**Standard Algebra 1**

**Instructional Plan 2014-2015**

**Mathematics Instructional Plan Writing Committee**

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We would like to express our appreciation for the time, effort and expertise contributed to the writing of the secondary Mathematics Instructional Plans by our team of Seminole County math teachers.

**Purpose:**

The purpose of the Seminole County Public Schools Instructional Plan is to present an organized, responsible strategy of Benchmark presentation that incorporates Math Florida Standards (MAFS) while using the Florida Algebra 1 ACE Textbook. This document will serve as a guide for teachers of mathematics. Latitude in the execution of this document shall be determined by a school rather than by an individual teacher.

**Goals:**

* To establish a classroom environment that values mathematical student discourse
* To engage students in cognitively challenging mathematical tasks
* To promote discussions that focus on student thinking, reasoning, problem solving and student presentation
* To build on student thinking while ensuring the discussion remains focused on the mathematical ideas of the lesson
* Employ questioning techniques that require students to justify, defend and support their ideas

**Instructional Plan Caveats:**

* Suggested practice corresponds to the associated lesson and left at the discretion of the instructor to be used as additional practice or assignment. Problems within the suggested pages may be exhausted or selected for targeted skills.
* Descriptions of the Mathematical Practices can be found on pages 3 – 4. Teachers are encouraged to embed the Questions to Develop Mathematical Thinking on pages 5 – 6 in their daily lessons.
* Learning goals and scales can be accessed through the hyperlinks within the Instructional Plan.
* Each learning scale will include links for formative assessment tasks that teachers are encouraged to use while students are progressing through the learning scale.
* Teachers are encouraged to use appropriate questioning strategies to fully address the instructional standards and expectations, by paying attention to the recommended caveats included throughout the IP to include discussion that may not be included as part of the textbook.
* Please look ahead and plan accordingly for time and copy needs that may arise throughout this year so that all MAFS standards are thoroughly addressed.
* Due to the fact that we do not have Test Item Specifications at this time, the targeted Mathematical Practices for each unit are a projection.
* Common Assessments need to be readdressed by PLCs to fit the new units and fully address the standards.
* Unit 6 is meant to be done after all course standards have been taught. Teachers should concentrate on operations with radicals to prepare students for geometry.
* **Each unit will include at least one learning goal listed under the unit heading. The learning goals and scales correspond to the grade/level specific clusters as defined by the MAFS.**
* **The learning goals and scales are a work in progress and may be modified as needed. They are meant to be a starting point for PLCs to use as they customize the learning goals and scales to best demonstrate student learning.**

**Test Items Specifications:** [fsassessments.org](http://fsassessments.org/)

**STANDARDS FOR MATHEMATICAL PRACTICE**

**1. (MAFS.K12.MP.1.1) Make sense of problems and persevere in solving them.**

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

**2. (MAFS.K12.MP.2.1) Reason abstractly and quantitatively.**

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to *decontextualize*—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to *contextualize*, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

**3. (MAFS.K12.MP.3.1) Construct viable arguments and critique the reasoning of others.**

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

**4. (MAFS.K12.MP.4.1) Model with mathematics.**

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

**5. (MAFS.K12.MP.5.1) Use appropriate tools strategically.**

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

**6. (MAFS.K12.MP.6.1) Attend to precision.**

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, student’s give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

**7. (MAFS.K12.MP.7.1) Look for and make use of structure.**

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7 × 8 equals the well-remembered 7 × 5 + 7 × 3, in preparation for learning about the distributive property. In the expression *x*2 + 9*x* + 14, older students can see the 14 as 2 × 7 and the 9 as 2 + 7. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see 5 – 3(*x* – *y*) 2 as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers *x* and *y*.

**8. (MAFS.K12.MP.8.1) Look for and express regularity in repeated reasoning.**

Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation (*y* – 2)/(*x* – 1) = 3. Noticing the regularity in the way terms cancel when expanding (*x* – 1)(*x* + 1), (*x* – 1)(*x*2 + *x* + 1), and (*x* – 1)(*x*3 + *x*2 + *x* + 1) might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

| **Summary of Standards for Mathematical Practice** | **Questions to Develop Mathematical Thinking** |
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| **1. Make sense of problems and persevere in solving them.** | |
| * Interpret and make meaning of the problem to find a starting point. Analyze what is given in order to explain to them the meaning of the problem. * Plan a solution pathway instead of jumping to a solution. * Monitor their progress and change the approach if necessary. * See relationships between various representations. * Relate current situations to concepts or skills previously learned and connect mathematical ideas to one another. * Continually ask them, “Does this make sense?” Can understand various approaches to solutions. | * How would you describe the problem in your own words? * How would you describe what you are trying to find? * What do you notice about...? * What information is given in the problem? * Describe the relationship between the quantities. * Describe what you have already tried. What might you change? * Talk me through the steps you’ve used to this point. * What steps in the process are you most confident about? * What are some other strategies you might try? * What are some other problems that are similar to this one? * How might you use one of your previous problems to help you begin? * How else might you organize...represent... show...? |
| **2. Reason abstractly and quantitatively.** | |
| * Make sense of quantities and their relationships. * Decontextualize (represent a situation symbolically and manipulate the symbols) and contextualize (make meaning of the symbols in a problem) quantitative relationships. * Understand the meaning of quantities and are flexible in the use of operations and their properties. * Create a logical representation of the problem. * Attends to the meaning of quantities, not just how to compute them. | * What do the numbers used in the problem represent? * What is the relationship of the quantities? * How is \_\_\_\_\_\_\_ related to \_\_\_\_\_\_\_\_? * What is the relationship between \_\_\_\_\_\_and \_\_\_\_\_\_? * What does\_\_\_\_\_\_\_mean to you? (e.g. symbol, quantity, diagram) * What properties might we use to find a solution? * How did you decide in this task that you needed to use...? * Could we have used another operation or property to solve this task? Why or why not? |
| **3. Construct viable arguments and critique the reasoning of others.** | |
| * Analyze problems and use stated mathematical assumptions, definitions, and established results in constructing arguments. * Justify conclusions with mathematical ideas. * Listen to the arguments of others and ask useful questions to determine if an argument makes sense. * Ask clarifying questions or suggest ideas to improve/revise the argument. * Compare two arguments and determine correct or flawed logic. | * What mathematical evidence would support your solution? * How can we be sure that...? / How could you prove that...? * Will it still work if...? * What were you considering when...? * How did you decide to try that strategy? * How did you test whether your approach worked? * How did you decide what the problem was asking you to find? (What was unknown?) * Did you try a method that did not work? Why didn’t it work? Would it ever work? Why or why not? * What is the same and what is different about...? * How could you demonstrate a counter-example? |
| **4. Model with mathematics.** | |
| * Understand this is a way to reason quantitatively and abstractly (able to decontextualize and contextualize). * Apply the mathematics they know to solve everyday problems. * Are able to simplify a complex problem and identify important quantities to look at relationships. * Represent mathematics to describe a situation either with an equation or a diagram and interpret the results of a mathematical situation. * Reflect on whether the results make sense, possibly improving/revising the model. * Ask them, “How can I represent this mathematically?” | * What number model could you construct to represent the problem? * What are some ways to represent the quantities? * What is an equation or expression that matches the diagram, number line..., chart..., table..? * Where did you see one of the quantities in the task in your equation or expression? * How would it help to create a diagram, graph, and table...? * What are some ways to visually represent...? * What formula might apply in this situation? |

