.C.7a, NJSLS.F.IF.C.7c, NJSLS.F.IF.C.7e, NJSLS.F.BF.A.1a, NJSLS.F.LE.A.1, NJSLS.F.LE.A.3, NJSLS.F.LE.B.5, NJSLS.S.ID.B.6a*)

4th Marking Period

Chapter 9: Solving Quadratic Equations (Test 9.2 – 9.5)

9.2 Solving Quadratic Equations by Graphing (*NJSLS.A.CEDA.2, NJSLS.A.CED.A.3, NJSLS.A.REI.D.11, NJSLS.F.IF.B.4, NJSLS.F.IF.C.7a, NJSLS.F.IF.C.7c, NJSLS.F.IF.C.8a*)

9.3 Solving Quadratic Equations Using Square Roots (*NJSLS.A.CED.A.1, NJSLS.A.CED.A.2, NJSLS.A.CED.A.3, NJSLS.REI.B.4b, NJSLS.A.REI.D.11*)

9.4 Solving Quadratic Equations by Completing the Square (*NJSLS.A.SSE.B.3, NJSLS.A.CED.A.1, NJSLS.F.IF.C.8a, NJSLS.A.REI.B.4a*)

9.5 Solving Quadratic Equations Using the Quadratic Formula (*NJSLS.A.REI.B.4b*)

Chapter 11: Data Analysis and Displays (Test 11.1 – 11.4)

11.1 Measures of Center and Variation (*NJSLS.S.ID.A.3*)

11.2 Box-and-Whisker Plots (*NJSLS.S.ID.A.1, NJSLS.S.ID.A.3*)

11.3 Shapes of Distributions (*NJSLS.S.ID.A.1, NJSLS.S.ID.A.2, NJSLS.S.ID.A.3*)

11.4 Two-Way Tables (*NJSLS.S.ID.A.1*)

Chapter 9: Solving Quadratic Equations

Chapter 10: Radical Functions and Equations (Test 9.1, 10.1, and 10.3)

9.1 Properties of Radicals (*NJSLS.A.REI.A.2*)

10.1 Graphing Square Root Functions (*NJSLS.F.IF.C.7b, NJSLS.F.BF.B.3*)

10.3 Solving Radical Equations (*NJSLS.A.REI.A.2*)

Course Expectations and Skills

- Students are required to have proficiency in all prerequisite topics for Algebra 1. Those who do not demonstrate proficiency will be required to seek additional help after school to close their achievement gap in order to be successful in this course.
- Students are required to take notes and maintain those notes in a neat and organized notebook.
- Students are required to have a scientific calculator.
- Students are required to participate in both small and large group discussions and activities, as directed.
- Students are required to complete a project each marking period, including those which require the use of technology.

Resources

Text Book: *Algebra 1*, Big Ideas Math

Supplemental Materials: Algebra 1 Practice Workbook
Dynamic Algebra Software
Kuta Infinite Algebra 1

Assessment Information

Department of Mathematics – Algebra 1 (2018-2019)

Marking Period 1	Marking Period 2	Marking Period 3	Marking Period 4
Major (MAJ): Summative: 30%	Major (MAJ): Summative: 30%	Major (MAJ): Summative: 30%	Major (MAJ): Summative: 30%
Benchmark (BMK): 20%	Benchmark (BMK): 20%	Benchmark (BMK): 20%	Benchmark (BMK): 20%
Project (PRJ): 10%	Project (PRJ): 10%	Project (PRJ): 10%	Project (PRJ): 10%
Minor (MIN): Formative: 25%	Minor (MIN): Formative: 25%	Minor (MIN): Formative: 25%	Minor (MIN): Formative: 25%
Class Participation (CP): 5%	Class Participation (CP): 5%	Class Participation (CP): 5%	Class Participation (CP): 5%
Homework (HW): 10%	Homework (HW): 10%	Homework (HW): 10%	Homework (HW): 10%