

Oklahoma PASS Mathematics Content Standards, Grade 8, Correlated to *Glencoe Pre-Algebra*

PASS Mathematics Content Standards	Student Edition Lesson
Standard 1: Algebraic Reasoning—The student will graph and solve linear equations and inequalities in problem-solving situations.	
1. Equations	
a. Model, write, and solve 2-step linear equations using a variety of methods.	3-5, 3-6, 7-1, 7-2
b. Graph and interpret the solution to linear equations on a number line with one variable and on a coordinate plane with two variables.	2-6, 3-3, 3-4, 8-2, 8-3, 8-6, 8-6B, 8-9
c. Predict the effect on the graph of a linear equation when the slope changes (e.g., make predictions from graphs, identify the slope in the equation $y = mx + b$ and relate to a graph).	8-5, 8-6, 8-6B, 10-1
2. Inequalities	
a. Model, write, and solve 1-step and 2-step linear inequalities with one variable.	7-3, 7-4, 7-5, 7-6
b. Graph the solution to linear inequalities with one variable on a number line.	2-6, 7-3, 7-4, 7-5, 7-6
Standard 2: Number Sense—The student will use numbers and number relationships to solve problems.	
1. Rational Numbers	
a. Compare and order rational numbers (positive and negative integers, fractions, decimals) in real-life situations.	2-1, 4-8, 5-1, 5-6, 6-4, 9-2
b. Use the basic operations on rational numbers to solve problems in real-life situations (e.g., describe the effect of multiplying whole numbers by a fraction or a decimal less than 1).	1-1, 2-2, 2-3, 2-4, 2-5, 5-3, 5-4, 5-5, 5-7
c. Apply ratios and proportions to solve problems.	6-1, 6-2, 6-2B, 6-3, 6-5, 6-9, 9-7, 9-8A, 9-8, 9-8B, 11-6, 12-8
2. Exponents	
a. Use the rules of exponents, including integer exponents, to solve problems (e.g., $7^2 \cdot 7^3 = 7^5$).	4-6, 4-7, 4-8
b. Represent and interpret large numbers and numbers less than one in exponential and scientific notation.	4-2, 4-7, 4-8
c. Use estimation strategies (e.g., rounding) to describe the magnitude of large numbers and numbers less than one.	4-8

Standard 3: Geometry—The student will use geometric properties to solve problems in a variety of contexts.	
1. Construct models, sketch (from different perspectives), and classify solid figures such as rectangular solids, prisms, cones, cylinders, pyramids, and combined forms (e.g., draw a figure that could result from making 1, 2, or 3 cuts in a given solid).	11-1A, 11-1, 11-4, 11-5
2. Develop the Pythagorean Theorem and apply the formula to find the length of missing sides of a right triangle and the length of other line segments.	9-5A, 9-5, 9-5B, 9-6
Standard 4: Measurement—The student will use measurement to solve problems in a variety of contexts.	
1. Estimate and find the surface area and volume in real world settings (e.g., unwrap a box to explore surface area; use rice, 1-inch cubes, centimeter cubes, cups . . . to estimate the volume of boxes, irregular shaped objects, containers).	11-2A, 11-2, 11-3, 11-4, 11-5
2. Apply knowledge of ratio and proportion to solve relationships between similar geometric figures (e.g., build a model of a 3-dimensional object to scale).	6-2, 6-3, 9-7, 11-6A, 11-6
3. Formulas	
a. Select and apply appropriate formulas for given situations: I. an equation (e.g., $d = rt$, $I = prt$).	2-3, 2-5, 3-7, 6-7, 6-7B, 8-2
II. measurement problems (e.g., $p = 2l + 2w$, $V = lwh$).	3-7, 3-7B, 7-2, 10-1, 10-4, 10-5, 10-6, 10-7, 10-8, 11-2, 11-3, 11-4, 11-5
b. Find the area of a “region of a region” for simple composite figures (e.g., area of a rectangular picture frame).	10-8
Standard 5: Data Analysis and Statistics—The student will use data analysis and statistics to interpret data in a variety of contexts.	
1. Select and apply appropriate formats (e.g., line plots, bar graphs, stem-and-leaf plots, scatter plots, histograms, circle graphs) to display collected data.	1-7, 8-8, 12-1, 12-3, 12-3B, 12-4, 12-4B
2. Measures of Central Tendency	
a. Find the measures of central tendency (mean, median, and mode) of a set of data and understand why a specific measure provides the most useful information in a given context).	2-5, 5-8, 5-8B, 12-2, 12-3, 12-3B
b. Compute the mean, median, and mode for data sets and understand how additional data in a set may affect the measures of central tendency.	5-8, 5-8B
3. Determine how samples are chosen (random, limited, biased) to draw and support conclusions about generalizing a sample to a population (e.g., is the average height of a men’s college basketball team a good representative sample for height predictions?).	6-9A