

Grade 8 Math Guaranteed/Viable Curriculum

	Essential Standard	Proficiency Timeline
8.11	<p>Solve multi-step linear equations in one variable, including rational number coefficients, and equations that require using the distributive property and combining like terms.</p> <p>a. Determine whether linear equations in one variable have one solution, no solution, or infinitely many solutions of the form $x = a$, $a = a$, or $a = b$ (where a and b are different numbers).</p> <p>b. Represent and solve real-world and mathematical problems with equations and interpret each solution in the context of the problem.</p>	1st Nine Weeks
8.9	<p>Interpret $y = mx + b$ as defining a linear equation whose graph is a line with m as the slope and b as the y-intercept.</p> <p>a. Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in a coordinate plane.</p> <p>b. Given two distinct points in a coordinate plane, find the slope of the line containing the two points and explain why it will be the same for any two distinct points on the line.</p> <p>c. Graph linear relationships, interpreting the slope as the rate of change of the graph and the y-intercept as the initial value.</p> <p>d. Given that the slopes for two different sets of points are equal, demonstrate that the linear equations that include those two sets of points may have different y-intercepts.</p>	1st Nine Weeks
8.12	<p>Solve systems of two linear equations in two variables by graphing and substitution.</p> <p>a. Explain that the solution(s) of systems of two linear equations in two variables corresponds to points of intersection on their graphs because points of intersection satisfy both equations simultaneously.</p>	2nd Nine Weeks

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	<p>b. Interpret and justify the results of systems of two linear equations in two variables (one solution, no solution, or infinitely many solutions) when applied to real-world and mathematical problems.</p>	
8.13	<p>Determine whether a relation is a function, defining a function as a rule that assigns to each input (independent value) exactly one output (dependent value), and given a graph, table, mapping, or set of ordered pairs.</p>	2nd Nine Weeks
8.20	<p>Use a linear model of a real-world situation to solve problems and make predictions.</p> <p>a. Describe the rate of change and y-intercept in the context of a problem using a linear model of a real-world situation.</p>	2nd Nine Weeks
—	<p>Define the real number system as composed of rational and irrational numbers.</p> <p>a. Explain that every number has a decimal expansion; for rational numbers, the decimal expansion repeats or terminates.</p> <p>b. Convert a decimal expansion that repeats into a rational number.</p>	3rd Nine Weeks
8.2	<p>Locate rational approximations of irrational numbers on a number line, compare their sizes, and estimate the values of the irrational numbers.</p>	3rd Nine Weeks
8.30	<p>Use formulas to calculate the volumes of three-dimensional figures (cylinders, cones, and spheres) to solve real-world problems.</p>	3rd Nine Weeks
8.6	<p>Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used.</p> <p>a. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities.</p>	3rd/4th Nine Weeks

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	b. Interpret scientific notation that has been generated by technology.	
8.25	Analyze and apply properties of parallel lines cut by a transversal to determine missing angle measures. a. Use informal arguments to establish that the sum of the interior angles of a triangle is 180 degrees.	4th Nine Weeks
8.28	Apply the Pythagorean Theorem to determine unknown side lengths of right triangles, including real-world applications	4th Nine Weeks
8.23	Use coordinates to describe the effect of transformations (dilations, translations, rotations, and reflections) on two-dimensional figures.	4th Nine Weeks