

Wylie ISD Curriculum

<p>2A.4 Algebra and geometry. The student connects algebraic and geometric representations of functions.</p>	<p>2A.4A Identify and sketch graphs of parent functions, including linear ($f(x) = x$), quadratic ($f(x) = x^2$), exponential ($f(x) = ax$), and logarithmic ($f(x) = \log ax$) functions, absolute value of x ($f(x) = x$), square root of x ($f(x) = \sqrt{x}$), and reciprocal of x ($f(x) = 1/x$).</p> <p>2A.4B Extend parent functions with parameters including a in $f(x) = a/x$ and describe the effects of the parameter changes on the graph of parent functions.</p>	<ul style="list-style-type: none"> • Sketching the graph of the parent function, given the algebraic equation • Writing the algebraic equation, given a graph • Introduce graphing natural logarithms and e^x • Describe changes in the graph of $f(x)$ when transformed as follows: $f(x-b)$, $f(x)+c$, $af(x)$, and $af(x-b)+c$ (stretches (narrows), compresses (widens), translates right/left or up/down). • Be able to describe verbally the changes in the graph when each parameter changes. • Apply to all parent functions listed in TEKS 2A.4A
<p>8.14 Underlying processes and mathematical tools. The student applies Grade 8 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in an outside of school</p>	<p>A. identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics;</p> <p>B. use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness;</p>	<p>Collect their own data set for creating and analyzing scatterplots.</p>

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<p>2A.10 Rational functions. The student formulates equations and inequalities based on rational functions, uses a variety of methods to solve them, and analyzes the solutions in terms of the situation.</p>	<p>2A.10G Use functions to model and make predictions in problem situations involving direct and inverse variation.</p>	<ul style="list-style-type: none"> • Determine x- & y-intercepts. • Determine the relationship of perpendicular/parallel lines. • Be able to graph linear inequalities. • Identify direct variation from an equation or a table. • Be able to use the form $y=kx$
<p>8.14 The student applies Grade 8 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school.</p>	<p>A. identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics;</p> <p>B. use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness;</p> <p>C. select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem</p>	<ul style="list-style-type: none"> • Collect data and interpret it linearly into graphical, tabular, and equation form.

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<p>8.15 The students communicates about Grade 8 mathematics through informal and mathematical language, representations, and models</p>	<p>A. communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models;</p>	<ul style="list-style-type: none"> Identify if a pattern is linear or not.
<p>8.16 The student uses logical reasoning to make conjectures and verify conclusions.</p>	<p>A. make conjectures from patterns or sets of examples and non examples</p> <p>B. validate his/her conclusions using mathematical properties and relationships.</p>	

Subject Area	Math	Bundle #:	3
Grade/Level	Algebra 2	Weeks:	7-9

Overview

Linear System - matrices		
TEKS - Texas Knowledge & Skills		
Knowledge & Skill Statement	Student Expectation	Student Learning Outcome Clarification
<p>2A.3 Foundations for functions. The student formulates systems of equations and inequalities from problem situations, uses a variety of methods to solve them, and analyzes the solutions in terms of the situations.</p>	<p>2A.3A Analyze situations and formulate systems of equations in two or more unknowns or inequalities in two unknowns to solve problems.</p> <p>2A.3B Use algebraic methods, graphs, tables, or matrices, to solve systems of equations or inequalities.</p>	<ul style="list-style-type: none"> Write and Analyze applications using systems of equations. Graph and solve systems of equations in two & three variables. Algebraically solve systems of equations in two variables.

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	<p>2A.3C Interpret and determine the reasonableness of solutions to systems of equations or inequalities for given contexts.</p>	<ul style="list-style-type: none"> • Solve systems of inequalities by graphing. • Be able to perform matrix operations. • Organize data into matrices. • Use matrices to solve systems. • Determine reasonableness of a solution to a system of equations or inequalities.
<p>8.14 The student applies Grade 8 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school.</p>	<p>A. identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics;</p> <p>B. use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness;</p> <p>C. select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem</p>	<ul style="list-style-type: none"> • Write and solve a system of equations that best fits the parameters of an application problem.

