Proposed Updates to the B.E.S.T. Standards for Mathematics

The table below contains specific changes to the 9-12 Mathematics standards and benchmarks and appendices. These changes are required in order to promote alignment and clarity of the B.E.S.T. Standards for Mathematics with courses, instruction, instructional materials and standardized, statewide assessments.

Please note that all page numbers are in reference to the current, adopted Florida's B.E.S.T. Standards for Mathematics document.

Page	Code/Location	Item Changed	Proposed Change
	Table of Contents	9-12 Logic and Theory Strand	Added *Discrete*
3	Florida's B.E.S.T. Standards for Mathematics Coding Scheme	9-12 Example	Added in benchmark language *Use coordinate geometry to*
4	Progression of Florida's B.E.S.T. Standards for Mathematics	Strand "Logic and Theory"	Added *Discrete*
97-108	Algebra 1 course	Coding, Benchmarks, Examples and Clarifications	Changes made to reflect proposed changes within the 9-12 benchmarks
109-115	Geometry course	Coding, Benchmarks, Examples and Clarifications	Changes made to reflect proposed changes within the 9-12 benchmarks
118	MA.912.NSO.1.1	Clarifications	Added *Clarification 3: Instruction includes converting between expressions involving rational exponents and expressions involving radicals.* Added *Clarification 4: Within the Mathematics for Data and Financial Literacy course, it is not the expectation to generate equivalent numerical expressions.*
118	MA.912.NSO.1.2	Benchmark and Example	Deleted *monomial* from benchmark Added *Example: The expression* 1.5^{3t+2} *is equivalent to the expression* $2.25(1.5)^{3t}$ *which is equivalent to* $2.25(3.375)^{t}$.

Content Updated on 07/1/2020

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
118	MA.912.NSO.1.3	Benchmark and Clarifications	Deleted from benchmark *Radicands are limited to monomial algebraic expressions.* Added *Clarification 1: Within the Algebra 2 course, radicands are limited to monomial algebraic expressions.*
118	MA.912.NSO.1.5	Benchmark and Clarifications	Deleted from benchmark *Radicands are limited to monomial algebraic expressions.* Added *Clarification 1: Within the Algebra 2 course, radicands are limited to monomial algebraic expressions.*
	NEW	Coding, Benchmark and Clarifications	Added *MA.912.NSO.1.6* Added *Given a numerical logarithmic expression, evaluate and generate equivalent numerical expressions using the properties of logarithms or exponents.* Added *Clarification 1: Within the Mathematics for Data and Financial Literacy Honors course, problem types focus on money and business.*
118	MA.912.NSO.1.6	Coding and Clarifications	Changed to *MA.912.NSO.1.7* Added *Clarification 1: Within the Mathematics for Data and Financial Literacy Honors course, problem types focus on money and business.*
119	MA.912.NSO.2.5	Benchmark and Clarifications	Deleted *Explain why the rectangular and polar forms of a given complex number represent the same number.* Added *Clarification 1: Instruction includes explaining why the rectangular and polar forms of a given complex numbers represent the same number.*
120	MA.912.NSO.3.6	Coding	Changed to *MA.912.NSO.3.8*
120	MA.912.NSO.3.7	Coding	Changed to *MA.912.NSO.3.9*
120	MA.912.NSO.3.8	Coding	Changed to *MA.912.NSO.3.6*
120	MA.912.NSO.3.9	Coding	Changed to *MA.912.NSO.3.7*
120	MA.912.NSO.4.3	Clarifications	Added *Clarification 1: Instruction includes identifying and using the additive and multiplicative identities for matrices.*
120	MA.912.NSO.4.5	Benchmark	Deleted

