Math – First Marking Period

WHAT STUDENTS NEED TO KNOW AND BE ABLE TO DO IN 7TH GRADE

The Number System

I can describe situations that have opposite quantities combining to make zero.
I can place a number and its opposite value on a horizontal and vertical number line.
I can demonstrate situations that have opposite quantities combining to make zero.
I can give an example of additive inverses.
I can add rational numbers in real-world situations.
I can subtract rational numbers using additive inverses.
I can show that the distance between two points on a number line is the absolute value of their difference.
I can demonstrate using real-world examples that absolute value is always positive.
I can explain and apply the associative property of addition using rational numbers.
I can explain and apply the commutative property of addition using rational numbers.
I can explain and apply the additive identity property using rational numbers.
I can explain and apply the additive inverse property using rational numbers.
I can multiply rational numbers.
I can use the distributive property with rational numbers.
I can multiply signed numbers.
I can multiply rational numbers in real-world context.
I can divide positive and negative rational numbers with non-zero divisors.
I can interpret quotients of rational numbers by describing real-world contexts.
I can explain that a negative fraction must have either a negative numerator or negative denominator.
I can explain and apply the associative property of multiplication using rational numbers.
I can explain and apply the commutative property of multiplication using rational numbers.
I can explain and apply the multiplicative identity property using rational numbers.
I can explain and apply the multiplicative inverse property using rational numbers.
I can convert a rational number to a decimal (by hand) and explain that the decimal form of a rational number either terminates in zero or repeats.
I can recognize the difference between a repeating decimal and terminating decimal.
I can solve mathematical rational number problems.
I can solve real-world rational number problems.
I can create mathematical rational number problems.
I can create real-world rational number problems.

Expressions & Equations

I can apply the distributive property to expand expressions.
I can identify and combine like terms utilizing commutative and associative properties for addition.
I can identify a common factor to find an equivalent expression.
I can rewrite an expression in an equivalent form in order to see how quantities are related.
I can solve multi-step word problems with rational numbers.
I can convert between whole numbers, fractions, and decimals if needed in solving a problem.
I can determine if my answers are reasonable using mental math and estimation.
I can apply properties of operation to solve problems using rational numbers.

Geometry

Ratios & Proportional Relationships

Statistics & Probability

Math – Second Marking Period

WHAT STUDENTS NEED TO KNOW AND BE ABLE TO DO IN 7TH GRADE

Expressions & Equations

I can solve multi-step word problems with rational numbers.
I can convert between whole numbers, fractions, and decimals if needed in solving a problem.
I can determine if my answers are reasonable using mental math and estimation.
I can apply properties of operation to solve problems using rational numbers.
I can solve multi-step equations using rational numbers.
I can create multi-step equations from real-world situations using rational numbers.
I can use formulas and substitute information given to solve for the unknown.
I can compare an algebraic solution to an arithmetic solution.
I can identify the sequence of the operations used to solve the equation of a word problem.
I can solve multi-step inequalities with the distributive property using rational numbers.
I can create multi-step inequalities using rational numbers.
I can graph the solution set of an inequality using rational numbers.
I can interpret the solution of the problem involving inequalities by using its graph.
I can solve mathematical rational number problems.
I can solve real world rational number problems.
I can create mathematical rational number problems.
I can create real world rational number problems.

Ratios & Proportional Relationships

I can find the unit rate given a ratio of fractions in a variety of real-world situations.
I can accurately identify unit rates.
I can identify that two quantities are in a proportional relationship.
I can use a table to determine if two quantities are in a proportional relationship.
I can recognize that two quantities are proportional if their ordered pairs form a straight line through the origin.
I can determine the constant of proportionality (rate of change) given a table.
I can determine the constant of proportionality (rate of change) given a graph.
I can determine the constant of proportionality (rate of change) given a diagram.
I can identify the constant of proportionality (rate of change) given an equation.
I can determine the constant of proportionality (rate of change) given a verbal description.
I can translate a real world situation into an equation to demonstrate proportionality.
I can create a table to demonstrate proportionality.
I can identify the unit rate as the y-coordinate when the x-coordinate is one (1) when given a graph
I can identify the unit rate as the y-coordinate when the x-coordinate is one (1) when given a table.
I can convert a percent into a proportional relationship out of 100.
I can convert a percent to a fraction or decimal when used in calculations.
I can convert between fractions, decimals, and percentages.
I can solve real-world multi-step ratio and percent problems.

The Number System

I can solve mathematical rational number problems.
I can solve real-world rational number problems.
I can create mathematical rational number problems.
I can create real-world rational number problems.