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| **5. Use appropriate tools strategically.** | |
| * Use available tools recognizing the strengths and limitations of each Unit * Use estimation and other mathematical knowledge to detect possible errors. * Identify relevant external mathematical resources to pose and solve problems. * Use technological tools to deepen their understanding of mathematics. | * What mathematical tools could we use to visualize and represent the situation? * What information do you have? * What do you know that is not stated in the problem? * What approach are you considering trying first? * What estimate did you make for the solution? * In this situation would it be helpful to use...a graph..., number line..., ruler..., diagram..., calculator..., manipulative? * Why was it helpful to use...? * What can using a \_\_\_\_\_\_ show us that \_\_\_\_\_may not? * In what situations might it be more informative or helpful to use...? |
| **6. Attend to precision.** | |
| * Communicate precisely with others and try to use clear mathematical language when discussing their reasoning. * Understand the meanings of symbols used in mathematics and can label quantities appropriately. * Express numerical answers with a degree of precision appropriate for the problem context. * Calculate efficiently and accurately. | * What mathematical terms apply in this situation? * How did you know your solution was reasonable? * Explain how you might show that your solution answers the problem. * What would be a more efficient strategy? * How are you showing the meaning of the quantities? * What symbols or mathematical notations are important in this problem? * What mathematical language...,definitions..., properties can you use to explain...? * How could you test your solution to see if it answers the problem? |
| **7. Look for and make use of structure.** | |
| * Apply general mathematical rules to specific situations. * Look for the overall structure and patterns in mathematics. * See complicated things as single objects or as being composed of several objects. | * What observations do you make about...? * What do you notice when...? * What parts of the problem might you eliminate.., simplify..? * What patterns do you find in...? * How do you know if something is a pattern? * What ideas that we have learned before were useful in solving this problem? * What are some other problems that are similar to this one? * How does this relate to...? * In what ways does this problem connect to other mathematical concepts? |
| **8. Look for and express regularity in repeated reasoning.** | |
| * See repeated calculations and look for generalizations and shortcuts. * See the overall process of the problem and still attend to the details. * Understand the broader application of patterns and see the structure in similar situations. * Continually evaluate the reasonableness of their intermediate results | * Explain how this strategy works in other situations? * Is this always true, sometimes true or never true? * How would we prove that...? * What do you notice about...? * What is happening in this situation? * What would happen if...? * Is there a mathematical rule for...? * What predictions or generalizations can this pattern support? * What mathematical consistencies do you notice? |

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| **FIRST QUARTER (August 11 – October 9)** | | **42 DAYS** |
| **Topic/Assessment** | **Dates Covered** | **Approximate # of Days** |
| Unit 1A – Numbers and Expressions |  | 12 |
| Unit 1B – Equations and Functions |  | 13 |
| Unit 2A – Linear Relationships (continued 2nd quarter) |  | 13 |
| District Assessment (2 days), 9 Weeks Exams (1 days) |  | 4 |
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| **SECOND QUARTER (October 13 – December 18)** | | **46 DAYS** |
| **Topic/Assessment** | **Dates Covered** | **Approximate # of Days** |
| Unit 2A – Linear Relationships (continued from 1st quarter) |  | 25 |
| Unit 2B – Exponential Relationships |  | 16 |
| District Assessment (2 days); 9 Weeks Exams (3 days) |  | 5 |
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| **THIRD QUARTER (January 6 – March 12)** | | **46 DAYS** |
| **Topic/Assessment** | **Dates Covered** | **Approximate # of Days** |
| Unit 3 – Statistical Data |  | 11 |
| Unit 4 – Polynomial Expressions and Equations |  | 30 |
| District Assessment (2 days); FSA ELA/Writing (1 day); 9 Weeks Exams (2 days) |  | 5 |
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| **FOURTH QUARTER (March 23 – May 27)** | | **46 DAYS** |
| **Topic/Assessment** | **Dates Covered** | **Approximate # of Days** |
| Unit 5 – Functions and Modeling |  | 25 |
| Unit 6 – Radicals |  | 8 |
| FSA Review (3 days); FSA Tests (7 days); 9 Weeks Exams (3 days) |  | 13 |

*\*Please note that the suggested number of instructional days per unit and quarter are designed to be a guide. Teachers are encouraged to work within their schools and their PLCs to make the most appropriate timing decisions for their students.\**

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| **Unit 1A : Numbers and Expression** | | | | | | |
| **Code** | **Mathematics Florida Standards** | | | | | **SMP** |
| A-SSE.1.1 | Interpret expressions that represent a quantity in terms of its context.   1. Interpret parts of an expression, such as terms, factors, and coefficients. 2. Interpret complicated expressions by viewing one or more of their parts as a single entity. For example, interpret P(1+r)t as the product of P and a factor not depending on P. | | | | | 5 |
| A-SSE.1.2 | Use the structure of an expression to identify ways to rewrite it. | | | | | 8 |
| N-Q.1.1 | Use units as a way to understand problems and to guide the solution of multi-step problems. | | | | | 1, 6 |
| N-Q.1.3 | Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. | | | | | 6 |
| N-RN.1.1 | Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. | | | | | 8 |
| N-RN.1.2 | Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. | | | | | 8 |
| N-RN.2.3 | Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and irrational number is irrational. | | | | | 2 |
| **Learning Goal and Scale** | | | | **Additional Notes** | | |
| [**A105:** Use patterns and structure to rewrite expressions in equivalent forms to solve problems.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a105.docx)  [**A111:** Use properties of rational exponents and apply properties of numbers to rational and irrational numbers.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a111.docx) | | | | Note common errors on TE p61 & p69  For 3.1 Evaluating Expressions: Students’ previous knowledge should allow independent understanding of Examples 1 and 2. | | |
| **Math Practices for Unit** | | | **Unit Connections** | | **Instructional Resources** | |
| 1. Make sense of problems and persevere in solving them. | | 5. Use appropriate tools strategically. | **Students were previously taught to understand numbers and expressions through:**   * Integer exponents * Evaluating cube roots * Evaluating square roots * Commutative, Associative, and Distributive properties | | Professional Development Video  Module 1: p.16 Example 1  Module 2: p.38 Example 1  Module 3: p.64 #39  BOOKS  RULERS | |
| 2. Reason abstractly and quantitatively. | | 6. Attend to precision. |
| 3. Construct viable arguments & critique reasoning of others. | | 7. Look for and make use of structure. |
| 4. Model with mathematics. | | 8. Look for and express regularity in repeated reasoning. |

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| **FIRST QUARTER** | | | | | | |
| **Unit 1A: Numbers and Expressions** | | | | | | |
| **Learning Goal** | [**A105:** Use patterns and structure to rewrite expressions in equivalent forms to solve problems.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a105.docx)  [**A111:** Use properties of rational exponents and apply properties of numbers to rational and irrational numbers.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a111.docx) | | | | **Suggested # of Days** | **12** |
| **Approx. # of Day(s)** | **MAFS** | **Lesson Objective (Instructional Resources)** | **Suggested Problems/Assessments** | **Ancillary Materials** | | |
| 2 | N-Q.1.3 | * 1. **Precision and Significant Digits**   *Engage:* p.8 Explore Activity  *Explain:* Examples 1, 2, 3\*\* | *Evaluate:* p.12 #10  p.14 #25, 27 | BOOKS AND RULERS | | |
| 1 | N-Q.1.1 | * 1. **Dimensional Analysis**   *Engage:* p.17 Examples 2, 3  *Explain:* p.20 #7 | *Evaluate:* p.21 #9-14, 17  p.22 #23 |  | | |
| 1 | N-Q.1.1  N-Q.1.3 | Ready to Go On?/Assessment Readiness |  |  | | |
| 1 | N-RN.1.1  N-RN.1.2 | **2.1 Radicals and Rational Exponents**  *Engage:* p.29 Explore Activity  *Explain:* Examples 1a, 2a, 3a | *Evaluate:* p.32 #8  p.35 #20, p.36 #42 |  | | |
| 1 | N-RN.2.3 | **2.2 Real Numbers**  *Engage:* p. 37 Explore Activity 1  *Explain:* p.38 Example 1, p.39 Explore Activity 2 | *Evaluate:* p.42 #6,  p.44 #27,28 |  | | |
| 1 | N-R.1.2  N-R.2.3 | Ready to Go On?/Assessment Readiness | Possible quiz day |  | | |
| 1 | A-SSE.1.1 | **3.1 Evaluating Expressions**  *Engage:* p.51 Explore Activity  *Explain:* p.54 #3, p.55 #15, 16 | *Evaluate:* p.55 #12  p.56 #18, 19 |  | | |
| 1 | A-SSE.1.2 | **3.2 Simplifying Expressions**  *Engage:* p.57 Explore Activity  *Explain:* p.59 Example 2, p.60 Example 3 | *Evaluate:* p.63 #28, 33  p.64 #39 |  | | |
| 1 | N-Q.1.1 | **3.3 Writing Algebraic Expressions**  *Engage:* p.65 Explore Activity 1  *Explain:* p.66 Example 1, p.70 #5 | *Evaluate:* p.69 #16,  p.71 #10, p.72 #12 |  | | |
| 1 | A-SSE.1.1  A-SSE.1.2  N-Q.1.1 | Ready to Go On?/Assessment Readiness | Study Guide Review p.75-80 |  | | |
| 1 |  | Unit 1A Assessment |  |  | | |

