

Grade 3 Mathematics Benchmarks Coverage

Reporting Category	Benchmark Assessed	% of Test
Number Sense and Additive Reasoning	MA.3.NSO.1.1	23-29
	MA.3.NSO.1.2	
	MA.3.NSO.1.3	
	MA.3.NSO.1.4	
	MA.3.NSO.2.1	
	MA.3.AR.1.2	
	MA.3.AR.3.1	
	MA.3.AR.3.3	
Number Sense and Multiplicative Reasoning	MA.3.NSO.2.3	23-29
	MA.3.NSO.2.4	
	Also Assesses MA.3.NSO.2.2	
	MA.3.AR.1.1	
	MA.3.AR.2.2	
	MA.3.AR.2.3	
	Also Assesses MA.3.AR.2.1	
	MA.3.AR.3.2	
Fractional Reasoning	MA.3.FR.1.1	23-29
	MA.3.FR.1.2	
	MA.3.FR.1.3	
	MA.3.FR.2.1	
	MA.3.FR.2.2	
Geometric Reasoning, Measurement, and Data Analysis and Probability	MA.3.GR.1.1	23-29
	MA.3.GR.1.2	
	MA.3.GR.1.3	
	MA.3.GR.2.3	
	MA.3.GR.2.4	
	MA.3.M.1.1	
	MA.3.M.1.2	
	MA.3.M.2.1	
	MA.3.M.2.2	
	MA.3.DP.1.2	
	Also Assesses MA.3.DP.1.1	
Total Benchmark Groupings	31	100

Grade 4 Mathematics Benchmarks Coverage

Reporting Category	Benchmark	% of Test
Number Sense and Operations with Whole Numbers	MA.4.NSO.1.1	31-37
	MA.4.NSO.1.2	
	MA.4.NSO.1.3	
	MA.4.NSO.1.4	
	MA.4.NSO.1.5	
	MA.4.NSO.2.3 Also Assesses MA.4.NSO.2.2 Also Assesses MA.4.NSO.2.1	
	MA.4.NSO.2.4 Also Assesses MA.4.NSO.2.1	
	MA.4.NSO.2.5	
	MA.4.AR.1.1	
	MA.4.AR.2.1	
	MA.4.AR.2.2	
	MA.4.AR.3.1	
	MA.4.AR.3.2	
Number Sense and Operations with Fractions and Decimals	MA.4.NSO.2.6	31-37
	MA.4.FR.1.1	
	MA.4.FR.1.2	
	MA.4.FR.1.3	
	MA.4.FR.1.4	
	MA.4.FR.2.1	
	MA.4.FR.2.2	
	MA.4.FR.2.3	
	MA.4.AR.1.2	
	MA.4.AR.1.3 Also Assesses MA.4.FR.2.4	
	MA.4.M.2.2 Also Assesses MA.4.NSO.2.7	
Geometric Reasoning, Measurement, and Data Analysis and Probability	MA.4.GR.1.1	31-37
	MA.4.GR.1.2	
	MA.4.GR.1.3	
	MA.4.GR.2.1	
	MA.4.GR.2.2	
	MA.4.M.1.1	
	MA.4.M.1.2	
	MA.4.M.2.1	
	MA.4.DP.1.1	
	MA.4.DP.1.2	
	MA.4.DP.1.3	
Total Benchmark Groupings	35	100

Grade 5 Mathematics Benchmark Coverage

Reporting Category	Benchmark	% of Test
Number Sense and Operations with Whole Numbers	MA.5.NSO.1.1	23-29
	MA.5.NSO.1.2	
	MA.5.NSO.1.3	
	MA.5.NSO.1.4	
	MA.5.NSO.1.5	
	MA.5.NSO.2.1	
	MA.5.NSO.2.2	
Number Sense and Operations with Fractions and Decimals	MA.5.NSO.2.3	23-29
	MA.5.NSO.2.5	
	Also Assesses MA.5.NSO.2.4	
	MA.5.FR.1.1	
	MA.5.FR.2.1	
	MA.5.FR.2.2	
	MA.5.FR.2.3	
	MA.5.FR.2.4	
	MA.5.AR.1.2	
Algebraic Reasoning	MA.5.M.2.1	23-29
	MA.5.AR.1.1	
	MA.5.AR.2.1	
	MA.5.AR.2.2	
	MA.5.AR.2.3	
	MA.5.AR.2.4	
	MA.5.AR.3.1	
Geometric Reasoning, Measurement, and Data Analysis and Probability	MA.5.AR.3.2	23-29
	MA.5.GR.1.1	
	MA.5.GR.1.2	
	MA.5.GR.2.1	
	MA.5.GR.3.1	
	MA.5.GR.3.2	
	MA.5.GR.3.3	
	MA.5.GR.4.1	
	MA.5.GR.4.2	
	MA.5.DP.1.1	
	MA.5.DP.1.2	
	MA.5.M.1.1	
Total Benchmark Groupings	35	100

