

## College Preparatory Mathematics (CPM) Course Design

As required by HB-5 which was approved by Texas Legislation in 2013, the College Preparatory Mathematics (CPM) course is to provide an opportunity for high school seniors to demonstrate college readiness in mathematics so they are able to begin taking credit-bearing courses their first year of college without mandatory enrollment in developmental mathematics courses.

If, by the end of a student's junior year, s/he has not yet demonstrated college readiness in mathematics via satisfactory performance on the Algebra I STAAR EOC, PSAT, SAT, ACT, TSI, or any other measurement accepted as a formal indicator of college readiness by the Houston Community College (HCC), the student will be offered enrollment in the CPM course. The CPM course may count as a fourth-year mathematics course required for graduation starting the 2015-16 school year.

The prerequisite for enrollment in the CPM course is Algebra II. For a student to be deemed "college ready" by HCC – that is, ready for enrollment into MATH 1314 as a college freshman – the student must take the HCC-provided final exam for each semester of the CPM course AND earn an overall grade of C or better for each semester of the CPM course. These criteria are in accordance with the 2019-2020 Memorandum of Understanding (MOU) with HCC.\*

The curriculum for the CPM course has been developed through a partnership involving Houston ISD mathematics teachers, the HISD Curriculum and Development Department, and the Houston Community College. The content of the course synthesizes concepts from the HCC developmental mathematics courses MATH 0332p and MATH 0314p and includes concepts from College Algebra MATH 1314. These course numbers are in accordance with the 2019-2020 Memorandum of Understanding (MOU) with HCC. \*

(NOTE: although students may NOT use graphing technology on the final exam provided by HCC, the use of graphing technology as a discovery and analytical tool is highly encouraged.)

\*Additional details for the 2021-2022 Memorandum of Understanding with HCC are currently being negotiated. Information will be sent to campuses and teachers on final MOU requirements.



Cycle 1	27 Days	<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>
Aug. 23 - Oct. 1, 2021		
Unit	# Class Periods	<p align="center"><b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b></p> <p>The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p><b>The student will:</b></p>
		<p><i>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 for each unit, but these process standards should not be the only process standards associated with the daily lessons.</i></p> <p><b>Mathematical Process Standards.</b> The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓟ <b>CPM.1A</b> Apply mathematics to problems arising in everyday life, society, and the workplace.</li> <li>Ⓟ <b>CPM.1B</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.</li> <li>Ⓟ <b>CPM.1C</b> 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.</li> <li>Ⓟ <b>CPM.1D</b> Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</li> <li>Ⓟ <b>CPM.1E</b> Create and use representations to organize, record, and communicate mathematical ideas.</li> <li>Ⓟ <b>CPM.1F</b> Analyze mathematical relationships to connect and communicate mathematical ideas.</li> <li>Ⓟ <b>CPM.1G</b> Display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication.</li> </ul>

Cycle 1	27 Days Aug. 23 - Oct. 1, 2021	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	<b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b>  The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.  <b>The student will:</b>
<b>Unit 1: One-Variable Equations &amp; Inequalities</b> Students solve and apply linear equations and inequalities in one variable	<b>3.5</b> class periods (90-min. each) or <b>7</b> class periods (45-min. each)  <i>Enrichment Opportunities</i> Aug. 2-13  <i>Teachers Report to Work</i> Aug. 16  <i>Teacher Service Days</i> Aug. 16-17, Aug. 19-20  <i>Teacher Prep Day (no students)</i> Aug. 18  <i>Labor Day</i> Sept. 6  <i>Fall Holiday</i> Sept. 16  <i>Teacher Service Day (no students)</i> Sept. 17	<p><b>Mathematical Process Standards.</b> The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓢ <b>CPM.1A</b> Apply mathematics to problems arising in everyday life, society, and the workplace.</li> <li>Ⓢ <b>CPM.1B</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.</li> <li>Ⓢ <b>CPM.1D</b> Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</li> </ul> <p><b>Linear Functions, Equations, and Inequalities.</b> 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"> <li>Ⓡ <b>ALGI.5A</b> Solve linear equations in one variable, including those for which the application of the distributive property is necessary and includes variables on both sides.</li> <li>Ⓢ <b>ALGI.5B</b> 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.</li> </ul> <p><b>Number and Algebraic Methods.</b> 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"> <li>Ⓢ <b>ALGI.10A</b> Add and subtract polynomials of degree one and degree two.</li> <li>Ⓢ <b>ALG.10D</b> rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property.</li> </ul> <p><b>Number and Algebraic Methods.</b> 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"> <li>Ⓢ <b>ALGI.12E</b> Solve mathematic and scientific formulas, and other literal equations, for a specified variable.</li> </ul>

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Unit	# Class Periods	<p align="center"><b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b></p> <p>The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p><b>The student will:</b></p>
<p><b>Unit 2: Linear Equations and Inequalities</b> Students analyze, graph, and write various forms of linear equations and inequalities using multiple representations in mathematical and real-world contexts.</p>	<p><b>4</b> class periods (90-min. each) or <b>8</b> class periods (45-min. each)</p>	<p><b>Mathematical Process Standards.</b> The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓢ <b>CPM.1C</b> 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.</li> <li>Ⓢ <b>CPM.1D</b> Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</li> <li>Ⓢ <b>CPM.1E</b> Create and use representations to organize, record, and communicate mathematical ideas.</li> </ul> <p><b>Linear Functions, Equations, and Inequalities.</b> 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"> <li>Ⓢ <b>ALGI.2A</b> 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.</li> <li>Ⓢ <b>ALGI.2B</b> Write linear equations in two variables in various forms, including <math>y = mx + b</math>, <math>Ax + By = C</math>, and <math>y - y_1 = m(x - x_1)</math>, given one point and the slope and given two points.</li> <li>Ⓢ <b>ALGI.2C</b> Write linear equations in two variables given a table of values, a graph, and a verbal description.</li> <li>Ⓢ <b>ALGI.2D</b> Write and solve equations involving direct variation.</li> <li>Ⓢ <b>ALGI.2E</b> Write the equation of a line that contains a given point and is parallel to a given line.</li> <li>Ⓢ <b>ALGI.2F</b> Write the equation of a line that contains a given point and is perpendicular to a given line.</li> <li>Ⓢ <b>ALGI.2G</b> Write an equation of a line that is parallel or perpendicular to the <math>x</math>- or <math>y</math>-axis and determine whether the slope of the line is zero or undefined.</li> <li>Ⓢ <b>ALGI.2H</b> Write linear inequalities in two variables given a table of values, a graph, and a verbal description.</li> </ul>

