**Algebra 2 Pacing Guide 2016-2017 Teacher Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_**

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| **This Pacing Guide is a suggestion for you to use “as a guide”. Each class should progress at its’ own pace. Although there are a few quizzes listed in the pacing guide, teachers SHOULD quiz students as needed to check for understanding.** | | | | | | | | | | |
| **1st 9-weeks - *There are 47 teaching days.*** | | | **8/15/16 – 10/20/16** | | | | | [**http://web.algebranation.com/**](http://web.algebranation.com/) **- Algebra 2**  **Look at the study guides and videos – you may want to use some of them as your lesson or as supplements to your lesson.** | | |
| **Labor Day Holiday** | | | **9/5/16** | | | | |
| **Fall Holiday** | | | **10/12/16** | | | | |
| **Teacher Planning Day** | | | **10/21/16** | | | | |
| **First Week of School Activities** | **NOTE TO TEACHERS: Remember that you will probably have a fire drill & assemblies in the first week of school.** | | | | | | | | | |
| **Baseline Progress Monitoring Test**  **The Baseline should ONLY be 1 day.** | | **1 day** | | | | **The Baseline will be paper and pencil, but the answer bubble sheets will be scanned into Data Director for scoring.** | | | | |
| **Lessons – Pearson Florida Algebra 2**  **Math Florida Standards** | | | **Benchmarks and Math Practices**  **MAFS.912.** | | | | **Days**  **Dates** | **Learning Target Goal**  **“Students will be able to…”** | | **Homework Assignment and**  **Teacher Comments** |
| **Chapter 1 – Expressions, Equations, and Inequalities** | | |  | | | |  |  | |  |
| * 1. **Patterns and Expressions**   2. **Properties of Real Numbers**   3. **Algebraic Expressions**   EQ – How do variables help you model real-world situations?  EQ - How can you use the properties of real numbers to simplify algebraic expressions?  EQ - How do you solve an equation or inequality? | | | A-SSE.1.2  N-RN.2.3  A-SSE.1.1a | | | | 1 | * Identify and describe patterns * Identify properties of real numbers * Graph and order real numbers * Evaluate and simplify algebraic expressions | |  |
| **1-4 Solving Equations**  EQ – How can you use the properties of equality and inverse operations to solve equations? | | | A-CED.1.1  A-CED.1.4  MP 1, MP 2,  MP 3, MP 4, MP 6 | | | | 1 | * Solve equations * Solve problems by writing equations | |  |
| **1-5 Solving Inequalities**  EQ – Just as you use properties of equality to solve equations, how can you use properties of inequality to solve inequalities? | | | A-CED.1.1  MP 1, MP 3,  MP 4, MP 7 | | | | 1 | * Solve and graph inequalities * Write and solve compound inequalities | |  |
| **1-6 Absolute Value Equations and Inequalities**  NOTE: Inequalities are NOT tested.  EQ – How can an absolute value equation have two solutions? | | | A-SSE.1.1b  A-CED.1.1  MP 1, MP 3 | | | | 1 | * Write and solve equations and inequalities involving absolute value | |  |
| **Chapter 1 Review** | | |  | | | | 1 |  | |  |
| **Chapter 1 Test** | | |  | | | | 1 |  | |  |
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| **Chapter 2 – Functions, Equations, and Graphs**  EQ – Does it matter which form of a linear equation you use?  EQ – How do you use transformations to help graph absolute value functions?  EQ – How can you model data with a linear function? | | |  | | | |  |  | |  |
| **2-1 Domain and Range, Function Notation, Relations and Functions**  **2-2 Direct Variation – NOT tested** | | | F-IF.1.1  F-IF.1.2  MP 1, MP 3, MP 4 | | | | 1 | * Graph relations * Identify functions | |  |
