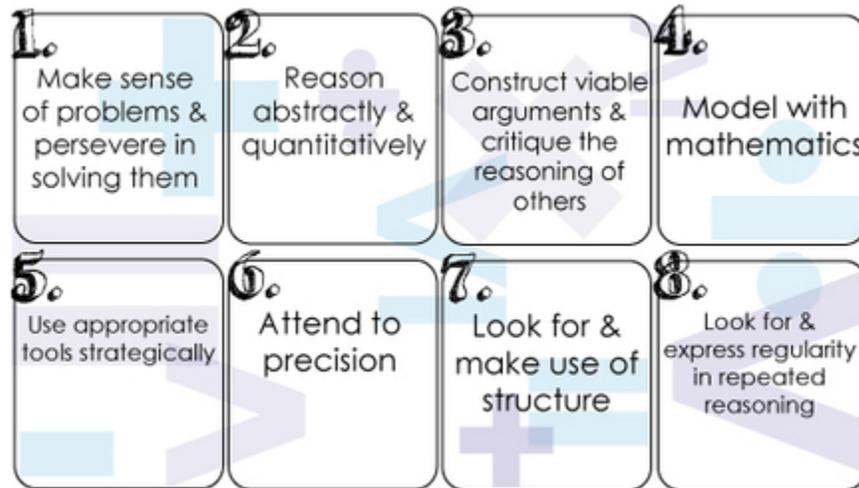# Huntsville City Schools
Pacing Guide 2017 - 2018
Course Algebra IB Ninth or Tenth Grade

Content standards in Algebra IB should focus on irrational numbers, geometric sequences, and quadratic and exponential functions. Standards 1, 2, 3, 7, 7a, 7b, 8, 9, 9a, 9b, 9c, 9d, 10, 11, 12, 13, 16, 18, 18a, 18b, 21, 23, 27, 28, 29, 30, 31, 31a, 31b, 32, 32a, 32b, 33, 34, 34a, 34b, 35, 36, 37, 37a, 37c, 38, 39, 40, 41, 42, 43, 44, 45, 45a, 45b, and 47 must be taught in the Algebra IB course.

Note: Please see documents on A+ College Ready website for more details.
Ixl.com alignment for Pearson textbook is in the table at the end of the pacing guide.

1. Make sense of problems & persevere in solving them	2. Reason abstractly & quantitatively	3. Construct viable arguments & critique the reasoning of others	4. Model with mathematics
5. Use appropriate tools strategically	6. Attend to precision	7. Look for & make use of structure	8. Look for & express regularity in repeated reasoning

Links and Additional Resources

- **Dan Meyer Blog**
  http://blog.mrmeyer.com/category/3acts/
- **Dan Meyer List of Activities**
  https://docs.google.com/spreadsheet/ccc?key=0AjIqyKM9d7ZYdEhtR3BJMmdBWnM2YWxWYVM1UWowTEE#gid=0
- **Granite City Math Vocabulary**
  http://www.graniteschools.org/mathvocabulary/

Things to Remember:
1. Mixed Reviews are at end of each section. The teacher book has a list of standards next to questions.
2. Interactmath.com, commoncorepal.com, and poweralgbra.com are good resources for practice and review.
3. Cumulative Standards Review is located at the end of each chapter for in-depth practice problem.

Huntsville City Schools
Pacing Guide 2017 - 2018
Algebra IB Ninth or Tenth Grade
First Nine Weeks
Chapter 5: Linear Functions and 7: Exponents & Exponential Functions

Highlighted section is the main idea Content Standard

Standard	Resources	Approximate Pacing Number of Days: 21
Linear Functions		**Into for 1 day**
ALCOS 30: Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph. * [F-IF6]	**Section 5.1 Rate of Change**	

ALCOS 7: Interpret expressions that represent a quantity in terms of its context. [A-SSE1]
    a. Interpret parts of an expression such as terms, factors, and coefficients. [A-SSE1a]
 ALCOS 8: Use the structure of an expression to identify ways to rewrite it. [A-SSE2]
 ALCOS 13: Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. [A-CED2]
 ALCOS 28: For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* [F-IF4]
 ALCOS 31: Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. * [F-IF7]
    a. Graph linear and quadratic functions, and show intercepts, maxima, and minima. [F-IF7a]
	Section 5.3 Slope-intercept form
	
	 FAL: Representing Linear and Exponential Growth
		2 days extra time
		
		 There is extra time built in if needed for Ch 5.
		