Geometry

Statistics & Probability

Math – Third Marking Period

WHAT STUDENTS NEED TO KNOW AND BE ABLE TO DO IN 7TH GRADE

Expressions & Equations

I can solve multi-step word problems with rational numbers.
I can determine if my answers are reasonable using mental math and estimation.
I can apply properties of operation to solve problems using rational numbers.

Geometry

I can use proportions to find unknown lengths of geometric figures.
I can use scale drawings to find areas of geometric figures.
I can reproduce a scale drawing at a different scale.
I can draw a triangle (freehand, with a ruler and protractor, and by using technology).
I can identify the conditions that make a triangle unique.
I can determine the uniqueness of a triangle based on given angle and/or side measurements.
I can identify the quadrilaterals that are made when a right rectangular prism is sliced.
I can identify the quadrilaterals that are made when a right rectangular pyramid is sliced.
I can identify the formulas for circumference and area of a circle.
I can find the area and circumference of a circle.
I can find the circumference of circle when given the area and vice versa.
I can show that π can be derived from the circumference and diameter of a circle.
I can identify angles as supplementary, complementary, vertical, and adjacent pairs.
I can determine unknown angles' measures by using multi-step equations based on angle pairs.
I can write and solve an equation involving angle pair measures.
I can substitute into formulas and solve for unknown quantities.
I can find the area of triangles, quadrilaterals, and other polygons.
I can find the volume of cubes and right prisms.
I can find the surface area of cubes and right prisms.

The Number System

I can solve mathematical rational number problems.
I can solve real-world rational number problems.
I can create mathematical rational number problems.
I can create real-world rational number problems.

Ratios & Proportional Relationships

Statistics & Probability

Math – Fourth Marking Period

WHAT STUDENTS NEED TO KNOW AND BE ABLE TO DO IN 7TH GRADE

Statistics & Probability

I can define the following statistics vocabulary: population, sample, sample size, random sample, representative sample, simulated sample, inference, valid, biased, and unbiased.
I can use a sample to generalize a population.
I can use a random sampling to produce representative samples and support valid inferences.
I can choose an appropriate sample size of a population.
I can analyze and interpret data from a random sample to draw inferences about a population.
I can generate multiple samples (simulated samples).
I can use multiple samples (or simulated samples) of the same size to find variation in estimates or predictions.
I can compare actual data with my predictions/estimates from samples.
I can identify measures of central tendency (mean, median, and mode) in a data distribution.
I can identify measures of variation including range, upper quartile, lower quartile, interquartile range, outliers, and mean absolute deviation (average of the distances between data points and the mean).
I can compare two numerical data distributions on a plot.
I can compare the differences in the measure of central tendency in two numerical data distributions.
I can find measures of central tendency (mean, median, and mode) and measures of variability (range, quartile, etc.) of a random sample.
I can use measures of central tendency and variability to compare random samples of two populations.
I can make informal inferences (conclusions) comparing two populations from random samples.
I can recognize that probability of an event is expressed as a rational number between 0 and 1.
I can recognize that an event with a probability of 1/2 is equally likely or unlikely to happen.
I can recognize that as the probability of an event moves closer to 1 in value it is more likely to happen.
I can recognize that as the probability of an event moves closer to 0 in value it is less likely to happen.
I can find the relative frequency (experimental probability) as the number of times an outcome occurs divided by the total number of times the experiment is completed.
I can find the theoretical probability of a chance event as the number of favorable outcomes divided by the total number of outcomes.
I can compare the relationship between experimental and theoretical probabilities of an event.
I can predict the relative frequency (experimental probability) of an event based on the theoretical probability.
I can find uniform (equally likely) probability for an event.
I can create a uniform probability model.
I can use a uniform probability model to determine the probability of each outcome/event.
I can use models to determine the probability of events.
I can create a probability model, which may or may not be uniform.
I can analyze a probability model and justify why it is uniform or not.
I can define and describe a compound event.
I can recognize that the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.
I can find outcomes in the sample spaces for an event from an organized list, table, or tree diagram.
I can represent the outcomes of compound events using organized lists, tables, and tree diagrams.
I can define simulation.
I can use a simulation for compound event to generate frequencies.
I can design a simulation to generate frequencies for compound events.

The Number System

I can solve mathematical rational number problems.
I can solve real-world rational number problems.
I can create mathematical rational number problems.
I can create real-world rational number problems

Expressions & Equations

I can solve multi-step word problems with rational numbers.
I can determine if my answers are reasonable using mental math and estimation.
I can apply properties of operation to solve problems using rational numbers.

Ratios & Proportional Relationships

Geometry