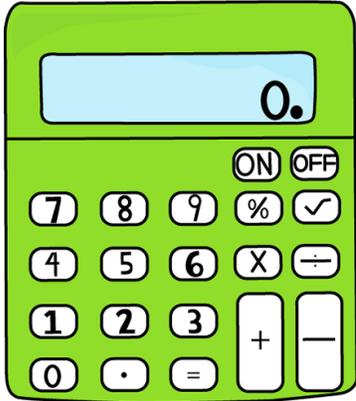# Ratios & Proportional Relationships

6th Grade—"I Can Do Math"

I can understand ratios and can use that understanding to solve problems.

6. RP.1 .a □ I can use what I know about ratios to describe the relationship between two quantities.

6. RP. 2 .a □ I can understand how to find a rate when given a specific ration (ex: we paid $75 for 15 hamburgers, which is a rate of $5 per hamburger).

6. RP. 3 □ I can use reasoning to solve word problems involving rate and ratios.

6. RP. a. 3 .a □ I can make tables of equivalent ratios, find missing values in the tables and use the tables to compare ratios.

6. RP. a. 3 .a □ I can plot ratios on a coordinate plane.

6. RP. a. 3 .b □ I can solve unit rate problem (ex: If it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be moved in 35 hours? At what rate were the lawns being mowed?)

6. RP. a. 3 .c □ I can find a percent of a quantity as a rate per 100. (ex: 30% of a quantity means 30/100 times the quantity.)

6. RP. a. 3 .c □ I can solve problems involving finding the whole if I am given a part and the percent.

6. RP. a. 3 .d □ I can use what I know about ratios to covert units of measurement.
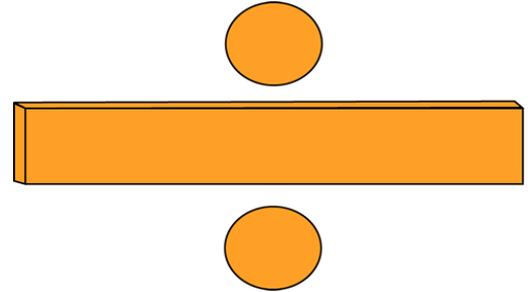
6. RP. a. 3 .a □ I can change units of measurement correctly when multiplying or dividing quantities.

The Number System

6th Grade—"I Can Do Math"

I can apply what I have learned about multiplication and division to the division of fractions.

5.NBT. l.a □ I can divide two fractions.
5.NBT.2.a □ I can solve word problems involving the division of fractions by fractions.

### I can solve math equations with larger whole numbers and decimals to the hundredths.

5.NBT.5.b □ I can easily divide multi-digit numbers.
5.NBT.6.b □ I can easily add, subtract, multiply, and divide multi-digit numbers involving decimals.
5.NBT.6.b □ I can find the greatest common factor of two whole numbers less than or equal to 100.
5.NBT.7.b □ I can find the least common multiple of two whole numbers less than or equal to 12.
5.NBT.7.b □ I can use the distributive property to show the sum of two whole numbers (1-100) in different way. (ex: show 36 + 8 as 4(9 + 2)).

I can apply my understanding of numbers to rational numbers (any numbers that can be made by dividing one integer with another).

6.NS. 5.c □ I can understand that positive and negative numbers are used to describe amounts having opposite values.
6. NS. 5. c □ I can use positive and negative numbers to show amounts in real-world situations and explain what the number 0 means in those situations.
6. NS. 6. c □ I can understand that a rational number is a point on a number line.
6. NS. 5. c □ I can extend coordinate axes to show positive and negative numbers in the plane.

The Number System (cont.)
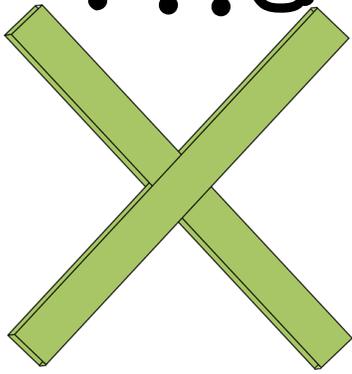
6th Grade—"I Can Do Math"

6.NS. C.6 .a □ I can recognize opposite signs of numbers as showing places on opposite sides of 0 on the number line.

