

**2010 Mathematics Textbooks and Instructional Materials Committee Member
Correlation to the 2009 Mathematics Standards of Learning and Curriculum Framework – Algebra I**

Text/Instructional Material Title: Algebra 1 Virginia Edition

Publisher: Pearson Education, Inc., publishing as Prentice Hall

Section I. Correlation with the Mathematics 2009 SOL and Curriculum Framework	Rating		
	Adequate	Limited	No Evidence
A.1	X		
A.2	X		
A.3	X		
A.4	X		
A.5	X		
A.6	X		
A.7	X		
A.8	X		
A.9	X		
A.10	X		
A.11	X		

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Section II. Additional Criteria: Instructional Planning and Support	Rating		
	Adequate	Limited	No Evidence
1. Materials emphasize the use of effective instructional practices and learning theory.	X		
a. Students are guided through critical thinking and problem-solving approaches.	X		
b. Concepts are introduced through concrete experiences that use manipulatives and other technologies.	X		
c. Multiple opportunities are provided for students to develop and apply concepts through the use of calculators, computers, and other technologies.	X		
d. Students use the language of mathematics including specialized vocabulary and symbols.	X		
e. Students use a variety of representations (graphical, numerical, symbolic, verbal, and physical) to connect mathematical concepts.	X		
2. The mathematics content is significant and accurate.	X		
a. Materials are presented in an organized, logical manner which represents the current thinking on how students learn mathematics.	X		
b. Materials are organized appropriately within and among units of study.	X		
c. Format design includes titles, subheadings, and appropriate cross-referencing for ease of use.	X		
d. Writing style, length of sentences, vocabulary, graphics, and illustrations are appropriate.	X		
e. Level of abstraction is appropriate, and practical/real-life examples, including careers, are provided.	X		
f. Sufficient applications are provided to promote depth of application.	X		
3. Materials present content in an accurate, unbiased manner.	X		

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Mathematics Standard of Learning	Rating Scale		
	Adequate	Limited	No Evidence
A.1 The student will represent verbal quantitative situations algebraically and evaluate these expressions for given replacement values of the variables.	X		
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Mathematics Standard	Rating Scale		
	Adequate	Limited	No Evidence
A.2 The student will perform operations on polynomials, including			
a) applying the laws of exponents to perform operations on expressions;	X		
b) adding, subtracting, multiplying, and dividing polynomials; and	X		
c) factoring completely first- and second-degree binomials and trinomials in one or two variables. Graphing calculators will be used as a tool for factoring and for confirming algebraic factorizations.	X		
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Mathematics Standard	Rating Scale		
	Adequate	Limited	No Evidence
A.3 The student will express the square roots and cube roots of whole numbers and the square root of a monomial algebraic expression in simplest radical form.	X		
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Mathematics Standard	Rating Scale		
	Adequate	Limited	No Evidence
A.4 The student will solve multistep linear and quadratic equations in two variables, including			
a) solving literal equations (formulas) for a given variable;	X		
b) justifying steps used in simplifying expressions and solving equations, using field properties and axioms of equality that are valid for the set of real numbers and its subsets;	X		
c) solving quadratic equations algebraically and graphically;	X		
d) solving multistep linear equations algebraically and graphically;	X		
e) solving systems of two linear equations in two variables algebraically and graphically; and	X		
f) solving real-world problems involving equations and systems of equations.	X		
Graphing calculators will be used both as a primary tool in solving problems and to verify algebraic solutions.	X		
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	Adequate	Limited	No Evidence
A.5 The student will solve multistep linear inequalities in two variables, including			
a) solving multistep linear inequalities algebraically and graphically;	X		
b) justifying steps used in solving inequalities, using axioms of inequality and properties of order that are valid for the set of real numbers and its subsets;	X		
c) solving real-world problems involving inequalities; and	X		
d) solving systems of inequalities.	X		
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	Adequate	Limited	No Evidence
A.6 The student will graph linear equations and linear inequalities in two variables, including			
a) determining the slope of a line when given an equation of the line, the graph of the line, or two points on the line. Slope will be described as rate of change and will be positive, negative, zero, or undefined; and	X		
b) writing the equation of a line when given the graph of the line, two points on the line, or the slope and a point on the line.	X		
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	Adequate	Limited	No Evidence
A.7 The student will investigate and analyze function (linear and quadratic) families and their characteristics both algebraically and graphically, including			
a) determining whether a relation is a function;	X		
b) domain and range;	X		
c) zeros of a function;	X		
d) x - and y -intercepts;	X		
e) finding the values of a function for elements in its domain; and	X		
f) making connections between and among multiple representations of functions including concrete, verbal, numeric, graphic, and algebraic.	X		
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	Adequate	Limited	No Evidence
A.8 The student, given a situation in a real-world context, will analyze a relation to determine whether a direct or inverse variation exists, and represent a direct variation algebraically and graphically and an inverse variation algebraically.	X		
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	Adequate	Limited	No Evidence
A.9 The student, given a set of data, will interpret variation in real-world contexts and calculate and interpret mean absolute deviation, standard deviation, and z-scores.	X		
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	Adequate	Limited	No Evidence
A.10 The student will compare and contrast multiple univariate data sets, using box-and-whisker plots.	X		
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A.11 The student will collect and analyze data, determine the equation of the curve of best fit in order to make predictions, and solve real-world problems, using mathematical models. Mathematical models will include linear and quadratic functions.	X		
Comments: Provide comments to support “limited” or “no evidence” ratings.			