Roosevelt School District
Report Card Rubric – Math – 7th Grade

Reporting Standard: Applies operations to rational numbers.					
Standard	**Trimester Reported***	**1 Minimal**	**2 Developing**	**3 Proficient**	**4 Advanced**
7.NS.A.1	1	Adds and subtracts rational numbers using manipulatives. Recognizes that the sum of a number and its opposite equals zero.	Adds and subtracts simple rational numbers and represents addition and subtraction on a horizontal number line diagram. Recognizes that the sum of a number and its opposite equals zero.	Adds and subtracts rational numbers and represents addition and subtraction on a horizontal and vertical number line diagram. Describes situations in which opposite quantities combine to make 0. Interprets sums by describing real-world contexts. Understands subtraction as adding the additive inverse. Applies properties of operations as strategies to add and subtract rational numbers.	Interprets the sums of rational numbers in real-world contexts. Justifies the steps taken to add or subtract rational numbers.
7.NS.A.2	1	Multiplies and divides rational numbers using a number line or other manipulative. Understands that integers can be divided, provided that the divisor is not zero. Knows that the decimal form of a rational number terminates in 0 or eventually repeats.	Multiplies and divides simple rational numbers. Understands that integers can be divided, provided that the divisor is not zero. Converts a simple rational number to a decimal using division (terminating decimal) and knows that the decimal form of a rational number terminates in 0 or eventually repeats.	Multiplies and divides rational numbers. Interprets products and quotients of rational numbers by describing real-world contexts. Understands that integers can be divided, provided that the divisor is not zero and that if p and q are integers, then $-(q/p) = (-p)/q = p/(-q)$. Applies properties of operations as strategies to multiply and divide rational numbers. Converts a rational number to a decimal using long division and knows that the decimal form of a rational number terminates in 0 or eventually repeats.	Interprets products and quotients of rational numbers in a real-world context. Justifies the steps taken to multiply or divide rational numbers using variables.
7.NS.A.3	1	Solves simple real-world and mathematical problems involving the four operations with rational numbers using the number line or other manipulatives.	Solves simple real-world and mathematical problems involving the four operations with rational numbers.	Solves real-world and multistep mathematical problems involving the four operations with rational numbers.	Creates a story problem to model a given number sentence based on a real-world context and uses this to solve problems.

Reporting Standard: Identifies proportional relationships and uses them to solve problems.					
Standard	**Trimester Reported***	**1 Minimal**	**2 Developing**	**3 Proficient**	**4 Advanced**
7.RP.A.1	1	Computes unit rates with ratios of two unit fractions having like or different units.	Computes unit rates with ratios of one non-unit fraction and one unit fraction having like or different units.	Computes unit rates with ratios of two non-unit fractions having like or different units. Ratios include side lengths.	Computes unit rates with ratios of two mixed numbers having like or different units. Ratios include areas.
7.RP.A.2	1 and 2	Decides whether two quantities are in a proportional relationship. Identifies the constant of proportionality (unit rate) in a representation that includes (0,0). Identifies the equation that represents a relationship from a given representation with a proportional relationship. Explains what a point (x, y) on the graph of a proportional relationship means in terms of the situation.	Decides whether two quantities are in a proportional relationship. Identifies the constant of proportionality (unit rate) in simple tables, graphs, equations, diagrams, and verbal descriptions. Represents proportional relationships using an equation when given a simple table, graph, or verbal description. Explains what a point (*x*, *y*) on the graph of a proportional relationship means in terms of the situation, and can identify the unit rate when given the point (1, *r*).	Decides whether two quantities are in a proportional relationship. Identifies the constant of proportionality (unit rate) in complex tables, graphs, equations, diagrams, and verbal descriptions. Represents proportional relationships using an equation when given a complex table, graph, or verbal description. Explains what any point (*x*, *y*) on the graph of a proportional relationship means in terms of the situation, with special attention to (0, 0) and (1, *r*).	Extends the given representation or creates a different representation that would represent the same proportional relationship. Creates a representation with a context that would represent a given proportional equation. Identifies a point (x, y) on the same graph as the point (1,r) for a proportional relationship and interprets the meaning of (x, y) in terms of the situation.
7.RP.A.3	1	Uses proportional relationships to solve simple ratio and percent problems.	Uses proportional relationships to solve simple ratio and percent problems in context.	Uses proportional relationships to solve multistep ratio and percent problems in context.	Creates equivalent proportional equations that could be used to solve the same ratio/percent problem in context.

