Elementary Education: Curriculum, Instruction, and Assessment (5017)
Match to Common Core State Standards

Knowledge and skills assessed by Mathematics questions are designated by their outline numbering in the test content specifications that appear on page 2. For example, II b1 is II Mathematics / B Instruction / 1 Numbers and Operations: natural numbers, whole numbers, integers, and rational numbers.

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<th>Common Core Mathematics Domain</th>
<th>Grade Level</th>
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<td>K</td>
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<td>Counting and Cardinality (CC)</td>
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<tr>
<td>Operations and Algebraic Thinking (OA)*</td>
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<td>The Number System (NS)</td>
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<td>Algebra</td>
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<td>Expressions and Equations (EE)</td>
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<td>Geometry (G)</td>
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Key
- A vacant cell indicates that there are no CCSS Standards at that grade level in that Domain.
- A dash (—) indicates that the test does not have content specifications matching the Domain.

* The Operations and Algebraic Thinking domain also links to the conceptual category of Algebra.
** The Measurement and Data domain also links to the conceptual category of Statistics and Probability.
II. Mathematics

A. Curriculum

1. Knows how to sequence examples within a lesson to support understanding of concepts
2. Knows how to sequence lessons within a curriculum
3. Knows how to plan for strategies to address common student misconceptions
4. Knows how to make connections within math topics, across other disciplines, and in real-world contexts

B. Instruction

1. Numbers and operations: natural numbers, whole numbers, integers, and rational numbers
   a. Knows algorithms, strategies, models, and problem situations for adding, subtracting, multiplying, and dividing numbers
   b. Knows strategies for understanding properties of operations
   c. Knows strategies for mental math, estimation, and rounding and knows how and when to use the strategies
   d. Knows strategies for comparing numbers
   e. Knows strategies for counting numbers
   f. Knows strategies for modeling relationships between decimals and whole numbers, fractions, and percents
   g. Knows strategies for relating a fraction to division and that \( \frac{a}{b} \) means \( a \) copies of \( \frac{1}{b} \)

2. Numbers and operations: proportional relationships
   a. Knows strategies for understanding ratios, rates, and unit rates
   b. Knows strategies for understanding proportionality

3. Numbers and operations: Number theory
   a. Knows strategies for understanding prime numbers, composite numbers, factors, and multiples

4. Algebraic thinking: expressions, equations, and formulas
   a. Knows strategies for writing expressions, equations, and formulas from a context
   b. Knows strategies for evaluating and symbolically manipulating expressions, equations, and formulas

5. Algebraic thinking: linear equations and inequalities
   a. Knows strategies for writing an equation to represent a pattern
   b. Knows strategies for writing and solving linear equations and inequalities

6. Geometry and measurement: one-, two-, and three-dimensional figures
   a. Knows strategies for using standard and nonstandard tools and appropriate units to measure the length, area, perimeter, surface area, and volume of figures
   b. Knows strategies for classifying figures and for comparing and contrasting figures
   c. Knows strategies for understanding the vocabulary and definitions for figures
   d. Knows strategies for using nets to represent three-dimensional figures
   e. Knows strategies for representing figures and for modeling them with shapes and solids
   f. Knows strategies for modeling and solving real-world problems involving two- and three-dimensional figures
   g. Knows strategies for composing, decomposing, and manipulating figures

7. Geometry and measurement: coordinate plane
   a. Knows strategies for plotting points

8. Geometry and measurement: measurement
   a. Knows strategies for converting measurements
   b. Knows strategies for representing time and elapsed time

9. Data, statistics, and probability: measures of center
   a. Knows strategies for finding measures of center and for determining which measure is best to use in a given situation

10. Data, statistics, and probability: data
    a. Knows strategies for collecting and displaying data to answer a statistical question

11. Data, statistics, and probability: probability
    a. Knows strategies for linking probability to the likelihood that an event will occur

C. Assessment

1. Knows how to design and use formative assessment to adjust instruction
2. Knows how to design, use, and interpret summative assessments
3. Knows how to recognize when misconceptions occur and strategies for reteaching
4. Knows how to select and use appropriate assessments (e.g., observations, traditional, standardized) to evaluate student learning