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Unit	# Class Periods	<p align="center"><b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b></p> <p>The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p><b>The student will:</b></p>
		<p><b>Linear Functions, Equations, and Inequalities.</b> 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"> <li>Ⓢ <b>ALGI.3A</b> 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 <math>y = mx + b</math>, <math>Ax + By = C</math>, and <math>y - y_1 = m(x - x_1)</math>.</li> <li>Ⓡ <b>ALGI.3B</b> Calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems.</li> <li>Ⓡ <b>ALGI.3C</b> 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.</li> <li>Ⓡ <b>ALGI.3D</b> Graph the solution set of linear inequalities in two variables on the coordinate plane.</li> <li>Ⓢ <b>ALGI.3E</b> Determine the effects on the graph of the parent function <math>f(x) = x</math> when <math>f(x)</math> is replaced by <math>a \cdot f(x)</math>, <math>f(x) + d</math>, <math>f(x - c)</math>, <math>f(b \cdot x)</math> for specific values of <math>a</math>, <math>b</math>, <math>c</math> and <math>d</math>.</li> </ul> <p><b>Number and Algebraic Methods.</b> 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"> <li>Ⓢ <b>ALGI.12B</b> Evaluate functions, expressed in function notation, given one or more elements in their domains.</li> <li>Ⓢ <b>ALGI.12E</b> Solve mathematic and scientific formulas, and other literal equations, for a specified variable.</li> </ul> <p><b>Number and Algebraic Methods.</b> The student applies mathematical processes to simplify and perform operations on expressions and to solve equations. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓢ <b>ALGII.7I</b> Write the domain and range of a function in interval notation, inequalities and set notation.</li> </ul>

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Unit	# Class Periods	<p align="center"><b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b></p> <p>The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p><b>The student will:</b></p>
<p><b>Unit 3: Systems of Equations &amp; Inequalities</b> In real-world situations, students solve and analyze systems of linear equations and inequalities with two variables using graphs, tables, and algebraic methods.</p>	<p><b>3.5</b> class periods (90-min. each) or <b>7</b> class periods (45-min. each)</p>	<p><b>Mathematical Process Standards.</b> The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓟ <b>CPM.1A</b> Apply mathematics to problems arising in everyday life, society, and the workplace.</p> <p>Ⓟ <b>CPM.1C</b> 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><b>Linear Functions, Equations, and Inequalities.</b> 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>Ⓡ <b>ALGI.2I</b> Write systems of two linear equations given a table of values, a graph, and a verbal description.</p> <p><b>Linear Functions, Equations, and Inequalities.</b> 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>Ⓡ <b>ALGI.3D</b> Graph the solution set of linear inequalities in two variables on the coordinate plane.</p> <p>Ⓢ <b>ALGI.3F</b> Graph systems of two linear equations in two variables on the coordinate plane and determine the solutions if they exist.</p> <p>Ⓢ <b>ALGI.3G</b> Estimate graphically the solutions to systems of two linear equations with two variables in real-world problems.</p> <p>Ⓢ <b>ALGI.3H</b> Graph the solution set of systems of two linear inequalities in two variables on the coordinate plane.</p> <p><b>Systems of Equations and Inequalities.</b> The student applies mathematical processes to formulate systems of equations and inequalities, to use a variety of methods to solve and to analyze the reasonableness of solutions. The student is expected to:</p> <p>Ⓢ <b>ALGII.3E</b> Formulate systems of at least two linear inequalities in two variables.</p> <p>Ⓢ <b>ALGII.3F</b> Solve systems of two or more linear inequalities in two variables.</p>

Cycle 2	29 Days Oct. 5 - Nov. 12, 2021	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	<b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b>  The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.  <b>The student will:</b>
<b>Unit 4: Polynomials and Operations</b> Students evaluate, analyze, perform operations on, and apply properties of polynomials.	3 class periods (90-min. each) or 6 class periods (45-min. each)  <i>Teacher Service Day (no students)</i> Oct. 4	<p><b>Mathematical Process Standards.</b> The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓡ <b>CPM.1B</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.</li> <li>Ⓡ <b>CPM.1D</b> Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</li> <li>Ⓡ <b>CPM.1E</b> Create and use representations to organize, record, and communicate mathematical ideas.</li> </ul> <p><b>Number and Algebraic Methods.</b> 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"> <li>Ⓢ <b>ALGI.10A</b> Add and subtract polynomials of degree one and degree two.</li> <li>Ⓢ <b>ALGI.10B</b> Multiply polynomials of degree one and degree two.</li> <li>Ⓢ <b>ALGI.10D</b> Rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property.</li> </ul> <p><b>Number and Algebraic Methods.</b> 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"> <li>Ⓡ <b>ALGI.11B</b> Simplify numeric and algebraic expressions using the laws of exponents, including integral and rational exponents.</li> </ul> <p><b>Number and Operations.</b> The student applies mathematical process standards to represent and use real numbers in a variety of forms.</p> <ul style="list-style-type: none"> <li>Ⓢ <b>MATH.8.2C</b> Convert between standard decimal notation and scientific notation.</li> <li>• <b>HCC 5.1 Multiply</b> and divide expressions with a common basis.</li> </ul> <p><b>Number and Algebraic Methods.</b> The student applies mathematical processes to simplify and perform operations on expressions and to solve equations. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓢ <b>ALGII.7B</b> Add, subtract, and multiply polynomials.</li> </ul>

