Grade/Course	Domain	Cluster	Standard	Suggested Change
6	Ratios and Proportional Relationships (RP)	A. Understand ratio concepts and use ratio reasoning to solve problems.	6.RP.A.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.	6.RP.A.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. Make a distinction between ratios and fractions.
6	Ratios and Proportional Relationships (RP)	A. Understand ratio concepts and use ratio reasoning to solve problems.	6.RP.A.2 Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0. Use rate language in the context of a ratio relationship.	Keep
6	Ratios and Proportional Relationships (RP)	A. Understand ratio concepts and use ratio reasoning to solve problems.	6.RP.A.3 Use ratio and rate reasoning to solve real-world and mathematical problems (e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations). a. Make tables of equivalent ratios relating quantities with whole number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios. b. Solve unit rate problems including those involving unit pricing and constant speed. c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the	Keep

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6	The Number System (NS)	A. Apply and extend previous understandings of multiplication and division to divide fractions by fractions.	6.NS.A.1 Interpret and compute quotients of fractions, and solve contextual problems involving division of fractions by fractions (e.g., using visual fraction models and equations to represent the problem is suggested).	6.NS.A.1 Interpret and compute quotients of fractions, and solve real-world and mathematical problems involving division of fractions by fractions (e.g., connecting visual fraction models and equations to represent the problem is suggested).
6	The Number System (NS)	B. Compute fluently with multi-digit numbers and find common factors and multiples.	6.NS.B.2 Fluently divide multi-digit numbers using a standard algorithm.	Keep
6	The Number System (NS)	B. Compute fluently with multi-digit numbers and find common factors and multiples.	6.NS.B.3 Fluently add, subtract, multiply, and divide multi-digit decimals using a standard algorithm for each operation.	6.NS.B.3 Fluently add, subtract, multiply, and divide multi-digit decimals using a standard algorithm and making connections to previous conceptual work with each operation.
6	The Number System (NS)	B. Compute fluently with multi-digit numbers and find common factors and multiples.	6.NS.B.4 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 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor.	Keep
6	The Number System (NS)	C. Apply and extend previous understandings of numbers to the system of rational numbers.	6.NS.C.5 Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.	6.NS.C.5 Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation as well as describing situations in which opposite quantities can combine to make 0.

6	The Number System (NS)	C. Apply and extend previous understandings of numbers to the system of rational numbers.	6.NS.C.6 Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself. b. 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. c. Find and position integers and other rational numbers on a	Keep

6	The Number System (NS)	C. Apply and extend previous understandings of numbers to the system of rational numbers.	6.NS.C.7 Understand ordering and absolute value of rational numbers. a. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. b. Write, interpret, and explain statements of order for rational numbers in real-world contexts. c. Understand the absolute value of a rational number as its distance from 0 on the number line and distinguish comparisons of absolute value from statements about order in a real-world context.	Keep
6	The Number System (NS)	C. Apply and extend previous understandings of numbers to the system of rational numbers.	6.NS.C.8 Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.	Keep
6	Expressions and Equations (EE)	A. Apply and extend previous understandings of arithmetic to algebraic expressions.	6.EE.A.1 Write and evaluate numerical expressions involving whole-number exponents.	

6	Expressions and Equations (EE)	A. Apply and extend previous understandings of arithmetic to algebraic expressions.	6.EE.A.2 Write, read, and evaluate expressions in which variables stand for numbers. a. Write expressions that record operations with numbers and with variables. b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. c. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of	Keep
6	Expressions and Equations (EE)	A. Apply and extend previous understandings of arithmetic to algebraic expressions.	6.EE.A.3 Apply the properties of operations (including, but not limited to, commutative, associative, and distributive properties) to generate equivalent expressions. The distributive property is prominent here.	6.EE.A.3 Apply the properties of operations (including, but not limited to, commutative, associative, and distributive properties) to generate equivalent expressions. (The distributive property of multiplication over addition is prominent here. Negative coefficients are not an expectation at this grade level.)
6	Expressions and Equations (EE)	A. Apply and extend previous understandings of arithmetic to algebraic expressions.	6.EE.A.4 Identify when expressions are equivalent (i.e., when the expressions name the same number regardless of which value is substituted into them).	Keep

