

Cycle 1	29 Days Aug. 22-Sept. 30, 2022	The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
		<p>The Mathematical Process Standards are integrated throughout the course in all activities and lessons. Teachers should refer to these standards for instructional strategies and depth of rigor. Specific process standards have been highlighted in each unit, but these process standards should not be the only process standards associated with the daily lessons.</p> <p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓟ ALGI.1A Apply mathematics to problems arising in everyday life, society, and the workplace. Ⓟ ALGI.1B 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. Ⓟ ALGI.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems. Ⓟ ALGI.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate. Ⓟ ALGI.1E Create and use representations to organize, record, and communicate mathematical ideas. Ⓟ ALGI.1F Analyze mathematical relationships to connect and communicate mathematical ideas. Ⓟ ALGI.1G Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.
<p>Unit 1: Quantities and Relationships Students explore relationships between quantities and analyze families of functions including linear, quadratic, and exponential.</p>	<p>4.5 class periods (90-min. each) or 9 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓟ ALGI.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate. Ⓟ ALGI.1F Analyze mathematical relationships to connect and communicate mathematical ideas. <p>Linear Functions, Equations, and Inequalities. The student applies the mathematical process standards when using properties of linear functions to write and represent in multiple ways, with and without technology, linear equations, inequalities, and systems of equations. The student is expected to:</p>

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		<p>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:</p> <p>Ⓡ ALGI.2A Determine the domain and range of a linear function in mathematical problems, determine reasonable domain and range values for real-world situations, both continuous and discrete, and represent domain and range using inequalities.</p> <p>Linear Functions, Equations, and Inequalities. The student applies the mathematical process standards when using graphs of linear functions, their key features, and their related transformations to represent in multiple ways and solve, with and without technology, equations, inequalities, and systems of equations. The student is expected to:</p> <p>Ⓡ ALGI.3C Graph linear functions on the coordinate plane and identify key features including x-intercept, y-intercept, zeros, and slope in mathematical and real-world problems.</p> <p>Quadratic Functions and Equations. The student applies the mathematical process standards when using properties of quadratic functions to write and represent in multiple ways, with and without technology, quadratic equations. The student is expected to:</p> <p>Ⓡ ALGI.6A Determine the domain and range of quadratic functions and represent the domain and range using inequalities.</p> <p>Quadratic Functions and Equations. The student applies the mathematical process standards when using graphs of quadratic functions and their related transformations to represent in multiple ways and determine, with and without technology, the solutions to equations. The student is expected to:</p> <p>Ⓡ ALGI.7A Graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry.</p> <p>Exponential Functions and Equations. The student applies the mathematical process standards when using properties of exponential functions and their related transformations to write, graph, and represent in multiple ways exponential equations, and evaluate, with and without technology, the reasonableness of their solutions. The student formulates statistical relationships and evaluates their reasonableness based on real-world data. The student is expected to:</p> <p>Ⓢ ALGI.9A Determine the domain and range of exponential functions of the form $f(x) = ab^x$ and represent the domain and range using inequalities.</p> <p>Ⓡ ALGI.9D Graph exponential functions that model growth and decay and</p>

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		<p>identify key features, including y-intercept and asymptote, in mathematical and real-world problems.</p> <p>Number and Algebraic Methods. The student applies mathematical process standards and algebraic methods to write, solve, analyze, and evaluate equations, relations, and functions. The student is expected to:</p> <p>Ⓢ ALGI.12A Decide whether relations represented verbally, tabularly, graphically, and symbolically define a function.</p>
<p>Unit 2: Sequences Students analyze and explore arithmetic and geometric sequences.</p>	<p>4 class periods (90-min. each) or 8 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓢ ALGI.1B 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.</p> <p>Ⓢ ALGI.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.</p> <p>Exponential Functions and Equations. The student applies the mathematical process standards when using properties of exponential functions and their related transformations to write, graph, and represent in multiple ways exponential equations, and evaluate, with and without technology, the reasonableness of their solutions. The student formulates statistical relationships and evaluates their reasonableness based on real-world data. The student is expected to:</p> <p>Ⓢ ALGI.9A Determine the domain and range of exponential functions of the form $f(x) = ab^x$ and represent the domain and range using inequalities.</p> <p>Ⓢ ALGI.9D Graph exponential functions that model growth and decay and identify key features, including y-intercept and asymptote, in mathematical and real-world problems.</p> <p>Number and Algebraic Methods. The student applies mathematical process standards and algebraic methods to write, solve, analyze, and evaluate equations, relations, and functions. The student is expected to:</p> <p>Ⓢ ALGI.12A Decide whether relations represented verbally, tabularly, graphically, and symbolically define a function.</p> <p>Ⓢ ALGI.12C Identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes.</p> <p>Ⓢ ALGI.12D Write a formula for the nth term of arithmetic and geometric sequences, given the value of several of their terms.</p>

