Math Common Core Grade 7

Number	Standard	Description
1	RP.A.l	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."
2	RP.A.2	Understand the concept of a unit rate a/b associated with a ratio a:b with $b \neq 0$, and use rate language in the context of a ratio relationship. For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar." "We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger." (unit rates limited to non-complex fractions)
3	RP.A2a	Use ratio and rate reasoning to solve real-world and mathematical problems (possible strategies include: reasoning with tables, equivalent ratios, tape diagrams, double number lines, equations).
4	RP.A2b	Make tables of equivalent ratios relating quantities with whole # measurements, plot the values on a coordinate plane. Use tables to compare ratios.
5	RP.A2c	Solve the unit rate problems including those involving unit pricing and constant speed (7 hrs to mow 4 lawns – how many can be mowed in 35 hours? At what rate were lawns being mowed?
6	RP.A2d	Find a % of a quantity as a rate per 100; solve problems finding the whole given a part and the %
7	RP.A3	Use ratio reasoning to convert measurement units; manipulate/transform units when x or dividing
8	NS.A1	Interpret and compute quotients of fractions. Solve word problems involving division of fractions by fractions
9	NS.B2	fluently divide multi-digit numbers using the standard algorithm
10	NS.B3	Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm.
11	NS.B4	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers like: 36 + 8 = 4(9 + 2).
12	NS.C5	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (Ex: temp above and below zero; credit/debit); explain 0 in each real world situation.
13	NS.C6	Understand a rational number as a point on a num. line – extend coordinate axes to the plane with neg. num.
14	NS.C6a	Recognize opposite signs of numbers as indicating locations on opposite sides of 0 (-(-3) = 3. 0 is its own opp.
15	NS.C6b	Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.
16	NS.C6c	Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.
17	NS.C7	Understand ordering and absolute value of rational numbers
18	NS.C7a	Interpret statements of inequality as statements about the relative position of 2 numbers on a number line.
19	NS.C7b	Write, interpret, and explain statements of order for rational numbers in real world contexts. (-3 C > -7 C)
20	NS.C7c	Understand the absolute value of a rational number as its distance from 0. (ex: Balance of -30 = $30 of debt.)
21	NS.C7d	Distinguish comparisons of absolute value from statements about order (ex: Balance of less than -30 dollars is a debt greater than 30 dollars.)
22	NS.C8	Solve real world problems by graphing points in all four quadrants of the coordinate plane. (Include use of coordinates & absolute value to find distances between points with the same 1^{st} or 2^{nd} coordinate).
23	EE.A1	Write and evaluate numerical expressions involving whole-number exponents.

24	EE.A2a	Write expressions that record operations with numbers and with letters standing for numbers.
25	EE.A2b	ID parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view on one or more parts of an expression as a single entity. Ex: 2 (8+7) = (8+7) + (8+7).
26	EE.A2c	Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform operations, including those involving whole-number exponents ex: V = s^3
27	EE.A3	Apply the properties of operations to make = expressions.(Ex:3(2+x)=6+3x;24x+18y=6(4x+3y);y+y+y=3y
28	EE.A4	Identify when two expressions are =. For Ex: y+y+y = 3y (regardless of what y is)
29	EE.B5	Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation true? Use substitution to determine whether a given # in a specified set makes an equation or inequality true.
30	EE.B6	Use variables to represent #s and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number or depending on the purpose at hand
31	EE.B7	Solve real-world and mathematical problems by writing and solving equations of the form x+p=q and px=q when p, q, & x are all nonnegative rational numbers.
32	EE.B8	Write an inequality of the form x>c or x<c to represent a constraint or condition in a real-world or mathematical problem. Recognize hat inequalities of the form x>c or x<c have infinitely many solutions; represent on number line diagrams.
33	EE.C9	Use variables to represent 2quantities in a real-world problem that change in relationship; ex: d = 65t
34	G.A1	Find the area of right triangles, other triangles special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; in real world problems.
35	G.A2	Find the volume of a right rectangular prism with fractional edge lengths by proving the formula and/or applying the formula V=1xwxh and V=bxh in solving real-world and mathematical problems
36	G.A3	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. (Apply in RW problems)
37	G.A4	Represent a 3-D figures using nets made up of rectangles and triangles and use the nets to find the surface area of these figures. Apply when solving real-world and mathematical problems.
38	SP.A1	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.
39	SP.A2	Understand that a set of data collected to answer a statistical question has a distribution, which can be described by its center, spread, and overall shape.
40	SP.A3	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.
41	SP.B4	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
42	SP.B5	Summarize numerical data sets in relation to their context.
43	SP.B5a	Summarize numerical data sets in relation to their context by reporting the number of observations
44	SP.B5b	…by describing the nature of the attribute under investigation- how it was measured, its units of measurement.
45	SP.B5c	…by giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation) as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.
46	SP.B5d	…by relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data was gathered.