

**Young, *College Algebra* © 2017**  
**correlated to the**  
**Florida B.E.S.T. Standards for Mathematics**  
**College Algebra**

Standard	Descriptor	Citations
MA.912.AR.1.2:	Rearrange equations or formulas to isolate a quantity of interest.	Lessons 1.1, 1.2, 1.3, 1.4, 1.7, 2.1, 5.4
MA.912.AR.1.3:	Add, subtract and multiply polynomial expressions with rational number coefficients.	Lessons 0.3, 1.1, 1.2, 1.3, 3.4
MA.912.AR.1.5:	Divide polynomial expressions using long division, synthetic division or algebraic manipulation.	Lessons 4.3, 4.4, 4.5
MA.912.AR.1.9:	Apply previous understanding of rational number operations to add, subtract, multiply and divide rational algebraic expressions.	Lessons 0.5, 4.6, 6.3
MA.912.AR.2.4:	Given a table, equation or written description of a linear function, graph that function, and determine and interpret its key features.	Lessons 2.2, 2.3, 3.2
MA.912.AR.2.5:	Solve and graph mathematical and real-world problems that are modeled with linear functions. Interpret key features and determine constraints in terms of the context.	Lesson 3.6
MA.912.AR.3.7:	Given a table, equation or written description of a quadratic function, graph that function, and determine and interpret its key features.	Lesson 4.1

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MA.912.AR.3.8:	Solve and graph mathematical and real-world problems that are modeled with quadratic functions. Interpret key features and determine constraints in terms of the context.	Lesson 4.1
MA.912.AR.4.2:	Given a mathematical or real-world context, write and solve one-variable absolute value inequalities. Represent solutions algebraically or graphically.	Lesson 1.7
MA.912.AR.4.4:	Solve and graph mathematical and real-world problems that are modeled with absolute value functions. Interpret key features and determine constraints in terms of the context.	Lessons 3.2, 3.3
MA.912.AR.5.2:	Solve one-variable equations involving logarithms or exponential expressions. Interpret solutions as viable in terms of the context and identify any extraneous solutions.	Lessons 5.2, 5.4, 5.5
MA.912.AR.5.4:	Write an exponential function to represent a relationship between two quantities from a graph, a written description or a table of values within a mathematical or real-world context.	Lessons 5.1, 5.5
MA.912.AR.5.6:	Given a table, equation or written description of an exponential function, graph that function and determine its key features.	Lessons 5.1, 5.5
MA.912.AR.5.7:	Solve and graph mathematical and real-world problems that are modeled with exponential functions. Interpret key features and determine constraints in terms of the context.	Lessons 5.1, 5.5
MA.912.AR.5.8:	Given a table, equation or written description of a logarithmic function, graph that function and determine its key features.	Lesson 5.2
MA.912.AR.5.9:	Solve and graph mathematical and real-world problems that are modeled with logarithmic functions. Interpret key features and determine constraints in terms of the context.	Lessons 5.2, 5.3, 5.4, 5.5
MA.912.AR.7.1:	Solve one-variable radical equations. Interpret solutions as viable in terms of context and identify any extraneous solutions.	Lesson 1.4

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MA.912.AR.8.1:	Write and solve one-variable rational equations. Interpret solutions as viable in terms of the context and identify any extraneous solutions.	Lesson 1.1
MA.912.AR.9.4:	Graph the solution set of a system of two-variable linear inequalities.	Lesson 6.4
MA.912.AR.9.6:	Given a real-world context, represent constraints as systems of linear equations or inequalities. Interpret solutions to problems as viable or non-viable options.	Lessons 6.4, 6.5
MA.912.AR.9.10:	Solve and graph mathematical and real-world problems that are modeled with piecewise functions. Interpret key features and determine constraints in terms of the context.	Lesson 3.2
MA.912.F.1.1:	Given an equation or graph that defines a function, determine the function type. Given an input-output table, determine a function type that could represent it.	Lessons 3.2, 5.5
MA.912.F.1.2:	Given a function represented in function notation, evaluate the function for an input in its domain. For a real-world context, interpret the output.	Lessons 3.1, 3.4, 4.4, 5.1
MA.912.F.1.3:	Calculate and interpret the average rate of change of a real-world situation represented graphically, algebraically or in a table over a specified interval.	Lesson 3.2
MA.912.F.1.6:	Compare key features of linear and nonlinear functions each represented algebraically, graphically, in tables or written descriptions.	Lessons 3.2, 4.2, 8.5
MA.912.F.2.1:	Identify the effect on the graph or table of a given function after replacing $f(x)$ by $f(x)+k$ , $kf(x)$ , $f(kx)$ and $f(x+k)$ for specific values of $k$ .	Lessons 3.3, 4.2, 5.1, 5.2