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<p>8.15 The students communicates about Grade 8 mathematics through informal and mathematical language, representations, and models</p>	<p>A. communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models;</p>	
<p>8.16 The student uses logical reasoning to make conjectures and verify conclusions.</p>	<p>A. make conjectures from patterns or sets of examples and non examples</p> <p>B. validate his/her conclusions using mathematical properties and relationships.</p>	

Subject Area	Math	Bundle #:	4
Grade/Level	Algebra 2	Weeks:	10-12

Overview

Quadratics (part 1)		
TEKS - Texas Knowledge & Skills		
Knowledge & Skill Statement	Student Expectation	Student Learning Outcome Clarification
<p>2A.2 Foundations for functions. The student understands the importance of the skills required to manipulate symbols in order to solve problems and uses the necessary algebraic skills required to simplify algebraic expressions and solve equations and inequalities in problem situations.</p>	<p>2A.2A Use tools including factoring and properties of exponents to simplify expressions and to transform and solve equations.</p>	<p>Solving equations including:</p> <ul style="list-style-type: none"> • Areas of rectangles and squares • Factoring binomials and trinomials • Apply the commutative, associative, and distributive properties to solve equations • Evaluate an expression for a given value of a variable. • Using a graphing calculator to determine zeros of functions

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<p>2A.6 Quadratic and square root functions. The student understands that quadratic functions can be represented in different ways and translates among their various representations.</p>	<p>2A.6A Determine the reasonable domain and range values of quadratic functions, as well as interpret and determine the reasonableness of solutions to quadratic equations and inequalities</p>	<ul style="list-style-type: none"> • Identify the difference in domain and range of the function and of the problem situation. • Identify the solutions of a quadratic equation and determine the solution in a problem situation algebraically.
<p>2A.7 Quadratic and square root functions. The student interprets and describes the effects of changes in the parameters of quadratic functions in applied and mathematical situations.</p>	<p>2A.7A Use characteristics of the quadratic parent function to sketch the related graphs and connect between the $y = ax^2 + bx + c$ and the $y = a(x - h)^2 + k$ symbolic representations of quadratic functions</p>	<ul style="list-style-type: none"> • Connect the x-value of the vertex (h) to $-b/(2a)$. • Recognize that c is the y-intercept. • Connect the vertex to the minimum or maximum value of y.
<p>2A.8 Quadratic and square root functions. The student formulates equations and inequalities based on quadratic functions, uses a variety of methods to solve them, and analyzes the solutions in terms of the situation.</p>	<p>2A.8D Solve quadratic equations and inequalities using graphs, tables, and algebraic methods.</p>	<ul style="list-style-type: none"> • Square root method (radical) • Factoring • Completing the square • Quadratic formula • Analyze values in a table to see the roots and solutions, zeros and x-intercept(s), y-intercept, and maximum/minimum • Make connections among the solutions and roots using all of the above methods.

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Subject Area	Math	Bundle #:	5
Grade/Level	Algebra 2	Weeks:	13-15
Overview			
Quadratic Functions/ Part 2			
TEKS - Texas Knowledge & Skills			
Knowledge & Skill Statement	Student Expectation	Student Learning Outcome Clarification	
<p>2A.2 Foundations for functions. The student understands the importance of the skills required to manipulate symbols in order to solve problems and uses the necessary algebraic skills required to simplify algebraic expressions and solve equations and inequalities in problem situations.</p> <p>2A.6 Quadratic and square root functions. The student understands that quadratic functions can be represented in different ways and translates among their various representations</p>	<p>2A.2B Use complex numbers to describe the solutions of quadratic equations.</p> <p>2A.6A Determine the reasonable domain and range values of quadratic functions, as well as interpret and determine the reasonableness of solutions to quadratic equations and inequalities</p> <p>2A.6B Relate representations of quadratic functions, including algebraic, tabular (chart), graphical, and verbal descriptions to one another.</p>	<ul style="list-style-type: none"> • Use complex numbers to find non-real solutions to quadratic equations. • Using the quadratic formula or completing the square state real and non real answers in simplest radical form • Identify the difference in domain and range of the function and of the problem situation. • Identify the solutions of a quadratic equation and inequality and determine the solution in a problem situation (Use graphs, tables,) • Make connections between and among all the listed representations of quadratic functions; i.e. identify the characteristics from a table and relate the same to the graph • Determine domain and range of quadratic functions. 	

