

Aligned ReadiStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Algebra &amp; Functions</b> Solve problems using algebraic expressions and symbols to represent relationships, patterns, and functions of different types.	6	Expressions and Equations	Apply and extend previous understandings of arithmetic to algebraic expressions.	6.EE.2a Write, read, and evaluate expressions in which letters stand for numbers.	Write expressions that record operations with numbers and with letters standing for numbers.	6.EE.2a
	6	Expressions and Equations	Apply and extend previous understandings of arithmetic to algebraic expressions.	6.EE.2b Write, read, and evaluate expressions in which letters stand for numbers.	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.	6.EE.2b
	6	Expressions and Equations	Apply and extend previous understandings of arithmetic to algebraic expressions.	6.EE.2c Write, read, and evaluate expressions in which letters stand for numbers.	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 Operations).	6.EE.2c
	6	Expressions and Equations	Apply and extend previous understandings of arithmetic to algebraic expressions.	6.EE.3 Apply the properties of operations to generate equivalent expressions.		6.EE.3
	6	Expressions and Equations	Apply and extend previous understandings of arithmetic to algebraic expressions.	6.EE.4 Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them).		6.EE.4
	6	Expressions and Equations	Reason about and solve one-variable equations and inequalities.	6.EE.5 Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, 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.5

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<b>Algebra &amp; Functions</b> Solve problems using algebraic expressions and symbols to represent relationships, patterns, and functions of different types.	6	Expressions and Equations	Reason about and solve one-variable equations and inequalities.	6.EE.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.6
	6	Expressions and Equations	Reason about and solve one-variable equations and inequalities.	6.EE.7 Solve real-world and mathematical problems by writing and solving 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.7
	6	Expressions and Equations	Reason about and solve one-variable equations and inequalities.	6.EE.8 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 that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions; represent solutions of such inequalities on number line diagrams.		6.EE.8
	6	Expressions and Equations	Represent and analyze quantitative relationships between dependent and independent variables.	6.EE.9 Use variables to represent two quantities in a real-world problem that change in relationship to one another; 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. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.		6.EE.9
	7	Expressions and Equations	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.		7.EE.3

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<b>Algebra &amp; Functions</b> Solve problems using algebraic expressions and symbols to represent relationships, patterns, and functions of different types.	7	Expressions and Equations	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	7.EE.4a 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.	Solve word 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.	7.EE.4a
	7	Expressions and Equations	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	7.EE.4b 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.	Solve word 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 and interpret it in the context of the problem.	7.EE.4b
	7	Expressions and Equations	Use properties of operations to generate equivalent expressions.	7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.		7.EE.1
	7	Expressions and Equations	Use properties of operations to generate equivalent expressions.	7.EE.2 Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.		7.EE.2
	7	Ratios and Proportional Relationships	Analyze proportional relationships and use them to solve real-world and mathematical problems.	7.RP.2b Recognize and represent proportional relationships between quantities.	Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.	7.RP.2b

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<b>Algebra &amp; Functions</b> Solve problems using algebraic expressions and symbols to represent relationships, patterns, and functions of different types.	8	Expressions and Equations	Analyze and solve linear equations and pairs of simultaneous linear equations.	8.EE.7a Solve linear equations in one variable.	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).	8.EE.7a
	8	Expressions and Equations	Analyze and solve linear equations and pairs of simultaneous linear equations.	8.EE.7b Solve linear equations in one variable.	Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.	8.EE.7b
	8	Expressions and Equations	Analyze and solve linear equations and pairs of simultaneous linear equations.	8.EE.8c Analyze and solve pairs of simultaneous linear equations.	Solve real-world and mathematical problems leading to two linear equations in two variables.	8.EE.8c
	8	Functions	Define, evaluate, and compare functions.	8.F.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.		8.F.1
	8	Functions	Define, evaluate, and compare functions.	8.F.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).		8.F.2
	8	Functions	Define, evaluate, and compare functions.	8.F.3 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.		8.F.3

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<b>Algebra &amp; Functions</b> Solve problems using algebraic expressions and symbols to represent relationships, patterns, and functions of different types.	8	Functions	Use functions to model relationships between quantities.	8.F.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.		8.F.4
	8	Functions	Use functions to model relationships between quantities.	8.F.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.		8.F.5
	K-12	Standards for Mathematical Practice		MP.1 Make sense of problems and persevere in solving them.	Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.	MP.1

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<b>Algebra &amp; Functions</b> Solve problems using algebraic expressions and symbols to represent relationships, patterns, and functions of different types.	K-12	Standards for Mathematical Practice		MP.2 Reason abstractly and quantitatively.	Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.	MP.2
	K-12	Standards for Mathematical Practice		MP.3 Construct viable arguments and critique the reasoning of others.	Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.	MP.3

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<p><b>Algebra &amp; Functions</b> Solve problems using algebraic expressions and symbols to represent relationships, patterns, and functions of different types.</p>	K-12	Standards for Mathematical Practice		MP.4 Model with mathematics.	Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.	MP.4

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<b>Algebra &amp; Functions</b> Solve problems using algebraic expressions and symbols to represent relationships, patterns, and functions of different types.	K-12	Standards for Mathematical Practice		MP.5 Use appropriate tools strategically.	Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.	MP.5
	K-12	Standards for Mathematical Practice		MP.6 Attend to precision.	Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.	MP.6

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<b>Algebra &amp; Functions</b> Solve problems using algebraic expressions and symbols to represent relationships, patterns, and functions of different types.	K-12	Standards for Mathematical Practice		MP.7 Look for and make use of structure.	Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see $7 \times 8$ equals the well remembered $7 \times 5 + 7 \times 3$ , in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$ , older students can see the 14 as $2 \times 7$ and the 9 as $2 + 7$ . They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers $x$ and $y$ .	MP.7
	K-12	Standards for Mathematical Practice		MP.8 Look for and express regularity in repeated reasoning.	Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$ . Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$ , $(x - 1)(x^2 + x + 1)$ , and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.	MP.8