| **2-3 Linear Functions and Slope-Intercept Form**  EQ –How do you find slope and what is it on a nonvertical line? | | | A-CED.1.2  F-IF.2.4  F-LE.2.5  F-IF.3.7  MP 1, MP 3, MP 4 | | | | 1 | * Graph linear equations * Write equations of lines | |  |
| **2-4 More About Linear Equations**  EQ – How do the slopes of two lines in the same plane show how the lines are related? | | | F-IF.3.9  F-IF.3.8  A-CED.1.2  F-LE.2.5  MP 1, MP 3, MP 7 | | | | 1 | * Write an equation of a line given its slope and a point on the line | |  |
| **2-7 Absolute Value Functions and Graphs**  EQ – How do you explain the relationship of functions and their absolute value? | | | F-BF.2.3  F-IF.3.7b  MP 1, MP 3, MP 5 | | | | 2 | * Graph absolute value functions | |  |
| **2-6 Families of Functions**  **Include: Concept Byte: Piecewise Functions**  EQ – How can you graph, write, and apply piecewise functions?  EQ - How can you explain the relationships of a set of functions in creating families and the parent? | | | F-IF.3.7  F-BF.2.3  F-IF.3.7b  MP 1, MP 3, MP5, MP 7 | | | | 2 | * Analyze transformations of functions * Graph, write and apply piecewise functions | |  |
| **Chapter 2 Review** | | |  | | | | 1 |  | |  |
| **Chapter 2 Test** | | |  | | | | 1 |  | |  |
| **Lessons – Pearson Florida Algebra 2**  **Math Florida Standards** | | | **Benchmarks and Math Practices**  **MAFS.912.** | | | | **Days**  **Dates** | **Learning Target Goal**  **“Students will be able to…”** | | **Homework Assignment and**  **Teacher Comments** |
| **Chapter 4 – Quadratic Functions and Equations**  EQ – What are the advantages of a quadratic function in vertex form? In standard form?  EQ – How are the real solutions of a quadratic equation related to the graph of the related quadratic function? | | |  | | | |  |  | |  |
| **4-1 Quadratic Functions and Transformations**  EQ – How is the graph of any quadratic function a transformation of the graph of the parent function y=? | | | F-BF.2.3  A-CED.1.1  F-IF.2.4  F-IF.2.6  F-IF.3.8  MP 1, MP 2, MP 3, MP 4, MP 7 | | | | 1 | * Identify and graph quadratic functions | |  |
| **4-2 Standard Form of a Quadratic Function**  EQ – in the quadratic function f(x) = what key information about the values of a, b, and c, provide about the graph? | | | A-CED.1.2  F-IF.2.4  F-IF.2.6  F-IF.3.8  F-IF.3.9  F-BF.1.1  MP 1, MP 3, MP 4 | | | | 2 | * Graph quadratic functions written in standard form | |  |
| **10-2 Parabolas** (NOT including sideways)  EQ – What is a parabola? How is the focus and directrix important to a parabola? | | | G-GPE.1.2  MP 1, MP 3, MP 4, MP 6 | | | | 2 | * Write the equation of a parabola when given the focus and directrix | |  |
| **Quiz 4-1, 4-2, 10-2** | | |  | | | | 1 |  | |  |
| **4-4 Factoring Quadratic Expressions**  EQ – How can you factor many quadratic trinomials () into products of two binomials? | | | A-SSE.1.2  A-SSE.2.3  MP 1, MP 3, MP 4 | | | | 2 | * Find common and binomial factors of quadratic expressions * Factor special quadratic expressions | |  |
| **4-5 Quadratic Equations**  **Include: Concept Byte: Writing Equations from Roots p232**  EQ – How can you find the zeros of a quadratic function y = | | | A-CED.1.1  A-CED.1.2  A-APR.2.3  A-SSE.1.1a  A-SSE.2.3a  F-IF.3.8 | | | | 1-2 | * Solve quadratic equations by factoring * Solve quadratic equations by graphing | |  |
| **Concept Byte: Quadratic Inequalities**  **p 256-257** | | | A-APR.2.3 | | | | 1 | * Find solutions of quadratic inequalities | |  |
| **Quiz 4-4, 4-5 & Concept Bytes** | | |  | | | | 1 |  | |  |
| **4-8 Complex Numbers**  EQ – What are complex numbers?  Why are they based on a number whose square if -1? | | | A-CED.1.3  N-CN.1.1  N-CN.1.2  N-CN.3.7  MP 1, MP 2, MP 3, MP 6 | | | | 2 | * Identify, graph, and perform operations with complex numbers * Find complex numbers solutions of quadratic equations | |  |
