



1 st Quarter (42 Days)			
Resources: McGraw Hill Algebra 2			
Week	Unit/Lesson	Learning Objectives	Reporting Categories (TEKS SEs)
1st: August 11 – August 14 (4 days)	Introduction/ Assessment	Assessment Policies & Procedures Behavior expectations: CHAMPS	Diagnostics & start of the school year procedures
2nd: August 17 – August 21 (5 days)	Unit - 1 Equations & Inequalities	TSWL: Expressions & Formulas Properties of Real Numbers Solving Equations	2A.1(A) apply mathematics to problems arising in everyday life, society, and the workplace 2A.1(B) use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution 2A.1(D) communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate 2A.1(E) create and use representations to organize, record, and communicate mathematical ideas
3rd: August 24 – August 28 (5 days)	Unit - 1 Equations & Inequalities	TSWL: Solving Absolute Value Equations Solving Inequalities Solving Compound & Absolute Value Inequalities	2A.6(D) formulate absolute value linear equations 2A.6(E) solve absolute value linear equations 2A.6(F) solve absolute value linear inequalities
4th: August 31 – September 4 (5 days)	Unit - 2 Linear Relations & Functions	TSWL: Relations & Functions Linear Relations & Functions Rate of Change & Slope Writing Linear Equations	2A.7(I) write the domain and range of a function in interval notation, inequalities, and set notation
5th: September 8 – September 11 (4 days)	Unit - 2 Linear Relations & Functions Monday: Labor Day Holiday	TSWL: Scatter Plots & Lines of Regression Special Functions Parent Function & Transformation Graphing Linear & Absolute Value Inequalities	2A.8(B) use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data 2A.8(C) predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models
6th: September 14 – September 18 (5 days)	Unit - 3 Systems of Equations & Inequalities	TSWL: Solving Systems of Equations Solving Systems of Inequalities by Graphing Optimization with Linear Programming	2A.3(A) formulate systems of equations, including systems consisting of three linear equations in three variables and systems consisting of two equations, the first linear and the second quadratic 2A.3(E) formulate systems of at least two linear inequalities in two variables 2A.3(F) solve systems of two or more linear inequalities in two variables

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			2A.3(G) determine possible solutions in the solution set of systems of two or more linear inequalities in two variables
7 th : September 21 - September 25 (5 days)	Unit - 3 Systems of Equations & Inequalities	TSWL: Systems of Equations in Three Variables Operations with Matrices Multiplying Matrices	2A.3(A) formulate systems of equations, including systems consisting of three linear equations in three variables and systems consisting of two equations, the first linear and the second quadratic 2A.3(B) solve systems of three linear equations in three variables by using Gaussian elimination, technology with matrices, and substitution
8 th : September 28 - October 2 (5 days)	Unit - 3 Systems of Equations & Inequalities	TSWL: Solving Systems of Equations Using Cramer's Rule Solving Systems of Equations Using Inverse Matrices	2A.3(A) formulate systems of equations, including systems consisting of three linear equations in three variables and systems consisting of two equations, the first linear and the second quadratic 2A.3(B) solve systems of three linear equations in three variables by using Gaussian elimination, technology with matrices, and substitution
9 th : October 5 - October 8 (4 days)	Unit - 4 Quadratic Functions & Relations Friday: Professional Development	TSWL: Graphing Quadratic Functions Solving Quadratic Functions by Graphing Solving Quadratic Functions by Factoring	2A.7(I) write the domain and range of a function in interval notation, inequalities, and set notation 2A.4(F) solve quadratic and square root equations

2nd Quarter (42 Days)

