# Pre-Formatted Reports: Benchmark Test Item Analysis - New Format

**Data Selections**

**Institution(s):** All School Types,All Schools
**Benchmark Administration:** 09/03/14, 2014-2015 Baseline 7th Math
**Trend Profile:** 2014-2015
**Subject:** Mathematics
**Test Focus:** Mathematics
**Test Level:** All Benchmark Test Levels
**Test Category:** District Benchmark
**Grade:** All Grade Levels
**Enrollment:** Total for 2014-2015

Number of questions: 25
Number of test-taking students: 1512

**Student Responses**

| Question - Type | Correct | | Incorrect | Most Common Mistake | | Point Value | Points Achieved / Possible | P-Value/ Item Mean | Discrimination |
|---|---|---|---|---|---|---|---|---|---|
| | Rate | Value | Total Rate | Rate | Value | | | | |
| 1 - Multiple Choice | 77% | B | 23% | 10% | A | 1 | 1168 / 1512 | | |
| 2 - Multiple Choice | 61% | D | 39% | 17% | B | 1 | 923 / 1512 | | |
| 3 - Multiple Choice | 47% | D | 53% | 23% | B | 1 | 715 / 1512 | | |
| 4 - Multiple Choice | 35% | D | 65% | 34% | C | 1 | 534 / 1512 | | |
| 5 - Multiple Choice | 56% | A | 44% | 18% | C | 1 | 841 / 1512 | | |
| 6 - Multiple Choice | 48% | D | 52% | 19% | B | 1 | 719 / 1512 | | |
| 7 - Multiple Choice | 46% | D | 54% | 28% | A | 1 | 702 / 1512 | | |
| 8 - Multiple Choice | 59% | B | 41% | 23% | A | 1 | 891 / 1512 | | |
| 9 - Multiple Choice | 68% | C | 32% | 18% | A | 1 | 1033 / 1512 | | |
| 10 - Multiple Choice | 84% | B | 16% | 8% | C | 1 | 1273 / 1512 | | |
| 11 - Multiple Choice | 69% | A | 31% | 13% | D | 1 | 1036 / 1512 | | |
| 12 - Multiple Choice | 67% | A | 33% | 15% | B | 1 | 1011 / 1512 | | |
| 13 - Multiple Choice | 68% | C | 32% | 13% | D | 1 | 1033 / 1512 | | |
| 14 - Multiple Choice | 71% | A | 29% | 11% | B | 1 | 1070 / 1512 | | |
| 15 - Multiple Choice | 64% | C | 36% | 16% | A | 1 | 966 / 1512 | | |
| 16 - Multiple Choice | 63% | D | 37% | 17% | C | 1 | 954 / 1512 | | |



Report generated: 6/14/2015
*This report is confidential and for informal purposes*

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|---|---|---|---|---|---|---|---|---|---|
| 17 - Multiple Choice | 83% | B | 17% | 8% | A | 1 | 1251 / 1512 | | |
| 18 - Multiple Choice | 44% | A | 56% | 20% | B | 1 | 665 / 1512 | | |
| 19 - Multiple Choice | 59% | B | 41% | 26% | D | 1 | 885 / 1512 | | |
| 20 - Multiple Choice | 39% | A | 61% | 26% | C | 1 | 587 / 1512 | | |
| 21 - Multiple Choice | 38% | D | 62% | 23% | A | 1 | 582 / 1512 | | |
| 22 - Multiple Choice | 59% | B | 41% | 18% | D | 1 | 893 / 1512 | | |
| 23 - Multiple Choice | 21% | D | 79% | 38% | A | 1 | 314 / 1512 | | |
| 24 - Multiple Choice | 23% | C | 77% | 45% | D | 1 | 354 / 1512 | | |
| 25 - Multiple Choice | 38% | A | 62% | 38% | C | 1 | 574 / 1512 | | |
| **Summary** | **55%** | | **45%** | | | | **839 / 1512** | | |

P-value represents an item's difficulty as evaluated by dividing the total number of correct responses by the total number of students tested. P-value is calculated for true/false, multiple choice, gridded or hot spot-single response items.