		 The extra time is also built in for assemblies, weather, testing, ectara.
		
		 5 Days
		 Section 5.1, 5.3 & 5.4
		 Review & Test
		
		 1 day for 5.1
		 1 day for 5.3
		 1 day for 5.4
		 1 day for review
		 1 day for test

ALCOS 34: Write a function that describes a relationship between two quantities.* [F-BF1] a. Determine an explicit expression, a recursive process, or steps for calculation from a context. [F-BF1a] **ALCOS 36:** Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k\,f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them. [F-BF3] **ALCOS 38:** Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). [F-LE2] **ALCOS 40:** Interpret the parameters in a linear or exponential function in terms of a context. [F-LE5]		

ALCOS 7: Interpret expressions that represent a quantity in terms of its context. [A-SSE1]
    a. Interpret parts of an expression such as terms, factors, and coefficients. [A-SSE1a]
ALCOS 8: Use the structure of an expression to identify ways to rewrite it. [A-SSE2]
ALCOS 13: Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. [A-CED2]
ALCOS 28: For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* [F-IF4]
ALCOS 31: Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.* [F-IF7]
    a. Graph linear and quadratic functions, and show intercepts, maxima, and minima. [F-IF7a]
	Section 5.4 Point-slope form	

ALCOS 34: Write a function that describes a relationship between two quantities.* [F-BF1] a. Determine an explicit expression, a recursive process, or steps for calculation from a context. [F-BF1a] **ALCOS 36:** Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them. [F-BF3] <mark>**ALCOS 38:** Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). [F-LE2]</mark> **ALCOS 40:** Interpret the parameters in a linear or exponential function in terms of a context. [F-LE5]		
ALCOS 5: Define appropriate quantities for the purpose of descriptive modeling. [N-Q2] **ALCOS 8:** Use the structure of an expression to identify ways to rewrite it. [A-SSE2] <mark>**ALCOS 13:** Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. [A-CED2]</mark> **ALCOS 28:** For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* [F-IF4] **ALCOS 31:** Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.* [F-IF7] b. Graph linear and quadratic functions, and show intercepts, maxima, and minima. [F-IF7a] **ALCOS 33:** Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). [F-IF9]	**Section 5.5 Standard form** **FAL:** [Interpreting Data: Muddying the Water](#)	**4 days** **Section 5.5 & 5.7** **Review & test** **1 day for 5.5** **1 day for 5.7** **1 day for review** **1 day for test**

ALCOS 34: Write a function that describes a relationship between two quantities.* [F-BF1] b. Determine an explicit expression, a recursive process, or steps for calculation from a context. [F-BF1a] **ALCOS 38:** Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). [F-LE2] **ALCOS 40:** Interpret the parameters in a linear or exponential function in terms of a context. [F-LE5]		

ALCOS4: Use units as a way to understand problems and to guide the solution of multistep problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. [N-Q1]
ALCOS 40: Interpret the parameters in a linear or exponential function in terms of a context. [F-LE5]
ALCOS 45: Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. [S-ID6]
    a. Fit a function to the data; use functions fitted to data to solve problems in the context of data. Use given function or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models. [S-ID6a]
    c. Fit a linear function for a scatter plot that suggests a linear association. [S-ID6c]
ALCOS 46: Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data. [S-ID7]
	Section 5.7 Scatter plots and trend lines
	
	FAL: Devising a Measure: Correlation	

Prepares for later sections.	**Section 7.1 Zero and negative exponents.**	**4 or 5 days**
ALCOS 1: Explain how the definition of the meaning of rational exponents follows from extending the properties of integer's exponents to those values, allowing for a notation for radicals in terms of rational exponents. [N-RN1]	**Section 7.2 Multiplying powers with the same base**	**1 day for 7.1** **1 day for 7.2** **1 day for 7.3** **Or 7.2&7.3 can be done in 1 day**
ALCOS 1: Explain how the definition of the meaning of rational exponents follows from extending the properties of integer's exponents to those values, allowing for a notation for radicals in terms of rational exponents. [N-RN1]	**Section 7.3 More multiplication properties of exponents**	**1 day for 7.4** **1 day for review** **1 day for test**

		You can split this into 2 tests if you did not use extra time in Ch 5
ALCOS 1: <mark>Explain how the definition of the meaning of rational exponents follows from extending the properties of integer's exponents to those values, allowing for a notation for radicals in terms of rational exponents.</mark> [N-RN1]	**Section 7.4 Division properties of exponents**	
ALCOS 2: <mark>Rewrite expressions involving radicals and rational exponents using the properties of exponents.</mark> [N-RN2]	**Section 7.5 Rational exponents and radicals**	