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	Oct. 5 - Nov. 12, 2021	
Unit	# Class Periods	<p align="center"><b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b></p> <p>The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p><b>The student will:</b></p>
<p><b>Unit 5: Polynomials and Factoring</b> Students explore various methods of factoring polynomials.</p>	<p><b>3</b> class periods (90-min. each) or <b>6</b> class periods (45-min. each)</p>	<p><b>Mathematical Process Standards.</b> The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓟ <b>CPM.1A</b> Apply mathematics to problems arising in everyday life, society, and the workplace.</li> <li>Ⓟ <b>CPM.1B</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.</li> <li>Ⓟ <b>CPM.1D</b> Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</li> <li>Ⓟ <b>CPM.1E</b> Create and use representations to organize, record, and communicate mathematical ideas.</li> </ul> <p><b>Number and Algebraic Methods.</b> 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"> <li>Ⓢ <b>ALGI.10B</b> Multiply polynomials of degree one and degree two.</li> <li>Ⓢ <b>ALGI.10C</b> 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.</li> <li>Ⓢ <b>ALGI.10D</b> Rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property.</li> <li>Ⓡ <b>ALGI.10E</b> Factor, if possible, trinomials with real factors in the form <math>ax^2 + bx + c</math>, including perfect square trinomials of degree two.</li> <li>Ⓢ <b>ALGI.10F</b> 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.</li> </ul> <p><b>Number and Algebraic Methods.</b> The student applies mathematical processes to simplify and perform operations on expressions and to solve equations.</p>



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Unit	# Class Periods	<b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b>  The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.  <b>The student will:</b>
		<p>Ⓡ <b>All.7E</b> 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.</p>
<p><b>Unit 6: Quadratic Functions and Equations</b> Students analyze, graph, and solve quadratic functions and connect the attributes and solutions to real-world situations using multiple representations.</p>	<p><b>3.5</b> class periods (90-min. each) or <b>7</b> class periods (45-min. each)</p>	<p><b>Mathematical Process Standards.</b> The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓟ <b>CPM.1A</b> Apply mathematics to problems arising in everyday life, society, and the workplace.</p> <p>Ⓟ <b>CPM.1D</b> Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</p> <p>Ⓟ <b>CPM.1G</b> Display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication.</p> <p><b>Quadratic Functions and Equations.</b> 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>Ⓡ <b>ALGI.6A</b> Determine the domain and range of quadratic functions, and represent the domain and range using inequalities.</p> <p>Ⓢ <b>ALGI.6B</b> Write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (<math>f(x) = a(x - h)^2 + k</math>), and rewrite the equation from vertex form to standard form (<math>f(x) = ax^2 + bx + c</math>).</p> <p>Ⓢ <b>ALGI.6C</b> Write quadratic functions when given real solutions and graphs of their related equations.</p> <p><b>Quadratic Functions and Equations.</b> 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>Ⓡ <b>ALGI.7A</b> Graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept,</p>

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		<p>zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry.</p> <p>Ⓢ <b>ALGI.7B</b> Describe the relationship between the linear factors of quadratic expressions and the zeros of their associated quadratic functions.</p> <p>Ⓡ <b>ALGI.7C</b> Determine the effects on the graph of the parent function <math>f(x) = x^2</math> when <math>f(x)</math> is replaced by <math>a \cdot f(x)</math>, <math>f(x) + d</math>, <math>f(x - c)</math>, <math>f(b \cdot x)</math> for specific values of <math>a</math>, <math>b</math>, <math>c</math> and <math>d</math>.</p> <p><b>Quadratic Functions and Equations.</b> 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>Ⓡ <b>ALGI.8A</b> Solve quadratic equations, having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.</p> <p><b>Number and Algebraic Methods.</b> 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>Ⓢ <b>ALGI.12B</b> Evaluate functions, expressed in function notation, given one or more elements in their domains.</p> <p><b>Number and Algebraic Methods.</b> The student applies mathematical processes to simplify and perform operations on expressions and to solve equations. The student is expected to:</p> <p>Ⓢ <b>ALGII.7I</b> Write the domain and range of a function in interval notation, inequalities and set notation.</p>

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	Oct. 5 - Nov. 12, 2021	
Unit	# Class Periods	<p><b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b></p> <p>The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p><b>The student will:</b></p>
<p><b>Unit 7: Rational Expressions and Equations</b> Students analyze, perform operations on, and solve equations and application problems involving rational expressions.</p> <p>(continues in cycle 3)</p>	<p><b>4</b> class periods (90-min. each) or <b>8</b> class periods (45-min. each)</p>	<p><b>Mathematical Process Standards.</b> The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓟ <b>CPM.1C</b> 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.</li> <li>Ⓟ <b>CPM.1D</b> Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</li> <li>Ⓟ <b>CPM.1E</b> Create and use representations to organize, record, and communicate mathematical ideas.</li> </ul> <p><b>Number and operations.</b> The student applies mathematical process standards to represent and use real numbers in a variety of forms.</p> <ul style="list-style-type: none"> <li>Ⓢ <b>MATH.8.2C</b> Convert between standard decimal notation and scientific notation <ul style="list-style-type: none"> <li>• <b>HCC 5.1</b> Multiply and <b>divide</b> expressions with a common basis.</li> </ul> </li> </ul> <p><b>Number and Algebraic Methods.</b> 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"> <li>Ⓢ <b>ALGI.10C</b> 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.</li> <li>Ⓢ <b>ALGI.10D</b> Rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property.</li> <li>Ⓡ <b>ALGI.10E</b> Factor, if possible, trinomials with real factors in the form <math>ax^2 + bx + c</math>, including perfect square trinomials of degree two.</li> <li>Ⓢ <b>ALGI.10F</b> 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.</li> </ul>

Cycle 2	29 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. 5 - Nov. 12, 2021	
Unit	# Class Periods	<p align="center"><b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b></p> <p>The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p><b>The student will:</b></p>
		<p><b>Cubic, Cube Root, Absolute Value and Rational Functions, Equations, and Inequalities.</b> The student applies mathematical processes to understand that cubic, cube root, absolute value and <b>rational functions, equations,</b> and inequalities can be used to model situations, solve problems, and make predictions. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓡ <b>ALGII.6I</b> Solve rational equations that have real solutions.</li> <li>Ⓢ <b>ALGII.6J</b> Determine the reasonableness of a solution to a rational equation.</li> <li>Ⓢ <b>ALGII.6K</b> Determine the asymptotic restrictions on the domain of a rational function and represent domain and range using interval notation, inequalities, and set notation.</li> </ul> <p><b>Number and Algebraic Methods.</b> The student applies mathematical processes to simplify and perform operations on expressions and to solve equations. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓡ <b>ALGII.7E</b> 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.</li> </ul>

