NUMBER SENSE (NS)	Standard	Core Concepts	Key terms	examples
MA.6.NS.1	Read & write whole numbers in scientific notation.	• Scientific notation is written as the product of a whole number (greater than or equal to 1 and less than 10) and of a power of 10.	• product • power • scientific notation	
MA.6.NS.2	Understand and apply the basic concept of negative numbers (e.g., on a number line, in counting, in temperature, in "owing").	• Negative numbers decrease as they get further from zero. • Positive numbers increase as they get further from zero.	• integer	
MA.6.NS.3	Interpret the absolute value of a number as the distance from zero on a number line, and find the absolute value of real numbers.	• The absolute value is always positive.	• absolute value	

NUMBER SENSE (NS)	Standard	Core Concepts	Key terms	examples
MA.6.NS.4	Compare and represent on a number line positive and negative integers	• Numbers can be represented on a number line. • Positive numbers are found to the right of the zero. • Negative numbers are found to the left of the zero.	• integers	
MA.6.NS.5	Compare and represent on a number line positive and negative fractions and mixed numbers.	• A positive proper fraction is a number greater than 0 and less than 1. • A negative proper fraction is a number greater than -1 and less than 0. • A positive mixed number is found between its whole number and the next consecutive whole number. • A negative mixed number is found between its integer and the previous integer.	• proper fraction • improper fraction • mixed number • integer • whole number	

NUMBER SENSE (NS)	Standard	Core Concepts	Key terms	examples
MA.6.NS.6	Compare and represent on a number line positive and negative decimals (to the ten thousandths)	• Decimals should be compared beginning with the largest place value. • Zeros may be added to decimals after the last digit.	• place value (to the ten-thousandths) • rational numbers	
MA.6.NS.7	Convert between any two representations of numbers (fractions, mixed numbers, decimals, and percents) without the use of a calculator.	• A mixed number is the sum of the whole number and the fractional part. • Mixed numbers can be written as improper fractions. • Mixed numbers can be split into a whole number and a fraction.	• mixed number • improper fraction • whole number • proper fraction	
MA.6.NS.8	Recognize decimal equivalents for commonly used fractions without the use of a calculator.	• Commonly used fractions include ⅛, ¼, ⅓, ½, ⅔, ¾.	• equivalent	

NUMBER SENSE (NS)	Standard	Core Concepts	Key terms	examples
MA.6.NS.9	Use models to represent ratios.	• A ratio is a comparison of two quantities. • Ratios can be written in three forms: word (using "to"), ratio (using a colon), and fraction.	• ratio	
MA.6.NS.10	Find the least common multiple and the greatest common factor of whole numbers. Use them to solve problems with fractions (e.g., to find a common denominator to add up to three fractions and mixed numbers or to find the simplified form for a fraction and mixed number).	• Multiples help find common denominators. • A multiple is the product of a quantity and an integer. • Factors help simplify a fraction. • Factors are pairs of numbers that when multiplied together equal the original quantity. • When writing an equivalent fraction, however you change the denominator (by multiplication or division) you must do the same to the numerator.	• multiple • factor	

NUMBER SENSE (NS)	Standard	Core Concepts	Key terms	examples
MA.6.NS.11	Understand and compute whole number power of whole numbers.	• A power utilizes repeated multiplication.	• power • base • exponent	
MA.6.NS.12	Find the prime factorization of whole numbers and write the results using exponents.	• A whole number can be written as the product of multiple factors. If the factors are the same, they may be simplified by using an exponent.	• prime number • factor • exponent	

COMPUTATION (C)	Standard	Core Concepts	Key terms	examples
MA.6.C.1	Add and subtract positive and negative integers.	• Adding like signs results in an integer of the same sign. • Adding unlike signs results in an integer of whichever absolute value is greater. • Subtracting a quantity is equivalent to adding the opposite amount.	• integer • absolute value • opposite	
MA.6.C.2	Multiply and divide positive and negative integers.	• Multiplying or dividing like signs results in a positive integer. • Multiplying or dividing unlike signs results in a negative integer.	• integer	
MA.6.C.3	Multiply and divide decimals.			