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<p>2A.7 Quadratic and square root functions. The student interprets and describes the effects of changes in the parameters of quadratic functions in applied and mathematical situations.</p>	<p>2A.7A Use characteristics of the quadratic parent function to sketch the related graphs and connect between the $y = ax^2 + bx + c$ and the $y = a(x - h)^2 + k$ symbolic representations of quadratic functions</p> <p>2A.7B Use the parent function to investigate, describe, and predict the effects of changes in a, h, and k on the graphs of $y = a(x - h)^2 + k$ form of a function in applied and purely mathematical situations.</p>	<ul style="list-style-type: none"> • Graph a quadratic function given an equation, table, roots or verbal description. • Connect all quadratic graphs to the parent function. • Connect the x-value of the vertex to h and the y-value of the vertex with k. • Be able to translate a quadratic equation written in standard form to vertex form. • Be able to translate a quadratic equation written in vertex form to standard form • Identify the line of symmetry and write its equation. • Identify maximum or minimum, whichever applies • Connect the y-value of the vertex as the maximum or minimum value of the function and relate the maximum or minimum to the question asked. • Identify the graph as concave up or concave down • Describe the effects of a, h and k on the parent function. • Graph the quadratic parent function with transformations. • Predict the effects of a, h, and k on the graph of the parent function.
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Subject Area	Math	Bundle #:	6
Grade/Level	Algebra 2	Weeks:	16-18
Overview			
Quadratics (Part 3)			
TEKS - Texas Knowledge & Skills			
Knowledge & Skill Statement	Student Expectation	Student Learning Outcome Clarification	
<p>2A.2 Foundations for functions. The student understands the importance of the skills required to manipulate symbols in order to solve problems and uses the necessary algebraic skills required to simplify algebraic expressions and solve equations and inequalities in problem situations.</p> <p>2A.6 Quadratic and square root functions. The student understands that quadratic functions can be represented in different ways and translates among their various representations.</p> <p>2A.7 Quadratic and square root functions. The student interprets and describes the effects of changes in the parameters of quadratic functions in applied and mathematical situations</p>	<p>2A.2A Use tools including factoring and properties of exponents to simplify expressions and to transform and solve equations.</p> <p>2A.6C Determine a quadratic function from its roots or a graph.</p> <p>2A.7A Use characteristics of the quadratic parent function to sketch the related graphs and connect between the $y = ax^2 + bx + c$ and the $y = a(x - h)^2 + k$ symbolic representations of quadratic</p>	<ul style="list-style-type: none"> • Solve quadratic equations and inequalities using graphs, tables, and algebraic methods. • Formulate a quadratic equation given a graph, table or verbal description. • Formulate a quadratic equation given the vertex and roots. • Use completing the square to transform form the standard form ($y = ax^2 + bx + c$) to vertex form ($y = a(x-h)^2+k$). • Square the binomial in $y = a(x-h)^2 + k$ and simplify to find the standard form as shown above. 	

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<p>2A.8 Quadratic and square root functions. The student formulates equations and inequalities based on quadratic functions, uses a variety of methods to solve them, and analyzes the solutions in terms of the situation</p>	<p>functions.</p> <p>2A.8A Analyze situations involving quadratic functions and formulate quadratic equations or inequalities to solve problems</p> <p>2A.8B Analyze and interpret the solutions of quadratic equations using discriminants and solve quadratic equations using the quadratic formula.</p> <p>2A.8C Compare and translate between algebraic and graphical solutions of quadratic equations.</p> <p>2A.8D Solve quadratic equations and inequalities using graphs, tables, and algebraic methods.</p>	<ul style="list-style-type: none"> • Apply and analyze quadratic functions to application problems. • Find the number and type of roots to quadratic functions by using the discriminant. • Solve quadratic equations using the quadratic formula, with and without rational, irrational and complex answers. • Recognize that complex solutions mean that there are no x-intercepts on the graph. • Solve quadratic inequalities by graphing (with and without using tables), factoring, completing the square or by the quadratic formula.
<p>8.14 The student applies Grade 8 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school.</p>	<p>A. identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics; B. use a problem-solving model that</p>	<p>See bundle 5</p>