| **4-6 Completing the Square**  EQ – How can you complete a perfect square trinomial into the square of a binomial? | | | A-REI.2.4b  A-SSE.2.3  F-IF.3.8  MP 1, MP 3, MP 4 | | | | 2 | * Solve equations by completing the square * Rewrite functions by completing the square | |  |
| **4-7 The Quadratic Formula**  EQ – How can you use different ways to solve a quadratic equation = 0, including a formula that gives values of x in terms of a, b, & c? | | | A-REI.2.4b  F-IF.3.8  MP 1, MP 2, MP 3, MP 4, MP 8 | | | | 2 | * Solve quadratic equations using the Quadratic Formula * Determine the number of solutions by using the discriminant | |  |
| **Chapter 4 Review** | | |  | | | | 1 |  | |  |
| **Chapter 4 Test** | | |  | | | | 1 |  | |  |
| **Lessons – Pearson Florida Algebra 2**  **Math Florida Standards** | | | **Benchmarks and Math Practices**  **MAFS.912.** | | | | **Days**  **Dates** | **Learning Target Goal**  **“Students will be able to…”** | | **Homework Assignment and**  **Teacher Comments** |
| **Chapter 3 – Linear Systems** | | |  | | | |  |  | |  |
| **3-1 Solving Systems Using Tables and Graphs**  EQ – How do you use a set of values that replace the variables in the equations to solve a system of equations? | | | A-CED.1.2  A-REI.3.6  A-REI.4.11  A-CED.1.3  MP 1, MP 2, MP 3, MP 4, MP 5 | | | | 1 | * Solve a linear system using a graph or a table | |  |
| **3-2 Solving Systems Algebraically**  EQ – How can you use substitution to solve a system of equations? | | | A-CED.1.3  A-REI.3.6  A-CED.1.2  MP 1, MP 2, MP 3 | | | | 2 | * Solve linear systems algebraically | |  |
| **2-8 Two-Variable Inequalities**  EQ – How is graphing a line and graphing an inequality similar and different? | | | A-CED.1.2  F-IF.3.7b  MP 1, MP 3, MP 4, MP 5, MP 7 | | | | 1 | * Graph two-variable inequalities | |  |
| **3-3 Systems of Inequalities**  EQ – How do you solve a system of inequalities by graphing? | | | A-REI.3.6  A-CED.1.3  MP 1, MP 2, MP 3, MP 4, MP 7 | | | | 1 | * Solve systems of linear inequalities | |  |
| **Chapter 3 Mid-Chapter Quiz** | | |  | | | | 1 |  | |  |
| Teachers should be here by 10/20/16 | | | | | | | | | | |
| **Teacher Planning Day** | | | | | **10/21/16** | | | |  |  |
| **2nd 9-weeks -- *There are 33 teaching days and***  ***3 exam days / Early Release Days*** | | | | | **10/24/16 – 12/16/16** | | | |  |  |
| **Veteran’s Day** | | | | | **11/11/16** | | | |  |  |
| **Thanksgiving Holiday** | | | | | **11/23/16 – 11/25/16** | | | |  |  |
| **Middle School Exams – Mid-Year Progress Monitoring Test - (Early Release Days)** | | | | | **12/14/16**  **12/15/16 & 12/16/16** | | | |  |  |
| **Lessons – Pearson Florida Algebra 2**  **Math Florida Standards** | | | **Benchmarks and Math Practices**  **MAFS.912.** | | | | **Days**  **Dates** | **Learning Target Goal**  **“Students will be able to…”** | | **Homework Assignment and**  **Teacher Comments** |
| **Continue Chapter 3…**  **3-5 Systems with Three Variables**  EQ – How can you use the algebraic methods needed to solve a system of two equations to solve a system of three equations. | | | A-REI.3.6  MP 1, MP 3 | | | | 2 | * Solve systems in three variables using elimination * Solve systems in three variables using substitution | |  |
| **4-3 Modeling With Quadratic Functions**  **Concept Byte: Identifying Quadratic Data p215**  EQ – Explain how three noncollinear points, where no two of which are in line vertically, are on the graph of exactly one quadratic function? | | | F-IF.2.4  F-IF.2.5  F-IF.2.6  F-IF.3.7  MP 1, MP 3, MP 4 | | | | 2 | * Model data with quadratic functions | |  |