<u>Resources:</u> Algebra 2 (Texas Edition, 2020)			
Week	Unit/Lesson	Learning Objectives	Reporting Categories (TEKS SEs)
1 st : October 14 - October 16 (3 days)	Unit - 4 Quadratic Functions & Relations	TSWL: The Quadratic Formula and the Discriminant Transformation of Quadratic Graphs Quadratic Inequalities	2A.4(F) solve quadratic and square root equations 2A.4(B) write the equation of a parabola using given attributes, including vertex, focus, directrix, axis of symmetry, and direction of opening 2A.4(D) transform a quadratic function $f(x) = ax^2 + bx + c$ to the form $f(x) = a(x - h)^2 + k$ to identify the different attributes of $f(x)$ 2A.4(H) solve quadratic inequalities
2 nd : October 19 - October 23 (5 days)	Unit - 5 Polynomials & Polynomial Functions	TSWL: Operations with Polynomials Dividing Polynomials Polynomial Functions	2A.7(B) add, subtract, and multiply polynomials 2A.7(C) determine the quotient of a polynomial of degree three and of degree four when divided by a polynomial of degree one and of degree two 2A.2(A) graph the functions $f(x) = \sqrt{x}$, $f(x) = 1/x$, $f(x) = x^3$, $f(x) = \sqrt[3]{x}$, $f(x) = bx$, $f(x) = x $, and $f(x) = \log_b(x)$ where b is 2, 10, and e , and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval 2A.6(A) analyze the effect on the graphs of $f(x) = x^3$ and $f(x) = \sqrt[3]{x}$ when $f(x)$ is



2 nd Quarter (42 Days)			
Resources: Algebra 2 (Texas Edition, 2020)			
Week	Unit/Lesson	Learning Objectives	Reporting Categories (TEKS SEs)
			replaced by $af(x)$, $f(bx)$, $f(x - c)$, and $f(x) + d$ for specific positive and negative real values of a , b , c , and d
3 rd : October 26 – October 29 (4 days)	Unit - 5 Polynomials & Polynomial Functions Friday: Parent/Teacher Conferences	TSWL: Analyzing Graphs of Polynomial Functions Solving Polynomial Equations	2A.7(D) determine the linear factors of a polynomial function of degree three and of degree four using algebraic methods 2A.7(E) determine linear and quadratic factors of a polynomial expression of degree three and of degree four, including factoring the sum and difference of two cubes and factoring by grouping
4 th : November 2 – November 6 (5 days)	Unit - 5 Polynomials & Polynomial Functions	TSWL: The Remainder Factor Theorem Roots & Zeros Rational Zero Theorem	2A.7(D) determine the linear factors of a polynomial function of degree three and of degree four using algebraic methods 2A.7(E) determine linear and quadratic factors of a polynomial expression of degree three and of degree four, including factoring the sum and difference of two cubes and factoring by grouping
5 th : November 9 – November 13 (5 days)	Unit - 6 Inverses & Radical Functions & Relations	TSWL: Operations on Functions Inverse Functions & Relations	2A.2(A) graph the functions $f(x) = \sqrt{x}$, $f(x) = 1/x$, $f(x) = x^3$, $f(x) = \sqrt[n]{x}$, $f(x) = bx$, $f(x) = x $, and $f(x) = \log_b(x)$ where b is 2, 10, and e , and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval 2A.2(B) graph and write the inverse of a function using notation such as $f^{-1}(x)$ 2A.2(D) use the composition of two functions, including the necessary restrictions on the domain, to determine if the functions are inverses of each other
6 th : November 16 – November 20 (5 days)	Unit - 6 Inverses & Radical Functions & Relations	TSWL: Square Root Functions & Inequalities nth Roots Operations with Radical Functions	2A.2(C) describe and analyze the relationship between a function and its inverse (quadratic and square root, logarithmic and exponential), including the restriction(s) on domain, which will restrict its range 2A.4(C) determine the effect on the graph of $f(x) = \sqrt[n]{x}$ when $f(x)$ is replaced by $af(x)$, $f(x) + d$, $f(bx)$, and $f(x - c)$ for specific positive and negative values of a , b , c , and d 2A.7(G) rewrite radical expressions that contain variables to equivalent forms
Thanksgiving Holiday Nov 23-27			
7 th : November 30 – December 4 (5 days)	Unit - 6 Inverses & Radical Functions & Relations	TSWL: Rational Exponents Solving Radical Equations & Inequalities	2A.7(H) solve equations involving rational exponents 2A.4(F) solve quadratic and square root equations 2A.4(G) identify extraneous solutions of square root equations
8 th : December 7 – December 11 (5 days)	Unit - 7 Exponential & Logarithmic Functions & Relations	TSWL: Graphing Exponential Functions Solving Exponential Equations & Inequalities	2A.2(A) graph the functions $f(x) = \sqrt{x}$, $f(x) = 1/x$, $f(x) = x^3$, $f(x) = \sqrt[n]{x}$, $f(x) = bx$, $f(x) = x $, and $f(x) = \log_b(x)$ where b is 2, 10, and e , and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval 2A.5(A) determine the effects on the key attributes on the graphs of $f(x) = bx$ and $f(x) = \log_b(x)$ where b is 2, 10, and e when $f(x)$ is replaced by $af(x)$, $f(x) + d$, and $f(x - c)$ for specific positive and negative real values of a , c , and d