Cycle 3	30 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, 2021 - Jan. 14, 2022	
Unit	# Class Periods	<p><b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b></p> <p>The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p><b>The student will:</b></p>
<p><b>Unit 7: Rational Expressions and Equations</b></p> <p>Students analyze, perform operations on, and solve equations and application problems involving rational expressions.</p> <p>(continued from cycle 2)</p>	<p>4 class periods (90-min. each) or 8 class periods (45-min. each)</p> <p><i>Thanksgiving Break</i> Nov. 22-26</p> <p><i>Enrichment Opportunities</i> Dec. 20-21</p> <p><i>Winter Break</i> Dec. 20-31</p> <p><i>MLK Jr. Day</i> Jan. 17</p> <p><i>Teacher Prep Day (no students)</i> Jan. 18</p>	<p><b>Mathematical Process Standards.</b> The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓟ <b>CPM.1C</b> 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.</li> <li>Ⓟ <b>CPM.1D</b> Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</li> <li>Ⓟ <b>CPM.1E</b> Create and use representations to organize, record, and communicate mathematical ideas.</li> </ul> <p><b>Number and operations.</b> The student applies mathematical process standards to represent and use real numbers in a variety of forms.</p> <ul style="list-style-type: none"> <li>Ⓢ <b>MATH.8.2C</b> Convert between standard decimal notation and scientific notation</li> <li>• <b>HCC 5.1</b> Multiply and <b>divide</b> expressions with a common basis.</li> </ul> <p><b>Number and Algebraic Methods.</b> 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"> <li>Ⓢ <b>ALGI.10C</b> 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.</li> <li>Ⓢ <b>ALGI.10D</b> Rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property.</li> <li>Ⓟ <b>ALGI.10E</b> Factor, if possible, trinomials with real factors in the form <math>ax^2 + bx + c</math>, including perfect square trinomials of degree two.</li> <li>Ⓢ <b>ALGI.10F</b> 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.</li> </ul>

Cycle 3	30 Days	<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>
	Nov. 15, 2021 - Jan. 14, 2022	
Unit	# Class Periods	<b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b> The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course. <b>The student will:</b>
		<p><b>Cubic, Cube Root, Absolute Value and Rational Functions, Equations, and Inequalities.</b> The student applies mathematical processes to understand that cubic, cube root, absolute value and <b>rational functions, equations,</b> and inequalities can be used to model situations, solve problems, and make predictions. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓡ <b>ALGII.6I</b> Solve rational equations that have real solutions.</li> <li>Ⓢ <b>ALGII.6J</b> Determine the reasonableness of a solution to a rational equation.</li> <li>Ⓢ <b>ALGII.6K</b> Determine the asymptotic restrictions on the domain of a rational function and represent domain and range using interval notation, inequalities, and set notation.</li> </ul> <p><b>Number and Algebraic Methods.</b> The student applies mathematical processes to simplify and perform operations on expressions and to solve equations. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓡ <b>ALGII.7E</b> 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.</li> </ul>
<p><b>Unit 8: Radical Expressions and Equations</b>                      Students analyze, perform operations on, and solve equations and application problems involving radical expressions and equations.</p>	<p>4 class periods (90-min. each)                      or                      8 class periods (45-min. each)</p>	<p><b>Mathematical Process Standards.</b> The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓢ <b>CPM.1A</b> Apply mathematics to problems arising in everyday life, society, and the workplace.</li> <li>Ⓢ <b>CPM.1B</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.</li> <li>Ⓢ <b>CPM.1D</b> Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</li> </ul> <p><b>Number and Algebraic Methods.</b> The student applies mathematical processes to simplify and perform operations on expressions and to solve equations. The student is expected to:</p>

Cycle 3	30 Days	<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>
	Nov. 15, 2021 - Jan. 14, 2022	
Unit	# Class Periods	<b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b> The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course. <b>The student will:</b>
		<p>Ⓢ <b>ALGII.7G</b> Rewrite radical expressions that contain variables to equivalent forms.</p> <p>Ⓡ <b>ALGII.7H</b> Solve equations involving rational exponents.</p> <p><b>Number and Algebraic Methods.</b> The student applies the mathematical process standards and algebraic methods to rewrite algebraic expressions into equivalent forms. The student is expected to:</p> <p>Ⓢ <b>ALGI.11A</b> Simplify numerical radical expressions involving square roots.</p> <p>Ⓡ <b>ALGI.11B</b> Simplify numerical and algebraic expressions using the laws of exponents, including integral and rational exponents.</p> <p><b>Quadratic and square root functions, equations, and inequalities.</b> The student applies mathematical processes to understand that quadratic and square root functions, equations, and quadratic inequalities can be used to model situations, solve problems, and make predictions. The student is expected to:</p> <p>Ⓡ <b>ALGII.4F</b> Solve quadratic and square root equations.</p> <p>Ⓢ <b>ALGII.4G</b> Identify extraneous solutions of square root equations</p>
<p><b>Unit 9: Data Analysis, Statistics, and Intro to Set theory</b>                      Students analyze data, statistical models, and Set Theory. Students evaluate models and data in real-world contexts.</p>	<p>4 class periods (90-min. each)                      or                      8 class periods (45-min. each)</p>	<p><b>Mathematical Process Standards.</b> The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓢ <b>CPM.1D</b> Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</p> <p>Ⓢ <b>CPM.1F</b> Analyze mathematical relationships to connect and communicate mathematical ideas.</p> <p>Ⓢ <b>CPM.1G</b> Display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication.</p> <p><b>Measurement and Data.</b> The student applies mathematical process standards to use numerical or graphical representations to analyze problems. The student is expected to:</p>

Cycle 3	30 Days	<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>
	Nov. 15, 2021 - Jan. 14, 2022	
Unit	# Class Periods	<b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b> The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course. <b>The student will:</b>
		<p>Ⓢ <b>MATH.6.12B</b> Use the graphical representation of numeric data to describe the center, spread, and shape of the data distribution.</p> <ul style="list-style-type: none"> <li>• <b>HCC 7.2</b> Use numeric data to describe mean, median, and mode.</li> </ul> <p>Ⓡ <b>MATH.6.12C</b> Summarize numeric data with numerical summaries, including the mean and median (measures of center) and the range and interquartile range (IQR) (measures of spread), and use these summaries to describe the center, spread, and shape of the data distribution.</p> <ul style="list-style-type: none"> <li>• <b>HCC 7.3</b> Use measures of variation to describe the amount of variability or spread in a set of data.</li> <li>• <b>HCC 7.4</b> Use measures of position in percentiles in a set of data.</li> </ul> <p><b>Personal Financial Literacy.</b> The student applies mathematical process standards to develop an economic way of thinking and problem solving useful in one’s life as a knowledgeable consumer and investor. The student is expected to:</p> <p>Ⓢ <b>MATH.7.13A</b> Calculate the sales tax for a given purchase and calculate income tax for earned wages.</p> <ul style="list-style-type: none"> <li>• <b>HCC 6.3</b> Solve problems involving applications of sales tax, commission, discount, markup, and percent Increase and decrease.</li> </ul> <p><b>Proportionality.</b> The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to:</p> <p>Ⓡ <b>MATH.7.4D</b> Solve problems involving ratios, rates, and percent’s, including multi-step problems involving percent increase and percent decrease, and financial literacy problems.</p> <ul style="list-style-type: none"> <li>• <b>HCC 6.2</b> Solve multistep problems and equations including percent, fractions, and decimals.</li> <li>• <b>HCC 6.3</b> Solve problems involving applications of sales tax, commission, discount, markup, and percent increase and decrease.</li> </ul> <p><b>Proportionality.</b> The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to:</p>