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
121	MA.912.AR.1.1	Benchmark, Example and Clarifications	Added in benchmark *equation or* Added *Example: The expression* 1.15^t *can be rewritten as* $\left(1.15^{\frac{1}{12}}\right)^{12t}$ *which is approximately equivalent to* 1.012^{12t}*. This latter expression reveals the approximate equivalent monthly interest rate of 1.2% if the annual rate is 15%.* Added *Clarification 2: Within the Mathematics for Data and Financial Literacy course, problem types focus on money and business.*
121	MA.912.AR.1.2	Example and Clarifications	Added *Example: Given the Compound Interest formula* $A = P\left(1 + \frac{r}{n}\right)^{nt}$*, solve for* P*.* Added *Example: Given the Compound Interest formula* $A = P\left(1 + \frac{r}{n}\right)^{nt}$*, solve for* t*.* Added *Clarification 2: Within the Mathematics for Data and Financial Literacy course, problem types focus on money and business.*
121	MA.912.AR.1.3	Clarifications	Removed in Clarification 2 *with integer coefficients*
121	MA.912.AR.1.4	Clarifications	Removed in Clarification 1 *with integer coefficients*
121	MA.912.AR.1.5	Benchmark	Changed *and* to *or*
122	MA.912.AR.1.7	Benchmark	Added *over the real number system*
	NEW	Coding, Benchmark and Clarifications	Added *MA.912.AR.1.8* Added *Rewrite a polynomial expression as a product of polynomials over the real or complex number system.* Added *Clarification 1: Instruction includes factoring a sum or difference of squares and a sum or difference of cubes.*
122	MA.912.AR.1.8	Coding, Benchmark and Clarifications	Changed to *MA.912.AR.1.9* Added in benchmark *algebraic* Added *Clarification 1: Instruction includes the connection to fractions and common denominators.*
122	MA.912.AR.1.9	Coding	Changed to *MA.912.AR.1.10*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
122	MA.912.AR.1.10	Coding and Clarifications	Changed to *MA.912.AR.1.11* Added *Clarification 1: Instruction includes the connection to Pascal's Triangle and to combinations.*
123	MA.912.AR.2.4	Clarifications	Added *Clarification 4: Instruction includes representing the domain and range with inequality notation, interval notation or set-builder notation.* Added *Clarification 5: Within the Algebra 1 course, notations for domain and range are limited to inequality and set-builder.*
123	MA.912.AR.2.5	Clarifications	Changed Clarification 3 from *Instruction includes representing the domain and range and constraints using inequalities or set-builder notation.* to *Instruction includes representing the domain, range and constraints with inequality notation, interval notation or set-builder notation.* Added *Clarification 4: Within the Algebra 1 course, notations for domain, range and constraints are limited to inequality and set-builder.* Added *Clarification 5: Within the Mathematics for Data and Financial Literacy course, problem types focus on money and business.*
123	MA.912.AR.2.6	Example	Deleted from example *The solution set is* $\left[\frac{-1}{3}, \frac{3}{5}\right)$.
124	MA.912.AR.3.2	Clarifications	Added *Clarification 1: Within this benchmark, the expectation is to solve by factoring techniques, taking square roots, the quadratic formula and completing the square.*
125	MA.912.AR.3.4	Clarifications	Added in Clarification 2 , *factored form* Added *Clarification 3: Within the Algebra 2 course, one of the given points must be the vertex or an* x*-intercept.*
125	MA.912.AR.3.7	Clarifications	Added in Clarification 2 , *factored form*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
126	MA.912.AR.3.8	Clarifications	Added in Clarification 2 , *factored form* Changed Clarification 3 from *Instruction includes representing the domain and range and constraints using inequalities or set-builder notation.* to *Instruction includes representing the domain, range and constraints with inequality notation, interval notation or set-builder notation*. Added in Clarification 4 *and constraints*
126	MA.912.AR.3.9	Clarifications	Added in Clarification 1 , *factored form*
126	MA.912.AR.3.10	Clarifications	Added in Clarification 1 , *factored form*
127	MA.912.AR.4.3	Clarifications	Added *Clarification 3: Within the Algebra 1 course, notations for domain and range are limited to inequality and set-builder.*
127	MA.912.AR.4.4	Clarifications	Added *Clarification 1: Key features are limited to domain; range; intercepts; intervals where the function is increasing, decreasing, positive or negative; vertex; end behavior and symmetry.* Changed *Clarification 1* to *Clarification 2* and changed *constraints with inequalities or set-builder notation* to *the domain, range and constraints using inequality notation, interval notation or set-builder notation.*
127	MA.912.AR.5.2	Benchmark	Changed *Solve equations involving one variable logarithms or exponents* to *Solve one-variable equations involving logarithms or exponential expressions*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
128	MA.912.AR.5.7	Example and Clarifications	Added *Example: The graph of the function* $f(t) = e^{5t+2}$ *can be transformed into the straight line* $y = 5t + 2$ *by taking the natural logarithm of the function's outputs.* Added *Clarification 1: Key features are limited to domain; range; intercepts; intervals where the function is increasing, decreasing, positive or negative; constant percent rate of change; end behavior and asymptotes.* Changed *Clarification 1* to *Clarification 2* and changed *constraints with inequalities or set-builder notation* to *the domain, range and constraints using inequality notation, interval notation or set-builder notation.* Added *Clarification 3: Instruction includes understanding that when the logarithm of the dependent variable is taken and graphed, the exponential function will be transformed into a linear function.* Added *Clarification 4: Within the Mathematics for Data and Financial Literacy course, problem types focus on money and business.*
128	MA.912.AR.5.9	Clarifications	Added *Clarification 1: Key features are limited to domain; range; intercepts; intervals where the function is increasing, decreasing, positive or negative; end behavior; and asymptotes.* Changed *Clarification 1* to *Clarification 2* and changed *constraints with inequalities or set-builder notation* to *the domain, range and constraints using inequality notation, interval notation or set-builder notation.*
129	MA.912.AR.6.2	Benchmark	Added *to solve mathematical and real-world problems*
	New	Coding, Benchmark, Example and Clarifications	Added *MA.912.AR.6.3* Added *Explain and apply theorems for polynomials to solve mathematical and real-world problems.* Added *Example: Write a polynomial function that has the zeroes* 5 *and* $2 + i$. Added *Clarification 1: Theorems include the Factor Theorem and the Fundamental Theorem of Algebra.*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
129	MA.912.AR.6.3	Coding	Changed to *MA.912.AR.6.4*
129	MA.912.AR.6.4	Coding	Changed to *MA.912.AR.6.5*
129	MA.912.AR.6.5	Coding, Benchmark and Clarifications	Changed to *MA.912.AR.6.6* Added in benchmark *and determine constraints* Added *Clarification 1: Key features are limited to domain; range; intercepts; intervals where the function is increasing, decreasing, positive or negative; relative maximums and minimums; symmetry; and end behavior.* Changed *Clarification 1* to *Clarification 2* and changed *constraints with inequalities or set-builder notation* to *the domain, range and constraints using inequality notation, interval notation or set-builder notation.*
130	MA.912.AR.7.3	Benchmark and Clarifications	Added in benchmark *and determine constraints* Added *Clarification 1: Key features are limited to domain; range; intercepts; intervals where the function is increasing, decreasing, positive or negative; end behavior; and relative maximums and minimums.* Changed *Clarification 1* to *Clarification 2* and changed *constraints with inequalities or set-builder notation* to *the domain, range and constraints using inequality notation, interval notation or set-builder notation.*
	NEW	Coding, Benchmark and Clarifications	Added *MA.912.AR.7.4* Added *Solve and graph mathematical and real-world problems that are modeled with radical functions. Interpret key features and determine domain constraints in terms of the context.* Added *Clarification 1: Key features are limited to domain; range; intercepts; intervals where the function is increasing, decreasing, positive or negative; end behavior; and relative maximums and minimums.* Added *Clarification 2: Instruction includes representing the domain, range and constraints using inequality notation, interval notation or set-builder notation.*
130	MA.912.AR.8.1	Clarifications	Added *Clarification 1: Within the Algebra 2 course, numerators and denominators are limited to linear and quadratic expressions.*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
130	MA.912.AR.8.2	Clarifications	Added *Clarification 3: Within the Algebra 2 course, numerators and denominators are limited to linear and quadratic expressions.*
130	MA.912.AR.8.3	Benchmark and Clarifications	Added in benchmark *and determine constraints* Added *Clarification 1: Key features are limited to domain; range; intercepts; intervals where the function is increasing, decreasing, positive or negative; end behavior; and asymptotes.* Changed *Clarification 1* to *Clarification 2* and changed *constraints with inequalities or set-builder notation* to *the domain, range and constraints using inequality notation, interval notation or set-builder notation.* Added *Clarification 3: Instruction includes using rational functions to represent inverse proportional relationships.* Added *Clarification 4: Within the Algebra 2 course, numerators and denominators are limited to linear and quadratic expressions.*
131	MA.912.AR.9.3	Benchmark and Clarifications	Added in benchmark *linear or* Added *Clarification 1: Within the Algebra 2 course, non-linear equations are limited to quadratic equations.*
	NEW	Coding, Benchmark and Clarifications	Added *MA.912.AR.9.5* Added *Graph the solution set of a system of two-variable inequalities.* Added *Clarification 1: Within the Algebra 2 course, two-variable inequalities are limited to linear and quadratic.*
131	MA.912.AR.9.5	Coding	Changed to *MA.912.AR.9.6*
131	MA.912.AR.9.6	Coding and Clarifications	Changed to *MA.912.AR.9.7* Added *Clarification 2: Within the Algebra 2 course, non-linear equations and inequalities are limited to quadratic.*
131	MA.912.AR.9.7	Coding and Benchmark	Changed to *MA.912.AR.9.8* Added *in two variables*
132	MA.912.AR.9.8	Coding	Changed to *MA.912.AR.9.9*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
132	MA.912.AR.9.9	Coding, Benchmark, Example and Clarifications	Changed to *MA.912.AR.9.10* Changed *Graph and solve* to *Solve and graph* Added *Example: A mechanic wants to place an ad in his local newspaper. The cost, in dollars, of an ad x inches long is given by the following piecewise function. Find the cost of an ad that would be 16 inches long.* $C(x) = \begin{cases} 12x, & x < 5 \\ 60 + 8(x-5), & x \geq 5 \end{cases}$ Changed Clarification 2 from *Instruction includes representing the domain and range and constraints using inequality notation, interval notation or set-builder notation.* to *Instruction includes representing the domain, range and constraints with inequality notation, interval notation or set-builder notation.*
132	MA.912.AR.10	Standard	Changed *Write and solve sequence and series equations, functions and inequalities in one and two variables* to *Solve problems involving sequences and series*
132	MA.912.AR.10.1	Example	Added *Example: Tara is saving money to move out of her parent's house. She opens the account with $250 and puts $100 into a savings account every month after that. Write the total amount of money she has in her account after each month as a sequence. In how many months will she have at least $3,000?*
132	MA.912.AR.10.2	Example	Added *Example: A bacteria in a Petri dish initially covers 2 square centimeters. The bacteria grows at a rate of 2.6% every day. Determine the geometric sequence that describes the area covered by the bacteria after* $0, 1, 2, 3 \ldots$ *days. If the bacteria grows unchecked, at what point would the bacteria cover the entire surface of the Earth?*
133	MA.912.F.1.2	Clarifications	Added *Clarification 1: Problems include simple functions in two-variables, such as* $f(x, y) = 3x - 2y$. Added *Clarification 2: Within the Algebra 1 course, functions are limited to one-variable such as* $f(x) = 3x$.