2 nd Quarter (42 Days)			
Resources: Algebra 2 (Texas Edition, 2020)			
Week	Unit/Lesson	Learning Objectives	Reporting Categories (TEKS SEs)
			2A.5(B) formulate exponential and logarithmic equations that model real-world situations, including exponential relationships written in recursive notation 2A.5(D) solve exponential equations of the form $y = abx$ where a is a nonzero real number and b is greater than zero and not equal to one and single logarithmic equations having real solutions
9 th : December 14 – December 18 (5 days)	Review and Assessment	REVIEW	2A.1(A) apply mathematics to problems arising in everyday life, society, and the workplace 2A.1(B) use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution 2A.1(G) display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication
Winter Break Dec 21-Jan 1			

3 rd Quarter (37 Days)			
Resources: Algebra 2 (Texas Edition, 2020)			
Week	Unit/Lesson	Learning Objectives	Reporting Categories (TEKS SEs)
1 st : January 5 – January 8 (4 days)	Unit - 7 Exponential & Logarithmic Functions & Relations Monday: Professional Development	TSWL: Graphing Exponential Functions Solving Exponential Equations & Inequalities	2A.2(A) graph the functions $f(x) = \sqrt{x}$, $f(x) = 1/x$, $f(x) = x^3$, $f(x) = \sqrt{x}$, $f(x) = bx$, $f(x) = x $, and $f(x) = \log_b(x)$ where b is 2, 10, and e , and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval 2A.5(A) determine the effects on the key attributes on the graphs of $f(x) = bx$ and $f(x) = \log_b(x)$ where b is 2, 10, and e when $f(x)$ is replaced by $af(x)$, $f(x) + d$, and $f(x - c)$ for specific positive and negative real values of a , c , and d 2A.5(B) formulate exponential and logarithmic equations that model real-world situations, including exponential relationships written in recursive notation 2A.5(D) solve exponential equations of the form $y = abx$ where a is a nonzero real number and b is greater than zero and not equal to one and single logarithmic equations having real solutions
2 nd : January 11 – January 15 (5 days)	Unit - 7 Exponential & Logarithmic Functions & Relations	TSWL: Logarithms & Logarithmic Functions Solving Logarithmic Equations & Inequalities	2A.2(C) describe and analyze the relationship between a function and its inverse (quadratic and square root, logarithmic and exponential), including the restriction(s) on domain, which will restrict its range