6	Expressions and Equations (EE)	B. Reason about and solve one-variable equations and inequalities.	6.EE.B.5 Understand solving an equation or inequality is carried out by determining if any of the values from a given set make the equation or inequality true. Use substitution to determine whether a given number in a specified set makes an equation or inequality true.	6.EE.B.5 Understand that a solution to an equation or inequality is the value(s) that make that statement true. Use substitution to determine whether a given number in a specified set makes an equation or inequality true.
6	Expressions and Equations (EE)	B. Reason about and solve one-variable equations and inequalities.	6.EE.B.6 Use variables to represent numbers 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, any number in a specified set.	6.EE.B.6 Use variables to represent numbers and write expressions when solving a real-world and mathematical problems; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.
6	Expressions and Equations (EE)	B. Reason about and solve one-variable equations and inequalities.	6.EE.B.7 Solve real-world and mathematical problems by writing and solving onestep equations of the form x + p = q and px = q for cases in which p, q, and x are all nonnegative rational numbers.	6.EE.B.7 Solve real-world and mathematical problems by writing and solving onestep equations of the form x + p = q, px = q, x - p = q, and x/p = q for cases in which p, q, and x are all nonnegative rational numbers and p ≠ 0. (Complex fractions are not an expectation at this grade level.)
6	Expressions and Equations (EE)	B. Reason about and solve one-variable equations and inequalities.	6.EE.B.8 Interpret and write an inequality of the form x > c or x < c which represents a condition or constraint in a real-world or mathematical problem. Recognize that inequalities have infinitely many solutions; represent solutions of inequalities on number line diagrams.	6.EE.B.8 Interpret and write an inequality of the form x > c, x < c, x >= c, or x <= c which represents a condition or constraint in a real-world or mathematical problem. Recognize that inequalities have infinitely many solutions; represent solutions of inequalities on number line diagrams.

6	Expressions and Equations (EE)	C. Represent and analyze quantitative relationships between dependent and independent variables.	6.EE.C.9 Use variables to represent two quantities in a real-world problem that change in relationship to one another. a. Write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. b. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.	6.EE.C.9 Use variables to represent two quantities in a real-world problem that change in relationship to one another. a. Write an equation in the form of $y = px$ where y, p, and x are all non-negative and $p \neq 0$ to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. b. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.
6	Geometry (G)	A. Solve real-world and mathematical problems involving area, surface area, and volume.	6.G.A.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; know and apply these techniques in the context of solving real-world and mathematical problems.	Keep

6	Geometry (G)	A. Solve real-world and mathematical problems involving area, surface area, and volume.	6.G.A.2 Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Know and apply the formulas V = lwh and V = Bh where B is the area of the base to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.	6.G.A.2 Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. ~~Know and~~ Apply the formulas V = lwh and V = Bh where B is the area of the base to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.
6	Geometry (G)	A. Solve real-world and mathematical problems involving area, surface area, and volume.	6.G.A.3 Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side that joins two vertices (vertical or horizontal segments only). Know and apply these techniques in the context of solving real-world and mathematical problems.	6.G.A.3 Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side that joins two vertices (vertical or horizontal segments only). ~~Know and~~ Apply these techniques in the context of solving real-world and mathematical problems.
6	Geometry (G)	A. Solve real-world and mathematical problems involving area, surface area, and volume.	6.G.A.4 Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.	Keep
6	Statistics and Probability (SP)	A. Develop understanding of statistical variability.	6.SP.A.1 Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.	Keep

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6	Statistics and Probability (SP)	A. Develop understanding of statistical variability.	6.SP.A.2 Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center (mean, median, mode), spread (range), and overall shape.	6.SP.A.2 Understand that a set of data collected to answer a statistical question has a distribution which can be described by its measures of center (mean, median, mode), measures of variation (range only), and overall shape.
6	Statistics and Probability (SP)	A. Develop understanding of statistical variability.	6.SP.A.3 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.	6.SP.A.3 Recognize that a measure of center (mean, median, mode) 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.
6	Statistics and Probability (SP)	B. Summarize and describe distributions.	6.SP.B.4 Display a single set of numerical data using dot plots (line plots), box plots, pie charts and stem plots.	Keep
6	Statistics and Probability (SP)	B. Summarize and describe distributions.	6.SP.B.5 Summarize numerical data sets in relation to their context. a. Report the number of observations. b. Describe the nature of the attribute under investigation, including how it was measured and its units of measurement. c. Give quantitative measures of center (mean, median, and/or mode) and variability (range) as well as describing any overall pattern with reference to the context in which the data were gathered. d. Relate the choice of measures of center to the shape of the data distribution and the context in which the data were gathered.	