ALCOS 32: Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. [F-IF8]
 	
 <mark>expressions for exponential functions.</mark> [F-IF8b]
 b. Use the properties of exponents to interpret
 ALCOS 7: Interpret expressions that represent a quantity in terms of its context. [A-SSE1]
     b.   Interpret complicated expressions by viewing one or more of their parts as a single entity. [A-SSE1b]
 ALCOS 9: Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. [A-SSE3]
     c. Use the properties of exponents to transform expressions for exponential functions. [A-SSE3c]
 ALCOS 13: Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. [A-CED2]
 ALCOS 28: For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* [F-IF4]
 ALCOS 36: Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing
	Section 7.7 Exponential growth and decay	**4 days**
		 1 day for 7.5
		 1 day for 7.7
		 1 day for review
		 1 day for test

even and odd functions from their graphs and algebraic expressions for them. [F-BF3] **ALCOS 37:** Distinguish between situations that can be modeled with linear functions and with exponential functions. [F-LE1] c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another. [F-LE1c] **ALCOS 40:** Interpret the parameters in a linear or exponential function in terms of a context. [F-LE5]		

Huntsville City Schools
Pacing Guide 2017 - 2018
Algebra IB Ninth or Tenth Grade
Second Nine Weeks
Chapter 8 Polynomials & Factoring

Standard	Resources	Approximate Pacing Number of Days: 19 days
ALCOS 10: Understand that polynomials form a system analogous to the integers; namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials. [A-APR1]	**Section 8.1 Adding & subtracting polynomials**	**There are 3 extra days built in. Two Exam days are already accounted for. The extra days can be used for the factoring sections, a review for the exam, or assemblies, weather, testing, ectara.**
ALCOS 10: Understand that polynomials form a system analogous to the integers; namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials. [A-APR1]	**Section 8.2 Multiplying & factoring**	**4 days 1 day 8.1 1 day 8.2 1 day Review 1 day test**
ALCOS 10: Understand that polynomials form a system analogous to the integers; namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials. [A-APR1]	**Section 8.3 Multiplying binomials**	**4 days 1 day 8.3 1 day 8.4 1 day Review 1 day test**
ALCOS 10: Understand that polynomials form a system analogous to the integers; namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials. [A-APR1]	**Section 8.4 Multiplying special cases**	
ALCOS 7: Interpret expressions that represent a quantity in terms of its context. [A-SSE1] a. Interpret parts of an expression such as terms, factors, and coefficients. [A-SSE1a]	**Section 8.8 Factoring by grouping**	**4 days 1 day 8.8 1 day 8.5 1 day Review**

ALCOS 7: Interpret expressions that represent a quantity in terms of its context. [A-SSE1] a. ==Interpret parts of an expression such as terms, factors, and coefficients. [A-SSE1a]==	**Section 8.5 Factoring $x^2 + bx + c$** **Start by using group factoring techniques then move to putting the numbers in parentheses.**	**1 day test**
ALCOS 7: Interpret expressions that represent a quantity in terms of its context. [A-SSE1] a. ==Interpret parts of an expression such as terms, factors, and coefficients. [A-SSE1a]==	**Section 8.6 Factoring $ax^2 + bx + c$** **Use group factoring technique**	

ALCOS 7: Interpret expressions that represent a quantity in terms of its context. [A-SSE1]
   a. ==Interpret parts of an expression such as terms, factors, and coefficients. [A-SSE1a]==
   b. Interpret complicated expressions by viewing one or more of their parts as a single entity. [A-SSE1b]
ALCOS 8: Use the structure of an expression to identify ways to rewrite it. [A-SSE2]
	Section 8.7 Factoring Special Cases	**4 days**
		1 day 8.6
		1 day 8.7
		1 day Review
		1 day test

Huntsville City Schools
Pacing Guide 2016 - 2017
Algebra IB Ninth or Tenth Grade
Third Nine Weeks
Chapter 9 Quadratic Functions and Equations

