

Common Core State Standards for Mathematical Content

The following shows the High School Standards for Mathematical Content that are taught in *Pearson Algebra 1 Common Core Edition* ©2015. Included are all of the standards that make up Achieve’s Pathway for High School Algebra 1 and PARCC’s Model Content Frameworks. Standards that are not part of Achieve’s Pathway are indicated with an asterisk (*) on the standard code. Those that are not assessed on the PARCC Algebra 1 End-of-Course Assessment are indicated with two asterisks (**). Standards that begin with (+) indicate additional mathematics that students should learn in order to take advanced courses such as calculus, advanced statistics, or discrete mathematics.

Number and Quantity		Where to Find
The Real Number System		N.RN
Extend the properties of exponents to rational exponents.		
N-RN.A.1**	Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents.	7-2, 7-3, 7-4
N-RN.A.2**	Rewrite expressions involving radicals and rational exponents using the properties of exponents.	7-5
Use properties of rational and irrational numbers.		
N-RN.B.3	Explain why sums and products of rational numbers are 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.	CB** 1-6
Quantities		N.VM
Reason quantitatively and use units to solve problems.		
N-Q.A.1	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.	2-5, CB 2-5, 2-6, 2-7, 4-4, 5-7, 12-2, 12-4
N-Q.A.2	Define appropriate quantities for the purpose of descriptive modeling.	CB 2-5, 2-6, 3-3, 4-5, 5-2, 12-3
N-Q.A.3	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.	2-10, 6-4, 9-5, 9-6

**CB = Concept Byte

Algebra		Where to Find
Seeing Structure in Expressions		A.SSE
Interpret the structure of expressions		
A-SSE.A.1	Interpret expressions that represent a quantity in terms of its context.	1-1, 1-2, 3-7, 4-5, 4-7, 5-3, 5-4, 5-5, 7-6, 7-7, 7-8, 8-7, 8-8, 9-1, 9-2, 9-5, 9-6
A-SSE.A.1a	Interpret parts of an expression, such as terms, factors, and coefficients.	1-1, 1-2, 1-7, 4-5, 4-7, 5-3, 5-4, 7-7, 7-8, 8-5, 8-6, 8-7, 8-8, 9-5
A-SSE.A.1b	Interpret complicated expressions by viewing one or more of their parts as a single entity.	3-7, 4-7, 7-7, 8-6, 8-7, 8-8, 9-5
A-SSE.A.2	Use the structure of an expression to identify ways to rewrite it	5-3, 5-4, 5-5, 8-7, 8-8
Write expressions in equivalent forms to solve problems		
A-SSE.B.3	Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.	9-4, 9-5
A-SSE.B.3a	Factor a quadratic expression to reveal the zeros of the function it defines.	9-4
A-SSE.B.3b	Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines	9-5
A-SSE.B.3c	Use the properties of exponents to transform expressions for exponential functions.	7-7
Arithmetic with Polynomials and Rational Expressions		A.APR
Perform arithmetic operations on polynomials		
A-APR.A.1	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.	8-1, 8-2, 8-3, 8-4
Understand the relationship between zeros and factors of polynomials		
A-APR.B.3*	Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.	9-3, CB 9-3
Rewrite rational expressions		
A-APR.C.6* **	Rewrite simple rational expressions in different forms; write $a(x)/b(x)$ in the form $q(x) + r(x)/b(x)$, where $a(x)$, $b(x)$, $q(x)$, and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$, using inspection, long division, or, for the more complicated examples, a computer algebra system.	11-3
A-APR.C.7* **	(+) 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.	11-2, 11-4

Algebra

Where to Find

Creating Equations

A.CED

Create equations that describe numbers or relationships

A-CED.A.1	Create equations and inequalities in one variable and use them to solve problems. <i>Include equations arising from linear and quadratic functions, and simple rational and exponential functions.</i>	1-8, 2-1, 2-2, 2-3, 2-4, 2-5, 2-7, 2-8, 3-2, 3-3, 3-4, 3-6, 3-7, 3-8, 9-3, 9-4, 9-5, 9-6, 11-5
A-CED.A.2	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.	1-9, 4-5, 5-2, 5-3, 5-4, 5-5, 7-6, 7-7, 9-1, 9-2, CB 9-4, 10-5, 11-6, 11-7, CB 11-7
A-CED.A.3	Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context.	6-4, 6-5, 9-8
A-CED.A.4	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.	2-5, 9-3

