

Advanced Algebra Two: Semester One

2023-2024

Date	Topic/ Learning Targets	Standard	Notes /Resources	Assignment
8/16 A 8/17 B	First day of school			
Topic One: Linear Functions and Systems Unit Overview (student copy) / Another option				
8/18 A 8/21 B*	Interval/ Set Notation 1.1 Key Features of Functions <ul style="list-style-type: none"> Identify key features of a graph of a function including the intercepts, positive and negative intervals, and areas where the function is increasing or decreasing. Calculate and interpret the average rate of change of a function over a specified interval. 	KY.HS.F.1 KY.HS.F.4 KY.HS.F.8	<i>*Students get chromebooks</i> Envision Ex: 1-5 Explore Domain & Range Desmos Domain & Range Desmos Card Sort	Delta Math Assignment Paper assignment if no technology: Intro to Interval & Set Notation Wksht
8/22 A 8/23 B	1.1 continued	KY.HS.F.1 KY.HS.F.4 KY.HS.F.8	General Formative - 1.1 Key Features of Functions Exit Slip	Math XL: 14, 16, 20, 22, 25, 29, 33
8/24 A 8/25 B	1.2 Transformations of Functions <ul style="list-style-type: none"> Graph a transformed function 	KY.HS.F.1 KY.HS.F.4	Intro Parent Functions <ul style="list-style-type: none"> Use this handout 	Math XL: 14,16,20,21,24,29,

Advanced Algebra Two: Semester One

2023-2024

	<ul style="list-style-type: none"> • Write an equation of a transformed function 	KY.HS.F.8	<ul style="list-style-type: none"> • Can glue it in the workbook if you want! Envision Ex: 1-6 3-way transformation match on Desmos	31,32
8/28 A 8/29 B	1.3 Piecewise Functions <ul style="list-style-type: none"> • Given a graph, identify domain, range and type of functions • Graph a simple piecewise function using two of the 4 basic functions 	KY.HS.F.1 KY.HS.F.4 KY.HS.F.8	Envision Ex: 1, 2, 5 *Can use Ex 3 to evaluate function at specific points	Math XL: 10,11,16,20 25,12,15,24
8/30 A 8/31 B	1.4 Arithmetic Sequences & Series <ul style="list-style-type: none"> • Identify the common difference in an arithmetic sequence. • Write arithmetic sequences both recursively and with an explicit formula • Construct arithmetic sequences, given a graph, a description of a relationship, or two input-output pairs. • Find the sum of an arithmetic series and complete real world problems with series 	KY.HS.F.7 KY.HS.F.12	Opener Puzzles Envision Ex: 1-6	Math XL 12-14, 16,18, 22,23,25,27,29,31, 34,36 *note how MathXL writes recursive formulas
9/1 A 9/5 B	Review			Review & Test Questions

Advanced Algebra Two: Semester One

2023-2024

9/6 A 9/7 B	Quiz	KY.HS.A.12 KY.HS.A.24		
9/8 A 9/11 B	1.5 Solving Equations & Inequalities by Graphing	KY.HS.A.14 KY.HS.A.20	Envision Ex: 1,2,4	Math XL Q's: 5, 9, 10, 13, 15, 17, 22, 23, 25, 28, 31, 32, 33,
9/12 A 9/13 B	1.6/1.7 Linear Systems & Solving with Matrices	KY.HS.A.22	3-Act Math Task 1.6 example: 1-4 1.7 example: 5	1.6: #'s 13, 15, 20, 21 22, 23, 24, 28, 29, 34 & 1.7: #'s 19, 20
9/14 A 9/15 B	Review	ALL		Review & Test Questions
9/18 A 9/19 B	Test	ALL		
Topic 2: Quadratic Functions and Equations Unit Overview (Student Copy)				
9/20 A 9/21 B	2.1 Vertex Form of a Quadratic Function <ul style="list-style-type: none"> • Create quadratic Functions in vertex form • Graph functions using their key features 	KY.HS.A.2 KY.HS.F.1 KY.HS.F.4	Envision Ex: 1-5 Optional Activities: Intro: Desmos Vertex Form Exploration Vertex Form Matching	Math XL: 11-14, 16, 19, 23, 26, 28, 34, 35 *All questions ask student to type