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| **Unit 1B: Equations and Functions** | | | | | | |
| **Code** | **Mathematics Florida Standard** | | | | | **SMP** |
| A-CED.1.1 | Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational, absolute, and exponential functions. | | | | | 1,5 |
| A-CED.1.3 | Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. | | | | | 1, 4 |
| A-CED.1.4 | Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. | | | | | 3,4 |
| A-REI.1.1 | Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method. | | | | | 3 |
| A-REI.2.3 | Solve linear equations in one variable, including equations with coefficients represented by letters. | | | | | 3,5 |
| A-REI.4.10 | Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line). | | | | | 7 |
| F-IF.1.1 | Understand that a function from one set (domain) to another set (range) assigns to each element of the domain exactly one element of the range. If *f* is a function, the graph of *f* is the graph of the equation *y = f(x).* | | | | | 2 |
| F-IF.1.2 | Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context. | | | | | 2 |
| F-IF.1.3 | Recognize that sequences are functions, sometimes defined recursively, whose domain is the subset of the integers. | | | | | 7 |
| F-IF.2.5 | Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. | | | | | 2 |
| F-BF.1.1a | Write a function that describes a relationship between two quantities (a) Determine an explicit expression, a recursive process, or steps for calculation from a context. | | | | | 7 |
| **Learning Goal and Scale** | | | | **Additional Notes** | | |
| [**A101:** Create equations that describe numbers or relationships.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a101.docx)  [**A103:** Solve equations and inequalities in one or two variables, and justify reasoning.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a103.docx)  [**A104:** Solve systems of linear equations and inequalities, algebraically and graphically.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a104.docx)  [**A106:** Understand the concept of a function and use function notation.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a106.docx) | | | | When examples are assigned, they are meant to include the “your turn” problems  Note the Common Errors on TE pages, 97, 121, 125, and 129. | | |
| **Math Practices for Unit** | | | **Unit Connections** | | **Instructional Resources** | |
| 1. Make sense of problems and persevere in solving them. | | 5. Use appropriate tools strategically. | **Students were previously taught to understand equations and functions through:**   * Evaluating expressions * Simplifying expressions * Writing expressions | | Professional Development Video  Module 4: p.96 #33  Module 5: p.121 #6 | |
| 2. Reason abstractly and quantitatively. | | 6. Attend to precision. |
| 3. Construct viable arguments & critique reasoning of others. | | 7. Look for and make use of structure. |
| 4. Model with mathematics. | | 8. Look for and express regularity in repeated reasoning. |

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| **FIRST QUARTER** | | | | | | |
| **Unit 1B: Equations and Functions** | | | | | | |
| **Learning Goal** | [**A101:** Create equations that describe numbers or relationships.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a101.docx)  [**A103:** Solve equations and inequalities in one or two variables, and justify reasoning.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a103.docx)  [**A104:** Solve systems of linear equations and inequalities, algebraically and graphically.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a104.docx)  [**A106:** Understand the concept of a function and use function notation.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a106.docx) | | | | **Suggested # of Days** | **13** |
| **Approx. # of Day(s)** | **MAFS** | **Lesson Objective (Instructional Resources)** | **Suggested Problems/Assessments** | **Ancillary Materials** | | |
| 2 | A-REI.2.3  A-CED.1.1  A-CED.1.3  A-REI.1.1 | **4.1 Equations in One Variable**  *Engage:* p.89 Example 1/ p.91 Example 2\*\*  *Explain:* p.92 Example 3/ p.93 Example 4 | *Evaluate:* p.95 #16, 20, 21, 23, 24, 28, p.96 #33 |  | | |
| 1 | **4.2 Inequalities in One Variable**  *Engage:* p.98 Explore Activity/ p.99 Example 2  *Explain:* p.100 Example 3/p.102 Ex 4, p.103 Ex 5 | *Evaluate:* p.104 #2, 6, 10, p.105 #18, 20, 22, 26, 30 |  | | |
| 1 | A-CED.1.4  A-REI.1.1 | **4.3 Solving for a Variable**  *Engage:* p.107 Example 1  *Explain:* p.108 Example 2, p.109 Example 3 | *Evaluate:* p.111 #16, 18, 30 |  | | |
| 1 | A-REI.2.3  A-CED.1.4 | Ready to Go On?/Assessment Readiness | Possible quiz day |  | | |
| 2 | A-REI.4.10 | **5.1 Equations in Two Variables**  *Engage:* p.120 Explore Activity/p.123 #9, 10  *Explain:* p.119 Ex 1/p.121 Ex 2, p.124 #15 | *Evaluate:* p.122 #4, 6, 8, p.123 #12, 13, p.124 #16, 18 |  | | |
| 2 | F-IF.1.1  F-IF.1.2  F-IF.2.5 | **5.2 Representing Functions**  *Engage:* p.125 Example 1/ p.130 #1, 2, 3  *Explain:* p.126 Example 2/ p.128 Example 3 | *Evaluate:* p.130 #5, 6,  p.131 #11, 12, p.132 #13, 15, 16 |  | | |
| 2 | F-IF.1.3  F-BF.1.1a | **5.3 Sequences**  *Engage:* p.133 Explore Activity/ p.137 #1-5  *Explain:* p.134 Ex 1, p.136 Ex 2/ p.139 #22 | *Evaluate:* p.138 #12, 18, 20, p.139 #26, 28 |  | | |
| 1 | A-REI.4.10  F-IF.1.1  F-IF.1.3 | Ready to Go On?/Assessment Readiness | Study Guide Review p.143-146 |  | | |
| 1 |  | Unit 1B Assessment |  |  | | |

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| **Unit 2A: Linear Relationship** | | |  | | |  |
| **Code** | **Mathematics Florida Standard** | | | | | **SMP** |
| A-CED.1.2 | Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales | | | | | 1, 4, 5 |
| A-CED.1.3 | Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. | | | | | 1, 4 |
| A-REI.3.5 | Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions. | | | | | 1 |
| A-REI.3.6 | Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables. | | | | | 1, 2 |
| A-REI.4.12 | Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary line in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes. | | | | | 5, 6 |
| F-BF.1.1 a b | Write a function that describes a relationship between two quantities (a) Determine an explicit expression, a recursive process, or steps for calculation from a context. (b) Combine standard function types using arithmetic operations. | | | | | 2 |
| F-BF.1.2 | Write arithmetic and geometric sequences, both recursively and with an explicit formula, use them to model situations and translate between the two forms. | | | | | 8 |
| F-BF.2.3 | Identify the effect on the graph of replacing f(x) by f(x+k), k f(x), f(kx), and f(x+k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. | | | | | 5 |
| F-IF.1.2 | Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context. | | | | | 2 |
| F-IF.1.3 | Recognize that sequences are functions, sometimes defines recursively, whose domain is a subset of the integers. | | | | | 2 |
| F-IF.2.4 | For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of quantities, and sketch graphs showing key features given a verbal description of the relationship. | | | | | 4 |
| F-IF.2.5 | Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. | | | | | 2 |
| F-IF.2.6 | Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph. | | | | | 2 |
| F-IF.3.7a | Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. (a) Graph linear and quadratics functions and show intercepts, maxima, and minima. | | | | | 3, 4, 6 |
| F-IF.3.9 | Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). | | | | | 2 |
| F-LE.1.1b | Distinguish between situations that can be modeled with linear functions and with exponential functions. (b) Recognize situations in which one quantity changes at a constant rate per unit interval relative to another. | | | | | 2, 3 |
| F-LE.1.2 | Distinguish between situations that can be modeled with linear functions and with exponential functions. | | | | | 3,4 |
| F-LE.2.5 | Interpret the parameters in a linear or exponential function in terms of a context. | | | | | 1, 2, 4 |
| N-Q.1.2 | Define appropriate quantities for the purpose of descriptive modeling. | | | | | 4 |
| S-ID.2.6 | Represent data on two quantitative variables on a scatterplot, and describe how the variables are related. | | | | | 2,3 |
| S-ID.2.6b | Informally assess the fit of a function by plotting and analyzing residuals. | | | | | 5 |
| S-ID.2.6c | Fit a linear function for a scatterplot that suggests a linear association. | | | | | 4 |
| S-ID.3.7 | Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data. | | | | | 1 |
| S-ID.3.8 | Compute (using technology) and interpret the correlation coefficient of a linear fit. | | | | | 5 |
| S-ID.3.9 | Distinguish between correlation and causation. | | | | | 6 |
| **Learning Goal and Scale** | | | | **Additional Notes** | | |
| [**A104**: Solve systems of linear equations and inequalities, algebraically and graphically.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a104.docx)  [**A107:** Build a function that models a relationship between two quantities using function transformations.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a107.docx)  [**A108:** Compare and analyze functions using multiple representations, such as tables, graphs, equations, and verbal descriptions.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a108.docx)  [**A109:** Interpret functions that arise in applications in terms of the context.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a109.docx)  [**A110:** Construct and compare linear and quadratic models and interpret parameters in context.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a110.docx)  [**A113:** Summarize, represent and interpret data on two categorical and quantitative variables.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a113.docx) | | | | “Example” should include the” Your Turn” problems.  Point-Slope form of a line must be taught and used during this unit although it in not in the text.  **Page 166 Example 3B incorrectly states standard form.**  Note Common Errors on TE pages 175 ,189, 215, 219, 221,233, 259, 267, 281and 305. | | |
| **Math Practices for Unit** | | | **Unit Connections** | | **Instructional Resources** | |
| 1. Make sense of problems and persevere in solving them. | | 5. Use appropriate tools strategically. | **Students were previously taught to understand linear**  **relationships through:**   * Using equations in one and two variables * Solving inequalities in one variable * Solving for a variable * Using functions to generate ordered pairs * Using sequences to write explicit and recursive rules | | Professional Development Video  Module 6: review of functions by input/output & by graph  Module 7: p227 Explore Activity , p232 #18  Module 8: p249 correlation coefficients, p.250 Example 2  Module 9: p.284 #19  GRAPHING CALCULATOR FOR 6.6  WORKSHEET ON BLACKBOARD FOR 6.4 | |
| 2. Reason abstractly and quantitatively. | | 6. Attend to precision. |
| 3. Construct viable arguments & critique reasoning of others. | | 7. Look for and make use of structure. |
| 4. Model with mathematics. | | 8. Look for and express regularity in repeated reasoning. |

