Grade 6 PI+ Yearlong Mathematics Map

Resources: Approved from Board of Education

Assessments: PARCC Assessments, Performance Series, District Benchmark Assessments

Common Core State Standards – Standards for Mathematical Practice:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Domain	Cluster	Common Core Standard	Content	Skills	Academic Vocabulary
RP	G	7.RP.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4 miles per hour, equivalently 2 miles per hour.	Ratio Unit Rate	7.RP.1 Compute unit rates with ratio of fractions including ratios of length, areas, and other quantities of like or different units.	Complex fraction Ratio Unit Rate
RP	Analyze proportional relationships and use them to solve real-world and mathematical problems.	7.RP.2 Recognize and represent proportional relationships between quantities.	Proportional Relationships	7.RP.2 Identify proportional relationships between quantities.	Proportion
RP	Analyze proportional relationships and use them to solve real-world and mathematical problems.	7.RP.2 Recognize and represent proportional relationships between quantities.	Proportional Relationship	7.RP.2 Represent proportional relationships between quantities.	Proportion

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RP	Analyze proportional relationships and use them to solve real-world and mathematical problems.	7.RP.2a Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.	Proportional Relationships	7.RP.2a Decide whether two quantities are in a proportional relationship.	Coordinate Plane Origin x-coordinate y-coordinate quadrant x-axis y-axis scale
RP	Analyze proportional relationships and use them to solve real-world and mathematical problems.	7.RP.2b Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.	Unit Rate	7.RP.2b Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.	Unit Rate Table Graph Equations
RP	Analyze proportional relationships and use them to solve real-world and mathematical problems.	7.RP.2c Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.	Proportional Relationships	7.RP.2c Write equations to represent proportional relationships.	Equation Proportion
RP	Analyze proportional relationships and use them to solve real-world and mathematical problems.	7.RP.2d 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.	Proportional Relationships	7.RP.2d 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.	Constant of Proportionality Unit Rate Graphs Equations

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RP	Analyze proportional relationships and use them to solve real-world and mathematical problems.	7.RP.3 Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.	Proportional Relationships	7.RP.3 Solve multi-step ratio and percent problems using proportional relationships.	Ratio Percent Proportion Simple Interest Percent increase Percent decrease Markup Sales Tax
NS	Know that there are numbers that are not rational, and approximate them by rational numbers.	8.NS.1 Understand informally that every number has a decimal expansion; the rational numbers are those with decimal expansions that terminate in 0s or eventually repeat. Know that other numbers are called irrational.	rational number irrational number	8.NS.1 Classify numbers as rational (terminating or repeating) or irrational by using the decimal expansion	
NS	Know that there are numbers that are not rational, and approximate them by rational numbers.	8.NS.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). For example, by truncating the decimal expansion of √2, show that √2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.	rational number irrational number	8.NS.2 Compare the size of irrational numbers by approximating	
NS	Know that there are numbers that are not rational, and approximate them by rational numbers.	8.NS.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). For example, by truncating the decimal expansion of √2, show that √2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.	rational number irrational number	8.NS.2 Locate approximate placement or irrational number on a number line diagram	

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NS	Know that there are numbers that are not rational, and approximate them by rational numbers.	8.NS.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). For example, by truncating the decimal expansion of √2, show that √2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.	rational number irrational number	8.NS.2 Estimate the value of an expression	
EE	Use properties of operations to generate equivalent expressions.	7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	Equivalent Expressions	7.EE.1 Add linear expressions with rational coefficients, using properties of operations.	linear expression
EE	Use properties of operations to generate equivalent expressions.	7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	Equivalent Expressions	7.EE.1 Subract linear expressions with rational coefficients, using properties of operations.	linear expression
EE	Use properties of operations to generate equivalent expressions.	7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	Equivalent Expressions	7.EE.1 Factor linear expressions with rational coefficients, using properties of operations.	linear expression
EE	Use properties of operations to generate equivalent expressions.	7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	Equivalent Expressions	7.EE.1 Expand linear expressions with rational coefficients, using properties of operations.	distributive property linear expression
EE	Use properties of operations to generate equivalent expressions.	7.EE.2 Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that “increase by 5%” is the same as “multiply by 1.05.”	Equivalent Expressions	7.EE.2 Explain that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.	