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
133	MA.912.F.1.3	Clarifications	Changed from *Instruction includes making the connection to the slope of a linear function* to *Instruction includes making the connection to determining the slope of a particular line segment*
133	MA.912.F.1.4	Benchmark and Clarifications	Changed *Demonstrate understanding of the concept of limit and estimate limits from graphs and tables of values, as related to the concept of the derivative of a function.* to *Write an algebraic expression that represents the difference quotient of a function. Calculate the numerical value of the difference quotient at a given pair of points.* Added *Clarification 1: Instruction focuses on making connections between difference quotients and slopes of lines.*
	NEW	Coding, Benchmark and Clarifications	Added *MA.912.F.1.5 Compare key features of linear functions each represented algebraically, graphically, in tables or written descriptions. Clarification 1: Key features are limited to domain; range; intercepts; slope and end behavior.*
133	MA.912.F.1.5	Coding and Benchmark	Changed to *MA.912.F.1.6* Deleted *in a different way such as*
133	MA.912.F.1.6	Coding, Benchmark and Clarifications	Changed to *MA.912.F.1.7* Deleted *in a different way such as* Added *Clarification 1: Key features include domain; range; intercepts; intervals where the function is increasing, decreasing, positive or negative; end behavior and asymptotes.*
134	MA.912.F.1.7	Coding	Changed to *MA.912.F.1.8*
134	MA.912.F.1.8	Coding	Changed to *MA.912.F.1.9*
134	MA.912.F.2.1	Benchmark	Added , $f(kx)$
135	MA.912.F.2.5	Benchmark	Changed *Given two or more transformations and a function, create the table or graph of the transformed function.* to *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.*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
135	MA.912.F.2.6	Benchmark	Deleted
135	MA.912.F.3.1	Clarifications	Added *Clarification 2: Within the Algebra 1 Honors course, notations for domain and range are limited to inequality and set-builder.*
135	MA.912.F.3.2	Clarifications	Added *Clarification 2: Within the Mathematics for Data and Financial Literacy course, problem types focus on money and business.*
135	MA.912.F.3.4	Benchmark	Changed *Compose functions within a mathematical or real-world context* to *Represent the composition of two functions algebraically or in a table*
136	MA.912.F.3.7	Clarifications	Added *Clarification 1: Instruction includes the understanding that a logarithmic function is the inverse of an exponential function.*
137	MA.912.FL.1	Standard	Changed *Determine simple and compound interest and demonstrate its relationship to functions. Calculate and use net present and net future values.* to *Build mathematical foundations for financial literacy.*
	NEW	Coding, Benchmark and Clarifications	Added *MA.912.FL.1.1* Added *Extend previous knowledge of operations of fractions, percentages and decimals to solve real-world problems involving money and business.* Added *Clarification 1: Problems include discounts, markups, simple interest, tax, tips, fees, percent increase, percent decrease and percent error.*
	NEW	Coding, Benchmark and Example	Added *MA.912.FL.1.2* Added *Extend previous knowledge of ratios and proportional relationships to solve real-world problems involving money and business.* Added *Example: A local grocery stores sells trail mix for $1.75 per pound. If the grocery store spends $0.82 on each pound of mix, how much will the store gain in gross profit if they sell 6.4 pounds in one day* Added *Example: If Juan makes $25.00 per hour and works 40 hours per week, what is his annual salary?*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
	NEW	Coding, Benchmark and Example	Added *MA.912.FL1.3* Added *Solve real-world problems involving weighted averages using spreadsheets and other technology.* Added *Example: Kiko wants to buy a new refrigerator and decides on the following rating system: capacity 50%, water filter life 30% and capability with technology 20%. One refrigerator gets 8 (out of 10) for capacity, 6 for water filter life and 7 for capability with technology. Another refrigerator gets 9 for capacity, 4 for water filter life and 6 for capability with technology. Which refrigerator is best based on the rating system?*
137	MA.912.FL.1.1	Coding and Clarifications	Changed to *MA.912.FL.3.1* Added *Clarification 1: Instruction includes taking into consideration the annual percentage rate (APR) when comparing simple and compound interest.*
137	MA.912.FL.1.2	Coding, Benchmark and Example	Changed to *MA.912.FL.3.2* Added in benchmark *real-world* Deleted in benchmark *, including determining the present value and future value of money* Added *Example: Find the amount of money on deposit at the end of 5 years if you started with $500 and it was compounded quarterly at 6% interest per year.* Added *Example: Joe won $25,000 on a lottery scratch-off ticket. How many years will it take at 6% interest compounded yearly for his money to double?*
	New	Coding and Benchmark	Added *MA.912.FL.3.3* Added *Solve real-world problems involving present value and future value of money.*
137	MA.912.FL.1.3	Benchmark	Deleted
137	MA.912.FL.1.4	Coding and Benchmark	Changed to *MA.912.FL.3.4* Added *Explain the relationship between simple interest and linear growth.*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
137	MA.912.FL.1.5	Coding, Benchmark and Clarifications	Changed to *MA.912.FL.2.3* Changed *Determine the consumer price index (CPI) for goods. Interpret its value in terms of the context.* to *Explain how consumer price index (CPI), gross domestic product (GDP), stock indices, unemployment rate and trade deficit are calculated. Interpret their value in terms of the context.* Added *Clarification 1: Instruction includes the understanding that quantities are based on data and may include measurement error.*
137	MA.912.FL.1.6	Coding, Benchmark, Example and Clarifications	Changed to *MA.912.FL.2.2* Changed *Solve problems involving potential profit and actual cost* to *Solve real-world problems involving profits, costs and revenues using spreadsheets and other technology.* Added *Example: A travel agency charges $2400 per person for a week-long trip to London if the group has 16 people or less. For groups larger then 16, the price per person is reduced by $100 for each additional person. Create an expression describing the revenue as a function of the number of people in the group. Determine the number of people that maximizes the revenue.* Added *Clarification 1: Instruction includes the connection to data.* Added *Clarification 2: Instruction includes displaying profits and costs over time in a table or graph and using the graph to predict profits.* Added *Clarification 3: Problems include maximizing profits, maximizing revenues and minimizing costs.*
	NEW	Coding and Standard	Added *MA.912.FL.2* Added *Develop an understanding of basic accounting and economic principles.*
137	MA.912.FL.2	Coding	Changed to *MA.912.FL.3*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
137	MA.912.FL.2.1	Coding, Benchmark, Example and Clarification	Changed to *MA.912.FL.3.5* Deleted *or other forms of electronic payment* Added *Example: Compare paying for a tank of gasoline in the following ways: cash; credit card and paying over 2 months; credit card and paying balance in full each month.* Added *Clarification 1: Instruction includes advantages and disadvantages for a business and for an individual.* Added *Clarification 2: Personal financing options include debit cards, credit cards, installment plans and loans.*
137	MA.912.FL.2.2	Coding, Benchmark, Example and Clarifications	Changed to *MA.912.FL.3.6* Added in benchmark *using estimation, spreadsheets and other technology.* Added *Example: Calculate the finance charge each month and the total amount paid for 5 months if you charged $500 on your credit card but you can only afford to pay $100 each month. Your credit card has a monthly periodic finance rate of 1.5% and an annual finance rate of 17.99%.* Added *Clarification 1: Instruction includes how annual percentage rate (APR) and periodic rate are calculated per month and the connection between the two percentages.*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
137	MA.912.FL.2.3	Coding, Benchmark and Clarifications	Changed to *MA.912.FL.3.7* Changed *Manipulate a variety of variables to compare the advantages and disadvantages of deferred payments.* to *Compare the advantages and disadvantages of different types of student loans by manipulating a variety of variables and calculating the total cost using spreadsheets and other technology.* Added *Clarification 1: Instruction includes students researching the latest information on different student loan options.* Added *Clarification 2: Instruction includes comparing subsidized (Stafford), unsubsidized, direct unsubsidized and PLUS loans.* Added *Clarification 3: Instruction includes considering different repayment plans, including deferred payments and forbearance.* Added *Clarification 4: Instruction includes how interest on student loans may affect one's income taxes.*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
138	MA.912.FL.2.4	Coding, Benchmark, Example and Clarification	Changed to *MA.912.FL.3.8* Added in benchmark *using spreadsheets and other technology* Added *Example: You want to buy a sofa that cost $899. Company A will let you pay $100 down and then pay the remaining balance over 3 years at 15.99% interest. Company B will not require a down payment and will defer payments for one year. However, you will accrue interest at a rate of 18.99% interest during that first year. Starting the second year you will have to pay the new amount for 2 years at a rate of 26 % interest. Which deal is better and why? Calculate the total amount paid for both deals.* Added *Example: An electronics company advertises that if you buy a TV over $450, you will not have to pay interest for one year. If you bought a 65' TV, regularly $699.99 and on sale for 10% off, on January 1st and only paid $300 of the balance within the year, how much interest would you have to pay for the remaining balance on the TV? Assume the interest rate is 23.99%. What did the TV really cost you?* Added *Clarification 1: Instruction includes how interest on loans may affect one's income taxes.*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
138	MA.912.FL.2.5	Coding, Benchmark and Clarifications	Changed to *MA.912.FL.3.9* Changed *Calculate the fees associated with a mortgage.* to *Compare the advantages and disadvantages of different types of mortgage loans by manipulating a variety of variables and calculating fees and total cost using spreadsheets and other technology.* Change Clarification 1 to Clarification 2 Added *Clarification 1: Instruction includes understanding various considerations that qualify a buyer for a loan, such as Debt-to-Income ratio.* Added *Clarification 3: Instruction includes a cost comparison between a higher interest rate and fewer mortgage points versus a lower interest rate and more mortgage points.* Added *Clarification 4: Instruction includes a cost comparison between the length of the mortgage loan, such as 30-year versus 15-year.* Added *Clarification 5: Instruction includes adjustable rate loans, tax implications and equity for mortgages.*
138	MA.912.FL.2.6	Benchmark	Deleted
138	MA.912.FL.2.7	Benchmark	Deleted
138	MA.912.FL.2.8	Benchmark	Deleted
138	MA.912.FL.2.9	Benchmark	Deleted
138	MA.912.FL.2.10	Benchmark	Deleted
138	MA.912.FL.2.11	Benchmark	Deleted
138	MA.912.FL.2.12	Benchmark	Deleted