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| **FIRST QUARTER** | | | | | | |
| **Unit 2A: Linear Relationships (continued in 2nd quarter)** | | | | | | |
| **Learning Goal** | [**A107:** Build a function that models a relationship between two quantities using function transformations.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a107.docx)  [**A108:** Compare and analyze functions using multiple representations, such as tables, graphs, equations, and verbal descriptions.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a108.docx)  [**A109:** Interpret functions that arise in applications in terms of the context.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a109.docx)  [**A110:** Construct and compare linear and quadratic models and interpret parameters in context.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a110.docx) | | | | **Suggested # of Days** | **13**  **(4)** |
| **Approx. # of Day(s)** | **MAFS** | **Lesson Objective (Instructional Resources)** | **Suggested Problems/Assessments** | **Ancillary Materials** | | |
| 1 | F-IF.2.5  F-IF.3.7a | **6.1 Linear Functions**  *Engage:* p.155 Explore Activity  *Explain:* p.156 Example 1, p.158 Example 2\*\* | *Evaluate:* p.161 #7, 14, 18 |  | | |
| 1 | **6.2 Using Intercepts**  *Engage:* p.163 Explore Activity  *Explain:* p.164 Ex 1, p.165 Ex 2, p.166 Ex 3 | *Evaluate:* p.169 #10, 12, 16 |  | | |
| 1 | F-IF.2.6 | **6.3 Using Slope**  *Engage:* p.171 Explore Activity 1, p.173 Ex Act 2  *Explain:* p.175 Example 3 | *Evaluate:* p.176 #4,  p.177 #10, p.178 #12, 14 |  | | |
| 2 | A-CED.1.2  F-IF.2.4 | **6.4 Slope-Intercept Form**  **\*\*** Point-Slope form of a line must be taught and used during this unit although it in not in the text  *Engage:* p.179 Example 1/ p.180 Explore Activity  *Explain:* p.181 Example 2,/p.182 Example 3 | *Evaluate:* p.184 #5,  p.185 #9-14, p.186 #15, #17 | [Worksheet supplement on point-slope form.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/point-slope_form.docx)  (also on Blackboard) | | |
| 2 | F-IF.1.2  F-IF.3.9  F-LE.2.5 | **6.5 Comparing Linear Functions**  *Engage:* p.187 Explore Activity/p.190 #1  *Explain:* p.188 Example 1/ p.189 Example 2 | *Evaluate:* p.191 #4, 5, 6, p.192 #9 |  | | |
| 2 | F-BF.2.3  F-LE.2.5 | **6.6 Transforming Linear Functions**  *Engage:* p193 Explore Activity 1/Explore Activity 2.  *Explain:* p.196 Explore Activity 3/ p.197 Example 1 | *Evaluate:* p.198 #4,  p.200 #9, 10, 13 | GRAPHING CALCULATOR | | |
| 2 | A-CED.1.2  F-LE.1.2 | **6.7 Writing Linear Functions**  *Engage:* p.206 #12/ p.204 #1-4  *Explain:* p.201 Ex 1, p.202 Ex 2/ p.203 Ex 3 | *Evaluate:* p.205 #8, 10, 11, p.206 #14, 15 |  | | |
| 2 | F-BF.2.3 F-IF.2.4 F-IF.2.6 F-IF.3.7 F-IF.3.9 F-LE.1.2 | Ready to Go On?/Assessment Readiness | Possible quiz day |  | | |
| **4** |  | District Assessment (2 days), 9 Weeks Exams (2 days) | | | | |

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| **SECOND QUARTER** | | | | | | |
| **Unit 2A: Linear Relationships (continued from 1st quarter)** | | | | | | |
| **Learning Goal** | [**A104:** Solve systems of linear equations and inequalities, algebraically and graphically.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a104.docx)  [**A107:** Build a function that models a relationship between two quantities using function transformations.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a107.docx)  [**A110**: Construct and compare linear and quadratic models and interpret parameters in context.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a110.docx)  [**A113:** Summarize, represent and interpret data on two categorical and quantitative variables.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a113.docx)  [**A114:** Interpret linear models using linear regression in real-world context.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a114.docx) | | | | **Suggested # of Days** | **25** |
| **Approx. # of Day(s)** | **MAFS** | **Lesson Objective (Instructional Resources)** | **Suggested Problems/Assessments** | **Ancillary Materials** | | |
| 2 | F-BF.1.2  F-IF.1.3  F-BF.1.1a  F-LE.1.1b | **7.1 Arithmetic Sequences**  *Engage:* p.213 Explore Activity / p.218 #17  *Explain:* p.213 Ex 1, p.214 Ex 2/ p.215 Ex 3\*\* | *Evaluate:* p.216 #1, 3, 4,  p. 217 #6, 8, 14 |  | | |
| 2 | A-CED.1.2  F-BF.1.1b | **7.2 Operations with Linear Functions**  *Engage:* p.219 Example 1/ p.220 Example 2  *Explain:* p.221 Example 3/ p.222 Example 4 | *Evaluate:* p.224 #11, 16, 18, p.225 #21, 25, 26 |  | | |
| 2 | A-REI.4.12 | **7.4 Linear Inequalities in Two Variables**  *Engage:* p.235 #3/ p.238 #1  *Explain:* p.233 Ex 1, p.234 Ex 2/ p.236 Ex 3 | *Evaluate:* p.239 #8, 10, 13, 14, 15 |  | | |
| 1 | A-REI.4.12  F-BF.1.1b  F-IF.1.3 | Ready to Go On?/Assessment Readiness | Possible quiz day |  | | |
| 2 | S-ID.2.6  S-ID.3.7  S-ID.3.8 | **8.1 Correlation**  *Engage:* p.247 Explore Activity/ p.250 Example 2  *Explain:* p.248 Example 1/ p.251 Example 3 | *Evaluate:* p.252 #1-4,  p.253 #8, 10, p.254 #12, 13 |  | | |
| 2 | N-Q.1.2  S-ID.2.6c  S-ID.3.7  S-ID.3.9 | **8.2 Fitting Lines to Data**  *Engage:* p.255 Explore Activity/ p.259 Example 2  *Explain:* p.257 Example 1/ p.260 #1-7 | *Evaluate:* p.261 #8-10,  p.262 #11-13 |  | | |
| 2 | S-ID.2.6b  S-ID.3.8  S-ID.3.9 | **8.3 Linear Regression**  *Engage:* p.263 Explore Activity/ p.268 #1-4  *Explain:* p.264 Example 1/ p.266 Example 2 | *Evaluate:* p.268 #5-7,  p.269 #9, 10 |  | | |
| 1 | A-REI.4.12  F-BF.1.1b  F-IF.1.3 | Ready to Go On?/Assessment Readiness | Possible quiz day |  | | |
| 1 | A-CED.1.3  A-REI 3.6 | **9.1 Solving Linear Systems by Graphing**  *Engage:* p.284 #19  *Explain:* p.279 Example 2, p.280 Example 3 | *Evaluate:* p.283 #9, 10, 14, 16, 18 |  | | |
| 2 | **9.2 Solving Linear Systems by Substitution**  *Engage:* p.285 Explore Activity/ p.289 Example 3  *Explain:* p.286 Example 1/ p. 287 Example 2 | *Evaluate:* p.290 #1, 6, p.291 #8, 10, 13, 15, p.292 #17 |  | | |
| 2 | **9.3 Solving Linear Systems by Adding & Subtracting**  *Engage:* p.293 Explore Activity/ p.302 #18  *Explain:* p.294 Example 1/ p.297 Example 2 | *Evaluate:* p.301 #7, 10, 12, 14, p.302 #15 |  | | |
| 2 | A-CED.1.3  A-REI.3.5 | **9.4 Solving Linear Systems by Multiplying**  *Engage:* p.303 Explore Activity 1/ p.307 Example 3  *Explain:* p.305 Example 1/ p.306 Example 2 | *Evaluate:* p.309 #8, 10, 12, p.310 #14, 15, 17 |  | | |
| 2 | A-CED.1.3  A-REI.4.12 | **9.5 Solving Systems of Linear Inequalities**  *Engage:* p.311 Explore Activity/ p.315 Example 3  *Explain:* p.312 Example 1/ p.313 Example 2 | *Evaluate:* p.316 #2, 3, 4, p.317 #9, p.318 #10-12 |  | | |
| 1 | A-REI.3.5  A-REI.3.6  A-REI.4.12 | Ready to Go On?/Assessment Readiness | Study Guide Review p.321-328 |  | | |
| 1 |  | Unit 2A Assessment |  |  | | |

