2nd Nine Weeks	
(3 weeks)	**Unit: Inequalities in One Variable** 9 - 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. Solve inequalities of these forms fluently. 10 – Graph the solution point of an equation and the solution set of an inequality in one variable on a horizontal number line. For inequalities, be able to interpret and write the solution set in a variety of ways (e.g. set notation).
	Unit: Pythagorean Theorem 36 – Explain and apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions (8.G.7) 37 – Apply the Pythagorean Theorem to find the distance between two points in a coordinate system (8.G.8)
	Unit: Area, Volume, and Surface Area 38 – Fluently use formulas and/or appropriate measuring tools to find length and angle measures, perimeter, area, volume, and surface area of polygons, circles, spheres, cones, cylinders, pyramids, and composite or irregular figures. Use them to solve real-world and mathematical problems. (8.G.9) 39 – Solve real-world and mathematical problems involving two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms. (7.G.6)
(4 weeks)	**Unit: Introduction to Functions** 12 – Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. Use function notation, where appropriate. 13 - Compare and contrast a function and a relation. Use appropriate strategies to assess whether a given situation represents a function or a relation (e.g. the vertical line test) 14 – Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.
	Unit: Linear Functions 15 – Determine the rate of change of a linear function from a description of a relationship or from two (x, y) values, including reading these from a

	table or from a graph. Use the rate of change to determine if two lines are parallel, perpendicular, or neither. 16 – 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. 17 – Create and graph the equation of a linear function given the rate of change and y-intercept. Compare and contrast up to three linear functions written in a various forms (i.e., point-slope, slope-intercept, standard form) 18 – Given two points, a graph, a table of values, a mapping, or a real-world context determine the linear function that models this information. Fluently convert between the point-slope, slope-intercept, and standard form of a line. 19 – Create and identify the parent function for linear ~~and quadratic~~ functions in the coordinate plane. (linear only) 20 - Compare the 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. (Limited to linear and quadratic functions only.) (8.F.2) 21 - Describe the following characteristics of linear ~~and quadratic parent func~~tions by inspection: domain/range, increasing/decreasing intervals, intercepts, symmetry, and ~~asymptotic behavior~~. Identify each characteristic in set notation or words, where appropriate.
Administer 2nd Nine Weeks Benchmark Examination	

3rd Nine Weeks	
(1 week)	**Unit: Transformations** 26 - Perform simple translations on linear functions given in a variety of forms (e.g., two points, a graph, a table of values, a mapping, slope-intercept form, or standard form). Explain the impact on the parent function when the slope is greater than one or less than one and the effect of increasing/decreasing the y-intercept. 27 - Given the graph of function in the form f(x) + k, kf(x), f(kx), or f(x + k) , where k belongs to the set of integers, identify the domain/range, increasing/decreasing intervals, intercepts, symmetry, and asymptotic behavior, where appropriate. (F-BF.3) Identify each characteristic in set notation or as an inequality, where appropriate. (Limited to linear ~~and quadratic functions only.~~)
(3 weeks)	**Unit: Scatterplots** 41 – Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association. 42 – Know when it is and is not appropriate to use a linear model to make predications about a data set beyond a given set of value. Explain extrapolation and interpolation and the impact both have on predicted values. 43 – For scatter plots that suggest a linear association, informally fit a straight line and predict the equation for the line of best fit. 44 – Justify the relationship between the correlation coefficient and the rate of change for the line of best fit. 45 – Understand the difference between correlation and causation and identify real-world contexts that depict each of them.
	Unit: Linear Inequalities 23 – With accuracy, graph the solutions to a linear inequality in two variables as a half-plane, and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes on the same Coordinate Plane. (A-REI.12) Construct graphs of linear inequalities and systems of linear inequalities without technology. Use appropriate strategies to verify points that may or may not belong to the solution set.

	Unit: Systems of Linear Functions 22 - Graph a system of two functions, f(x) and g(x), on the same Coordinate Plane by hand for simple cases, and with technology for complicated cases. Explain the relationship between the point(s) of intersection and the solution to the system. Determine the solution(s) using technology, a tables of values, substitution, or successive approximations. (Limited to linear ~~and quadratic functions only.)~~ (8.EE.7b, A-REI.6, A-REI.11) 24 - Identify real-world contexts that can be modeled by a system of inequalities in two variables. (Limited to three inequalities.) 25 - Identify when systems of equations and inequalities have constraints.
(4 weeks)	**Unit: Polynomials** 31 - Describe and identify a polynomial of degree one, two, three and four by examining a polynomial expression or a graph. 32 - Add and subtract polynomials using appropriate strategies (e.g. by using Algebra Tiles). 33 - Factor polynomials using the greatest common factor and factor quadratics that have only rational zeros. 34 - Justify why some polynomials are prime over the rational number system. 35 - Use the zeros of a polynomial to construct a rough graph of the function.
Administer 3rd Nine Weeks Benchmark Examination	

4th Nine Weeks	
(5 weeks)	**Unit: Quadratic Functions** 19 - Create and identify the parent function for ~~linear and~~ quadratic functions in the Coordinate Plane. 20 - Compare the 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. (Limited to linear and quadratic functions only.) (8.F.2) 21 - Describe the following characteristics of ~~linear and~~ quadratic parent functions by inspection: domain/range, increasing/decreasing intervals, intercepts, symmetry, and asymptotic behavior. Identify each characteristic in set notation or words, where appropriate. 28 - Identify and graph real-world contexts that can be modeled by a quadratic equation 29 - Solve quadratic equations in standard form by factoring, graphing, tables, and the Quadratic Formula. Know when the Quadratic Formula might yield complex solutions and the location of the solutions in relationship to the x-axis. Know suitable alternatives for the terminology "solution of a quadratic" and when each is appropriate to use. 30 - Understand the relationship between the constants of a quadratic equation and the attributes of the graph. Recognize the relationship between the value of the discriminant and the type and number of solutions (i.e., predict the characteristics of a graph given the equation).
	Unit: Transformations 27 - Given the graph of function in the form f(x) + k, kf(x), f(kx), or f(x + k) , where k belongs to the set of integers, identify the domain/range, increasing/decreasing intervals, intercepts, symmetry, and asymptotic behavior, where appropriate. (F-BF.3) Identify each characteristic in set notation or as an inequality, where appropriate. (Limited to linear ~~and quadratic functions only.)~~
(2 weeks)	**Unit: Measures of Central Tendency** 40 - Without technology, fluently calculate the measures of central tendency (mean, median, mode), measures of spread (range, interquartile range), and

	understand the impact of extreme values (outliers) on each of these values. (6.SP.5, 8.SP.1, S-ID.3) Justify which measure is appropriate to use when describing a data set or a real-world context.
Administer End of Year Comprehensive Examination	