Grade 6 Mathematics Benchmark Coverage

Reporting Category	Benchmark	Calculator	% of Test
Number Sense and Operations	MA.6.NSO.1.1	NC	33-42
	MA.6.NSO.1.2	NC	
	MA.6.NSO.1.3	NC	
	MA.6.NSO.1.4	NC	
	MA.6.NSO.2.1	NC	
	MA.6.NSO.2.2	NC	
	MA.6.NSO.2.3	CL	
	MA.6.NSO.3.1	CL	
	MA.6.NSO.3.2	CL	
	MA.6.NSO.3.3	CL	
	MA.6.NSO.3.4	CL	
	MA.6.NSO.3.5	CL	
	MA.6.NSO.4.1	NC	
	MA.6.NSO.4.2	NC	
Algebraic Reasoning	MA.6.AR.1.1	NC	25-36
	MA.6.AR.1.2	CL	
	MA.6.AR.1.3	CL	
	MA.6.AR.1.4	CL	
	MA.6.AR.2.1	CL	
	MA.6.AR.2.2	CL	
	MA.6.AR.2.3	CL	
	MA.6.AR.2.4	CL	
	MA.6.AR.3.1	CL	
	MA.6.AR.3.2	CL	
	MA.6.AR.3.3	CL	
	MA.6.AR.3.4	CL	
	MA.6.AR.3.5	CL	
Geometric Reasoning, Data Analysis and Probability	MA.6.GR.1.1	CL	25-36
	MA.6.GR.1.3	CL	
	Also Assesses MA.6.GR.1.2		
	MA.6.GR.2.1	CL	
	MA.6.GR.2.2	CL	
	MA.6.GR.2.3	CL	
	MA.6.GR.2.4	CL	
	MA.6.DP.1.1	NC	
	MA.6.DP.1.2	CL	
	MA.6.DP.1.3	CL	
	MA.6.DP.1.4	CL	
	MA.6.DP.1.5	CL	
	MA.6.DP.1.6	CL	
Total Benchmark Groupings	39		100

NC = No Calculator available for items at benchmark

CL = Calculator is available for items at benchmark

Grade 7 Mathematics Benchmarks Coverage

Reporting Category	Benchmark	Calculator	% of Test
Number Sense and Operations and Algebraic Reasoning	MA.7.NSO.1.1	NC	25-31
	MA.7.NSO.1.2	CL	
	MA.7.NSO.2.1	NC	
	MA.7.NSO.2.2	NC	
	MA.7.NSO.2.3	CL	
	MA.7.AR.1.2 Also Assesses MA.7.AR.1.1	CL	
	MA.7.AR.2.1	CL	
	MA.7.AR.2.2	CL	
Proportional Reasoning and Relationships	MA.7.AR.4.3	NC	22-31
	MA.7.AR.3.1	CL	
	MA.7.AR.3.3	CL	
	MA.7.AR.4.1	CL	
	MA.7.AR.4.2	CL	
	MA.7.AR.4.4	CL	
	MA.7.AR.4.5 Also Assesses MA.7.AR.3.2	CL	
Geometric Reasoning	MA.7.GR.1.1	CL	22-28
	MA.7.GR.1.2	CL	
	MA.7.GR.1.3	CL	
	MA.7.GR.1.4	CL	
	MA.7.GR.1.5	CL	
	MA.7.GR.2.1	CL	
	MA.7.GR.2.2	CL	
	MA.7.GR.2.3	CL	
Data Analysis and Probability	MA.7.DP.1.1	NC	22-28
	MA.7.DP.1.2	CL	
	MA.7.DP.1.3	CL	
	MA.7.DP.1.4	CL	
	MA.7.DP.1.5	CL	
	MA.7.DP.2.1	NC	
	MA.7.DP.2.2	NC	
	MA.7.DP.2.3	CL	
	MA.7.DP.2.4	CL	
Total Benchmark Groupings	32		100