6.NS. C.6 .a □ I can recognize that the opposite of the opposite of a number is actually the number itself (ex: − (−3) = 3).

6.NS. C.6 .a □ I can recognize that 0 is it's own opposite.

6.NS. C.6 .b □ I can understand that the signs (− or +) of numbers in ordered pairs indicate locations in quadrants of the coordinate plane.

6.NS. C.6 .b □ I can recognize two ordered pairs with differing signs as reflections of each other across one or both axes.

6.NS. C.6 .c □ I can find and place integers and other rational numbers on a number line diagram.

6.NS. C.6 .c □ I can find and place ordered pairs on a coordinate plane.

6.NS. C.7 □ I can order rational numbers.

6.NS. C.7 □ I can understand absolute value of rational numbers.

6.NS. C.7.a □ I can understand statements of inequality (ex: −3 > −7) and explain their positions and distances apart on a number line.

6.NS. C.7. b □ I can write, understand, and explain how the order of rational numbers applies in real-world situations.

6.NS. C.7. c □ I can understand the absolute value of a number as its distance from 0 on the number line.

6.NS. C.7. c □ I can understand absolute values as they apply to real-world situations (ex: for an account balance of −30 dollars, write (−30) = 30 to describe the size of the debt in dollars).

6.NS. C.7. d □ I can tell the difference between comparison of absolute value from statements of order.

6.NS. C.8 □ I can graph points in all four quadrants of the coordinate plane to help me solve real-world and mathematical problems.
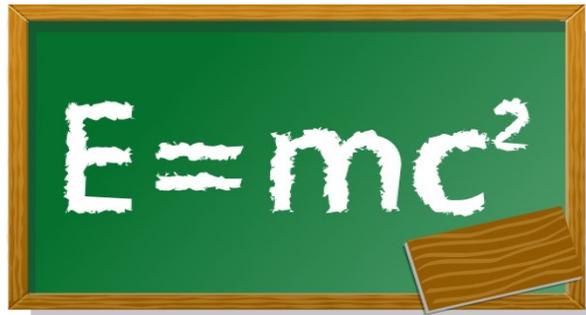
6.NS. C.8 □ I can use what I know about coordinates and absolute values to figure out the distance between points with the same

Expressions & Equations

6th Grade—"I Can Do Math"

I can apply my understanding of arithmetic to algebraic expressions (number sentences that contain unknowns).

$$E = mc^2$$

6. EE. 1. a ☐ I can write and figure out numerical expressions that have whole-number exponents.

6. EE. 2. a ☐ I can read, write, and figure out expressions in which letters stand for numbers.

6. EE. a. 2. a ☐ I can write expressions with numbers and with letters standing for numbers.

6. EE. a. 2. b ☐ I can name the parts of an expression using mathematical words (e.g. sum, term, product, factor, quotient, coefficient).

6. EE. a. 2. b ☐ I can look at one or more parts on an expression in different ways.

6. EE. a. 2. c ☐ I can figure out different answers to expressions when given specific values for the variable.

6. EE. a. 2. c ☐ I can solve real-world math problems involving expressions that arise from formulas.

6. EE. a. 2. c ☐ I can solve math problems including those with exponents, in the usual order (when no parentheses are there to give a particular order).

6. EE. a. 3 ☐ I can apply what I know about the properties of operations (associative, commutative, distributive) to create equivalent expressions.

6. EE. a. 4 ☐ I can recognize when two expressions are equivalent.

Expressions & Equations (cont.)

6th Grade—"I Can Do Math"

I can think about and solve one-variable equations and inequalities.

6. EE. 5. b □ I can understand that solving an equation or inequality means that I find out which values can make the equation or inequality true.