Reasoning with Equations and Inequalities

A.REI

Understand solving equations as a process of reasoning and explain the reasoning

A-REI.A.1	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.	2-2, 2-3, 2-4, 2-5, 9-5
A-REI.A.2* **	Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.	10-4, 11-5

Solve equations and inequalities in one variable

A-REI.B.3	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.	2-1, 2-2, 2-3, 2-4, 2-5, 2-7, 2-8, 3-2, 3-3, 3-4, 3-5, 3-6
A-REI.B.4	Solve quadratic equations in one variable.	9-3, 9-4, 9-5, 9-6
A-REI.B.4a	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.	9-5, 9-6
A-REI.B.4b	Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b .	9-3, 9-4, 9-5, 9-6

Solve systems of equations

A-REI.C.5	Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.	6-3
A-REI.C.6	Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.	6-1, 6-2, 6-3, 6-4
A-REI.C.7**	Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically.	9-8

Represent and solve equations and inequalities graphically

A-REI.D.10	Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a straight line).	1-9, 4-2, 4-3, 4-4
A-REI.D.11	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.	CB 4-4, CB 6-1, 7-6, 9-8
A-REI.D.12	Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.	6-5, 6-6, CB 6-6

Functions		Where to Find
Interpreting Functions		F.IF
Understand the concept of a function and use function notation		
F-IF.A.1	Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x . The graph of f is the graph of the equation $y = f(x)$.	4-6
F-IF.A.2	Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.	4-6
F-IF.A.3	Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.	4-7, 7-8
Interpret functions that arise in applications in terms of the context		
F-IF.B.4	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.	4-2, 4-3, 5-3, 5-4, 5-5, 7-6, 7-7, 9-1, 9-2, 9-7, 11-7
F-IF.B.5	Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.	4-4, 7-6, 9-1, 11-6
F-IF.B.6	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.	5-1, CB 9-2
Analyze functions using different representations		
F-IF.C.7	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.	5-3, 5-4, 5-5, 5-8, 7-6, 7-7, 9-1, 9-2
F-IF.C.7a	Graph linear and quadratic functions and show intercepts, maxima, and minima.	5-3, 5-4, 5-5, 9-1, 9-2
F-IF.C.7b	Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.	5-8, CB 5-8, 9-1, 10-5
F-IF.C.7e**	Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.	7-6
F-IF.C.8	Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.	7-7
F-IF.C.8a	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.	9-4, 9-5
F-IF.C.8b**	Use the properties of exponents to interpret expressions for exponential functions.	7-7
F-IF.C.9	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).	5-5, 7-6, 9-2

Functions

Where to Find

Building Functions

F.BF

Build a function that models a relationship between two quantities

F-BF.A.1	Write a function that describes a relationship between two quantities.	4-7, 5-3, 5-4, 5-5, 7-7, 9-2
F-BF.A.1a	Determine an explicit expression, a recursive process, or steps for calculation from a context.	4-7, 5-3, 5-4, 5-5, 7-8
F-BF.A.1b**	Combine standard function types using arithmetic operations	9-7
F-BF.A.2**	Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.	4-7, 7-8

Build new functions from existing functions

F-BF.B.3	Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $kf(x)$, $f(kx)$, 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.	5-3, CB 5-3, 5-4, 5-8, 7-7, 9-1, 9-2
F-BF.B.4**	Find inverse functions.	CB 5-5
F-BF.B.4a**	Solve an equation of the form $f(x) = c$ for a simple function f that has an inverse and write an expression for the inverse.	CB 5-5

Linear and Exponential Models

F.LE

Construct and compare linear and exponential models and solve problems

F-LE.A.1a	Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.	9-7
F-LE.A.1b	Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.	5-1
F-LE.A.1c	Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.	7-7
F-LE.A.2	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).	4-7, 5-3, 5-4, 5-5, 7-6, 7-8, 9-7
F-LE.A.3	Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.	CB 9-2, 9-7