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MA.912.F.2.2:	Identify the effect on the graph of a given function of two or more transformations defined by adding a real number to the $x$ - or $y$ - values or multiplying the $x$ - or $y$ - values by a real number.	Lessons 3.3, 4.2, 5.1, 5.2
MA.912.F.2.3:	Given the graph or table of $f(x)$ and the graph or table of $f(x)+k$ , $kf(x)$ , $f(kx)$ and $f(x+k)$ , state the type of transformation and find the value of the real number $k$ .	Lesson 3.3
MA.912.F.2.4:	Given the graph or table of values of two or more transformations of a function, state the type of transformation and find the values of the real number that defines the transformation.	Lesson 3.3 could be extended to address this standard.
MA.912.F.2.5:	Given a table, equation or graph that represents a function, create a corresponding table, equation or graph of the transformed function defined by adding a real number to the $x$ - or $y$ -values or multiplying the $x$ - or $y$ -values by a real number.	Lessons 3.3, 5.1, 5.2
MA.912.F.3.2:	Given a mathematical or real-world context, combine two or more functions, limited to linear, quadratic, exponential and polynomial, using arithmetic operations. When appropriate, include domain restrictions for the new function.	Lesson 3.4
MA.912.F.3.4:	Represent the composition of two functions algebraically or in a table. Determine the domain and range of the composite function.	Lessons 3.4, 3.5
MA.912.F.3.6:	Determine whether an inverse function exists by analyzing tables, graphs and equations.	Lesson 3.5
MA.912.F.3.7:	Represent the inverse of a function algebraically, graphically or in a table. Use composition of functions to verify that one function is the inverse of the other.	Lesson 3.5
MA.912.NSO.1.1:	Extend previous understanding of the Laws of Exponents to include rational exponents. Apply the Laws of Exponents to	Lesson 0.6

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	evaluate numerical expressions and generate equivalent numerical expressions involving rational exponents.	
MA.912.NSO.1.2:	Generate equivalent algebraic expressions using the properties of exponents.	Lessons 0.2, 5.4
MA.912.NSO.1.3:	Generate equivalent algebraic expressions involving radicals or rational exponents using the properties of exponents.	Lessons 0.6, 1.4
MA.912.NSO.1.6:	Given a numerical logarithmic expression, evaluate and generate equivalent numerical expressions using the properties of logarithms or exponents.	Lesson 5.2
MA.912.NSO.1.7:	Given an algebraic logarithmic expression, generate an equivalent algebraic expression using the properties of logarithms or exponents.	Lessons 5.2, 5.3, 5.4
MA.K12.MTR.1.1:	Mathematicians who participate in effortful learning both individually and with others: <ul style="list-style-type: none"> <li>• Analyze the problem in a way that makes sense given the task.</li> <li>• Ask questions that will help with solving the task.</li> <li>• Build perseverance by modifying methods as needed while solving a challenging task.</li> <li>• Stay engaged and maintain a positive mindset when working to solve tasks.</li> <li>• Help and support each other when attempting a new method or approach.</li> </ul>	This standard is addressed throughout the program. Representative examples include: Lessons 0.4, 1.1, 2.3, 3.1, 4.1, 5.1, 6.4, 7.3, 8.2, 9.7
MA.K12.MTR.2.1:	Demonstrate understanding by representing problems in multiple ways. Mathematicians who demonstrate understanding by representing problems in multiple ways: <ul style="list-style-type: none"> <li>• Build understanding through modeling and using manipulatives.</li> </ul>	This standard is addressed throughout the program. Representative examples include: Lessons 1.2, 2.1, 3.1, 4.1, 5.5, 6.1, 7.1, 8.6, 9.5

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	<ul style="list-style-type: none"> <li>• Represent solutions to problems in multiple ways using objects, drawings, tables, graphs and equations.</li> <li>• Progress from modeling problems with objects and drawings to using algorithms and equations.</li> <li>• Express connections between concepts and representations.</li> <li>• Choose a representation based on the given context or purpose.</li> </ul>	
MA.K12.MTR.3.1:	<p>Complete tasks with mathematical fluency.                      Mathematicians who complete tasks with mathematical fluency:</p> <ul style="list-style-type: none"> <li>• Select efficient and appropriate methods for solving problems within the given context.</li> <li>• Maintain flexibility and accuracy while performing procedures and mental calculations.</li> <li>• Complete tasks accurately and with confidence.</li> <li>• Adapt procedures to apply them to a new context.</li> <li>• Use feedback to improve efficiency when performing calculations.</li> </ul>	<p>This standard is addressed throughout the program.                      Representative examples include:                      Lessons 0.4, 1.2, 2.2, 3.6, 4.1, 5.5, 6.1, 7.1, 8.6, 9.3</p>
MA.K12.MTR.4.1:	<p>Engage in discussions that reflect on the mathematical thinking of self and others.                      Mathematicians who engage in discussions that reflect on the mathematical thinking of self and others:</p> <ul style="list-style-type: none"> <li>• Communicate mathematical ideas, vocabulary and methods effectively.</li> <li>• Analyze the mathematical thinking of others.</li> <li>• Compare the efficiency of a method to those expressed by others.</li> <li>• Recognize errors and suggest how to correctly solve the task.</li> <li>• Justify results by explaining methods and processes.</li> <li>• Construct possible arguments based on evidence.</li> </ul>	<p>This standard is addressed throughout the program.                      Representative examples include:                      Lessons 0.5, 1.4, 2.2, 3.5, 4.5, 5.3, 6.1, 7.1, 8.1, 9.4</p>