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
	NEW	Benchmark and Clarifications	Added *MA.912.FL.3.10* Added *Analyze credit scores qualitatively. Explain how short-term and long-term purchases, including deferred payments, may increase or decrease credit scores. Explain how credit scores influence buying power.* Added *Clarification 1: Instruction includes how each of the following categories affects a credit score: past payment history, amount of debt, public records information, length of credit history and the number of recent credit inquiries.* Added *Clarification 2: Instruction includes how a credit score affects qualification and interest rate for a home mortgage.*
138	MA.912.FL.3	Coding and Standard	Changed to *MA.912.FL.4* Changed *Develop personal financial skills and describe the advantages and disadvantages of financial and investment plans.* to *Describe the advantages and disadvantages of financial and investment plans, including insurances.*
138	MA.912.FL.3.1	Coding, Benchmark, Example and Clarifications	Changed to *MA.912.FL.2.5* Changed *Develop personal budgets that fit within various income brackets.* to *Develop budgets that fit within various incomes using spreadsheets and other technology.* Added *Example: Develop a budget spreadsheet for your business that includes typical expenses such as rental space, transportation, utilities, inventory, payroll, and miscellaneous expenses. Add categories for savings toward your own financial goals, and determine the monthly income needed, before taxes, to meet the requirements of your budget.* Added *Clarification 1: Instruction includes budgets for a business and for an individual.* Added *Clarification 2: Instruction includes taking into account various cash management strategies, such as checking and savings accounts, and how inflation may affect these strategies.*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
138	MA.912.FL.3.2	Coding and Benchmark	Changed to *MA.912.FL.3.12* Changed *Calculate the break-even point to determine the viability of purchasing options for housing, car and other durable goods.* to *Given fixed costs, per item costs and selling price, determine the break-even point for sales volume.*
139	MA.912.FL.3.3	Benchmark	Deleted
139	MA.912.FL.3.4	Coding, Benchmark, Example and Clarifications	Changed to *MA.912.FL.2.1* Added in benchmark *using spreadsheets and other technology* Added *Example: Jose is trying to prepare a balance sheet for the end of the year based on his profits and losses. Create a spreadsheet showing his liabilities and assets, and compute his net worth.* Added *Clarification 1: Instruction includes net worth for a business and for an individual.* Added *Clarification 2: Instruction includes understanding the difference between a capital asset and a liquid asset.* Added *Clarification 3: Instruction includes displaying net worth over time in a table or graph.*
139	MA.912.FL.3.5	Coding, Benchmark, Example and Clarifications	Changed to *MA.912.FL.3.11* Added in benchmark *real-world* Added *Example: Suppose you currently have a balance of $4500 on a credit card that charges 18% annual interest. What monthly payment would you have to make in order to pay off the card in 3 years, assuming you do not make any more charges to the card?* Added *Clarification 1: Instruction includes the comparison of different plans to pay off the debt.* Added *Clarification 2: Instruction includes pay off plans for a business and for an individual.*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
139	MA.912.FL.3.6	Coding, Benchmark and Clarifications	Changed to *MA.912.FL.2.6* Changed in benchmark *Given a scenario, complete and calculate federal income tax, analyzing different options such as standard deductions versus itemized deductions and taxes owed based on income brackets from the tax table.* to *Given a real-world scenario, complete and calculate federal income tax using spreadsheets and other technology.* Added *Clarification 1: Instruction includes understanding the difference between standardized deductions and itemized deductions.* Added *Clarification 2: Instruction includes the connection to piecewise linear functions with slopes relating to the marginal tax rates.*
139	MA.912.FL.3.7	Coding, Benchmark and Clarifications	Changed to *MA.912.FL.4.1* Changed in benchmark *Calculate and compare various options and fees for medical, car, homeowners and life insurance.* to *Calculate and compare various options, deductibles and fees for various types of insurance policies using spreadsheets and other technology.* Added *Clarification 1: Insurances include medical, car, homeowners, life and rental car.* Added *Clarification 2: Instruction includes types of insurance for a business and for an individual.*
	New	Coding, Benchmark and Clarifications	Added *MA.912.FL.4.3* Added *Compare the advantages and disadvantages of various retirement savings plans using spreadsheets and other technology.* Added *Clarification 1: Instruction includes weighing options based on salary and retirement plans from different potential employers.* Added *Clarification 2: Instruction includes understanding the need to build one's own retirement plan when starting a business.*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
139	MA.912.FL.3.8	Coding, Benchmark, Example and Clarifications	Changed to *MA.912.FL.4.4* Added in benchmark *using spreadsheets and other technology* Added *Example: Investigate historical rates of return for stocks, bonds, savings accounts, mutual funds, as well as the relative risks for each type of investment. Organize your results in a table showing the relative returns and risks of each type of investment over short and long terms, and use these data to determine a combination of investments suitable for building a retirement account sufficient to meet anticipated financial needs.* Added *Clarification 1: Instruction includes students researching the latest information on different retirement options.* Added *Clarification 2: Instruction includes the understanding of the relationship between salaries and retirement plans.* Added *Clarification 3: Instruction includes retirement plans from the perspective of a business and of an individual.* Added *Clarification 4: Instruction includes the comparison of different types of retirement plans, including IRAs, pensions and annuities.*
139	MA.912.FL.3.9	Benchmark	Deleted
139	MA.912.FL.3.10	Coding, Benchmark and Clarifications	Changed to *MA.912.FL.4.5* Deleted in benchmark *both* Deleted in benchmark *and investment vehicles* Added *Clarification 1: Instruction includes diversifying a portfolio with different types of stock and diversifying a portfolio by including both stocks and bonds.*
139	MA.912.FL.3.11	Coding and Benchmark	Changed to *MA.912.FL.4.6* Changed *Purchase stock with a set amount of money, and evaluate its worth over time considering gains, losses and selling, taking into account any associated fees.* to *Simulate the purchase of a stock portfolio with a set amount of money, and evaluate its worth over time considering gains, losses and selling, taking into account any associated fees.*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
139	MA.912.FL.3.12	Benchmark	Deleted
139	MA.912.FL.3.13	Coding, Benchmark and Clarifications	Changed to *MA.912.FL.2.4* Changed *Given current exchange rates, convert between currencies.* to *Given current exchange rates, convert between currencies. Solve real-world problems involving exchange rates.* Added *Clarification 1: Instruction includes taking into account various fees, such as conversion fee, foreign transaction fee and dynamic concurrency conversion fee.*
139	MA.912.FL.3.14	Benchmark	Deleted
	NEW	Coding, Benchmark and Clarifications	Added *MA.912.FL.4.2* Added *Compare the advantages and disadvantages for adding on a one-time warranty to a purchase using spreadsheets and other technology.* Added *Example: VicTorrious is a graphic designer and needs to buy a new computer every 3 years. For every computer that VicTorrious buys, she does not add on the one-time warranty because she feels that the total cost of the added on warranties will be more than the total cost of all repairs she expects to have.* Added *Clarification 1: Warranties include protection plans from stores, car warranty and home protection plans.* Added *Clarification 2: Instruction includes types of warranties for a business and for an individual.* Added *Clarification 3: Instruction includes taking into consideration the risk of utilizing or not utilizing a one-time warranty on one or multiple purchases.*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
140	MA.912.GR.1.1	Clarifications	Added in Clarification 1 *Postulates, relationships and theorems* In Clarification 1 changed *alternate interior angles are congruent and corresponding angles are congruent* to *the consecutive angles are supplementary and alternate (interior and exterior) angles and corresponding angles are congruent* In Clarification 2 changed *and* to *or* Added *Clarification 3: Instruction focuses on helping a student choose a method they can use reliably.*
140	MA.912.GR.1.2	Clarifications	In Clarification 1 changed *and* to *or* Added *Clarification 2: Instruction focuses on helping a student choose a method they can use reliably.*
140	MA.912.GR.1.3	Clarifications	Added in Clarification 1 *Postulates, relationships and theorems* Added in Clarification 1 *exterior* In Clarification 2 changed *and* to *or* Added *Clarification 3: Instruction focuses on helping a student choose a method they can use reliably.*
140	MA.912.GR.1.4	Clarifications	Added in Clarification 1 *Postulates, relationships and theorems* In Clarification 2 changed *and* to *or* Added *Clarification 3: Instruction focuses on helping a student choose a method they can use reliably.*
141	MA.912.GR.1.5	Clarifications	Added in Clarification 1 *Postulates, relationships and theorems* In Clarification 2 changed *and* to *or* Added *Clarification 3: Instruction focuses on helping a student choose a method they can use reliably.*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
141	MA.912.GR.2.1	Example and Clarifications	Added *Example: Given a triangle whose vertices have the coordinates* $(-3, 4)$, $(2, 1.7)$ *and* $(-0.4, -3)$. *If this triangle is reflected across the y-axis the transformation can be described using coordinates as* $(x, y) \rightarrow (-x, y)$ *resulting in the image whose vertices have the coordinates* $(3, 4)$, $(-2, 1.7)$ *and* $(0.4, -3)$. In Clarification 2 added *described using words or using coordinates.* In Clarification 3 added *or clockwise*
141	MA.912.GR.2.2	Clarifications	In Clarification 1 added *described using words or using coordinates.*
141	MA.912.GR.2.3	Benchmark and Clarifications	Change *Specify* to *Identify* In Clarification 1 added *described using words or using coordinates.* Deleted *Clarification 2* Changed *Clarification 3* to *Clarification 2* and added *or clockwise* Added *Clarification 3: Instruction includes the understanding that when a figure is mapped onto itself using a reflection, it occurs over a line of symmetry.*
	New	Coding, Benchmark and Clarifications	Added *MA.912.GR.2.4* Added *Determine symmetries of reflection, symmetries of rotation and symmetries of translation of a geometric figure.* Added *Clarification 1: Instruction includes determining the order of each symmetry.* Added *Clarification 2: Instruction includes the connection between tessellations of the plane and symmetries of translations.*
142	MA.912.GR.2.4	Coding and Clarifications	Changed to *MA.912.GR.2.5* In Clarification 1 added *described using words or using coordinates.*
142	MA.912.GR.2.5	Coding	Changed to *MA.912.GR.2.6*
142	MA.912.GR.2.6	Coding	Changed to *MA.912.GR.2.7*
142	MA.912.GR.2.7	Coding	Changed to *MA.912.GR.2.8*
142	MA.912.GR.2.8	Coding	Changed to *MA.912.GR.2.9*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
	New	Coding, Benchmark and Clarifications	Added *MA.912.GR.3.1* Added *Determine the weighted average of two or more points on a line.* Added *Clarification 1: Instruction includes using a number line and determining how changing the weights moves the weighted average of points on the number line.*
142	MA.912.GR.3.1	Coding, Examples and Clarifications	Changed to *MA.912.GR.3.2* Added *Example: Given Triangle ABC has vertices located at (-2, 2), (3, 3) and (1, -3), respectively, classify the type of triangle ABC is.* Added *Example: If a square has a diagonal with vertices (-1, 1) and (-4, -3), find the coordinate values of the vertices of the other diagonal and show that the two diagonals are perpendicular.* Added *Clarification 1: Instruction includes using the distance or midpoint formulas and knowledge of slope to classify or justify definitions, properties and theorems.*
142	MA.912.GR.3.2	Coding, Benchmark and Examples	Changed to *MA.912.GR.3.3* Changed in benchmark *Solve geometric problems involving circles, triangles and quadrilaterals on the coordinate plane.* to *Use coordinate geometry to solve mathematical and real-world geometric problems involving lines, circles, triangles and quadrilaterals.* Added *Example: The line* $x + 2y = 10$ *is tangent to a circle whose center is located at* $(2, -1)$*. Find the tangent point and a second tangent point of a line with the same slope as the given line.* Added *Example: Given* $M(-4, 7)$ *and* $N(12, -1)$*,find the coordinates of point* P *on* $\overline{MN}$ *so that* P *partitions* $\overline{MN}$ *in the ratio* $2:3$*.* Added *Clarification 1: Problems involving lines include the coordinates of a point on a line segment including the midpoint.* Changed *Clarification 1* to *Clarification 4* Changed *Clarification 2* to *Clarification 3* Changed *Clarification 3* to *Clarification 2*
143	MA.912.GR.3.3	Benchmark	Deleted

