ML ALGEBRA 1 SYLLABUS

Marking Period 1

Chapter 1 – Solving Linear Equations (Test 1.1-1.3, 1.5)

Section	Title	2023 NJSLS for Mathematics	Suggested Problems *Teachers must assign mixed review problems as part of homework assignments.*
1.1	Solving Simple Equations	N-Q.A.1, A-CED.A.1, A-REI.A.1, A-REI.B.3	Warm up only day one.
1.2	Solving Multi-Step Equations	N-Q.A.1, A-CED.A.1, A-REI.A.1, A-REI.B.3 A-SSE.A.1b	Big Ideas Text p. 16-18 #1-47, 49, 50, 57-65
1.3	Solving Equations with Variables on Both Sides	N-Q.A.1, A-CED.A.1, A-REI.A.1, A-REI.B.3	Big Ideas Text p. 23-24 #1-30, 33, 37 38, 41-44
1.5	Rewriting Equations and Formulas	A-CED.A.4	Big Ideas Text p. 40-42 #1-36, 38, 47-54

Chapter 2 – Solving Linear Inequalities (Test 2.1-2.5)

Section	Title	2023 NJSLS for Mathematics	Suggested Problems *Teachers must assign mixed review problems as part of homework assignments.*
2.1	Writing and Graphing Inequalities	A-CED.A.1, A-SSE.A.1a	Big Ideas Text p. 58-60 #1-46, 48-52, 60-67
2.2	Solving Inequalities Using Addition or Subtraction	A-CED.A.1, A-REI.B.3	Big Ideas Text p. 65-66 #1-35, 37, 39-46
2.3	Solving Inequalities Using Multiplication or Division	A-CED.A.1, A-REI.B.3	Big Ideas Text p. 71-72 #1-34, 40-47
2.4	Solving Multi-Step Inequalities	A-CED.A.1, A-REI.B.3, A-SSE.A.1b	Big Ideas Text p. 77-78 #1-34, 36, 38-43
2.5	Solving Compound Inequalities	A-CED.A.1, A-REI.B.3, A-SSE.A.1b	Big Ideas Text p. 85-86 #1-23, 25-32, 35-40

Chapter 3 – Graphing Linear Functions (Quiz 3.1 & 3.2)

Section	Title	2023 NJSLS for Mathematics	Suggested Problems **Teachers must assign mixed review problems as part of homework assignments.*
3.1	Functions	F-IF.A.1	Big Ideas Text p. 108-110 #1-25, 28, 29, 31-34, 40-51
3.2	Linear Functions	A-CED.A.2, A-REI.D.10, F-IF.B.5, F-IF.C.7a, F-LE.A.1b	Big Ideas Text p. 117-120 #1-44, 52, 55-61

Marking Period 2

Chapter 3 – Graphing Linear Functions (Test 3.1-3.5)

Section	Title	2023 NJSLS for Mathematics	Suggested Problems **Teachers must assign mixed review problems as part of homework assignments.*
3.3	Function Notation	A-CED.A.2, F-IF.A.1, F-IF.A.2, F-IF.C.7a, F-IF.C.9	Big Ideas Text p. 125-126 #1-31, 34, 37-42
3.4	Graphing Linear Equations in Standard Form	A-CED.A.2, A-REI.D.10 F-IF.C.7a	Big Ideas Text p. 133-134 #1-35, 39-42
3.5	Graphing Linear Equations in Slope-Intercept Form	A-CED.A.2, A-SSE.A.1a, A-REI.D.10 F-IF.B.4, F-IF.C.7a, F-LE.A.1b, F-LE.B.5	Big Ideas Text p. 141-144 #1-42, 45, 48, 50-52, 54--60

