

MATH *Connections*[®]

Correlation
Florida Department of Education
Instructional Materials Correlation
Course Standards

Subject: Mathematics

Grade Level: 9–12

Course Title: Algebra 2

Course Code: 1200330

Submission Title:

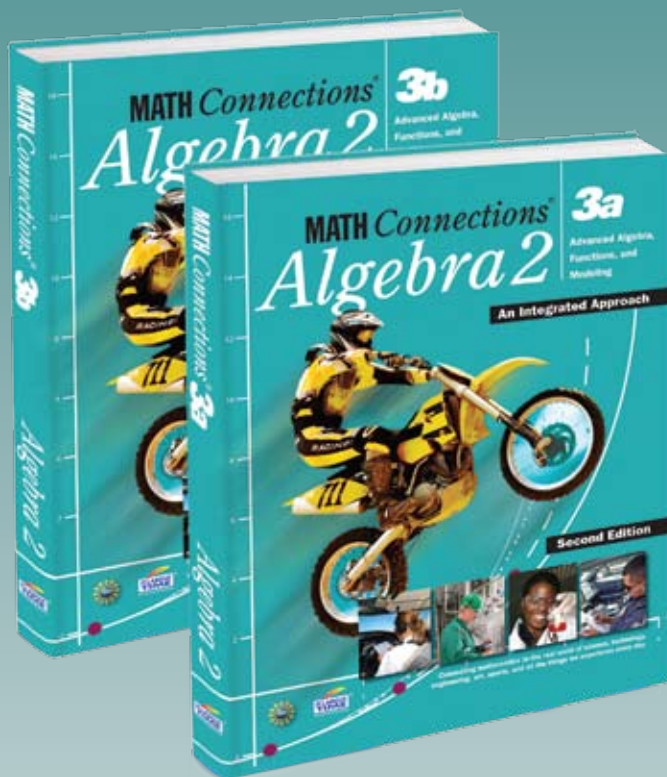
MATH Connections:

Algebra 2, volumes a & b

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Benchmark Code	Benchmark	Pages or locations where benchmark is directly addressed in major tool	In-Depth / Mentioned
LA.910.1.6.1	The student will use new vocabulary that is introduced and taught directly;	All Sections	I
LA.910.4.2.1	The student will write in a variety of informational/expository forms, including a variety of technical documents (e.g., how-to-manuals, procedures, assembly directions);		I
MA.912.A.1.6	Identify the real and imaginary parts of complex numbers and perform basic operations.	Section 1.5	I
MA.912.A.2.5	Graph absolute value equations and inequalities in two variables.	Sections 1.10, Related Topics Ch. 4	I
MA.912.A.2.6	Identify and graph common functions (including but not limited to linear, rational, quadratic, cubic, radical, absolute value).	Sections 1.1, 1.6, 1.7, 1.10, 2.3, 3.4 Related Topics Chs. 1, 3	I
MA.912.A.2.7	Perform operations (addition, subtraction, division, and multiplication) of functions algebraically, numerically, and graphically.	Section 1.8, Related Topics Chs. 1, 7	I
MA.912.A.2.8	Determine the composition of functions.	Section 1.9	M
MA.912.A.2.10	Describe and graph transformations of functions	Sections 1.6, 1.10, 3.4	I
MA.912.A.2.11	Solve problems involving functions and their inverses.	Sections 1.9, 2.6, 3.6	I
MA.912.A.2.12	Solve problems using direct, inverse, and joint variations.	Year 2 Section 1.9 Some in Year 3 Section 6.5	M
MA.912.A.3.3	Solve literal equations for a specified variable.	Sections 1.1, 1.3, 1.4	I
MA.912.A.3.6	Solve and graph the solutions of absolute value equations and inequalities with one variable.	Year 1	I
MA.912.A.3.10	Write an equation of a line given any of the following information: two points on the line, its slope and one point on the line, or its graph. Also, find an equation of a new line parallel to a given line, or perpendicular to a given line, through a given point on the new line.	Section 1.1, Related Topics Ch. 1	I
MA.912.A.3.14	Solve systems of linear equations and inequalities in two and three variables using graphical, substitution, and elimination methods.	Section 4.2, 4.3, 4.4, 4.6, Related Topics Ch. 7	I
MA.912.A.3.15	Solve real-world problems involving systems of linear equations and inequalities in two and three variables.	Section 4.2, 4.3, 4.4, 4.6, Related Topics Ch. 7	I
MA.912.A.4.3	Factor polynomial expressions.	Section 1.8, Related Topics Ch 1	I
MA.912.A.4.4	Divide polynomials by monomials and polynomials with various techniques, including synthetic division.	Related Topics Chs 1, 7	I
MA.912.A.4.5	Graph polynomial functions with and without technology and describe end behavior.	Sections 1.7, 1.8	I