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
143	MA.912.GR.3.4	Benchmark and Example	Changed in benchmark *Solve mathematical and real-world problems on the coordinate plane involving perimeter or area of polygons.* to *Use coordinate geometry to solve mathematical and real-world problems on the coordinate plane involving perimeter or area of polygons.* Added *Example: A new community garden has four corners. Starting at the first corner and working counterclockwise, the second corner is 200 feet east, the third corner is 150 feet north of the second corner and the fourth corner is 100 feet west of the third corner. Represent the garden in the coordinate plane, and determine how much fence is needed for the perimeter of the garden and determine the total area of the garden.*
143	MA.912.GR.4.1	Clarifications	Added *Clarification 1: Instruction includes the use of manipulatives and models to visualize cross-sections.* Added *Clarification 2: Instruction focuses on cross-sections of right cylinders, right prisms, right pyramids and right cones that are parallel or perpendicular to the base.*
143	MA.912.GR.4.2	Clarifications	Added *Clarification 1: The axis of rotation must be within the same plane but outside of the given two-dimensional figure.*
143	MA.912.GR.4.3	Benchmark and Example	Changed in benchmark *Determine how changes in dimensions affect the area of two-dimensional figures and the surface area or volume of three-dimensional figures.* to *Extend previous understanding of scale drawings and scale factors to determine how dilations affect the area of two-dimensional figures and the surface area or volume of three-dimensional figures.* Changed example from *Should he order one 12-inch pizza or three 6-inch pizzas?* to *Which option would provide more pizza for his guests: one 12-inch pizza or three 6-inch pizzas?*
143	MA.912.GR.4.4	Example	Added *Example: A town has 23 city blocks, each of which has dimensions of 1 quarter mile by 1 quarter mile, and there are 4500 people in the town. What is the population density of the town?*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
143	MA.912.GR.4.5	Example	Added *Example: A cylindrical swimming pool is filled with water and has a diameter of 10 feet and height of 4 feet. If water weighs 62.4 pounds per cubic foot, what is the total weight of the water in a full tank to the nearest pound?*
144	MA.912.GR.5.1	Clarifications	Added *Clarification 1: Instruction includes using compass and straightedge, string, reflective devices, paper folding or dynamic geometric software.*
144	MA.912.GR.5.2	Clarifications	Added *Clarification 1: Instruction includes using compass and straightedge, string, reflective devices, paper folding or dynamic geometric software.*
144	MA.912.GR.5.3	Clarifications	Added *Clarification 1: Instruction includes using compass and straightedge, string, reflective devices, paper folding or dynamic geometric software.*
144	MA.912.GR.5.4	Clarifications	Added *Clarification 2: Instruction includes using compass and straightedge, string, reflective devices, paper folding or dynamic geometric software.*
144	MA.912.GR.5.5	Clarifications	Added *Clarification 2: Instruction includes using compass and straightedge, string, reflective devices, paper folding or dynamic geometric software.*
144	MA.912.GR.6.2	Benchmark and Clarifications	Deleted in benchmark *, limited to central, inscribed and intersections of a chord, secants or tangents.* Changed Clarification 1 from *Problems include relationships between inscribed angles; central angles; and angles formed by the following intersections: two secants, a tangent and a secant, two tangents, two chords, and a perpendicular bisector and a chord*. to *Within the Geometry course, problems are limited to relationships between inscribed angles; central angles; and angles formed by the following intersections: a tangent and a secant through the center, two tangents, and a chord and its perpendicular bisector.*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
145	MA.912.GR.6.3	Clarifications	Changed Clarification 1 from *Instruction includes triangles in a circle and semicircle.* to *Instruction includes cases in which a triangle inscribed in a circle has a side that is the diameter.*
145	MA.912.GR.6.4	Clarifications	Changed Clarification 1 *from that the length of the arc intercepted by an angle is proportional to the radius.* to *that for a given angle measure the length of the intercepted arc is proportional to the radius, and for a given radius the length of the intercepted arc is proportional is the angle measure.*
145	MA.912.GR.7.1	Benchmark	Changed *Identify the conic resulting from the cross section of cones* to *Given a conic section, describe how it can result from the slicing of two cones.*
145	MA.912.GR.7.3	Clarifications	Added in Clarification 1 *eccentricity,* Added *Clarification 3: Within the Geometry course, notations for domain and range are limited to inequality and set-builder.*
146	MA.912.GR.7.5	Clarifications	Added in Clarification 1 *eccentricity,* and *focal width (latus rectum),*
146	MA.912.GR.7.7	Clarifications	Added in Clarification 1 *eccentricity,*
146	MA.912.GR.7.9	Clarifications	Added in Clarification 1 *eccentricity,* and *transverse axis, conjugate axis,* Deleted in Clarification 1 *major axis, minor axis,*
147	MA.912.T.1.1	Clarifications	Added *Clarification 3: Within the Geometry course, trigonometric ratios are limited to sine, cosine and tangent.*
147	MA.912.T.1.2	Clarifications	Added *Clarification 1: Instruction includes procedural fluency with the relationships of side lengths in special right triangles having angle measures of* 30°-60°-90° *and* 45°-45°-90°.
147	MA.912.T.1.8	Benchmark	Changed *Solve trigonometric equations within a mathematical or real-world context, applying inverse functions and using technology when appropriate* to *Solve mathematical and real-world problems involving one-variable trigonometric ratios*
148	MA.912.T.2.1	Benchmark	Deleted

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
148	MA.912.T.2.2	Benchmark	Deleted
	NEW	Coding and Benchmark	Added *MA.912.T.2.1 Given any positive or negative angle measure in degrees or radians, identify its corresponding angle measure between* $0°$ *and* $360°$ *or between* 0 *and* 2π*. Convert between degrees and radians.*
	NEW	Coding and Benchmark	Added *MA.912.T.2.2 Define the six basic trigonometric functions for all real numbers by identifying corresponding angle measures and using right triangles drawn in the unit circle.*
	NEW	Coding and Benchmark	Added *MA.912.T.2.3 Determine the values of the six basic trigonometric functions for* $0, \frac{\pi}{6}, \frac{\pi}{3}$ *and* $\frac{\pi}{4}$ *and their multiples using special triangles.*
	NEW	Coding and Benchmark	Added *MA.912.T.2.4 Use the unit circle to express the values of sine, cosine and tangent for* $\pi - x$*,* $\pi + x$ *and* $2\pi - x$ *in terms of their values for* x*, where* x *is any real number.*
148	MA.912.T.2.3	Coding and Benchmark	Changed to MA.912.T.2.5 Added in benchmark *basic* and *using the unit circle, trigonometric identities or technology.*
148	MA.912.T.3.1	Benchmark	Deleted
148	MA.912.T.3.2	Benchmark	Deleted
148	MA.912.T.3.3	Coding	Changed to *MA.912.T.3.1*
148	MA.912.T.3.4	Coding	Changed to *MA.912.T.3.2*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
149	MA.912.T.3.5	Coding, Benchmark and Clarifications	Changed to *MA.912.T.3.3* Changed in benchmark *Graph and solve* to *Solve and graph* Added *Clarification 1: Key features are limited to domain; range; intercepts; intervals where the function is increasing, decreasing, positive or negative; relative maximums and minimums; symmetry; end behavior; periodicity; midline; amplitude; shift(s) and asymptotes.* Changed *Clarification 1* to *Clarification 2* and changed *constraints with inequalities or set-builder notation* to *the domain and range and constraints using inequality notation, inequalities or set-builder notation.* Added *Clarification 3: Instruction includes using technology when appropriate.*
149	MA.912.T.3.6	Benchmark	Deleted
149	MA.912.T.3.7	Benchmark	Deleted
149	MA.912.T.4.1	Benchmark	Added in benchmark *and plot* Deleted in benchmark *and relate polar coordinates to Cartesian coordinates with and without the use of technology* Added in benchmark *Convert between polar coordinates and rectangular coordinates with and without the use of technology.*
149	MA.912.T.4.2	Benchmark	Added in benchmark *Represent equations given in polar coordinates in terms of rectangular coordinates.*
150	MA.912.DP.1.2	Clarifications	Added *Clarification 1: Within the Probability and Statistics course, instruction includes the use of spreadsheets and technology.*
151	MA.912.DP.2.1	Clarifications	Added *Clarification 3: Within the Probability and Statistics course, instruction includes the use of spreadsheets and technology.*
151	MA.912.DP.2.2	Benchmark and Clarifications	Deleted from benchmark *Use technology, empirical rules or tables to estimate areas under the normal curve.*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
	New	Coding, Benchmark and Clarifications	Added MA.912.DP.2.3 Added *Estimate population percentages from data that has been fit to the normal distribution*. Added *Clarification 1: Instruction includes using technology, empirical rules or tables to estimate areas under the normal curve.*
151	MA.912.DP.2.3	Coding and Clarifications	Changed to *MA.912.DP.2.4* Added *Clarification 2: Problems include making a prediction or extrapolation, inside and outside the range of the data, based on the equation of the line of fit.*
151	MA.912.DP.2.4	Coding	Changed to *MA.912.DP.2.5*
151	MA.912.DP.2.5	Coding	Changed to *MA.912.DP.2.6*
152	MA.912.DP.2.6	Coding	Changed to *MA.912.DP.2.7*
152	MA.912.DP.2.7	Coding, Benchmark and Clarifications	Changed to *MA.912.DP.2.8* Added in benchmark *bivariate numerical* Added *Clarification 1: Problems include making a prediction or extrapolation, inside and outside the range of the data, based on the equation of the line of fit.*
152	MA.912.DP.2.8	Benchmark and Clarifications	Changed to *MA.912.DP.2.9* Added in benchmark *bivariate numerical* Added *Clarification 1: Instruction focuses on determining whether an exponential model is appropriate by taking the logarithm of the dependent variable using spreadsheets and other technology.* Added *Clarification 2: Instruction includes determining whether the transformed scatterplot has an appropriate line of best fit, and interpreting the y-intercept and slope of the line of best fit.* Added *Clarification 3: Problems include making a prediction or extrapolation, inside and outside the range of the data, based on the equation of the line of fit.*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
154	MA.912.DP.4.5	Benchmark, Example and Clarifications	Changed in benchmark *Approximate conditional probabilities using two-way tables as a sample space and determine if events in the sample space are approximately independent.* to *Given a two-way table containing data from a population, interpret the joint and marginal relative frequencies as empirical probabilities and the empirical conditional relative frequencies as conditional probabilities. Use those probabilities to determine whether characteristics in the population are approximately independent.* Added *Example: A company has a commercial for their new grill. A population of people are surveyed to determine whether or not they have seen the commercial and whether or not they have purchased the product. Using this data, calculate the empirical conditional probabilities that a person who has seen the commercial did or did not purchase the grill.* Added *Clarification 1: Instruction includes the connection between mathematical probability and applied statistics.*
	NEW	Coding and Benchmark	Added *MA.912.DP.4.9* Added *Apply the addition and multiplication rules for counting to solve mathematical and real-world problems, including problems involving probability.*
155	MA.912.DP.4.9	Coding	Changed to *MA.912.DP.4.10*
155	MA.912.DP.4.10	Benchmark	Deleted
155	MA.912.DP.5.3	Clarifications	Added *Clarification 1: Instruction includes understanding the connection between probability and sampling methods.* Added *Clarification 2: Sampling methods include simple random, stratified, cluster, systematic, judgement, quota and convenience.*
155	MA.912.DP.5.7	Clarifications	Added *Clarification 1: Instruction includes understanding how randomization relates to sample surveys, experiments and observational studies.*
155	MA.912.DP.5.8	Benchmark	Deleted