COMPUTATION (C)	Standard	Core Concepts	Key terms	examples
MA.6.C.4	Explain how to add and subtract positive fractions and mixed numbers with common and different denominators, performing the calculations	• To add or subtract fractions, you must have common denominators. • Mixed numbers can be added or subtracted by computing with the whole numbers and then the fractions.	• common denominator • mixed number	
MA.6.C.5	Explain how to multiply and divide positive fractions and mixed numbers, performing the calculations	• When multiplying and dividing mixed numbers, they should be changed into improper fractions first.	• improper fraction • mixed number	

COMPUTATION (C)	Standard	Core Concepts	Key terms	examples
MA.6.C.6	Solve problems involving addition, subtraction of positive fractions and mixed numbers, explaining why a particular operation was used for any given situation.	• Interpret a story problem and decide which operation is appropriate to be able to solve the problem.	• mixed number	
MA.6.C.7	Solve problems involving multiplication and division of positive fractions and mixed numbers, explaining why a particular operation was used for a given situation.	• Interpret a story problem and decide which operation is appropriate to be able to solve the problem.	• mixed number	
MA.6.C.8	Interpret and use ratios to show the relative sizes of two quantities. Use the notations: a/b, a to b, a:b.	• A ratio is a comparison of two quantities. • Ratios can be written in three forms: word (using "to"), ratio (using a colon), and fraction.	• ratio	

COMPUTATION (C)	Standard	Core Concepts	Key terms	examples
MA.6.C.9	Understand proportions and use them to solve problems.	• Two equivalent ratios form a proportion.	• ratio • proportion	
MA.6.C.10	Calculate given percentages of quantities and solve problems involving discounts at sales, interest earned, and tips.	• Simple interest formula: I=prt, where I is the interest earned, p is the principal amount, r is the rate (percent) written as a decimal, and t is the amount of time written in years. • The percent equation can be used with discounts and tips. • Percent equation: part = whole x percent (written as a decimal)	• percent • discount • interest	

COMPUTATION (C)	Standard	Core Concepts	Key terms	examples
MA.6.C.11	Use estimation to decide whether answers are reasonable to decimal problems.	• Decimals can be rounded to the nearest whole number (or other place value depending on the problem). • Answers can be compared to the rounded estimate for reasonableness.	• rounding	
MA.6.C.12	Use mental arithmetic to add or subtract simple fractions and decimals.	• When adding different types of rational numbers, convert everything to the same type of number.	• rational number	
MA.6.C.13	Add and subtract with money in decimal notation	• Adding and subtracting with money follows the same rules as adding and subtracting with regular decimals.		
MA.6.C.14	Multiply and divide with money in decimal notation	• Multiplying and dividing with money follows the same rules as multiplying and dividing with regular decimals.		

ALGEBRA AND FUNCTIONS (AF)	Standard	Core Concepts	Key terms	examples
MA.6.AF.1	Use correct algebraic terminology such as variable, equation, term, coefficient, inequality, expression, and constant.	• Understand these terms in a story problem context.	• variable • equation • term • coefficient • inequality • expression • constant	

ALGEBRA AND FUNCTIONS (AF)	Standard	Core Concepts	Key terms	examples
MA.6.AF.2	Write and solve one-step linear equations and inequalities in one variable and check the answers.	• Linear equations contain an equal sign and are solved by performing the opposite operation on the variable. • Linear inequalities contain a less than, less than or equal to, greater than, or greater than or equal to sign and are solved by performing the opposite operation on the variable. • If multiplying or dividing the inequality by a negative number, the inequality sign must be flipped (ex: < would become >)	• equation • inequality • inverse (or opposite) operation	
MA.6.AF.3	Write and use formulas with up to three variables to solve problems.	• A variable takes the place of a number.	• order of operations • variable • equation	

ALGEBRA AND FUNCTIONS (AF)	Standard	Core Concepts	Key terms	examples
MA.6.AF.4	Interpret and evaluate mathematical expressions that use grouping symbols such as parentheses.	• An expression does not contain an equal sign. • Order of operations is followed by evaluating *all* the operations inside grouping symbols first.	• order of operations • expression	
MA.6.AF.5	Use parentheses to indicate which operation to perform first when writing expressions containing more than two terms and different operations.	• When writing a story problem as an expression, words requiring grouping symbols to be used may include: sum, difference, product, quotient.	• expression • grouping symbols • order of operations	
MA.6.AF.6	Use variables in expressions describing geometric quantities.	• Interpret an unknown in a geometric formula, such as area, as a variable.	• variable • expression	

