Math – First Marking Period

WHAT STUDENTS NEED TO KNOW AND BE ABLE TO DO IN 8TH GRADE

The Number System

I can distinguish between rational and irrational numbers.

I can write rational numbers as a decimal expansion.

I can convert a repeating decimal expansion into a rational number.

I can show informally that every number has a decimal expansion.

I can compare values of irrational numbers.

I can label the approximate location of irrational numbers on a number line.

Expressions & Equations

I can recall the properties of exponents.

I can apply the properties of integer exponents to produce equivalent numerical expressions.

I can recall small perfect squares and cubes.

I can identify small perfect squares, perfect cubes, square roots, and cube roots.

I can convert between standard form and scientific notation.

I can compare numbers written in scientific notation.

I can solve expressions where numbers are written in both decimal and scientific notation.

I can construct a scatter plot for data comparing two variables.

I can interpret the data from a scatter plot.

I can identify patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.

I can construct a line of best fit to represent the data in a scatter plot.

Geometry

Functions

Statistics & Probability

Math – Second Marking Period

WHAT STUDENTS NEED TO KNOW AND BE ABLE TO DO IN 8TH GRADE

The Number System

I can distinguish between rational and irrational numbers.
I can write rational numbers as a decimal expansion.
I can convert a repeating decimal expansion into a rational number.
I can show informally that every number has a decimal expansion.
I can compare values of irrational numbers.
I can label the approximate location of irrational numbers on a number line.

Functions

I can recognize a function from a table.
I can recognize a function from a graph.
I can compare functions represented by tables, graphs, or verbal descriptions.
I can distinguish between linear and non-linear functions in slope-intercept form.
I can represent a function in table or graph form.
I can calculate rate of change between two or more points.
I can generate a function rule from a graph or table of values.
I can explain verbally the interpretation of a graph.
I can construct a graph from a verbal representation.

Expressions & Equations

I can recall the properties of exponents.
I can apply the properties of integer exponents to produce equivalent numerical expressions.
I can solve equations using small perfect square and cube roots.
I can compare numbers written in scientific notation.
I can solve expressions where numbers are written in both decimal and scientific notation.
I can graph y = mx.
I can determine the slope from a graph.
I can compare similar information represented in graphs and equations using the rate of change.
I can produce an equation in slope-intercept form from a graph.
I can create equations with one variable including those with one solution.
I can create equations with infinitely many solutions.
I can create equations with no solutions.
I can solve linear equations combining like terms.
I can solve linear equations including the use of the distributive property.
I can recognize that the solution to a system of linear equations is their point of intersection.
I can solve systems of equations that have one solution.
I can graph systems of equations.
I can estimate the solution of a system of equations from a graph.
I can determine if there is one solution, many solutions, or no solution to the system of equations.

Statistics & Probability

I can interpret the meaning of the slope and intercept of a linear equation in terms of the situation.
I can solve problems using the equation of a linear model.
I can interpret the data in the two-way table to recognize patterns.
I can construct a two-way table from data to determine a relationship between the variables.
I can use relative frequencies of the data to describe relationships (positive, negative, or no correlation).

Geometry

Math – Third Marking Period

WHAT STUDENTS NEED TO KNOW AND BE ABLE TO DO IN 8TH GRADE

The Number System

I can distinguish between rational and irrational numbers.
I can write rational numbers as a decimal expansion.
I can convert a repeating decimal expansion into a rational number.
I can show informally that every number has a decimal expansion.
I can compare values of irrational numbers.
I can label the approximate location of irrational numbers on a number line.

Functions

I can recognize a function from a table.
I can recognize a function from a graph.
I can compare functions represented by tables, graphs, or verbal descriptions.
I can distinguish between linear and non-linear functions in slope-intercept form.
I can represent a function in table or graph form.
I can calculate rate of change between two or more points.
I can generate a function rule from a graph or table of values.
I can explain verbally the interpretation of a graph.
I can construct a graph from a verbal representation.

Expressions & Equations

I can recall the properties of exponents.
I can apply the properties of integer exponents to produce equivalent numerical expressions.
I can solve equations using small perfect square and cube roots.
I can compare quantities to express how much larger one is compared to the other.
I can solve expressions where numbers are written in both decimal and scientific notation.
I can apply scientific notation to real-world problems to compare quantities and make sense about their relationships.
I can compare similar information represented in graphs and equations using the rate of change.
I can produce an equation in slope-intercept form from a graph.
I can recognize that the solution to a system of linear equations is their point of intersection.
I can solve systems of equations that have one solution.
I can graph systems of equations.
I can estimate the solution of a system of equations from a graph.
I can determine if there is one solution, many solutions, or no solution to the system of equations.

Statistics & Probability

I can interpret the meaning of the slope and intercept of a linear equation in terms of the situation.

I can solve problems using the equation of a linear model.

I can interpret the data in the two-way table to recognize patterns.

I can construct a two-way table from data to determine a relationship between the variables.

I can use relative frequencies of the data to describe relationships (positive, negative, or no correlation).

Geometry

I can apply the concept of congruency.

I can write congruent statements when comparing two-dimensional figures.

I can define rotations, reflections, and translations.

I can identify rotations, reflections, and translations.

I can identify corresponding sides and corresponding angles.