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
155	MA.912.DP.5.9	Coding	Changed to *MA.912.DP.5.8*
155	MA.912.DP.5.10	Coding, Benchmark and Clarifications	Changed to *MA.912.DP.5.9* Deleted from benchmark *from an experiment* Changed *a randomized experiment* to *an experiment in which the treatments are assigned randomly* Added
156	MA.912.DP.5.11	Coding	Changed to *MA.912.DP.5.10*
156	MA.912.DP.5.12	Coding, Example and Clarifications	Changed to *MA.912.DP.5.11* Added *Example: A local news station changes the y-axis on a data display from 0 to 10,000 to include data only within the range 7,000 to 10,000. Depending on the purpose, this could emphasize differences in data values in a misleading way.* Added *Clarification 1: Instruction includes determining whether or not data displays could be misleading.*
156	MA.912.DP.6.1	Benchmark	Changed *event* to *individual outcome*
156	MA.912.DP.6.3	Benchmark	Changed *empirically assigned* to *empirical*
	New	Coding, Benchmark and Clarifications	Added *MA.912.DP.6.4* Added *Given a binomial distribution, calculate and interpret the expected value. Solve real-world problems involving binomial distributions.* Added *Clarification 1: Instruction focuses on the connection between binomial distributions and coin tossing and the connection to one-question surveys in which the question has two possible responses.*
	New	Coding, Benchmark and Clarifications	Added *MA.912.DP.6.5* Added *Solve real-world problems involving geometric distributions.* Added *Clarification 1: Instruction focuses on the connection between geometric distributions and tossing a coin until the first heads appears and the connection to making repeated attempts at a task until it is successfully completed.*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
	New	Coding, Benchmark and Clarifications	Added *MA.912.DP.6.6* Added *Solve real-world problems involving Poisson distributions.* Added *Clarification 1: Instruction focuses on the connection between Poisson distributions and tossing a coin a large number of times for which the probability of heads is very small and the connection to the number of accidents occurring among a large number of people.*
156	MA.912.DP.6.4	Coding, Benchmark and Clarifications	Changed to *MA.912.DP.6.7* Added in benchmark *and standard deviations* to end of both sentences Added *Clarification 1: Instruction includes the relationship between expected values and standard deviations on one hand and the rewards and risks on the other hand.* Added *Clarification 2: Instruction includes reducing risk through diversification.*
156	MA.912.DP.6.5	Coding and Benchmark	Changed to *MA.912.DP.6.8* Deleted from benchmark *which are equally likely* Added to benchmark *fair*
156	MA.912.DP.6.6	Benchmark	Deleted
157	MA.912.LT	Strand	Added *Discrete*
157	MA.912.LT.1.2	Benchmark and Clarifications	Changed *Solve problems and find explicit formulas for recurrence relations using finite differences.* to *Solve problems involving recurrence relations.* Added *Clarification 1: Instruction includes finding explicit or recursive equations for recursively defined sequences.* Added *Clarification 2: Problems include fractals, the Fibonacci sequence, growth models and finite difference.*
157	MA.912.LT.2	Standard	Added *optimization and*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
	New	Coding, Benchmark and Clarifications	Added *MA.912.LT.2.1* Added *Define and explain the basic concepts of Graph Theory.* Added *Clarification 1: Basic concepts include vertex, edge, directed edge, undirected edge, path, vertex degree, directed graph, undirected graph, tree, bipartite graph, circuit, connectedness and planarity.*
	New	Coding, Benchmark and Clarifications	Added *MA.912.LT.2.2* Added *Solve problems involving paths in graphs.* Added *Clarification 1: Instruction includes simple paths and circuits; Hamiltonian paths and circuits; and Eulerian paths and circuits.*
157	MA.912.LT.2.1	Coding	Changed to *MA.912.LT.2.3*
157	MA.912.LT.2.2	Coding and Clarification	Changed to *MA.912.LT.2.4* Added *Clarification 1: Problems include map coloring and committee assignments.*
157	MA.912.LT.2.3	Coding and Clarifications	Changed to *MA.912.LT.2.5* Added *Clarification 1: Instruction includes the use of technology to determine the number of possible solutions and generating solutions when a feasible number of possible solutions exists.*
157	MA.912.LT.2.4	Benchmark	Deleted
157	MA.912.LT.2.5	Coding	Changed to *MA.912.LT.2.6*
157	MA.912.LT.3	Standard	Added *and Fair Division Theory*
	New	Coding, Benchmark and Clarifications	Added *MA.912.LT.3.1* Added *Define and explain the basic concepts of Election Theory and voting.* Added *Clarification 1: Basic concepts include approval and preference voting, plurality, majority, runoff, sequential runoff, Borda count, Condorcet and other fairness criteria, dummy voters and coalition.*
157	MA.912.LT.3.1	Coding and Benchmark	Changed to *MA.912.LT.3.2* Added in benchmark *Explain how Arrow's Impossibility Theorem may be related to the fairness of the outcome of the election.*
157	MA.912.LT.3.2	Coding	Changed to *MA.912.LT.3.3*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
158	MA.912.LT.3.3	Coding, Benchmark and Clarifications	Changed to *MA.912.LT.3.4* Added in benchmark *and apportionment* Added *Clarification 1: Problems include fair division among people with different preferences, fairly dividing an inheritance that includes indivisible goods, salary caps in sports and allocation of representatives to Congress.*
158	MA.912.LT.3.4	Coding and Benchmark	Changed to *MA.912.LT.2.7* Changed *strictly determined and non-strictly determined games by using game theory* to *problems involving optimal strategies in Game Theory* Added *Clarification 1: Problems include zero-sum games, such as Paper-Scissors-Rock, and nonzero-sum games, such as Prisoner's Dilemma.* Added *Clarification 2: Instruction includes pure and mixed strategies and game equilibria.*
159	MA.912.LT.5.1	Benchmark	Changed *Given two sets, determine whether the two sets are equal, whether one set is a subset of another or if one is the power set of the other.* to *Given two sets, determine whether the two sets are equivalent and whether one set is a subset of another. Given one set, determine its power set.*
159	MA.912.LT.5.4	Benchmark and Clarifications	Changed *Perform the set operations of union, intersection, difference, complement and cross product.* to *Perform the set operations of taking the complement of a set and the union, intersection, difference and product of two sets.* Added *Clarification 1: Instruction includes the connection to probability and the words AND, OR and NOT.*
159	MA.912.LT.5.5	Benchmark	Deleted *by*
160	MA.912.C.1	Standard	Added *Develop an understanding for limits and continuity.*
160	MA.912.C.1.1	Example	Added *Example: For* $f(x) = \frac{x^2+2x-8}{x-2}$*, estimate* $\lim_{x\to 2}\left(\frac{x^2+2x-8}{x-2}\right)$ *by calculating the function's values for* $x = 2.1, 2.01, 2.001$ *and for* $x = 1.9, 1.99, 1.999$*. Explain your answer.*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
160	MA.912.C.1.2	Benchmark and Example	Changed *composite* to *compositions of continuous.* Added *Example: Find* $\lim_{x\to\pi}(\sin x \cos x + \tan x)$.
160	MA.912.C.1.3	Example	Added *Example: The magnitude of the force between two positive charges,* q_1 *and* q_2*, can be described by the following function:* $F(r) = k\frac{q_1 q_2}{r^2}$*, where* k *is Coulomb's constant and* r *is the distance between the two charges. Find the limit as* r *approaches* 0 *of the function* $F(r)$*. Interpret the answer in terms of the context.*
160	MA.912.C.1.4	Example	Added *Example: Find* $\lim_{x\to 4^-} -\sqrt{4-x}$.
160	MA.912.C.1.5	Example	Added *Example:* Find $\lim_{x\to\infty}(2x^3 - 500x^2)$.
160	MA.912.C.1.6	Example	Added *Example: Where does the function,* $f(x) = \frac{1}{x^2-7x+10}$*, have asymptote(s)?*
160	MA.912.C.1.7	Example	Added *Example: Find* $\lim_{x\to 0}\frac{\sin^2 x}{x}$.
160	MA.912.C.1.9	Example	Added *Example: Given that the limit of* $g(x)$ *as* x *approaches to* 5 *exists, is the statement "*$g(x)$ *is continuous at* $x = 5$*" necessarily true? Provide example functions to support your conclusion.*
160	MA.912.C.1.10	Benchmark	Changed *Justify whether a function is continuous at a point.* to *Given the graph of a function, identify whether a function is continuous at a point. If not, identify the type of discontinuity for the given function.*
160	MA.912.C.1.11	Benchmark	Deleted
160	MA.912.C.1.12	Coding and Example	Changed to MA.*912.C.1.11* Added *Example: Use the Intermediate Value Theorem to show that* $g(x) = x^3 + 3x^2 - 9x - 2$ *has a zero between* $x = 0$ *and* $x = 3$. Added *Example: Use the Extreme Value Theorem to decide whether* $f(x) = \tan(x)$ *has a minimum and maximum on the interval* $\left[-\frac{\pi}{4}, \frac{\pi}{4}\right]$*. What about on the interval* $[-\pi, \pi]$*?*
160	MA.912.C.2	Standard	Added *Develop an understanding for and*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
160	MA.912.C.2.1	Benchmark and Example	Added *State, understand and apply the definition of derivative.* Added *Example: Find* $\lim_{h\to 0}\frac{(5+h)^2-5^2}{h}$. *What does the result tell you? Use the limit to determine the derivative function for* $f(x)=x^2$.
161	MA.912.C.2.3	Clarifications	Added in benchmark *constant* Added *Clarification 1: Special cases of rules include a constant multiple of a function and the power of a function.*
161	MA.912.C.2.4	Example and Clarifications	Added in benchmark *constant* Added *Example: Find* $\frac{dy}{dx}$ *for the function* $y=\ln x$. Added *Example: Show that the derivative of* $f(x)=\tan x$ *is* $f'(x)=\sec^2 x$ *using the quotient rule for derivatives.* Added *Example: Find* $f'(x)$ *for* $f(x)=(x^2+2)^{\frac{1}{2}}$. Added *Clarification 1: Special cases of rules include a constant multiple of a function and the power of a function.*
161	MA.912.C.2.5	Benchmark	Deleted
161	MA.912.C.2.6	Benchmark	Deleted
161	MA.912.C.2.7	Benchmark	Deleted
161	MA.912.C.2.8	Coding and Example	Changed to *MA.912.C.2.5* Added *Example: For the equation* $xy-x^2y^2=5$, *find* $\frac{dy}{dx}$ *at the point* $(2,3)$.
161	MA.912.C.2.9	Coding and Example	Changed to *MA.912.C.2.6* Added *Example: Let* $f(x)=2x^3$ *and* $g(x)=f^{-1}(x)$, *find* $g'(2)$.
161	MA.912.C.2.10	Coding and Example	Changed to *MA.912.C.2.7* Added *Example: Let* $f(x)=e^{5x}$, *find* $f''(x)$ *and* $f'''(x)$.
161	MA.912.C.2.11	Coding and Example	Changed to *MA.912.C.2.8* Added *Example: Find the derivative of* $f(x)=(3x^2+5)^x$.