Reporting Standard: Uses properties of operations to generate equivalent expressions.					
Standard	**Trimester Reported***	**1 Minimal**	**2 Developing**	**3 Proficient**	**4 Advanced**
7.EE.A.1	1	Applies properties of operations as strategies to add, subtract, factor, and expand linear expressions (with whole number coefficients).	Applies properties of operations as strategies to add, subtract, factor, and expand linear expressions (with integer coefficients).	Applies properties of operations as strategies to add, subtract, factor, and expand linear expressions (with simple rational coefficients).	Applies properties of operations as strategies to add, subtract, factor, and expand linear expressions (with complex rational coefficients).
7.EE.A.2	1	Recognizes and explains the meaning of an expression in context (with integer coefficients).	Recognizes and explains the meaning of an expression in context (with rational coefficients).	Understands 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.	Creates equivalent expressions given a problem context and explains key terms and factors of the problem for each expression.

Reporting Standard: Solves problems using numerical and algebraic expressions and equations.					
Standard	**Trimester Reported***	**1 Minimal**	**2 Developing**	**3 Proficient**	**4 Advanced**
7.EE.B.3	2	Solves multi-step real-life and mathematical problems posed with whole numbers, using tools strategically. Applies properties of operations to calculate and assesses the reasonableness of answers using mental computation and estimation strategies.	Solves multi-step real-life and mathematical problems posed with positive rational numbers in any form, using tools strategically. Applies properties of operations to calculate with numbers in any form; converts between forms as appropriate; and assesses the reasonableness of answers using mental computation and estimation strategies.	Solves multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form, using tools strategically. Applies properties of operations to calculate with numbers in any form; converts between forms as appropriate; and assesses the reasonableness of answers using mental computation and estimation strategies.	Creates a model and solves real- world or mathematical problems using equations and inequalities with rational coefficients and explains what the solution means.
7.EE.B.4	2	Solves equations of the form px + q = r and p(x + q) = r, where *p*, *q*, and *r* are specific rational numbers.	Solves 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. Solves word problems leading to inequalities of the form px + q > r or px + q < r, where *p*, *q*, and *r* are specific rational numbers.	Solves 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. Solves equations of these forms fluently. Compares an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. Solves word problems leading to inequalities of the form px + q > r or px + q < r, where *p*, *q*, and *r* are specific rational numbers. Graphs the solution set of the inequality and interprets it in the context of the problem.	

Reporting Standard: Draws, constructs and describes geometric figures and describes the relationships between them.					
Standard	**Trimester Reported***	**1 Minimal**	**2 Developing**	**3 Proficient**	**4 Advanced**
7.G.A.1	2	Finds actual lengths given a geometric figure and a scale factor.	Finds actual lengths given two geometric figures with some unknown side measure when given the scale factor that relates the two figures.	Computes actual lengths and areas from a scale drawing, creates a scale drawing based on a context, and reproduces a scale drawing using a different scale.	Explains the relationship between scale factors of length and scale factors of areas for geometric figures and reproduce a scale drawing using a different scale.
7.G.A.2	2	Identifies geometric shapes given conditions on the sides or angles.	Constructs geometric shapes given a combination of angle and side conditions and determines whether it makes a particular shape.	Notices when conditions determine a unique triangle, more than one triangle, or no triangle.	Justifies the conditions for a unique triangle, more than one triangle or no triangle.
7.G.A.3	2	Identifies the 2-dimensional figure that results from a vertical or horizontal cut of a right rectangular prism.	Identifies the 2-dimensional figure that results from a vertical or horizontal cut of right rectangular pyramids.	Describes the 2-dimensional figure that results from a vertical, horizontal, or angled slice of a right rectangular prism.	Draws the 2-dimensional figure that results from a vertical, horizontal or angled slice of a right prism or pyramid.