ALGEBRA AND FUNCTIONS (AF)	Standard	Core Concepts	Key terms	examples
MA.6.AF.7	Apply the correct order of operations and the properties of real numbers (e.g., identity, inverse, commutative, associative, and distributive properties) to evaluate numerical expressions. Justify each step in the process.	• Order of operations includes these steps: parenthesis, exponents, multiplication and division, and addition and subtraction. • If there are multiple operations within the same step, they should be performed from left to right. • Properties of real numbers act like shortcuts to help solve a multiplication or addition problem.	• order of operations • identity property • inverse property • commutative property • associative property • distributive property	
MA.6.AF.8	Identify and graph ordered pairs in the four quadrants of the coordinate plane.	• Ordered pairs are made up of two coordinates, the x and y. • The x-axis is horizontal while the y-axis is vertical.	• coordinate plane • quadrant • ordered pair	

ALGEBRA AND FUNCTIONS (AF)	Standard	Core Concepts	Key terms	examples
MA.6.AF.9	Understand that the length of a horizontal line segment on a coordinate plane equals the difference between the x-coordinates and that the length of a vertical line segment on a coordinate plane equals the difference between the y-coordinates.	• Distance between two horizontal points is calculated by subtracting the x-coordinates. • Distance between two vertical points is calculated by subtracting the y-coordinates.	• ordered pair	
MA.6.AF.10	Use information taken from a graph or equation to answer questions about a problem situation.	• Slope is the change in the y-coordinate divided by the change in the x-coordinate. • The slant of a line represents the slope.	• slope	
MA.6.AF.11	Solve the problems involving linear functions with integer values. Write the equation and graph the resulting ordered pairs of integers on a grid.	• The solution to a linear equation containing the variables x and y, is the resulting line on a coordinate plane. • All points located on a line are considered solutions to the equation.	• slope • intercept • function • ordered pair • coordinate plane	

ALGEBRA AND FUNCTIONS (AF)	Standard	Core Concepts	Key terms	examples
MA.6.AF.12	Investigate how a change in one variable relates to a change in a second variable.	• There are four types of changes: ○ positive, when the x-variable increases so does the y-variable. ○ negative, when the x-increases, y- decreases. ○ zero, when the x-increases, y- stays the same. ○ undefined, when the x-stays the same, y-increases.	• slope • coordinate plane	

GEOMETRY (G)	Standard	Core Concepts	Key terms	examples
MA.6.G.1	Identify and draw vertical, adjacent, complementary, and supplementary angles and describe these angle relationships.	• Recognize different types of angle pairs.	• vertical angles • adjacent angles • complementary angles • supplementary angles	
MA.6.G.2	Use the properties of complementary, supplementary, and vertical angles to solve problems involving an unknown angle. Justify solutions.	• Complementary angles add up to 90 degrees. • Supplementary angles add up to 180 degrees. • Vertical angles are equivalent.	• complementary angles • supplementary angles • vertical angles	
MA.6.G.3	Draw quadrilaterals and triangles from given information about them.	• Quadrilaterals may include a square, rectangle, rhombus, trapezoid, or parallelogram. • Triangles may include an equilateral, isosceles, a scalene, obtuse, right, or any combination.		

GEOMETRY (G)	Standard	Core Concepts	Key terms	examples
MA.6.G.4	Understand that the sum of the interior angles of any triangle is 180□‹ and that the sum of the interior angles of any quadrilateral is 360□‹. Use this information to solve problems.	• Interior angles are the angles inside of a closed figure. • Missing angles can be calculated by taking the sum of the known angles and subtracting from the total sum of the interior angles (180 or 360, depending).	• interior angles	
MA.6.G.5	Identify and draw two-dimensional shapes that are similar.	• Similar figures are the same shape but different sizes.	• similar figures	
MA.6.G.6	Draw the translation (slide) and reflection (flip) of shapes.	• Translations move every point of a figure the same distance in the same direction. • Reflections move each point of a figure equidistant on either side of the line of reflection.	• transformations • translation • reflection • line of reflection	