| **4-9 Quadratic Systems**  **Include: Concept Byte: Powers of Complex Numbers p 265**  EQ – How are the methods similar in solving quadratic equations to the ones used to solve system of linear equations? | | | A-CED.1.3  A-REI.3.7  A-REI.4.11  MP 1, MP 2, MP 3, MP 4 | | | | 2 | * Solve and graph systems of linear and quadratic equations * Solve and graph systems of quadratic inequalities | |  |
| **3-4 Linear Programming**  EQ – How can we use linear programming to solve real-world situations? | | | A-CED.1.3  F-LE.2.5  MP 1, MP 3, MP 4 | | | | 2 | * Solve problems using linear programming | |  |
| **Chapter 3 Review** | | |  | | | | 1 |  | |  |
| **Chapter 3 Test** | | |  | | | | 1 |  | |  |
| **Lessons – Pearson Florida Algebra 2**  **Math Florida Standards** | | | **Benchmarks and Math Practices**  **MAFS.912.** | | | | **Days**  **Dates** | **Learning Target Goal**  **“Students will be able to…”** | | **Homework Assignment and**  **Teacher Comments** |
| **Chapter 5 – Polynomials and Polynomial Functions** | | |  | | | |  |  | |  |
| **5-9 Transforming Polynomial Functions**  EQ – What does each variable represent and tell you about the graph of the equation  y = af (x – h) + k? | | | F-BF.2.3  F-IF.3.7c  F-IF.3.8  F-IF.3.9  MP 1, MP 2, MP 3, MP 4, MP 7 | | | | 1-2 | * Apply transformations to graphs of polynomials | |  |
| **5-1 Polynomial Functions**  EQ – How can you explain the distinguishing “behaviors” in looking at the algebraic form and its graph and what it tells you about the polynomial function? | | | F-IF.3.7  A-SSE.1.1a  MP 1, MP 2, MP 3, MP 5 | | | | 2 | * Classify polynomials * Graph polynomial functions and describe end behavior | |  |
| **5-2 Polynomials, Linear Factors and Zeros**  EQ – Explain how finding the zeros of a polynomial function will help you factor the polynomial, graph the function, and solve the related polynomial equation? | | | F-BF.1.1  F-IF.3.7c  A-APR.2.3  A-SSE.1.1  MP 1, MP 2, MP 3, MP 4, MP 5 | | | | 2 | * Analyze the factored form of a polynomial * Write a polynomial function from its zeros | |  |
| **5-3 Solving Polynomial Equations**  EQ – Explain how when you solve a polynomial equation that has a factor of  (x – a), that the polynomial has value 0 when x = a?  Also, explain that if *a* is a real number, then the graph of the polynomial has (a, 0) is an x-intercept? | | | A-REI.4.11  A-SSE.1.2  MP 1, MP 2, MP 3, MP 5, MP 6 | | | | 1 | * Solve polynomial equations by factoring * Solve polynomial equations by graphing | |  |
| **5-4 Dividing Polynomials**  EQ – How the steps in solving a long division problem similar to the steps needed to divide polynomials? | | | A-APR.2.2  A-APR.1.1  A-APR.4.6  MP 1, MP 2, MP 3, MP 6, MP 7 | | | | 2 | * Divide polynomials using long division * Divide polynomial using synthetic division | |  |
| **Chapter 5 Mid-Chapter Quiz** | | |  | | | | 1 |  | |  |
| **5-5 Theorems About Roots of Polynomial Equations**  EQ – How can you use the factors of the numbers and to help you factor P(x) and solve the equation  P(x) = 0? | | | N-CN.3.7  A-APR.3.4  MP 1, MP 2, MP 3, MP 4, MP 8 | | | | 2 | * Solve equations using the Rational Root Theorem * Use the Conjugate Root Theorem | |  |
| **5-6 The Fundamental Theorem of Algebra**  **Include: Concept Byte: Graphing Polynomials Using Zeros p325**  EQ – How does the degree of a polynomial equation tell you how many roots the equation has? | | | N-CN.3.7  A-APR.2.3  MP 1, MP 2, MP 3, MP 4 | | | | 2 | * Use the Fundamental Theorem of Algebra to solve polynomial equations with complex solutions | |  |