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<p>8.15 The students communicates about Grade 8 mathematics through informal and mathematical language, representations, and models</p> <p>8.16 The student uses logical reasoning to make conjectures and verify conclusions.</p>	<p>incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness;</p> <p>C. select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem</p> <p>A. communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models;</p> <p>A. make conjectures from patterns or sets of examples and non examples</p> <p>B. validate his/her conclusions using mathematical properties and relationships.</p>	
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<p>2A.9 Quadratic and square root functions. The student formulates equations and inequalities based on square root functions, uses a variety of methods to solve them, and analyzes the solutions in terms of the situation.</p>	<p>on the graph of parent functions</p> <p>2A.9A Use the parent function to investigate, describe, and predict the effects of parameter changes on the graphs of square root functions and describe limitations on the domains and ranges.</p> <p>2A.9B Relate representations of square root functions, including algebraic, tabular, graphical, and verbal descriptions with each other.</p> <p>2A.9C Determine the reasonable domain and range values of square root functions, as well as interpret and determine the reasonableness of solutions to square root equations and inequalities.</p>	<p>the graph when each parameter changes.</p> <ul style="list-style-type: none"> • Translate graphs horizontally $f(x) = \sqrt{x \pm h}$ and vertically $f(x) = \sqrt{x} \pm k$ (changed c to h; c to k) • Stretch/shrink compress graphs horizontally or vertically, $f(x) = \sqrt{ax}$, $f(x) = a\sqrt{x}$ where $a \neq 0$ • Reflect graphs across the x- axis $(f(x) = -\sqrt{x})$ and/or y-axis $(f(x) = \sqrt{-x})$ • Describe the transformations verbally • Describe effects on the domain and range by the parameter changes • Make connections between values in a table, especially undefined values due to domain and range, and the equation • Make connections between the graph, table and the equation • Make connections verbally with all other representations. • Using the domain and range and the reasonableness of solutions, be sure to consider possible extraneous solutions.
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	<p>2A.9D Determine solutions of square root equations using graphs, tables, and algebraic methods</p>	<ul style="list-style-type: none"> • Make connections between all the above representations and the solutions. • Be able to use the graphing calculator to analyze the graph, domain and range and the solutions • Note: This will be for simple equations with no more than two radicals with emphasis on the process and not of high difficulty level
	<p>2A.9E Determine solutions of square root inequalities using graphs and tables.</p>	<ul style="list-style-type: none"> • Use graphs and tables to find x-intercepts and analyze solutions from a graph or table.
	<p>2A.9F Analyze situations modeled by square root functions, formulate equations or inequalities, select a method, and solve problems</p>	<ul style="list-style-type: none"> • Use graphs, tables, and algebraic methods of solving square root functions. • Choose the most appropriate method for solving based on the numbers in the problem.
	<p>2A.4C Describe and analyze the relationship between a function and its inverse.</p>	<ul style="list-style-type: none"> • Analyze the change in the domain and range of the inverse of a function (symmetry about $y = x$) • Analyze whether the inverse is a function (use the horizontal line test for the inverse and the vertical line test for the original function) • Use verbal descriptions, tables, graph, and algebraic connections • Exchange the independent and dependent variables to derive the equation of the inverse

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	2A.9G Connect inverses of square root functions with quadratic functions.	<ul style="list-style-type: none"> • Make the connections by looking at the reversal in the ordered pairs. • Make the connection by exchanging x and y and solving for y • Graph the equation and its inverse using the line of reflection $y = x$ • Be aware of the changes in the domain and range of the inverses
8.15 The students communicates about Grade 8 mathematics through informal and mathematical language, representations, and models	A. communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models	See bundle 3

Subject Area	Math	Bundle #:	8
Grade/Level	Algebra 2	Weeks:	22-24
Overview			
Exponential Functions			
TEKS - Texas Knowledge & Skills			
Knowledge & Skill Statement	Student Expectation	Student Learning Outcome Clarification	
2A.2 Foundations for functions. The student understands the importance of the skills required to manipulate symbols in order to solve problems and uses the necessary algebraic skills required to simplify algebraic expressions and solve equations and inequalities in problem situations.	2A.2A Use tools including factoring and properties of exponents to simplify expressions and to transform and solve equations.	<ul style="list-style-type: none"> • Properties of Exponents including: • Powers of Zero ($a^0 = 1$) • Negative exponents ($a^{-b} = 1/a^b$) • Multiplying common bases ($a^x * a^y = a^{x+y}$) • Dividing common bases ($a^x/a^y = a^{x-y}$) • Power to power ($(a^x)^y = a^{xy}$) • Rational exponents ($\sqrt[n]{a^b} = a^{\frac{b}{n}}$) 	