MEASUREMENT (M)	Standard	Core Concepts	Key terms	examples
MA.6.M.1	Select and apply appropriate standard units and tools to measure length, area, volume, weight, time, temperature, and the size of angles.	• Different tools are used depending on whether customary or metric units are being measured. Understand both.	• customary units • metric units	
MA.6.M.2	Understand and use larger units for measuring length by comparing miles to yards and kilometers to meters.	• 1 mile = 1,760 yards. • 1 kilometer = 1,000 meters.	• customary units • metric units	
MA.6.M.3	Understand and use larger units for measuring area by comparing acres and square miles to square yards and square kilometers to square meters.	• 1 square mile = 640 acres. • 1 square mile = 3,097,600 (1760 x 1760) square yards. • 1 square kilometer = 1,000,000 (1000 x 1000) square meters.		
MA.6.M.4	Understand the concept of the constant π as the ratio of the circumference to the diameter of a circle. Develop and use the formulas for the circumference and area of a circle.	• Circumference of a circle is equivalent to pi times the diameter. • Pi is equivalent to the circumference divided by the diameter.	• circumference • diameter • pi	

MEASUREMENT (M)	Standard	Core Concepts	Key terms	examples
MA.6.M.5	Know common estimates of π (3.14, 722) and use these values to estimate and calculate the circumference and the area of circles. Compare with actual measurements.	• Pi is an irrational number because its decimal goes on forever without repeating. • We use estimations when calculating with pi.	• rational number • irrational number	
MA.6.M.6	Construct a cube and rectangular box from two-dimensional patterns and use these patterns to compute the surface area of these objects.	• Surface area is the sum of all the areas of the faces on a 3D figure.	• net • area • surface area	
MA.6.M.7	Use strategies to find the surface area and volume of rectangular solids, right prisms and cylinders using appropriate units.	• Surface area is the sum of all the areas of the faces on a 3D figure. • When a cylinder is unrolled, the resulting figure is a rectangle. • Volume of any right prism or cylinder can be calculated by multiplying the area of the base by the height of the figure.	• area • surface area • volume	

MEASUREMENT (M)	Standard	Core Concepts	Key terms	examples
MA.6.M.8	Use a formula to convert temperatures between Celsius and Fahrenheit.	• C = (F - 32) x 5/9 • F = (C x 9/5) + 32 • Where C represents degrees Celsius and F represents degrees Fahrenheit.	• Celsius • Fahrenheit	

DATA ANALYSIS AND PROBABILITY (DP)	Standard	Core Concepts	Key terms	examples
MA.6.DP.1	Organize and display single-variable data in appropriate graphs and stem-and-leaf plots, and explain which types of graphs are appropriate for various data sets.	• Circle graphs are useful when comparing parts to a whole. • Bar graphs are useful to compare categories. • Line graphs are used to look at data over time. • Stem-and-leaf plots are useful when comparing and ordering numerical data.	• circle graph • line graph • bar graph • stem-and-leaf plot	

DATA ANALYSIS AND PROBABILITY (DP)	Standard	Core Concepts	Key terms	examples
MA.6.DP.2	Make frequency tables for numerical data, grouping the data in different ways to investigate how different groupings describe the data. Understand and find relative and cumulative frequency for a data set. Use histograms of the data and of the relative frequency distribution, and a broken line graph for cumulative frequency, to interpret the data.	• A frequency table is used to group data by how often a certain category occurs. • Histograms are a visual display of frequency tables. • A broken scale represents a large gap between data.	• frequency table • relative frequency • cumulative frequency • histogram • broken line graph	
MA.6.DP.3	Compare the mean, median, and mode for a set of data and explain which measure is most appropriate in a given context.	• Measures of central tendency are used to get a general sense of the data. • Some measures are better than others for explaining data depending on the situation.	• measures of central tendency • mean • median • mode	

DATA ANALYSIS AND PROBABILITY (DP)	Standard	Core Concepts	Key terms	examples
MA.6.DP.4	Show all possible outcomes for compound events in an organized way and find the theoretical probability of each outcome.	• Tree diagrams can be used to display outcomes of compound events. • The basic counting principle can be used to determine how many outcomes there are.	• compound events • theoretical probability • basic counting principal	
MA.6.DP.5	Use data to estimate the probability of future events.	• Estimating probability for future events can be done by setting up a proportion.	• ratio • proportion	
MA.6.DP.6	Understand and represent probabilities as ratios, measures of relative frequency, decimals between 00 and 1, and percentages between 0 and 100 and verify that the probabilities computed are reasonable.	• The greatest likelihood of an event taking place is 100%. • Probabilities can be written as equivalent fractions (between 0 and 1), decimals (between 0 and 1), and percents (between 0 and 100).	• ratio • proportion • probability	