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<b>Communication</b> Express mathematical ideas precisely and communicate them coherently and clearly in the language and notation of mathematics.	6	Ratios and Proportional Relationships	Understand ratio concepts and use ratio reasoning to solve problems.	6.PR.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.		6.PR.2
	6	Ratios and Proportional Relationships	Understand ratio concepts and use ratio reasoning to solve problems.	6.RP.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.		6.RP.1
	6	Expressions and Equations	Apply and extend previous understandings of arithmetic to algebraic expressions.	6.EE.2a Write, read, and evaluate expressions in which letters stand for numbers.	Write expressions that record operations with numbers and with letters standing for numbers.	6.EE.2a
	6	Expressions and Equations	Apply and extend previous understandings of arithmetic to algebraic expressions.	6.EE.4 Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them).		6.EE.4
	6	Statistics and Probability	Develop understanding of statistical variability.	6.SP.2 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.		6.SP.2
	6	Statistics and Probability	Summarize and describe distributions.	6.SP.5a Summarize numerical data sets in relation to their context, such as by:	Reporting the number of observations.	6.SP.5a
	6	Statistics and Probability	Summarize and describe distributions.	6.SP.5b Summarize numerical data sets in relation to their context, such as by:	Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.	6.SP.5b
	6	Statistics and Probability	Summarize and describe distributions.	6.SP.5c Summarize numerical data sets in relation to their context, such as 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.	6.SP.5c

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<b>Communication</b> Express mathematical ideas precisely and communicate them coherently and clearly in the language and notation of mathematics.	6	The Number System	Apply and extend previous understandings of numbers to the system of rational numbers.	6.NS.7b Understand ordering and absolute value of rational numbers.	Write, interpret, and explain statements of order for rational numbers in real-world contexts.	6.NS.7b
	6	The Number System	Apply and extend previous understandings of numbers to the system of rational numbers.	6.NS.7c Understand ordering and absolute value of rational numbers.	Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.	6.NS.7c
	7	Geometry	Draw, construct, and describe geometrical figures and describe the relationships between them.	7.G.3 Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.		7.G.3
	7	Ratios and Proportional Relationships	Analyze proportional relationships and use them to solve real-world and mathematical problems.	7.RP.2d Recognize and represent proportional relationships between quantities.	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.2d
	7	Statistics and Probability	Draw informal comparative inferences about two populations.	7.SP.4 Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.		7.SP.4
	7	Statistics and Probability	Investigate chance processes and develop, use, and evaluate probability models.	7.SP.5 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.		7.SP.5

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<b>Communication</b> Express mathematical ideas precisely and communicate them coherently and clearly in the language and notation of mathematics.	7	The Number System	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.	7.NS.2a Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.	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.	7.NS.2a
	7	The Number System	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.	7.NS.2b Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.	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.	7.NS.2b
	7	The Number System	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	7.NS.1a 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.	Describe situations in which opposite quantities combine to make 0.	7.NS.1a
	7	The Number System	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	7.NS.1b 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.	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.	7.NS.1b

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<b>Communication</b> Express mathematical ideas precisely and communicate them coherently and clearly in the language and notation of mathematics.	8	Expressions and Equations	Analyze and solve linear equations and pairs of simultaneous linear equations.	8.EE.7a Solve linear equations in one variable.	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).	8.EE.7a
	8	Expressions and Equations	Understand the connections between proportional relationships, lines, and linear equations.	8.EE.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; 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.6
	8	Expressions and Equations	Work with radicals and integer exponents.	8.EE.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.4
	8	Functions	Define, evaluate, and compare functions.	8.F.3 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.		8.F.3
	8	Functions	Use functions to model relationships between quantities.	8.F.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.		8.F.5
	8	Geometry	Understand congruence and similarity using physical models, transparencies, or geometry software.	8.G.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.		8.G.3

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<p><b>Communication</b> Express mathematical ideas precisely and communicate them coherently and clearly in the language and notation of mathematics.</p>	8	Geometry	Understand congruence and similarity using physical models, transparencies, or geometry software.	8.G.5 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.		8.G.5
	K-12	Standards for Mathematical Practice		MP.1 Make sense of problems and persevere in solving them.	Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.	MP.1

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<p><b>Communication</b> Express mathematical ideas precisely and communicate them coherently and clearly in the language and notation of mathematics.</p>	K-12	Standards for Mathematical Practice		MP.3 Construct viable arguments and critique the reasoning of others.	Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.	MP.3

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<p><b>Communication</b> Express mathematical ideas precisely and communicate them coherently and clearly in the language and notation of mathematics.</p>	K-12	Standards for Mathematical Practice		MP.4 Model with mathematics.	Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.	MP.4
	K-12	Standards for Mathematical Practice		MP.6 Attend to precision.	Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.	MP.6

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<b>Communication</b> Express mathematical ideas precisely and communicate them coherently and clearly in the language and notation of mathematics.	K-12	Standards for Mathematical Practice		MP.8 Look for and express regularity in repeated reasoning.	Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$ . Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$ , $(x - 1)(x^2 + x + 1)$ , and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.	MP.8
	6	Statistics and Probability	Summarize and describe distributions.	6.SP.5d Summarize numerical data sets in relation to their context, such as by:	Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.	6.SP.5d
<b>Connections</b> Connect ideas from different areas of mathematics (particularly geometry and algebra) to state or solve abstract or applied problems.	6	The Number System	Apply and extend previous understandings of numbers to the system of rational numbers.	6.NS.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.5
	6	The Number System	Apply and extend previous understandings of numbers to the system of rational numbers.	6.NS.6a 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.	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, e.g., $-(-3) = 3$ , and that 0 is its own opposite.	6.NS.6a

Aligned ReadStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Connections</b> Connect ideas from different areas of mathematics (particularly geometry and algebra) to state or solve abstract or applied problems.	6	The Number System	Apply and extend previous understandings of numbers to the system of rational numbers.	6.NS.6b 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.	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.	6.NS.6b
	7	Expressions and Equations	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	7.EE.4b 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.	Solve word 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 and interpret it in the context of the problem.	7.EE.4b
	8	Expressions and Equations	Analyze and solve linear equations and pairs of simultaneous linear equations.	8.EE.8c Analyze and solve pairs of simultaneous linear equations.	Solve real-world and mathematical problems leading to two linear equations in two variables.	8.EE.8c
	8	Expressions and Equations	Understand the connections between proportional relationships, lines, and linear equations.	8.EE.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.		8.EE.5
	8	Functions	Define, evaluate, and compare functions.	8.F.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.		8.F.1
	8	Statistics and Probability	Investigate patterns of association in bivariate data.	8.SP.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.2

Aligned ReadStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<p><b>Connections</b></p> <p>Connect ideas from different areas of mathematics (particularly geometry and algebra) to state or solve abstract or applied problems.</p>	K-12	Standards for Mathematical Practice		MP.1 Make sense of problems and persevere in solving them.	<p>Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.</p>	MP.1

Aligned ReadStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<p><b>Connections</b> Connect ideas from different areas of mathematics (particularly geometry and algebra) to state or solve abstract or applied problems.</p>	K-12	Standards for Mathematical Practice		MP.4 Model with mathematics.	Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.	MP.4