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Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
Unit 3: Linear Regressions Students analyze a scatterplot to write the equation of a line of best fit and make predictions based on the equation.	3 class periods (90-min. each) or 6 class periods (45-min. each)	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓟ ALGI.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems. Ⓟ ALGI.1E Create and use representations to organize, record, and communicate mathematical ideas. <p>Linear Functions, Equations, and Inequalities. The student applies the mathematical process standards when using graphs of linear functions, their key features, and their related transformations to represent in multiple ways and solve, with and without technology, equations, inequalities, and systems of equations. The student is expected to:</p> <ul style="list-style-type: none"> Ⓡ ALGI.3C Graph linear functions on the coordinate plane and identify key features including x-intercept, y-intercept, zeros, and slope in mathematical and real-world problems. <p>Linear Functions, Equations, and Inequalities. The student applies the mathematical process standards to formulate statistical relationships and evaluate their reasonableness based on real-world data. The student is expected to:</p> <ul style="list-style-type: none"> Ⓢ ALGI.4A Calculate, using technology, the correlation coefficient between two quantitative variables and interpret this quantity as a measure of the strength of the linear association. Ⓢ ALGI.4B Compare and contrast association and causation in real-world problems. Ⓢ ALGI.4C Write, with and without technology, linear functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems. <p>Number and Algebraic Methods. The student applies mathematical process standards and algebraic methods to write, solve, analyze, and evaluate equations, relations, and functions. The student is expected to:</p> <ul style="list-style-type: none"> Ⓢ ALGI.12A Decide whether relations represented verbally, tabularly, graphically, and symbolically define a function.

Cycle 2	23 Days	The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
	Oct. 3 - Nov. 4, 2022	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
Unit 4: Linear Functions Students make connections between linear functions and arithmetic sequences. They explore multiple representations of linear functions, write and graph linear equations in various forms. They also perform basic transformations of linear functions.	9 class periods (90-min. each) or 18 class periods (45-min. each)	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓢ ALGI.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems. Ⓢ ALGI.1E Create and use representations to organize, record, and communicate mathematical ideas. <p>Linear Functions, Equations, and Inequalities. The student applies the mathematical process standards when using properties of linear functions to write and represent in multiple ways, with and without technology, linear equations, inequalities, and systems of equations. The student is expected to:</p> <ul style="list-style-type: none"> Ⓡ ALGI.2A Determine the domain and range of a linear function in mathematical problems, determine reasonable domain and range values for real-world situations, both continuous and discrete and represent domain and range using inequalities. Ⓢ ALGI.2B Write linear equations in two variables in various forms, including $y = mx + b$, $Ax + By = C$, and $y - y_1 = m(x - x_1)$, given one point and the slope and given two points. Ⓡ ALGI.2C Write linear equations in two variables given a table of values, a graph, and a verbal description. Ⓢ ALGI.2D Write and solve equations involving direct variation. Ⓢ ALGI.2E Write the equation of a line that contains a given point and is parallel to a given line. Ⓢ ALGI.2F Write the equation of a line that contains a given point and is perpendicular to a given line. Ⓢ ALGI.2G Write an equation of a line that is parallel or perpendicular to the x- or y-axis and determine whether the slope of the line is zero or undefined. <p>Linear Functions, Equations, and Inequalities. The student applies the mathematical process standards when using graphs of linear functions, their key features, and their related transformations to represent in multiple ways and solve, with and without technology, equations, inequalities, and systems of equations. The student is expected to:</p> <ul style="list-style-type: none"> Ⓢ ALGI.3A Determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms including $y = mx + b$, $Ax + By = C$, and $y - y_1 = m(x - x_1)$. Ⓡ ALGI.3B Calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems. Ⓡ ALGI.3C Graph linear functions on the coordinate plane and identify key features including x-intercept, y-intercept, zeros, and slope in mathematical and real-world problems.