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
161	MA.912.C.2.12	Coding and Example	Changed to *MA.912.C.2.9* Added *Example: Is $f(x) = \|x\|$ continuous at $x = 0$? Is $f(x)$ differentiable at $x = 0$? Explain your answers.*
161	MA.912.C.2.13	Coding and Example	Changed to *MA.912.C.2.10* Deleted *Define and* from benchmark Added *Example: At a car race, two cars join the race at the same point at the same time. They finish the race in a tie. Prove that sometime during the race, the two cars had exactly the same speed. (Hint: Define $f(t)$, $g(t)$, and $h(t)$, where $f(t)$ is the distance that Car A has traveled at time t; $g(t)$ is the distance that Car B has travelled at time t; and $h(t) = f(t) - g(t)$.)*
161	MA.912.C.3	Standard	Added *to solve problems*
161	MA.912.C.3.1	Benchmark and Example	Deleted in benchmark *and no tangent lines* Added *Example: Find the slope of the line tangent to the graph of $f(x) = \sqrt[3]{1-x}$ at $x = 1$.*
161	MA.912.C.3.2	Benchmark and Example	Changed in benchmark *a* to *use it to make* Added *Example: Use a local linear approximation to estimate the value of $f(x) = x^x$ at $x = 2.1$.*
161	MA.912.C.3.3	Example	Added *Example: For what values of x is the function $f(x) = \frac{x}{x^2+1}$ decreasing?*
161	MA.912.C.3.4	Example	Added *Example: For the graph of the function $f(x) = x^3 - 3x$, find the local maximum and local minimum points of $f(x)$ on* $[-2,3]$.
161	MA.912.C.3.5	Example	Added *Example: For the graph of the function $f(x) = x^3 - 3x$, find the points of inflection of $f(x)$ and determine where $f(x)$ is concave upward and concave downward.*
162	MA.912.C.3.6	Example	Added *Example: Sketch the graph of $f(x) = x^4 + 3x^2 - 2x + 1$ using information from the first and second derivatives.*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
162	MA.912.C.3.7	Example	Added *Example: Find the shortest length of fencing you can use to enclose a rectangular field with and area of* $5000\ m^2$. Added *Example: Find the dimensions of an equilateral triangle and a square that will produce the least area is the sum of their perimeters is 20 centimeters.*
162	MA.912.C.3.8	Example	Added *Example: The vertical distance traveled by an object within the earth's gravitational field, neglecting air resistance, is given by the equation* $x = 0.5gt^2 + v_o t + x_o$*, where* g *is the force on the object due to earth's gravity,* v_o *is the initial velocity,* x_0 *is the initial height above the ground,* t *is the time in seconds and down is the negative vertical direction. Determine the instantaneous speed and the average speed for an object, initially at rest, 3 seconds after it is dropped from a 100 m. tall cliff. Describe the object 5 seconds after it is dropped from the same height. Use* $g = -10\frac{m}{s^2}$.
162	MA.912.C.3.9	Example	Added *Example: A bead on a wire moves so that, after* t *seconds, its distance* s *cm. from the midpoint of the wire is given by* $s = 5\ sin\left(t - \frac{\pi}{4}\right)$. *Find its maximum velocity and where along the wire this occurs.*
162	MA.912.C.3.10	Benchmark and Example	Changed *Model rates of change, including related rates problems*. to *Model and solve problems involving rates of change, including related rates.* Added *Example: One boat is heading due south at 10 mph. Another boat is heading due west at 15 mph. Both boats are heading toward the same point. If the boats maintain their speeds and directions, they will meet in two hours. Find the rate, in miles per hour, that the distance between them is decreasing exactly one hour before they meet.*
162	MA.912.C.4	Standard	Added *Develop an understanding for and*
162	MA.912.C.4.1	Benchmark	Deleted

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
162	MA.912.C.4.2	Coding, Benchmark and Example	Changed to *MA.912.C.4.1* Added *Interpret a definite integral as a limit of Riemann sums.* Added *Example: Find the values of the Riemann sums over the interval* [0,1] *using 12 and 24 subintervals of equal width for* $f(x) = e^x$ *evaluated at the midpoint of each subinterval. Write an expression for the Riemann sums using* n *intervals of equal width. Find the limit of this Riemann Sums as* n *goes to infinity.* Added *Example: Estimate* $\int_0^{\pi} \sin x \, dx$ *using a Riemann midpoint sum with 4 subintervals.* Added *Example: Find an approximate value for* $\int_0^3 x^2 dx$ *using 6 rectangles of equal width under the graph of* $f(x) = x^2$ *between* $x = 0$ *and* $x = 3$. *How did you form your rectangles? Compute this approximation three times using at least three different methods to form the rectangles.*
162	MA.912.C.4.3	Benchmark	Deleted
162	MA.912.C.4.4	Benchmark	Deleted
162	MA.912.C.4.5	Coding, Benchmark, Example and Clarifications	Changed to *MA.912.C.4.3* Deleted in benchmark *That is,* $\int_a^b f'(x)dx = f(b) - f(a)$*, the Fundamental Theorem of Calculus.* Added *Example: Explain why* $\int_4^5 2xdx = 5^2 - 4^2$. Added *Clarification 1: Instruction focuses on the relationship* $\int_a^b f'(x)dx = f(b) - f(a)$ *which is the Fundamental Theorem of Calculus.*
162	MA.912.C.4.6	Coding and Example	Changed to *MA.912.C.4.4* Added *Example: Evaluate* $\int_1^5 e^x dx$.
162	MA.912.C.4.7	Coding	Changed to *MA.912.C.4.5*
163	MA.912.C.4.8	Coding	Changed to *MA.912.C.4.6*
163	MA.912.C.4.9	Coding and Example	Changed to *MA.912.C.4.7* Added *Example: Find* $\int x^2(x^3 + 1)^4 dx$.

