

Mountain Home School District 7<sup>th</sup> Grade Math

Claim (SBAC)	Content Domain	Target	CCSS	Depth of Knowledge Level	Teaching Strategies/Resources
<p><b><u>Claim 1: Concepts and Procedures</u></b></p> <p>Students can explain and apply mathematical concepts and carry out mathematical procedures with precision and fluency.</p>	<p><b><u>Ratios and Proportional Relationships</u></b></p>	<p>The student will analyze proportional relationships and use them to solve real-world and mathematical problems.</p>	<p>Standards: 7.RP.A, 7.RP.1, 7.RP.2, 7.RP.3                      7.RP.A: 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.2: Recognize and represent proportional relationships between quantities.                      7.RP.3: Use proportional relationships to solve multistep ratio and percent problems.</p>	<p>2</p>	<p>Saxon Math                       Saxon Math Standards Success                       Understanding By Design                       Smarter Balanced Assessment Consortium website</p>
	<p><b><u>The Number System</u></b></p>	<p>The student will apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.</p>	<p>Standards: 7.NS.A, 7.NS.1, 7.NS.2, 7.NS.3                      7.NS.A: Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.                      7.NS.1: Apply and extend previous understanding of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.                      7.NS.2: 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 repeat.</p>	<p>1 &amp; 2</p>	
	<p><b><u>Expressions and Equations</u></b></p>	<p>The student will use properties of operations to generate equivalent expressions.</p>	<p>Standards: 7.EE.A, 7.EE.1, 7.EE.2                      7.EE.A: Use properties of operations to generate equivalent expressions.                      7.EE.1: Apply properties of operations as strategies to add, subtract, factor, and expand linear expression with rational coefficients.                      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.</p>	<p>1 &amp; 2</p>	

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		The student will solve real-life and mathematical problems using numerical and algebraic expressions and equations.	Standards: 7.EE.B, 7.EE.3, 7.EE.4 7.EE.B Solve real-life and mathematical problems using numerical and algebraic expression 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.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 quantities.	1&2	
	<b><u>Geometry</u></b>	The student will draw, construct and describe geometrical figures and describe the relationships between them.	Standards: 7.GA, 7.G.1, 7.G.2, 7.G.3 7.GA 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.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.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.	1 & 2	
		The student will solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	Standards: 7.G.B, 7.G.4, 7.G.5, 7.G.6 7.G.B 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.	1 & 2	

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			<p>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.</p> <p>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.</p>		
	<b><u>Statistics and Probability</u></b>	The student will use random sampling to draw inferences about a population.	<p>Standards: 7.SP.A, 7.SP.1, 7.SP2</p> <p>7.SP.A Use random sampling to draw inferences about a population.</p> <p>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.</p> <p>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.</p>	1 & 2	
		The student will draw informal comparative inferences about two populations.	<p>Standards: 7.SP.B,7.SP.3, 7.SP4</p> <p>7.SP.B Draw informal comparative inferences about two populations.</p> <p>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.</p> <p>7.SP.4 Use measures of center and measure of variability for numerical data from random samples to draw informal comparative inferences about two populations.</p>	2	
		The student will investigate chance processes and develop, use, and evaluate probability models.	<p>Standards: 7.SP.C, 7.SP.5, 7.SP.6, 7.SP.7, 7.SP.8</p> <p>7.SP.C Investigate chance processes and develop, use, and evaluate probability models.</p> <p>7.SP.5 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the even occurring. Larger numbers indicate greater likelihood. A</p>	1 & 2	

