Florida Mathematics (B.E.S.T.)

# Mathematics for Data and Financial Literacy (2022)

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| **Identify and interpret parts of an equation or expression that represent a quantity in terms of a mathematical or real-world context, including viewing one or more of its parts as a single entity.** MA.912.AR.1.1 | **1 Identify and interpret parts of an equation or expression that represent a quantity in terms of a mathematical or real-world context, including viewing one or more of its parts as a single entity.** MA.912.AR.1.1 |
| **Rearrange equations or formulas to isolate a quantity of interest.** MA.912.AR.1.2 | **2 Rearrange equations or formulas to isolate a quantity of interest.** MA.912.AR.1.2 |
| **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.** MA.912.AR.2.5 | **3 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.** MA.912.AR.2.5 |
| **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** MA.912.AR.5.7 | **4 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.** MA.912.AR.5.7 |

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| **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.** MA.912.AR.9.10 | **5** **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.** MA.912.AR.9.10 |
| **Given a mathematical or real-world context, write and solve problems involving arithmetic sequences.** MA.912.AR.10.1 | **6** **Given a mathematical or real-world context, write and solve problems involving arithmetic sequences.** MA.912.AR.10.1 |
| **Given a mathematical or real-world context, write and solve problems involving geometric sequences.** MA.912.AR.10.2 | **7** **Given a mathematical or real-world context, write and solve problems involving geometric sequences.** MA.912.AR.10.2 |
| **Interpret data distributions represented in various ways. State whether the data is numerical or categorical, whether it is univariate or bivariate and interpret the different components and quantities in the display.** MA.912.DP.1.2 | **8** **Interpret data distributions represented in various ways. State whether the data is numerical or categorical, whether it is univariate or bivariate and interpret the different components and quantities in the display.** MA.912.DP.1.2 |
| **Fit a linear function to bivariate numerical data that suggests a linear association and interpret the slope and y-intercept of the model. Use the model to solve real-world problems in terms of the context of the data.** MA.912.DP.2.4 | **9** **Fit a linear function to bivariate numerical data that suggests a linear association and interpret the slope and y-intercept of the model. Use the model to solve real-world problems in terms of the context of the data.** MA.912.DP.2.4 |
| **Construct a two-way fre su cat** | **10** **Construct a two-way frequency table summarizing bivariate categorical data. Interpret joint and marginal frequencies and determine possible associations in terms of a real-world context.** MA.912.DP.3.1 |

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| **Interpret joint and marginal frequencies and determine possible associations in terms of a real-world context.** MA.912.DP.3.1 | |
| **Given marginal and conditional relative frequencies, construct a two-way relative frequency table summarizing categorical bivariate data.** MA.912.DP.3.2 | **11** **Given marginal and conditional relative frequencies, construct a two-way relative frequency table summarizing categorical bivariate data.** MA.912.DP.3.2 |
| **Given a two-way relative frequency table or segmented bar graph summarizing categorical bivariate data, interpret joint, marginal and conditional relative frequencies in terms of a real-world context.** MA.912.DP.3.3 | **12** **Given a two-way relative frequency table or segmented bar graph summarizing categorical bivariate data, interpret joint, marginal and conditional relative frequencies in terms of a real-world context.** MA.912.DP.3.3 |
| **Evaluate reports based on data from diverse media, print and digital resources by interpreting graphs and tables; evaluating data-based arguments; determining whether a valid sampling method was used; or interpreting provided statistics.** MA.912.DP.5.11 | **13** **Evaluate reports based on data from diverse media, print and digital resources by interpreting graphs and tables; evaluating data-based arguments; determining whether a valid sampling method was used; or interpreting provided statistics.** MA.912.DP.5.11 |
| **Given a function represented in function notation, evaluate the function for an input in its domain. For a real-world context, interpret the ou** | **14** **Given a function represented in function notation, evaluate the function for an input in its domain. For a real-world context, interpret the output.** MA.912.F.1.2 |

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| **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.** MA.912.F.3.2 | **15 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.** MA.912.F.3.2 |
| **Extend previous knowledge of operations of fractions, percentages and decimals to solve real-world problems involving money and business.** MA.912.FL.1.1 | **16 Extend previous knowledge of operations of fractions, percentages and decimals to solve real-world problems involving money and business.** MA.912.FL.1.1 |
| **Extend previous knowledge of ratios and proportional relationships to solve real-world problems involving money and business.** MA.912.FL.1.2 | **17 Extend previous knowledge of ratios and proportional relationships to solve real-world problems involving money and business.** MA.912.FL.1.2 |
| **Solve real-world problems involving weighted averages using spreadsheets and other technology.** MA.912.FL.1.3 | **18 Solve real-world problems involving weighted averages using spreadsheets and other technology.** MA.912.FL.1.3 |
| **Given assets and liabilities, calculate net worth using spreadsheets and other technology.** MA.912.FL.2.1 | **19 Given assets and liabilities, calculate net worth using spreadsheets and other technology.** MA.912.FL.2.1 |
| **Solve real-world problems involving profits, costs and revenues using sp tec** Skip to main content | **20 Solve real-world problems involving profits, costs and revenues using spreadsheets and other technology.** MA.912.FL.2.2 |

