NORTH CAROLINA DEPARTMENT OF PUBLIC INSTRUCTION

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

Data Selections

Institution(s): All School Types,All Schools
Benchmark Administration: 10/28/14, 2014-15 BA1 6th Math Calculator Active
Trend Profile: 2014-2015
Subject: Mathematics
Test Focus: Mathematics
Test Level: All Benchmark Test Levels
Test Category: District Benchmark
Grade: All Grade Levels
Enrollment: Current

Number of questions: 10
Number of test-taking students: 1467

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	29%	D	71%	31%	B	1	424 / 1467	0.29	0.40
2 - Multiple Choice	59%	C	41%	21%	D	1	860 / 1467	0.59	0.58
3 - Multiple Choice	61%	A	39%	15%	D	1	888 / 1467	0.61	0.47
4 - Multiple Choice	31%	A	69%	34%	D	1	453 / 1467	0.31	0.52
5 - Multiple Choice	40%	C	60%	27%	B	1	590 / 1467	0.40	0.47
6 - Multiple Choice	70%	C	30%	13%	B	1	1026 / 1467	0.70	0.54
7 - Multiple Choice	52%	B	48%	32%	D	1	768 / 1467	0.52	0.49
8 - Multiple Choice	59%	C	41%	23%	B	1	868 / 1467	0.59	0.53
9 - Multiple Choice	38%	B	62%	23%	C	1	551 / 1467	0.38	0.31
10 - Multiple Choice	58%	C	42%	18%	B	1	847 / 1467	0.58	0.55
Summary	50%		50%				**728 / 1467**		

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.A.2c	Evaluate expressions at specific values of their variables. Include

expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). For example, use the formulas V = s³ and A = 6 s² to find the volume and surface area of a cube with sides of length s = 1/2.

2 - 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?

3 - Multiple Choice   **CCSS.Math.Content.6.NS.C.5** Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.

4 - 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).

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.NS.C.7c** Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. For example, for an account balance of −30 dollars, write |−30| = 30 to describe the size of the debt in dollars.

7 - 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).

8 - Multiple Choice   **CCSS.Math.Content.6.EE.A.1** Write and evaluate numerical expressions involving whole-number exponents.

9 - Multiple Choice   **CCSS.Math.Content.6.EE.A.2c** Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). For example, use the formulas V = s³ and A = 6 s² to find the volume and surface area of a cube with sides of length s = 1/2.

10 - Multiple Choice   **CCSS.Math.Content.6.EE.A.2c** Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number

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exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). For example, use the formulas $V = s^3$ and $A = 6\,s^2$ to find the volume and surface area of a cube with sides of length $s = 1/2$.