Advanced Algebra Two: Semester One

2023-2024

	<ul style="list-style-type: none"> Interpret key features of the graph of a quadratic function 		Vertex Form Google Form Vertex form Graphing (Matching)	answer in vertex form.
9/22 A 9/25 B	2.2 Standard Form of a Quadratic Function <ul style="list-style-type: none"> Create quadratic Functions in standard form Identify key features of quadratic function and graph a quadratic function in standard form Identify key features of a graph of a function 	KY.HS.F.1 KY.HS.F.4 KY.HS.A.2 KY.HS.A.13	Envision Ex: 1-5 <ul style="list-style-type: none"> Show regression using desmos (ex 4&5) Optional Activities: Warm-Up Key Feature Bump Review Standard Form EMOJI WKSHT Vertex Form vs. Standard Form	Math XL: 13, 14, 16, 17, 18, 19, 21, 22, 23, 24, 27
9/26 A 9/27 B	2.3 Day 1 Multiplying/Factoring Review	KY.HS.F.1 KY.HS.A.3	Envision Ex: 1 (extra practice #5-6, 17-22 on p. 78-80 in workbook) Factors Chart (1-100) Multiplying/Factoring Notes (Editable version) Factoring a is not 1 maze	Factoring Practice Options: Math XL: 17-22 2-3 (Day 1) Multiplying and Factoring Polynomials Quiz Review

Advanced Algebra Two: Semester One

2023-2024

			Quadratic Area Puzzles Factor and Solve Sudoku	
9/28 A 9/29 B	2.3 Day 2 Factored Form + Quiz •Write a quadratic equation in factored form and use it to identify zeros of the function •Determine intervals over which a quadratic function is positive or negative	KY.HS.F.1 KY.HS.A.3	Envision Ex: 2-6 FAL Representing Quadratics Graphically	Math XL: 10, 14-15, 23-28, 30-33, 37, 40, 45
FALL BREAK				
10/9 A 10/10 B				
10/11 A 10/12 B	Quiz 2.1- 2.3			
10/13 A 10/16 B	2.4 Complex Numbers and Operations •Add, subtract, and multiply complex numbers •Use complex numbers to	KY.HS.N.7	EnVision Examples: 1-6 Optional Activities: Complex Number Operations Enrichment	Math XL: 10, 14-15, 23-28, 30-33, 37, 40, 45

Advanced Algebra Two: Semester One

2023-2024

	represent numbers that are not on the real number line		Complex # Digital Puzzle	
10/17 A 10/18 B	2.5 Completing the Square	KY.HS.N.9 KY.HS.A.19	Envision Examples 1-5	MathXL #13, 15, 17, 18, 20, 24, 26, 27, 31, 32, 43, 46, 49, 50, 53
10/19 A 10/20 B	2.6 The Quadratic Formula	KY.HS.N.9 KY.HS.A.19	Envision Examples: 1-5 Optional Activities: Turnover Cards	Possible MathXL #11, 16, 18, 20, 22, 23, 25, 26, 30, 32, 33, 36, 37
10/23 A 10/24 B	2.7 Linear-Quadratic Systems	KY.HS.A.21	Envision Examples: 1-5	Math XL: 9, 11, 12, 16 -21
10/25 A 10/26 B	Review	ALL	Activities: Key Feature Word Problem Circuit	
10/27 A 10/30 B	Topic 2 Quadratics Test	ALL	Answer Sheet	
10/31 A 11/1 B	Common Assessment on ADAM	ALL	ADAM Testing Directions	
Topic Three: Polynomial Functions				
11/2 A	3.1 Graphing Polynomial		Envision Ex 3.1: 1 and 2	Possible Math XL:

Advanced Algebra Two: Semester One

2023-2024

11/3 B	Functions		Graphing Scavenger Hunt	14, 19, 20, 21 ,22, 23, 30, 31
11/6 A 11/8 B	3.2 Adding, Subtracting, Multiplying Polynomials		Envision Ex 3.2: 1 and 2 Polynomial Operations Scavengerhunt	Possible Math XL: 10, 14, 16, 18, 19, 22, 23, 27
11/9 A 11/10 B	3.3 Only Sum & Difference of cubes		3.3 Example: 3	3.3: 24, 41, 42, 45
11/13 A 11/14 B	3.4 Long Division		3.4 Example: 1	3.4: AP1 , AP2 , 15, 10 Quiz Review Look at questions involving Pascal's Triangle.
11/15 A 11/16 B	3.4 Synthetic Division & Quiz 3.1 - 3.4 (on paper)		Envision Ex: 2-5	Possible Math XL: 19, 22, 23, 24, 25, 29, 30, 35
11/17 A 11/ 20 B	3.5		Envision Ex: 1-5 Desmos: For introduction: Polynomial	12, 14, 15, 16, 20, 21, 22, 24

Advanced Algebra Two: Semester One

2023-2024

			Equation Challenge	
			For Review: Constructing Polynomials	
11/21 A 11/27 B	3.6/3.5		FAL on Polynomials	
11/28 A 11/29 B	3.6			
11/30 A 12/1 B	Review			
12/4 A 12/5 B	Test			
12/6 A 12/7 B	9.1 Parabolas			
12/8 A 12/11 B	9.2 Circles			
12/12 A 12/13 B	9.3			
12/14 A 12/15 B	REVIEW/Common Assessment 2			

Advanced Algebra Two: Semester One

2023-2024

12/18 A 12/19 B	Final			
	Final			
	Final			
Winter Break				