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	Oct. 3 - Nov. 4, 2022	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
		<p>Ⓢ ALGI.3E Determine the effects on the graph of the parent function $f(x) = x$ when $f(x)$ is replaced by $a \cdot f(x)$, $f(x) + d$, $f(x - c)$, $f(b \cdot x)$ for specific values of a, b, c, and d.</p> <p>Number and Algebraic Methods. The student applies mathematical process standards and algebraic methods to write, solve, analyze, and evaluate equations, relations, and functions. The student is expected to:</p> <p>Ⓢ ALGI.12A Decide whether relations represented verbally, tabularly, graphically, and symbolically define a function.</p> <p>Ⓢ ALGI.12B Evaluate functions, expressed in function notation, given one or more elements in their domains.</p> <p>Ⓢ ALGI.12D Write a formula for the nth term of arithmetic and geometric sequences, given the value of several of their terms.</p>

Cycle 3	28 Days	The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
	Nov. 15-Dec. 21, 2022	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
<p>Unit 5: Linear Equations and Inequalities Students apply algebraic properties to solve multi-step linear equations and inequalities. They also solve literal equations.</p>	<p>2.5 class periods (90-min. each) or 5 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓟ ALGI.1B 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. Ⓟ ALGI.1F Analyze mathematical relationships to connect and communicate mathematical ideas. <p>Linear Functions, Equations, and Inequalities. The student applies the mathematical process standards when using properties of linear functions to write and represent in multiple ways, with and without technology, linear equations, inequalities, and systems of equations. The student is expected to:</p> <ul style="list-style-type: none"> Ⓡ ALGI.2C Write linear equations in two variables given a table of values, a graph, and a verbal description. <p>Linear Functions, Equations, and Inequalities. The student applies the mathematical process standards to solve, with and without technology, linear equations and evaluate the reasonableness of their solutions. The student is expected to:</p> <ul style="list-style-type: none"> Ⓡ ALGI.5A Solve linear equations in one variable, including those for which the application of the distributive property is necessary and includes variables on both sides. Ⓢ ALGI.5B Solve linear inequalities in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides. <p>Number and Algebraic Methods. The student applies the mathematical process standards and algebraic methods to write, solve, analyze, and evaluate equations, relations, and functions. The student is expected to:</p> <ul style="list-style-type: none"> Ⓢ ALGI.12E Solve mathematic and scientific formulas, and other literal equations, for a specified variable.
<p>Unit 6: Systems of Equations and Inequalities Students write, graph, and solve systems of linear equations and inequalities using algebraic methods</p>	<p>7 class periods (90-min. each) or 14 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓟ ALGI.1B 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.