Interpret expressions for functions in terms of the situation they model

F-LE.B.5	Interpret the parameters in a linear or exponential function in terms of a context.	5-3, 5-4, 5-5, 5-7, 7-7
-----------------	---	-------------------------

Geometry

Similarity, Right Triangles, and Trigonometry

G.SRT

Define trigonometric ratios and solve problems involving right triangles

G-SRT.C.6* **	Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.	10-6
G-SRT.C.8* **	Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.	10-1, 10-6

Expressing Geometric Properties with Equations

G.GPE

Use coordinates to prove simple geometric theorems algebraically

G-GPE.B.5* **	Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).	5-6
----------------------	---	-----

Statistics and Probability		Where to Find
Interpreting Categorical and Quantitative Data		S.ID
Summarize, represent, and interpret data on a single count or measurement variable		
S-ID.A.1	Represent data with plots on the real number line (dot plots, histograms, and box plots).	12-2, 12-4
S-ID.A.2	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.	12-3, CB 12-3, 12-4
S-ID.A.3	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).	12-3
Summarize, represent, and interpret data on two categorical and quantitative variables		
S-ID.B.5	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.	CB 12-5
S-ID.B.6a	Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear and exponential models.	5-7, 9-7
S-ID.B.6b	Informally assess the fit of a function by plotting and analyzing residuals.	CB 5-7, CB 9-7
S-ID.B.6c	Fit a linear function for a scatter plot that suggests a linear association.	5-7
Interpret linear models		
S-ID.C.7	Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.	5-7
S-ID.C.8	Compute (using technology) and interpret the correlation coefficient of a linear fit.	5-7
S-ID.C.9	Distinguish between correlation and causation.	5-7
Making Inferences and Justifying Conclusions		S.IC
Make inferences and justify conclusions from sample surveys, experiments, and observational studies		
S-IC.B.3* **	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.	CB 12-5, 12-5
S-IC.B.5* **	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.	CB 12-7
Conditional Probability and Rules of Probability		S.CP
Understand independence and conditional probability and use them to interpret data		
S-CP.A.1	Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not").	12-7
S-CP.A.2* **	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.	CB 12-8
S-CP.A.3* **	Understand the conditional probability of A given B as $P(A \text{ and } B)/P(B)$, and interpret independence of A and B as saying that the conditional probability of A given B is the same as the probability of A , and the conditional probability of B given A is the same as the probability of B .	CB 12-8
S-CP.A.4* **	Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities.	12-7
S-CP.A.5* **	Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations.	CB 12-8
Use the rules of probability to compute probabilities of compound events in a uniform probability model		
S-CP.B.7* **	Apply the Addition Rule, $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$, and interpret the answer in terms of the model.	12-8
S-CP.B.8* **	(+) Apply the general Multiplication Rule in a uniform probability model, $P(A \text{ and } B) = P(A)P(B A) = P(B)P(A B)$, and interpret the answer in terms of the model.	12-8

Algebra 1 *Pacing Guide*

The Standards for Mathematical Content for High School are organized by Conceptual Categories rather than by high school course. This allows for more options for high school course descriptions. Some schools and school districts developed their high school math course descriptions based on the model courses in Appendix A of the Common Core State Standards (Achieve Pathways), while others have modeled their high school courses on the PARCC Model Content Frameworks.

The development of *Pearson Algebra 1 Common Core Edition* was informed by Appendix A and the PARCC Model Content Frameworks as well as considerations about the shifts in content expectations of the Common Core State Standards. The result is a course that offers flexibility of implementation. Teachers can teach a curriculum that addresses all of the standards in the model courses in Appendix A or one that aligns to the PARCC Model Content Frameworks.

In addition, teachers will find that the lessons in the early chapters embed within course-level content a review of the some of the content expectations that students were to have met in Grade 8, in particular concepts related to linearity, which is foundational to students' success with high school mathematics. If your students are proficient with these concepts, you may opt to work quickly through these lessons.

The Pacing Guide identifies lessons that align to content expectations for Appendix A and to content expectations for PARCC.

The suggested number of days for each chapter is based on a traditional 45-minute class period and on a 90-minute block period. The total of 160 days of instruction allows time for assessments, or other special days that vary from school to school.