Aligned ReadiStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<p><b>Connections</b></p> <p>Connect ideas from different areas of mathematics (particularly geometry and algebra) to state or solve abstract or applied problems.</p>	K-12	Standards for Mathematical Practice		MP.5 Use appropriate tools strategically.	<p>Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.</p>	MP.5

Aligned ReadStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Connections</b> Connect ideas from different areas of mathematics (particularly geometry and algebra) to state or solve abstract or applied problems.	K-12	Standards for Mathematical Practice		MP.7 Look for and make use of structure.	Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see $7 \times 8$ equals the well remembered $7 \times 5 + 7 \times 3$ , in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$ , older students can see the 14 as $2 \times 7$ and the 9 as $2 + 7$ . They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers $x$ and $y$ .	MP.7
	K-12	Standards for Mathematical Practice		MP.8 Look for and express regularity in repeated reasoning.	Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$ . Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$ , $(x - 1)(x^2 + x + 1)$ , and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.	MP.8

Aligned Readiness Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Connections</b> Connect ideas from different areas of mathematics (particularly geometry and algebra) to state or solve abstract or applied problems.	6	Statistics and Probability	Develop understanding of statistical variability.	6.SP.1 Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.		6.SP.1
<b>Data, Statistics &amp; Probability</b> Analyze data, apply statistical methods, make inferences, and determine the likelihood that certain events will occur.	6	Statistics and Probability	Develop understanding of statistical variability.	6.SP.2 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.		6.SP.2
	6	Statistics and Probability	Develop understanding of statistical variability.	6.SP.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.3
	6	Statistics and Probability	Summarize and describe distributions.	6.SP.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots.		6.SP.4
	6	Statistics and Probability	Summarize and describe distributions.	6.SP.5a Summarize numerical data sets in relation to their context, such as by:	Reporting the number of observations.	6.SP.5a
	6	Statistics and Probability	Summarize and describe distributions.	6.SP.5b Summarize numerical data sets in relation to their context, such as by:	Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.	6.SP.5b
	6	Statistics and Probability	Summarize and describe distributions.	6.SP.5c Summarize numerical data sets in relation to their context, such as 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.	6.SP.5c
	6	Statistics and Probability	Summarize and describe distributions.	6.SP.5d Summarize numerical data sets in relation to their context, such as by:	Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.	6.SP.5d

Aligned Readiness Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Data, Statistics &amp; Probability</b> Analyze data, apply statistical methods, make inferences, and determine the likelihood that certain events will occur.	7	Statistics and Probability	Draw informal comparative inferences about two populations.	7.SP.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.3
	7	Statistics and Probability	Draw informal comparative inferences about two populations.	7.SP.4 Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.		7.SP.4
	7	Statistics and Probability	Investigate chance processes and develop, use, and evaluate probability models.	7.SP.5 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.		7.SP.5
	7	Statistics and Probability	Investigate chance processes and develop, use, and evaluate probability models.	7.SP.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.6
	7	Statistics and Probability	Investigate chance processes and develop, use, and evaluate probability models.	7.SP.7a 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.	Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events.	7.SP.7a
	7	Statistics and Probability	Investigate chance processes and develop, use, and evaluate probability models.	7.SP.7b 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.	Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.	7.SP.7b

Aligned Readiness Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Data, Statistics &amp; Probability</b> Analyze data, apply statistical methods, make inferences, and determine the likelihood that certain events will occur.	7	Statistics and Probability	Investigate chance processes and develop, use, and evaluate probability models.	7.SP.8a 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.	7.SP.8a
	7	Statistics and Probability	Investigate chance processes and develop, use, and evaluate probability models.	7.SP.8b Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.	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.	7.SP.8b
	7	Statistics and Probability	Investigate chance processes and develop, use, and evaluate probability models.	7.SP.8c Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.	Design and use a simulation to generate frequencies for compound events.	7.SP.8c
	7	Statistics and Probability	Use random sampling to draw inferences about a population.	7.SP.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.1
	7	Statistics and Probability	Use random sampling to draw inferences about a population.	7.SP.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.2
	8	Statistics and Probability	Investigate patterns of association in bivariate data.	8.SP.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.		8.SP.1

Aligned ReadStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Data, Statistics &amp; Probability</b> Analyze data, apply statistical methods, make inferences, and determine the likelihood that certain events will occur.	8	Statistics and Probability	Investigate patterns of association in bivariate data.	8.SP.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.2
	8	Statistics and Probability	Investigate patterns of association in bivariate data.	8.SP.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.3
	8	Statistics and Probability	Investigate patterns of association in bivariate data.	8.SP.4 Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables.		8.SP.4

Aligned ReadiStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Data, Statistics &amp; Probability</b> Analyze data, apply statistical methods, make inferences, and determine the likelihood that certain events will occur.	K-12	Standards for Mathematical Practice		MP.1 Make sense of problems and persevere in solving them.	Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.	MP.1

Aligned ReadStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Data, Statistics &amp; Probability</b> Analyze data, apply statistical methods, make inferences, and determine the likelihood that certain events will occur.	K-12	Standards for Mathematical Practice		MP.2 Reason abstractly and quantitatively.	Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.	MP.2

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<p><b>Data, Statistics &amp; Probability</b> Analyze data, apply statistical methods, make inferences, and determine the likelihood that certain events will occur.</p>	K-12	Standards for Mathematical Practice		MP.3 Construct viable arguments and critique the reasoning of others.	<p>Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.</p>	MP.3

Aligned ReadStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Data, Statistics &amp; Probability</b> Analyze data, apply statistical methods, make inferences, and determine the likelihood that certain events will occur.	K-12	Standards for Mathematical Practice		MP.4 Model with mathematics.	Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.	MP.4

Aligned Readiness Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Data, Statistics &amp; Probability</b> Analyze data, apply statistical methods, make inferences, and determine the likelihood that certain events will occur.	K-12	Standards for Mathematical Practice		MP.5 Use appropriate tools strategically.	Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.	MP.5

Aligned Readiness Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Data, Statistics &amp; Probability</b> Analyze data, apply statistical methods, make inferences, and determine the likelihood that certain events will occur.	K-12	Standards for Mathematical Practice		MP.6 Attend to precision.	Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.	MP.6
	K-12			MP.7 Look for and make use of structure.	Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see $7 \times 8$ equals the well remembered $7 \times 5 + 7 \times 3$ , in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$ , older students can see the 14 as $2 \times 7$ and the 9 as $2 + 7$ . They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers $x$ and $y$ .	MP.7