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| Given current exchange rates, convert between currencies. Solve real-world problems involving exchange rates. MA.912.FL.2.4 | 21 Given current exchange rates, convert between currencies. Solve real-world problems involving exchange rates. MA.912.FL.2.4 |
| Develop budgets that fit within various incomes using spreadsheets and other technology. MA.912.FL.2.5 | 22 Develop budgets that fit within various incomes using spreadsheets and other technology. MA.912.FL.2.5 |
| Given a real-world scenario, complete and calculate federal income tax using spreadsheets and other technology. MA.912.FL.2.6 | 23 Given a real-world scenario, complete and calculate federal income tax using spreadsheets and other technology. MA.912.FL.2.6 |
| Compare simple, compound and continuously compounded interest over time. MA.912.FL.3.1 | 24 Compare simple, compound and continuously compounded interest over time. MA.912.FL.3.1 |
| Solve real-world problems involving simple, compound and continuously compounded interest. MA.912.FL.3.2 | 25 Solve real-world problems involving simple, compound and continuously compounded interest. MA.912.FL.3.2 |
| Compare the advantages and disadvantages of using cash versus personal financing options. MA.912.FL.3.5 | 26 Compare the advantages and disadvantages of using cash versus personal financing options. MA.912.FL.3.5 |
| Calculate the finance charges and total amount due on a bill using various forms of credit using estimation | 27 Calculate the finance charges and total amount due on a bill using various forms of credit using estimation, spreadsheets and other technology. MA.912.FL.3.6 |

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| **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.** MA.912.FL.3.7 | **28** **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.** MA.912.FL.3.7 |
| **Calculate using spreadsheets and other technology the total cost of purchasing consumer durables over time given different monthly payments, down payments, financing options and fees.** MA.912.FL.3.8 | **29** **Calculate using spreadsheets and other technology the total cost of purchasing consumer durables over time given different monthly payments, down payments, financing options and fees.** MA.912.FL.3.8 |
| **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.** MA.912.FL.3.9 | **30** **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.** MA.912.FL.3.9 |
| **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.** MA.912.FL.3.10 | **31** **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.** MA.912.FL.3.10 |
| **Gi** Skip to main content **sce** | **Given a real-world scenario, establish a plan to pay off debt.** MA.912.FL.3.11 |

plan to pay off debt. MA.912.FL.3.11

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Calculate and compare various options, deductibles and fees for various types of insurance policies using spreadsheets and other technology. MA.912.FL.4.1

33 Calculate and compare various options, deductibles and fees for various types of insurance policies using spreadsheets and other technology. MA.912.FL.4.1

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Compare the advantages and disadvantages of various retirement savings plans using spreadsheets and other technology. MA.912.FL.4.3

34 Compare the advantages and disadvantages of various retirement savings plans using spreadsheets and other technology. MA.912.FL.4.3

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Collect, organize and interpret data to determine an effective retirement savings plan to meet personal financial goals using spreadsheets and other technology. MA.912.FL.4.4

35 Collect, organize and interpret data to determine an effective retirement savings plan to meet personal financial goals using spreadsheets and other technology. MA.912.FL.4.4

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Compare different ways that portfolios can be diversified in investments. MA.912.FL.4.5

36 Compare different ways that portfolios can be diversified in investments. MA.912.FL.4.5

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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. MA.912.FL.4.6

37 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. MA.912.FL.4.6

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Extend previous understanding of the Laws of Exponents to inc ex Laws of Exponents to

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38 Extend previous understanding of the Laws of Exponents to include rational exponents. Apply the Laws of Exponents to evaluate numerical expressions and generate equivalent numerical expressions involving rational exponents. MA.912.NSO.1.1