<b>Cycle 3</b>	<b>30 Days</b>	<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>
	Nov. 15, 2021 - Jan. 14, 2022	

Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)
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The **bold face** words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.

**The student will:**

- Ⓡ **MATH.7.6G** Solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents.
- **HCC 7.1** Interpret tables, bar graphs, pictographs, and line graphs in real-world contexts.
- Personal financial literacy.** The student applies mathematical process standards to develop an economic way of thinking and problem solving useful in one's life as a knowledgeable consumer and investor. The student is expected to:
- Ⓡ **MATH.8.2D** Calculate and compare simple interest and compound interest earnings.
- **HCC 6.4** Calculate simple interest and compound interest earnings.
- Logical argument and constructions.** The student uses the process skills with deductive reasoning to understand geometric relationships. The student is expected to:
- Ⓢ **GEOM.4B** Identify and determine the validity of the converse, inverse, and contrapositive of a conditional statement and recognize the connection between a biconditional statement and a true conditional statement with a true converse.
- **HCC 1.1** Introduction to set theory and definition, analyze the basic set definition, set notation, basic set operations and statements of logic.
- **HCC 1.2** Analyze subsets and set operations.
- **HCC 1.3** Analyze statements and quantifiers.
- **HCC 1.4** Construct truth tables with two components only.

Cycle 4		27 Days Jan. 19 - Feb. 25, 2022	<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	<b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b> The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course. <b>The student will:</b>	
<b>Unit 10: Absolute Value Equations, Inequalities, and Functions</b> Students solve, analyze, and graph absolute value equations and inequalities.	4 class periods (90-min. each) or 8 class periods (45-min. each)  <i>Teacher Service Day/Presidents' Day (no students) Feb. 21</i>	<p><b>Mathematical Process Standards.</b> The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓟ <b>CPM.1B</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.</li> <li>Ⓟ <b>CPM.1D</b> Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</li> <li>Ⓟ <b>CPM.1F</b> Analyze mathematical relationships to connect and communicate mathematical ideas.</li> </ul> <p><b>Attributes of Functions and Their Inverses.</b> The student applies mathematical processes to understand that functions have distinct key attributes and to understand the relationship between a function and its inverse. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓡ <b>ALGII.2A</b> Graph the functions, <math>f(x) = \sqrt{x}</math>, <math>f(x) = \frac{1}{x}</math>, <math>f(x) = x^3</math>, <math>f(x) = \sqrt[3]{x}</math>, <math>f(x) = b^x</math>, <math>f(x) =  x </math>, and <math>f(x) = \log_b(x)</math> 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.</li> <li>Ⓡ <b>ALGII.2C</b> 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.</li> </ul> <p><b>Cubic, Cube Root, Absolute Value and Rational Functions, Equations, and Inequalities.</b> The student applies mathematical processes to understand that cubic, cube root, rational, and <b>absolute value functions and inequalities</b> can be used to model situations, solve problems, and make predictions. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓢ <b>ALGII.6D</b> Formulate absolute value linear equations.</li> <li>Ⓢ <b>ALGII.6E</b> Solve absolute value linear equations.</li> <li>Ⓢ <b>ALGII.6F</b> Solve absolute value linear inequalities.</li> </ul>	

Cycle 4	27 Days Jan. 19 - Feb. 25, 2022	<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	<b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b>  The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.  <b>The student will:</b>
		<b>Number and Algebraic Methods.</b> The student applies mathematical processes to simplify and perform operations on expressions and to solve equations. The student is expected to:  Ⓢ <b>ALGII.7I</b> Write the domain and range of a function in interval notation, inequalities and set notation.
<b>Unit 11: Factoring Completely</b> Students use factoring techniques including factoring by grouping, completing the square, sum of two cubes, and difference of two cubes to factor polynomials.	<b>3.5</b> class periods (90-min. each) or <b>7</b> class periods (45-min. each)	<b>Mathematical Process Standards.</b> The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: Ⓢ <b>CPM.1A</b> Apply mathematics to problems arising in everyday life, society, and the workplace. Ⓢ <b>CPM.1B</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. Ⓢ <b>CPM.1E</b> Create and use representations to organize, record, and communicate mathematical ideas.  <b>Number and Algebraic Methods.</b> 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:  Ⓢ <b>ALGI.10B</b> Multiply polynomials of degree one and degree two.  Ⓢ <b>ALGI.10C</b> 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.  Ⓢ <b>ALGI.10D</b> Rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property.  Ⓢ <b>ALGI.10E</b> Factor, if possible, trinomials with real factors in the form $ax^2 + bx + c$ , including perfect square trinomials of degree two.  Ⓢ <b>ALGI.10F</b> 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.

