Grade 4 Common Core Mathematics I CAN Statements

CRITICAL AREA OF FOCUS #1
Develop understanding and fluency (accurately, efficiently, with understanding) with multi-digit multiplication, and division. (Including standard algorithms)

I CAN...

- use the four operations with whole numbers to solve problems.
- represent verbal statements of multiplicative comparisons as multiplication equations.
- multiply or divide to solve word problems involving multiplicative comparison
- use drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.
- solve multistep word problems posed with whole numbers using the four operations, including problems in which remainders must be interpreted.
- represent problems using equations with a letter standing for the unknown quantity.
- use mental computation and estimation strategies to reason and make sense of solutions.
- find all factor pairs for any whole number in the range 1–100.
- show that a whole number is a multiple of each of its factors.
- determine whether a given whole number in the range 1–100 is prime or composite.
- *apply concepts of place value, multiplication, and division to simplify arithmetic. (e.g. 700 = 7 X 100 or 70 X 10)*
- read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form.
- compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
- use place value understanding to round multi-digit whole numbers to any place.
- multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations.
- illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
- find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors
- use strategies based on place value, the properties of operations, and/or the relationship between multiplication and division.
- illustrate and explain a calculation by using equations, rectangular arrays, and/or area models.
- solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.
- solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money
- solve problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit.
- represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.
- apply formulas for the area and perimeter rectangles in real world mathematical problems.
- *find missing factors in problems of area, or missing addends in problems of perimeter.*

CRITICAL AREA OF FOCUS #2
Demonstrate an understanding of fraction equivalence; add and subtract fractions with like denominators, and multiply fractions by whole numbers

I CAN...

- explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the the parts differ even though the two fractions themselves are the same size.
- use this principle to recognize and generate equivalent fractions.
- compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators
- compare fractions to a benchmark fraction such as 0, ½, or 1 to determine its size.
- Make valid comparisons of two fractions that refer to the same whole.
- record the results of fraction comparisons using symbols >, =, or <, and justify the conclusions by using reasoning and a number line or other fraction model.

- build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
- understand a fraction a/b *(*with a > 1) as the sum of a fractions that are each $1/b$.
  (e.g. ¾ is the sum of three fractions that are each ¼)
- show models of addition and subtraction of fractions as joining and separating parts of the same whole.
- decompose a fraction into a sum of fractions with the same denominator in more than one way,
- express decomposition as an equation.
- justify decompositions, e.g., by using a visual fraction model.
- add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction.
- solve word problems involving addition and subtraction of fractions with like denominators, using visual fraction models and equations to represent the problem.
- apply and extend previous understandings of multiplication to multiply a fraction by a whole number.
- solve word problems involving multiplication of a fraction by a whole number, by using visual fraction models and equations to represent the problem.
  (*For example, you estimate that each person at a party will eat 3/8 of a pound of roast beef. If there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*)
- understand decimal notation for fractions, and compare decimal fractions.
- express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.*
- write decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*
- compare two decimals to hundredths by reasoning about their size.
- record the results of decimal or fraction comparisons with the symbols >, =, or <, and justify the conclusions, by reasoning or using a visual model.
- solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.
- within a single system of measurement (Metric or U.S. Customary) , express measurements in a larger unit in terms of a smaller unit.
- record measurement equivalents in a two-column table. *For example, express a length of 4 ft as 48 in.*
- *generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), …*
- use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems

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that require expressing measurements given in a larger unit in terms of a smaller unit.
- represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.
- make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8).
- solve problems involving addition and subtraction of fractions by using information presented in line plots.

CRITICAL AREA OF FOCUS #3
Analyze and classify geometric figures based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

I CAN...
- interpret and use understanding of angles as geometric shapes that are formed wherever two rays share a common endpoint.
- read, write and use degrees as units of angle measurement:
- measure angles in whole-number degrees using a protractor or sketch angles of specified measure.
- solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems by using an equation with a symbol for the unknown angle measure.
- draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines.
- identify where these geometric figures occur in other two-dimensional figures.
- classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size.
- recognize right triangles as a category, and identify different shapes and sizes of right triangles.
- identify line-symmetric figures and draw lines of symmetry for a two-dimensional figure (as a line across the figure such that the figure can be folded along the line into matching parts.)