Algebra 2
Timeline / Assignment Guide
Fall Semester – 2024-2025

Note: Timeline and dates are subject to change.

Day	Date	Topic/Success Criteria	Standards	Activities	CW
1	W 8/14 (A) Th 8/15 (B)	Welcome, School Rules, Digital Syllabus, Name Tent		Survival in the Desert	
2	F 8/16 (A) M 8/19 (B)	**1.0 – Algebra 1 Review** ● Plot points, linear equations, slope, and graphing linear equations ● Parent functions		Coordinate Battleship Linear Equation Matching	
3	T 8/20 (A) W 8/21 (B)	**1.1 - Key Features of Functions** ● Identify key features of a graph of a function including domain and range	HSF.IF.B.4; SF.IF.B.6; HSF.IF.C.7	Domain & Range Scavenger Hunt Desmos: Delta Math: Domain and Range	1.1a HW Workbook – pg. 5 #18, 19, 23, 24, 32 **NTI -2DL:** 1.1 (day 1) MathXL: #15,19,23,24
4	Th 8/22 (A) M 8/26 (B)	**1.2 - Transformations of Functions** ● Graph a transformed function. ● Write an equation of a transformed function. Envision Examples # 1 – 6	HSF.IF.B.5; HSF.BF.B.3	Ink Stain Transformation Word Search Activity Desmos activities: Match my Parabola Polygraph Parabola (this one is a partner activity - partners are assigned randomly) Match my transformation General Formative: 1.2 CW Transformations Color Match (LHS PLC Cycle Review)	**NTI -2DL:** 1.2 Math XL: 14,16,17,20,24,26,29, 32 HW Handout (not in textbook)

5	**T 8/27 (A)** **W 8/28 (B)**	**1.5 - Solving Equations and Inequalities by Graphing** ● Use graphs, tables, and graphing technology to find or approximate solutions to equations and inequalities. Envision Examples #1-2, 4 – 5	HSA.CED.A.1; HSA.REI.D.11	Graphing in seat practice (using desmos)	1.5 HW Handout (pg. 44 #4, 5, 10, 14-15, 18, 23, 34) **NTI -2DL: (1.5 Practice and Problem Solving)** 1.5 Math XL: #5, 6, 9, 10, 11, 15, 20, 23, 25, 31
6	**Th 8/29 (A)** **F 8/30 (B)**	**1.6 – Systems of Linear Equations and Inequalities** ● use a variety of tools to solve systems of equations Envision 1.6 Examples #1 – 2	HSA.CED.A.3; HSA.REI.C.6	Systems Scavenger Hunt	1.6 DESMOS Card Sorts 1.6 HW Handout (not in textbook)
7	**T 9/3 (A)** **W 9/4 (B)**	**1.6b Day 2 – Systems of Linear Inequalities WORD PROBLEMS** ● use a variety of tools to solve systems of equations	HSA.CED.A.3; HSA.REI.C.6	Systems of Linear Inequalities Word Problems PUZZLE	**1.1** Begin Topic 1 Test Review
8	**Th 9/5 (A)** **F 9/6 (B)**	**3 Act Task / Review**	HSA.CED.A.2; HSA.CED.A.3; HSA.REI.C.6	3 ACT Task: Current Events	Topic 1 Test Review **NTI -2DL: (Math XL for School: Topic Review): 1,2,3,4,16,18,19,20,21,22,25,26**
9	**M 9/9 (A)** **T 9/10 (B)**	**Topic 1 Test**		District Common Assessment Envision Topic 1 (only one per semester for 2024-2025?)	
10	**W 9/11 (A)** **Th 9/12 (B)**	**2.1 - Vertex Form of a Quadratic Function** ● Determine key features of a quadratic function	HSA.CED.A.2; HSF.IF.B.4; HSF.BF.B.3	Vertex Form Google Assessment	2.1 HW Handout (pg. 77 #5, 6, 9, 10, 12, 23, 25, 29, 30, 31, 37)

