

Georgia
Georgia Performance Standards (GPS)
Mathematics - Grade 8
Correlations with Gourmet Curriculum Press, Inc.®
 1.800.900.2290

<i>Benchmark Number</i>	<i>Benchmark</i> • <i>Instructional Target</i>	<i>Gourmet Resource</i>	<i>Taught</i>	<i>Tested</i>
M 8 N.	Number and Operations			
	Students will understand concepts of large and small numbers and apply them to real world situations.			
M 8 N 1.	Students will understand different representations of numbers using square root, exponential, and scientific notation.			
a.	<ul style="list-style-type: none"> Apply the laws of exponents to simplify expressions containing integral powers. 	Appetizers 2 E; Main Dish Objective 2 (Mathematical Relations)		
b.	<ul style="list-style-type: none"> Use scientific notation to represent numbers. 	Appetizers 1 A; Main Dish Objective 1 (Number Concepts)		
c.	<ul style="list-style-type: none"> Find the square root of a number. 	Appetizers 1 G; Main Dish Objective 1 (Number Concepts)		
d.	<ul style="list-style-type: none"> Use a calculator to solve problems involving square roots, exponents, and scientific notation. 	Appetizers 1 A & G; 2 E; Main Dish Objectives 1 (Number Concepts); 2 (Mathematical Relations)		
M 8 N.	REMARK: Distinguish between scientific notation on paper and the way it might be presented on the calculator.			
M 8 N 1 a.	REMARK: Transfer these concepts to the algebraic law of exponents.			

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M 8 A.	<i>Algebra</i>			
	Students will analyze and interpret linear equations, inequalities, and functions. Students will evaluate and use algebraic expressions. They will solve equations, understand linear equations and inequalities, and solve systems of linear equations. Students will understand linear functions and proportionality, direct and inverse variations, and they will apply these skills to real world situations.			
M 8 A 1.	Students will represent, solve, and analyze mathematical situations algebraically.			
a.	<ul style="list-style-type: none"> <i>Simplify and evaluate algebraic expressions.</i> 	Appetizers 2 F; Main Dish Objective 2 (Mathematical Relations); Algebra Activity Resource 9. b 4 B		
b.	<ul style="list-style-type: none"> <i>Translate word phrases to algebraic expressions and equations.</i> 	Algebra Activity Resource 9. b 1 C; 9. b 1 D		
c.	<ul style="list-style-type: none"> <i>Solve algebraic equations.</i> 	Algebra Activity Resource 9. c 3 B		
M 8 A 2.	Students will understand linear relations and functions.			
a.	<ul style="list-style-type: none"> <i>Identify relations and functions as linear or nonlinear.</i> 	Algebra Activity Resource 9. c 1 A		
b.	<ul style="list-style-type: none"> <i>Translate among verbal, tabular, graphic, and algebraic representations of functions.</i> 	Algebra Activity Resource 9. c 1 C		
M 8 A 3.	Students will graph and analyze graphs of linear equations.			
a.	<ul style="list-style-type: none"> <i>Estimate and determine a line of best fit from a scatter plot.</i> 	Algebra Activity Resource 9. b 2 D		

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b.	• Graph equations of the form $y = mx + b$.	Algebra Activity Resource 9. c 2 C; 9. c 2 D		
c.	• Graph equations of the form $Ax + By = C$.	Algebra Activity Resource 9. c 2 D		
d.	• Determine the equation of a line given a graph or data.	Algebra Activity Resource 9. c 2 D		
e.	• Interpret the meaning of the slope and y-intercept in a given situation.	Algebra Activity Resource 9. c 2 B; 9. c 2 F		
f.	• Solve problems involving inverse and direct proportions (variations) and identify the constant of proportionality.	Algebra Activity Resource 9. c 2 G		
M 8 A 4.	Students will understand the meaning of systems of linear equations and use them to solve problems.			
a.	• Understand the meaning of systems of linear equations.	Algebra Activity Resource 9. c 4 A		
b.	• Solve systems of equations algebraically and graphically.	Algebra Activity Resource 9. c 4 B		
c.	• Solve word problems using systems of equations and interpret their solutions.	Algebra Activity Resource 9. c 4 B; 9. c 4 C		
M 8 A 5.	Students will understand the meaning of and graph linear inequalities.			
a.	• Solve and graph linear inequalities and explain the solution.	Algebra Activity Resource 9. c 3 A; 9. c 3 B		
b.	• Use the properties of inequality.	Algebra Activity Resource 9. c 3 B		
c.	• Graph linear inequalities	Algebra Activity Resource 9. c 3 B		

