Cord Algebra 2, Learning in Context, 1st edition
correlation to Oregon 2009 Advanced Knowledge and Skills For High School Mathematics Advanced Algebra Standards

Advanced Algebra Standard	**Cord Algebra 2 Lesson(s)**
A.A.1 Relations and Functions: Analyze functions and relations (e.g. polynomial, absolute value, rational, radical, logarithmic, exponential, algebraic, piece-wise, and step functions).	
A.A.1.1 Demonstrate an understanding of the concept of a function, use function notation, evaluate a function, determine whether or not a given relation is a function and determine whether or not a given function is one-to-one.	4.1, 4.2, 4.3, 4.4, 4.5
A.A.1.2 Determine the domain and range of a relation including those with restricted domains.	4.1
A.A.1.3 Represent a given relation in multiple ways and convert between each representation.	4.1
A.A.1.4 Determine whether a given relation is even, odd or neither and what this means in predicting behaviors.	Chapter 9 Math Lab Activity 3, p. 420
A.A.1.5 Analyze the effect on the graph of a relation by changing its parameters and perform a given transformation.	4.5
A.A.1.6 Determine, verify, and graph the inverse of a function or relation (if it exists) and understand the reversing roles of domain and range.	4.3
A.A.1.7 Determine the composition of inverse functions and whether or not it is one-to-one.	4.3
A.A.1.8 Perform arithmetic operations on functions and determine the composition of functions.	4.2
A.A.1.9 Analyze the reciprocal of a function or relation.	4.3
A.A.1.10 Collect and analyze data to make predictions and to investigate scatterplots and to determine the equation for a curve of best fit including linear, power, exponential, and logarithmic functions.	1.6
A.A.1.11 Connect the relationships among the solution of an equation, zero of a function, *x*-intercept of a graph and the factors of a polynomial expression.	6.1, 9.1
A.A.1.12 Find the *x* and *y*-intercepts of a function if they exist.	6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 9.1, 9.2, 9.3, 9.4, 10.1

A.A.1.13 Identify, distinguish between, and describe the characteristics of the following functions in tabular, verbal, graphical or symbolic form: polynomial, power, absolute value, rational, radical, logarithmic, exponential, algebraic, piecewise, and step.	1.3, 1.4, 4.4, 4.5, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 8.1, 8.2, 9.1, 10.1
A.A.2 Inequalities, Piece-wise Functions, and Absolute Value Functions: Model and analyze piece-wise and absolute value functions. Solve inequalities and absolute value equations.	
A.A.2.1 Graph, solve, and analyze inequalities in two variables.	1.5
A.A.2.2 Graph and analyze piece-wise functions.	4.4
A.A.2.3 Graph, solve, and analyze absolute value equations and inequalities.	1.3
A.A.3 Quadratic functions and other Conic Sections: Model and analyze quadratic functions. Solve quadratic equations and problems involving conics.	
A.A.3.1 Perform operations on complex numbers and represent, apply and discuss the properties of complex numbers.	5.5
A.A.3.2 Derive the quadratic formula.	6.5
A.A.3.3 Solve quadratic equations using the zero product property, completing the square, the quadratic formula, and graphing.	6.1, 6.2, 6.3, 6.4, 6.5, 6.6
A.A.3.4 Graph and analyze quadratic functions and relate the zeros to the discriminant.	6.5
A.A.3.5 Construct and solve quadratic inequalities in one and two variables.	not covered
A.A.3.6 Solve problems relating to conic sections including systems of equations and inequalities involving conics.	7.2, 7.3, 7.4, 7.5, 7.6, 7.7
A.A.3.7 Graph and analyze equations of conic sections.	7.2, 7.3, 7.4, 7.5, 7.6, 7.7
A.A.3.8 Determine conic equations from graphs or data.	7.2, 7.3, 7.4, 7.5, 7.6, 7.7
A.A.4 Polynomial Functions: Model and analyze polynomial functions. Solve polynomial equations.	
A.A.4.1 Perform operations on polynomial expressions.	9.1, 9.2, 9.3
A.A.4.2 Analyze and calculate permutations, combinations, and other systematic counting methods.	14.3, 14.4
A.A.4.3 Understand and apply the binomial theorem and/or Pascal's triangle to expand binomial expressions.	11.5