		• Write an equation for a parabola given a graph Envision Examples # 1 – 5		Vertex Form Matching	**NTI -2DL: (2.1 Practice and Problem Solving) 11,12,14,16,17,19, 26,27**
11	**F 9/13 (A) M 9/16 (B)**	**2.2 - Standard Form of a Quadratic Function** • Write and graph quadratic equations in standard form • Interpret the graph of a quadratic function in a real world setting Envision Examples #1, 2, 3,	HSA.CED.A.2; HSF.IF.B.4; HSS.ID.B.6; HSS.ID.B.6	Standard Form EMOJI Wksht	2.2 HW Handout (pg. 86 #12, 15, 18, 20, 22-26, 28) **NTI -2DL: (2.1 Practice and Problem Solving): #13,16,17,18,21,22, 23**
12	**T 9/17 (A) W 9/18 (B)**	**2.3a (Day 1) - Factored Form of a Quadratic Expression** • Factor quadratic expressions • GCF, when a is not 1 Envision Examples # 1, 2, 3	HSA.SSE.A.2; HSA.SSE.B.3.A; HSA.APR.B.3	**NTI - 2DL:** Focus on factoring when a is not 1 and GCF, supplement notes in the workbook with notes from last year. Factoring Maze Factoring Pixel Art Factoring Factors Chart 1-100	2.3a HW Handout (not from textbook) **NTI -2DL:** Desmos Factoring Card Sort (a is not 1 and GCF) Gimkit Reviews (make your own)
13	**Th 9/19 (A) F 9/20 (B)**	**2.3b (Day 2) - Factored Form of a Quadratic Expression and Equation** • Factor quadratic expressions • When a is 1		**NTI - 2DL:** Factor when a = 1, difference of squares and solving quadratics by factoring. Supplement with notes from last year **NTI - 2DL:** Solve Quadratics by Factoring Google Slides Puzzle	2.3a (day 2) HW Handout (not from textbook) **NTI - 2DL:** Factoring Quadratics Scavenger Hunt (Google Slides) 2.3ab HW Handout (pg. 92 #5-9, 12, 14,

					15, 17-20, 24-27, 31, 34)
14	**M 9/23 (A)** **T 9/24 (B)**	**2.3c (Day 3) - Factored Form of a Quadratic Function** ● Relate factors to zeros of a quadratic function ● Solve quadratic equations by factoring ● Determine positive and negative intervals Envision Examples #4, 5, 6		**Factoring Sudoku**	
15	**W 9/25 (A)** **Th 9/26 (B)**	**2.1 - 2.3 Review & QUIZ (could push quiz to next class)**		**NTI - 2DL:** Gimkit Review: https://www.gimkit.com/view/5f6a0fd21349000022442973 3 ACT Task: Swift Kick Desmos: Super Mario Quadratics by John Rowe Writing Eqs of Lines in Three Forms	2.1-2.3a Quiz Review HW (not from textbook)
16	**F 9/27 (A)** **M 10/7 (B)**	**FAL – Representing Quadratics Graphically (aka Forming Quadratics) / Make Up Day / Catch Up Day**			
17	**T 10/8 (A)** **W 10/9 (B)**	**2.4 - Complex Numbers and Operations** ● Write the square root of a negative number in terms of *i* ● Perform operations with complex numbers ● Solve quadratic equations with complex solutions Envision Examples #1, 2, 3, 5, 6	HSN.CN.A.1; HSN.CN.A.2; HSN.CN.A.3	**NTI - 2DL:** Solve operations with complex #'s google form	2.4 HW Handout (pg. 99 #2-8, 14, 16, 18-21, 24-27, 31, 33, 40, 43, 49) **NTI - 2DL: Practice and Problem Solving** **MATH XL:**

					# 14,15,17,18,19,21,24 ,25,26,40, 43
18	**Th 10/10 (A) F 10/11 (B)**	**2.6a - The Quadratic Formula** ● Solve quadratic equations using the quadratic formula Envision Examples #1, 2, 3,	HSN.CN.C.7; HSA.REI.B.4; HSA.REI.B.4.A; HSA.REI.B.4.B	**NTI - 2DL:**	2.6 HW Handout (pg. 114 #5-7, 11, 16-18, 20, 22-27) **NTI - 2DL: Practice and Problem Solving: # 11,16,17,19,22,23,26 ,28**
19	**M 10/14 (A) T 10/15 (B)**	**2.6b - The Quadratic Formula** ● Identify the number of real solutions ● Interpret the discriminant	HSN.CN.C.7; HSA.REI.B.4; HSA.REI.B.4.A; HSA.REI.B.4.B		
20	**W 10/16 (A) Th 10/17 (B)**	**2.7 - Linear Quadratic Systems** ● Solve linear-quadratic systems ● Use a system to solve an equation Envision Examples #2, 3, 4	HSA.REI.C.7; HSA.REI.D.11	**NTI - 2DL:** Review solving for y *DESMOS	2.7 HW Handout (not from textbook) **NTI - 2DL: Practice and Problem Solving: # 11,12,16,17,18,21**
21	**F 10/18 (A) M 10/21 (B)**	**Review/ District Common Assessment Benchmark Test 1 (?)**			**NTI - 2DL: Math XL for school Topic Review:** **# 3, 6,8, 11,16, 17, 18, 23, 26, 28, 29, 33, 35**
22	**T 10/22 (A) W 10/23 (B)**	**Review**			
23	**Th 10/24 (A) F 10/25 (B)**	**TOPIC 2 TEST**			
24	**M 10/28 (A) T 10/29 (B)**	**3.1 - Graphing Polynomial Functions** ● Classify polynomials ● Determine end behavior of polynomials ● Graph a polynomial function ● Interpret a polynomial Model Envision Examples #1, 2, 3, 5	HSF.IF.B.4; HSF.IF.B.6; HSF.IF.C.7.C	NTI 2DL:	**NTI - 2DL: Practice and Problem Solving: # 16,18,19,24,30**

