

Algebra I

Algebra I				
(revised 2008)	Levels: I - introduced; P - practiced; M - mastered		Current Text	
CONCEPT	SKILLS	LEVEL	Chapter	STATE GOALS
I. Numerical Operations			1 & 2	
	1. Classification of Numbers	IP		6A4
	2. Order of Operations	PM		6A4
	3. Properties of Real Numbers (emphasis on fractions)	PM		6A4
	4. Algebraic expressions	P		6A4
	5. distributive property	P		6A4
	6. absolute value of numbers	P		6A4
II. Linear Equations			3	
	1. solve linear equations	P		8D4
	a. One & two step equations - balancing method	P		8D4
	b. Multi-step equations - balancing method	P		8D4
	c. Variables on both sides	P		8D4
	d. Decimal equations	I, P		8D4
	2. word problems	I, P		8D4
	3. solve literal equations	I, P		8D4
	4. apply formulas	I, P		8D4
III. Functions			throughout	
	1. input/output; domain/range	I, P		1
	2. functions & relations; vertical line test	I, P		4
	3. quadratic functions	I, P		9
	4. exponential growth/decay functions	I, P		8
	5. absolute value	I, P		supplement
IV. Linear Functions and Graphing			4 & 5	
	1. coordinate plane - plotting points	P		8D4
	2. Graphing lines	I, P		8D4
	a. T- table	I, P		
	b. Slope- intercept	I, P		
	c. X & y intercepts	I, P		
	3. slope of lines - positive, negative, zero, undefined	I, P		8D4
	4. write equations of lines - given graph, two points, slope and point	I, P		8D4
	a. Slope-intercept form	I, P		
	b. Point-slope form	I, P		
	c. Standard form	I, P		
	5. Direct variation	I, P		8D4

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	6. applied problems - line of best fit; interpolation, extrapolation	I, P		8D4	
V. Inequalities				6	
	1. solving linear inequalities	I, P		8D4	
	a. Simple - one & two step	I, P			
	b. Multi-step	I, P			
	c. Compound inequalities	I, P			
	d. Absolute value equations & inequalities	I, P			
	2. Graphing inequalities	I, P		8D4	
	a. In one variable (on a number line)	P			
	b. In two variables (on a coordinate plane)	I, P			
VI. Linear systems	*this can be taught at the end of 1st or 2nd semester instructors must coordinate each year			7	
	1. solve linear systems	I, P		8D4	
	a. Graphing	I, P			
	b. Substitution	I, P			
	c. Elimination	I, P			
	2. special linear systems - no solution & infinitely many solutions	I, P		8D4	
	3. applied linear systems - word problems	I, P		8D4	
	4. systems of linear inequalities (application - linear programming)	I, P		8D4	
VII. Exponents				8	
	1. laws of exponents			8A4b	
	2. simplifying algebraic expressions with exponents			8A4b	
	3. applied laws of exponents - scientific notation			8A4b	
VIII. Polynomials	*this can be switched with Quadratics - instructors coordinate			10	6A & 6B - broadly
	1. vocabulary for polynomials	I, P			
	2. add, subtract, multiply polynomials	I, P			
	3. factoring polynomials	I, P			
	a. GCF				
	b. Trinomial (a = 1 & a = other #'s)				
	c. Special cases				
	d. Grouping				
IX. Quadratics				9	
	1. simplified radical form	I, P		8B4b	
	2. multiply with radicals	I, P		8B4b	
	3. graph quadratic functions - T-chart;	I, P		8B4b	

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	4. solve quadratic functions	I, P		8D4	
	a. Zero product property (factoring)				
	b. Quadratic formula				
	5. relate # of real solutions to # of x-intercepts; relate to graph	I, P		8D4	
	6. applications of quadratics - projectile motion	I, P		8D4	
X. Rational Equations and Functions				11	
	*may break into 3 subunits per teacher discretion				
	1. Ratio and proportion	P		6D4	
	2. percent equations (end of 1st subunit)	P		6D4	
	3. direct variation	I, P		6D4	
	4. inverse variation (end of 2nd subunit)	I, P		8D5	
	5. operations with rational expressions	I, P		8B4a	
	a. Multiply & divide				
	b. Add & subtract	I, P			
	6. Solving simple rational equations (end of 3rd subunit)			8B4a	
XI. Radicals (rational and irrational numbers)					
	1. properties of rational and irrational numbers	P, M		8B4b	
	2. operations with radicals	I, P		8B4b	
	a. Add, subtract			8B4b	
	b. Multiply, divide				
	3. multiplying binomials with radicals in them	I, P		8B4b	
	4. simple radical equations	I, P		8B4b	
	5. simple fractional exponents	I, P		8B4b	
	6. applications of radicals: distance, midpoint, pythagorean thm.	I, P		8B4b	
Current text:					
Algebra I					
McDougal Littell					
pub. 2001					