Grade 6 – Crosswalk (Summary of Revisions): 2016 *Mathematics Standards of Learning and Curriculum Framework*

Additions (2016 SOL)	Deletions from Grade 6 (2009 SOL)
• 6.6a, b – Operations with two integers and solve practical problems [Moved from 7.3] • 6.9 EKS – Identify regular polygons; draw lines of symmetry for regular polygons • 6.11b –Determine the effect on measures of center when a value is added, removed, or changed [Moved from 5.16 EKS] • 6.12 – Represent proportional relationships between two quantities; determine unit rates and complete ratio tables; determine whether a proportional relationship exists; and make connections among representations of proportional relationships • 6.13 – Solve practical problems with one-step linear equations • 6.13 EKS – Write verbal expressions and sentences as algebraic expressions and equations; write algebraic expressions and equations as verbal expressions and sentences • 6.14 – Represent practical situations with inequalities; solve one-step inequalities involving addition and subtraction, and graph solutions on a number line • 6.14 EKS – Identify a value that is a solution to an inequality	• 6.9 – Ballpark comparisons between U.S. Customary system and metric system of measurements [Included in 7.3 EKS] • 6.10d – Describe and determine the volume and surface area of a rectangular prism [Included in 7.4a] • 6.13 – Properties of quadrilaterals [Included in 7.6a] • 6.15b – Decide which measure of center is appropriate for a given purpose • 6.16 – Dependent and independent events [Moved to 8.11a] • 6.16b – Determine probabilities [Included in 8.11b] • 6.17 – Arithmetic and geometric sequences [Included in AFDA.1 EKS, AII.5]
Parameter Changes/Clarifications (2016 SOL)	**Moves within Grade 6 (2009 SOL to 2016 SOL)**
• 6.2a EKS– Equivalencies limited to fractions with denominators of 12 or less or factors of 100 • 6.2b – Compare and order fractions, decimals, and percents extended to positive rational numbers; EKS limited to no more than four; EKS limited to fractions with denominators of 12 or less or factors of 100 to include proper, improper and mixed numbers • 6.4 EKS – Limitation changed to whole number exponents, versus natural number exponents • 6.5c EKS – Divisors limited to 3 digit number and decimal divisors limited to hundredths • 6.6c – Simplify numerical expressions [Moved and modified from 6.8] extended to include integers [EKS extended to include absolute value; exponents limited to 1, 2, and 3 and bases limited to whole numbers; expression may have no more than 3 operations] • 6.8b EKS - Coordinate values limited to integers • 6.10a EKS – Number of data values represented in a circle graph limited in order to make comparisons that have denominators of 12 or less or those that are factors of 100 • 6.10c – Compare circle graphs with other graphs now specified as bar graphs, pictographs, and line plots • 6.11a EKS – Represent mean as a balance point graphically on a line plot • 6.13 EKS – Solve a one-step equation in one variable. Coefficients are limited to integers and unit fractions. Numeric terms are limited to integers. • 6.6, 6.13, 6.14 EKS and US – apply properties of real numbers and properties of equality/inequality	• 6.2a – [Moved to 6.2 EKS] • 6.2 b, c – [Included in 6.2a] • 6.2d – Compare and order fractions, mixed numbers, decimals and percents [Included in 6.2b] • 6.4 – [Moved to 6.5a EKS] • 6.5 – [Moved to 6.4] • 6.6 – [Moved to 6.5a, b] • 6.7 – [Moved to 6.5c] • 6.8 – [Moved to 6.6c and modified] • 6.10a, b, c – [Moved to 6.7a, b, c] • 6.11 – [Moved to 6.8] • 6.12 – [Moved to 6.9]; Draw polygons in the coordinate plane and find side lengths using the coordinates [Moved to 6.8] • 6.13 – [Moved to 6.12] • 6.14 – [Moved to 6.10] • 6.15a – [Moved to 6.11a] • 6.18 – [Moved to 6.13] • 6.19 – Investigate and recognize properties [Incorporated into EKS and US for 6.6, 6.13, and 6.14] • 6.20 – [Moved to 6.14]