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<p>2A.11 Exponential and logarithmic functions. The student formulates equations and inequalities based on exponential and logarithmic functions, uses a variety of methods to solve them, and analyzes the solutions in terms of the situation</p>	<p>2A.11B Use the parent functions to investigate, describe, and predict the effects of parameter changes on the graphs of exponential and logarithmic functions, describe limitations on the domains and ranges, and examine asymptotic behavior.</p> <p>2A.11C Determine the reasonable domain and range values of exponential and logarithmic functions, as well as interpret and determine the reasonableness of solutions to exponential and logarithmic equations and inequalities.</p> <p>2A.11D Determine solutions of exponential and logarithmic equations using graphs, tables,</p>	<ul style="list-style-type: none"> • Solve exponential equations. • Graph the exponential parent function with transformations. • Describe the locations of any asymptotes, vertical and horizontal. • Given an exponential equation, describe the transformations on the parent function. • State domain and range of an exponential functions. • Based on domain and range determine if a solution to an exponential equation or inequality is reasonable (Ex: Is (3,12) a reasonable solution to $y \geq 2^x$) • Find and interpret the solutions to exponential equations.
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	<p>and algebraic methods.</p> <p>2A.11E Determine solutions of exponential and logarithmic inequalities using graphs and tables.</p> <p>2A.11F Analyze a situation modeled by an exponential function, formulate an equation or inequality, and solve the problem.</p>	<ul style="list-style-type: none"> • Find solutions to exponential inequalities using graphs and tables. • Formulate an exponential equation given information or graphs. • Apply growth and decay exponential formulas to a variety of applications including: <ul style="list-style-type: none"> • $A_n = A_0(1+r)^t$ • $A_n = A_0(1-r)^t$ • $A_n = a_0e^{rt}$ • $A_n = a_0(1 + r/n)^{nt}$ • Analyze problems to decide the most effective way to find solutions of exponential application problems – ex: compound interest, half-life, growth and decay problems.
<p>8.14 The student applies Grade 8 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school.</p>	<p>A. identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics;</p> <p>B. use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the</p>	<ul style="list-style-type: none"> • Analyze problems to decide the most effective way to find solutions of exponential application problems – compound interest, half-life, growth and decay problems. <p>See previous bundles</p>

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<p>8.15 The students communicates about Grade 8 mathematics through informal and mathematical language, representations, and models</p> <p>8.16 The student uses logical reasoning to make conjectures and verify conclusions.</p>	<p>solution for reasonableness;</p> <p>C. select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem</p> <p>A. communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models;</p> <p>A. make conjectures from patterns or sets of examples and non examples</p> <p>B. validate his/her conclusions using mathematical properties and relationships.</p>	
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Subject Area	Math	Bundle #:	9
Grade/Level	Algebra 2	Weeks:	25-27
Overview			
Logarithmic Functions			
TEKS - Texas Knowledge & Skills			
Knowledge & Skill Statement	Student Expectation	Student Learning Outcome Clarification	
<p>2A.2 Foundations for functions. The student understands the importance of the skills required to manipulate symbols in order to solve problems and uses the necessary algebraic skills required to simplify algebraic expressions and solve equations and inequalities in problem situations.</p> <p>2A.11 Exponential and logarithmic functions. The student formulates equations and inequalities based on exponential and logarithmic functions, uses a variety of methods to solve them, and analyzes the solutions in terms of the situation</p>	<p>2A.2A Use tools including factoring and properties of exponents to simplify expressions and to transform and solve equations.</p> <p>2A.11A Develop the definition of logarithms by exploring and describing the relationship between exponential functions and their inverses</p> <p>2A.11B Use the parent functions to investigate, describe, and predict the effects of parameter changes on the graphs of exponential and logarithmic functions, describe limitations on the domains and ranges, and examine asymptotic behavior.</p>	<ul style="list-style-type: none"> • Solve exponential Logarithmic equations. • Apply properties of logarithms and special values of logs. • Connect properties of logarithms to the properties of exponents. • Use the properties of logarithms to expand and condense logarithmic expressions ○ Use the calculator to explore exponential relationships and their inverses. ○ Convert expressions from exponential form to logarithmic form and vice versa • Graph the logarithmic parent function with transformations. • Describe the locations of any asymptotes, vertical and horizontal. • Given a logarithmic equation, describe the transformations on the parent function. 	

