

Georgia Milestones Assessment System

Grade 8 Mathematics ASSESSMENT BLUEPRINT

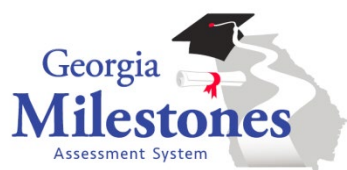
Claims, Targets, and Content Standards

Claims and Targets	Content Standards Assessed	Approximate # of Points
Numerical Reasoning		11
Solve problems involving irrational numbers and rational approximations of irrational numbers to explain realistic applications.	8.NR.1	11
Solve problems involving radicals and integer exponents including relevant application situations; apply place value understanding with scientific notation and use scientific notation to explain real phenomena.	8.NR.2	
Patterning & Algebraic Reasoning		16
Create and interpret expressions within relevant situations. Create, interpret, and solve linear equations and linear inequalities in one variable to model and explain real phenomena.	8.PAR.3	10
Show and explain the connections between proportional and non-proportional relationships, lines, and linear equations; create and interpret graphical mathematical models and use the graphical, mathematical model to explain real phenomena represented in the graph.	8.PAR.4	6
Functional & Graphical Reasoning		23
Describe the properties of functions to define, evaluate, and compare relationships, and use functions and graphs of functions to model and explain real phenomena.	8.FGR.5	10
Solve practical, linear problems involving situations using bivariate quantitative data.	8.FGR.6	6
Justify and use various strategies to solve systems of linear equations to model and explain realistic phenomena.	8.FGR.7	7
Geometric & Spatial Reasoning		8
Solve contextual, geometric problems involving the Pythagorean Theorem and the volume of geometric figures to explain real phenomena.	8.GSR.8	8
Total		58

Depth of Knowledge

Depth of Knowledge (DOK) is measured on a scale of 1 to 4 and refers to the level of cognitive demand (different kinds of thinking) required to complete an assessment item. The following table shows the expectations of the four DOK levels on the Grade 8 Mathematics exam.

Depth of Knowledge	Approximate # of Points	Approximate % of Test
Level 1	9 to 15	15% to 25%
Level 2	29 to 35	50% to 60%
Level 3	12 to 17	20% to 30%
Level 4	N/A	N/A



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Assessment Design

Item Type	# of Items	# of Points
1-point Selected-Response and Technology-Enhanced ^{1, 2}	42	42
2-point Technology-Enhanced ¹	8	16
Field Test Items ³	5	0
Total⁴	55	58

¹ **Technology-Enhanced:** Possible variants of the technology-enhanced item types used for Mathematics include multiple-part selected-response, multiple-select, drag-and-drop, drop-down, graphing, and keypad-input.

² **1-point Selected-Response and Technology-Enhanced Items:** The ratio of selected-response to technology-enhanced items may vary. The target range of 1-point technology-enhanced items is 0 to 5.

³ **Field Test Items:** Field Test items may include 1-point selected-response, 1-point technology-enhanced, and 2-point technology-enhanced items. Field test items are not included on the EOG Retest.

⁴ **Total:** Of the 55 items, 50 contribute to the student's Mathematics score. The EOG Retest includes only 50 items, all of which contribute to the student's Mathematics score.

Mathematical Practices

Mathematical practices describe how students should engage with the mathematics content for their grade level. Developing these habits of mind builds students' capacity to become mathematical thinkers. These practices are embedded within items aligned to the mathematics content standards but are not reported as a separate reporting category.

Mathematical Practice	Expectation
Make sense of problems and persevere in solving them.	8.MP.1
Reason abstractly and quantitatively.	8.MP.2
Construct viable arguments and critique the reasoning of others.	8.MP.3
Model with mathematics.	8.MP.4
Use appropriate tools strategically.	8.MP.5
Attend to precision.	8.MP.6
Look for and make use of structure.	8.MP.7
Look for and express regularity in repeated reasoning.	8.MP.8