Reporting Standard: Solves problems involving angle measure, area, surface area, and volume.					
Standard	**Trimester Reported***	**1 Minimal**	**2 Developing**	**3 Proficient**	**4 Advanced**
7.G.B.4	2	Recognizes the formulas for area and circumference of a circle.	Calculates area and circumference given radius or diameter. Calculates radius or diameter given the circumference.	Determines the area given the circumference or vice versa. Solves real-world problems involving area and circumference. Gives an informal derivation of the relationship between circumference and area of a circle.	Understands how and why the formulas for area and circumference of a circle work. Explains the relationship between area of a circle and area of a parallelogram.
7.G.B.5	1	Identifies supplementary, complementary, vertical and adjacent angles.	Finds the unknown angle given another angle and their relationship.	Finds any of the unknown angles formed by two intersecting lines when measures are given algebraic expressions.	Creates and solves multi-step equations to find unknown angle measures given a figure with intersecting lines.
7.G.B.6	2 and 3	Finds the area of triangles, quadrilaterals and regular polygons. Finds the volume of cubes and right prisms.	Solves real-world and mathematical problems involving area of 2-dimensional figures. Solves real world and mathematical volume problems for cubes and right prisms.	Solves real-world and mathematical problems involving area, volume, and surface area of 2- dimensional and 3-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	Solves real-world problems using the relationships between volume and surface area of 3-dimensional shapes.

Reporting Standard: Uses random sampling to summarize, describe, and draw inferences about a population.					
Standard	**Trimester Reported***	**1 Minimal**	**2 Developing**	**3 Proficient**	**4 Advanced**
7.SP.A.1	3	Identifies sample populations given a scenario describing the entire population.	Understands that random sampling tends to produce representative samples and support valid inferences.	Understands that generalizations are valid only if the sample is representative of that population and that random sampling tends to produce representative samples and support valid inferences.	Identifies and justifies the most representative sampling method for a situation.
7.SP.A.2	3	Identifies inferences about a population based on representative samples.	Makes inferences about a population based on representative samples.	Makes inferences about a population based on representative samples. Generates multiple samples (or simulated samples) of the same size to gauge variations in estimates or predictions.	Chooses or creates a method of generating multiple samples to gauge variations in estimates or predictions.

Reporting Standard: Draws inferences to compare two populations.					
Standard	**Trimester Reported***	**1 Minimal**	**2 Developing**	**3 Proficient**	**4 Advanced**
7.SP.B.3	3	Given sets of data displays, selects the set that shows the most visual overlap.	Informally assesses the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers.	Informally assesses the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability.	Compares two visual representations of data to make comparative inferences about the center and variability of two populations in context.
7.SP.B.4	3	Identifies measures of center for numerical data from random samples.	Uses measures of center (mean, median, and mode) and variability (range) for numerical data from random samples to draw informal comparative inferences about two populations.	Uses measures of center (mean, median, and mode) and variability (range, mad, and interquartile range) for numerical data from random samples to draw informal comparative inferences about two populations.	

Reporting Standard: Investigates chance and develops, uses, and evaluates probability models.					
Standard	**Trimester Reported***	**1 Minimal**	**2 Developing**	**3 Proficient**	**4 Advanced**
7.SP.C.5	3	Understands that the probability of a chance event is a number between 0 and 1.	Understands that if the probability of a chance event is closer to 1, it is likely to happen and if it is closer to 0, it is not likely to happen.	Identifies the probability of a chance event as impossible (0), unlikely, equally likely or unlikely (.5), more likely, or certain (1). Represents the probability as a fraction, decimal, or percent.	Compares probabilities of two or more events and justify the likelihood of each event.
7.SP.C.6	3	Approximates the theoretical probability of an event.	Approximates the theoretical probability of an event by collecting data and observing its long-run relative frequency.	Approximates the theoretical probability of an event by collecting data and observing its long-run relative frequency. Predicts the approximate relative frequency of an event given the probability.	Recognizes and justifies why the experimental probability approaches the theoretical probability as the relative frequency of an event increases.
7.SP.C.7	3	Determines the theoretical probability of a simple event.	Determines the theoretical probability of a simple event. Develops a uniform probability model by observing frequencies in data generated from a chance process.	Develops a probability model and uses it to find probabilities of events. Compares probabilities from a model to observed frequencies; if the agreement is not good, explains possible sources of discrepancy. Develops a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.	Compares and justifies the experimental and theoretical probability in a given situation.
7.SP.C.8	3	Determines the sample space for compound events.	Determines the sample space and theoretical probability compound events.	Determines the sample space and theoretical probability of compound events. Designs a simulation to generate frequencies for compound events.	Compares different simulations to see which best predicts the probability.