25	W 10/30 (A) Th 10/31 (B)	**3.2 - Adding, Subtracting and Multiplying Polynomials** ● Add, subtract, multiply polynomial functions ● Write and compare polynomial functions Envision Examples #1, 2, 4, 5	HSA.APR.A.1; HSF.IF.C.9; HSF.BF.A.1.B		**NTI - 2DL: Practice and Problem Solving: # 14,16,18,19,20,21,22,23**
26	F 11/1 (A) M 11/4 (B)	**3.3 - Polynomials Identities** ● **Sum and Difference of Cubes** Envision Examples #3	HSA.SSE.A.2; HSA.APR.B.2; HSA.APR.D.6		**NTI - 2DL: Practice and Problem Solving: 24,26,28,29,3137,41,46** **Or Delta Math**
27	W 11/6 (A) Th 11/7 (B)	**3.4a (Day 1) - Dividing Polynomials (Long Division)** ● Use long division to divide polynomials Envision Example # 1	HSA.SSE.A.2; HSA.APR.B.2; HSA.APR.D.6	Long Division Snowman Activity Synthetic Division Sudoku	**NTI - 2DL: Practice and Problem Solving: # 10,14,16,17** **Or Delta Math**
28	F 11/8 (A) M 11/11 (B)	**3.1-3.3 Review & QUIZ**			
29	T 11/12 (A) W 11/13 (B)	**3.4b (Day 2) - Dividing Polynomials (Synthetic Division) (Optional)** ● Use synthetic division to divide a polynomial ● Use remainder theorem to evaluate polynomials ● Determine if (x – a) is a factor of a polynomial Envision Example #2, 3, 4, 5			**Delta Math**

30	**Th 11/14 (A)** **F 11/15 (B)**	**3.5 - Zeros of a Polynomial Function** ● Use zeros to graph a polynomial function ● Use multiplicities to graph a polynomial function ● Find the real and complex zeros ● Interpret the zeros of a polynomial function ● Solve polynomial equations and inequalities Envision Examples #1, 2, 3, 4, 5	HSA.SSE.A.2; HSA.APR.B.3; HSF.IF.C.7.C		**Math XL:** **#6, 8, 11, 12, 14, 15, 18, 19, 23** **Or Delta Math**
31	**M 11/18 (A)** **T 11/19 (B)**	**Review**			**NTI - 2DL: Math XL for school Topic Review:** **# 1,6,7,8,11,13,16,17,24**
32	**W 11/20 (A)** **Th 11/21 (B)**	**TOPIC 3 TEST**			
33	**F 11/22 (A)** **M 11/25 (B)**				
34	**T 11/26 (A)** **M 12/2 (B)**	**10.1-10.2a Day 1: Matrices**			
35	**T 12/3 (A)** **W 12/4 (B)**	**10.1-10.2b Day 2: Systems with Matrices**			
36	**Th 12/5 (A)** **F 12/6 (B)**	**9.1 Parabolas**			
37	**M 12/9 (A)** **T 12/10 (B)**	**9.2 Circles**			
38	**W 12/11 (A)** **Th 12/12 (B)**	**Final Review/ District Common Assessment #2 (covers Topics 1 & 2)**			
39	**F 12/13 (A)** **M 12/16 (B)**				
40	**T 12/17 (A)** **W 12/18 (B)**	**FINALS**			
41	**Th 12/19 (A)** **F 12/20 (B)**	**FINALS**			
	ACT Prep 2nd Semester				

		10.1 & 10.2 Matrices ● Add, Subtract, Multiply Matrices **DESMOS: Desmos Matrix Calculator**			10.1-10.2 Google Form
		1.7 - Solving Linear Systems Using Matrices ● Solve real world systems problems 1.7 Example #5 Matrices: Only solving on calculator – no reduced row echelon form			**1.7 (Math XL for School: Topic Review):** 17-20, 25, 26, 30