| **5-8 Polynomial Models in the Real World**  EQ – How can you use polynomial functions to model many real-world situations? | | | F-IF.2.5  F-IF.2.4  F-IF.2.6  F-IF.3.7  MP 1, MP 3, MP 4, MP 5 | | | | 1 | * Fit data to linear, quadratic, cubic, or quartic models | |  |
| **Chapter 5 Review** | | |  | | | | 1 |  | |  |
| **Chapter 5 Test** | | |  | | | | 1 |  | |  |
| **Lessons – Pearson Florida Algebra 2**  **Math Florida Standards** | | | **Benchmarks and Math Practices**  **MAFS.912.** | | | | **Days**  **Dates** | **Learning Target Goal**  **“Students will be able to…”** | | **Homework Assignment and**  **Teacher Comments** |
| **Chapter 11 – Probability and Statistics** | | |  | | | |  |  | |  |
| **11-1 Permutations and Combinations**  **Can be done after EOC**  EQ – What are permutations and combinations?  How are they used in real life? | | | S-CP.2.9  MP 1, MP 3,  MP 4, MP 6 | | | | **Optional NOT tested on EOC** | * Count permutations * Count combinations | |  |
| **11-2 Probability**  EQ – What is probability? How is it used in real life?  How is theoretical and experimental probability alike and different? | | | S-CP.1.1  S-IC.1.2  MP 1, MP 3,  MP 4, MP 5, MP 6 | | | | 1 | * Find the probability of an event using theoretical, experimental, and simulation methods | |  |
| **11-3 Probability of Multiple Events**  **Include: Concept Byte: Probability Distributions p694-695**  EQ – How can the probability of two events affect each other?  What are dependent events and independent events and how are they alike and different? | | | S-CP.2.7  S-CP.1.2  S-CP.1.5  MP 1, MP 2,  MP 3, MP 4, MP 6 | | | | 2 | * Find the probability of the event A and B * Find the probability of the event A or B | |  |
| **11-4 Conditional Probability**  EQ – What makes a probability problem conditional? | | | S-CP.2.6  S-CP.1.1  S-CP.1.3  S-CP.1.4  S-CP.1.5  MP 1, MP 2, MP 3, MP 4, MP 6 | | | | 2 | * Find conditional probabilities * Use tables and tree diagrams to determine conditional probabilities | |  |
| **5-7 The Binomial Theorem**  **Can be done after EOC**  EQ – How can you expand by using the Distributive Property? | | | A-APR.3.5  MP 1, MP 3, MP 8 | | | | **Optional NOT tested on EOC** | * Expand a binomial using Pascal’s Triangle * Use the Binomial Theorem | |  |
| **Chapter 11 Review on 11-2, 11-3 & 11-4** | | |  | | | | 1 |  | |  |
| **Chapter 11 Test on 11-2, 11-3 & 11-4** | | |  | | | | 1 |  | |  |
| **Semester Exams – Early Release Days**  **Mid-Year Progress Monitoring Test** | | | **12/14/16 & 12/15/16**  **12/16/16** | | | | |  | |  |
| **Winter Holidays** | | | **12/17/16 – 1/2/17** | | | | |  | |  |
| **3rd 9-weeks --*There are 47 teaching days.*** | | | **1/4/17 – 3/10/17** | | | | |  | |  |
| **Teacher Planning Day** | | | **1/3/17** | | | | |  | |  |
| **Lessons – Pearson Florida Algebra 2**  **Math Florida Standards** | | | **Benchmarks and Math Practices**  **MAFS.912.** | | | | **Days**  **Dates** | **Learning Target Goal**  **“Students will be able to…”** | | **Homework Assignment and**  **Teacher Comments** |
| **Chapter 6 – Radical Functions and Rational Exponents** | | |  | | | |  |  | |  |
| **6-1 Roots and Radical Expressions**  **Include: Concept Byte: Review: Properties of Exponents p360**  EQ – How do the powers and the corresponding roots relate to each other? | | | A-SSE.1.2  MP 1, MP 2, MP 3, MP 4 | | | | 1 | * Find *n*th roots | |  |
| **6-2 Multiplying and Dividing Radical Expressions**  EQ – What is needed to simplify a radical expression? | | | A-SSE.1.2  MP 1, MP 2, MP 3, MP 4 | | | | 2 | * Multiply and divide radical expressions | |  |
| **6-3 Binomial Radical Expressions**  EQ – Which properties are needed to combine like radicals? | | | A-SSE.1.2  MP 1, MP 2, MP 3, MP 4 | | | | 2 | * Add and subtract radical expressions | |  |