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MA.912.A.4.6	Use theorems of polynomial behavior (including but not limited to the Fundamental Theorem of Algebra, Remainder Theorem, the Rational Root Theorem, Descartes' Rule of Signs, and the Conjugate Root Theorem) to find the zeros of a polynomial function.	Section 1.8	
MA.912.A.4.7	Write a polynomial equation for a given set of real and/or complex roots.	Section 1.8	
MA.912.A.4.8	Describe the relationships among the solutions of an equation, the zeros of a function, the x-intercepts of a graph, and the factors of a polynomial expression with and without technology.	Sections 1.7, 1.8	
MA.912.A.4.9	Use graphing technology to find approximate solutions for polynomial equations.	Section 1.7	
MA.912.A.4.10	Use polynomial equations to solve real-world problems.	Sections 1.7, 1.8	
MA.912.A.5.2	Add, subtract, multiply, and divide rational expressions.	Section 7.8, Related Topics Chs. 1, 7	
MA.912.A.5.3	Simplify complex fractions.	Related Topics Ch. 7	
MA.912.A.5.5	Solve rational equations.	Section 7.8	M
MA.912.A.6.2	Add, subtract, multiply, and divide radical expressions (square roots and higher).	Related Topics Ch. 2	
MA.912.A.6.3	Simplify expressions using properties of rational exponents.	Section 2.2	
MA.912.A.6.4	Convert between rational exponent and radical forms of expressions.	Section 2.2	
MA.912.A.6.5	Solve equations that contain radical expressions.	Related Topics Ch. 2	
MA.912.A.7.3	Solve quadratic equations over the real numbers by completing the square.	Section 1.4	
MA.912.A.7.4	Use the discriminant to determine the nature of the roots of a quadratic equation.	Section 1.4	
MA.912.A.7.5	Solve quadratic equations over the complex number system.	Section 1.5	
MA.912.A.7.6	Identify the axis of symmetry, vertex, domain, range and intercept(s) for a given parabola.	Sections 1.3, 1.6	
MA.912.A.8.1	Define exponential and logarithmic functions and determine their relationship	Sections 2.3, 2.6	
MA.912.A.8.2	Define and use the properties of logarithms to simplify logarithmic expressions and to find their approximate values.	Sections: 2.6, 2.7, 2.8	
MA.912.A.8.3	Graph exponential and logarithmic functions.	Sections 2.3, 2.4, 2.5, 2.6	
MA.912.A.8.5	Solve logarithmic and exponential equations.	Section 2.8, Related Topics Ch. 2	
MA.912.A.8.6	Use the change of base formula.	Section 2.6 (Problem set)	
MA.912.A.8.7	Solve applications of exponential growth and decay.	Sections 2.3, 2.4, 2.5	

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MA.912.A.10.3	Decide whether a given statement is always, sometimes, or never true (statements involving linear or quadratic expressions, equations, or inequalities, rational or radical expressions, or logarithmic or exponential functions).	Sections 1.4, 1.5	
MA.912.D.11.1	Define arithmetic and geometric sequences and series.	Sections 7.2, 7.5	
MA.912.D.11.3	Find specified terms of arithmetic and geometric sequences.	Sections 7.2, 7.5	

OVERALL INSTRUCTIONAL QUALITY	IDENTIFY AN EXAMPLE (WITH PAGE NUMBERS OR LOCATION) DEEMED TYPICAL OF THE APPROACH TAKEN IN THE MAJOR TOOL. The Examples can be from Student or Teacher Instructional Material.
The major tool introduces and builds mathematical concepts as a coherent whole. It provides opportunities to students to explore why a mathematical idea is important and in which contexts that mathematical idea can be useful. In other words, the major tool helps students learn the mathematics concepts in depth. Additionally, students are given opportunities to connect conceptual knowledge with procedural knowledge and factual knowledge. Overall, there is an appropriate balance of skill development and conceptual understanding.	Section 1.3
Tasks are engaging and interesting enough that students want to pursue them. Real world problems are realistic and relevant to students' lives.	Section 5.1
Problem solving is encouraged by the tasks presented to students. Tasks require students to make decisions, determine strategies, and justify solutions.	Section 4.1
Tasks engage students in communicating mathematical ideas by writing, explaining, drawing, using symbols, talking, listening, and reading for information. Tasks encourage collaboration, discussion, individual accountability, and positive interdependence.	Section 6.1
Students are given opportunities to create and use representations to organize, record, and communicate their thinking. Tasks promote use of multiple representations and translations among them. Students use a variety of tools to understand a single concept.	Section 1.6
The mathematics connects to other disciplines such as reading, art, science, and history. Tasks represent mathematical ideas as interconnected and building upon each other.	Section 3.4: Problem Set #2
Tasks require students to make conjectures, justify their thinking, defend their responses by using mathematical arguments, and prove mathematical statements. Students are encouraged to invent and justify solution methods. Students analyze correct and incorrect solution methods.	Section 6.7