

**RIDGECROFT SCHOOL
ALGEBRA I**

PACING GUIDE

TOPICS/CONCEPTS	TIME	CURRICULUM OBJECTIVES	RESOURCE(S) TEXTBOOK: Algebra I (McDougal)
FIRST GRADING PERIOD	30 Days		
CONNECTIONS TO ALGEBRA <ul style="list-style-type: none"> • Variables, exponents, powers • Equations and inequalities • Solving Equations 	15	1.01a, 1.02, 4.01a,b SUPPLEMENT: 1.02 including recursive	TEXTBOOK: Chapter 1
PROPERTIES OF REAL NUMBERS <ul style="list-style-type: none"> • Operations with real numbers • Matrices 	15	3.01, 3.02, 4.01a SUPPLEMENT: 1.02 including recursive	TEXTBOOK: Chapter 2
SECOND GRADING PERIOD	30 Days		
SOLVING LINEAR EQUATIONS <ul style="list-style-type: none"> • Formulas and Functions 	13	1.02, 4.01a,b	TEXTBOOK: Chapter 3
GRAPHING LINEAR EQUATIONS AND FUNCTIONS <ul style="list-style-type: none"> • Scatter plots 	17	2.02, 3.03, 4.01 SUPPLEMENT: 1.02 including recursive EXTEND 3.02	TEXTBOOK: Chapter 4
THIRD GRADING PERIOD	30 Days		
WRITING LINEAR EQUATIONS <ul style="list-style-type: none"> • Fitting a line to data • Predicting with linear models 	15	3.03, 4.01 SUPPLEMENT: 1.02 including recursive	TEXTBOOK: Chapter 5
SOLVING AND GRAPHING LINEAR INEQUALITIES	15	1.01, 4.01 SUPPLEMENT: 1.02 including recursive	TEXTBOOK: Chapter 6
FOURTH GRADING PERIOD	30 Days		
SYSTEMS OF LINEAR EQUATIONS AND INEQUALITIES <ul style="list-style-type: none"> • Applications 	15	4.01, 4.03	TEXTBOOK: Chapter 7
EXPONENTS AND EXPONENTIAL FUNCTIONS <ul style="list-style-type: none"> • Growth and decay functions 	15	1.01a, 4.04 SUPPLEMENT: 1.02 including recursive	TEXTBOOK: Chapter 8
FIFTH GRADING PERIOD	30 Days		
QUADRATIC EQUATIONS AND FUNCTIONS <ul style="list-style-type: none"> • Simplifying radicals • Graphing quadratics and quadratic inequalities • Comparing linear, exponential, and quadratic functions 	15	1.01, 3.03, 4.01, 4.02, 4.03	TEXTBOOK: Chapter 9
POLYNOMIALS AND FACTORING	15	1.01b,c, 4.02	TEXTBOOK: Chapter 10
SIXTH GRADING PERIOD	30 Days		
RATIONAL EQUATIONS AND FUNCTIONS <ul style="list-style-type: none"> • Direct Variation 	12	1.03, 3.03, 4.01	TEXTBOOK: Chapter 11

RADICALS AND CONNECTIONS TO GEOMETRY • Distance and Midpoint Formulas	13	2.01	TEXTBOOK: Chapter 12
ASSESSMENT	5		

8/1/06

NC STANDARD COURSE OF STUDY

<p>Algebra 1 continues the study of algebraic concepts. It includes operations with polynomials and matrices, creation and application of linear functions and relations, algebraic representations of geometric relationships, and an introduction to nonlinear functions.</p> <p>Students will be expected to describe and translate among graphic, algebraic, numeric, tabular, and verbal representations of relations and use those representations to solve problems. Appropriate technology, from manipulatives to calculators and application software, should be used regularly for instruction and assessment.</p> <p>Prerequisites:</p> <ul style="list-style-type: none"> • Operate with the real numbers to solve problems. • Find, identify, and interpret the slope and intercepts of a linear relation. • Visually determine a line of best fit for a given scatterplot; explain the meaning of the line; and make predictions using the line. • Collect, organize, analyze, and display data to solve problems. • Apply the Pythagorean Theorem to solve problems.
GOAL 1: THE LEARNER WILL PERFORM OPERATIONS WITH NUMBERS AND EXPRESSIONS TO SOLVE PROBLEMS.
<p>1.01 Write equivalent forms of algebraic expressions to solve problems.</p> <p>(a) Apply the laws of exponents.</p> <p>(b) Operate with polynomials.</p> <p>(c) Factor polynomials.</p> <p>1.02 Use formulas and algebraic expressions, including iterative and recursive forms, to model and solve problems.</p> <p>1.03 Model and solve problems using direct variation.</p>
GOAL 2: THE LEARNER WILL DESCRIBE GEOMETRIC FIGURES IN THE COORDINATE PLANE ALGEBRAICALLY.
<p>2.01 Find the lengths and midpoints of segments to solve problems.</p> <p>2.02 Use the parallelism or perpendicularity of lines and segments to solve problems.</p>
GOAL 3: THE LEARNER WILL COLLECT, ORGANIZE, AND INTERPRET DATA WITH MATRICES AND LINEAR MODELS TO SOLVE PROBLEMS.
<p>3.01 Use matrices to display and interpret data.</p> <p>3.02 Operate (addition, subtraction, scalar multiplication) with matrices to solve problems.</p> <p>3.03 Create linear models for sets of data to solve problems.</p> <p>(a) Interpret constants and coefficients in the context of the data.</p> <p>(b) Check the model for goodness-of-fit and use the model, where appropriate, to draw conclusions or make predictions.</p>
GOAL 4: THE LEARNER WILL USE RELATIONS AND FUNCTIONS TO SOLVE PROBLEMS.
<p>4.01 Use linear functions or inequalities to model and solve problems; justify results.</p> <p>(a) Solve using tables, graphs, and algebraic properties.</p> <p>(b) Interpret constants and coefficients in the context of the problem.</p> <p>4.02 Graph, factor, and evaluate quadratic functions to solve problems.</p> <p>4.03 Use systems of linear equations or inequalities in two variables to model and solve problems. Solve using tables, graphs, and algebraic properties; justify results.</p> <p>4.04 Graph and evaluate exponential functions to solve problems.</p>