| **6-4 Rational Exponents**  EQ – How can you write a radical expression in an equivalent form using a fractional (rational) exponent instead of a radical sign? | | | N-RN.1.2  N-RN.1.1  MP 1, MP 3, MP 4 | | | | 2 | * Simplify expressions with rational exponents | |  |
| **Chapter 6 Mid-Chapter Quiz** | | |  | | | | 1 |  | |  |
| **6-5 Solving Square Root and Other Radical Equations**  EQ – Why does solving a square root equation require you to square each side that can produce extraneous solutions? | | | A-REI.1.2  A-CED.1.4  MP 1, MP 2, MP 3, MP 4 | | | | 2 | * Solve square root and other radical equations | |  |
| **6-8 Graphing Radical Functions**  EQ – Why is the square root function the inverse of a quadratic function that has a restricted domain? | | | F-IF.3.7b  F-IF.3.8  MP 1, MP 2, MP 3, MP 4, MP 5 | | | | 2 | * Graph square root and other radical functions | |  |
| **6-6 Function Operations**  EQ – Why is the domain of the function important when you are add, subtract, multiply or divide functions? | | | F-BF.1.1b  F-BF.1.1c  MP 1, MP 2, MP 3, MP 4 | | | | 2 | * Add, subtract, multiply and divide functions * Find the composite of two functions | |  |
| **6-7 Inverse Relations and Functions**  EQ – Why can the inverse of a function be a function or it may not be a function? | | | F-BF.2.4a  F-BF.2.4c  MP 1, MP 2, MP3 | | | | 2 | * Find the inverse of a relation or function | |  |
| **Chapter 6 Review** | | |  | | | | 1 |  | |  |
| **Chapter 6 Test** | | |  | | | | 1 |  | |  |
| **Lessons – Pearson Florida Algebra 2**  **Math Florida Standards** | | | **Benchmarks and Math Practices**  **MAFS.912…** | | | | **Days**  **Dates** | **Learning Target Goal**  **“Students will be able to…”** | | **Homework Assignment and**  **Teacher Comments** |
| **Chapter 7 – Exponential and Logarithmic Functions** | | |  | | | |  |  | |  |
| **7-1 Exploring Exponential Models**  EQ – How can you represent repeated multiplication with a function of the form | | | F-IF.3.7e  A-SSE.1.1b  A-SSE.2.3c  A-CED.1.2  F-IF.3.8  F-LE.2.5  MP 1, MP 2, MP 3, MP 4, MP 5 | | | | 1 | * Model exponential growth and decay | |  |
| **7-2 Properties of Exponential Functions**  EQ – Why can the factor a I the form stretch, compress, and possibly reflect the graph of the parent function | | | F-IF.3.7c  F-IF.3.7e  F-BF.1.1b  A-CED.1.2  A-SSE.1.1b  F-LE.2.5  F-IF.3.8  MP 1, MP 2, MP 3, MP 4, MP 5, MP 7 | | | | 2 | * Explore the properties of functions of the form * Graph exponential functions that have base e | |  |
| **7-3 Logarithmic Functions as Inverses**  EQ – Why is the exponential function considered one-to-one?  Why is the inverse a function?  How can you express “y as a function of x” for the inverse? | | | F-BF.2.4a  A-SSE.1.1b  F-IF.3.7e  F-IF.3.8  F-IF.3.9  MP 1, MP 2, MP 3, MP 4, MP 5 | | | | 2 | * Write and evaluate logarithmic expressions * Graph logarithmic functions | |  |
| **Chapter 7 Mid-Chapter Quiz** | | |  | | | | 1 |  | |  |
| **7-4 Properties of Logarithms**  EQ – Why do logarithms and exponents have corresponding properties? | | | F-LE.1.4  MP 1, MP 2, MP 3 | | | | 2 | * Use the properties of logarithms | |  |
| **7-5 Exponential and Logarithmic Equations**  EQ – Why can you use logarithms to solve exponential equations and use exponents to solve logarithmic equations? | | | A-REI.4.11  A-SSE.2.3  F-IF.3.7  F-IF.3.8  F-LE.1.4  MP 1, MP 3, MP 4, MP 5, MP 7 | | | | 2 | * Solve logarithmic and exponential equations | |  |
| **7-6 Natural Logarithms**  EQ – Why are the functions and y = In x are inverse functions? | | | F-LE.1.4  A-CED.1.3  A-REI.4.11  MP 1, MP 3, MP 4, MP 5 | | | | 2 | * Evaluate and simplify natural logarithms expressions * Solve equations using natural logarithms | |  |