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MA.K12.MTR.5.1:	Use patterns and structure to help understand and connect mathematical concepts. Mathematicians who use patterns and structure to help understand and connect mathematical concepts: <ul style="list-style-type: none"> <li>• Focus on relevant details within a problem.</li> <li>• Create plans and procedures to logically order events, steps or ideas to solve problems.</li> <li>• Decompose a complex problem into manageable parts.</li> <li>• Relate previously learned concepts to new concepts.</li> <li>• Look for similarities among problems.</li> <li>• Connect solutions of problems to more complicated large-scale situations.</li> </ul>	This standard is addressed throughout the program. Representative examples include: Lessons 0.5, 1.2, 2.5, 3.4, 4.2, 5.5, 6.4, 7.3, 8.5, 9.1
MA.K12.MTR.6.1:	Assess the reasonableness of solutions. Mathematicians who assess the reasonableness of solutions: <ul style="list-style-type: none"> <li>• Estimate to discover possible solutions.</li> <li>• Use benchmark quantities to determine if a solution makes sense.</li> <li>• Check calculations when solving problems.</li> <li>• Verify possible solutions by explaining the methods used.</li> <li>• Evaluate results based on the given context.</li> </ul>	This standard is addressed throughout the program. Representative examples include: Lessons 1.5, 2.1, 3.5, 4.2, 5.4, 6.1, 7.3, 8.5, 9.2
MA.K12.MTR.7.1:	Apply mathematics to real-world contexts. Mathematicians who apply mathematics to real-world contexts: <ul style="list-style-type: none"> <li>• Connect mathematical concepts to everyday experiences.</li> <li>• Use models and methods to understand, represent and solve problems.</li> <li>• Perform investigations to gather data or determine if a method is appropriate. • Redesign models and methods to improve accuracy or efficiency.</li> </ul>	This standard is addressed throughout the program. Representative examples include: Lessons 0.2, 1.2, 2.1, 2.5, 3.1, 4.2, 5.5, 6.1, 7.1, 8.4, 9.1
ELA.K12.EE.1.1:	Cite evidence to explain and justify reasoning.	This standard is addressed throughout the program. Representative examples include: Lessons 0.5, 1.4, 2.5, 3.1, 4.5, 5.5, 6.5, 7.2, 8.2, 9.4

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ELA.K12.EE.2.1:	Read and comprehend grade-level complex texts proficiently.	This standard is addressed throughout the program. Representative examples include: Lessons 0.2 (see the Properties of Integer Exponents table), 1.3 (see Example 2), Chapter 3 Review, 6.4 (see Example 4 1), 9.1 (see Objective 1)
ELA.K12.EE.3.1:	Make inferences to support comprehension.	This standard is addressed through the program. Representative examples include: Lessons 1.2 (see Conceptual Objective 1.2.3 and 1.2.4), 3.2 (see Example 1), 5.2 (see Exercises 91-96), Online Inquiry-Based Learning Project, 6.5 (see Catch the Mistake exercises 21-22)
ELA.K12.EE.4.1:	Use appropriate collaborative techniques and active listening skills when engaging in discussions in a variety of situations.	This standard is addressed through the program. Representative examples include: Chapter Openers (see Chapter 1, 4, 8), Lesson 5.2 (see Exercises 103-106), Challenge Exercises (see Online Instructor’s Manual on assigning these as think/pair/share exercises)
ELA.K12.EE.5.1:	Use the accepted rules governing a specific format to create quality work.	This standard is addressed through the program. Representative examples include: Lessons 5.3 (see Exercise 67-69), 6.4 (see Exercises 53-54), 7.1 (see Exercises 107-110), Challenge Exercises (see Online Instructor’s Manual on assigning these as think/pair/share exercises) 7.2 (see Exercises 75-76), 8.4 (see Exercises 59-60)
ELA.K12.EE.6.1:	Use appropriate voice and tone when speaking or writing.	This standard is addressed through the program. Representative examples include: Online Inquiry-Based Learning Project, Online Modeling Your World Projects, Challenge Exercises (see Online Instructor’s Manual on assigning these as think/pair/share exercises), 7.2 (see Exercises 75-76), 8.4 (see Catch the Mistake Exercises 59-60)
ELD.K12.ELL.MA.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.	This standard is addressed through the program. Representative examples include:



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		Lessons 0.5, 1.4, 2.5, 3.1, Challenge Exercises (see Online Instructor's Manual on assigning these as think/pair/share exercises)