NC = No Calculator available for items at benchmark

CL = Calculator is available for items at benchmark

Grade 8 Mathematics Benchmarks Coverage

Reporting Category	Benchmark	Calculator	% of Test
Number Sense and Operations and Probability	MA.8.NSO.1.1	NC	22-28
	MA.8.NSO.1.2	NC	
	MA.8.NSO.1.3	NC	
	MA.8.NSO.1.4	CL	
	MA.8.NSO.1.5	NC	
	MA.8.NSO.1.6	CL	
	MA.8.NSO.1.7	NC	
	MA.8.DP.2.1	CL	
	MA.8.DP.2.3 Also Assesses MA.8.DP.2.2	CL	
Algebraic Reasoning	MA.8.AR.1.1	CL	22-28
	MA.8.AR.1.2	CL	
	MA.8.AR.1.3	CL	
	MA.8.AR.2.1	CL	
	MA.8.AR.2.2	CL	
	MA.8.AR.2.3	CL	
	MA.8.AR.4.1	CL	
	MA.8.AR.4.2	CL	
	MA.8.AR.4.3	CL	
Linear Relationships, Data Analysis, and Functions	MA.8.F.1.1	NC	25-31
	MA.8.F.1.2 Also Assesses MA.8.AR.3.1	CL	
	MA.8.F.1.3	NC	
	MA.8.AR.3.2	CL	
	MA.8.AR.3.3	CL	
	MA.8.AR.3.4	CL	
	MA.8.AR.3.5	CL	
	MA.8.DP.1.1	NC	
	MA.8.DP.1.2 MA.8.DP.1.3	NC	
Geometric Reasoning	MA.8.GR.1.1	CL	22-28
	MA.8.GR.1.2	CL	
	MA.8.GR.1.3	CL	
	MA.8.GR.1.4	CL	
	MA.8.GR.1.5	CL	
	MA.8.GR.1.6	CL	
	MA.8.GR.2.1	CL	
	MA.8.GR.2.2	CL	
	MA.8.GR.2.3 MA.8.GR.2.4	CL	
Total Benchmark Groupings	38		100

NC = No Calculator available for items at benchmark

CL = Calculator is available for items at benchmark

Algebra 1 EOC Benchmarks Coverage

Reporting Category	Benchmark	% of Test
Polynomials, Exponents, and Radicals	MA.912.NSO.1.1	13
	MA.912.NSO.1.2	
	MA.912.NSO.1.4	
	MA.912.AR.1.3	
	MA.912.AR.1.4	
	MA.912.AR.1.7	
Algebraic Modeling	MA.912.AR.1.1	35
	MA.912.AR.2.2	
	MA.912.AR.2.3	
	MA.912.AR.2.4	
	MA.912.AR.2.5	
	MA.912.AR.3.4	
	MA.912.AR.3.5	
	MA.912.AR.3.6	
	MA.912.AR.3.7	
	MA.912.AR.3.8	
	MA.912.AR.4.3	
	MA.912.AR.5.3	
	MA.912.AR.5.4	
	MA.912.AR.5.6	
	MA.912.F.1.8 Also Assesses MA.912.FL.3.4	
Equations, Inequalities, and Systems	MA.912.AR.1.2	25
	MA.912.AR.2.1	
	MA.912.AR.2.6	
	MA.912.AR.2.7	
	MA.912.AR.2.8	
	MA.912.AR.3.1	
	MA.912.AR.4.1	
	MA.912.AR.9.1	
	MA.912.AR.9.4	
	MA.912.AR.9.6	
	MA.912.FL.3.2	
Functions	MA.912.F.1.1	13
	MA.912.F.1.2	
	MA.912.F.1.3	
	MA.912.F.1.5	
	MA.912.F.1.6	
	MA.912.F.2.1	
Data and Statistics	MA.912.DP.1.2 Also Assesses MA.912.DP.1.1	14
	MA.912.DP.1.4	
	MA.912.DP.2.4	
	MA.912.DP.2.6 Also Assesses MA.912.DP.1.3	
	MA.912.DP.3.1	
Total Benchmark Groupings	43	100

Geometry EOC Benchmarks Coverage

Reporting Category	Benchmark	% of Test
Logic, Relationships, and Theorems	MA.912.GR.1.1	23
	MA.912.GR.1.2	
	MA.912.GR.1.3	
	MA.912.GR.1.4	
	MA.912.GR.1.5	
	MA.912.GR.3.2	
	MA.912.LT.4.3	
	MA.912.LT.4.10	
Congruence, Similarity, and Constructions	MA.912.GR.1.6	31
	MA.912.GR.2.1	
	MA.912.GR.2.2	
	MA.912.GR.2.3 Also Assesses MA.912.GR.2.6 Also Assesses MA.912.GR.2.8	
	MA.912.GR.2.5	
	MA.912.GR.4.3	
	MA.912.GR.5.1	
	MA.912.GR.5.2	
	MA.912.GR.5.3	
Measurement and Geometry	MA.912.GR.3.3 Also Assesses MA.912.GR.3.1	29
	MA.912.GR.3.4	
	MA.912.GR.4.1	
	MA.912.GR.4.2	
	MA.912.GR.4.4	
	MA.912.GR.4.5	
	MA.912.GR.4.6	
	MA.912.T.1.2 Also Assesses MA.912.T.1.1	
Circles	MA.912.GR.6.1	17
	MA.912.GR.6.2	
	MA.912.GR.6.3	
	MA.912.GR.6.4	
	MA.912.GR.7.2	
	MA.912.GR.7.3	
Total Benchmark Groupings	31	100

Test Length

These tables provide the approximate range for the number of items on each test.

