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: 10/27/14, 2014-15 Mid-Semester HS Math I Calculator Inactive
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: 13
Number of test-taking students: 343

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	15%	D	85%	39%	C	1	52 / 343	0.15	0.14
2 - Multiple Choice	41%	D	59%	20%	C	1	142 / 343	0.41	0.47
3 - Multiple Choice	35%	C	65%	34%	D	1	120 / 343	0.35	0.39
4 - Multiple Choice	50%	C	50%	30%	A	1	170 / 343	0.50	0.49
5 - Multiple Choice	24%	C	76%	35%	B	1	84 / 343	0.24	0.32
6 - Multiple Choice	41%	B	59%	28%	A	1	140 / 343	0.41	0.35
7 - Multiple Choice	45%	A	55%	23%	C	1	153 / 343	0.45	0.48
8 - Multiple Choice	57%	D	43%	20%	B	1	197 / 343	0.57	0.63
9 - Multiple Choice	68%	D	32%	13%	B	1	233 / 343	0.68	0.64
10 - Multiple Choice	35%	B	65%	28%	A	1	119 / 343	0.35	0.34
11 - Multiple Choice	61%	D	39%	16%	C	1	209 / 343	0.61	0.57
12 - Multiple Choice	35%	C	65%	29%	A	1	119 / 343	0.35	0.27
13 - Multiple Choice	36%	B	64%	44%	A	1	125 / 343	0.36	0.38
Summary	42%		58%				**143 / 343**		

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

This report is confidential and for informal purposes

Question	ID	Standard Description
1 - Multiple Choice	**CCSS.Math.Content.HSS-ID.A.3**	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).
2 - Multiple Choice	**CCSS.Math.Content.HSF-IF.A.2**	Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.
3 - Multiple Choice	**CCSS.Math.Content.HSF-LE.A.1b**	Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.
4 - Multiple Choice	**CCSS.Math.Content.HSF-LE.A.2**	Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).
5 - Multiple Choice	**CCSS.Math.Content.HSA-CED.A.3**	Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.
6 - Multiple Choice	**CCSS.Math.Content.HSF-IF.B.6**	Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.
7 - Multiple Choice	**CCSS.Math.Content.HSA-CED.A.3**	Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.
8 - Multiple Choice	**CCSS.Math.Content.HSF-IF.A.3**	Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. For example, the Fibonacci sequence is defined recursively by $f(0) = f(1) = 1$, $f(n+1) = f(n) + f(n-1)$ for n greater than or equal to 1.
9 - Multiple Choice	**CCSS.Math.Content.HSF-IF.B.4**	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.
10 - Multiple Choice	**CCSS.Math.Content.HSA-CED.A.4**	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's law $V = IR$ to highlight resistance R.
11 - Multiple Choice	**CCSS.Math.Content.HSN-Q.A.3**	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
12 - Multiple Choice	**CCSS.Math.Content.HSA-SSE.A.1b**	Interpret complicated expressions by viewing one or more of their parts as a single entity. For example, interpret P(1+r) to the n power as the product of P and a factor not depending on P.
13 - Multiple Choice	**CCSS.Math.Content.HSF-IF.C.9**	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.