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| evaluate numerical expressions and generate equivalent numerical expressions involving rational exponents. MA.912.NSO.1.1 | |
| Generate equivalent algebraic expressions using the properties of exponents. MA.912.NSO.1.2 | 39 Generate equivalent algebraic expressions using the properties of exponents. MA.912.NSO.1.2 |
| Actively participate in effortful learning both individually and collectively. Mathematicians who participate in effortful learning both individually and with others: MA.K12.MTR.1.1 | a Analyze the problem in a way that makes sense given the task. MA.K12.MTR.1.1.A<br>b Ask questions that will help with solving the task. MA.K12.MTR.1.1.B<br>c Build perseverance by modifying methods as needed while solving a challenging task. MA.K12.MTR.1.1.C<br>d Stay engaged and maintain a positive mindset when working to solve tasks. MA.K12.MTR.1.1.D<br>e Help and support each other when attempting a new method or approach. MA.K12.MTR.1.1.E |
| Demonstrate understanding by representing problems in multiple ways. Mathematicians who demonstrate understanding by representing problems in multiple ways: MA.K12.MTR.2.1 | a Build understanding through modeling and using manipulatives. MA.K12.MTR.2.1.A<br>b Represent solutions to problems in multiple ways using objects, drawings, tables, graphs and equations. MA.K12.MTR.2.1.B<br>c Progress from modeling problems with objects and drawings to using algorithms and equations. MA.K12.MTR.2.1.C<br>d Express connections between concepts and representations. MA.K12.MTR.2.1.D<br>e Choose a representation based on the given context or purpose. MA.K12.MTR.2.1.E |
| Complete tasks with mathematical fluency. Mathematicians who complete tasks with mathematical fluency: MA.K12.MTR.3.1 | a Select efficient and appropriate methods for solving problems within the given context. MA.K12.MTR.3.1.A<br>b Maintain flexibility and accuracy while performing procedures and mental calculations. MA.K12.MTR.3.1.B<br>c Complete tasks accurately and with confidence. MA.K12.MTR.3.1.C<br>\dapt procedures to apply them to a new context. MA.K12.MTR.3.1.D |

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| | **e** Use feedback to improve efficiency when performing calculations. MA.K12.MTR.3.1.E |
| **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:** MA.K12.MTR.4.1 | **a** Communicate mathematical ideas, vocabulary and methods effectively. MA.K12.MTR.4.1.A |
| | **b** Analyze the mathematical thinking of others. MA.K12.MTR.4.1.B |
| | **c** Compare the efficiency of a method to those expressed by others. MA.K12.MTR.4.1.C |
| | **d** Recognize errors and suggest how to correctly solve the task. MA.K12.MTR.4.1.D |
| | **e** Justify results by explaining methods and processes. MA.K12.MTR.4.1.E |
| | **f** Construct possible arguments based on evidence. MA.K12.MTR.4.1.F |
| **Use patterns and structure to help understand and connect mathematical concepts. Mathematicians who use patterns and structure to help understand and connect mathematical concepts:** MA.K12.MTR.5.1 | **a** Focus on relevant details within a problem. MA.K12.MTR.5.1.A |
| | **b** Create plans and procedures to logically order events, steps or ideas to solve problems. MA.K12.MTR.5.1.B |
| | **c** Decompose a complex problem into manageable parts. MA.K12.MTR.5.1.C |
| | **d** Relate previously learned concepts to new concepts. MA.K12.MTR.5.1.D |
| | **e** Look for similarities among problems. MA.K12.MTR.5.1.E |
| | **f** Connect solutions of problems to more complicated large-scale situations. MA.K12.MTR.5.1. |
| **Assess the reasonableness of solutions. Mathematicians who assess the reasonableness of solutions:** MA.K12.MTR.6.1 | **a** Estimate to discover possible solutions. MA.K12.MTR.6.1.A |
| | **b** Use benchmark quantities to determine if a solution makes sense. MA.K12.MTR.6.1.B |
| | **c** Check calculations when solving problems. MA.K12.MTR.6.1.C |
| | **d** Verify possible solutions by explaining the methods used. MA.K12.MTR.6.1.D |
| | **e** Evaluate results based on the given context. MA.K12.MTR.6.1.E |
| **Apply mathematics to real-world contexts. Mathematicians who apply mathematics to rea co** | **a** Connect mathematical concepts to everyday experiences. MA.K12.MTR.7.1.A |
| | **b** Use models and methods to understand, represent and solve problems. MA.K12.MTR.7.1.B |
| | **erform investigations to gather data or determine if a method is appropriate. • Redesign models and methods to improve accuracy or** |

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efficiency. MA.K12.MTR.7.1.C

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| Cite evidence to explain and justify reasoning. ELA.K12.EE.1.1 | 47 Cite evidence to explain and justify reasoning. ELA.K12.EE.1.1 |
| Read and comprehend grade-level complex texts proficiently. ELA.K12.EE.2.1 | 48 Read and comprehend grade-level complex texts proficiently. ELA.K12.EE.2.1 |
| Make inferences to support comprehension. ELA.K12.EE.3.1 | 49 Make inferences to support comprehension. ELA.K12.EE.3.1 |
| Use appropriate collaborative techniques and active listening skills when engaging in discussions in a variety of situations. ELA.K12.EE.4.1 | 50 Use appropriate collaborative techniques and active listening skills when engaging in discussions in a variety of situations. ELA.K12.EE.4.1 |
| Use the accepted rules governing a specific format to create quality work. ELA.K12.EE.5.1 | 51 Use the accepted rules governing a specific format to create quality work. ELA.K12.EE.5.1 |
| Use appropriate voice and tone when speaking or writing. ELA.K12.EE.6.1 | 52 Use appropriate voice and tone when speaking or writing. ELA.K12.EE.6.1 |
| English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics. ELD.K12.ELL.MA.1 | 53 English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics. ELD.K12.ELL.MA.1 |