Grade 5 | Sweet Home Math Power Standards

Operations and Algebraic Thinking

Analyze patterns and relationships.

Numbers and Operations in Base Ten

Understand the place value system.

5.NBT.3—Read, write and compare decimals to the thousandths.

a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 x 100 + 4x 10 + 7x 1+ 3 x (1/10) + 9 x (1/100) + 2 x (1/1000).
b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

Perform operations with multi-digit whole numbers and with decimals to hundredths.

5.NBT.7 – Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

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Numbers and Operations—Fractions

Use equivalent fraction as a strategy to add and subtract fractions.

5.NF.1—Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (in general, a/b + c/d = ad + bc/bd.)*

Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

5.NF.4—Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.

a. Interpret the product (*a/b*)x *q* as a parts of a partition of *q* into *b* equal parts; equivalently, as the results of a sequence of operations *a x q divided by b*. *For example, use a visual fraction model to show (2/3) x 4 = 8/3, and create a story context for this equation. Do the same with (2/3) x (4/5) = 8/15. (In general, (a/b) x (c/d) = ac/bd.*
b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.

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5.NF.7—Apply and extend previous understanding of division to divide unit fractions by whole numbers and whole numbers by unit fractions.

a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, create a story context for (1/3) divided by 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) divided by 4 = 1/12 because (1/12) x 4 = 1/3.*

b. Interpret division of a whole number by a unit fraction and compute such quotients. *For example, create a story context for 4 divided by (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 divided by (1/5) = 20 because 20 x (1/5) = 4.*

c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, how much chocolate will each person get if 3 people share ½ pound of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?*

Measurement and Data

Convert like measurement units within a given measurement system.

Represent and interpret data.

Geometric Measurement: understand concepts of volume and related volume to multiplication and to addition.

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Geometry

Graph points on the coordinate plane to solve real-world and mathematical problems.

5.G.1—Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., *x*-axis and *x*–coordinate, *y*-axis and *y*-coordinate).

Classify two-dimensional figures into categories based on their properties

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