I can use prime notation to describe an image after a translation, reflection, or rotation.

I can apply the concept of congruency.

I can write congruent statements when comparing two-dimensional figures.

I can use a scale factor to determine the coordinates of a figure.

I can model with coordinates to describe the effects of translation, rotation, and reflections on two-dimensional figures.

I can apply the concept of similarity to write similarity statements.

I can reason that a two-dimensional figure is similar to another if the second can be obtained by a sequence of rotations, reflections, translations, or dilations.

I can describe the sequence of rotations, reflections, translations, or dilations that exhibits the similarity between two-dimensional figures using words and/or symbols.

I can create a formula for the sum of the interior angles of a polygon.

I can create a formula for the measurement of one interior angle of a regular polygon.

I can create a method of determining the measurement of an exterior angle of a polygon.

I can recognize the relationship of the angles formed when two parallel lines are cut by a transversal.

I can determine the measurement of the angles formed by parallel lines that are cut by a transversal.

I can apply the angle-angle theorem to prove similar triangles.

I can model a representation to prove the Pythagorean Theorem and its converse.

I can implement the Pythagorean Theorem to find the missing side lengths in right triangles.

I can apply my knowledge of Pythagorean Theorem to real-world situations involving two and three-dimensional figures.

I can calculate the distance between two points in a coordinates system using the Pythagorean Theorem.

I can recall the formulas for volumes of cones, cylinders, and spheres.

I can determine and apply the appropriate formulas in order to solve real world problems for a given shape.

I can determine the radii or height when given the volume of a cone, cylinder, or sphere.

Math – Fourth Marking Period

WHAT STUDENTS NEED TO KNOW AND BE ABLE TO DO IN 8TH GRADE

The Number System

I can distinguish between rational and irrational numbers.

I can write rational numbers as a decimal expansion.

I can convert a repeating decimal expansion into a rational number.

I can show informally that every number has a decimal expansion.

I can compare values of irrational numbers.

I can label the approximate location of irrational numbers on a number line.

Functions

I can recognize a function from a table.

I can recognize a function from a graph.

I can compare functions represented by tables, graphs, or verbal descriptions.

I can distinguish between linear and non-linear functions in slope-intercept form.

I can represent a function in table or graph form.

I can calculate rate of change between two or more points.

I can generate a function rule from a graph or table of values.

I can explain verbally the interpretation of a graph.

I can construct a graph from a verbal representation.

Expressions & Equations

I can recall the properties of exponents.

I can apply the properties of integer exponents to produce equivalent numerical expressions.

I can solve equations using small perfect square and cube roots.

I can compare quantities to express how much larger one is compared to the other.

I can apply scientific notation to real-world problems to compare quantities and make sense about their relationships.

I can compare similar information represented in graphs and equations using the rate of change.

I can recognize that the solution to a system of linear equations is their point of intersection.

I can solve systems of equations that have one solution.

I can graph systems of equations.

I can estimate the solution of a system of equations from a graph.

I can determine if there is one solution, many solutions, or no solution to the system of equations.

I can apply my knowledge of equations to construct systems of equation in two variables from real-world problems.

Continued. . .

8th Grade Math – Fourth Marking Period

Statistics & Probability

I can interpret the meaning of the slope and intercept of a linear equation in terms of the situation.
I can solve problems using the equation of a linear model.
I can interpret the data in the two-way table to recognize patterns.
I can construct a two-way table from data to determine a relationship between the variables.
I can use relative frequencies of the data to describe relationships (positive, negative, or no correlation).

Geometry

I can apply the concept of congruency.
I can write congruent statements when comparing two-dimensional figures.
I can define rotations, reflections, and translations.
I can identify rotations, reflections, and translations.
I can identify corresponding sides and corresponding angles.
I can use prime notation to describe an image after a translation, reflection, or rotation.
I can apply the concept of congruency.
I can write congruent statements when comparing two-dimensional figures.
I can use a scale factor to determine the coordinates of a figure.
I can model with coordinates to describe the effects of translations, rotations, and reflections on two-dimensional figures.
I can apply the concept of similarity to write similarity statements.
I can reason that a two-dimensional figure is similar to another if the second can be obtained by a sequence of rotations, reflections, translations, or dilation.
I can describe the sequence of rotations, reflections, translations, or dilations that exhibits the similarity between two dimensional figures using words and/or symbols.
I can create a formula for the sum of the interior angles of a polygon.
I can create a formula for the measurement of one interior angle of a regular polygon.
I can create a method of determining the measurement of an exterior angle of a polygon.
I can recognize the relationship of the angles formed when two parallel lines are cut by a transversal.
I can determine the measurement of the angles formed by parallel lines that are cut by a transversal.
I can apply the angle-angle theorem to prove similar triangles.
I can model a representation to prove the Pythagorean Theorem and its converse.
I can implement the Pythagorean Theorem to find the missing side lengths in right triangles.
I can apply my knowledge of Pythagorean Theorem to real-world situations involving two- and three-dimensional figures.
I can calculate the distance between two points in a coordinates system using the Pythagorean Theorem.
I can recall the formulas for volumes of cones, cylinders, and spheres.
I can determine and apply the appropriate formulas in order to solve real world problems for a given shape.
I can determine the radii or height when given the volume of a cone, cylinder, or sphere.