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

Section	Title	2023 NJSLS for Mathematics	Suggested Problems **Teachers must assign mixed review problems as part of homework assignments.*
4.1	Writing Equations in Slope-Intercept Form	A-CED.A.2, F-BF.A.1a, F-LE.A.1b, F-LE.A.2	Big Ideas Text p. 179-180 #1-28, 31-33, 36, 38-45
4.2	Writing Equations in Point-Slope Form	A-CED.A.2, F-BF.A.1a, F-LE.A.1b, F-LE.A.2	Big Ideas Text p. 185-186 #1-34, 38, 40-44
*Supplement	Writing Equations in Standard Form	A-CED.A.2, F-BF.A.1a, F-LE.A.1b, F-LE.A.2	Teacher-created resources using Kuta software or other supplemental material.
4.3	Writing Equations of Parallel and Perpendicular Lines	A-CED.A.2, F-LE.A.2	Big Ideas Text p. 191-192 #1-28, 32-35, 37, 38

Marking Period 3

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

Section	Title	2023 NJSLS for Mathematics	Suggested Problems **Teachers must assign mixed review problems as part of homework assignments.*
5.1	Solving Systems of Linear Equations by Graphing	A-CED.A.3, A-REI.C.6, A-REI.D.11	Big Ideas Text p. 239-240 #1-28, 31, 32, 34-36
5.2	Solving Systems of Linear Equations by Substitution	A-CED.A.3, A-REI.C.6	Big Ideas Text p. 245-246 #1-20, 25, 26, 30, 32, 36-41
5.3	Solving Systems of Linear Equations by Elimination	A-CED.A.3, A-REI.C.5, A-REI.C.6	Big Ideas Text p. 251-252 #1-26, 29, 36-42
5.4	Solving Special Systems of Linear Equations	A-CED.A.3, A-REI.C.6	Big Ideas Text p. 257-258 #1-25, 29, 30, 33-36
5.6	Graphing Linear Inequalities in Two Variables	A-CED.A.3, A-REI.D.12	Big Ideas Text p. 271-272 #1-38, 40, 46-48
5.7	Systems of Linear Inequalities	A-CED.A.3, A-REI.D.12	Big Ideas Text p. 278-280 #1-30, 38, 49-55

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

Section	Title	2023 NJSLS for Mathematics	Suggested Problems **Teachers must assign mixed review problems as part of homework assignments.*
6.1	Properties of Exponents	N-RN.A.2	Big Ideas Text p. 296-298 #1-44, 47-50, 70-75
6.3	Exponential Functions	A-CED.A.2, F-BF.B.3, F-IF.B.4, F-IF.C.7e, F-LE.A.1a, F-LE.A.2	Big Ideas Text p. 310-312 #1-42, 46, 55, 57, 58, 64-67
6.4	Exponential Growth and Decay	A-SSE.B.3c, A-CED.A.2, F-BF.A.1a, F-IF.C.7e, F-IF.C.8b, F-LE.A.1c, F-LE.A.2	Big Ideas Text p. 319-322 #1-60, 62, 66, 68, 69, 73-79

Chapter 7 – Polynomial Equations and Factoring (Test 7.1-7.3)

Section	Title	NJSLS	Problems
7.1	Adding and Subtracting Polynomials	A-APR.A.1, A-SSE.A.1a	Big Ideas Text p. 362 #1-4, 6-18 even, 22-46 even, 53-57, 62-64
7.2	Multiplying Polynomials	A-APR.A.1, A-SSE.A.1a	Big Ideas Text p. 369 # 1, 4-24 even, 28-30 even, 44, 52-58
7.3	Special Products of Polynomials	A-APR.A.1, A-SSE.A.1a	Big Ideas Text p. 375 #1, 4-10 even, 16, 18, 22, 34, 37, 48-51

Marking Period 4

Chapter 7 – Polynomial Equations and Factoring (Test 7.4-7.8)