Standard	Resources	Approximate Pacing Number of Days: 20 days
ALCOS 13: Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. [A-CED2] **ALCOS 28:** For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* [F-IF4] **ALCOS 29:** Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.* [F-IF5] **ALCOS 31:** Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.* [F-IF7] a. Graph linear and quadratic functions, and show intercepts, maxima, and minima. [F-IF7a] **ALCOS 36:** Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them. [F-BF3]	**9.1 Quadratic graphs and their properties** **(Review factoring)**	**There are 4 extra days. The more difficult sections are 9.4,5,6,&8.** **The extra time is also built in for assemblies, weather, testing, ectara.** **4 days** **1 day 9.1** **1 day 9.2** **1 day Review** **1 day test**

ALCOS 13: Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. [A-CED2]
ALCOS 28: For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* [F-IF4]
ALCOS 31: Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.* [F-IF7]
    a. Graph linear and quadratic functions, and show intercepts, maxima, and minima. [F-IF7a]
ALCOS 32: Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. [F-IF8]
    a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context. [F-IF8a]
ALCOS 33: Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). [F-IF9]
ALCOS 36: Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them. [F-BF3]
	**9.2 Quadratic Functions
	(Review factoring)**	

ALCOS 5: Define appropriate quantities for the purpose of descriptive modeling. [N-Q2] **ALCOS 12:** Create equations and inequalities in one variable, and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions. [A-CED1]	**9.3 Solving Quadratic Equations (Review factoring) FAL:** Solving Quadratic Equations	**4 days 1 day 9.3 1 day 9.4 1 day Review 1 day test**

ALCOS15: Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. [A-CED4] **ALCOS 18:** Solve quadratic equations in one variable. [A-REI4] b. Solve quadratic equations by inspection (e.g., for $x2 = 49$), taking square roots, completing the square and the quadratic formula, and factoring as appropriate to the initial form of the equation. [A-REI4b]		

ALCOS 9: Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. [A-SSE3]
   a. Factor a quadratic expression to reveal the zeros of the function it defines. [A-SSE3a]
ALCOS 12: Create equations and inequalities in one variable, and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions. [A-CED1]
ALCOS 18: Solve quadratic equations in one variable. [A-REI4]
   b. Solve quadratic equations by inspection (e.g., for $x2 = 49$), taking square roots, completing the square and the quadratic formula, and factoring as appropriate to the initial form of the equation. [A-REI4b]
ALCOS 32: Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. [F-IF8]
   a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context. [F-IF8a]
	9.4 Factoring to solve quadratic equations	

ALCOS 6: Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. [N-Q3] **ALCOS 7:** Interpret expressions that represent a quantity in terms of its context. [A-SSE1] a. Interpret parts of an expression such as terms, factors, and coefficients. [A-SSE1a]	**9.5 Completing the square**	**4 days** **1 day 9.5** **1 day 9.6** **1 day Review** **1 day test**

b. Interpret complicated expressions by viewing one or more of their parts as a single entity. [A-SSE1b]
ALCOS 9: Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. [A-SSE3]
    b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. [A-SSE3b]
ALCOS 12: Create equations and inequalities in one variable, and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions. [A-CED1]
ALCOS 16: Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method. [A-REI1]
ALCOS 18: Solve quadratic equations in one variable. [A-REI4]
  a. ==Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)2 = q$ that has the same solutions. Derive the quadratic formula from this form. [A-REI4a]==
  b. Solve quadratic equations by inspection (e.g., for $x2 = 49$), taking square roots, completing the square and the quadratic formula, and factoring as appropriate to the initial form of the equation. [A-REI4b]
ALCOS 32: Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. [F-IF8]
    a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context. [F-IF8a]		

ALCOS 6: Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. [N-Q3] **ALCOS 12:** Create equations and inequalities in one variable, and use them to solve problems. Include equations arising	**Section 9.6 The quadratic formula and the discriminant**	

from linear and quadratic functions, and simple rational and exponential functions. [A-CED1]
ALCOS 18: Solve quadratic equations in one variable. [A-REI4]
   a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)2 = q$ that has the same solutions. Derive the quadratic formula from this form. [A-REI4a]
   b. Solve quadratic equations by inspection (e.g., for x2 = 49), taking square roots, completing the square and the quadratic formula, and factoring as appropriate to the initial form of the equation. [A-REI4b]		

ALCOS 28: For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* [F-IF4]
ALCOS 37: Distinguish between situations that can be modeled with linear functions and with exponential functions. [F-LE1]
   a. Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals. [F-LE1a]
ALCOS 38: Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). [F-LE2]
ALCOS 39: Observe, using graphs and tables, that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function. [F-LE3]
ALCOS 45: Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. [S-ID6]
   a. Fit a function to the data; use functions fitted to data to solve problems in the context of data. Use given function or choose a function suggested by the context.
	Section 9.7 Linear, quadratic and exponential models	**4 days**
		1 day 9.7
		1 day 9.8
		1 day Review
		1 day test

