

Cord Algebra 2, Mathematics in Context, 1st edition
correlation to South Carolina Intermediate Algebra Indicators

Indicators	Cord Algebra 2 Lesson(s)
Standard IA-1: The student will understand and utilize the mathematical processes of problem solving, reasoning and proof, communication, connections, and representation.	
IA-1.1 Communicate a knowledge of algebraic relationships by using mathematical terminology appropriately.	Covered throughout the textbook.
IA-1.2 Connect algebra with other branches of mathematics.	Covered throughout the textbook, especially in Math Applications sections at the end of each chapter.
IA-1.3 Apply algebraic methods to solve problems in real-world contexts.	Covered throughout the textbook, especially in Math Applications sections at the end of each chapter.
IA-1.4 Judge the reasonableness of mathematical solutions.	Covered throughout the textbook, especially in Math Applications sections at the end of each chapter.
IA-1.5 Demonstrate an understanding of algebraic relationships by using a variety of representations (including verbal, graphic, numerical, and symbolic).	Covered throughout the textbook.
IA-1.6 Understand how algebraic relationships can be represented in concrete models, pictorial models, and diagrams.	Covered throughout the textbook.
IA-1.7 Understand how to represent algebraic relationships by using tools such as handheld computing devices, spreadsheets, and computer algebra systems (CASs).	Covered throughout the textbook, especially in Math Labs sections at the end of each chapter.

Indicators	Cord Algebra 2 Lesson(s)
Standard IA-2: The student will demonstrate through the mathematical processes an understanding of functions, systems of equations, and systems of linear inequalities.	
IA-2.1 Carry out a procedure to solve a system of linear inequalities algebraically.	2.3, 2.4
IA-2.2 Carry out a procedure to solve a system of linear inequalities graphically.	2.3, 2.4
IA-2.3 Analyze a problem situation to determine a system of linear inequalities that models the problem situation.	2.3, 2.4, Chapter 2 Math Applications
IA-2.4 Use linear programming to solve contextual problems involving a system of linear inequalities.	2.4
IA-2.5 Carry out procedures to perform operations on polynomial functions (including $f(x) + g(x)$, $f(x) - g(x)$, $f(x) \cdot g(x)$, and $f(x)/g(x)$).	4.2
IA-2.6 Apply a procedure to write the equation of a composition of given functions.	4.2
IA-2.7 Carry out a procedure to graph translations of parent functions (including $y = x$, $y = x^2$, $y = \sqrt{x}$, $y = x $, and $y = \frac{1}{x}$).	4.5
IA-2.8 Carry out a procedure to graph transformations of parent functions (including $y = x$, $y = x^2$, and $y = x $).	4.5
IA-2.9 Carry out a procedure to graph discontinuous functions (including piecewise and step functions).	4.4
IA-2.10 Carry out a procedure to determine the domain and range of discontinuous functions (including piecewise and step functions).	4.4
IA-2.11 Carry out a procedure to solve a system of equations (including two linear functions and one linear function with one quadratic function).	2.1, 2.2, 2.7

Indicators	Cord Algebra 2 Lesson(s)
Standard IA-3: The student will demonstrate through the mathematical processes an understanding of quadratic equations and the complex number system.	
IA-3.1 Carry out a procedure to simplify expressions involving powers of i .	5.5
IA-3.2 Carry out a procedure to perform operations with complex numbers (including addition, subtraction, multiplication, and division).	5.5
IA-3.3 Carry out a procedure to solve quadratic equations algebraically (including factoring, completing the square, and applying the quadratic formula).	6.2, 6.3, 6.4, 6.5, 6.6
IA-3.4 Use the discriminant to determine the number and type of solutions of a quadratic equation.	6.5
IA-3.5 Analyze given information (including quadratic models) to solve contextual problems.	Chapter 6 Math Applications
IA-3.6 Carry out a procedure to write an equation of a quadratic function when given its roots.	6.4