A.A.4.4 Apply long (or synthetic) division, the Fundamental Theorem of Algebra, Descartes Rule of Signs, the Intermediate Value Theorem and the Rational Root Theorem to analyze and/or determine the roots of a polynomial.	9.3, 9.4
A.A.4.5 Find approximate solutions for polynomial equations using graphing technology.	9.1, 9.5
A.A.4.6 Write a polynomial equation given its real and/or complex solutions.	9.4
A.A.4.7 Graph and analyze polynomial functions.	9.1, Chapter 9 Math Lab Activity 3, p. 420
A.A.5 Radical Functions: Model and analyze radical functions. Solve radical equations.	
A.A.5.1 Find equivalent expressions using the properties of rational exponents.	5.1, 5.2, 5.3
A.A.5.2 Perform arithmetic operations to simplify radical expressions.	5.2, 5.3
A.A.5.3 Solve radical equations.	5.4
A.A.5.4 Graph and analyze radical functions.	4.4
A.A.6 Rational Functions: Model and analyze rational functions. Solve rational equations.	
A.A.6.1 Find equivalent representations for rational expressions and identify restrictions.	10.1, 10.2, 10.3
A.A.6.2 Perform operations on rational expressions.	10.2, 10.3
A.A.6.3 Solve algebraic proportions and rational equations.	10.4
A.A.6.4 Graph and analyze rational functions.	10.1, 10.6
A.A.7 Logarithmic and Exponential Functions: Model and analyze logarithmic and exponential functions. Solve logarithmic and exponential equations.	
A.A.7.1 Establish the inverse relationship between exponential and logarithmic functions.	8.1, 8.2
A.A.7.2 Prove and apply the basic properties of logarithms.	8.3
A.A.7.3 Solve exponential and logarithmic equations.	8.5
A.A.7.4 Graph and analyze exponential and logarithmic functions.	8.1, 8.2
A.A.8 Matrices, Systems of Equations and Inequalities: Analyze and apply various methods to graph and solve systems of equations and inequalities.	
A.A.8.1 Use matrix operations and properties of matrices to solve problems.	3.1, 3.2, 3.3, 3.4
A.A.8.2 Solve systems of linear equations in two or three variables algebraically, graphically, and/or with matrix algebra.	2.1, 2.2, 2.3, 2.4, 2.5, 3.5

A.A.8.3 Analyze an inconsistent system of equations.	2.1
A.A.8.4 Solve systems of linear inequalities by graphing.	2.1
A.A.8.5 Interpret, analyze, and solve linear programming problems.	2.4
A.A.8.6 Solve nonlinear systems of equations algebraically and graphically, including linear-quadratic and quadratic-quadratic.	7.7
A.A.9 Sequences and Series: Analyze and evaluate sequences and series.	
A.A.9.1 Define, recognize, and discriminate among arithmetic, geometric and other sequences and series.	11.1, 11.2, 11.3, 11.4
A.A.9.2 Find the explicit and recursive formulas for arithmetic and geometric sequences and use these formulas to determine a specific term or term number.	11.1, 11.2, 11.3, 11.4
A.A.9.3 Convert between a series and its sigma notation representation.	11.2, 11.3, 11.4
A.A.9.4 Find partial sums of arithmetic and geometric series and find sums of convergent infinite series.	11.2, 11.3, 11.4
A.A.9.5 Generate and describe other recursive sequences such as factorials and the Fibonacci sequence.	11.1, 11.2, 11.3, 11.4, 11.5
A.A.10 Parametric Equations: Model and analyze parametric equations.	
A.A.10.1 Write and evaluate parametric equations.	not covered
A.A.10.2 Relate parametric equations to equivalent rectangular equations.	not covered
A.A.10.3 Analyze and describe graphs of parametric equations.	not covered