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	Nov. 15-Dec. 21, 2022	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
and explore real-world connections.		<p>Ⓡ ALGI.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</p> <p>Linear Functions, Equations, and Inequalities. The student applies the mathematical process standards when using properties of linear functions to write and represent in multiple ways, with and without technology, linear equations, inequalities, and systems of equations. The student is expected to:</p> <p>Ⓡ ALGI.2A Determine the domain and range of a linear function in mathematical problems, determine reasonable domain and range values for real-world situations, both continuous and discrete, and represent domain and range using inequalities.</p> <p>Ⓡ ALGI.2C Write linear equations in two variables given a table of values, a graph, and a verbal description.</p> <p>Ⓢ ALGI.2H Write linear inequalities in two variables given a table of values, a graph, and a verbal description.</p> <p>Ⓡ ALGI.2I Write systems of two linear equations given a table of values, a graph, and a verbal description.</p> <p>Linear Functions, Equations, and Inequalities. The student applies the mathematical process standards when using graphs of linear functions, their key features, and their related transformations to represent in multiple ways and solve, with and without technology, equations, inequalities, and systems of equations. The student is expected to:</p> <p>Ⓡ ALGI.3D Graph the solution set of linear inequalities in two variables on the coordinate plane.</p> <p>Ⓢ ALGI.3F Graph systems of two linear equations in two variables on the coordinate plane and determine the solutions if they exist.</p> <p>Ⓢ ALGI.3G Estimate graphically the solutions to systems of two linear equations with two variables in real-world problems.</p> <p>Ⓢ ALGI.2H Write linear inequalities in two variables given a table of values, a graph, and a verbal description.</p> <p>Linear Functions, Equations, and Inequalities. The student applies the mathematical process standards to solve, with and without technology, linear equations and evaluate the reasonableness of their solutions. The student is expected to:</p> <p>Ⓡ ALGI.5C Solve systems of two linear equations with two variables for mathematical and real-world problems.</p>

Cycle 4	33 Days	The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
	Jan. 9 - Feb. 24, 2023	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
Unit 7: Introduction to Exponential Functions Students analyze properties of powers, relate geometric sequences to exponential functions and graph exponential functions.	5 class periods (90-min. each) or 10 class periods (45-min. each)	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓡ ALGI.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.</p> <p>Exponential Functions and Equations. The student applies the mathematical process standards when using properties of exponential functions and their related transformations to write, graph, and represent in multiple ways exponential equations, and evaluate, with and without technology, the reasonableness of their solutions. The student formulates statistical relationships and evaluates their reasonableness based on real-world data. The student is expected to:</p> <p>Ⓢ ALGI.9B Interpret the meaning of the values of a and b in exponential functions of the form $f(x) = a \cdot b^x$ in real-world problems.</p> <p>Ⓡ ALGI.9C Write exponential functions in the form $f(x) = a \cdot b^x$ (where b is a rational number) to describe problems arising from mathematical and real-world situations including growth and decay.</p> <p>Ⓡ ALGI.9D Graph exponential functions that model growth and decay and identify key features, including y-intercept and asymptote, in mathematical and real-world problems.</p> <p>Number and Algebraic Methods. The student applies the mathematical process standards and algebraic methods to rewrite algebraic expressions into equivalent forms. The student is expected to:</p> <p>Ⓢ ALGI.11A Simplify numerical radical expressions involving square root.</p> <p>Ⓡ ALGI.11B Simplify numeric and algebraic expressions using the laws of exponents, including integral and rational exponents.</p> <p>Number and Algebraic Methods. The student applies the mathematical process standards and algebraic methods to write, solve, analyze, and evaluate equations, relations, and functions. The student is expected to:</p> <p>Ⓢ ALGI.12B Evaluate functions, expressed in function notation, given one or more elements in their domains.</p> <p>Ⓢ ALGI.12D Write a formula for the nth term of arithmetic and geometric sequences, given the value of several of their terms.</p>