Aligned Readiness Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Data, Statistics &amp; Probability</b> Analyze data, apply statistical methods, make inferences, and determine the likelihood that certain events will occur.	K-12	Standards for Mathematical Practice		MP.8 Look for and express regularity in repeated reasoning.	Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$ . Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$ , $(x - 1)(x^2 + x + 1)$ , and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.	MP.8
	6	Geometry	Solve real-world and mathematical problems involving area, surface area, and volume.	6.G.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.		6.G.1
	6	Geometry	Solve real-world and mathematical problems involving area, surface area, and volume.	6.G.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. Apply the formulas $V = lwh$ and $V = bh$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.		6.G.2

Aligned ReadStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Geometry &amp; Measurement</b> Solve problems based on understanding the properties of shapes, such as triangles and circles, and the spatial relationships between angles and lines.	6	Geometry	Solve real-world and mathematical problems involving area, surface area, and volume.	6.G.3 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 these techniques in the context of solving real-world and mathematical problems.		6.G.3
	6	Geometry	Solve real-world and mathematical problems involving area, surface area, and volume.	6.G.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.		6.G.4
	6	The Number System	Apply and extend previous understandings of numbers to the system of rational numbers.	6.NS.6b 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.	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.	6.NS.6b
	6	The Number System	Apply and extend previous understandings of numbers to the system of rational numbers.	6.NS.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.		6.NS.8
	7	Geometry	Draw, construct, and describe geometrical figures and describe the relationships between them.	7.G.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.1

Aligned Readiness Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Geometry &amp; Measurement</b> Solve problems based on understanding the properties of shapes, such as triangles and circles, and the spatial relationships between angles and lines.	7	Geometry	Draw, construct, and describe geometrical figures and describe the relationships between them.	7.G.2 Draw (freehand, with ruler and protractor, and with technology) 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.2
	7	Geometry	Draw, construct, and describe geometrical figures and describe the relationships between them.	7.G.3 Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.		7.G.3
	7	Geometry	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	7.G.4 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.4
	7	Geometry	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	7.G.5 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.		7.G.5
	7	Geometry	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	7.G.6 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.6

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<b>Geometry &amp; Measurement</b> Solve problems based on understanding the properties of shapes, such as triangles and circles, and the spatial relationships between angles and lines.	7	Ratios and Proportional Relationships	Analyze proportional relationships and use them to solve real-world and mathematical problems.	7.RP.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.		7.RP.1
	7	Ratios and Proportional Relationships	Analyze proportional relationships and use them to solve real-world and mathematical problems.	7.RP.2a Recognize and represent proportional relationships between quantities.	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.	7.RP.2a
	8	Expressions and Equations	Understand the connections between proportional relationships, lines, and linear equations.	8.EE.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; 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.6
	8	Functions	Define, evaluate, and compare functions.	8.F.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.		8.F.1
	8	Geometry	Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.	8.G.9 Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.		8.G.9
	8	Geometry	Understand and apply the Pythagorean Theorem.	8.G.6 Explain a proof of the Pythagorean Theorem and its converse.		8.G.6

Aligned ReadStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Geometry &amp; Measurement</b> Solve problems based on understanding the properties of shapes, such as triangles and circles, and the spatial relationships between angles and lines.	8	Geometry	Understand and apply the Pythagorean Theorem.	8.G.7 Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.		8.G.7
	8	Geometry	Understand and apply the Pythagorean Theorem.	8.G.8 Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.		8.G.8
	8	Geometry	Understand congruence and similarity using physical models, transparencies, or geometry software.	8.G.1a Verify experimentally the properties of rotations, reflections, and translations:	Lines are taken to lines, and line segments to line segments of the same length.	8.G.1a
	8	Geometry	Understand congruence and similarity using physical models, transparencies, or geometry software.	8.G.1b Verify experimentally the properties of rotations, reflections, and translations:	Angles are taken to angles of the same measure.	8.G.1b
	8	Geometry	Understand congruence and similarity using physical models, transparencies, or geometry software.	8.G.1c Verify experimentally the properties of rotations, reflections, and translations:	Parallel lines are taken to parallel lines.	8.G.1c
	8	Geometry	Understand congruence and similarity using physical models, transparencies, or geometry software.	8.G.2 Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.		8.G.2

Aligned ReadStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Geometry &amp; Measurement</b> Solve problems based on understanding the properties of shapes, such as triangles and circles, and the spatial relationships between angles and lines.	8	Geometry	Understand congruence and similarity using physical models, transparencies, or geometry software.	8.G.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.		8.G.3
	8	Geometry	Understand congruence and similarity using physical models, transparencies, or geometry software.	8.G.4 Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.		8.G.4
	8	Geometry	Understand congruence and similarity using physical models, transparencies, or geometry software.	8.G.5 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.		8.G.5
	8	The Number System	Know that there are numbers that are not rational, and approximate them by rational numbers.	8.NS.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., $\sqrt{2}$ ).		8.NS.2

Aligned ReadiStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<p><b>Geometry &amp; Measurement</b> Solve problems based on understanding the properties of shapes, such as triangles and circles, and the spatial relationships between angles and lines.</p>	K-12	Standards for Mathematical Practice		MP.1 Make sense of problems and persevere in solving them.	<p>Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.</p>	MP.1

Aligned ReadStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<p><b>Geometry &amp; Measurement</b> Solve problems based on understanding the properties of shapes, such as triangles and circles, and the spatial relationships between angles and lines.</p>	K-12	Standards for Mathematical Practice		MP.2 Reason abstractly and quantitatively.	Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.	MP.2

Aligned ReadiStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<p><b>Geometry &amp; Measurement</b> Solve problems based on understanding the properties of shapes, such as triangles and circles, and the spatial relationships between angles and lines.</p>	K-12	Standards for Mathematical Practice		MP.3 Construct viable arguments and critique the reasoning of others.	Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.	MP.3

Aligned ReadStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<p><b>Geometry &amp; Measurement</b> Solve problems based on understanding the properties of shapes, such as triangles and circles, and the spatial relationships between angles and lines.</p>	K-12	Standards for Mathematical Practice		MP.4 Model with mathematics.	Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.	MP.4

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<b>Geometry &amp; Measurement</b> Solve problems based on understanding the properties of shapes, such as triangles and circles, and the spatial relationships between angles and lines.	K-12	Standards for Mathematical Practice		MP.5 Use appropriate tools strategically.	Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.	MP.5
	K-12	Standards for Mathematical Practice		MP.6 Attend to precision.	Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.	MP.6