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.	
6.1 The student will describe and compare data, using ratios, and will use appropriate notations, such as $\frac{a}{b}$, *a* to *b*, and *a*:*b*.	6.1 The student will represent relationships between quantities using ratios, and will use appropriate notations, such as $\frac{a}{b}$, *a* to *b*, and *a*:*b*.
6.2 The student will a) investigate and describe fractions, decimals, and percents as ratios; [Moved to 6.2 EKS] b) identify a given fraction, decimal, or percent from a representation; [Included in 6.2a] c) demonstrate equivalent relationships among fractions, decimals, and percents;* and [Included in 6.2a] d) compare and order fractions, decimals, and percents.* [Included in 6.2b]	6.2 The student will a) represent and determine equivalencies among fractions, mixed numbers, decimals, and percents; and * b) compare and order positive rational numbers.*
6.3 The student will a) identify and represent integers; b) order and compare integers; and c) identify and describe absolute value of integers.	6.3 The student will a) identify and represent integers; b) compare and order integers; and c) identify and describe absolute value of integers.
6.4 The student will demonstrate multiple representations of multiplication and division of fractions. [Moved to 6.5 EKS]	
6.5 The student will investigate and describe concepts of positive exponents and perfect squares.	6.4 The student will recognize and represent patterns with whole number exponents and perfect squares.
Computation and Estimation *On the state assessment, items measuring this objective are assessed without the use of a calculator.	
6.6 The student will a) multiply and divide fractions and mixed numbers;* and b) estimate solutions and then solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of fractions.	6.5 The student will a) multiply and divide fractions and mixed numbers;* b) solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of fractions and mixed numbers; and c) solve multistep practical problems involving addition, subtraction, multiplication, and division of decimals. [Moved from 6.7]
6.7 The student will solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of decimals. [Moved to 6.5c]	

2009 SOL	2016 SOL
	6.6 The student will a) add, subtract, multiply, and divide integers;* [Moved from 7.3] b) solve practical problems involving operations with integers; and [Moved from 7.3 EKS] c) simplify numerical expressions involving integers.*[Moved and modified from 6.8]
6.8 The student will evaluate whole number numerical expressions, using the order of operations.* [Combined with 6.6]	
Measurement and Geometry	
6.9 The student will make ballpark comparisons between measurements in the U.S. Customary System of measurement and measurements in the metric system. [Included in 7.3 EKS]	
6.10 The student will a) define π (pi) as the ratio of the circumference of a circle to its diameter; b) solve practical problems involving circumference and area of a circle, given the diameter or radius; c) solve practical problems involving area and perimeter; and d) describe and determine the volume and surface area of a rectangular prism. [Included in 7.4a]	6.7 The student will a) derive π (pi); b) solve problems, including practical problems, involving circumference and area of a circle; and c) solve problems, including practical problems, involving area and perimeter of triangles and rectangles.
6.11 The student will a) identify the coordinates of a point in a coordinate plane; and [Included in 6.8b] b) graph ordered pairs in a coordinate plane.	6.8 The student will a) identify the components of the coordinate plane; and [Moved from 6.11 EKS bullet] b) identify the coordinates of a point and graph ordered pairs in a coordinate plane.
6.12 The student will determine congruence of segments, angles, and polygons.	6.9 The student will determine congruence of segments, angles, and polygons.
6.13 The student will describe and identify properties of quadrilaterals. [Included in 7.6]	
Probability and Statistics	
6.14 The student, given a problem situation, will a) construct circle graphs; b) draw conclusions and make predictions, using circle graphs; and c) compare and contrast graphs that present information from the same data set.	6.10 The student, given a practical situation, will a) represent data in a circle graph; b) make observations and inferences about data represented in a circle graph; and c) compare circle graphs with the same data represented in bar graphs, pictographs, and line plots.

2009 SOL	2016 SOL
6.15 The student will a) describe mean as balance point; and b) decide which measure of center is appropriate for a given purpose.	6.11 The student will a) represent the mean of a data set graphically as the balance point; and b) determine the effect on measures of center when a single value of a data set is added, removed, or changed. [Moved from 5.16 EKS]
6.16 The student will a) compare and contrast dependent and independent events; [Moved to 8.11a] and b) determine probabilities for dependent and independent events. [Included in 8.11b]	
Patterns, Functions, and Algebra	
6.17 The student will identify and extend geometric and arithmetic sequences. [Included in AFDA.1 and AII.5]	
	6.12 The student will a) represent a proportional relationship between two quantities, including those arising from practical situations; b) determine the unit rate of a proportional relationship and use it to find a missing value in a ratio table; c) determine whether a proportional relationship exists between two quantities; and d) make connections between and among representations of a proportional relationship between two quantities using verbal descriptions, ratio tables, and graphs.
6.18 The student will solve one-step linear equations in one variable involving whole number coefficients and positive rational solutions.	6.13 The student will solve one-step linear equations in one variable, including practical problems that require the solution of a one-step linear equation in one variable.
6.19 The student will investigate and recognize a) the identity properties for addition and multiplication; b) the multiplicative property of zero; and c) the inverse property for multiplication. [Included in EKS and US for 6.6, 6.13, and 6.14]	
6.20 The student will graph inequalities on a number line.	6.14 The student will a) represent a practical situation with a linear inequality in one variable; and b) solve one-step linear inequalities in one variable, involving addition or subtraction, and graph the solution on a number line.