

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 Math II 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: 20
 Number of test-taking students: 584

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				
11 - Multiple Choice	59%	B	41%	17%	A	1	343 / 584	0.59	0.27
12 - Multiple Choice	38%	B	62%	33%	C	1	224 / 584	0.38	0.36
13 - Multiple Choice	34%	C	66%	35%	A	1	198 / 584	0.34	0.33
14 - Multiple Choice	70%	D	30%	13%	B	1	406 / 584	0.69	0.50
15 - Multiple Choice	32%	D	68%	41%	C	1	188 / 584	0.32	0.46
16 - Multiple Choice	41%	C	59%	27%	A	1	238 / 584	0.41	0.27
17 - Multiple Choice	36%	A	64%	24%	D	1	210 / 584	0.36	0.35
18 - Multiple Choice	43%	C	57%	18%	B	1	253 / 584	0.43	0.43
19 - Multiple Choice	43%	B	57%	32%	A	1	253 / 584	0.43	0.42
20 - Multiple Choice	46%	B	54%	25%	C	1	270 / 584	0.46	0.54
21 - Multiple Choice	48%	D	52%	20%	C	1	278 / 584	0.48	0.52
22 - Multiple Choice	32%	C	68%	28%	A	1	189 / 584	0.32	0.42
23 - Multiple Choice	23%	A	77%	38%	B	1	134 / 584	0.23	0.30
24 - Multiple Choice	30%	D	70%	27%	A	1	177 / 584	0.30	0.47
25 - Multiple Choice	22%	B	78%	28%	C	1	126 / 584	0.22	0.31
26 - Multiple Choice	33%	B	67%	22%	A	1	195 / 584	0.33	0.42
27 - Multiple Choice	28%	D	72%	30%	B	1	162 / 584	0.28	0.49
28 - Multiple Choice	34%	C	66%	21%	A	1	200 / 584	0.34	0.40
29 - Multiple Choice	49%	C	51%	19%	B	1	287 / 584	0.49	0.53
30 - Multiple Choice	61%	A	39%	12%	C	1	358 / 584	0.61	0.56

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Summary	40%	60%			234 / 584
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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
11 - Multiple Choice	CCSS.Math.Content.HSA-CEA.A.1	Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.
12 - Multiple Choice	CCSS.Math.Content.HSA-CEA.A.2	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
13 - Multiple Choice	CCSS.Math.Content.HSA-REI.B.4	Solve quadratic equations in one variable.
14 - Multiple Choice	CCSS.Math.Content.HSA-CEA.A.2	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
15 - Multiple Choice	CCSS.Math.Content.HSA-REI.C.7	Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. For example, find the points of intersection between the line $y = -3x$ and the circle $x^2 + y^2 = 3$.
16 - Multiple Choice	CCSS.Math.Content.HSA-REI.D.10	Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).
17 - Multiple Choice	CCSS.Math.Content.HSG-GPE.B.6	Find the point on a directed line segment between two given points that partitions the segment in a given ratio.
18 - Multiple Choice	CCSS.Math.Content.HSG-MG.A.3	Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).
19 - Multiple Choice	CCSS.Math.Content.HSG-CO.A.4	Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.
20 - Multiple Choice	CCSS.Math.Content.HSA-REI.D.10	Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).
21 - Multiple Choice	CCSS.Math.Content.HSG-GPE.A.3	Derive the equations of ellipses and hyperbolas given the foci, using the fact that the sum or difference of distances from the foci is constant.
22 - Multiple Choice	CCSS.Math.Content.HSG-CO.A.3	Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.
23 - 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.
24 - Multiple Choice	CCSS.Math.Content.HSF-BF.A.1a	Determine an explicit expression, a recursive process, or steps for calculation from a context.
25 - Multiple Choice	CCSS.Math.Content.HSF-BF.B.3	Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them.

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- 26 - 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.
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- 27 - Multiple Choice** **CCSS.Math.Content.HSF-IF.B.5** - Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function $h(n)$ gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.
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- 28 - Multiple Choice** **CCSS.Math.Content.HSF-IF.C.8** - Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.
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- 29 - Multiple Choice** **CCSS.Math.Content.HSA-REI.C.6** - Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.
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- 30 - Multiple Choice** **CCSS.Math.Content.HSA-CED.A.2** - Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
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