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Grade/Course	Domain	Cluster	Standard	Suggested Change
7	Ratios and Proportional Relationships (RP)	A. Analyze proportional relationships and use them to solve real-world and mathematical problems.	7.RP.A.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas, and other quantities measured in like or different units.	For example, if a person walks 1/2 mile each 15 min, compute the unit rate as the complex fraction (1/2)/(1/4) miles per hour, equivalently 2 miles per hour.
7	Ratios and Proportional Relationships (RP)	A. Analyze proportional relationships and use them to solve real-world and mathematical problems.	7.RP.A.2 Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship (e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin). b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. d. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate.	7.RP.A.2 Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship (e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin). b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Use the concept of equality to represent proportional relationships with equations. d. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate.
7	Ratios and Proportional Relationships (RP)	A. Analyze proportional relationships and use them to solve real-world and mathematical problems.	7.RP.A.3 Use proportional relationships to solve multi-step ratio and percent problems.	Examples: Batting averages, recipes, simple interest, tax, percent increase and decrease, percent error, etc.
7	The Number System (NS)	A. Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	7.NS.A.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p − q = p + (−q). Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts. d. Apply properties of operations as strategies to add and subtract rational numbers.	7.NS.A.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p − q = p + (−q). Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts. d. Apply properties of operations as strategies to add and subtract rational numbers.

7	The Number System (NS)	A. Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	7.NS.A.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (–1)(–1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then –(p/q) = (–p)/q = p/(–q). Interpret quotients of rational numbers by describing real-world contexts. c. Apply properties of operations as strategies to multiply and divide rational numbers. d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.	7.NS.A.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (–1)(–1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then –(p/q) = (–p)/q = p/(–q). Interpret quotients of rational numbers by describing real-world contexts. c. Apply properties of operations as strategies to multiply and divide rational numbers. d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates ~~in 0s~~ or eventually repeats.
7	The Number System (NS)	A. Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	7.NS.A.3 Solve real-world and mathematical problems involving the four operations with rational numbers. (Computations with rational numbers extend the rules for manipulating fractions to complex fractions.)	Leave standard as is.
7	Expressions and Equations (EE)	A. Use properties of operations to generate equivalent expressions.	7.EE.A.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	Keep
7	Expressions and Equations (EE)	A. Use properties of operations to generate equivalent expressions.	7.EE.A.2 Understand that rewriting an expression in different forms in a contextual problem can provide multiple ways of interpreting the problem and how the quantities in it are related.	7.EE.A.2 Rewrite and connect equivalent expressions in different forms in a contextual problem to provide multiple ways of interpreting the problem and investigating how the quantities in it are related.
7	Expressions and Equations (EE)	B. Solve real-life and mathematical problems using numerical and algebraic expressions and equations and inequalities.	7.EE.B.3 Solve multi-step real-world and mathematical problems posed with positive and negative rational numbers presented in any form (whole numbers, fractions, and decimals). a. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate. b. Assess the reasonableness of answers using mental computation and estimation strategies.	Keep as is

7	Expressions and Equations (EE)	B. Solve real-life and mathematical problems using numerical and algebraic expressions and equations and inequalities.	7.EE.B.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve contextual problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. b. Solve contextual problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality on a number line and interpret it in the context of the problem. (Note that inequalities using >, <, ≤, ≥ are included in this standard).	7.EE.B.4 Use variables to represent quantities in real-world and mathematical problems, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve real-world and mathematical problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. b. Solve real-world and mathematical problems leading to inequalities of the form px + q > r, px + q < r, px + q >= r, or px + q <= r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality on a number line and interpret it in the context of the problem.
7	Geometry (G)	A. Draw, construct, and describe geometrical figures and describe the relationships between them.	7.G.A.1 Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.	7.G.A.1 Solve problems involving scale drawings of congruent and similar geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.
7	Geometry (G)	A. Draw, construct, and describe geometrical figures and describe the relationships between them.	7.G.A.2 Draw geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.	7.G.A.2 Draw triangles with given conditions: three angle measures or three side measures. Notice when the conditions determine a unique triangle, more than one triangle, or no triangle.
7	Geometry (G)	B. Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	7.G.B.3 Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	7.G.B.3 Know the formulas for the area and circumference of a circle and use them to solve problems. Explore the relationships between the radius, circumference, and area of a circle, and the number pi.
7	Geometry (G)	B. Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	7.G.B.4 Know and use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	Keep
7	Geometry (G)	B. Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	7.G.B.5 Solve real-world and mathematical problems involving area, volume, and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	7.G.B.5 Solve real-world and mathematical problems involving area of two-dimensional figures composed of triangles, quadrilaterals, and polygons, and volume and surface area of three-dimensional objects composed of cubes and right prisms.
7	Statistics and Probability (SP)	A. Use random sampling to draw inferences about a population.	7.SP.A.1 Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.	7.SP.A.1 Understand that Explore how statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.