Emphasize linear, quadratic, and exponential models. [S-ID6a]		
ALCOS 13: Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. [A-CED2] **ALCOS 21:** Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. [A-REI7] **ALCOS 23:** Explain why the x-coordinates of the points where the graphs of the equations y = f(x) and y = g(x) intersect are the solutions of the equation f(x) = g(x); find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where f(x) and/or g(x) are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.* [A-REI11]	**Section 9.8 Systems of linear and quadratic equations**	

Huntsville City Schools
Pacing Guide 2016 - 2017
Algebra IB Ninth or Tenth Grade
Fourth Nine Weeks
Chapter 11 Rational expressions & functions
Chapter 12 Data analysis & probability

Standard	Resources	Approximate Pacing Number of Days: 25 Days
ALCOS 3: Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational. [N-RN3]	**CB 1.6 Operations with rational & irrational numbers** **FAL:** Evaluating Statements About Radicals	**7 extra days. Exam days are already accounted for. You will lose 2 days for ACT aspire testing. You will want a couple of days to review for the exam. The more difficult sections are 11.2 & 1.4.**
ALCOS 35: Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.* [F-BF2] **ALCOS 27:** Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. [F-IF3]	**Sections 4.7 & 7.8 Arithmetic & geometric sequences** **FAL:** Generalizing Patterns: Table Tiles	**4 days** **1 day CB 1.6** **1 day 4.7 & 7.8** **1 day review** **1 day test**

ALCOS 11: Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions. [A-APR7]	**Section 11.1 Simplifying rational expressions**	**4 days** **1 day 11.1** **1 day 11.2** **1 day review** **1 day test**
ALCOS 11: Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions. [A-APR7]	**Section 11.2 Multiplying & dividing rational expressions**	
ALCOS 11: Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions. [A-APR7]	**Section 11.4 Add & subtract rational expressions**	**3 days** **1 day 11.4** **1 day review** **1 day test**
ALCOS4: Use units as a way to understand problems and to guide the solution of multistep problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. [N-Q1] **ALCOS 41:** Represent data with plots on the real number line (dot plots, histograms, and box plots). [S-ID1]	**Section 12.2 Frequency & histograms**	**5 days** **1 day 12.2** **1 day 12.3** **1 day 12.4** **1 day review** **1 day test**
ALCOS 5: Define appropriate quantities for the purpose of descriptive modeling. [N-Q2] **ALCOS 42:** Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. [S-ID2] **ALCOS 43:** Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). [S-ID3]	**Section 12.3 Measures of central tendency**	
ALCOS4: Use units as a way to understand problems and to guide the solution of multistep problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. [N-Q1] **ALCOS 41:** Represent data with plots on the real number line (dot plots, histograms, and box plots). [S-ID1]	**Section 12.4 Box-and-whisker plots**	

ALCOS 42: Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. [S-ID2]		
Prepares for 12.8	**Section 12.7 Theoretical probability (only teach theoretical probability)**	**3 days** **1 day 12.7 & 12.8** **1 day review** **1 day test**
ALCOS 47: Understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent. [S-CP2]	**Section 12.8 Probability of compound events (only teach independent and dependent events)**	