Cycle 4	27 Days Jan. 19 - Feb. 25, 2022	<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	<b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b> The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course. <b>The student will:</b>
		<p><b>Number and Algebraic Methods.</b> The student applies mathematical processes to simplify and perform operations on expressions and to solve equations. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓒ <b>ALGII.7C</b> 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.</li> <li>Ⓒ <b>ALGII.7D</b> Determine the linear factors of a polynomial function of degree three and of degree four using algebraic methods.</li> <li>Ⓐ <b>ALGII.7E</b> 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.</li> <li>Ⓐ <b>ALGII.7F</b> Determine the sum, difference, product, and quotient of rational expressions with integral exponents of degree one and degree two.</li> </ul>
<p><b>Unit 12: Transformations and Attributes of Quadratic Functions</b>                      Students analyze the transformation of a quadratic function in <math>f(x) = ax^2 + bx + c</math> and <math>f(x) = a(x - h)^2 + k</math> forms through multiple representations.</p>	<p><b>3.5</b> class periods (90-min. each)                      or  <b>7</b> class periods (45-min. each)</p>	<p><b>Mathematical Process Standards.</b> The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓒ <b>CPM.1D</b> Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</li> <li>Ⓒ <b>CPM.1G</b> Display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication.</li> </ul> <p><b>Quadratic functions and equations.</b> 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.</p> <ul style="list-style-type: none"> <li>Ⓐ <b>ALG.6A</b> Determine the domain and range of quadratic functions and represent the domain and range using inequalities. The student is expected to:</li> <li>Ⓒ <b>ALG.6B</b> Write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (<math>f(x) = a(x - h)^2 + k</math>), and rewrite the equation from vertex form to standard form (<math>f(x) = ax^2 + bx + c</math>).</li> </ul> <p><b>Quadratic Functions and Equations.</b> 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>

Cycle 4	27 Days Jan. 19 - Feb. 25, 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	<b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b> The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course. <b>The student will:</b>
		<p>Ⓡ <b>ALG.7A</b> 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>Ⓡ <b>ALG.7C</b> Determine the effects on the graph of the parent function <math>f(x) = x^2</math> when <math>f(x)</math> is replaced by <math>af(x)</math>, <math>f(x) + d</math>, <math>f(x - c)</math>, <math>f(bx)</math> for specific values of <math>a</math>, <math>b</math>, <math>c</math>, and <math>d</math>.</p> <p><b>Quadratic and Square Root Functions, Equations, and Inequalities.</b> The student applies mathematical processes to understand that quadratic and square root functions, equations, and quadratic inequalities can be used to model situations, solve problems, and make predictions. The student is expected to:</p> <p>Ⓡ <b>ALGII.4B</b> Write the equation of a parabola using given attributes, including vertex, focus, directrix, axis of symmetry, and direction of opening.</p> <p>Ⓢ <b>ALGII.4D</b> Transform a quadratic function <math>f(x) = ax^2 + bx + c</math> to the form <math>f(x) = a(x - h)^2 + k</math> to identify the different attributes of <math>f(x)</math>.</p> <p><b>Number and Algebraic Methods.</b> The student applies mathematical processes to simplify and perform operations on expressions and to solve equations. The student is expected to:</p> <p>Ⓢ <b>ALGII.7I</b> Write the domain and range of a function in interval notation, inequalities and set notation.</p>

Cycle 5	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.
	Feb. 28 - Apr. 22, 2022	
Unit	# Class Periods	<p><b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b></p> <p>The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p><b>The student will:</b></p>
<p><b>Unit 13: Quadratic Equations, Inequalities, and Functions</b> Students write, and solve quadratic equations by factoring, completing the square, and applying the quadratic formula, and apply these methods to solving real-world problems.</p>	<p><b>3.5</b> class periods (90-min. each) or <b>7</b> class periods (45-min. each)</p> <p><i>Enrichment Opportunities</i> Mar. 14-16</p> <p><i>Spring Break</i> Mar. 14-18</p> <p><i>Chávez-Huerta Day</i> Mar. 28</p> <p><i>Spring Holiday</i> Apr. 15</p>	<p><b>Mathematical Process Standards.</b> The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓟ <b>CPM.1A</b> Apply mathematics to problems arising in everyday life, society, and the workplace.</p> <p>Ⓟ <b>CPM.1B</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.</p> <p>Ⓟ <b>CPM.1E</b> Create and use representations to organize, record, and communicate mathematical ideas.</p> <p><b>Quadratic Functions and Equations.</b> 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>Ⓡ <b>ALGI.8A</b> Solve quadratic equations, having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.</p> <p><b>Quadratic and Square Root Functions, Equations, and Inequalities.</b> The student applies mathematical processes to understand that quadratic and square root functions, equations, and quadratic inequalities can be used to model situations, solve problems, and make predictions. The student is expected to:</p> <p>Ⓢ <b>ALGII.4A</b> Write the quadratic function given three specified points in the plane.</p> <p>Ⓢ <b>ALGII.4B</b> Write the equation of a parabola using given attributes, including vertex, focus, directrix, axis of symmetry, and direction of opening.</p> <p>Ⓢ <b>ALGII.4F</b> Solve quadratic and square root equations.</p> <p>Ⓢ <b>ALGII.4H</b> Solve quadratic inequalities.</p> <p><b>Number and Algebraic Methods.</b> The student applies mathematical processes to simplify and perform operations on expressions and to solve equations. The student is expected to:</p> <p>Ⓢ <b>ALGII.7I</b> Write the domain and range of a function in interval notation, inequalities and set notation.</p>

Cycle 5		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.
		Feb. 28 - Apr. 22, 2022	
Unit	# Class Periods	<b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b> The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course. <b>The student will:</b>	
<b>Unit 14: Systems of Quadratic and Linear Equations</b> Students analyze a system of equations in two variables consisting of a linear equation and a quadratic equation.	<b>3</b> class periods (90-min. each) or <b>6</b> class periods (45-min. each)	<p><b>Mathematical Process Standards.</b> The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓟ <b>CPM.1A</b> Apply mathematics to problems arising in everyday life, society, and the workplace.</li> <li>Ⓟ <b>CPM.1C</b> 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.</li> <li>Ⓟ <b>CPM.1D</b> Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</li> </ul> <p><b>Linear Functions, Equations, and Inequalities.</b> 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"> <li>Ⓢ <b>ALGI.3F</b> Graph systems of two linear equations in two variables on the coordinate plane and determine the solutions if they exist.</li> <li>Ⓢ <b>ALGI.3G</b> Estimate graphically the solutions to systems of two linear equations with two variables in real-world problems.</li> </ul> <p><b>Systems of Equations and Inequalities.</b> The student applies mathematical processes to formulate systems of equations and inequalities, to use a variety of methods to solve, and to analyze reasonableness of solutions. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓢ <b>ALGII.3C</b> Solve, algebraically, systems of two equations in two variables consisting of a linear equation and a quadratic equation.</li> </ul>	