Common Core State Standards

PARCC

Appendix A

Chapter 3 Solving Inequalities

Traditional 12 Block 6

3-1	Inequalities and Their Graphs	Prepares for A-REI.B.3	✓	✓
3-2	Solving Inequalities Using Addition or Subtraction	A-CED.A.1, A-REI.B.3	✓	✓
3-3	Solving Inequalities Using Multiplication or Division	N-Q.A.2, A-CED.A.1 , A-REI.B.3	✓	✓
	Concept Byte: More Algebraic Properties	Prepares for A-REI.B.3	✓	✓
	Concept Byte: Modeling Multi-Step Inequalities	Prepares for A-REI.B.3	✓	✓
3-4	Solving Multi-Step Inequalities	A-CED.A.1, A-REI.B.3	✓	✓
3-5	Working with Sets	A-REI.B.3	✓	✓
3-6	Compound Inequalities	A-CED.A.1, A-REI.B.3	✓	✓
3-7	Absolute Value Equations and Inequalities	A-SSE.A1b, A-CED.A.1	✓	✓
3-8	Unions and Intersections of Sets	A-CED.A.1	✓	✓
1-9	Patterns, Equations, and Graphs	A-CED.A.2, A-REI.D.10	✓	✓

Chapter 4 An Introduction to Functions

Traditional 10 Block 5

4-1	Using Graphs to Relate Two Quantities	Prepares for F-IF.B.4	✓	✓
4-2	Patterns and Linear Functions	A-REI.D.10 , F-IF.B.4	✓	✓
4-3	Patterns and Nonlinear Functions	A-REI.D.10 , F-IF.B.4	✓	✓
4-4	Graphing a Function Rule	N-Q.A.1, A-REI.D.10, F-IF.B.5	✓	✓
	Concept Byte: Graphing Functions and Solving Equations	A-REI.D.11	✓	✓
4-5	Writing a Function Rule	N-Q.A.2 , A-SSE.A.1a, A-CED.A.2	✓	✓
4-6	Formalizing Relations and Functions	F-IF.A.1 , F-IF.A.2	✓	✓
4-7	Arithmetic Sequences	A-SSE.A.1a, A-SSE.A.1b, F-LE.A.2, F-IF.A.3 , F-BF.A.1a, F-BF.A.2	✓	✓

Chapter 5 Linear Functions

Traditional 16 Block 8

5-1	Rate of Change and Slope	F-IF.B.6, F-LE.A.1b	✓	✓
5-2	Direct Variation	N-Q.A.2, A-CED.A.2	✓	✓
	Concept Byte: Investigating $y = mx + b$	F-BF.B.3	✓	✓
5-3	Slope-Intercept Form	A-SSE.A.1a, A-SSE.2, A-CED.A.2, F-IF.B.4, F-IF.C.7a , F-BF.A.1a, F-BF.B.3, F-LE.A.2, F-LE.B.5	✓	✓
5-4	Point-Slope Form	A-SSE.A.1.a, A-SSE.A.2, A-CED.A.2, F-IF.B.4, F-IF.C.7.a, F-BF.A.1.a, F-BF.B.3, F-LE.A.2 , F-LE.B.5	✓	✓
5-5	Standard Form	N-Q.A.2, A-SSE.A.1, A-SSE.A.2, A-CED.A.2 , F-IF-4, F-IF-7, F-IF-7.a, F-IF-9, F-BF.A.1a, F-LE.A.2, F-LE.B.5	✓	✓
	Concept Byte: Inverse of a Linear Function	F-BF.B.4a		✓
5-6	Parallel and Perpendicular Lines	G-GPE.B.5		✓
5-7	Scatter Plots and Trend Lines	N-Q.A.1, F-LE.B.5, S-ID.A.6a, S-ID.B.6c , S-ID.C.7, S-ID.C.8, S-ID.C.9	✓	✓
	Concept Byte: Using Residuals	S-ID.B.6b	✓	✓
5-8	Graphing Absolute Value Functions	F-IF.C.7, F-IF.C. 7.b, F-BF.B.3	✓	✓
	Concept Byte: Characteristics of Absolute Value Graphs	F-IF.C.7b	✓	✓

