Grade 7– Crosswalk (Summary of Revisions): 2016 *Mathematics Standards of Learning and Curriculum Framework*

Additions (2016 SOL)	Deletions from Grade 7 (2009 SOL)
• 7.1d EKS – Identify the perfect squares from 0 to 400 • 7.2 – Solve practical problems involving operations with rational numbers • 7.5 EKS – Determine unknown side lengths or angle measures, given two similar quadrilaterals or triangles; solve a proportion to find a missing side length of similar quadrilaterals and triangles • 7.6b – Determine unknown side lengths or angle measures [EKS bullet moved from 6.13] of quadrilaterals, using properties of quadrilaterals • 7.10 – Determine slope as rate of change and write an equations in $y = mx$ form to represent a proportional relationship; graph lines representing proportional relationships; determine the y-intercept and write equations of lines in $y = x + b$ form to represent the relationship; graph lines representing additive relationships; and make connections among representations (verbal descriptions, tables, equations, and graphs) • 7.13 – Solve two-step inequalities and practical problems [Moved from 8.15b]	• 7.2 – Describe and represent arithmetic and geometric sequences using variable expressions [Included in AFDA.1 EKS and AII.5] • 7.3 – Model operations with integers [Moved to 6.6a EKS] and perform operations with integers [Moved to 6.6a] • 7.5c – Describe how changing one attribute of a rectangular prism affects surface area and volume [Included in 8.6b] • 7.6 – Determine whether two figures are similar [Included in G.7] • 7.8 – Transform a figure using dilation [Included in 8.7] and rotation [Included in G.3] • 7.10 – Determine the probability of compound events using the Fundamental Counting Principle [Moved to 5.15] • 7.14a – Solve one-step linear equations in one variable and practical problems [Included in 6.13]
Parameter Changes/Clarifications (2016 SOL)	**Moves within Grade 7 (2009 SOL TO 2016 SOL)**
• 7.1b EKS – Compare and order no more than four numbers written in scientific notation; convert between a number written in scientific notation and decimals • 7.1c and 7.1c EKS – Compare and order rational numbers (positive/negative) expressed as integers, fractions (proper/improper), mixed numbers, decimals, and percents • 7.3 EKS – Create and use a ratio table to determine missing values in a proportional relationship; apply proportional reasoning to convert units of measurement given the conversion factor [Moved from 6.9] • 7.7 EKS – Transformations of a right triangle or rectangle can include both translation and then reflection over the x- or y-axis, or reflection over the x- or y-axis and then translation • 7.8a – Determine theoretical and experimental probabilities explicitly included in standard • 7.9a EKS – Number of data values to construct a histogram is no longer limited • 7.9b – Observations/inferences about data represented in a histogram now in standard • 7.9c – Compare histograms with the same data represented in other graphs now specified as line plots, circle graphs, and stem-and-leaf plots • 7.11 EKS – Represent algebraic expressions using concrete materials and pictorial representations; evaluating expressions – limit exponents to 1, 2, 3, or 4; no braces, but can include brackets and absolute value; square roots limited to perfect squares • 7.13 EKS – Solve one-step inequalities using multiplication and division; two-step inequalities using addition, subtraction, multiplication and division • 7.11, 7.12, 7.13 EKS and US - apply properties of real numbers and properties of equality/inequality	• 7.4 – [Moved to 7.3] • 7.5a, b – [Moved to 7.4a, b] • 7.6 – [Moved to 7.5] • 7.7 – [Moved to 7.6] • 7.8 – [Moved to 7.7] • 7.9 – [Moved to 7.8] • 7.11 – [Moved to 7.9] • 7.12 – [Included in 7.10e] • 7.13a – Write verbal expressions and sentences as algebraic expressions and equations and vice versa [Included in 7.12 EKS] • 7.13b – [Moved to 7.11] • 7.14 – [Moved to 7.12] • 7.15 – [Moved to 7.13] • 7.16 – Properties of real numbers [Incorporated into 7.11, 7.12, and 7.13 EKS and US]

EKS = Essential Knowledge and Skills, referring to the column on the right side of the Curriculum Framework
US = Understanding the Standard, referring to the column on the left side of the Curriculum Framework