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EE	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.	Algebraic expressions Algebraic equations Numerical expressions Numerical equations	7.EE.3 Calculate with numbers in any form using properties of operations.	
EE	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.	Algebraic expressions Algebraic equations Numerical expressions Numerical equations	7.EE.3 Convert between percents, decimals and fractions as appropriate.	

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EE	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.	Algebraic expressions Algebraic equations Numerical expressions Numerical equations	7.EE.3 Evaluate the reasonableness of answers using mental computation and estimation strategies.	

Domain	Cluster	Common Core Standard	Content	Skills	Academic Vocabulary
EE	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	7.EE.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.	Algebraic expressions	7.EE.4 Choose variables to represent quantities in a real-world or mathematical problem.	
EE	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	7.EE.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.	Algebraic equations	7.EE.4 Construct simple **equations** to solve problems by reasoning about the quantities.	
EE	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	7.EE.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.	Algebraic inequalities	7.EE.4 Construct simple **inequalities** to solve problems by reasoning about the quantities.	
EE	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	7.EE.4a Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?	Algebraic equations	7.EE.4a Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently.	

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EE	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	7.EE.4a Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?	Algebraic equations	7.EE.4a Identify the sequence of the operations used in an algebriac solution and in arithmetic solution.	
EE	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	7.EE.4a Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?	Algebraic Equations Numerical Equations	7.EE.4a Compare an algebraic solution to an arithmetic solution.	
EE	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	7.EE.4b Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.	Algebraic inequalities Numerical inequalities	7.EE.4b Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers.	

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EE	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	7.EE.4b Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.	Algebraic Inequality	7.EE.4b Graph the solution set of the inequality.	
EE	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	7.EE.4b Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.	Algebraic Inequality	7.EE.4b Interpret it in the context of the problem.	
EE	Expressions and EquationsWork with radicals and integer exponents.	8.EE.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, 32 × 3–5 = 3–3 = 1/33 = 1/27.	exponent properties	8.EE.1 Apply the properties of integer exponents	
EE	Expressions and EquationsWork with radicals and integer exponents.	8.EE.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that √2 is irrational.	radicals expressions integer exponents	8.EE.2 Represent solutions to equations as square or cube roots	Square Root Cube Root

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EE	Expressions and EquationsWork with radicals and integer exponents.	8.EE.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that √2 is irrational.	radicals expressions integer exponents	8.EE.2 Evaluate square and cube roots of small perfect squares and cubes (but do not simplify non perfect radicals)	Perfect Radicals
EE	Expressions and EquationsWork with radicals and integer exponents.	8.EE.3 Use numbers expressed in the form of a single digit times a whole-number power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 times 10^8 and the population of the world as 7 times 10^9, and determine that the world population is more than 20 times larger.	radicals expressions integer exponents	8.EE.3 Estimate very large or very small quantities as a single digit times a power of 10	standard notation scientific notation
EE	Expressions and EquationsWork with radicals and integer exponents.	8.EE.3 Use numbers expressed in the form of a single digit times a whole-number power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 times 10^8 and the population of the world as 7 times 10^9, and determine that the world population is more than 20 times larger.	radicals expressions integer exponents	8.EE.3 Compare estimations of very large or very small quantities when expressed as a single digit times a power of 10	standard notation scientific notation
EE	Expressions and EquationsWork with radicals and integer exponents.	8.EE.4 Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.	radicals expressions integer exponents scientific notation	8.EE.4 Utilize scientific notation and choose units of appropriate size for measurements of very large or very small quantities	scientific notation

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EE	Expressions and EquationsWork with radicals and integer exponents.	8.EE.4 Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.	radical expressions integer exponents scientific notation	8.EE.4 Perform operations with numbers expressed in scientific notation	
EE	Expressions and EquationsWork with radicals and integer exponents.	8.EE.4 Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.	radical expressions integer exponents scientific notation	8.EE.4 Interpret scientific notation that has been generated by technology	
EE	Understand the connections between proportional relationships, lines, and linear equations.	8.EE.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.	proportional relationships linear equations	8.EE.5 Graph proportional relationships	slope
EE	Understand the connections between proportional relationships, lines, and linear equations.	8.EE.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.	proportional relationships linear equations	8.EE.5 Interpret the unit rate as the slope of the graph.	unit rate

