



Grade: 7			
Domain	Cluster	Full Standard	Associated Goal Stems
(RP) Ratios and Proportional Relationships  Grade 7, Standard 1	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks $\frac{1}{2}$ mile in each $\frac{1}{4}$ hour, compute the unit rate as the complex fraction $\frac{1}{2}$ divided by $\frac{1}{4}$ miles per hour, equivalently 2 miles per hour.	<p><b><u>7.RP.1 Compute Unit Rates, Ratios</u></b></p> <p>&lt;STUDENT&gt; will compute unit rates associated with ratios of fractions, including ratios of lengths, areas or other quantities measured in like and unlike units &lt;UNDER_WHAT_CONDITION&gt; as measured &lt;MEASURE&gt; in &lt;NUMBER1&gt; out of &lt;NUMBER2&gt; trials with &lt;PERCENT&gt;% accuracy.</p>
			<p><b><u>7.RP.2 Demonstrate Proportional Relationships by Testing</u></b></p> <p>&lt;STUDENT&gt; will demonstrate proportional relationships between two quantities by testing, 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 &lt;UNDER_WHAT_CONDITION&gt; as measured &lt;MEASURE&gt; in &lt;NUMBER1&gt; out of &lt;NUMBER2&gt; trials with &lt;PERCENT&gt;% accuracy.</p>
			<p><b><u>7.RP.2 Identify Constant of Proportionality</u></b></p> <p>&lt;STUDENT&gt; will identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and / or verbal descriptions of proportional relationships &lt;UNDER_WHAT_CONDITION&gt; as measured &lt;MEASURE&gt; in &lt;NUMBER1&gt; out of &lt;NUMBER2&gt; trials with &lt;PERCENT&gt;% accuracy.</p>
(RP) Ratios and Proportional Relationships  Grade 7, Standard 2	Analyze proportional relationships and use them to solve real-world and mathematical problems.	<p>Recognize and represent proportional relationships between quantities.</p> <p>a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.</p> <p>b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.</p> <p>c. Represent proportional relationships by equations. <i>For example, if total cost <math>t</math> is proportional to the number <math>n</math> of items purchased at a constant price <math>p</math>, the relationship between the total cost and the number of items can be expressed as <math>t = pn</math>.</i></p> <p>d. Explain what a point <math>(x, y)</math> on the graph of a proportional relationship means in terms of the situation, with special attention to the points <math>(0, 0)</math> and <math>(1, r)</math> where <math>r</math> is the unit rate.</p>	<p><b><u>7.RP.2 Represent Proportional Relationships by Equations</u></b></p> <p>&lt;STUDENT&gt; will represent proportional relationships by equations &lt;UNDER_WHAT_CONDITION&gt; as measured &lt;MEASURE&gt; in &lt;NUMBER1&gt; out of &lt;NUMBER2&gt; trials with &lt;PERCENT&gt;% accuracy.</p>
			<p><b><u>7.RP.3 Solve Ratio/Percent Problems</u></b></p> <p>&lt;STUDENT&gt; will use proportional relationships to solve multistep ratio and percent problems &lt;UNDER_WHAT_CONDITION&gt; as measured &lt;MEASURE&gt; in &lt;NUMBER1&gt; out of &lt;NUMBER2&gt; trials with &lt;PERCENT&gt;% accuracy.</p>
(RP) Ratios and Proportional Relationships  Grade 7, Standard 3	Analyze proportional relationships and use them to solve real-world and mathematical problems.	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.	<p><b><u>7.RP.3 Solve Ratio/Percent Problems</u></b></p> <p>&lt;STUDENT&gt; will use proportional relationships to solve multistep ratio and percent problems &lt;UNDER_WHAT_CONDITION&gt; as measured &lt;MEASURE&gt; in &lt;NUMBER1&gt; out of &lt;NUMBER2&gt; trials with &lt;PERCENT&gt;% accuracy.</p>