Cycle 5		33 Days Feb. 28 - Apr. 22, 2022	<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	<b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b> The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course. <b>The student will:</b>	
<b>Unit 15: Operations with Complex Numbers</b> Students will be able to analyze and perform operations with complex numbers.	3 class periods (90-min. each) or 6 class periods (45-min. each)	<b>Mathematical Process Standards.</b> The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: Ⓢ <b>CPM.1B</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. Ⓢ <b>CPM.1C</b> 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. Ⓢ <b>CPM.1F</b> Analyze mathematical relationships to connect and communicate mathematical idea. <b>Number and Algebraic Methods.</b> The student applies mathematical processes to simplify and perform operations on expressions and to solve equations. The student is expected to: Ⓢ <b>ALGII.7A</b> Add, subtract, and multiply complex numbers. Ⓢ <b>ALGII.7B</b> Add, subtract, and multiply polynomials. Ⓢ <b>ALGII.7D</b> Determine the linear factors of a polynomial function of degree three and of degree four using algebraic methods. Ⓢ <b>ALGII.7E</b> 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.	
<b>Unit 16: Root Functions</b> Students analyze, perform operations on, and solve equations and application problems involving radical expressions.	3.5 class periods (90-min. each) or 7 class periods (45-min. each)	<b>Mathematical Process Standards.</b> The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: Ⓢ <b>ALGII.1C</b> 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. Ⓢ <b>ALGII.1F</b> Analyze mathematical relationships to connect and communicate mathematical ideas.	



Cycle 5	33 Days Feb. 28 - Apr. 22, 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	<b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b>  The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.  <b>The student will:</b>
		<p><b>Attributes of Functions and Their Inverses.</b> The student applies mathematical processes to understand that functions have distinct key attributes and to understand the relationship between a function and its inverse. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓡ <b>ALGII.2A</b> Graph the functions, <math>f(x) = \sqrt{x}</math>, <math>f(x) = \frac{1}{x}</math>, <math>f(x) = x^3</math>, <math>f(x) = \sqrt[3]{x}</math>, <math>f(x) = b^x</math>, <math>f(x) =  x </math>, and <math>f(x) = \log_b x</math> where <math>b</math> is 2, 10, and <math>e</math> and when applicable <b>analyze the key attributes such as domain, range, intercepts, symmetries</b>, asymptotic behavior, and <b>maximum and minimum</b>.</li> <li>Ⓢ <b>ALGII.2B</b> Graph and write the inverse of a function using notation such as <math>f^{-1}(x)</math>.</li> <li>Ⓡ <b>ALGII.2C</b> Describe and analyze the relationship between a function and its inverse (<b>quadratic and square root</b>, logarithmic and exponential), including the restriction(s) on domain, which will restrict its range.</li> </ul> <p><b>Quadratic and Square Root Functions, Equations, and Inequalities.</b> The student applies mathematical processes to understand that quadratic and square root functions, equations, and quadratic inequalities can be used to model situations, solve problems, and make predictions. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓡ <b>ALGII.4C</b> Determine the effect on the graph of <math>f(x) = \sqrt{x}</math> when <math>f(x)</math> is replaced by <math>af(x)</math>, <math>f(x) + d</math>, <math>f(bx)</math>, and <math>f(x - c)</math> for specific positive and negative values of <math>a</math>, <math>b</math>, <math>c</math>, and <math>d</math>.</li> <li>Ⓢ <b>ALGII.4E</b> Formulate quadratic and <b>square root equations using technology given a table of data</b>.</li> <li>Ⓡ <b>ALGII.4F</b> Solve quadratic and <b>square root equations</b>.</li> <li>Ⓢ <b>ALGII.4G</b> Identify extraneous solutions of square root equations.</li> </ul> <p><b>Cubic, Cube Root, Absolute Value and Rational Functions, Equations, and Inequalities.</b> The student applies mathematical processes to understand that cubic, cube root, rational, and absolute value functions and inequalities can be used to model situations, solve problems, and make predictions. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓢ <b>ALGII.6B</b> Solve cube root equations that have real roots.</li> </ul>

<b>Cycle 5</b>	<b>33 Days</b>	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.
	Feb. 28 - Apr. 22, 2022	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)
		<p>The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p><b>The student will:</b></p> <p><b>Number and Algebraic Methods.</b> The student applies mathematical processes to simplify and perform operations on expressions and to solve equations. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓢ <b>ALGII.7G</b> Rewrite radical expressions that contain variables to equivalent forms.</li> <li>Ⓡ <b>ALGII.7H</b> Solve equations involving rational exponents.</li> </ul>

Cycle 6	31 Days Apr. 25 - June 7, 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	<p align="center"><b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b></p> <p>The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p><b>The student will:</b></p>
<p><b>Unit 17: Rational Equations and Functions</b> Students analyze rational equations and functions through graphs, tables, and algebraic methods.</p>	<p><b>3.5</b> class periods (90-min. each) or <b>7</b> class periods (45-min. each)</p> <p><i>Memorial Day May 30</i></p> <p><i>Teacher Prep Day (no students) June 8</i></p>	<p><b>Mathematical Process Standards.</b> The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓟ <b>CPM.1D</b> Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</li> <li>Ⓟ <b>CPM.1G</b> Display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication.</li> </ul> <p><b>Attributes of Functions and Their Inverses.</b> The student applies mathematical processes to understand that functions have distinct key attributes and to understand the relationship between a function and its inverse. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓡ <b>ALGII.2A</b> Graph the functions, <math>f(x) = \sqrt{x}</math>, <math>f(x) = \frac{1}{x}</math>, <math>f(x)=x^3</math>, <math>f(x) = \sqrt[3]{x}</math>, <math>f(x)=b^x</math>, <math>f(x) =  x </math>, and <math>f(x) = \log_b x</math> where b is 2, 10, and e <b>and when applicable analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior,</b> and maximum and minimum.</li> <li>Ⓢ <b>ALGII.2B</b> Graph and write the inverse of a function using notation such as <math>f^{-1}(x)</math>.</li> </ul> <p><b>Cubic, Cube Root, Absolute Value and Rational Functions, Equations, and Inequalities.</b> The student applies mathematical processes to understand that cubic, cube root, rational, and absolute value functions and inequalities can be used to model situations, solve problems, and make predictions. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓢ <b>ALGII.6H</b> Formulate rational equations that model real-world situations.</li> <li>Ⓡ <b>ALGII.6I</b> Solve rational equations that have real solutions.</li> <li>Ⓢ <b>ALGII.6J</b> Determine the reasonableness of a solution to a rational equation.</li> <li>Ⓢ <b>ALGII.6K</b> Determine the asymptotic restrictions on the domain of a rational function and represent domain and range using interval notation, inequalities, and set notation.</li> <li>Ⓡ <b>ALGII.6L</b> Formulate and solve equations involving inverse variation.</li> </ul>