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	Jan. 9 - Feb. 24, 2023	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
<p>Unit 8: Using Exponential Equations Students compare linear and exponential functions. They also graph exponential functions and identify key attributes. They write exponential functions to model real-world situations and make predictions based on those models.</p>	<p>4 class periods (90-min. each) or 8 class periods (45-min. each)</p>	<p>Linear Functions, Equations, and Inequalities. The student applies the mathematical process standards when using graphs of linear functions, their key features, and their related transformations to represent in multiple ways and solve, with and without technology, equations, inequalities, and systems of equations. The student is expected to:</p> <ul style="list-style-type: none"> Ⓡ ALGI.3B Calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems. Ⓡ ALGI.3C Graph linear functions on the coordinate plane and identify key features including x-intercept, y-intercept, zeros, and slope in mathematical and real-world problems. <p>Exponential Functions and Equations. The student applies the mathematical process standards when using properties of exponential functions and their related transformations to write, graph, and represent in multiple ways exponential equations, and evaluate, with and without technology, the reasonableness of their solutions. The student formulates statistical relationships and evaluates their reasonableness based on real-world data. The student is expected to:</p> <ul style="list-style-type: none"> Ⓢ ALGI.9A Determine the domain and range of exponential functions of the form $f(x) = ab^x$ and represent the domain and range using inequalities. Ⓢ ALGI.9B Interpret the meaning of the values of a and b in exponential functions of the form $f(x) = a \cdot b^x$ in real-world problems. Ⓡ ALGI.9C Write exponential functions in the form $f(x) = a \cdot b^x$ (where b is a rational number) to describe problems arising from mathematical and real-world situations including growth and decay. Ⓡ ALGI.9D Graph exponential functions that model growth and decay and identify key features, including y-intercept and asymptote, in mathematical and real-world problems. Ⓢ ALGI.9E Write, using technology, exponential functions that provide a reasonable fit to data and make predictions for real-world problems. <p>Number and Algebraic Methods. The student applies the mathematical process standards and algebraic methods to rewrite algebraic expressions into equivalent forms. The student is expected to:</p> <ul style="list-style-type: none"> Ⓡ ALGI.11B Simplify numeric and algebraic expressions using the laws of exponents, including integral and rational exponents. <p>Number and Algebraic Methods. The student applies the mathematical process standards and algebraic methods to write, solve, analyze, and evaluate equations, relations, and functions. The student is expected to:</p> <ul style="list-style-type: none"> Ⓢ ALGI.12B Evaluate functions, expressed in function notation, given one or more elements in their domains.

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Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
<p>Unit 9: Introduction to Quadratic Functions Students analyze the key attributes of quadratic functions and write equations of quadratic functions using regressions. They also analyze the effects of transformations on the parent function of the graphs.</p>	<p>4 class periods (90-min. each) or 8 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓡ ALGI.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems. Ⓡ ALGI.1F Analyze mathematical relationships to connect and communicate mathematical ideas. <p>Quadratic Functions and Equations. The student applies the mathematical process standards when using properties of quadratic functions to write and represent in multiple ways, with and without technology, quadratic equations. The student is expected to:</p> <ul style="list-style-type: none"> Ⓡ ALGI.6A Determine the domain and range of quadratic functions and represent the domain and range using inequalities. Ⓢ ALGI.6B Write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form ($f(x) = a(x - h)^2 + k$), and rewrite the equation from vertex form to standard form ($f(x) = ax^2 + bx + c$). Ⓢ ALGI.6C Write quadratic functions when given real solutions and graphs of their related equations. <p>Quadratic Functions and Equations. The student applies the mathematical process standards when using graphs of quadratic functions and their related transformations to represent in multiple ways and determine, with and without technology, the solutions to equations. The student is expected to:</p> <ul style="list-style-type: none"> Ⓡ ALGI.7A Graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry. Ⓡ ALGI.7C Determine the effects on the graph of the parent function $f(x) = x^2$ when $f(x)$ is replaced by $a \cdot f(x)$, $f(x) + d$, $f(x - c)$, $f(b \cdot x)$ for specific values of a, b, c, and d. <p>Quadratic Functions and Equations. The student applies the mathematical process standards to solve, with and without technology, quadratic equations and evaluate the reasonableness of their solutions. The student formulates statistical relationships and evaluates their reasonableness based on real-world data. The student is expected to:</p> <ul style="list-style-type: none"> Ⓢ ALGI.8B Write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