| **Chapter 7 Review** | | |  | | | | 1 |  | |  |
| **Chapter 7 Test** | | |  | | | | 1 |  | |  |
| **Lessons – Pearson Florida Algebra 2**  **Math Florida Standards** | | | **Benchmarks and Math Practices**  **MAFS.912…** | | | | **Days**  **Dates** | **Learning Target Goal**  **“Students will be able to…”** | | **Homework Assignment and**  **Teacher Comments** |
| **Chapter 8 – Rational Functions** | | |  | | | |  |  | |  |
| **8-1 Inverse Variation**  EQ – How is Inverse Variation different from Direct Variation? | | | A-CED.1.1  A-CED.1.2  A-CED.1.4  MP 1, MP 2, MP 3, MP 4, MP 6 | | | | 1-2 | * Recognize and use inverse variation * Use joint and other variations | |  |
| **8-2 The Reciprocal Function Family**  EQ – What translations are included in the transformations of the parent reciprocal function? | | | F-BF.1.1  F-BF.2.3  F-IF.3.7  A-CED.1.2  A-APR.1.1  MP 1, MP 2, MP 3, MP 4, MP 5 | | | | 2 | * Graph reciprocal functions * Graph translations of reciprocal functions | |  |
| **8-3 Rational Functions and Their Graphs**  EQ – What is a rational function? What is special in its graph? | | | A-APR.2.3  A-CED.1.2  F-BF.1.1b  F-IF.3.7  MP 1, MP 3, MP 4 | | | | 2 | * Identify properties of rational functions * Graph rational functions | |  |
| **Chapter 8 Mid-Chapter Quiz** | | |  | | | | 1 |  | |  |
| **8-4 Rational Expressions**  EQ – What is similar about multiplying and dividing fractions and rational expressions?  How can you know that a rational expression is in its simplest form? | | | A-SSE.1.2  A-SSE.1.1b  A-SSE.1.1a  MP 1, MP 2, MP 3, MP 4 | | | | 1-2 | * Simplify rational expressions * Multiply and divide rational expressions | |  |
| **8-5 Adding and Subtracting Rational Expressions**  NOTE: This section is not tested on the EOC, but you need this foundation for 8-6.  EQ – What is similar about adding and subtracting fractions and rational expressions? | | | A-APR.4.7  MP 1, MP 3, MP 4 | | | | 2-3 | * Add and subtract rational expressions | |  |
| **8-6 Solving Rational Equations**  EQ – What is the first step needed in solving rational equations?  What problems could it cause in the final solution?  How can you determine the final answer?  What does the final answer mean in real life? | | | A-APR.4.7  A-APR.4.6  A-CED.1.1  A-REI.1.2  A-REI.4.11  MP 1, MP 2, MP 3, MP 4, MP 5 | | | | * Solve rational equations * Use rational equations to solve problems | |  |
| **Chapter 8 Review** | | |  | | | | 1 |  | |  |
| **Chapter 8 Test** | | |  | | | | 1 |  | |  |
| **Spring Break** | | | | **3/13/17 – 3/17/17** | | | |  | |  |
| **Teacher Planning Day** | | | | **3/20/17** | | | |  | |  |
| **4th 9-weeks Dates *-* There are 47 teaching days and 3 Exam / Early Release Days** | | | | **3/21/17 – 5/30/17** | | | |  | |  |
| **Middle School Exams (Early Release Days)** | | | | **5/25/17 & 5/26/17**  **5/30/17** | | | |  | |  |
| **Lessons – Pearson Florida Algebra 2**  **Math Florida Standards** | | | **Benchmarks and Math Practices**  **MAFS.912…** | | | | **Days**  **Dates** | **Learning Target Goal**  **“Students will be able to…”** | | **Homework Assignment and**  **Teacher Comments** |
| **Chapter 9 – Sequences and Series** | | |  | | | |  |  | |  |
| **9-1 Mathematical Patterns**  EQ – How can you determine if a list of numbers can be related to a mathematical rule? | | | A-SSE.2.4  F-BF.1.1  MP 1, MP 3, MP 4, MP 7 | | | | 2 | * Identify mathematical patterns found in a sequence * Use a formula to find the *n*th term of a sequence | |  |