IXL-Pearson Correlation Assignments

Pearson Chapter-Section	IXL Assignments	Pearson Chapter-Section	IXL Assignments
1.1	I.1, I.4	4.7	P.1-P.7
1.2	B.1, B.3, B.7 (Possibly V.1 & V.8)	5.1	S.2, S.3, S.4
1.3	A.1, A.2, A.4	5.2	R.1, R.2, R.3, R.4, R.5
1.4	H.1, H.2, H.3, H.4	5.3	S.5, S.6, S.7, S.8
1.5	B.2, B.4, B.6	5.4	S.17, S.18, S.19
1.6	A.3, A.7, B.5	5.5	S.12, S.13, S.14
1.7	(none)	5.6	S.20, S.21
1.8	I.5, I.6, I.7	5.7	N.6
1.9	J.2	5.8	DD.1, DD.2, DD.3, DD.4
2.1	J.3	6.1	U.1, U.2, U.4
2.2	J.4	6.2	U.8
2.3	J.5	6.3	U.5, U.10
2.4	J.6	6.4	U.3, U.9, U.11, U.13, U.14, U.15
2.5	S.9	6.5	T.1, T.2, T.3, T.4
2.6	C.1, C.2, C.3 (C.4)	6.6	T.5, T.6
2.7	C.5, C.6	7.1	V.3
2.8	C.7	7.2	V.4
2.9	D.1, D.2, D.3	7.3	V.7
2.10	D.4, D.5, D.6, D.7, D.8	7.4	V.5, V.6, V.9
3.1	K.1, K.2, K.3	7.5	V.10
3.2	K.4	7.6	X.1, X.2
3.3	K.5 (Mix of 3.2-3.2: K.6, K.7)	7.7	X.3
3.4	K.8, K.9, K.10, K.11	7.8	P.1-P.7
3.5	(none)	8.1	(Review with Y.1-Y.5) Z.1, Z.4, Z.5
3.6	K.12, K.13, K.14, K.15	8.2	Z.6, Z.10, AA.1, AA.2
3.7	L.1, L.2, L.3, L.4	8.3	Z.8
3.8	(none)	8.4	Z.9
4.1	Q.1	8.5	AA.3
4.2	Q.3, Q.13, Q.14	8.6	AA.4
4.3	S.1, Q.4, Q.5, Q.6	8.7	AA.5
4.4	Q.7, Q.8, Q.9	8.8	AA.7 (AA.8 is good review at this point)
4.5	Q.10	9.1	BB.1, BB.2
4.6	Q.2	9.2	BB.3

Pearson Chapter-Section	IXL Assignments
9.3	BB.4, BB.5
9.4	BB.6
9.5	BB.7, BB.8
9.6	BB.9, BB.10
9.7	CC.1, CC.2
9.8	BB.11
10.1	(none)
10.2	EE.1, EE.2
10.3	EE.3, EE.4, EE.5, EE.6, EE.7
10.4	FF.1, FF.2, FF.3, FF.4
10.5	(none)
11.1	GG.3
11.2	GG.4
11.3	GG.5
11.4	GG.6
11.5	GG.7
11.6	R.6, R.7, R.8
11.7	GG.1
12.1	M.1-M.2, M.3, M.4, M.5, M.6
12.2	N.2
12.3	KK.1
12.4	N.5, KK.2
12.5	KK.3, KK.4, KK.5, KK.6, KK.7, KK.8
12.6	JJ.6, JJ.8 (JJ.4, JJ.5, JJ.7)
12.7	JJ.1, JJ.2
12.8	JJ.3

Listed below are the technology standards for grades nine through twelve. You are to make every effort to incorporate the applicable standards into your daily classroom lessons. These standards should be noted in your lesson plans.

Alabama Technology Standards Ninth – Twelfth Grade

Operations and Concepts

Students will:

2. Diagnose hardware and software problems.
   Examples: viruses, error messages
   Applying strategies to correct malfunctioning hardware and software
   Performing routine hardware maintenance
   Describing the importance of antivirus and security software
3. Demonstrate advanced technology skills, including compressing, converting, importing, exporting, and backing up files.
   Transferring data among applications
   Demonstrating digital file transfer
   Examples: attaching, uploading, downloading
4. Utilize advanced features of word processing software, including outlining, tracking changes, hyperlinking, and mail merging.
5. Utilize advanced features of spreadsheet software, including creating charts and graphs, sorting and filtering data, creating formulas, and applying functions.
6. Utilize advanced features of multimedia software, including image, video, and audio editing.

Digital Citizenship

9. Practice ethical and legal use of technology systems and digital content.
   Explaining consequences of illegal and unethical use of technology systems and digital content
   Examples: cyberbullying, plagiarism
   Interpreting copyright laws and policies with regard to ownership and use of digital content
   Citing sources of digital content using a style manual
   Examples: Modern Language Association (MLA), American Psychological Association (APA)

Research and Information Fluency

11. Critique digital content for validity, accuracy, bias, currency, and relevance.

Communication and Collaboration

12. Use digital tools to publish curriculum-related content.
    Examples: Web page authoring software, coding software, wikis, blogs, podcasts
13. Demonstrate collaborative skills using curriculum-related content in digital environments.
Examples: completing assignments online; interacting with experts and peers in a structured, online learning environment

Critical Thinking, Problem Solving, and Decision Making

14. Use digital tools to defend solutions to authentic problems.
    Example: disaggregating data electronically

Creativity and Innovation

1. Create a product that integrates information from multiple software applications.
   Example: pasting spreadsheet-generated charts into a presentation