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| **Unit 2B: Exponential Relationships** | | | | | | |
| **Code** | **Mathematics Florida Standard** | | | | | **SMP** |
| A-SSE.2.3 c | Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. Use the properties of exponents to transform expressions for exponential functions. | | | | | 2 |
| A-CED.1.1 | Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational, absolute, and exponential functions. | | | | | 7 |
| A-CED.1.2 | Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales | | | | | 1, 5, 4 |
| F-BF.1.1 a | Write a function that describes a relationship between two quantities (a) Determine an explicit expression, a recursive process, or steps for calculation from a context. | | | | | 7 |
| F-BF.2.3 | Identify the effect on the graph of replacing *f(x) by f(x) + k, kf(x), f(kx)…*for specific values of *k* (both positive and negative) ; find the value of *k* given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. | | | | | 5 |
| F-IF.2.5 | Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. | | | | | 2 |
| F-IF.3.7e | Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. (e) Graph exponential functions [only part of the standard is listed] | | | | | 2, 4, 5 |
| F-IF.3.8b | Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. (b) Use the properties of exponents to interpret expressions for exponential functions. | | | | | 2 |
| F-LE.1.1 | Distinguish between situations that can be modeled with linear functions and with exponential functions. | | | | | 8 |
| F-LE.1.1c | Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another. | | | | | 2 |
| F-LE.1.2 | Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs. | | | | | 2, 3, 4 |
| F-LE.2.5 | Interpret the parameters in a linear or exponential function in terms of a context. | | | | | 1, 2, 4 |
| S-ID.2.6a | Fit a function to the data; use function fitted to data to solve problems in the context of the data. | | | | | 5 |
| S-ID.2.6b | Informally asses the fit of a function by plotting and analyzing residuals. | | | | | 5 |
| **Learning Goal and Scale** | | | | **Additional Notes** | | |
| [**A101:** Create equations that describe numbers or relationships.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a101.docx)  [**A107:** Build a function that models a relationship between two quantities using function transformations.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a107.docx)  [**A110:** Construct and compare linear and quadratic models and interpret parameters in context.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a110.docx)  [**A113:** Summarize, represent and interpret data on two categorical and quantitative variables.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a113.docx) | | | | “Example” should include the” Your Turn” problems.  Note the common errors on TE pages 341,345, 357, 383, and 387. | | |
| **Math Practices for Unit** | | | **Unit Connections** | | **Instructional Resources** | |
| 1. Make sense of problems and persevere in solving them. | | 5. Use appropriate tools strategically. | **Students were previously taught to understand exponential relationships through:**   * Radical and rational exponents * Simplifying expressions with rational exponents * Representing functions | | Professional Development Video  Module 10: p.339 Example 2, p.343 #13  Module 11: p.387 Explore Activity  GRAPHING CALCULATOR | |
| 2. Reason abstractly and quantitatively. | | 6. Attend to precision. |
| 3. Construct viable arguments & critique reasoning of others. | | 7. Look for and make use of structure. |
| 4. Model with mathematics. | | 8. Look for and express regularity in repeated reasoning. |

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| **SECOND QUARTER** | | | | | | |
| **Unit 2B: Exponential Relationships** | | | | | | |
| **Learning Goal** | [**A101:** Create equations that describe numbers or relationships.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a101.docx)  [**A107:** Build a function that models a relationship between two quantities using function transformations.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a107.docx)  [A110: Construct and compare linear and quadratic models and interpret parameters in context.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a110.docx)  [**A113:** Summarize, represent and interpret data on two categorical and quantitative variables.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a113.docx) | | | | **Suggested # of Days** | **16**  **(5)** |
| **Approx. # of Day(s)** | **MAFS** | **Lesson Objective (Instructional Resources)** | **Suggested Problems/Assessments** | **Ancillary Materials** | | |
| 2 | A-SSE.2.3 c  F-LE.1.1c  F-LE.1.2  F-LE.2.5  F-BF.1.1a  F-IF.2.5  F-IF.3.7 e  F-IF.3.8b | **10.1 Exponential Functions**  *Engage:* p.337 Explore Activity/ p.339 Example 2\*\*  *Explain:* p.338 Example 1/ p.340 Example 3 | *Evaluate:* p. 341 #1, 2, 3, 4, p. 343 #13, p.344 #14, 15 |  | | |
| 2 | **10.2 Exponential Growth and Decay**  *Engage:* p.345 Example 1/ p.352 #14  *Explain:* p.347 Example 2/ p.349 Example 3 | *Evaluate:* p.350 #1-4,  p.351 #5-12 |  | | |
| 2 | **10.3 Geometric Sequences**  *Engage:* p.353 Example 1/ p.356 Example 3  *Explain:* p.355 Example 2/ p.357 Example 4 | *Evaluate:* p.358 #2, 5,  p.359 #6, 7, 12, p.360 #14 |  | | |
| 2 | F-BF.2.3 | **10.4 Transforming Exponential Functions**  *Engage:* p.361 Explore Activity 1/ p.362 Ex Act 2  *Explain:* p.364 Example 1/ p.364 #5 | *Evaluate:* p.365 #12-15, p.366 #20, 21 | GRAPHING CALCULATOR | | |
| 2 | A-CED.1.1  S-ID.2.6a | **10.5 Equations Involving Exponents**  *Engage:* p.367 Explore Activity/ p.369 Example 2  *Explain:* p.368 Example 1/ p.371 #9, 10 | *Evaluate:* p.371 #2, 8, 11, p.372 #25-27, p.374 #38, 40 |  | | |
| 1 | A-CED.1.1  F-BF.2.3  F-LE.1.2 | Ready to Go On?/Assessment Readiness | Possible quiz day |  | | |
| 2 | A-CED.1.2  S-ID.2.6b | **11.1 Exponential Regression**  *Engage:* p.381 Example 1  *Explain:* p.382 Explore Activity | *Evaluate:* p.384 #1-6 | GRAPHING CALCULATOR | | |
| 1 | F-LE.1.1 | **11.2 Comparing Linear and Exponential Models**  *Engage:* p.387 Explore Activity 1  *Explain:* p.388 Example 1 | *Evaluate:* p.392 #1-6,  p.394 #13 |  | | |
| 1 | F-LE.1.1  S-ID.2.6b | Ready to Go On?/Assessment Readiness | p.386 #13  Study Guide Review p.397-402 |  | | |
| 1 |  | Unit 2B Assessment |  |  | | |
| **5** |  | District Assessment (2 days) 9 Weeks Exams (3 days) | | | | |