FAST Mathematics	
Grades	Number of Items
3–5	35-40
6–8	36-40
Note: Approximately 4-5 items on all of the tests listed above are experimental (field test) items and are included in the ranges above but are <u>not</u> included in students' scores.	

B.E.S.T. EOCs	
Course	Number of Items
Algebra 1	56-60
Geometry	
Note: Approximately 4-5 items on all of the tests listed above are experimental (field test) items and are included in the ranges above but are not included in students' scores.	

Grades	FAST Mathematics Administration Time
3–5	Up to 80 Minutes (PM1 and PM2) Up to 100 Minutes (PM3)
6–8*	Up to 100 Minutes (PM1 and PM2) Up to 120 Minutes (PM3)

*Grades 6–8 FAST Mathematics tests include two segments, one that contains an online calculator and one that does not. Once students complete items that do not have an online calculator provided, they will move on, at their own pace, to the calculator segment. Once they are in the calculator segment, they cannot return to the non-calculator segment.

Course	B.E.S.T. EOC Administration Time
Algebra 1**	Up to 160 Minutes
Geometry***	

**Similar to grades 6–8 FAST Mathematics, the B.E.S.T. Algebra 1 EOC contains a calculator and non-calculator segment.

***An online calculator is available for all Geometry EOC items.

Grades/Courses	Online Calculator	
	Segment 1	Segment 2
6	No calculator	Four-function
7, 8	No calculator	Scientific
Algebra 1	No calculator	Scientific
Geometry	Scientific	

FAST Mathematics and B.E.S.T. EOC Item Types

All FAST and B.E.S.T. EOC assessments are **computer-based**. The following list describes the various item types that may be encountered on the tests.

- **Technology-Enhanced Item Types—Mathematics**

- **Editing Task Choice**—The student clicks a blank, which reveals a drop-down menu containing options to complete an equation or expression, a statement, or other component. The student then selects the correct response from the drop-down menu. For paper-based assessments, the item is modified so that it can be scanned and scored electronically. The student fills in a bubble to indicate the correct word or phrase.
- **Selectable Hot Text**—The student is directed to click on one or more correct answers from among a number of options. When the student hovers over the options (e.g. phrases, sentences, numbers or expressions), the text will highlight. This indicates that the text is selectable (“hot”). The options may be presented in various ways (e.g. as a list, embedded within text, or in a table). The student can then click on an option to select it. For paper-based assessments, a “selectable” hot text item is modified so that it can be scanned and scored electronically. In this version, the student fills in a bubble to indicate a selection.
- **Multiselect**—The student is directed to select all of the correct answers from among a number of options. These items are different from Multiple Choice items, which allow the student to select only one correct answer. These items appear in the online and paper-based assessments.
- **Graphic Response Item Display (GRID)**—The student uses the point, line, or arrow tools to create a response on a graph. The item type may also require the student to select numbers, words, phrases, or images and use the drag-and-drop feature to place them into a graphic. For paper-based assessments, this item type may be replaced with another item type that assesses the same standard and can be scanned and scored electronically.
- **Equation Editor**—The student enters a number, variable, expression, or equation, as appropriate to the test item, in a response box. The student is presented with a toolbar that includes a variety of mathematical symbols that can be used to create a response. The response box may be separate from the text of the item, or it may be embedded within text of the item (e.g. in line with a sentence or within a table). For paper-based assessments, this item type may be replaced with a modified version of the item that can be scanned and scored electronically or replaced with another item type that assesses the same standard and can be scanned and scored electronically.
- **Matching Item**—The student checks a box to indicate if information from a column header matches information from a row. The number of correct answer options per row or column may vary. For paper-based assessments, this item type may be replaced with another item type that assesses the same standard and can be scanned and scored electronically.

Any of the item types may be combined into a single item with multiple parts called a multi-interaction item. The student will interact with different item types within a single item. Each part could be a different item type. For paper-based assessments, different selectable-response item types (multiple choice, multiselect, editing task choice, selectable hot text, and matching) may be combined into a single item.