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

## Data Selections

**Institution(s):** Middle School,All Schools
**Benchmark Administration:** 03/24/15, 2014-15 BA2 7th Math Calculator Inactive
**Trend Profile:** 2014-2015
**Subject:** Mathematics
**Test Focus:** All Test Focuses
**Test Level:** 07
**Test Category:** District Benchmark
**Grade:** 07
**Enrollment:** Current

Number of questions: 15
Number of test-taking students: 1550

### 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 | 14% | D | 86% | 52% | A | 1 | 222 / 1550 | 0.14 | 0.41 |
| 2 - Multiple Choice | 17% | B | 83% | 39% | A | 1 | 265 / 1550 | 0.17 | -0.03 |
| 3 - Multiple Choice | 60% | A | 40% | 22% | C | 1 | 925 / 1550 | 0.59 | 0.43 |
| 4 - Multiple Choice | 26% | D | 74% | 35% | A | 1 | 405 / 1550 | 0.26 | 0.37 |
| 5 - Multiple Choice | 21% | B | 79% | 46% | C | 1 | 319 / 1550 | 0.21 | 0.19 |
| 6 - Multiple Choice | 53% | C | 47% | 20% | B | 1 | 825 / 1550 | 0.53 | 0.46 |
| 7 - Multiple Choice | 74% | B | 26% | 11% | D | 1 | 1144 / 1550 | 0.74 | 0.48 |
| 8 - Multiple Choice | 64% | C | 36% | 18% | D | 1 | 985 / 1550 | 0.63 | 0.50 |
| 9 - Multiple Choice | 68% | B | 32% | 13% | A | 1 | 1058 / 1550 | 0.68 | 0.53 |
| 10 - Multiple Choice | 53% | A | 47% | 27% | B | 1 | 814 / 1550 | 0.52 | 0.55 |
| 11 - Multiple Choice | 15% | A | 85% | 48% | C | 1 | 239 / 1550 | 0.15 | 0.20 |
| 12 - Multiple Choice | 50% | B | 50% | 22% | A | 1 | 774 / 1550 | 0.50 | 0.41 |
| 13 - Multiple Choice | 74% | C | 26% | 10% | B | 1 | 1146 / 1550 | 0.73 | 0.50 |
| 14 - Gridded | 36%, 0%, 1%, 6%, 0%, 0%, 0%, 0%, 0% | 3, 00000003, 3/1, 9/3, 03, 3.0, 3., 27/9, 3.000000 | 56% | 7% | 1/27 | 1 | 677 / 1550 | 0.43 | 0.62 |



Report generated: 4/16/2015

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|---|---|---|---|---|---|---|---|---|---|
| 15 - Gridded | 13%, 0%, 1%, 0% | 400, 400.0000, 400.00, 400. | 86% | 10% | 4 | 1 | 220 / 1550 | 0.14 | 0.46 |
| **Summary** | **43%** | | **57%** | | | | **668 / 1550** | | |

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 Common Core State Standards**

| Question | ID | Standard Description |
|---|---|---|
| **1 - Multiple Choice** | **CCSS.Math.Content.7.EE.A.1** | Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. |
| **2 - Multiple Choice** | **CCSS.Math.Content.7.EE.A.2** | Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05." |
| **3 - Multiple Choice** | **CCSS.Math.Content.7.EE.B.3** | Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation. |
| **4 - Multiple Choice** | **CCSS.Math.Content.7.EE.B.4b** | Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions. |
| **5 - Multiple Choice** | **CCSS.Math.Practice.MP2** | Reason abstractly and quantitatively. |
| | **CCSS.Math.Content.7.EE.B.4b** | Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions. |
| **6 - Multiple Choice** | **CCSS.Math.Content.7.RP.A.1** | Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4 miles per hour, equivalently 2 miles per hour. |
| **7 - Multiple Choice** | **CCSS.Math.Content.7.RP.A.2d** | Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate. |

| | | |
|---|---|---|
| **8 - Multiple Choice** | **CCSS.Math.Content.7.RP.A.2c** | Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn. |
| **9 - Multiple Choice** | **CCSS.Math.Practice.MP7** | Look for and make use of structure. |
| | **CCSS.Math.Content.7.RP.A.2a** | Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. |
| **10 - Multiple Choice** | **CCSS.Math.Content.7.NS.A.1c** | Understand subtraction of rational numbers as adding the additive inverse, p – q = p + (–q). Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts. |
| **11 - Multiple Choice** | **CCSS.Math.Practice.MP7** | Look for and make use of structure. |
| | **CCSS.Math.Content.7.NS.A.2a** | Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (–1)(–1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. |
| **12 - Multiple Choice** | **CCSS.Math.Content.7.NS.A.2a** | Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (–1)(–1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. |
| **13 - Multiple Choice** | **CCSS.Math.Content.7.G.A.1** | Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale. |
| **14 - Gridded** | **CCSS.Math.Content.7.NS** | The Number System |
| **15 - Gridded** | **CCSS.Math.Content.7.RP.A.3** | Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error. |