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EE	Understand the connections between proportional relationships, lines, and linear equations.	8.EE.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.	proportional relationships linear equations	8.EE.5 Compare two different proportional relationships represented in different ways	
EE	Understand the connections between proportional relationships, lines, and linear equations.	8.EE.6 Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the equation y = mx + b for a line intercepting the vertical axis at b.	proportional relationships linear equations similarity	8.EE.6 Explain why slope is the same between 2 distinct points on a line using similar triangles	slope similar triangles
EE	Understand the connections between proportional relationships, lines, and linear equations.	8.EE.6 Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the equation y = mx + b for a line intercepting the vertical axis at b.	proportional relationships linear equations similarity	8.EE.6 Derive the equation y = mx for a line through the origin and the equation y = mx + b for a line intercepting the vertical axis at b.	slope-intercept form y-intercept origin
EE	Analyze and solve linear equations and pairs of simultaneous linear equations.	8.EE.7 Solve linear equations in one variable.	Linear equations	8.EE.7 Solve linear equations in one variable	linear equation variable
EE	Analyze and solve linear equations and pairs of simultaneous linear equations.	8.EE.7a Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b results (where a and b are different numbers).	Linear equations	8.EE.7a Solve linear equations in one variable with one solution, no solutions or infinitely many solutions.	

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EE	Analyze and solve linear equations and pairs of simultaneous linear equations.	8.EE.7b Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.	Linear equations	8.EE.7b Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.	like terms distributive property
EE	Analyze and solve linear equations and pairs of simultaneous linear equations.	8.EE.8 Analyze and solve pairs of simultaneous linear equations.	Simultaneous Equations	8.EE.8 Analyze and solve pairs of simultaneous linear equations.	simultaneous linear equations
EE	Analyze and solve linear equations and pairs of simultaneous linear equations.	8.EE.8a Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.	Simultaneous Equations	8.EE.8a Recognize that solutions to a system of two linear equations in two variables corresponds to points of intersection of their graphs.	system of equations point of intersection
EE	Analyze and solve linear equations and pairs of simultaneous linear equations.	8.EE.8b Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6.	Simultaneous Equations	8.EE.8b Estimate the solutions of systems of two linear equations in two variables by graphing the equations.	
EE	Analyze and solve linear equations and pairs of simultaneous linear equations.	8.EE.8b Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6.	Simultaneous Equations	8.EE.8b Solve systems of two linear equations in two variables algebraically.	
EE	Analyze and solve linear equations and pairs of simultaneous linear equations.	8.EE.8b Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6.	Simultaneous Equations	8.EE.8b Solve simple cases of systems of two linear equations in two variables by inspection.	

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EE	Analyze and solve linear equations and pairs of simultaneous linear equations.	8.EE.8c Solve real-world and mathematical problems leading to two linear equations in two variables. For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.	Simultaneous Equations	8.EE.8c Solve real-world and mathematical problems leading to two linear equations in two variables.	
F	Define, evaluate, and compare functions.	8.F.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.1	Functions	8.F.1 Identify that a function is a rule that assigns to each input exactly one output.	Function Input Output Independent Dependent
F	Define, evaluate, and compare functions.	8.F.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.2	Functions	8.F.1 Illustrate that a function is a graph consisting of sets of ordered pairs, each with an input and the corresponding output.	
F	Define, evaluate, and compare functions.	8.F.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.	Functions	8.F.2 Compare properties of two functions each represented in a different way, including: algebraically, graphically, numerically in tables, or by verbal descriptions.	
F	Define, evaluate, and compare functions.	8.F.3 Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.	Functions	8.F.3 Define a linear function in the form y = mx + b	

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F	Use functions to model relations between quantities.	8.F.4 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.	Functions	8.F.4 Calcuate the rate of change and the initial value of a function from a description of a relationship or from two (x, y) values, including a table or graph.	
F	Use functions to model relations between quantities.	8.F.4 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.	Functions	8.F.4 Construct a function to model a linear relationship between two quantities.	
F	Use functions to model relations between quantities.	8.F.4 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.	Functions	8.F.4 Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.	
F	Use functions to model relationships between quantities.	8.F.5 Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.	Functions	8.F.5 Compare qualitatively the functional relationship between two quantities by analyzing a graph.	