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| **Unit 3: Statistics and Data** | | | | | | |
| **Code** | **Mathematics Florida Standard** | | | | | **SMP** |
| S-ID.1.1 | Represent data with plots on the real number line (dot plots, histograms, and box plots). | | | | | 1, 7 |
| S-ID.1.2 | Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. | | | | | 1 |
| S-ID.1.3 | Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). | | | | | 2 |
| S-ID.2.5 | Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. | | | | | 7 |
| **Learning Goal and Scale** | | | | **Additional Notes** | | |
| [**A112:** Summarize, represent, and interpret data on a single count or measurement variables.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a112.docx)  [**A113:** Summarize, represent, and interpret data on two categorical and quantitative variables.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a113.docx) | | | | “Example” should include the” Your Turn” problems.  Note the Common Errors on TE pages 419, 449, and 465.  **13.1** Ex. 4 uses INCORRECT notation. This is SAMPLE data so the standard deviation symbol should be sx and not . [ is used to reference the population standard deviation…although the values are similar it is not the same concept] | | |
| **Math Practices for Unit** | | | **Unit Connections** | | **Instructional Resources** | |
| 1. Make sense of problems and persevere in solving them. | | 5. Use appropriate tools strategically. | **Students were previously taught to understand statistics and data through:**   * Creating tables of values * Simplifying expressions * Comparing fractions | | Professional Development Video  Module 12: missing at this time  Module 13: p.438 Example 1, p.440 Explore Activity  GRAPHING CALCULATOR | |
| 2. Reason abstractly and quantitatively. | | 6. Attend to precision. |
| 3. Construct viable arguments & critique reasoning of others. | | 7. Look for and make use of structure. |
| 4. Model with mathematics. | | 8. Look for and express regularity in repeated reasoning. |

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| **THIRD QUARTER** | | | | | | |
| **Unit 3: Statistics and Data** | | | | | | |
| **Learning Goal** | [**A112:** Summarize, represent, and interpret data on a single count or measurement variables.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a112.docx)  [**A113:** Summarize, represent, and interpret data on two categorical and quantitative variables.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a113.docx) | | | | **Suggested # of Days** | **11** |
| **Approx. # of Day(s)** | **MAFS** | **Lesson Objective (Instructional Resources)** | **Suggested Questions/Assessments** | **Ancillary Materials** | | |
| 1 | S-ID.2.5 | **12.1 Two-Way Frequency Tables**  *Engage:* p.413 Example 2\*\*  *Explain:* p.416 #13, 15 | *Evaluate:* p.415 #11-12,  p.416 #14, 16 |  | | |
| 2 | **12.2 Relative Frequency**  *Engage:* p.417 Explore Activity/ p.419 Example 2  *Explain:* p.418 Example 1/ p.422 #1-4 | *Evaluate:* p.423 #5-12,  p.424 #13-15 |  | | |
| 1 | Ready to Go On?/Assessment Readiness | Possible quiz day |  | | |
| 1 | S-ID.1.2 | **13.1 Measures of Center and Spread**  *Engage:* p.433 Example 2  *Explain:* P.435 Example 4 | *Evaluate:* p.437 #13, 14, p.438 15, 17 | GRAPHING CALCULATOR | | |
| 2 | S-ID.1.3 | **13.2 Data Distribution and Outliers**  *Engage:* p.439 Example 1/ p.442 Example 2  *Explain:* p.440 Explore Activity/ p.445 #13 | *Evaluate:* p.445 #8-12,  p.446 #14, 16, 17 |  | | |
| 1 | S-ID.1.1 | **13.3 Histograms**  *Engage:* p.447 Explore Activity  *Explain:* p.450 Example 2 | *Evaluate:* p.453 #12,  p.454 #13, 14, 16 |  | | |
| 1 | **13.4 Box Plots**  *Engage:* p.455 Example 1  *Explain:* p.456 Example 2 | *Evaluate:* p.458 #1,  p.459 #5-7, p.460 #16-18 |  | | |
| 1 | S-ID.1.1  S-ID.1.3 | Ready to Go On?/Assessment Readiness | Study Guide Review p.471-476 |  | | |
| 1 |  | Unit 3 Assessment |  |  | | |

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| **Unit 4: Polynomial Expressions and Equations** | | | | | | |
| **Code** | **Mathematics Florida Standard** | | | | | **SMP** |
| A-APR.1.1 | Understand the polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials. | | | | | 4, 8 |
| A-REI.2.4a | Use the method of completing the square to transform any quadratic equation in  into an equation of the form  that has the same solutions. Derive the quadratic formula from this form. | | | | | 1, 5 |
| A-REI.2.4b | Solve quadratic equations by inspection (e.g., for *x2 = 49)*), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as *a + bi* for real numbers *a* and *b*. | | | | | 1 |
| A-SSE.1.2 | Use the structure of an expression to identify ways to rewrite it. | | | | | 3,4, 7, 8 |
| A-SSE.2.3 a b | Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. (a) Factor a quadratic expression to reveal the zeros of the function it defines. (b) Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. | | | | | 2, 5 |
| F-IF.3.8a | Use the process of factoring and completing the square in a quadratic function to show zeroes, extreme values, and symmetry of the graph, and interpret these in terms of a context. | | | | | 5 |
| **Learning Goal and Scale** | | | | **Additional Notes** | | |
| [**A102:** Perform arithmetic operations on polynomials and find factors and zeros of polynomials.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a102.docx)  [**A103:** Solve equations and inequalities in one variable, and justify reasoning.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a103.docx)  [**A105:** Use patterns and structure to rewrite expressions in equivalent forms to solve problems.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a105.docx)  [**A108:** Compare and analyze functions using multiple representations, such as tables, graphs, equations, and verbal descriptions.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a108.docx) | | | | “Example” should include the” Your Turn” problems.  Lesson 14.4 does not provide binomial times trinomial practice. Use worksheet on Blackboard.  Note the Common Errors on TE pages 485, 489, 495, 503, 511, 513, 523, 537, 553, 563, 581, 589, and 613. | | |
| **Math Practices for Unit** | | | **Unit Connections** | | **Instructional Resources** | |
| 1. Make sense of problems and persevere in solving them. | | 5. Use appropriate tools strategically. | **Students were previously taught to understand polynomials through:**   * Evaluating expressions * Simplifying expressions * Writing expressions * Representing functions | | Professional Development Video  Module 14: model 12x15, try (x+1)(x+2) w/ tiles  Module 15: p.533 Explore Activity  Module 16: p.587 Explore Activity, p.588 Example 1A  ALGEBRA TILES  WORKSHEET ON BLACKBOARD FOR 14.4 and 15.4 | |
| 2. Reason abstractly and quantitatively. | | 6. Attend to precision. |
| 3. Construct viable arguments & critique reasoning of others. | | 7. Look for and make use of structure. |
| 4. Model with mathematics. | | 8. Look for and express regularity in repeated reasoning. |