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<b>Geometry &amp; Measurement</b> Solve problems based on understanding the properties of shapes, such as triangles and circles, and the spatial relationships between angles and lines.	K-12	Standards for Mathematical Practice		MP.7 Look for and make use of structure.	Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see $7 \times 8$ equals the well remembered $7 \times 5 + 7 \times 3$ , in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$ , older students can see the 14 as $2 \times 7$ and the 9 as $2 + 7$ . They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers $x$ and $y$ .	MP.7
	K-12	Standards for Mathematical Practice		MP.8 Look for and express regularity in repeated reasoning.	Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$ . Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$ , $(x - 1)(x^2 + x + 1)$ , and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.	MP.8

Aligned ReadStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Geometry &amp; Measurement</b> Solve problems based on understanding the properties of shapes, such as triangles and circles, and the spatial relationships between angles and lines.	6	Expressions and Equations	Apply and extend previous understandings of arithmetic to algebraic expressions.	6.EE.1 Write and evaluate numerical expressions involving whole-number exponents.		6.EE.1
<b>Number &amp; Operations</b> Understand types of numbers (integers, fractions, decimals) and the correct order of operations (addition, multiplication, division). Perform computations correctly.	6	Expressions and Equations	Apply and extend previous understandings of arithmetic to algebraic expressions.	6.EE.3 Apply the properties of operations to generate equivalent expressions.		6.EE.3
	6	Ratios and Proportional Relationships	Understand ratio concepts and use ratio reasoning to solve problems.	6.PR.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.		6.PR.2
	6	Ratios and Proportional Relationships	Understand ratio concepts and use ratio reasoning to solve problems.	6.RP.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.		6.RP.1
	6	Ratios and Proportional Relationships	Understand ratio concepts and use ratio reasoning to solve problems.	6.RP.3a 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.	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.	6.RP.3a
	6	Ratios and Proportional Relationships	Understand ratio concepts and use ratio reasoning to solve problems.	6.RP.3b 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.	Solve unit rate problems including those involving unit pricing and constant speed.	6.RP.3b
	6	Ratios and Proportional Relationships	Understand ratio concepts and use ratio reasoning to solve problems.	6.RP.3c 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.	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 percent.	6.RP.3c

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<b>Number &amp; Operations</b> Understand types of numbers (integers, fractions, decimals) and the correct order of operations (addition, multiplication, division). Perform computations correctly.	6	Ratios and Proportional Relationships	Understand ratio concepts and use ratio reasoning to solve problems.	6.RP.3d 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.	Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.	6.RP.3d
	6	The Number System	Apply and extend previous understandings of multiplication and division to divide fractions by fractions.	6.NS.1 Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.		6.NS.1
	6	The Number System	Apply and extend previous understandings of numbers to the system of rational numbers.	6.NS.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.5
	6	The Number System	Apply and extend previous understandings of numbers to the system of rational numbers.	6.NS.6a 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.	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, e.g., $-(-3) = 3$ , and that 0 is its own opposite.	6.NS.6a
	6	The Number System	Apply and extend previous understandings of numbers to the system of rational numbers.	6.NS.6c 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.	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.	6.NS.6c
	6	The Number System	Apply and extend previous understandings of numbers to the system of rational numbers.	6.NS.7a Understand ordering and absolute value of rational numbers.	Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.	6.NS.7a

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<b>Number &amp; Operations</b> Understand types of numbers (integers, fractions, decimals) and the correct order of operations (addition, multiplication, division). Perform computations correctly.	6	The Number System	Apply and extend previous understandings of numbers to the system of rational numbers.	6.NS.7b Understand ordering and absolute value of rational numbers.	Write, interpret, and explain statements of order for rational numbers in real-world contexts.	6.NS.7b
	6	The Number System	Apply and extend previous understandings of numbers to the system of rational numbers.	6.NS.7c Understand ordering and absolute value of rational numbers.	Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.	6.NS.7c
	6	The Number System	Apply and extend previous understandings of numbers to the system of rational numbers.	6.NS.7d Understand ordering and absolute value of rational numbers.	Distinguish comparisons of absolute value from statements about order.	6.NS.7d
	6	The Number System	Compute fluently with multi-digit numbers and find common factors and multiples.	6.NS.2 Fluently divide multi-digit numbers using the standard algorithm.		6.NS.2
	6	The Number System	Compute fluently with multi-digit numbers and find common factors and multiples.	6.NS.3 Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.		6.NS.3

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<b>Number &amp; Operations</b> Understand types of numbers (integers, fractions, decimals) and the correct order of operations (addition, multiplication, division). Perform computations correctly.	6	The Number System	Compute fluently with multi-digit numbers and find common factors and multiples.	6.NS.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.		6.NS.4
	7	Expressions and Equations	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.		7.EE.3
	7	Ratios and Proportional Relationships	Analyze proportional relationships and use them to solve real-world and mathematical problems.	7.RP.2c Recognize and represent proportional relationships between quantities.	Represent proportional relationships by equations.	7.RP.2c
	7	Ratios and Proportional Relationships	Analyze proportional relationships and use them to solve real-world and mathematical problems.	7.RP.2d Recognize and represent proportional relationships between quantities.	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.2d
	7	Ratios and Proportional Relationships	Analyze proportional relationships and use them to solve real-world and mathematical problems.	7.RP.3 Use proportional relationships to solve multistep ratio and percent problems.		7.RP.3

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<b>Number &amp; Operations</b> Understand types of numbers (integers, fractions, decimals) and the correct order of operations (addition, multiplication, division). Perform computations correctly.	7	The Number System	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.	7.NS.2a Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.	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.	7.NS.2a
	7	The Number System	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.	7.NS.2b Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.	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.	7.NS.2b
	7	The Number System	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.	7.NS.2c Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.	Apply properties of operations as strategies to multiply and divide rational numbers.	7.NS.2c
	7	The Number System	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.	7.NS.2d Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.	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.2d

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<b>Number &amp; Operations</b> Understand types of numbers (integers, fractions, decimals) and the correct order of operations (addition, multiplication, division). Perform computations correctly.	7	The Number System	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.	7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.		7.NS.3
	7	The Number System	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	7.NS.1a 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.	Describe situations in which opposite quantities combine to make 0.	7.NS.1a
	7	The Number System	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	7.NS.1b 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.	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.	7.NS.1b
	7	The Number System	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	7.NS.1c 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.	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.	7.NS.1c