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			<p>probability near 0 indicates an unlikely event, a probability around <math>\frac{1}{2}</math> indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.</p> <p>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.</p> <p>7.SP.7 Develop a probability model and use it to find probabilities of event. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of discrepancy.</p> <p>7.SP.8 Find probabilities of compound event using organized lists, tables, tree diagrams, and simulation</p>		
<p><b><u>Claim 2 Problem Solving</u></b> Students can solve a range of well-posed problems in pure and applied mathematics, making productive use of knowledge and problem-solving strategies.</p>	<p><b><u>Ratios and Proportional Relationships, Number Systems, Expressions and Equations, Geometry</u></b></p>	<p>The student will apply mathematics to solve well-posed problems in pure mathematics and arising in everyday life, society, and the workplace.</p> <p>The student will select and use appropriate tools strategically.</p> <p>The student will interpret results in the context of a situation.</p> <p>The student will identify important quantities in a practical situation and map their relationships (e.g., using diagrams, two-way tables, graphs, flowcharts, or formulas).</p>	<p>Standards: 7.RP.A, 7.NS.A, 7.EE.A, 7.EE.B, 7.G.A, 7.G.B</p> <p>7.RP.A: Analyze proportional relationships and use them to solve real-world and mathematical problems.</p> <p>7.NS.A: Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.</p> <p>7.EE.A: Use properties of operations to generate equivalent expressions.</p> <p>7.EE.B: Solve real-life and mathematical problems using numerical and algebraic expressions and equations.</p> <p>7.G.A: Draw, construct, and describe geometrical figures and describe the relationship between them.</p> <p>7.G.B: Solve real-life and mathematical problems involving angle measure, area, surface area and volume.</p>	<p>1, 2, &amp; 3</p>	

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<p><b><u>Claim 3</u></b>  <b><u>Communicating Reasoning</u></b>          Students clearly and precisely construct viable arguments to support their own reasoning and to critique the reasoning of others.</p>	<p><b><u>Ratios and Proportions, Number Systems, and Expressions and Equations</u></b></p>	<p>The student will test propositions or conjectures with specific examples.</p> <p>The student will construct, autonomously, chains of reasoning that will justify or refute propositions or conjectures.</p> <p>The student will state logical assumptions being used.</p> <p>The student will use the technique of breaking an argument into cases. The student will distinguish correct logic or reasoning from that which is flawed and – if there is a flaw in the argument-explain what it is.</p> <p>The student will base arguments on concrete referents such as objects, drawings, diagrams, and actions.</p> <p>The student will at later grades, determine conditions under which an argument does and does not apply.</p>	<p>Standards: 7.RP.2, 7.NS.A, 7.NS.1, 7.NS.2, 7.EE.1, 7.EE.2</p> <p>7.RP.2: Recognize and represent proportional relationships between quantities.</p> <p>7.NS.A: Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.</p> <p>7.NS.1: Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtractions on a horizontal or vertical number line diagram.</p> <p>7.NS.2: Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.</p> <p>7.EE.A: Use properties of operations to generate equivalent expressions.</p> <p>7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.</p> <p>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.</p>	<p>2, 3,&amp; 4</p>	
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<p><b><u>Claim 4 Modeling and Data Analysis</u></b>                  Students can analyze complex, real-world scenarios and can construct and use mathematical models to interpret and solve problems.</p>	<p><b><u>Ratios and Proportions, Number Systems, Expression and Equations, Geometry, and Statistics and Probability</u></b></p>	<p>The student will apply mathematics to solve problems arising in everyday life, society, and the workplace.</p> <p>The student will construct, autonomously, chains of reasoning to justify mathematical models used, interpretations made, and solutions proposed for complex problem.</p> <p>The student will state logical assumptions being used.</p> <p>The student will interpret results in the context of a situation.</p> <p>The student will analyze the adequacy of and make improvements to an existing model or develop a mathematical model of a real phenomenon.</p> <p>The student will identify important quantities in a practical situation and map their relationships (e.g., using diagrams, two-way tables, graphs, flowcharts, or formulas).</p> <p>The student will identify, analyze and synthesize relevant external resources to pose or solve problems.</p>	<p>Standards: 7.RP.A, 7.NS.A, 7.EE.B, 7.G.A, 7.G.B., 7.SP.A, 7.SP.B, 7.SP.C,                  7.RP.A: Analyze proportional relationships and use them to solve real-world and mathematical problems.                  7.NS.A: Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.                  7.EE.B Solve real-life and mathematical problems using numerical and algebraic expressions and equations.                  7.G.A.: Draw, construct, and describe geometrical figures and describe the relationships between them.                  7.SP.A: Use random sampling to draw inferences about a population.                  7.SP.B: Draw informal comparative inferences about two populations.                  7.SP.C: Investigate chance processes and develop, use, and evaluate probability models.</p>	<p>1, 2, 3, &amp; 4</p>	
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