6. EE. 5. b □ I can try different numbers in place of a variable to figure out which makes the equation or inequality true.

6. EE. 6. b □ I can use variables to represent numbers and write expressions to solve real-world problems.

6. EE. 6. b □ I can understand that a variable can stand for an unknown number or any number in a given set of numbers.

6. EE. 7. b □ I can solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$, where p, q, and x are all nonnegative rational numbers.

6. EE. 8. b □ I can write an inequality ($x > c$ or $x < c$) to stand for a limitation or condition in a real-world or mathematical problem that has infinitely many solutions.

6. EE. 8. b □ I can show the answers to problems involving inequalities on number line diagrams.

I can write and analyze numerical relationships between dependent and independent variables.

6. EE. 9. c □ I can use variables that change in relationship to one another to represent two quantities in a real world problem.

6. EE. 9. c □ I can write an equation to show one quantity (the dependent variable) in terms of the other quantity (the independent variable).

6. EE. 9. c □ I can use graphs and tables to show the relationship between dependent and independent variables.

Statistics & Probability

6th Grade—"I Can Do Math"

I can develop an understanding of the variables involved in statistics.

6.SP. 1. a □ I can recognize a statistical question as one that expects variability in the data related to the question.

6.SP. 2. a □ I can understand that a set of data collected to answer a statistical question has a distribution that can be described by its center, spread, and overall shape when plotted on a graph.

6.SP. 3. a □ I can understand that a set of numerical data has a measure of center median and/or mean) that summarizes all of its values with a single number.

I can summarize and describe distributions.

6.SP. 4. b □ I can understand that a distribution of a variable is the description of the relative number of times each possible outcome will occur.

6.SP. 4. b □ I can show numerical data in plots on a number line (including dot plots, histograms, and box plots).

6.SP. 5. b □ I can summarize sets of numerical data in relation to their circumstances.

6.SP. b. 5. a □ I can summarize data by stating the number of observations.

6.SP. b. 5. b □ I can summarize data by describing the characteristics of what is being investigated, including how it was measured.

6.SP. b. 5. c □ I can summarize data by giving numerical measures of center and variability.

6.SP. b. 5. c □ I can summarize data by describing the overall pattern of the data and noticing
unusual deviations from the overall pattern.

6.SP. b. 5. d □ I can summarize data by
explaining how the distribution of the
data on a graph relates to the choice of measures on center and variability.

Geometry
6th Grade—"I Can Do Math"

I can use geometry to help me understand math.

6.G. 1. a ☐ I can put together and take
apart shapes to help me find the area of right triangles, other triangles, special quadrilaterals, and polygons.

6.G. 1. a ☐ I can apply what I know about
taking apart and putting together shapes to find the area of objects or places in real world situations.

6.G. 2. a ☐ I can use unit cubes to find the volume of any right rectangular prism.

6.G. 2. a ☐ I can understand that the mathematical formula
(v = l w h or v = b h) will give me the same result as using unit cubes to figure out the volume.

6.G. 2. a ☐ I can use the mathematical formulas v= l w h or v= b h to determine the volume of real world objects.

6.G. 3. a ☐ I can draw polygons in the coordinate plane when I am
given the coordinates to find the length of a side of a polygon joining points with the same first coordinate or the same second coordinate.

6.G. 3. a ☐ I can apply what I have learned about polygons on coordinate planes to real-world and mathematical situations.

6.G. 3. a ☐ I can represent and figure out the surface area of a three dimensional shape by using nets made up of rectangles and triangles.

6.G. 4. a ☐ I can apply my skills involving finding surface area with nets in real-world and mathematical problems.

5.NF.b.7. a ☐ I can divide a fraction by a whole number (not 0) correctly.

5.NF.b.7. b ☐ I can divide a whole number by a fraction correctly.

5.NF.b.7. c ☐ I can use what I know about division problems involving fractions to solve real-world problems.