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	Feb. 27 - Apr. 14, 2023	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
Unit 10: Polynomial Operations Students perform operations on polynomials.	4 class periods (90-min. each) or 8 class periods (45-min. each)	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓡ ALGI.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems. Ⓡ ALGI.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate. <p>Number and Algebraic Methods. The student applies the mathematical process standards and algebraic methods to rewrite in equivalent forms and perform operations on polynomial expressions. The student is expected to:</p> <ul style="list-style-type: none"> Ⓢ ALGI.10A Add and subtract polynomials of degree one and degree two. Ⓢ ALGI.10B Multiply polynomials of degree one and degree two. Ⓢ ALGI.10D Rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property.
Unit 11: Factors of Polynomials Students factor polynomial expressions.	4 class periods (90-min. each) or 8 class periods (45-min. each)	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓡ ALGI.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate. <p>Number and Algebraic Methods. The student applies the mathematical process standards and algebraic methods to rewrite in equivalent forms and perform operations on polynomial expressions. The student is expected to:</p> <ul style="list-style-type: none"> Ⓢ ALGI.10B Multiply polynomials of degree one and degree two. Ⓢ ALGI.10D Rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property. Ⓡ ALGI.10E Factor, if possible, trinomials with real factors in the form $ax^2 + bx + c$, including perfect square trinomials of degree two. Ⓢ ALGI.10F Decide if a binomial can be written as the difference of two squares and, if possible, use the structure of a difference of two squares to rewrite the binomial.
Unit 12: Division of Polynomials Students divide polynomial expressions.	2 class periods (90-min. each) or 4 class periods (45-min. each)	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p>

Cycle 5	28 Days Feb. 27 - Apr. 14, 2023	<i>The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.</i>
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
		<p>Ⓟ ALGI.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.</p> <p>Ⓟ ALGI.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</p> <p>Number and Algebraic Methods. The student applies the mathematical process standards and algebraic methods to rewrite in equivalent forms and perform operations on polynomial expressions. The student is expected to:</p> <p>Ⓢ ALGI.10C Determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend.</p> <p>Ⓡ ALGI.10E Factor, if possible, trinomials with real factors in the form $ax^2 + bx + c$, including perfect square trinomials of degree two.</p>
<p>Unit 13: Solving Quadratic Equations Students solve quadratic equations using various methods.</p> <p>(continued in cycle 6)</p>	<p>4 class periods (90-min. each) or 8 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓟ ALGI.1B 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.</p> <p>Ⓟ ALGI.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</p> <p>Quadratic Functions and Equations. The student applies the mathematical process standards when using properties of quadratic functions to write and represent in multiple ways, with and without technology, quadratic equations. The student is expected to:</p> <p>Ⓡ ALGI.6A Determine the domain and range of quadratic functions and represent the domain and range using inequalities.</p> <p>Quadratic Functions and Equations. The student applies the mathematical process standards when using graphs of quadratic functions and their related transformations to represent in multiple ways and determine, with and without technology, the solutions to equations. The student is expected to:</p> <p>Ⓡ ALGI.7A Graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry.</p>

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Unit	# Class Periods	
		<p>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:</p> <p>Ⓢ ALGI.7B Describe the relationship between the linear factors of quadratic expressions and the zeros of their associated quadratic functions.</p> <p>Quadratic Functions and Equations. The student applies the mathematical process standards to solve, with and without technology, quadratic equations and evaluate the reasonableness of their solutions. The student formulates statistical relationships and evaluates their reasonableness based on real-world data. The student is expected to:</p> <p>Ⓡ ALGI.8A Solve quadratic equations, having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.</p> <p>Number and Algebraic Methods. The student applies the mathematical process standards and algebraic methods to rewrite in equivalent forms and perform operations on polynomial expressions. The student is expected to:</p> <p>Ⓢ ALGI.10F Decide if a binomial can be written as the difference of two squares and, if possible, use the structure of a difference of two squares to rewrite the binomial.</p> <p>Number and Algebraic Methods. The student applies the mathematical process standards and algebraic methods to rewrite algebraic expressions into equivalent forms. The student is expected to:</p> <p>Ⓢ ALGI.11A Simplify numerical radical expressions involving square root.</p>

