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 8th 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: 15
Number of test-taking students: 1039

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	47%	D	53%	25%	C	1	492 / 1039	0.47	0.51
2 - Multiple Choice	72%	C	28%	13%	A	1	746 / 1039	0.72	0.51
3 - Multiple Choice	57%	A	43%	28%	D	1	596 / 1039	0.57	0.46
4 - Multiple Choice	21%	C	79%	30%	A	1	221 / 1039	0.21	0.22
5 - Multiple Choice	60%	A	40%	22%	D	1	625 / 1039	0.60	0.45
6 - Multiple Choice	50%	C	50%	35%	B	1	517 / 1039	0.50	0.41
7 - Multiple Choice	45%	D	55%	36%	C	1	468 / 1039	0.45	0.55
8 - Multiple Choice	33%	C	67%	29%	A	1	340 / 1039	0.32	0.46
9 - Multiple Choice	52%	B	48%	22%	C	1	539 / 1039	0.52	0.47
10 - Multiple Choice	64%	C	36%	16%	A	1	663 / 1039	0.64	0.48
11 - Multiple Choice	36%	B	64%	35%	C	1	370 / 1039	0.36	0.32
12 - Multiple Choice	30%	C	70%	55%	A	1	315 / 1039	0.30	0.27
13 - Multiple Choice	28%	B	72%	31%	C	1	293 / 1039	0.28	0.20
14 - Multiple Choice	71%	C	29%	15%	D	1	737 / 1039	0.71	0.55
15 - Multiple Choice	39%	D	61%	30%	C	1	409 / 1039	0.39	0.46
Summary	47%		53%				**489 / 1039**		

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

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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.8.EE.A.2**	Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that the square root of 2 is irrational.
2 - Multiple Choice	**CCSS.Math.Content.8.NS.A.2**	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., pi^2). For example, by truncating the decimal expansion of the square root of 2, show that the square root of 2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.
3 - Multiple Choice	**CCSS.Math.Content.8.EE.A.2**	Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that the square root of 2 is irrational.
4 - Multiple Choice	**CCSS.Math.Content.8.EE.A.4**	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.
5 - Multiple Choice	**CCSS.Math.Content.8.EE.A.4**	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.
6 - Multiple Choice	**CCSS.Math.Content.8.EE.A.1**	Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $3^2 \times (3 \text{ to the } -5 \text{ power}) = (3 \text{ to the } -3 \text{ power}) = 1/3^3 = 1/27$.
7 - Multiple Choice	**CCSS.Math.Content.8.EE.A.2**	Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that the square root of 2 is irrational.
8 - Multiple Choice	**CCSS.Math.Content.8.EE.A.2**	Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that the square root of 2 is irrational.
9 - Multiple Choice	**CCSS.Math.Content.8.NS.A.2**	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., pi^2). For example, by truncating the decimal expansion of the square root of 2, show that the square root of 2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.
10 - Multiple Choice	**CCSS.Math.Content.8.EE.A.1**	Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $3^2 \times (3 \text{ to the } -5 \text{ power}) = (3 \text{ to the } -3 \text{ power}) = 1/3^3 = 1/27$.
11 - Multiple Choice	**CCSS.Math.Content.8.EE.A.4**	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.
12 - Multiple Choice	**CCSS.Math.Content.8.EE.A.3**	Use numbers expressed in the form of a single digit times an integer

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		power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 × (10 to the 8th power) and the population of the world as 7 × (10 to the 9th power), and determine that the world population is more than 20 times larger.
13 - Multiple Choice	**CCSS.Math.Content.8.EE.A.3**	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 × (10 to the 8th power) and the population of the world as 7 × (10 to the 9th power), and determine that the world population is more than 20 times larger.
14 - Multiple Choice	**CCSS.Math.Content.8.NS.A.2**	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., pi^2). For example, by truncating the decimal expansion of the square root of 2, show that the square root of 2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.
15 - Multiple Choice	**CCSS.Math.Content.8.EE.A.3**	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 × (10 to the 8th power) and the population of the world as 7 × (10 to the 9th power), and determine that the world population is more than 20 times larger.

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