Comparison of Mathematics Standards of Learning – 2009 to 2016

2009 SOL	2016 SOL
Number and Number Sense *On the state assessment, items measuring this objective are assessed without the use of a calculator.	
7.1 The student will a) investigate and describe the concept of negative exponents for powers of ten; b) determine scientific notation for numbers greater than zero;* c) compare and order fractions, decimals, percents, and numbers written in scientific notation;* d) determine square roots;* and e) identify and describe absolute value for rational numbers.	7.1 The student will a) investigate and describe the concept of negative exponents for powers of ten; b) compare and order numbers greater than zero written in scientific notation;* c) compare and order rational numbers;* d) determine square roots of perfect squares;*and e) identify and describe absolute value of rational numbers.
7.2 The student will describe and represent arithmetic and geometric sequences, using variable expressions. [Included in AFDA.1 EKS and AII.5]	
Computation and Estimation *On the state assessment, items measuring this objective are assessed without the use of a calculator.	
	7.2 The student will solve practical problems involving operations with rational numbers.
7.3 The student will a) model addition, subtraction, multiplication, and division of integers; and [Moved to 6.6a EKS] b) add, subtract, multiply, and divide integers.* [Moved to 6.6a]	
7.4 The student will solve single-step and multistep practical problems, using proportional reasoning.	7.3 The student will solve single-step and multistep practical problems, using proportional reasoning.
Measurement and Geometry	
7.5 The student will a) describe volume and surface area of cylinders; b) solve practical problems involving the volume and surface area of rectangular prisms and cylinders; and c) describe how changing one measured attribute of a rectangular prism affects its volume and surface area. [Included in 8.6b]	7.4 The student will a) describe and determine the volume and surface area of rectangular prisms and cylinders; and b) solve problems, including practical problems, involving the volume and surface area of rectangular prisms and cylinders.
7.6 The student will determine whether plane figures—quadrilaterals and triangles—are similar [Included in G.7] and write proportions to express the relationships between corresponding sides of similar figures.	7.5 The student will solve problems, including practical problems, involving the relationship between corresponding sides and corresponding angles of similar quadrilaterals and triangles.

2009 SOL	2016 SOL
7.7 The student will compare and contrast the following quadrilaterals based on properties: parallelogram, rectangle, square, rhombus, and trapezoid.	7.6 The student will a) compare and contrast quadrilaterals based on their properties; and b) determine unknown side lengths or angle measures of quadrilaterals.
7.8 The student, given a polygon in the coordinate plane, will represent transformations (reflections dilations [Included in 8.7a and G.3], rotations [Included in G.3], and translations) by graphing in the coordinate plane.	7.7 The student will apply translations and reflections of right triangles or rectangles in the coordinate plane.
Probability and Statistics	
7.9 The student will investigate and describe the difference between the experimental probability and theoretical probability of an event.	7.8 The student will a) determine the theoretical and experimental probabilities of an event; and b) investigate and describe the difference between the experimental probability and theoretical probability of an event.
7.10 The student will determine the probability of compound events, using the Fundamental (Basic) Counting Principle. [Moved to 5.15]	
7.11 The student, given data for a practical situation, will a) construct and analyze histograms; and b) compare and contrast histograms with other types of graphs presenting information from the same data set.	7.9 The student, given data in a practical situation, will a) represent data in a histogram; b) make observations and inferences about data represented in a histogram; and c) compare histograms with the same data represented in stem-and-leaf plots, line plots, and circle graphs.
Patterns, Functions, and Algebra	
7.12 The student will represent relationships with tables, graphs, rules, and words. [Included in 7.10e]	7.10 The student will a) determine the slope, m, as a rate of change in a proportional relationship between two quantities and write an equation in the form $y = mx$ to represent the relationship; b) graph a line representing a proportional relationship between two quantities given the slope and an ordered pair, or given the equation in $y = mx$ form, where m represents the slope as rate of change; c) determine the y-intercept, b, in an additive relationship between two quantities and write an equation in the form $y = x + b$ to represent the relationship; d) graph a line representing an additive relationship between two quantities given the y-intercept and an ordered pair, or given the equation in the form $y = x + b$, where b represents the y-intercept; and e) make connections between and among representations of a proportional or additive relationship between two quantities using verbal descriptions, tables, equations, and graphs.

2009 SOL	2016 SOL
7.13 The student will a) write verbal expressions as algebraic expressions and sentences as equations and vice versa; and [Included in 7.12 EKS] b) evaluate algebraic expressions for given replacement values of the variables.	7.11 The student will evaluate algebraic expressions for given replacement values of the variables.
7.14 The student will a) solve one- and two-step linear equations in one variable; and b) solve practical problems requiring the solution of one- and two-step linear equations. [One-step equations included in 6.13]	7.12 The student will solve two-step linear equations in one variable, including practical problems that require the solution of a two-step linear equation in one variable.
7.15 The student will a) solve one-step inequalities in one variable; and b) graph solutions to inequalities on the number line.	7.13 The student will solve one- and two-step linear inequalities in one variable, including practical problems, involving addition, subtraction, multiplication, and division, and graph the solution on a number line.
7.16 The student will apply the following properties of operations with real numbers: a) the commutative and associative properties for addition and multiplication; b) the distributive property; c) the additive and multiplicative identity properties; d) the additive and multiplicative inverse properties; and e) the multiplicative property of zero. [Included in EKS and US for 7.2, 7.11, 7.12, and 7.13]	