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
163	MA.912.C.4.10	Coding and Example	Changed to *MA.912.C.4.2* Added *Example: Approximate the value of* $\int_0^3 x^2 dx$ *using the Trapezoidal Rule with 6 subintervals over* $[0,3]$ *for* $f(x) = x^2$. Added *Example: Find an approximation to* $\int_{-3}^{0} \sqrt{9 - x^2} dx$.
163	MA.912.C.5	Standard	Added *to solve problems*
163	MA.912.C.5.1	Example	Added *Example: A bead on a wire moves so that its velocity, in cm/s, after* t *seconds, is given by* $v(t) = 3\cos 3t$. *Given that it starts 2 cm to the left of the midpoint of the wire, find its position after 5 seconds.*
163	MA.912.C.5.2	Example	Added *Example: A certain amount of money,* P*, is earning interest continually at a rate of* r. *Write a separable differential equation to model the rate of change of the amount of money with respect to time.*
163	MA.912.C.5.3	Example	Added *Example: The amount of a certain radioactive material was 10 kg a year ago. The amount is now 9 kg. When will it be reduced to 1 kg? Explain your answer.*
163	MA.912.C.5.4	Example	Added *Example: Draw a slope field for* $\frac{dy}{dx} = x^2$ *and graph the particular solution that passes through the point* $(2,4)$.
163	MA.912.C.5.5	Example	Added *Example: Find the area bounded by* $y = \sqrt{x}$, $y = 0$ *and* $x = 2$.
163	MA.912.C.5.6	Example	Added *Example: The daytime temperature, in degrees Fahrenheit, in a certain city* t *hours after 8 AM can be modeled by the function* $T = 54 + 15\sin\left(\frac{\pi t}{12}\right)$. *What is the average temperature in this city during the time period from 8 AM to 8 PM?*

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
163	MA.912.C.5.7	Example	Added *Example: A cone with its vertex at the origin lies symmetrically along the x-axis. The base of the cone is at $x = 5$ and the base radius is 7. Use integration to find the volume of the cone.* Added *Example: What is the volume of the solid created when the area between the curves $f(x) = x$ and $g(x) = x^2$ for $0 \leq x \leq 1$ is revolved around the y-axis?*
183	Appendix A: Situations Involving Addition and Subtraction	Compare, Difference Unknown	Shaded to indicate mastery in Grade 1
186	Appendix C: K-12 Glossary "circumscribed polygon"	Vocabulary and Definition	Changed *polygon* to *circle* Changed in definition *A polygon that is surrounded by a circle that is as small as possible. If it is a regular polygon, then each vertex intersects the circle.* to *The smallest circle that includes a plane figure. If the figure is a polygon, then the circle must contain all of the vertices of the polygon. Not every polygon has a circumscribed circle, but all triangles and all regular polygons have circumscribed circles.*
	Appendix C: K-12 Glossary	New Vocabulary and Definition	Added *inscribed angle in a circle* Added *An angle which is formed in the interior of a circle when two chords share an endpoint.*
192	Appendix C: K-12 Glossary "inscribed circle in a polygon"	Vocabulary and Definition	Deleted from vocabulary *in a polygon* Changed in definition *drawn in the interior of a polygon. If it is a regular polygon, then each side of the polygon is tangent to the circle* to *be contained in a plane figure. If the plane figure is a polygon, then the circle must be tangent to all of the sides of the polygon. Not every polygon has an inscribed circle, but all triangles and all regular polygons have inscribed circles*
	Appendix C: K-12 Glossary	New Vocabulary, Definition and Example	Added *inscribed polygon in a circle* Added *A polygon which has all of its vertices on a circle.* Added example

Proposed Updates to the B.E.S.T. Standards for Mathematics

Page	Code/Location	Item Changed	Proposed Change
192	Appendix C: K-12 Glossary "intercept"	Example	Example deleted
197	Appendix C: K-12 Glossary "principal square root"	Definition	Added *positive*
200	Appendix C: K-12 Glossary "scientific notation"	Definition	Changed *between 1 and 10* to *at least 1 and less than 10*
209	K-12 Formulas	K-12 Formulas	Changed *Florida Mathematics Benchmarks* to *Florida's B.E.S.T. Standards for Mathematics*
210	Appendix E: K-12	Laws of Exponents	Added in heading *nonzero* Deleted from power of a quotient , *where* $b \neq 0$ Deleted from negative exponent , *where* $a \neq 0$ and , *where* $a, b \neq 0$ Deleted from zero exponent , *where* $a \neq 0$ Changed in rational, fractional exponent from $a \geq 0$ to $a > 0$
1	Title Page	Removed word "Proposed"	Removed word "Proposed"

Content Updated on 07/1/2020

Proposed Updates to the English Language Arts Standards

The table below contains specific changes to the K-12 English Language Arts benchmarks. These changes are required in order to promote alignment and clarity of the B.E.S.T. Standards for English Language Arts with courses, instruction, instructional materials and standardized, statewide assessments.

Page	Change	Reason
32	Change ELA.K.V.1.1 to read **Use grade-level academic vocabulary appropriately in speaking and writing.**	Typo – change to match spiral on pg. 24
40	Change ELA.1.V.1.1 to read **Use grade-level academic vocabulary appropriately in speaking and writing.**	Typo – change to match spiral on pg. 24
48	Change ELA.2.V.1.1 to read **Use grade-level academic vocabulary appropriately in speaking and writing.**	Typo – change to match spiral on pg. 24
55	Change ELA.3.V.1.1 to read **Use grade-level academic vocabulary appropriately in speaking and writing.**	Typo – change to match spiral on pg. 24
65	Change ELA.4.V.1.1 to read **Use grade-level academic vocabulary appropriately in speaking and writing.**	Typo – change to match spiral on pg. 24
73	Change ELA.5.V.1.1 to read **Use grade-level academic vocabulary appropriately in speaking and writing.**	Typo – change to match spiral on pg. 24
115	Benchmark Clarifications need to move from ELA.10.R.2.2 to ELA.10.R.2.3 (No clarifications needed for ELA.10.R.2.2)	Typo – clarification on a benchmark above the correct one
183	The note on the bottom, after Expository Writing, reads Grade 5 this needs to change to **Grade 4**	typo
219	Add lesson as a synonym for theme	Add additional synonym for theme
36, 43, 51, 60, 69, 146	Broken Link: Sample Oral Reading Fluency Rubrics	Fix Link
40	Broken Link: Word Relationships	Fix Link
73	Broken Links: Parts of Speech and Affixes	Delete Links
126	Broken Link: Literary Periods	Fix Link
48	ELA.2.V.1.3: Identify and use context clues, word relationships, background	Background Knowledge is listed twice.

	knowledge, reference materials, and/or ~~background knowledge~~ to determine the meaning of unknown words. **Background Knowledge is listed twice. Delete one.**	
95	ELA.8.R.1.2 - *Clarification 3:* The themes being analyzed may be in the same or multiple literary texts. - **Delete**	Benchmark only addresses one text.
78	ELA.6.R.1.2 - *Clarification 3:* The themes being analyzed may be in the same or multiple literary texts. - **Delete**	Benchmark only addresses one text.
86	ELA.7.R.1.2 - *Clarification 3:* The themes being analyzed may be in the same or multiple literary texts. - **Delete**	Benchmark only addresses one text.
95	ELA.8.R.1.2 - *Clarification 3:* The themes being analyzed may be in the same or multiple literary texts. - **Delete**	Benchmark only addresses one text.
105	ELA.9.R.1.2 *Clarification 2:* The themes being analyzed may be in the same or multiple literary texts. **Delete**	Benchmark only addresses one text.
114	ELA.10.R.1.2 - *Clarification 2:* The themes being analyzed and compared may be in the same or multiple literary texts. **Delete**	Benchmark only addresses one text.
136	ELA.12.R.1.2 *Clarification 2:* The themes being analyzed may be in the same or multiple literary texts. **Delete**	Benchmark only addresses one text.
52	ELA.3.R.1.4 – *Clarification 2:* For further guidance, see Glossary of Terms. - **Delete**	This clarification does not apply.
28	ELA.K.F.1.2(a): Identify and produce alliterative and rhyming words. The expectation is that students identify rhyming words in a poem that is read aloud. **Change a to b**	Change a to b

44	I'd rather see than be one B **In highlighted area add !**	Add ! after one.
Civics Literacy Reading List	Corrected spelling	Change to: McClay