Math 6 Abbreviated Standards Checklist

Ratios and Proportional Relationships		
Understand ratio concepts and use ratio reasoning to solve problems		
M.6.1	Understand the concept of a ratio and describe a ratio relationship between two quantities	
M.6.2	Understand the concept of a unit rate associated with a ratio and describe the ratio relationship	
M.6.3	Use ratio and rate reasoning to solve real-world and mathematical problems	
M.6.3a	Make and use tables to compare ratios	
M.6.3b	Solve unit rate problems	
M.6.3c	Find a percent of a quantity as a rate per 100	
M.6.3d	Use ratio reasoning to convert measurement units	
The Number System		
Apply and extend previous understandings of multiplication and division to divide fractions by fractions		
M.6.4	Interpret , compute, and solve word problems involving division of fractions by fractions	
Compute fluently with multi-digit numbers and find common factors and multiples		
M.6.5	Fluently divide multi-digit numbers using the standard algorithm	
M.6.6	Fluently add, subtract, multiply and divide multi-digit decimals using the standard algorithm	
M.6.7	Find the GCF and LCM, use the distributive property to express a sum	
Apply and extend previous understandings of numbers to the system of rational numbers		
M.6.8	Understand that positive and negative numbers describe quantities having opposite directions or values	
M.6.9	Understand a rational number as a point on the number line	
M.6.9a	Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line	
M.6.9b	Recognize that when two ordered pairs differ only by signs, the points are reflections across axes	
M.6.9c	Find and position pairs of integers and other rational numbers on a coordinate plane	
M.6.10	Understand ordering and absolute value of rational numbers	
M.6.10a	Interpret inequality statements as as the relative position of two numbers on a number line diagram	
M.6.10b	Write, interpret, and explain statements of order for rational numbers in real-world contexts	
M.6.10c	Understand the absolute value of a rational number as its distance from 0 on the number line	
M.6.10d	Distinguish comparisons of absolute value from statements about order	
M.6.11	Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane	
Expressions and Equations		
Apply and extend previous understandings of arithmetic to algebraic expressions		
M.6.12	Write and evaluate numerical expressions involving whole-number exponents	

M.6.13	Write, read and evaluate expressions in which letters stand for numbers	
M.6.13a	Write expressions that record operations with numbers and with letters standing for numbers	
M.6.13b	Identify parts of an expression using mathematical terms	
M.6.13c	Evaluate expressions at specific values of their variables	
M.6.14	Apply the properties of operations to generate equivalent expression	
M.6.15	Identify when two expressions are equivalent	
Reason about and solve one-variable equations and inequalities		
M.6.16	Understand solving an equation or inequality as a process of answering a question	
M.6.17	Use variables to represent numbers and write expressions when solving a real-world or mathematical problem	
M.6.18	Solve real-world and mathematical problems by writing and solving	
M.6.18a	Equations of the form $x + p = q$ and $px = q$	
M.6.18b	Inequalities of the form $x + p > q$, $x + p < q$, $px > q$, and $px < q$	
M.6.19	Write and identify an inequality of the form $x > c$, $x < c$, $x \geq c$, or $x \leq c$, to represent a real-world situation	
Represent and analyze quantitative relationships between dependent and independent variables		
M.6.20	Use variables to represent independent and dependent quantities in a real-world problems	
Geometry		
Solve real-world and mathematical problems involving area, surface area, and volume		
M.6.21	Find the area of polygons by composing/decomposing into rectangles or triangles	
M.6.22	Apply the formulas $V=lwh$ and $V=Bh$ to find volumes of right rectangular prisms with fractional edge lengths	
M.6.23	Draw polygons in the coordinate plane given coordinates for the vertices	
M.6.24	Represent three-dimensional figures using nets and use the nets to find the surface area of these figures	
Statistics and Probability		
Develop understanding of statistical variability		
M.6.25	Recognize a statistical question as one that anticipates variability in the data related to the question	
M.6.26	Understand that a set of data collected can be described by its center, spread, and overall shape	
M.6.27	Display numerical data in plots on a number line, including dot plots, histograms, and box plots	
Summarize and describe distributions		
M.6.28	Display numerical data in plots on a number line, including dot plots, histograms, and box plots	
M.6.29	Summarize numerical data sets in relation to their context	
M.6.29a	Summarize data by reporting the number of observations	
M.6.29b	Describe the nature of the attribute under investigation, including how it was measured and units	
M.6.29c	Give quantitative measures of center (median and/or mean) and describe pattern and deviations	
M.6.29d	Relate the choice of measures of center to the shape of the data distribution	