		Common Core State Standards	PARCC	Appendix A
Chapter 6 Systems of Equations and Inequalities		Traditional 14 Block 7		
6-1	Solving Systems by Graphing	A-REI.C.6	✓	✓
	Concept Byte: Solving Systems Using Tables and Graphs	A-REI.D.11	✓	✓
	Concept Byte: Solving Systems Using Algebra Tiles	Prepares for A-REI.C.6	✓	✓
6-2	Solving Systems Using Substitution	A-REI.C.6	✓	✓
6-3	Solving Systems Using Elimination	A-REI.C.5 , A-REI.C.6	✓	✓
	Concept Byte: Matrices and Solving Systems	Extends A-REI.C.6	✓	✓
6-4	Applications of Linear Systems	N-Q.A.2, N-Q.A.3, A-CED.A.3, A-REI.C.6	✓	✓
6-5	Linear Inequalities	A-CED.A.3, A-REI.D.12	✓	✓
6-6	Systems of Linear Inequalities	A-REI.D.12	✓	✓
	Concept Byte: Graphing Linear Inequalities	A-REI.D.12	✓	✓
Chapter 7 Exponents and Exponential Functions		Traditional 14 Block 7		
7-1	Zero and Negative Exponents	Prepares for N-RN.A.1 and N-RN.A.2		✓
	Concept Byte: Multiplying Powers	Prepares for N-RN.A.1		✓
7-2	Multiplying Powers With the Same Base	N-RN.A.1		✓
	Concept Byte: Powers of Powers and Powers of Products	Prepares for N-RN.A.1		✓
7-3	More Multiplication Properties of Exponents	N-RN.A.1		✓
7-4	Division Properties of Exponents	N-RN.A.1		✓
	Concept Byte: Relating Radicals to Rational Exponents	Prepares for N-RN.A.2		✓
7-5	Rational Exponents and Radicals	N-RN.A.2		✓
7-6	Exponential Functions	A-SSE.A.1, A-CED.A.2, A-REI.D.11, F-IF.B.4, F-IF.B.5, F-IF.C.7e , F-IF.C.9, F-LE.A.2		✓
7-7	Exponential Growth and Decay	A-SSE.A.1a, A-SSE.A.1b, A-SSE.B.3c, A-CED.A.2, F-IF.B.4, F-IF.C.7, F-IF.C.8b , F-BF.A.1, F-BF.B.3, F-LE.A.1c, F-LE.B.5		✓
7-8	Geometric Sequences	A-SSE.A.1.a, F-IF.A.3, F-BF.A.1a, F-BF.A.2 , F-LE.A.2		✓
Chapter 8 Polynomials and Factoring		Traditional 14 Block 7		
8-1	Adding and Subtracting Polynomials	A-APR.A.1	✓	✓
8-2	Multiplying and Factoring	A-APR.A.1	✓	✓
	Concept Byte: Using Models to Multiply	Prepares for A-APR.A.1	✓	✓
8-3	Multiplying Binomials	A-APR.A.1	✓	✓
8-4	Multiplying Special Cases	A-APR.A.1	✓	✓
	Concept Byte: Using Models to Factor	Prepares for A-SSE.A.2	✓	✓
8-5	Factoring $x^2 + bx + c$	A-SSE.A.1a	✓	✓
8-6	Factoring $ax^2 + bx + c$	A-SSE.A.1a , A-SSE.A.1b	✓	✓
8-7	Factoring Special Cases	A-SSE.A.1a , A-SSE.A.1b, A-SSE.A.2	✓	✓
8-8	Factoring by Grouping	A-SSE.A.1a , A-SSE.A.1b, A-SSE.A.2	✓	✓