Cycle 6	31 Days	The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
	Apr. 17 - May 31, 2023	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
Unit 13: Solving Quadratic Equations Students solve quadratic equations using various methods. (continued from cycle 5)	4 class periods (90-min. each) or 8 class periods (45-min. each)	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓡ ALGI.1B 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. Ⓡ ALGI.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate. <p>Quadratic Functions and Equations. The student applies the mathematical process standards when using properties of quadratic functions to write and represent in multiple ways, with and without technology, quadratic equations. The student is expected to:</p> <ul style="list-style-type: none"> Ⓡ ALGI.6A Determine the domain and range of quadratic functions and represent the domain and range using inequalities. <p>Quadratic Functions and Equations. The student applies the mathematical process standards when using graphs of quadratic functions and their related transformations to represent in multiple ways and determine, with and without technology, the solutions to equations. The student is expected to:</p> <ul style="list-style-type: none"> Ⓡ ALGI.7A Graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry. Ⓢ ALGI.7B Describe the relationship between the linear factors of quadratic expressions and the zeros of their associated quadratic functions. <p>Quadratic Functions and Equations. The student applies the mathematical process standards to solve, with and without technology, quadratic equations and evaluate the reasonableness of their solutions. The student formulates statistical relationships and evaluates their reasonableness based on real-world data. The student is expected to:</p> <ul style="list-style-type: none"> Ⓡ ALGI.8A Solve quadratic equations, having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula. <p>Number and Algebraic Methods. The student applies the mathematical process standards and algebraic methods to rewrite in equivalent forms and perform operations on polynomial expressions. The student is expected to:</p> <ul style="list-style-type: none"> Ⓢ ALGI.10F Decide if a binomial can be written as the difference of two squares and, if possible, use the structure of a difference of two squares to rewrite the binomial.

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	Apr. 17 - May 31, 2023	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
		<p>Number and Algebraic Methods. The student applies the mathematical process standards and algebraic methods to rewrite algebraic expressions into equivalent forms. The student is expected to:</p> <p>Ⓢ ALGI.11A Simplify numerical radical expressions involving square root.</p>
<p>Unit 14: Readiness and Supporting Standards Review Students review relevant STAAR EOC standards prior to testing using appropriate problem-solving strategies and thinking routines (based on individual student data).</p>	<p>3 class periods (90-min. each) or 6 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓢ ALGI.1A Apply mathematics to problems arising in everyday life, society, and the workplace.</p> <p>Ⓢ ALGI.1B 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.</p> <p>Ⓢ ALGI.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.</p> <p>Ⓢ ALGI.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</p> <p>Ⓢ ALGI.1E Create and use representations to organize, record, and communicate mathematical ideas.</p> <p>Ⓢ ALGI.1F Analyze mathematical relationships to connect and communicate mathematical ideas.</p> <p>Ⓢ ALGI.1G Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.</p>
<p>Unit 15: Transformation of Linear and Quadratic Functions Students continue to analyze the effects of transformations on the graphs of linear and quadratic parent functions.</p>	<p>2.5 class periods (90-min. each) or 5 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓢ ALGI.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.</p> <p>Ⓢ ALGI.1F Analyze mathematical relationships to connect and communicate mathematical ideas.</p> <p>Linear Functions, Equations, and Inequalities. The student applies the mathematical process standards when using graphs of linear functions, their key features, and their related transformations to represent in multiple ways and solve, with and without technology, equations, inequalities, and systems of equations. The student is expected to:</p>

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	Apr. 17 - May 31, 2023	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
		<p>Ⓡ ALGI.3C Graph linear functions on the coordinate plane and identify key features including x-intercept, y-intercept, zeros, and slope in mathematical and real-world problems.</p> <p>Ⓢ ALGI.3E Determine the effects on the graph of the parent function $f(x) = x$ when $f(x)$ is replaced by $a \cdot f(x)$, $f(x) + d$, $f(x - c)$, $f(b \cdot x)$ for specific values of a, b, c, and d.</p> <p>Quadratic Functions and Equations. The student applies the mathematical process standards when using graphs of quadratic functions and their related transformations to represent in multiple ways and determine, with and without technology, the solutions to equations. The student is expected to:</p> <p>Ⓡ ALGI.7A Graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry.</p> <p>Ⓡ ALGI.7C Determine the effects on the graph of the parent function $f(x) = x^2$ when $f(x)$ is replaced by $a \cdot f(x)$, $f(x) + d$, $f(x - c)$, $f(b \cdot x)$ for specific values of a, b, c, and d.</p>