



Math Teachers Press, Inc.

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NEW--2009

VIRGINIA MATHEMATICS ALGEBRA I STANDARDS OF LEARNING CORRELATED TO SUMS

		Student Book	Skill Builders
EXPRESSIONS AND OPERATIONS			
A.1	The student will represent verbal quantitative situations algebraically and evaluate these expressions for given replacement values of the variables.	152, 153	162
A.2	The student will perform operations on polynomials, including		
a.	applying the laws of exponents to perform operations on expressions;	191	
b.	adding, subtracting, multiplying, and dividing polynomials; and	185-190	
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		
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.	83	
EQUATIONS AND INEQUALITIES			
A.4	The student will solve multistep linear and quadratic equations in two variables, including		
a.	solving literal equations (formulas) for a given variable;		
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;	159-165	179
c.	solving quadratic equations algebraically and graphically;	220	
d.	solving multistep linear equations algebraically and graphically;	166	
e.	solving systems of two linear equations in two variables algebraically and graphically; and	218, 219	184
f.	solving real-world problems involving equations and systems of equations. Graphing calculators will be used both as a primary tool in solving problems and to verify algebraic solutions.	196, 199, 200	
A.5	The student will solve multistep linear inequalities in two variables, including		
a.	solving multistep linear inequalities algebraically and graphically;	170, 171	
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;	170-172	
c.	solving real-world problems involving inequalities; and	169	

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d.	solving systems of inequalities.		
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	211-213	171
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.		
FUNCTIONS			
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;		
b.	domain and range;		
c.	zeros of a function;		
d.	x- and y-intercepts;	208	181
e.	finding the values of a function for elements in its domain; and		
f.	making connections between and among multiple representations of functions including concrete, verbal, numeric, graphic, and algebraic.	199, 200	
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.	199, 200	188
STATISTICS			
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.		
A.10	The student will compare and contrast multiple univariate data sets, using box-and-whisker plots.		
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.	132	