Section	Title	2023 NJSLS for Mathematics	Suggested Problems **Teachers must assign mixed review problems as part of homework assignments.*
7.4	Solve Polynomial Equations in Factored Form	A-APR.B.3, A-REI.A.1, A-REI.B.4b, A-SSE.A.1b, A-SSE.B.3a	Big Ideas Text p. 381 #1, 2-16 even, 22-38 even, 41, 42, 44, 49-52
7.5	Factoring $x^2 + bx + c$	A-SSE.A.2, A-SSE.B.3a	Big Ideas Text p. 389 #1, 2-38 even, 39, 46, 47 - 55
7.6	Factoring $ax^2 + bx + c$	A-SSE.A.2, A-SSE.B.3a	Big Ideas Text p. 395 #1, 2-34 even, 38, 45-56
7.7	Factoring Special Products	A-SSE.A.2, A-SSE.B.3a	Big Ideas Text p. 401 #1, 2-8 even, 16-32 even, 36-42 even, 46, 47, 49-56
7.8	Factoring Polynomials Completely	A-SSE.A.2, A-SSE.B.3a	Big Ideas Text p. 407 #1, 2-34 even, 38, 40, 42, 50-57

Chapter 9 – Solving Quadratic Equations (Test 9.1)

Section	Title	2023 NJSLS for Mathematics	Suggested Problems **Teachers must assign mixed review problems as part of homework assignments.*
9.1	Properties of Radicals	N-RN.A.2, N-RN.A.3	Big Ideas Text p. 485 #1-4, 5-10, 14-28 even, 37, 46-52 even, 61, 63, 75-80, 83-88, 108-111

Chapters 8 and 9 – Graphing and Solving Quadratic Functions (Test 8.3-8.4, 9.2)

Section	Title	2023 NJSLS for Mathematics	Suggested Problems **Teachers must assign mixed review problems as part of homework assignments.*
8.1	Graph $f(x) = ax^2$	A-CED.A.2, F-BF.B.3, F-IF.A1c, F-IF.B.4, F-IF.B.5, F-IF.C.7a,	Big Ideas Text p. 423 #1, 2-20 even, 32-35
8.2	Graph $f(x) = ax^2 + c$	A-CED.A.2, F-BF.A.1b, F-BF.B.3 F-IF.A.1c, F-IF.B.4, F-IF.B.5, F-IF.C.7a	Big Ideas Text p. 429 #1, 2-12 even, 18-28 even, 34, 38, 42-45
8.3	Graph $f(x) = ax^2 + bx + c$	A-CED.A.2, F-IF.A.1c, F-IF.B.5, F-IF.C.7a, F-IF.C.9	Big Ideas Text p. 436 #1, 2-10, 13-16, 20, 27, 28, 37, 38, 42, 50-53
8.4	Graphing $f(x) = a(x-h)^2 + k$	A-CED.A.2, F-BF.A.1a, F-BF.B.3 F-IF.A.1c, F-IF.B.4, F-IF.B.5, F-IF.C.7a	Big Ideas Text p. 446 #2, 20-34 even, 35-38, 40-44 even, 70, 79-82
9.2	Solving Quadratic Equations by Graphing	A-CEDA.2, F-IF.B.4, F-IF.C.7a,	Big Ideas Text p. 494 #1-4, 6-42 even, 53, 54, 66, 67

Chapter 9 – Solving Quadratic Equations (Test 9.3-9.5)

Section	Title	2023 NJSLS for Mathematics	Suggested Problems **Teachers must assign mixed review problems as part of homework assignments.*
9.3	Solving Quadratic Equations Using Square Roots	N-RN.A.3, A-CED.A.1, A-CED.A.4, A-REI.B.4b	Big Ideas Text p. 501 #1, 2-30 even, 31-34, 40, 45-50
9.4	Solving Quadratic Equations by Completing the Square	N-RN.A.3, A-CED.A.1, A-REI.B.4a, A-REI.B.4b, A-SSE.B.3b, F-IF.C.8a	Big Ideas Text p. 511 #17-22, 25, 26, 33, 78-80
9.5	Solving Quadratic Equations Using the Quadratic Formula	N-RN.A.3, A-CED.A.1, A-REI.B.4a, A-REI.B.4b	Big Ideas Text p. 521 #1, 2-48 even, 49, 50-56 even, 72, 83-85

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 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

Grading Policy

Department of Mathematics - Algebra 1

Marking Periods 1 - 4	
Category	**Percentage**
Major	40%
Minor	30%
Project (MP 1 & 3) Benchmark (MP 2 & 4)	10%
Class Participation	5%
Homework	15%