Indicators	Cord Algebra 2 Lesson(s)
Standard IA-4: The student will demonstrate through the mathematical processes an understanding of algebraic expressions and nonlinear functions.	
IA-4.1 Carry out a procedure to perform operations (including multiplication, exponentiation, and division) with polynomial expressions.	9.1, 9.2, 9.3, 9.4
IA-4.2 Carry out a procedure to determine specified points (including zeros, maximums, and minimums) of polynomial functions.	9.1, 9.2, 9.3, 9.4
IA-4.3 Carry out a procedure to solve polynomial equations (including factoring by grouping, factoring the difference between two squares, factoring the sum of two cubes, and factoring the difference between two cubes).	9.5
IA-4.4 Analyze given information (including polynomial models) to solve contextual problems.	Chapter 9 Math Applications
IA-4.5 Carry out a procedure to simplify algebraic expressions involving rational exponents.	10.2, 10.3
IA-4.6 Carry out a procedure to simplify algebraic expressions involving logarithms.	8.2, 8.3, 8.4
IA-4.7 Carry out a procedure to perform operations with expressions involving rational exponents (including addition, subtraction, multiplication, division, and exponentiation).	5.1, 5.2, 5.3
IA-4.8 Carry out a procedure to perform operations with rational expressions (including addition, subtraction, multiplication, and division).	10.2, 10.3
IA-4.9 Carry out a procedure to solve radical equations algebraically.	5.4
IA-4.10 Carry out a procedure to solve logarithmic equations algebraically.	8.5
IA-4.11 Carry out a procedure to solve logarithmic equations graphically.	8.5
IA-4.12 Carry out a procedure to solve rational equations algebraically.	10.4
IA-4.13 Carry out a procedure to graph logarithmic functions.	8.2
IA-4.14 Carry out a procedure to graph exponential functions.	8.1

Indicators	Cord Algebra 2 Lesson(s)
Standard IA-5: The student will demonstrate through the mathematical processes an understanding of conic sections.	
IA-5.1 Carry out a procedure to graph the circle whose equation is the form $x^2 + y^2 = r^2$.	7.5
IA-5.2 Carry out a procedure to write an equation of a circle centered at the origin when given its radius.	7.5
IA-5.3 Carry out a procedure to graph the ellipse whose equation is the form $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$.	7.4
IA-5.4 Carry out a procedure to write an equation of an ellipse centered at the origin when given information from among length of major axis, length of minor axis, and vertices.	7.4
IA-5.5 Carry out a procedure to graph the hyperbola whose equation is the form $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$.	7.6
IA-5.6 Carry out a procedure to write an equation of a hyperbola centered at the origin with specified vertices.	7.6
IA-5.7 Match the equation of a conic section with its graph.	7.2

Indicators	Cord Algebra 2 Lesson(s)
Standard IA-6: The student will demonstrate through the mathematical processes an understanding of sequences and series.	
IA-6.1 Categorize a sequence as arithmetic, geometric, or neither.	11.2, 11.3, 11.4
IA-6.2 Carry out a procedure to write a specified term of an arithmetic or geometric sequence when given the n th term of the sequence.	11.2, 11.3, 11.4
IA-6.3 Carry out a procedure to write a formula for the n th term of an arithmetic or geometric sequence when given at least four consecutive terms of the sequence.	11.2, 11.3, 11.4
IA-6.4 Carry out a procedure to write a formula for the n th term of an arithmetic or geometric sequence when given at least four terms of the sequence.	11.2, 11.3, 11.4
IA-6.5 Represent an arithmetic or geometric series by using sigma notation.	11.2, 11.3, 11.4
IA-6.6 Carry out a procedure to calculate the sum of an arithmetic or geometric series written in sigma notation.	11.2, 11.3, 11.4
IA-6.7 Carry out a procedure to determine consecutive terms of a sequence that is defined recursively.	11.1
IA-6.8 Carry out a procedure to define a sequence recursively when given four or more consecutive terms of the sequence.	11.1
IA-6.9 Translate between the explicit form and the recursive form of sequences.	11.1