Item Mean is the average score for student responses to an open response question or to a multi-part question. Item Mean is calculated for inline response, matching or hot spot-multiple selections items.

Discrimination or Item Total Score Correlation is the correlation between the question score and the overall test score and indicates the extent to which success on an item corresponds to success on the test.

**Standards Alignment to NC Standards**

| Question | ID | Standard Description |
|---|---|---|
| **1 - Multiple Choice** | **CCSS.Math.Content.6.EE.B.6** | Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set. |
| **2 - Multiple Choice** | **CCSS.Math.Content.6.RP.A.3** | Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations. |
| **3 - Multiple Choice** | **CCSS.Math.Content.6.EE.B.8** | Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form x > c or x < c have infinitely many solutions; represent solutions of such inequalities on number line diagrams. |
| **4 - Multiple Choice** | **CCSS.Math.Content.6.RP.A.1** | Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes." |
| **5 - Multiple Choice** | **CCSS.Math.Content.6.NS.A.1** | Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi? |
| **6 - Multiple Choice** | **CCSS.Math.Content.6.SP.B.4** | Display numerical data in plots on a number line, including dot plots, |

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| | | histograms, and box plots. |
| **7 - Multiple Choice** | **CCSS.Math.Content.6.EE.A.1** | Write and evaluate numerical expressions involving whole-number exponents. |
| **8 - Multiple Choice** | **CCSS.Math.Content.6.NS.B.3** | Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. |
| **9 - Multiple Choice** | **CCSS.Math.Content.6.NS.B.3** | Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. |
| **10 - Multiple Choice** | **CCSS.Math.Content.6.EE.B.7** | Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q and x are all nonnegative rational numbers. |
| **11 - Multiple Choice** | **CCSS.Math.Content.6.EE.A.2** | Write, read, and evaluate expressions in which letters stand for numbers. |
| **12 - Multiple Choice** | **CCSS.Math.Content.6.NS.B.4** | Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. For example, express 36 + 8 as 4 (9 + 2). |
| **13 - Multiple Choice** | **CCSS.Math.Content.6.EE.A.2** | Write, read, and evaluate expressions in which letters stand for numbers. |
| **14 - Multiple Choice** | **CCSS.Math.Content.6.RP.A.3** | Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations. |
| **15 - Multiple Choice** | **CCSS.Math.Content.6.NS.A.1** | Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi? |
| **16 - Multiple Choice** | **CCSS.Math.Content.5.NF.B.7** | Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. Students able to multiply fractions in general can develop strategies to divide fractions in general, by reasoning about the relationship between multiplication and division. But division of a fraction by a fraction is not a requirement at this grade. |
| **17 - Multiple Choice** | **CCSS.Math.Content.6.SP.B.5** | Summarize numerical data sets in relation to their context, such as by: |
| **18 - Multiple Choice** | **CCSS.Math.Content.6.G.A.4** | Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems. |
| **19 - Multiple Choice** | **CCSS.Math.Content.6.NS.A.1** | Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi? |
| **20 - Multiple Choice** | **CCSS.Math.Content.6.G.A.1** | Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems. |
| **21 - Multiple Choice** | **CCSS.Math.Content.6.EE.B.6** | Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can |

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|---|---|---|
| | | represent an unknown number, or, depending on the purpose at hand, any number in a specified set. |
| **22 - Multiple Choice** | **CCSS.Math.Content.6.EE.A.2** | Write, read, and evaluate expressions in which letters stand for numbers. |
| **23 - Multiple Choice** | **CCSS.Math.Content.6.EE.A.3** | Apply the properties of operations to generate equivalent expressions. For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the equivalent expression 3y. |
| **24 - Multiple Choice** | **CCSS.Math.Content.6.G.A.4** | Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems. |
| **25 - Multiple Choice** | **CCSS.Math.Content.6.EE.A.2** | Write, read, and evaluate expressions in which letters stand for numbers. |