

Sheridan County School District #3
Seventh Grade Math Priority Standards

| WyTopp Standard SCSD#3 Priority Standard/Topic | Wyoming state standards associated with the WyTopp and selected by SCSD#3 for hits on priority standards |
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| <p>7.RP.A Analyze proportional relationships and use them to solve real-world and mathematical problems.</p> | <p>RP.A.1 Compute unit rates, including those involving complex fractions, with like or different units.</p> |
| | <p>RP.A.2 A. Decide whether two quantities in a table or graph are in a proportional relationship. B. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. C. Represent proportional relationships with equations. D. Explain what a point (x,y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0,0) and (1,r) where r is the unit rate.</p> |
| | <p>RP.A.3 Solve multi-step real world and mathematical problems involving ratios and percentages.</p> |
| <p>7.NS.B Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.</p> | <p>NS.B.1 Apply and extend previous understanding of addition and subtraction to add and subtract rational numbers.</p> <ul style="list-style-type: none"> A. Describe situations in which opposite quantities combine to make zero (the additive identity) B. Understand that $p + q$ represents the distance q from p whose placement is determined by the sign of q. Interpret sums of rational numbers by describing real-world contexts. C. Show that a number and its opposite have a sum of 0 (are additive inverses). D. Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Apply this principle in real-world contexts. E. Apply properties of addition as strategies to add and subtract rational numbers. |
| | <p>NS.B.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.</p> <ul style="list-style-type: none"> A. 1. Understand that the multiplicative inverse of a number is its reciprocal and their product is equal to one (the multiplicative identity). 2. Understand positive and negative sign rules for multiplying rational numbers. Interpret products of rational numbers by describing real-world contexts. B. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers is a rational number. Recognize that if p and q are integers then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts. |

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| | <p>C. Apply properties of multiplication (commutative, associative, distributive, or properties of identity and inverse elements) to multiply and divide rational numbers.</p> <p>D. Convert a rational number to a decimal. Recognize that rational numbers can be written as fractions or decimal numbers that terminate or repeat.</p> <p>NS.B.3 Solve real-world and mathematical problems involving the four arithmetic operations with rational numbers. (Computations with rational numbers extend the rules for manipulating fractions to complex fractions.)</p> |
| <p>7.EE.C Use properties of operations to generate equivalent expressions.</p> | <p>7.EE.C.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.</p> <p>7.EE.C.2 Recognize that algebraic expressions may have a variety of equivalent forms that reveal different information, and determine an appropriate form for a given real-world situation.</p> |
| <p>7.EE.D Solve real-life and mathematical problems using numerical and algebraic expressions and equations.</p> | <p>7.EE.D.3 Solve multi-step real-life and mathematical problems involving rational numbers. Include fraction bars as a grouping symbol.</p> <p>7.EE.D.4 Apply the concepts of linear equations and inequalities in one variable. (exclude equations that contain variables on both sides)</p> <p>A. Write and fluently solve linear equations of the form $ax + b = c$ and $a(x + b) = c$ where a, b, and c are rational numbers.</p> <p>B. Write and solve multi-step linear equations that include the use of the distributive property and combining like terms. Exclude equations that contain variables on both sides.</p> <p>C. Write and solve two-step linear inequalities. Graph the solution set on a number line and interpret its meaning.</p> <p>D. Identify and justify the steps for solving multi-step linear equations and two-step linear inequalities.</p> |
| <p>7.G.E Draw, construct, and describe geometrical figures and describe the relationships between them.</p> | <p>7.G.E.1 Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing.</p> <p>7.G.E.2 Draw geometric shapes with given conditions using a variety of tools (e.g. ruler and protractor, or technology). 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. <i>(lesson CC-8 OR use Geogebra w/ Chrome books to explore the possibilities)</i></p> <p>7.G.E.3 Describe the two-dimensional figures that result from slicing three-dimensional figures parallel to the base, as in plane sections of right rectangular prisms and right rectangular pyramids</p> |
| <p>7.G.F Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.</p> | <p>7.G.F.4 Investigate the concept of circles.</p> <p>A. Demonstrate an understanding of the proportional relationships between diameter, radius, and circumference of a circle.</p> |

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| | <p>B. Understand that pi is defined by the constant of proportionality between the circumference and diameter.</p> <p>C. Given the formulas for circumference and area of circles, solve real-world and mathematical problems.</p> |
| | <p>7.G.F.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.F.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> |
| <p>7.SP.G Use random sampling to draw inferences about a population.</p> | <p>7.SP.G.1 Solve real-world and mathematical problems involving;</p> <p>A. Understand that a sample is a subset of a population.</p> <p>B. Differentiate between random and non-random sampling.</p> <p>C. Understand that generalizations from a sample are valid only if the sample is representative of the population.</p> <p>D. Understand that random sampling is used to gather a representative sample and tends to support valid inferences about the population.</p> |
| | <p>7.SP.G.2 Draw inferences about a population by collecting multiple random samples of the same size to investigate variability in estimates of the characteristic of interest.</p> |
| <p>7.SP.H Draw informal comparative inferences about two populations.</p> | <p>7.SP.H.3 Visually compare the centers, spreads, and overlap of two displays of data (e.g., back-to-back stem and leaf plots, dot plots, histograms, box plots) that are graphed on the same scale and draw inferences about this data.</p> |
| | <p>7.SP.H.4 Given measures of center and variability (mean, median and/or mode; range interquartile range, and/or standard deviation), for numerical data from random samples, draw appropriate informal comparative inferences about two populations.</p> |