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| **THIRD QUARTER** | | | | | | |
| **Unit 4: Polynomial Expressions and Equations** | | | | | | |
| **Learning Goal** | [**A102:** Perform arithmetic operations on polynomials and find factors and zeros of polynomials.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a102.docx)  [**A103:** Solve equations and inequalities in one variable, and justify reasoning.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a103.docx)  [**A105:** Use patterns and structure to rewrite expressions in equivalent forms to solve problems](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a105.docx).  [**A108:** Compare and analyze functions using multiple representations, such as tables, graphs, equations, and verbal descriptions.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a108.docx) | | | | **Suggested # of Days** | **30**  **(5)** |
| **Approx. # of Day(s)** | **MAFS** | **Lesson Objective (Instructional Resources)** | **Suggested Problems/Assessments** | **Ancillary Materials** | | |
| 1 | A-APR.1.1 | **14.1 Understanding Polynomials**  *Engage:* p.485 Explore Activity/ p.488 Example 3\*\*  *Explain:* p.486 Ex 1, p.487 Ex 2/ p.490 #21 | *Evaluate:* p.489 #2-4,  p.490 #16, 17, p.492 #24, 26, p.492 #28 |  | | |
| 2 | **14.2 Adding and Subtracting Polynomials**  *Engage:* p.493 Explore Activity 1/ p.496 Example 2  *Explain:* p.494 Example 1/ p. 497 Example 3 | *Evaluate:* p.499 #12, 16, 21, 22, p.500 #23, 25 |  | | |
| 2 | **14.3 Multiplying Polynomials by Monomials**  *Engage:* p.501 Explore Activity/ p.505 Example 3  *Explain:* p.503 Ex 1, p.504 Ex 2/ p.508 #24 | *Evaluate:* p.506 #1-3,  p.507 #14, 19, 22, 23 | ALGEBRA TILES | | |
| 2 | **14.4 Multiplying Polynomials**  *Engage:* p.509 Explore Activity/p.514 #1, 2  *Explain:* p.512 Example 2/ p.513 Example 3 | *Evaluate:* p.515 #12, 16, 20, 21, 23 p.516 #24 | *p.510 Ex 1 should be mentioned as a vocabulary reference for Example 3.*  [Additional Practice Worksheet](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/14.4_multiplying_polynomials.doc)  (also on Blackboard) | | |
| 1 | Ready to Go On?/Assessment Readiness | Possible quiz day |  | | |
| 2 | A-SSE.1.2  A-SSE.2.3a | **15.1 Factoring Polynomials**  *Engage:* p.524 Example 1/ p.529 #8-11  *Explain:* p.525 Ex 2, p526 Ex 3/p.527 Ex 4, p.528 Ex 5 | *Evaluate:* p.531 #22-26, p.532 #35, 37 |  | | |
| 2 | **15.2 Factoring *x2******+ bx c***  *Engage:* p.533 Explore Activity 1/ p.536 Example 1  *Explain:* p.534 Explore Activity 2/ p.539 #20 | *Evaluate:* p.539 #15, 18, 19, 22, 24, p.540 #25, 27 | ALGEBRA TILES | | |
| 2 | **15.3 Factoring *ax2+bx +c***  *Engage:* p.546 #15/ p.548 #25  *Explain:* p.541 Example 1/ p.543 Example 2 | *Evaluate:* p.546 #4, 9, 14, p.547 #21-23, p.548 27, 28 | Note: see page 573 for alternative method | | |
| 1 | **15.4 Factoring Special Products**  *Engage:* p.552 #6-11  *Explain:* p.553 Example 2 | *Evaluate:* p.555 #16-20, p.556 #29 | [Additional Practice](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/factoring_in_multiple_forms.doc)  (also on Blackboard) | | |
| 1 | A-SSE.1.2 | Ready to Go On?/Assessment Readiness | Possible quiz day |  | | |
| 2 | A-REI.2.4b | **16.1 Solving Quadratic Equations Using Square Roots**  *Engage:* p.563 Explore Activity/ p.565 Example 2  *Explain:* p.564 Ex 1, p.566 Ex 3/ p.569 #34 | *Evaluate:* p.569 #16, 18, 22, 26, 32, p.570 38, 39, 40 |  | | |
| 2 | A-SSE.2.3a | **16.2 Solving *x2 + bx + c*  *= 0* by Factoring**  *Engage:* p.571 Explore Activity/ p.578 #32  *Explain:* p.572 Ex 1, p.573 Ex 2/ p.574 Example 3 | *Evaluate:* p.577 #13, 14, 16, 20, 26, 28, 30 |  | | |
| 2 | F-IF.3.8a | **16.3 Solving *ax2 + bx + c = 0* by Factoring**  *Engage:* p.580 Example 1  *Explain:* p.581 Example 2 | *Evaluate:* p.583 #4, 6,  p.585 #16, 19, 22,  p.586 #26, 27, 28 |  | | |
| 2 | A-REI.2.4a  A-SSE.2.3b | **16.4 Solving *x2 + bx + c = 0* by Completing the Sq.**  *Engage:* p.587 Explore Activity/ p.593 #24  *Explain:* p.588 Ex 1, p.589 Ex 2/ p.590 Example 3 | *Evaluate:* p.591 #1-3, p.592 #7, 8, p.593 #18, 22, 26, p.594 #29 | Note: Your Turn #6 and p.593 #20 involve radical expression solutions which have not been introduced yet. | | |
| 2 | **16.5 Solving *ax2 + bx + c = 0* by Completing the Sq.**  *Engage:* p.595 Explore Activity/ p.599 #1, 2  *Explain:* p.596 Example 1/ p.597 Example 2 | *Evaluate:* p.599 #3, 4, p.600 #5, 6, p.601 #20, 24, 26, 28, p. 602 #35 |  | | |
| 2 | **16.6 The Quadratic Formula**  *Engage:* p.603 Explore Activity/ p.606 Example 3  *Explain:* p.604 Ex 1, p.605 Ex 2/ p.608 #6, 7 | *Evaluate:* p.608 #1-5,  p.609 #10, p.610 #12 |  | | |
| 1 | A-REI.2.4a A-REI.2.4b  A-SSE.2.3a  F-IF.3.8a | Ready to Go On?/Assessment Readiness | Study Guide Review p.621-626 |  | | |
| 1 |  | Unit 4 Assessment |  |  | | |
| **5** |  | District Assessment(2 days); FSA ELE/Writing (1 day); 9 Weeks Exams (2 days) | | | | |

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| **Unit 5: Functions and Modeling** | | |  | | |  | |
| **MAFS Code** | **Mathematics Florida Standard** | | | | | | **SMP** |
| A-APR.2.3 | Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial. | | | | | | 4, 5, 7 |
| A-CED.1.1 | Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational, absolute, and exponential functions. | | | | | | 1, 5 |
| A-CED.1.2 | Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales | | | | | | 1, 4, 5 |
| A-REI.4.11 | Explain why the x-coordinates of the points where the graphs of the equations y=f(x) and y=g(x) intersect are the solutions of the equation f(x)=g(x); find the solutions approximately. | | | | | | 4 |
| F-BF.2.3 | Identify the effect on the graph of replacing *f(x) by f(x) + k, kf(x), f(kx)…*for specific values of *k* (both positive and negative) ; find the value of *k* given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. | | | | | | 5, 7, 8 |
| F-IF.1.2 | Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context. | | | | | |  |
| F-IF.2.4 | For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities. | | | | | | 5 |
| F-IF.2.5 | Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. | | | | | | 2 |
| F-IF.3.7a b c | Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. (a) Graph linear and quadratics functions and show intercepts, maxima, and minima. (b) Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. (c) Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. | | | | | | 2, 4, 5, 6 |
| F-LE.1.1 a | Distinguish between situations that can be modeled with linear functions and with exponential functions (a) Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals. | | | | | | 2, 3 |
| F-LE.1.3 | Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as polynomial function. | | | | | | 5 |
| **Learning Goal and Scale** | | | | **Additional Notes** | | | |
| [**A104:** Solve systems of linear equations and inequalities, algebraically and graphically.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a104.docx)  [**A107:** Build a function that models a relationship between two quantities using function transformations.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a107.docx)  [**A108:** Compare and analyze functions using multiple representations, such as tables, graphs, equations, and verbal descriptions.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a108.docx)  [**A109:** Interpret functions that arise in applications in terms of the context.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a109.docx)  [**A110:** Construct and compare linear and quadratic models and interpret parameters in context.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a110.docx) | | | | \*\*“Example” should include the “Your Turn” problems.  Note the Common Errors listed on TE pages 665, 669, 683, 693, 697, 705, 713, 723, 727, and 735. | | | |
| **Math Practices for Unit** | | | **Unit Connections** | | **Instructional Resources** | | |
| 1. Make sense of problems and persevere in solving them. | | 5. Use appropriate tools strategically. | **Students were previously taught to understand quadratic relationships through:**   * Classifying polynomials * Evaluating polynomial expressions * Adding, Subtracting, and Multiplying polynomials * Factoring polynomials | | Professional Development Video  Module 17: p.635 Explore Activity, p.636 Example 1  Module 18: p.695 Your Turn #3  Module 19: p.742 Example 2  GRAPHING CALCULATOR | | |
| 2. Reason abstractly and quantitatively. | | 6. Attend to precision. |
| 3. Construct viable arguments & critique reasoning of others. | | 7. Look for and make use of structure. |
| 4. Model with mathematics. | | 8. Look for and express regularity in repeated reasoning. |