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Domain	Cluster	Full Standard	Associated Goal Stems
(NS) Number System  Grade 7, Standard 1	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	<p>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.</p> <p>a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.</p> <p>b. Understand <math>p + q</math> as the number located a distance <math> q </math> from <math>p</math>, in the positive or negative direction depending on whether <math>q</math> 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.</p> <p>c. Understand subtraction of rational numbers as adding the additive inverse, <math>p - q = p + (-q)</math>. 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.</p> <p>d. Apply properties of operations as strategies to add and subtract rational numbers.</p>	<p><b><u>7.NS.1 Add/Subtract Rational Numbers</u></b></p> <p>&lt;STUDENT&gt; will apply and extend previous understandings of addition and subtraction to add and subtract rational numbers, as well as, represent addition and subtraction on a horizontal or vertical number line diagram &lt;UNDER_WHAT_CONDITION&gt; as measured &lt;MEASURE&gt; in &lt;NUMBER1&gt; out of &lt;NUMBER2&gt; trials with &lt;PERCENT&gt;% accuracy.</p>
			<p><b><u>7.NS.1 Opposite Quantities Combine to Make Zero</u></b></p> <p>&lt;STUDENT&gt; will describe situations in which opposite quantities combine to make 0 and show that a number and its opposite have a sum of 0) &lt;UNDER_WHAT_CONDITION&gt; as measured &lt;MEASURE&gt; in &lt;NUMBER1&gt; out of &lt;NUMBER2&gt; trials with &lt;PERCENT&gt;% accuracy.</p>
			<p><b><u>7.NS.1 Subtraction and Additive Inverse</u></b></p> <p>&lt;STUDENT&gt; will be able to explain that the subtraction of rational numbers is the same as adding the additive inverse and show that the distance between two rational numbers on the number line is the absolute value of their differences &lt;UNDER_WHAT_CONDITION&gt; as measured &lt;MEASURE&gt; in &lt;NUMBER1&gt; out of &lt;NUMBER2&gt; trials with &lt;PERCENT&gt;% accuracy.</p>
			<p><b><u>7.NS.1 Sums of Rational Numbers</u></b></p> <p>&lt;STUDENT&gt; will analyze and explain the sums of rational numbers by describing real-world contexts &lt;UNDER_WHAT_CONDITION&gt; as measured &lt;MEASURE&gt; in &lt;NUMBER1&gt; out of &lt;NUMBER2&gt; trials with &lt;PERCENT&gt;% accuracy.</p>



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Domain	Cluster	Full Standard	Associated Goal Stems
(NS) Number System  Grade 7, Standard 2	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	<p>Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.</p> <p>a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as <math>(-1)(-1) = 1</math> and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.</p> <p>b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If <math>p</math> and <math>q</math> are integers, then <math>-(p/q) = (-p)/q = p/(-q)</math>. Interpret quotients of rational numbers by describing real world contexts.</p> <p>c. Apply properties of operations as strategies to multiply and divide rational numbers.</p> <p>d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.</p>	<p><b><u>7.NS.2 Multiply and Divide Rational Numbers</u></b></p> <p>&lt;STUDENT&gt; will demonstrate an understanding of multiplication, division, and fractions by multiplying and dividing rational numbers &lt;UNDER_WHAT_CONDITION&gt; as measured &lt;MEASURE&gt; in &lt;NUMBER1&gt; out of &lt;NUMBER2&gt; trials with &lt;PERCENT&gt;% accuracy.</p>
			<p><b><u>7.NS.2 Understand that Multiplication is Extended from Fractions to Rational Numbers</u></b></p> <p>&lt;STUDENT&gt; will demonstrate an understanding 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 <math>(-1)(-1) = 1</math> and the rules for multiplying signed numbers &lt;UNDER_WHAT_CONDITION&gt; as measured &lt;MEASURE&gt; in &lt;NUMBER1&gt; out of &lt;NUMBER2&gt; trials with &lt;PERCENT&gt;% accuracy.</p>
			<p><b><u>7.NS.2 Integers Can Be Divided</u></b></p> <p>&lt;STUDENT&gt; will demonstrate an understanding that integers can be divided, provided that the divisor is not zero, and every quotient of integers is a rational number &lt;UNDER_WHAT_CONDITION&gt; as measured &lt;MEASURE&gt; in &lt;NUMBER1&gt; out of &lt;NUMBER2&gt; trials with &lt;PERCENT&gt;% accuracy.</p>
			<p><b><u>7.NS.2 Use Properties of Operations to Multiply/Divide</u></b></p> <p>&lt;STUDENT&gt; will use different properties of operations as strategies to multiply and divide rational numbers and to interpret products and quotients of rational numbers when describing real-world context &lt;UNDER_WHAT_CONDITION&gt; as measured &lt;MEASURE&gt; in &lt;NUMBER1&gt; out of &lt;NUMBER2&gt; trials with &lt;PERCENT&gt;% accuracy.</p>



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Domain	Cluster	Full Standard	Associated Goal Stems
(NS) Number System  Grade 7, Standard 3	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	Solve real-world and mathematical problems involving the four operations with rational numbers.	<b><u>7.NS.3 Solve Problems using Operations with Rational Numbers</u></b>  <STUDENT> will solve real-world and mathematical problems involving the four operations with rational numbers <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
(EE) Expressions and Equations  Grade 7, Standard 1	Use properties of equations to generate equivalent expressions.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	<b><u>7.EE.1 Add/Subtract Linear Expressions with Rational Coefficients</u></b>  <STUDENT> will use the properties of operations as strategies when adding and subtracting linear expressions with rational coefficients <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
			<b><u>7.EE.1 Factor and Expand Linear Expressions with Rational Coefficients</u></b>  <STUDENT> will use the properties of operations as a strategy to factor and expand linear expressions with rational coefficients <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
(EE) Expressions and Equations  Grade 7, Standard 3	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	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. For example: If a woman making \$25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.	<b><u>7.EE.3 Use Tools for Solve Problems with Positive/Negative Numbers</u></b>  <STUDENT> will use different tools strategically to solve multi-step real-life and mathematical problems posed with positive, negative numbers in any form, and/or assess the reasonableness of answers using mental computation and estimation strategies <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.