Cycle 6	31 Days Apr. 25 - June 7, 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	<p align="center"><b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b></p> <p>The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p><b>The student will:</b></p>
<p><b>Unit 18: Exponential and Logarithmic Functions</b> Students graph, analyze, and solve exponential and logarithmic functions and equations.</p>	<p><b>3.5</b> class periods (90-min. each) or <b>7</b> class periods (45-min. each)</p>	<p><b>Mathematical Process Standards.</b> The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓢ <b>CPM.1A</b> Apply mathematics to problems arising in everyday life, society, and the workplace.</li> <li>Ⓢ <b>CPM.1E</b> Create and use representations to organize, record, and communicate mathematical ideas.</li> <li>Ⓢ <b>CPM.1F</b> Analyze mathematical relationships to connect and communicate mathematical ideas.</li> </ul> <p><b>Exponential Functions and Equations.</b> 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"> <li>Ⓢ <b>ALGI.9A</b> Determine the domain and range of exponential functions of the form <math>f(x) = ab^x</math> and represent the domain and range using inequalities.</li> <li>Ⓢ <b>ALGI.9B</b> Interpret the meaning of the values of <math>a</math> and <math>b</math> in exponential functions of the form <math>f(x) = a \cdot b^x</math> in real-world problems.</li> <li>Ⓡ <b>ALGI.9C</b> Write exponential functions in the form <math>f(x) = a \cdot b^x</math> (where <math>b</math> is a rational number) to describe problems arising from mathematical and real-world situations including growth and decay.</li> <li>Ⓡ <b>ALGI.9D</b> Graph exponential functions that model growth and decay and identify key features, including <math>y</math>-intercept and asymptote, in mathematical and real-world problems.</li> </ul> <p><b>Exponential and Logarithmic Functions and Equations.</b> The student applies mathematical processes to understand that exponential and logarithmic functions can be used to model situations and solve problems. The student is expected to:</p> <ul style="list-style-type: none"> <li>Ⓡ <b>ALGII.5A</b> Determine the effects on the key attributes on the graphs of <math>f(x) = b^x</math> and <math>f(x) = \log_b(x)</math>, where <math>b</math> is 2, 10 and <math>e</math> when <math>f(x)</math> is replaced by <math>a f(x)</math>, <math>f(x) + d</math>, and <math>f(x - c)</math> for specific positive and negative real values of <math>a</math>, <math>c</math>, and <math>d</math>.</li> </ul>

Cycle 6	31 Days Apr. 25 - June 7, 2022	<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	<p align="center"><b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b></p> <p>The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p><b>The student will:</b></p>
		<p>Ⓢ <b>ALGII.5B</b> Formulate exponential and logarithmic equations that model real-world situations including exponential relationships written in recursive notation.</p> <p>Ⓡ <b>ALGII.5D</b> Solve exponential equations of the form <math>y = a \cdot b^x</math> where <math>a</math> is a nonzero real number and <math>b</math> is greater than zero and not equal to one and single logarithmic equations having real solutions.</p> <p><b>Number and Algebraic Methods.</b> The student applies mathematical processes to simplify and perform operations on expressions and to solve equations. The student is expected to:</p> <p>Ⓢ <b>ALGII.7I</b> Write the domain and range of a function in interval notation, inequalities and set notation.</p>
<p><b>Unit 19: Data Analysis, Statistics, and Probability</b> Students analyze data, statistical models, and probability situations and evaluate models of regressions in real-world contexts.</p>	<p>3.5 class periods (90-min. each) or 7 class periods (45-min. each)</p>	<p><b>Mathematical Process Standards.</b> The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓢ <b>CPM.1D</b> Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</p> <p>Ⓢ <b>CPM.1F</b> Analyze mathematical relationships to connect and communicate mathematical ideas.</p> <p>Ⓢ <b>CPM.1G</b> Display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication.</p> <p><b>Linear Functions, Equations, and Inequalities.</b> 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> <p>Ⓢ <b>ALGI.4A</b> Calculate, using technology, the correlation coefficient between two quantitative variables and interpret this quantity as a measure of the strength of the linear association.</p> <p>Ⓢ <b>ALGI.4B</b> Compare and contrast association and causation in real-world problems.</p> <p>Ⓢ <b>ALGI.4C</b> 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>

Cycle 6	31 Days Apr. 25 - June 7, 2022	<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	<p align="center"><b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b></p> <p>The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p><b>The student will:</b></p>
		<p><b>Quadratic Functions and Equations.</b> 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>Ⓢ <b>ALGI.8B</b> Write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.</p> <p><b>Exponential Functions and Equations.</b> 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>Ⓢ <b>ALGI.9E</b> Write, using technology, exponential functions that provide a reasonable fit to data and make predictions for real-world problems.</p> <p><b>Quadratic and Square Root Functions, Equations, and Inequalities.</b> The student applies mathematical processes to understand that quadratic and square root functions, equations, and quadratic inequalities can be used to model situations, solve problems, and make predictions. The student is expected to:</p> <p>Ⓢ <b>ALGII.4E</b> Formulate quadratic and square root equations using technology given a table of data.</p> <p><b>Number and Algebraic Methods.</b> The student applies mathematical processes to simplify and perform operations on expressions and to solve equations. The student is expected to:</p> <p>Ⓢ <b>ALGII.7I</b> Write the domain and range of a function in interval notation, inequalities and set notation.</p> <p><b>Data.</b> The student applies mathematical processes to analyze data, select appropriate models, write corresponding functions, and make predictions. The student is expected to:</p>

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	Apr. 25 - June 7, 2022	
Unit	# Class Periods	<p align="center"><b>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</b></p> <p>The <b>bold face</b> words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p><b>The student will:</b></p>
		<p>Ⓒ <b>ALGII.8A</b> Analyze data to select the appropriate model from among linear, quadratic, and exponential models.</p> <p>Ⓒ <b>ALGII.8B</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.</p> <p>Ⓔ <b>ALGII.8C</b> Predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.</p>