

WHAT STUDENTS NEED TO KNOW AND BE ABLE TO DO IN 6TH GRADE

The Number System

- I can** interpret and compute quotients of fractions and mixed numbers.
- I can** interpret and solve word problems involving division of fractions by fractions using visual fraction models.
- I can** interpret and solve word problems involving division of fractions by fractions using equations.
- I can** create word problems involving division of fractions by fractions.
- I can** represent and describe quantities in real world situations using positive and negative numbers.
- I can** explain where zero fits into real world situations represented by integers.
- I can** identify a rational number as a point on a number line.
- I can** identify the location of zero on a number line in relation to positive and negative numbers.
- I can** recognize opposite signs of numbers as locations on opposites sides of zero on a numberline.
- I can** label quadrants on a coordinate plane.
- I can** plot/identify a point on the coordinate plane in any quadrant using ordered pairs.
- I can** recognize a reflection as being two ordered pairs that differ only in signs.
- I can** plot integers on a horizontal and/or vertical number line.
- I can** plot rational numbers (fractions and decimals) on a horizontal and/or vertical number line.
- I can** plot integers on a coordinate plane using ordered pairs.
- I can** plot rational numbers (fractions and decimals) on a coordinate plane using ordered pairs.
- I can** interpret statements of inequality as statements about relative position of two numbers on a number line diagram.
- I can** write statements of order for rational numbers in real-world contexts.
- I can** interpret statements of order for rational numbers in real-world contexts.
- I can** explain statements of order for rational numbers in real-world contexts.
- I can** define the absolute value of a rational number as its distance from 0 on a number line.
- I can** use absolute value to describe size or magnitude in a real-world situation.
- I can** distinguish comparisons of absolute value from statements about order and apply to real-world context.
- I can** solve real-world and mathematical problems by graphing points in all four quadrants.
- I can** find the distance between two points on the coordinate plane when the first or second coordinates are the same.

Ratios & Proportional Relationships

Geometry

Expressions & Equations

Statistics & Probability



WHAT STUDENTS NEED TO KNOW AND BE ABLE TO DO IN 6TH GRADE

Expressions & Equations

- I **can** write numerical expressions involving whole-number exponents.
- I **can** evaluate numerical expressions involving whole-number exponents.
- I **can** solve order of operations problems that contain exponents.
- I **can** translate written phrases into algebraic expressions.
- I **can** translate algebraic expressions into written phrases.
- I **can** identify the parts of an expression using math vocabulary.
- I **can** identify parts of an expression as a single entity, even if not a monomial.
- I **can** evaluate expressions, substituting specific values for variables.
- I **can** apply a formula to evaluate expressions using real-world problems.
- I **can** solve an expression with exponents.
- I **can** solve an expression using the Order of Operations.
- I **can** apply the properties of operations to generate equivalent expressions.
- I **can** justify that two expressions are equivalent.
- I **can** determine whether a given number makes an equation or an inequality true using substitution.
- I **can** use variables to represent unknown numbers.
- I **can** write variable expressions when solving real-world or mathematical problems.
- I **can** solve a variable expression using substitution in a real-world situation.
- I **can** define inverse operation.
- I **can** use inverse operations to solve one-variable equations.
- I **can** write real-world and mathematical equations using nonnegative rational numbers.
- I **can** solve real-world and mathematical equations using nonnegative rational numbers.
- I **can** write an inequality given a solution on a number line.
- I **can** graph solutions to inequalities.
- I **can** represent possible solutions to inequalities.
- I **can** recognize that there are infinite solutions to an inequality.

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WHAT STUDENTS NEED TO KNOW AND BE ABLE TO DO IN 6TH GRADE

Expressions & Equations

- I **can** define independent and dependent variables.
- I **can** use variables to represent two different quantities in a real-world problem that change in relationship to one another.
- I **can** create a function table for a real-world situation that uses variables.
- I **can** create a graph from a function table.
- I **can** write equations for a given function table.
- I **can** analyze the relationship between the dependent and independent variables.

Ratios & Proportional Relationships

- I **can** describe a ratio relationship by comparing two quantities using ratio language.
- I **can** write a ratio notation using a colon, the word “to”, and as a fraction.
- I **can** write a ratio in simplest form.
- I **can** analyze ratios to determine if they are equivalent.
- I **can** define a unit.
- I **can** define a rate.
- I **can** write a unit rate in fraction form.
- I **can** describe a unit rate using rate language.
- I **can** complete a table of equivalent ratios with whole number values including measurements.
- I **can** create a function table and compare proportional quantities.
- I **can** plot pairs of values on a coordinate plane.
- I **can** solve unit rate problems.
- I **can** convert among fractions, decimals, and percent.
- I **can** solve problems finding the whole, given the part and the percent.
- I **can** explain that a percent is a ratio of a number to 100.
- I **can** convert measurement units using ratios.

Geometry

The Number System

Statistics & Probability

WHAT STUDENTS NEED TO KNOW AND BE ABLE TO DO IN 6TH GRADE

Geometry

- I **can** apply formulas for triangles and parallelograms to find areas of other polygons.
- I **can** apply the strategies of composing and/or decomposing to find the area of triangles, special quadrilaterals and polygons to solve mathematical and real-world problems.
- I **can** find the volume of a rectangular prism using unit cubes.
- I **can** find the volume of a rectangular prism using the formula $V=l \cdot w \cdot h$.
- I **can** construct polygons in the coordinate plane given the coordinates for the vertices in real world/mathematical problems.
- I **can** use given coordinates to find the length of a side joining points with the same first or second coordinate in real world/mathematical problems.
- I **can** construct a net of three-dimensional figures made up of rectangles and triangles.
- I **can** apply knowledge of calculating the area of rectangles and triangles to a net and combine the areas to find the surface area of a 3D figure.
- I **can** solve real world and mathematical problems involving surface area using nets.

The Number System

- I **can** divide multi-digit whole numbers using the traditional method quickly and error-free.
- I **can** add multi-digit decimals using the traditional method quickly and error-free.
- I **can** subtract multi-digit decimals using the traditional method quickly and error-free.
- I **can** multiply multi-digit decimals using the traditional method quickly and error-free.
- I **can** divide multi-digit decimals using the traditional method quickly and error-free.
- I **can** find the greatest common factor of two whole numbers less than or equal to 100.
- I **can** find the least common multiple of two whole numbers less than or equal to 12.
- I **can** identify the distributive property.
- I **can** apply the distributive property to express the sum of two whole numbers 1-100.

Statistics & Probability

- I **can** distinguish between a statistical and non-statistical question.
- I **can** recognize that data can have variability.
- I **can** describe data distribution by its center (median/mean).
- I **can** describe data distribution by its spread (range).
- I **can** describe data distribution by its data clusters, peaks, gaps, symmetry, and overall shape (line plot).
- I **can** calculate the range, median, mean, and mode of a set of data.
- I **can** summarize a set of data using the measures of central tendencies.
- I **can** describe the variability by examining graphs of data for spread and overall shape.

Ratios & Proportional Relationships

Expressions & Equations