		Properties of Logarithms	2A.5(C) rewrite exponential equations as their corresponding logarithmic equations and logarithmic equations as their corresponding exponential equations 2A.5(B) formulate exponential and logarithmic equations that model real-world situations, including exponential relationships written in recursive notation 2A.5(D) solve exponential equations of the form $y = abx$ where a is a nonzero real number and b is greater than zero and not equal to one and single logarithmic equations having real solutions 2A.5(E) determine the reasonableness of a solution to a logarithmic equation
3rd: January 19 – January 22 (4 days)	Unit - 7 Exponential & Logarithmic Functions & Relations Monday: MLK Holiday	TSWL: Common Logarithms Base e & Natural Logarithms Using Exponential and Logarithmic Functions	2A.2(A) graph the functions $f(x) = \sqrt{x}$, $f(x) = 1/x$, $f(x) = x^3$, $f(x) = \sqrt[3]{x}$, $f(x) = bx$, $f(x) = x$, and $f(x) = \log_b(x)$ where b is 2, 10, and e, and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval 2A.5(B) formulate exponential and logarithmic equations that model real-world situations, including exponential relationships written in recursive notation 2A.5(C) rewrite exponential equations as their corresponding logarithmic equations and logarithmic equations as their corresponding exponential equations 2A.5(E) determine the reasonableness of a solution to a logarithmic equation
4th: January 25 – January 29 (5 days)	Unit - 8 Rational Functions & Relations	TSWL: Multiplying & Dividing Rational Expressions Adding & Subtracting Rational Expressions Graphing Reciprocal Functions	2A.7(F) determine the sum, difference, product, and quotient of rational expressions with integral exponents of degree one and of degree two 2A.6(G) analyze the effect on the graphs of $f(x) = 1/x$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x - c)$, and $f(x) + d$ for specific positive & negative real values of a, b, c, & d 2A.6(K) determine the asymptotic restrictions on the domain of a rational function and represent domain and range using interval notation, inequalities, and set notation
5th: February 1 – February 5 (5 days)	Unit - 8 Rational Functions & Relations	TSWL: Graphing Rational Functions Variation Functions Solving Rational Equations & Inequalities	2A.6(H) formulate rational equations that model real-world situations 2A.6(I) solve rational equations that have real solutions 2A.6(J) determine the reasonableness of a solution to a rational equation 2A.6(K) determine the asymptotic restrictions on the domain of a rational function and represent domain and range using interval notation, inequalities, and set notation 2A.6(L) formulate and solve equations involving inverse variation
6th: February 8 – February 12 (5 days)	Unit - 9 Conic Sections	TSWL: Midpoint & Distance Formula Parabolas	2A.4(B) write the equation of a parabola using given attributes, including vertex, focus, directrix, axis of symmetry, and direction of opening
7th: February 16 – February 19 (4 days)	Unit - 9 Conic Sections Monday: School closed	TSWL: Circles	2A.1(A) apply mathematics to problems arising in everyday life, society, and the workplace 2A.1(D) communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate 2A.1(E) create and use representations to organize, record, and communicate mathematical ideas 2A.1(G) display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication



8 th : February 22 – February 26 (5 days)	Unit - 9 Conic Sections	TSWL: Ellipses	2A.1(A) apply mathematics to problems arising in everyday life, society, and the workplace 2A.1(D) communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate 2A.1(E) create and use representations to organize, record, and communicate mathematical ideas 2A.1(G) display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication
Spring & Ramadan Holiday March 1 – March 12			

4 th Quarter (51 Days)			
Resources:			
Week	Unit/Lesson	Learning Objectives	Reporting Categories (TEKS SEs)
1 st : March 15 – March 19 (5 days)	Unit - 9 Conic Sections	TSWL: Hyperbolas	2A.1(A) apply mathematics to problems arising in everyday life, society, and the workplace 2A.1(D) communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate 2A.1(E) create and use representations to organize, record, and communicate mathematical ideas 2A.1(G) display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication
2 nd : March 22 – March 26 (5 days)	Unit - 9 Conic Sections	TSWL: Identifying Conic Sections Solving Linear-Nonlinear Systems	2A.3(C) solve, algebraically, systems of two equations in two variables consisting of a linear equation and a quadratic equation 2A.3(D) determine the reasonableness of solutions to systems of a linear equation and a quadratic equation in two variables
3 rd : March 29 – April 2 (5 days)	Unit - 10 Sequences & Series	TSWL: Sequences as Functions Arithmetic & Geometric Sequence & Series Infinite Geometric Series	2A.5(B) formulate exponential and logarithmic equations that model real-world situations, including exponential relationships written in recursive notation
4 th : April 5 – April 9 (5 days)	Unit - 10 Sequences & Series	TSWL: Infinite Geometric Series Recursion & Iteration	2A.5(B) formulate exponential and logarithmic equations that model real-world situations, including exponential relationships written in recursive notation
5 th : April 12 – April 16 (5 days)	Unit - 10 Sequences & Series	TSWL: The Binomial Theorem Proof by Mathematical Induction	2A.5(B) formulate exponential and logarithmic equations that model real-world situations, including exponential relationships written in recursive notation
6 th : April 19 – April	Review	Review	Review



4 th Quarter (51 Days)			
<u>Resources:</u>			
Week	Unit/Lesson	Learning Objectives	Reporting Categories (TEKS SEs)
23 (5 days)			
7 th : April 26 – April 30 (5 days)	Review	Review	Review
8 th : May 3 – May 7 (5 days)	Review	Review	Review
9 th : May 10 – May 14 (5 days)	Review	Review	Review
10 th : May 19 – May 21 (3 days)	Final Benchmark	Review	Review
11 th : May 24 – May 27 (4 days)	Award Ceremonies / Graduation Ceremonies	Review	Review