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(EE) Expressions and Equations  Grade 7, Standard 4		Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve 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. <i>For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?</i> b. 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. <i>For example: As a salesperson, you are paid \$50 per week plus \$3 per sale. This week you want your pay to be at least \$100. Write an inequality for the number of sales you need to make, and describe the solutions.</i>	<b><u>7.EE.4 Use Variables, Write Simple Equations/Inequalities</u></b>  <STUDENT> will use variables to represent quantities, and write simple equations and inequalities to solve problems <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
			<b><u>7.EE.4 Solve Word Problems Leading to Equations</u></b>  <STUDENT> will solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$ , in which $p$ , $q$ , and $r$ are specific rational numbers <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
			<b><u>7.EE.4 Solve Word Problems Leading to Inequalities</u></b>  <STUDENT> will 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 <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
			<b><u>7.EE.4 Graph Solution Set of an Inequality</u></b>  <STUDENT> will graph the solution set of an inequality and interpret it in the context of the problem <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
(G) Geometry  Grade 7, Standard 4	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	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.	<b><u>7.G.4 Area and Circumference of Circles</u></b>  <STUDENT> will use the formulas for area and circumference of a circle to solve problems <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.



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Domain	Cluster	Full Standard	Associated Goal Stems
(G) Geometry  Grade 7, Standard 5	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	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.	<b><u>7.G.5 Write/Solve Equations for Unknown Angle</u></b>  <STUDENT> will use facts about supplementary, complementary, vertical, and adjacent angles to write and/or solve equations for an unknown angle in a figure <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
(G) Geometry  Grade 7, Standard 6	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	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.	<b><u>7.G.6 Area, Volume, Surface of 2D/3D Objects</u></b>  <STUDENT> will solve real world mathematical problems involving area, volume, and/or surface area of two- and three-dimensional objects <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
(SP) Statistics and Probability  Grade 7, Standard 5	Investigate chance processes and develop, use, and evaluate probability models.	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.	<b><u>7.SP.5 Explain Probability as Being Expressed as a Number between 0 and 1</u></b>  <STUDENT> will explain orally and/or in writing the probability of a chance event as being a number between 0 and 1 that expresses the likelihood of the event occurring and that larger numbers indicate greater likelihood <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
			<b><u>7.SP.5 Probability As Likely, Unlikely, or Neither</u></b>  <STUDENT> will explain orally and/or in writing that a probability near 0 indicates an unlikely event, and that a probability around 1/2 indicates an event that is neither unlikely nor likely, and that a probability near 1 indicates a likely event <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.



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Domain	Cluster	Full Standard	Associated Goal Stems
(SP) Statistics and Probability  Grade 7, Standard 6	Investigate chance processes and develop, use, and evaluate probability models.	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. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.	<p><b><u>7.SP.6 Collect Data, Predict Frequency of Event Given the Probability</u></b></p> <p>&lt;STUDENT&gt; will collect data on the chance process that produces a chance event and observe its long-run relative frequency and predict the approximate relative frequency of the event given the probability &lt;UNDER_WHAT_CONDITION&gt; as measured &lt;MEASURE&gt; in &lt;NUMBER1&gt; out of &lt;NUMBER2&gt; trials with &lt;PERCENT&gt;% accuracy.</p>
			<p>(SP) Statistics and Probability  Grade 7, Standard 7</p>





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Domain	Cluster	Full Standard	Associated Goal Stems
(SP) Statistics and Probability  Grade 7, Standard 8	Investigate chance processes and develop, use, and evaluate probability models.	<p>Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.</p> <p>a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.</p> <p>b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., “rolling double sixes”), identify the outcomes in the sample space which compose the event.</p> <p>c. Design and use a simulation to generate frequencies for compound events. For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?</p>	<p><b><u>7.SP.8 Determine Probabilities of Compound Events</u></b></p> <p>&lt;STUDENT&gt; will determine probabilities of compound events using two or more of the following: organized lists, tables, tree diagrams, and simulation &lt;UNDER_WHAT_CONDITION&gt; as measured &lt;MEASURE&gt; in &lt;NUMBER1&gt; out of &lt;NUMBER2&gt; trials with &lt;PERCENT&gt;% accuracy.</p>
			<p><b><u>7.SP.8 Describe Probability of Compound Events</u></b></p> <p>&lt;STUDENT&gt; will describe 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 &lt;UNDER_WHAT_CONDITION&gt; as measured &lt;MEASURE&gt; in &lt;NUMBER1&gt; out of &lt;NUMBER2&gt; trials with &lt;PERCENT&gt;% accuracy.</p>
			<p><b><u>7.SP.8 Represent Sample Spaces for Compound Events</u></b></p> <p>&lt;STUDENT&gt; will represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams and identify the outcomes in the sample space which compose the event &lt;UNDER_WHAT_CONDITION&gt; as measured &lt;MEASURE&gt; in &lt;NUMBER1&gt; out of &lt;NUMBER2&gt; trials with &lt;PERCENT&gt;% accuracy.</p>