7	Statistics and Probability (SP)	A. Use random sampling to draw inferences about a population.	7.SP.A.2 Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions.	7.SP.A.2 Collect and use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions.
7	Statistics and Probability (SP)	B. Draw informal comparative inferences about two populations.	7.SP.B.3 Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability.	7.SP.B.3 Informally compare the measures of center (mean, median, mode) of two numerical data distributions with similar variabilities.
7	Statistics and Probability (SP)	B. Draw informal comparative inferences about two populations.	7.SP.B.4 Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.	Keep
7	Statistics and Probability (SP)	C. Investigate chance processes and develop, use, and evaluate probability models.	7.SP.C.5 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring.	Change first sentence to "Recognize that the probability of a chance event is a number between 0 and 1 and interpret the likelihood of the event occurring."
7	Statistics and Probability (SP)	C. Investigate chance processes and develop, use, and evaluate probability models.	7.SP.C.6 Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability.	7.SP.C.6 Calculate theoretical and experimental probability of simple events. a) Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. b) Calculate the theoretical probability of a simple event. c) Compare theoretical probabilities to experimental probabilities; explain any possible sources of discrepancy.
7	Statistics and Probability (SP)	C. Investigate chance processes and develop, use, and evaluate probability models.	7.SP.C.7 Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.	7.SP.C.7 Develop a probability model and use it to find experimental or theoretical probabilities of events. a. Use a uniform probability model, with equal probability assigned to all outcomes, to determine probabilities of events. b. Develop a probability model, including non-uniform models, by observing frequencies in data generated from a chance process. Use the model to estimate probabilities of events.
7	Statistics and Probability (SP)	D. Summarize and describe numerical data sets.	7.SP.D.8 Summarize numerical data sets in relation to their context. a. Give quantitative measures of center (median and/or mean) and variability (range and/or interquartile range), as well as describe any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. b. Know and relate the choice of measures of center (median and/or mean) and variability (range and/or interquartile range) to the shape of the data distribution and the context in which the data were gathered.	7.SP.D.8 Summarize a numerical data set in relation to its context. a. Give quantitative measures of center (median and/or mean) and variability (range and/or interquartile range), as well as describe any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. b. Relate and understand the choice of measures of center (median and/or mean) and variability (range and/or interquartile range) to the shape of the data distribution and the context in which the data were gathered.

Grade/Course	Domain	Cluster	Standard	Suggested Change	
8	The Number System (NS)	A. Know that there are numbers that are not rational, and approximate them by rational numbers.	8.NS.A.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually or terminates, and convert a decimal expansion which repeats eventually or terminates into a rational number.	8.NS.A.1 Know that real numbers that are not rational are called irrational (pi, sqrt(2), etc.). Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually or terminates, and convert a decimal expansion which repeats eventually or terminates into a rational number.	
8	The Number System (NS)	A. Know that there are numbers that are not rational, and approximate them by rational numbers.	8.NS.A.2 Use rational approximations of irrational numbers to compare the size of irrational numbers locating them approximately on a number line diagram. Estimate the value of irrational expressions such as π^2.	8.NS.A.2 Use rational approximations of irrational numbers to compare the size of irrational numbers by locating them approximately on a number line diagram. Estimate the value of irrational expressions such as π^2.	SD
8	Expressions and Equations (EE)	A. Work with radicals and integer exponents.	8.EE.A.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions.	Keep	
8	Expressions and Equations (EE)	A. Work with radicals and integer exponents.	8.EE.A.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that √2 is irrational.	8.EE.A.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that √2 is irrational.	
8	Expressions and Equations (EE)	A. Work with radicals and integer exponents.	8.EE.A.3 Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities and to express how many times as much one is than the other.	Keep	
8	Expressions and Equations (EE)	A. Work with radicals and integer exponents.	8.EE.A.4 Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.	8.EE.A.4 Using technology, solve real-world problems perform operations with numbers expressed in decimal and scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.	