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| **FOURTH QUARTER** | | | | | | | |
| **Unit 5: Functions and Modeling** | | | | | | | |
| **Learning Goal** | [**A104:** Solve systems of linear equations and inequalities, algebraically and graphically.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a104.docx)  [**A107:** Build a function that models a relationship between two quantities using function transformations.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a107.docx)  [**A108:** Compare and analyze functions using multiple representations, such as tables, graphs, equations, and verbal descriptions.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a108.docx)  [**A109:** Interpret functions that arise in applications in terms of the context.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a109.docx)  [**A110:** Construct and compare linear and quadratic models and interpret parameters in context.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a110.docx) | | | | | **Suggested # of Days** | **25**  **(10)** |
| **Approx. # of Day(s)** | | **MAFS** | **Lesson Objective (Instructional Resources)** | **Suggested Questions/Assessments** | **Ancillary Materials** | | |
| 2 | | F-BF.2.3  F-IF.2.5 | **17.1 Translating Quadratic Functions**  *Engage:* p.635 Explore Activity/ p.639 Example 3\*\*  *Explain:* p.636 Ex 1, p.638 Ex 2/ p.641 #9 | *Evaluate:* p.640 #1-3,  p.641 #6, 7,  p.642 #10, 11, 13 |  | | |
| 2 | | **17.2 Stretching, Shrinking, and Reflecting Quadratic Functions**  *Engage:* p.643 Explore Activity/ p.647 Example 3  *Explain:* p.645 Ex 1, p.646 Ex 2/ p.649 #5 | *Evaluate:* p.649 #4, 6, 7, p.650 #8-10, 13 |  | | |
| 2 | | F-IF.3.7a  F-IF.1.2 | **17.3 Combining Transformations of Quadratic Functions**  *Engage:* p.651 Explore Activity/ p.653 Example 2  *Explain:* p.652 Example 1/ p.655 Example 3 | *Evaluate:* p.656 #1-4, p.657 #9, p.658 #11, 13 |  | | |
| 2 | | F-IF.2.4 | **17.4 Characteristics of Quadratic Functions**  *Engage:* p.659 Explore Activity/ p.663 Example 3  *Explain:* p.660 Ex 1, p.662 Ex 2/ p.665 Example 4 | *Evaluate:* p.667 #9-16,  p.668 #17-19, 21 | GRAPHING CALCULATOR | | |
| 2 | | A-APR.2.3  A-CED.1.1  A-CED.1.2  A-REI.4.11 | **17.5 Solving Quadratic Equations Graphically**  *Engage:* p.669 Explore Activity/ p.672 Example 3  *Explain:* p.670 Ex 1, p.671 Ex 2/ p.673 Example 4 | *Evaluate:* p.674 #3-5,  p.675 #8, p.676 #9, 10, 13 | GRAPHING CALCULATOR | | |
| 2 | | F-IF.3.7c  F-LE.1.1 a  F-LE.1.3 | **17.6 Comparing Linear, Quadratic and Exponential Models**  *Engage:* p.679 Explore Activity 3/ p.677 Explore Act 1  *Explain:* p.681 Example 1/ p.678 Explore Activity 2 | *Evaluate:* p.683 #1, 4, p.684 #18, 20, 21, 25, 26 |  | | |

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| 1 | A-REI.4.11  F-BF.2.3  F-IF.2.4  F-IF.3.7a  F-LE.1.3 | Ready to Go On?/Assessment Readiness | Possible quiz day |  |
| 2 | F-IF.1.2  F-IF.2.5  F-IF.3.7b | **18.1 Piecewise Functions**  *Engage:* p.693 Example 1/ p.696 Example 4  *Explain:* p. 694 Example 2/ p.695 Example 3 | *Evaluate:* p. 698 #1-5,  p.699 #8, p.700 #11 |  |
| 2 | **18.2 Absolute Value Functions**  *Engage:* p.701 Explore Activity/p.704 Example 3  *Explain:* p.702 Ex 1, p.703 Ex 2/ p.707 #8 | *Evaluate:* p.706 #1-5,  p.708 #9, 10 |  |
| 1 | F-BF.2.3 | **18.3 Transforming Absolute Value Functions**  *Engage:* p.709 Explore Activity 1  *Explain:* p.711 Explore Activity 2, p.712 Example 1 | *Evaluate:* p.714 #1-3,  p.715 #8, 10, p.716 #11 | GRAPHING CALCULATOR |
| 1 | F-BF.2.3  F-IF.3.7b | Ready to Go On?/Assessment Readiness | Possible quiz day |  |
| 1 | F-IF.3.7b | **19.1 Square Root Functions**  *Engage:* p.725 Example 2  *Explain:* p.728 #2, 3 | *Evaluate:* p.729 #10-16 | Note: Standard is limited to square root functions; does not include inverse functions. |
| 1 | F-BF.2.3 | **19.2 Transforming Square Root Functions**  *Engage:* p.732 Explore Activity 2  *Explain:* p.734 Example 1 | *Evaluate:* p.736 #1-4,  p.737 #10, 11 |  |
| 2 | **19.4 Transforming Cube Root Functions**  *Engage:* p.748 Explore Activity 1/ p.752 #3  *Explain:* p.749 Explore Activity 2/ p.750 Example 1 | *Evaluate:* p.752 #4,  p.753 #6, 8, 9, p.754 #10, 13 |  |
| 1 | F-BF.2.3  F-IF.3.7b | Ready to Go On?/Assessment Readiness | Study Guide Review p.757-762 |  |
| 1 |  | Unit 5 Assessment |  |  |
| **10** |  | FSA Review (3 days); FSA Testing (7 days) | | |

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| **Unit 6: Radicals** | | |  | | |  | |
| **MAFS Code** | **Mathematics Florida Standard** | | | | | | **SMP** |
| A-REI.1.2 | Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise. | | | | | | 2, 7 |
| **Learning Goal and Scale** | | | | **Additional Notes** | | | |
| [**A105** Use patterns and structure to rewrite expressions in equivalent forms to solve problems.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a105.docx) | | | | Unit 6 material is not in the Florida ACE textbook. | | | |
| **Math Practices for Unit** | | | **Unit Connections** | | **Instructional Resources** | | |
| 1. Make sense of problems and persevere in solving them. | | 5. Use appropriate tools strategically. | **Students were previously taught to understand radical expressions through:**   * Simplifying Expressions with Rational Exponents * Properties with Rational Exponents * Graphing Square Root and Cube Root Functions | | Ancillary materials are hyperlinked and may also be found on Blackboard. | | |
| 2. Reason abstractly and quantitatively. | | 6. Attend to precision. |
| 3. Construct viable arguments & critique reasoning of others. | | 7. Look for and make use of structure. |
| 4. Model with mathematics. | | 8. Look for and express regularity in repeated reasoning. |

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| **FOURTH QUARTER** | | | | | | |
| **Unit 6: Radicals (after FSA)** | | | | | | |
| **Learning Goal** | [**A105:** Use patterns and structure to rewrite expressions in equivalent forms to solve problems.](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/a105.docx) | | | | **Suggested # of Days** | **8**  **(3)** |
| **Approx. # of Day(s)** | **MAFS** | **Lesson Objective (Instructional Resources)** | **Suggested Questions/Assessments** | **Ancillary Materials** | | |
| 2 | A-REI.1.2 | Simplifying Radicals |  | [Intro to Simplifying Radicals](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/intro_to_simplifying_radicals.docx)  [Practice Simplifying Radicals](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/practice_simplifying_radicals.docx) | | |
| 3 | Operations with Radical Expressions |  | [Intro to Operations With Radicals](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/intro_to_operations_with_radical_expressions.docx)  [Practice Operations With Radicals](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/practice_with_operations_with_radicals.docx) | | |
| 2 | Solving Radical Equations |  | [Intro to Solving Radical Equations](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/intro_to_solving_radical_equations.docx)  [Practice Solving Radical Equations](http://scpsmath.weebly.com/uploads/2/9/1/7/29174797/practice_solving_radical_equations.docx) | | |
| 1 | Assessment |  |  | | |
| **3** |  | 9 Week Exam (3 days) | | | | |