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<b>Number &amp; Operations</b> Understand types of numbers (integers, fractions, decimals) and the correct order of operations (addition, multiplication, division). Perform computations correctly.	7	The Number System	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	7.NS.1d 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.	Apply properties of operations as strategies to add and subtract rational numbers.	7.NS.1d
	8	Expressions and Equations	Understand the connections between proportional relationships, lines, and linear equations.	8.EE.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.		8.EE.5
	8	Expressions and Equations	Work with radicals and integer exponents.	8.EE.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions.		8.EE.1
	8	Expressions and Equations	Work with radicals and integer exponents.	8.EE.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 $\sqrt{2}$ is irrational.		8.EE.2
	8	Expressions and Equations	Work with radicals and integer exponents.	8.EE.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.		8.EE.3
	8	Expressions and Equations	Work with radicals and integer exponents.	8.EE.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.4

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<b>Number &amp; Operations</b> Understand types of numbers (integers, fractions, decimals) and the correct order of operations (addition, multiplication, division). Perform computations correctly.	8	The Number System	Know that there are numbers that are not rational, and approximate them by rational numbers.	8.NS.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, and convert a decimal expansion which repeats eventually into a rational number.		8.NS.1
	K-12	Standards for Mathematical Practice		MP.1 Make sense of problems and persevere in solving them.	Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.	MP.1

Aligned ReadStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<p><b>Number &amp; Operations</b> Understand types of numbers (integers, fractions, decimals) and the correct order of operations (addition, multiplication, division). Perform computations correctly.</p>	K-12	Standards for Mathematical Practice		MP.2 Reason abstractly and quantitatively.	Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.	MP.2
	K-12	Standards for Mathematical Practice		MP.4 Model with mathematics.	Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.	MP.4

Aligned ReadiStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Number &amp; Operations</b> Understand types of numbers (integers, fractions, decimals) and the correct order of operations (addition, multiplication, division). Perform computations correctly.	K-12	Standards for Mathematical Practice		MP.5 Use appropriate tools strategically.	Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.	MP.5
	K-12			Standards for Mathematical Practice	MP.6 Attend to precision.	Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

Aligned ReadiStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Number &amp; Operations</b> Understand types of numbers (integers, fractions, decimals) and the correct order of operations (addition, multiplication, division). Perform computations correctly.	K-12	Standards for Mathematical Practice		MP.7 Look for and make use of structure.	Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see $7 \times 8$ equals the well remembered $7 \times 5 + 7 \times 3$ , in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$ , older students can see the 14 as $2 \times 7$ and the 9 as $2 + 7$ . They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers $x$ and $y$ .	MP.7
	K-12			Standards for Mathematical Practice	MP.8 Look for and express regularity in repeated reasoning.	Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$ . Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$ , $(x - 1)(x^2 + x + 1)$ , and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

Aligned Read/Step Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Number &amp; Operations</b> Understand types of numbers (integers, fractions, decimals) and the correct order of operations (addition, multiplication, division). Perform computations correctly.	6	Expressions and Equations	Apply and extend previous understandings of arithmetic to algebraic expressions.	6.EE.1 Write and evaluate numerical expressions involving whole-number exponents.		6.EE.1
<b>Problem Solving</b> Solve abstract and practical problems by applying and adapting a variety of strategies. Monitor progress and evaluate answers in terms of questions asked.	6	Expressions and Equations	Apply and extend previous understandings of arithmetic to algebraic expressions.	6.EE.2c Write, read, and evaluate expressions in which letters stand for numbers.	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 Operations).	6.EE.2c
	6	Expressions and Equations	Reason about and solve one-variable equations and inequalities.	6.EE.7 Solve real-world and mathematical problems by writing and solving 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.7
	6	Geometry	Solve real-world and mathematical problems involving area, surface area, and volume.	6.G.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.		6.G.1
	6	Geometry	Solve real-world and mathematical problems involving area, surface area, and volume.	6.G.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. Apply the formulas $V = lwh$ and $V = bh$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.		6.G.2

Aligned ReadStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Problem Solving</b> Solve abstract and practical problems by applying and adapting a variety of strategies. Monitor progress and evaluate answers in terms of questions asked	6	Geometry	Solve real-world and mathematical problems involving area, surface area, and volume.	6.G.3 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 these techniques in the context of solving real-world and mathematical problems.		6.G.3
	6	Geometry	Solve real-world and mathematical problems involving area, surface area, and volume.	6.G.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.		6.G.4
	6	Ratios and Proportional Relationships	Understand ratio concepts and use ratio reasoning to solve problems.	6.RP.3b 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.	Solve unit rate problems including those involving unit pricing and constant speed.	6.RP.3b
	6	Ratios and Proportional Relationships	Understand ratio concepts and use ratio reasoning to solve problems.	6.RP.3c 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.	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 percent.	6.RP.3c
	6	The Number System	Apply and extend previous understandings of numbers to the system of rational numbers.	6.NS.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.		6.NS.8
	6	The Number System	Compute fluently with multi-digit numbers and find common factors and multiples.	6.NS.2 Fluently divide multi-digit numbers using the standard algorithm.		6.NS.2

Aligned ReadStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Problem Solving</b> Solve abstract and practical problems by applying and adapting a variety of strategies. Monitor progress and evaluate answers in terms of questions asked.	6	The Number System	Compute fluently with multi-digit numbers and find common factors and multiples.	6.NS.3 Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.		6.NS.3
	6	The Number System	Compute fluently with multi-digit numbers and find common factors and multiples.	6.NS.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.		6.NS.4
	7	Expressions and Equations	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.		7.EE.3
	7	Expressions and Equations	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	7.EE.4a 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.	Solve word 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.	7.EE.4a
	7	Expressions and Equations	Use properties of operations to generate equivalent expressions.	7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.		7.EE.1

Aligned ReadStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Problem Solving</b> Solve abstract and practical problems by applying and adapting a variety of strategies. Monitor progress and evaluate answers in terms of questions asked.	7	Geometry	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	7.G.4 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.4
	7	Geometry	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	7.G.5 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.		7.G.5
	7	Geometry	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	7.G.6 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.6
	7	Ratios and Proportional Relationships	Analyze proportional relationships and use them to solve real-world and mathematical problems.	7.RP.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.		7.RP.1
	7	Ratios and Proportional Relationships	Analyze proportional relationships and use them to solve real-world and mathematical problems.	7.RP.3 Use proportional relationships to solve multistep ratio and percent problems.		7.RP.3

