

Pre-Algebra 8 Pacing Guide

First Trimester

Topic	Number of days	Standard(s)	Student Goals
The Number System	7	Know that there are numbers that are not rational, and approximate them by rational numbers. 8.NS.1, 8.NS.2	<ul style="list-style-type: none">• Understand that every number has a decimal expansion.• Use rational approximations of irrational numbers to estimate irrational numbers.• Operations with rational numbers.
Powers and Roots	12	Work with radicals and integer exponents, scientific notation. 8.EE.1, 8.EE.2, 8.EE.3, 8.EE.4	<ul style="list-style-type: none">• Use square root and cube root symbols to evaluate to perfect squares or cubes.• Use numbers expressed in scientific notation to estimate very large or very small numbers.• Operations with numbers written in scientific notation.
Proportional Relationships and Functions Part 1	12	Define, evaluate, and compare functions; use functions to model and write equations of relationships between quantities. 8.F.1, 8.F.2, 8.F.3, 8.F.4, 8.F.5	<ul style="list-style-type: none">• Understand that a function is a rule that assigns exactly one output for each input.• Identify linear functions from tables, equations, and graphs.• Analyze functions that model linear relationships.
Proportional Relationships and Functions Part 2	17	Define, evaluate, and compare functions; use functions to model and write equations of relationships between quantities. 8.F.1, 8.F.2, 8.F.3, 8.F.4, 8.F.5	<ul style="list-style-type: none">• Understand that a function is a rule that assigns exactly one output for each input.• Identify linear functions from tables, equations, and graphs.• Analyze functions that model linear relationships.

Second Trimester

Topic	Number of days	Standard(s)	Student Goals
Analyze and solve linear equations and inequalities.	14	Solve real-world problems by writing and solving equations and inequalities in one variable. 8.EE.7	<ul style="list-style-type: none"> • Recognize linear equations in one variable as having one solution, infinitely many solutions, or no solutions. • Solve linear equations and inequalities including multi-step equations and inequalities with the same variable on both sides.
Analyze and solve systems of equations.	14	Analyze and solve a system of two linear equations in two variables in slope-intercept form. 8.EE.8	<ul style="list-style-type: none"> • Understand that solutions to a system of two linear equations correspond to the points of intersection of their graphs because the point of intersection satisfies both equations simultaneously. • Solve real-world and mathematical problems leading to systems of linear equations by graphing the equations. Solve simple cases by inspection.
Geometry - Understand Angle Relationships	12	Analyze angle relationships and solve real-world problems involving angles. 8.G.5	<ul style="list-style-type: none"> • Recognize relationships between interior and exterior angles of a triangle. • Work with angles created when parallel lines are cut by a transversal. • Solve real-world and mathematical problems involving angles.
Geometry - Volume	8	Apply formulas to solve problems involving the volume of cylinders, cones, and spheres. 8.G.9	<ul style="list-style-type: none"> • Understand how the formulas for the volumes of cones, cylinders, and spheres are related and use the relationship to solve real-world and mathematical problems.

Third Trimester

Topic	Number of days	Standard(s)	Student Goals
Geometry - Congruent Figures	14	Use transformations to define congruence and similarity, describe the effects of translation, reflection, rotation, and dilation on a geometric shape. 8.G.2, 8.G.3, 8.G.4	<ul style="list-style-type: none"> • Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations. • Develop an understanding of translations using visualization, spatial reasoning, and geometric modeling.
Geometry - The Pythagorean Theorem	10	Understand and apply the Pythagorean Theorem. 8.G.6, 8.G.7, 8.G.8	<ul style="list-style-type: none"> • Apply the Pythagorean Theorem to find the distance between two points in a coordinate system. • Understand how to use the Pythagorean Theorem to solve real-world and mathematical problems
Statistics and Probability Part 1	12	Investigate patterns of associations with data for two variables (usually two types of related data). 8.SP.1, 8.SP.2	<ul style="list-style-type: none"> • Construct and interpret scatter plots for data to investigate patterns of association between two quantities. • Model relationships between data for two variables.
Statistics and Probability Part 2	12	Investigate patterns of associations with data for two variables (usually two types of related data). 8.SP.3, 8.SP.4	<ul style="list-style-type: none"> • Use the equation of a linear model to solve problems with data for two variables, interpreting the slope and y-intercept. • Construct and interpret frequency tables for data sets.

Please note

- With each topic, student understanding will be monitored by homework and graded work, which includes quizzes, graded homework, and graded in-class assignments. A topic test and/or project will be given after the completion of each topic.
- The number of days per chapter is strictly a guideline and will be adjusted as students master or struggle with the topics being taught.