		Common Core State Standards	PARCC	Appendix A
Chapter 9 Quadratic Functions and Equations		Traditional 16 Block 8		
9-1	Quadratic Graphs and Their Properties	A-SSE.A.1, A-CED.A.2, F-IF.B.4, F-IF.B.5, F-IF.C.7a , F-IF.C.7b, F-BF.B.3	✓	✓
9-2	Quadratic Functions	A-SSE.A.1, A-CED.A.2, F-IF.B.4, F-IF.C.7a , F-IF.C.9, F-BF.A.1, F-BF.B.3	✓	✓
	Concept Byte: Rates of Increase	F-IF.B.6, F-LE.A.3	✓	✓
9-3	Solving Quadratic Equations	N-Q.A.2, A-CED.A.1, A-CED.A.4, A-APR.B.3, A-REI.B.4b	✓	✓
	Concept Byte: Finding Roots	A-APR.B.3	✓	✓
9-4	Factoring to Solve Quadratic Equations	A-SSE.B.3.a, A-CED.A.1, A-REI.B.4b , F-IF.C.8a	✓	✓
	Concept Byte: Writing Quadratic Equations	A-CED.A.2	✓	✓
9-5	Completing the Square	N-Q.A.3, A-SSE.A.1a, A-SSE.A.1b, A-SSE.B.3.b, A-CED.A.1, A-REI.A.1, A-REI.B.4a , A-REI.B.4b, F-IF.C.8a	✓	✓
9-6	The Quadratic Formula and the Discriminant	N-Q.A.3, A-SSE.A.1, A-CED.A.1, A-REI.B.4a , A-REI.B.4b	✓	✓
9-7	Linear, Quadratic, and Exponential Models	F-IF.B.4, F-BF.A.1b, F-LE.A.1a , F-LE.A.2, F-LE.A.3, S-ID.B.6a	✓	✓
	Concept Byte: Analyzing Residual Plots	S-ID.B.6b	✓	✓
9-8	Systems of Linear and Quadratic Equations	A-CED.A.3, A-REI.C.7 , A-REI.D.11		✓
Chapter 10 Radical Expressions and Equations		Traditional 10 Block 5		
10-1	The Pythagorean Theorem	G-SRT.C.8		
10-2	Simplifying Radicals	Prepares for A-REI.A.2		
10-3	Operations with Radical Expressions	Prepares for A-REI.A.2		
10-4	Solving Radical Equations	A-REI.A.2		
10-5	Graphing Square Root Functions	A-CED.A.2, F-IF.C.7b	✓	✓
10-6	Trigonometric Ratios	G-SRT.C.6, G-SRT.C.8		

	Common Core State Standards	PARCC	Appendix A
Chapter 11 Rational Expressions and Functions		Traditional 14 Block 7	
11-1 Simplifying Rational Expressions	Prepares for A-APR.D.7		
11-2 Multiplying and Dividing Rational Expressions	A-APR.D.7		
Concept Byte: Dividing Polynomials Using Algebra Tiles	Prepares for A-APR.D.7		
11-3 Dividing Polynomials	A-APR.D.6		
11-4 Adding and Subtracting Rational Expressions	A-APR.D.7		
11-5 Solving Rational Equations	A-CED.A.1 , A-REI.A.2	✓	
11-6 Inverse Variation	A-CED.A.2, F-IF.B.5	✓	
11-7 Graphing Rational Functions	A-CED.A.2, F-IF.B.4	✓	
Concept Byte: Graphing Rational Functions	A-CED.A.2		
Chapter 12 Data Analysis and Probability		Traditional 16 Block 8	
12-1 Organizing Data Using Matrices	Prepares for N-VM.C.6		
12-2 Frequency and Histograms	N-Q.A.1, S-ID.A.1	✓	✓
12-3 Measures of Central Tendency and Dispersion	N-Q.A.2, S-ID.A.2 , S-ID.A.3	✓	✓
Concept Byte: Standard Deviation	S-ID.A.2	✓	✓
12-4 Box-and-Whisker Plots	N-Q.A.1, S-ID.A.1, S-ID.A.2	✓	✓
Concept Byte: Designing Your Own Survey	S-IC.B.3		
12-5 Samples and Surveys	S-IC.B.3		
Concept Byte: Two-Way Frequency Table	S-ID.B.5		
12-6 Permutations and Combinations	Prepares for S-CP.B.9		
12-7 Theoretical and Experimental Probability	S-CP.A.1 , S-CP.A.4		
Concept Byte: Conducting Simulations	S-IC.B.5		
12-8 Probability of Compound Events	S-CP.B.7 , S-CP.B.8		
Concept Byte: Conditional Probability	S-CP.A.2, S-CP.A.3, S-CP.A.5		