Aligned ReadStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Problem Solving</b> Solve abstract and practical problems by applying and adapting a variety of strategies. Monitor progress and evaluate answers in terms of questions asked.	7	Statistics and Probability	Investigate chance processes and develop, use, and evaluate probability models.	7.SP.8c Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.	Design and use a simulation to generate frequencies for compound events.	7.SP.8c
	7	The Number System	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.	7.NS.2c Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.	Apply properties of operations as strategies to multiply and divide rational numbers.	7.NS.2c
<b>Problem Solving</b>	7	The Number System	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.	7.NS.2d Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.	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.2d
	7	The Number System	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.	7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.		7.NS.3

Aligned ReadStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Problem Solving</b> Solve abstract and practical problems by applying and adapting a variety of strategies. Monitor progress and evaluate answers in terms of questions asked.	7	The Number System	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	7.NS.1d 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.	Apply properties of operations as strategies to add and subtract rational numbers.	7.NS.1d
	8	Expressions and Equations	Analyze and solve linear equations and pairs of simultaneous linear equations.	8.EE.7b Solve linear equations in one variable.	Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.	8.EE.7b
	8	Expressions and Equations	Work with radicals and integer exponents.	8.EE.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 $\sqrt{2}$ is irrational.		8.EE.2
	8	Geometry	Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.	8.G.9 Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.		8.G.9
	8	Geometry	Understand and apply the Pythagorean Theorem.	8.G.7 Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.		8.G.7
	8	Geometry	Understand and apply the Pythagorean Theorem.	8.G.8 Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.		8.G.8

Aligned ReadStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Problem Solving</b> Solve abstract and practical problems by applying and adapting a variety of strategies. Monitor progress and evaluate answers in terms of questions asked.	8	Statistics and Probability	Investigate patterns of association in bivariate data.	8.SP.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.3
	K-12	Standards for Mathematical Practice		MP.1 Make sense of problems and persevere in solving them.	Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.	MP.1

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<b>Problem Solving</b> Solve abstract and practical problems by applying and adapting a variety of strategies. Monitor progress and evaluate answers in terms of questions asked.	K-12	Standards for Mathematical Practice		MP.2 Reason abstractly and quantitatively.	Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.	MP.2
	K-12	Standards for Mathematical Practice		MP.4 Model with mathematics.	Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.	MP.4

Aligned ReadiStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<p><b>Problem Solving</b> Solve abstract and practical problems by applying and adapting a variety of strategies. Monitor progress and evaluate answers in terms of questions asked.</p>	K-12	Standards for Mathematical Practice		MP.5 Use appropriate tools strategically.	Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.	MP.5
	K-12	Standards for Mathematical Practice		MP.6 Attend to precision.	Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.	MP.6

Aligned ReadiStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Problem Solving</b> Solve abstract and practical problems by applying and adapting a variety of strategies. Monitor progress and evaluate answers in terms of questions asked.	K-12	Standards for Mathematical Practice		MP.7 Look for and make use of structure.	Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see $7 \times 8$ equals the well remembered $7 \times 5 + 7 \times 3$ , in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$ , older students can see the 14 as $2 \times 7$ and the 9 as $2 + 7$ . They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers $x$ and $y$ .	MP.7
	K-12	Standards for Mathematical Practice		MP.8 Look for and express regularity in repeated reasoning.	Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$ . Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$ , $(x - 1)(x^2 + x + 1)$ , and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.	MP.8

Aligned ReadiStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Problem Solving</b> Solve abstract and practical problems by applying and adapting a variety of strategies. Monitor progress and evaluate answers in terms of questions asked.	6	Expressions and Equations	Reason about and solve one-variable equations and inequalities.	6.EE.5 Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, 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.5
	6	Statistics and Probability	Develop understanding of statistical variability.	6.SP.1 Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.		6.SP.1
<b>Reasoning</b> Develop and use mathematical arguments and proofs to explore the truth of conjectures and justify conclusions.	6	Statistics and Probability	Develop understanding of statistical variability.	6.SP.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.3
	6	The Number System	Apply and extend previous understandings of numbers to the system of rational numbers.	6.NS.7a Understand ordering and absolute value of rational numbers.	Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.	6.NS.7a
	6	The Number System	Apply and extend previous understandings of numbers to the system of rational numbers.	6.NS.7d Understand ordering and absolute value of rational numbers.	Distinguish comparisons of absolute value from statements about order.	6.NS.7d
	7	Ratios and Proportional Relationships	Analyze proportional relationships and use them to solve real-world and mathematical problems.	7.RP.2a Recognize and represent proportional relationships between quantities.	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.	7.RP.2a

Aligned Readiness Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Reasoning</b> Develop and use mathematical arguments and proofs to explore the truth of conjectures and justify conclusions.	7	Statistics and Probability	Draw informal comparative inferences about two populations.	7.SP.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.3
	7	Statistics and Probability	Investigate chance processes and develop, use, and evaluate probability models.	7.SP.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.6
	7	Statistics and Probability	Investigate chance processes and develop, use, and evaluate probability models.	7.SP.7b 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.	Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.	7.SP.7b
	7	Statistics and Probability	Investigate chance processes and develop, use, and evaluate probability models.	7.SP.8a 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.	7.SP.8a
	7	Statistics and Probability	Use random sampling to draw inferences about a population.	7.SP.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.1
	7	Statistics and Probability	Use random sampling to draw inferences about a population.	7.SP.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.2

Aligned Readiness Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Reasoning</b> Develop and use mathematical arguments and proofs to explore the truth of conjectures and justify conclusions.	7	The Number System	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	7.NS.1c 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.	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.	7.NS.1c
	8	Functions	Define, evaluate, and compare functions.	8.F.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).		8.F.2
	8	Geometry	Understand and apply the Pythagorean Theorem.	8.G.6 Explain a proof of the Pythagorean Theorem and its converse.		8.G.6
	8	Geometry	Understand congruence and similarity using physical models, transparencies, or geometry software.	8.G.1a Verify experimentally the properties of rotations, reflections, and translations:	Lines are taken to lines, and line segments to line segments of the same length.	8.G.1a
	8	Geometry	Understand congruence and similarity using physical models, transparencies, or geometry software.	8.G.1b Verify experimentally the properties of rotations, reflections, and translations:	Angles are taken to angles of the same measure.	8.G.1b
	8	Geometry	Understand congruence and similarity using physical models, transparencies, or geometry software.	8.G.1c Verify experimentally the properties of rotations, reflections, and translations:	Parallel lines are taken to parallel lines.	8.G.1c