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M 8 A 6.	Students will use and simplify monomials and polynomials.			
a.	• <i>Identify monomials and polynomials.</i>	Algebra Activity Resource 9. b 4 A; 9. b 4 B		
b.	• <i>Add and subtract simple monomials and polynomials.</i>	Algebra Activity Resource 9. b 4 A; 9. b 4 B		
c.	• <i>Multiply and divide simple monomials.</i>	Algebra Activity Resource 9. b 4 A; 9. b 4 B		
M 8 A 3 e.	REMARK: Concept of slope should include an introduction to the idea of constant rate of change.			
M 8 A 3 f.	REMARK: A connection should be made between the ideas of scale factor and constant of proportionality.			
M 8 G.	<i>Geometry</i>			
	Students will use and apply geometric properties of plane figures. They will understand and critique inductive and deductive arguments concerning geometric ideas and relationships including congruence, similarity, and the Pythagorean Theorem.			
M 8 G 1.	Students will analyze and use characteristics and properties of geometric figures.			
a.	• <i>Use the properties of parallel and perpendicular lines.</i>	Appetizers 3 A; Main Dish Objective 3 (Geometry)		
b.	• <i>Use and apply properties of angle pairs such as complementary, supplementary and vertical angles.</i>	Appetizers 3 D; Main Dish Objective 3 (Geometry)		
c.	• <i>Use and apply the properties of triangles and parallelograms.</i>	Appetizers 3 B & E; Main Dish Objective 3 (Geometry)		
d.	• <i>Apply properties of the right triangle and the Pythagorean Theorem.</i>	Appetizers 3 C & D; Main Dish Objective 3 (Geometry)		

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M 8 G 2.	Students will use the properties of similarity and congruency and apply these concepts to geometric figures.			
a.	• <i>Understand the meaning of similarity and the conditions for similarity of geometric figures.</i>	Appetizers 3 C & F; Main Dish Objective 3 (Geometry)		
b.	• <i>Understand the properties of the ratio of segments of parallel lines cut by one or more transversals.</i>	Appetizers 3 A, C, & E; Main Dish Objective 3 (Geometry)		
c.	• <i>Understand the meaning of congruency and the conditions for congruent triangles and other polygons.</i>	Appetizers 3 F; Main Dish Objective 3 (Geometry)		
d.	• <i>Use properties to determine similarity and congruency of triangles.</i>	Appetizers 3 F; Main Dish Objective 3 (Geometry)		
M 8 G 2 c.	REMARK: Measurement of height and distance as applications of similarity should be taught.			
M 8 D.	<i>Data Analysis and Probability</i>			
	Students will use and understand set theory and simple counting techniques. Students will determine the theoretical probability of simple events.			
M 8 D 1.	Students will apply basic concepts of set theory.			
a.	• <i>Demonstrate relationships among sets through use of Venn Diagrams.</i>	N/A		
b.	• <i>Determine subsets, complements, intersection and union of sets.</i>	N/A		
c.	• <i>Use set notation to denote elements of a set.</i>	N/A		

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M 8 D 2.	Students will determine the number of outcomes related to a given event.			
a.	• <i>Use tree diagrams to find the number of outcomes.</i>	Appetizers 5 A; Main Dish Objective 5 (Probability/Statistics)		
b.	• <i>Apply addition and multiplication counting principles.</i>	Appetizers 5 A; Main Dish Objective 5 (Probability/Statistics)		
M 8 D 3.	Students will use the basic laws of probability.			
a.	• <i>Find the probability of simple, independent events.</i>	Appetizers 5 B; Main Dish Objective 5 (Probability/Statistics)		
b.	• <i>Find the probability of compound, independent events.</i>	Appetizers 5 B; Main Dish Objective 5 (Probability/Statistics)		
M 8 P.	<i>Process Skills</i>			
	Students will apply mathematical concepts and skills in the context of authentic problems and will understand concepts rather than merely following the sequence of procedures. They will also use the process standards as a way acquiring and using content knowledge.			
M 8 P 1.	Using appropriate technology the student will solve problems that arise in mathematics and in other context.			
a.	• <i>Solve non-routine word problems using strategies learned in previous grades.</i>	Appetizers 11 A & D; Main Dish Objective 11 (Problem Solving)		
b.	• <i>Solves single and multi-step routine word problems related to all appropriate eighth grade math standards.</i>	N/A		

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c.	• <i>Determine the operation(s) needed to solve a problem.</i>	Appetizers 6 A; 7 A; 8 A; 9 A; 11 A; Main Dish Objectives 6 (Addition); 7 (Subtraction); 8 (Multiplication); 9 (Division); 11 (Problem Solving)		
d.	• <i>Determine the most efficient way to solve a problem (mentally, paper/pencil, or calculator).</i>	Appetizers 6 A; 7 A; 8 A; 9 A; 11 A; Main Dish Objectives 6 (Addition); 7 (Subtraction); 8 (Multiplication); 9 (Division); 11 (Problem Solving)		
M 8 P 2.	Students will investigate, develop, and evaluate mathematical arguments.			
M 8 P 3.	Students will use the language of mathematics to express ideas precisely.			
M 8 P 4.	Students understand how mathematical ideas interconnect and build on one another and apply mathematics in other content areas.			
M 8 P 5.	Students will create and use pictures, manipulatives, models and symbols to organize, record, and communicate mathematical ideas.			