

7th Grade Math Continuum of Learning

GRADE: 7 th	Content Area: Math
Standard: Expressions and Equations	
Key Idea: Use Properties of operations to generate equivalent expressions.	
Required Skills:	
a.) I can use properties of operations to add, subtract, factor, and expand linear expressions with rational coefficients.	
b.) I can understand that rewriting an expression in different forms can help me better understand the problem and how the quantities are	
connected.	
Key Idea: Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	
Required Skills:	
a.) I can solve multi-step real-life and m	nathematical problems with positive and negative rational numbers (whole numbers,
fractions, and decimals) by using tools strategically.	
b.) I can apply properties of operations, convert between different forms of numbers when needed, and check my answers for	
reasonableness using mental math and estimation.	
c.) I can use variables to represent quantities in real-world or mathematical problems and create simple equations and	
inequalities to solve problems by thinking about the relationships between the quantities.	
Standard: Geometry	
Key Idea: Draw, construct, and describe geometrical figures and describe the relationships between them.	
Required Skills:	
a.) I can solve problems with scale drawings of geometric figures, including finding actual lengths and areas from a scale drawing and	
creating a new scale drawing with a different scale.	
b.) I can draw geometric shapes using a ruler, protractor, or technology based on given conditions.	
c.) I can construct triangles from three angles or side measures and figure out if the conditions make one unique triangle, more than one	
triangle, or no triangle at all.	
d.) I can describe the two-dimensional shapes that come from slicing three-dimensional figures, like right rectangular prisms and right	
rectangular pyramids.	

Key Idea: Solve real-life and mathematical problems involving angle measure, area, surface area, and volume. (7.G.B) Required Skills:

a.) I can use the formulas for the area and circumference of a circle to solve problems, and I can explain how the circumference and area of a circle are related.

b.) I can use facts about supplementary, complementary, vertical, and adjacent angles to write and solve simple equations for an unknown angle in a figure.

c.) I can solve real-world and mathematical problems involving the area, volume, and surface area of two- and three-dimensional objects made of triangles, quadrilaterals, polygons, cubes, and right prisms.

Standard: The Number System

Key Idea: Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

Required Skills:

a.) I can apply what I've learned about addition and subtraction to add and subtract rational numbers and represent the addition and subtraction on a number line.

b.) I can use what I've learned about multiplication, division, and fractions to multiply and divide rational numbers.

c.) I can solve real-world and mathematical problems using the four operations with rational numbers, including working with complex fractions.

Standard: Ratios and Proportional Relationships

Key Idea: Analyze proportional relationships and use them to solve real-world and mathematical problems.

Required Skills:

a.) I can compute unit rates for ratios of fractions, including ratios of lengths, areas, and other quantities measured in the same or different units.

b.) I can recognize and represent proportional relationships between quantities.

c.) I can use proportional relationships to solve multi-step ratio and percent problems.

Standard: Statistics and Probability

Key Idea: Use random sampling to draw inferences about a population.

Required Skills:

a.) I can understand that statistics help us learn about a population by examining a sample, and that generalizations are only valid if the sample is representative.

b.) I understand that random sampling usually produces representative samples and leads to valid conclusions.

c.) I can use data from a random sample to make inferences about a population with an unknown characteristic. I can also generate multiple samples to understand how estimates or predictions may vary.

Key Idea: Draw informal comparative inferences about two populations.

Required Skills:

a.) I can informally assess how much two numerical data distributions overlap by comparing their centers and expressing the difference as a multiple of the variability.

b.) I can use measures of center and variability from random samples to make informal comparisons between two populations.

Key Idea: Investigate chance processes and develop, use, and evaluate probability models.

Required Skills:

a.) I can understand that the probability of a chance event is a number between 0 and 1 that shows how likely the event is to happen. A larger number means the event is more likely, a number near 0 means it's unlikely, a number around 1/2 means it's equally likely or unlikely, and a number near 1 means it's very likely.

b.) I can estimate the probability of a chance event by collecting data from the process and observing how often the event occurs over time. I can also predict the relative frequency based on the probability.

c.) I can create a probability model and use it to find the probabilities of events.

d.) I can compare the probabilities from the model to the observed frequencies and, if they don't match well, explain possible reasons for the difference.

e.) I can find the probabilities of compound events by using organized lists, tables, tree diagrams, and simulations.