Aligned ReadiStep Skill	Grade	Domain	Cluster	Standard	Skill	Standard ID
<b>Reasoning</b> Develop and use mathematical arguments and proofs to explore the truth of conjectures and justify conclusions.	8	Geometry	Understand congruence and similarity using physical models, transparencies, or geometry software.	8.G.2 Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.		8.G.2
	8	Geometry	Understand congruence and similarity using physical models, transparencies, or geometry software.	8.G.4 Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.		8.G.4
	K-12	Standards for Mathematical Practice		MP.1 Make sense of problems and persevere in solving them.	Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.	MP.1

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<b>Reasoning</b> Develop and use mathematical arguments and proofs to explore the truth of conjectures and justify conclusions.	K-12	Standards for Mathematical Practice		MP.2 Reason abstractly and quantitatively.	Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.	MP.2
	K-12	Standards for Mathematical Practice		MP.3 Construct viable arguments and critique the reasoning of others.	Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.	MP.3

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<p><b>Reasoning</b> Develop and use mathematical arguments and proofs to explore the truth of conjectures and justify conclusions.</p>	K-12	Standards for Mathematical Practice		MP.8 Look for and express regularity in repeated reasoning.	Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$ . Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$ , $(x - 1)(x^2 + x + 1)$ , and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.	MP.8
<p><b>Representation</b> Use and translate among representations including verbal, numerical, symbolic, and graphical to communicate mathematical ideas and solve problems.</p>	6	Expressions and Equations	Apply and extend previous understandings of arithmetic to algebraic expressions.	6.EE.3 Apply the properties of operations to generate equivalent expressions.		6.EE.3

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<b>Representation</b> Use and translate among representations including verbal, numerical, symbolic, and graphical to communicate mathematical ideas and solve problems.	6	Expressions and Equations	Reason about and solve one-variable equations and inequalities.	6.EE.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.6
	6	Expressions and Equations	Reason about and solve one-variable equations and inequalities.	6.EE.8 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 that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions; represent solutions of such inequalities on number line diagrams.		6.EE.8
	6	Expressions and Equations	Represent and analyze quantitative relationships between dependent and independent variables.	6.EE.9 Use variables to represent two quantities in a real-world problem that change in relationship to one another; 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. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.		6.EE.9
	6	Ratios and Proportional Relationships	Understand ratio concepts and use ratio reasoning to solve problems.	6.RP.3a 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.	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.	6.RP.3a
	6	Ratios and Proportional Relationships	Understand ratio concepts and use ratio reasoning to solve problems.	6.RP.3d 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.	Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.	6.RP.3d
	6	Statistics and Probability	Summarize and describe distributions.	6.SP.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots.		6.SP.4

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<b>Representation</b> Use and translate among representations including verbal, numerical, symbolic, and graphical to communicate mathematical ideas and solve problems.	6	The Number System	Apply and extend previous understandings of multiplication and division to divide fractions by fractions.	6.NS.1 Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.		6.NS.1
	6	The Number System	Apply and extend previous understandings of numbers to the system of rational numbers.	6.NS.6c 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.	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.	6.NS.6c
	7	Expressions and Equations	Use properties of operations to generate equivalent expressions.	7.EE.2 Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.		7.EE.2
	7	Geometry	Draw, construct, and describe geometrical figures and describe the relationships between them.	7.G.2 Draw (freehand, with ruler and protractor, and with technology) 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.2
	7	Ratios and Proportional Relationships	Analyze proportional relationships and use them to solve real-world and mathematical problems.	7.RP.2b Recognize and represent proportional relationships between quantities.	Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.	7.RP.2b

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<b>Representation</b> Use and translate among representations including verbal, numerical, symbolic, and graphical to communicate mathematical ideas and solve problems.	7	Ratios and Proportional Relationships	Analyze proportional relationships and use them to solve real-world and mathematical problems.	7.RP.2c Recognize and represent proportional relationships between quantities.	Represent proportional relationships by equations.	7.RP.2c
	7	Statistics and Probability	Investigate chance processes and develop, use, and evaluate probability models.	7.SP.7a 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.	Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events.	7.SP.7a
	7	Statistics and Probability	Investigate chance processes and develop, use, and evaluate probability models.	7.SP.8b Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.	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.	7.SP.8b
	8	Expressions and Equations	Work with radicals and integer exponents.	8.EE.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions.		8.EE.1
	8	Expressions and Equations	Work with radicals and integer exponents.	8.EE.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.		8.EE.3
	8	Functions	Use functions to model relationships between quantities.	8.F.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.		8.F.4

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<b>Representation</b> Use and translate among representations including verbal, numerical, symbolic, and graphical to communicate mathematical ideas and solve problems.	8	Statistics and Probability	Investigate patterns of association in bivariate data.	8.SP.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.		8.SP.1
	8	Statistics and Probability	Investigate patterns of association in bivariate data.	8.SP.4 Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables.		8.SP.4
	8	The Number System	Know that there are numbers that are not rational, and approximate them by rational numbers.	8.NS.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, and convert a decimal expansion which repeats eventually into a rational number.		8.NS.1
	8	The Number System	Know that there are numbers that are not rational, and approximate them by rational numbers.	8.NS.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., $\sqrt{2}$ ).		8.NS.2

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<p><b>Representation</b> Use and translate among representations including verbal, numerical, symbolic, and graphical to communicate mathematical ideas and solve problems.</p>	K-12	Standards for Mathematical Practice		MP.1 Make sense of problems and persevere in solving them.	<p>Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.</p>	MP.1

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<b>Representation</b> Use and translate among representations including verbal, numerical, symbolic, and graphical to communicate mathematical ideas and solve problems.	K-12	Standards for Mathematical Practice		MP.2 Reason abstractly and quantitatively.	Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.	MP.2
	K-12	Standards for Mathematical Practice		MP.4 Model with mathematics.	Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.	MP.4

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<b>Representation</b> Use and translate among representations including verbal, numerical, symbolic, and graphical to communicate mathematical ideas and solve problems.	K-12	Standards for Mathematical Practice		MP.5 Use appropriate tools strategically.	Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.	MP.5
	K-12			Standards for Mathematical Practice	MP.6 Attend to precision.	Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

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<b>Representation</b> Use and translate among representations including verbal, numerical, symbolic, and graphical to communicate mathematical ideas and solve problems.	K-12	Standards for Mathematical Practice		MP.7 Look for and make use of structure.	Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see $7 \times 8$ equals the well remembered $7 \times 5 + 7 \times 3$ , in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$ , older students can see the 14 as $2 \times 7$ and the 9 as $2 + 7$ . They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers $x$ and $y$ .	MP.7
	K-12	Standards for Mathematical Practice		MP.8 Look for and express regularity in repeated reasoning.	Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$ . Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$ , $(x - 1)(x^2 + x + 1)$ , and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.	MP.8

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