8	Expressions and Equations (EE)	B. Understand the connections between proportional relationships, lines, and linear equations.	8.EE.B.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.	Keep
8	Expressions and Equations (EE)	B. Understand the connections between proportional relationships, lines, and linear equations.	8.EE.B.6 Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; know and derive the equation y = mx for a line through the origin and the equation y = mx + b for a line intercepting the vertical axis at b.	8.EE.B.6 Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; know and apply the equation y = mx for a line through the origin and the equation y = mx + b for a line intercepting the vertical axis at b.
8	Expressions and Equations (EE)	C. Analyze and solve linear equations and systems of two linear equations. NOT THIS ONE Analyze and solve linear equations, linear inequalities, and systems of two linear equations. USE THIS ONE	8.EE.C.7 Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b results (where a and b are different numbers). b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.	8.EE.C.7 Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b results (where a and b are different numbers). b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and ~~collecting~~ combining like terms.
8	Expressions and Equations (EE)	C. Analyze and solve linear equations and systems of two linear equations. NOT THIS ONE Analyze and solve linear equations, linear inequalities, and systems of two linear equations. USE THIS ONE	8.EE.C.8 Analyze and solve systems of two linear equations. a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. c. Solve real-world and mathematical problems leading to two linear equations in two variables.	8.EE.C.8 Analyze and solve systems of two linear equations graphically. a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. b. Estimate solutions by graphing a system of two linear equations in two variables. Identify solutions by inspecting graphs.

8	Expressions and Equations (EE)	C. Analyze and solve linear equations, linear inequalities, and systems of two linear equations.	New Standard	8.EE.C.9 By graphing on the coordinate plane or by analyzing a given graph, determine the solution set of a linear inequality in one or two variables.
8	Functions (F)	A. Define, evaluate, and compare functions.	8.F.A.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. (Function notation is not required in 8th grade.)	Keep
8	Functions (F)	A. Define, evaluate, and compare functions.	8.F.A.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).	Keep
8	Functions (F)	A. Define, evaluate, and compare functions.	8.F.A.3 Know and interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear.	Keep
8	Functions (F)	B. Use functions to model relationships between quantities.	8.F.B.4 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models and in terms of its graph or a table of values.	Keep
8	Functions (F)	B. Use functions to model relationships between quantities.	8.F.B.5 Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.	Keep
8	Geometry (G)	A. Understand and describe the effects of transformations on two-dimensional figures and use informal arguments to establish facts about angles.	8.G.A.1 Verify experimentally the properties of rotations, reflections, and translations. a. Lines are taken to lines, and line segments to line segments of the same length. b. Angles are taken to angles of the same measure. c. Parallel lines are taken to parallel lines.	Delete - Combined this one with 8.G.A.2

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8	Geometry (G)	A. Understand and describe the effects of transformations on two-dimensional figures and use informal arguments to establish facts about angles.	8.G.A.2 Describe the effect of translations, rotations, reflections, and dilations on two-dimensional figures using coordinates.	8.G.A.2 Describe the effect of translations, rotations, reflections, and dilations on two-dimensional figures using coordinates. a. Verify informally that lines are taken to lines, and determine when line segments are taken to line segments of the same length. b. Verify informally that angles are taken to angles of the same measure. c. Verify informally that parallel lines are taken to parallel lines. d. Make connections between dilations and scale factors.
8	Geometry (G)	A. Understand and describe the effects of transformations on two-dimensional figures and use informal arguments to establish facts about angles.	8.G.A.3 Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.	Remove example from standard.
8	Geometry (G)	B. Understand and apply the Pythagorean Theorem.	8.G.B.4 Explain a proof of the Pythagorean Theorem and its converse.	8.G.B.4 Explain a model of the Pythagorean Theorem and its converse.
8	Geometry (G)	B. Understand and apply the Pythagorean Theorem.	8.G.B.5 Know and apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.	Keep
8	Geometry (G)	B. Understand and apply the Pythagorean Theorem.	8.G.B.6 Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	Keep
8	Geometry (G)	C. Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.	8.G.C.7 Know and understand the formulas for the volumes of cones, cylinders, and spheres, and use them to solve real-world and mathematical problems.	8.G.C.7 Apply the formulas for the volumes of cones, cylinders, and spheres to solve real-world and mathematical problems.
8	Statistics and Probability (SP)	A. Investigate patterns of association in bivariate data.	8.SP.A.1 Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.	Keep

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8	Statistics and Probability (SP)	A. Investigate patterns of association in bivariate data.	8.SP.A.2 Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line and informally assess the model fit by judging the closeness of the data points to the line.	8.SP.A.2 Know that straight lines are widely used to model linear relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line and informally assess the model fit by judging the closeness of the data points to the line.
8	Statistics and Probability (SP)	A. Investigate patterns of association in bivariate data.	8.SP.A.3 Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept.	8.SP.A.3 Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercepts.
8	Statistics and Probability (SP)	B. Investigate chance processes and develop, use, and evaluate probability models	8.SP.B.4 Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. Represent sample spaces for compound events using methods such as organized lists, tables, and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event.	8.SP.B.4 Find probabilities of and represent sample spaces for compound events using organized lists, tables, tree diagrams, and simulation. a) Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. b) Represent sample spaces for compound events using methods such as organized lists, tables, and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event.

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