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	<p>2A.11C Determine the reasonable domain and range values of exponential and logarithmic functions, as well as interpret and determine the reasonableness of solutions to exponential and logarithmic equations and inequalities.</p> <p>2A.11D Determine solutions of exponential and logarithmic equations using graphs, tables, and algebraic methods.</p> <p>2A.11E Determine solutions of exponential and logarithmic inequalities using graphs and tables.</p> <p>2A.11F Analyze a situation modeled by an exponential function, formulate an equation or inequality, and solve the problem.</p>	<ul style="list-style-type: none"> • State domain and range of logarithmic functions. • Based on domain and range, determine if a solution to a logarithmic equation or inequality is reasonable. • Find and interpret the solutions to logarithmic equations using graphs, tables and algebraic methods. • Find solutions to logarithmic inequalities using graphs and tables. • Formulate a logarithmic equation given information or graphs. • Analyze solutions of logarithmic application problems. Ex: pH, carbon dating, sound levels... • Analyze problems to decide the most effective way to find solutions of logarithm application problems – compound interest, half-life, growth and decay problems
<p>8.14 The student applies Grade 8 mathematics to solve problems connected to everyday</p>	<p>A. identify and apply mathematics to everyday experiences, to activities in and outside of school,</p>	<ul style="list-style-type: none"> • Analyze problems to decide the most effective way to find solutions of logarithm application problems – compound interest,

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	<p>2A.10E Determine solutions of rational inequalities using graphs and tables.</p> <p>2A.10G Use functions to model and make predictions in problem situations involving direct and inverse variation.</p>	<ul style="list-style-type: none"> •Use calculator applications to shade •be able to check values from table •Check algebraically (optional) •Describe verbally direct and inverse variation and how they compare •Find constant of variation •Use the constant of variation to solve for the unknown •Connect direct variation to linear function and inverse variation to rational functions.
<p>8.14 The student applies Grade 8 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school.</p>	<p>A. identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics;</p> <p>B. use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness;</p> <p>C. select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem</p>	<ul style="list-style-type: none"> • Analyze problems to decide the most effective way to find solutions of rational application problems. • See previous bundles

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	<p>2A.10E Determine solutions of rational inequalities using graphs and tables.</p> <p>2A.10F Analyze a situation modeled by a rational function, formulate an equation or inequality composed of a linear or quadratic function, and solve the problem.</p>	<ul style="list-style-type: none"> • Use calculator applications to shade • be able to check values from table • Write equations/inequalities from data or information in a given problem situation • Work with applications of rational functions composed of both linear and quadratic functions
<p>8.14 The student applies Grade 8 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school.</p>	<p>A. identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics;</p> <p>B. use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness;</p> <p>C. select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem</p>	<p>See bundle 10.</p>

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<p>8.15 The students communicates about Grade 8 mathematics through informal and mathematical language, representations, and models</p>	<p>A. communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models;</p>	
<p>8.16 The student uses logical reasoning to make conjectures and verify conclusions.</p>	<p>A. make conjectures from patterns or sets of examples and nonexamples</p> <p>B. validate his/her conclusions using mathematical properties and relationships.</p>	

Subject Area	Math	Bundle #:	12
Grade/Level	Algebra 2	Weeks:	34-36

Overview

Conic Sections		
TEKS - Texas Knowledge & Skills		
Knowledge & Skill Statement	Student Expectation	Student Learning Outcome Clarification
<p>2A.5 Algebra and geometry. The student knows the relationship between the geometric and algebraic descriptions of conic sections.</p>	<p>2A.5A Describe a conic section as the intersection of a plane and a cone.</p> <p>2A.5B Sketch graphs of conic sections to relate simple parameter changes in the equation to corresponding changes in the graph.</p>	<ul style="list-style-type: none"> • Identify the conic section from a graph. • Describe the effects of parameter changes (a, h, k) on each parent function for a conic.

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	<p>2A.5C Identify symmetries from graphs of conic sections.</p> <p>2A.5D Identify the conic section from a given equation.</p> <p>2A.5E Use the method of completing the square.</p>	<ul style="list-style-type: none"> • Identify equations of lines of symmetry for circles, parabolas, ellipses and hyperbolae. • Identify the conic section from a given equation • Write the equation of a conic section from a description or graph of the conic. • Complete the square to write the equation of a conic in vertex form.
<p>8.14 The student applies Grade 8 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school.</p>	<p>A. identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics;</p> <p>B. use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness;</p> <p>C. select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem</p>	<p>See bundle 9.</p>

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<p>8.15 The students communicates about Grade 8 mathematics through informal and mathematical language, representations, and models</p> <p>8.16 The student uses logical reasoning to make conjectures and verify conclusions.</p>	<p>A. communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models;</p> <p>A. make conjectures from patterns or sets of examples and non-examples</p> <p>B. validate his/her conclusions using mathematical properties and relationships.</p>	
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