| **9-2 Arithmetic Sequences**  EQ – What special pattern are you looking for in an arithmetic sequence? | | | F-BF.1.1  MP 1, MP 2, MP 3, MP 4, MP 5, MP 6 | | | | 1 | * Define, identify, and apply arithmetic sequences | |  |
| **9-3 Geometric Sequences**  EQ – What special pattern are you looking for in a geometric sequence? | | | A-SSE.2.4  F-BF.1.1  MP 1, MP 2, MP 3, MP 4, MP 6 | | | | 1 | * Define, identify, and apply geometric sequences | |  |
| **Chapter 9 Mid-Chapter Quiz** | | |  | | | | If needed |  | |  |
| **9-4 Arithmetic Series**  NOTE: This section is not tested on the EOC, but you need this foundation for 9-5.  EQ – What do you need to know about an arithmetic sequence if you want to find the sum of its terms? | | | F-IF.2.3\*  MP 1, MP 2, MP 3, MP 4 | | | | 1 | * Define arithmetic series and find their sums | |  |
| **9-5 Geometric Series**  EQ – What do you need to know about a geometric sequence if you want to find the sum of its terms? | | | A-SSE.2.4  MP 1, MP 2, MP 3, MP 4, MP 5 | | | | 1 | * Define geometric series and find their sums | |  |
| **Chapter 9 Review** | | |  | | | | 1 |  | |  |
| **Chapter 9 Test** | | |  | | | | 1 |  | |  |
| **Lessons – Pearson Florida Algebra 2**  **Math Florida Standards** | | | **Benchmarks and Math Practices**  **MAFS.912…** | | | | **Days**  **Dates** | **Learning Target Goal**  **“Students will be able to…”** | | **Homework Assignment and**  **Teacher Comments** |
| **Chapter 13 – Periodic Functions and Trigonometry** | | |  | | | |  |  | |  |
| **13-1 Exploring Periodic Data**  **Vocabulary is what is needed for the EOC.** | | | F-IF.2.4 | | | | 1 | * Identify cycles and periods of periodic functions * Find amplitudes of periodic functions | |  |
| **13-2 Angles and the Unit Circle**  **Include the information from the Concept Byte on Special Right Triangles**  EQ – What is special and important about an angle in Standard Position? | | | F-TF.1.2  MP 1, MP 2,  MP 3, MP 5 | | | | 2 | * Work with angles in standard position * Find coordinates of points on the unit circle | |  |
| **13-3 Radian Measure**  **Include: Concept Byte: Measuring Radians p843**  EQ – How are radians measured on a circle? | | | F-TF.1.1  MP 1, MP 2, MP 3, MP 4, MP 6 | | | | 1 | * Use radian measure for angles * Find the length of an arc of a circle | |  |
| **13-4 The Sine Function**  **Include: Concept Byte: Graphing Trigonometric Functions p860**  EQ – What is the Sine Function? How do you graph sine curves? | | | F-TF.1.2  F-IF.2.4  F-IF.3.7e  F-TF.2.5  MP 1, MP 2, MP 3, MP 4, MP 5 | | | | 2 | * Identify properties of the sine functions * Graph sine curves | |  |
| **13-5 The Cosine Function**  EQ – What is a cosine function?  How do you solve a cosine function? | | | F-TF.2.5  F-IF.2.4  F-IF.3.7e  F-TF.1.2  MP 1, MP 2, MP 3, MP 4, MP 5 | | | | 2 | * Graph and write cosine functions * Solve trigonometric equations | |  |
| **13-6 The Tangent Function**  **Can be done after EOC**  EQ – How does a tangent function differ from a sine function and a cosine function? | | | F-IF.3.7e  F-TF.1.2  F-TF.2.5  MP 1, MP 2, MP 3, MP 4, MP 5 | | | | **Optional NOT tested on EOC** | * Graph the tangent function | |  |
| **13-7 Translating Sine and Cosine Functions**  EQ – How do you translate trigonometric functions? | | | F-TF.2.5  F-IF.3.7e  MP 1, MP 2, MP 3, MP 4, MP 5, MP 7 | | | | 2 | * Graph translations of trigonometric functions * Write equations of translations | |  |
| **Chapter 13 Review** | | |  | | | | 1 |  | |  |
| **Chapter 13 Test** | | |  | | | | 1 |  | |  |
| **Lessons – Pearson Florida Algebra 2**  **Math Florida Standards** | | | **Benchmarks and Math Practices**  **MAFS.912…** | | | | **Days**  **Dates** | **Learning Target Goal**  **“Students will be able to…”** | | **Homework Assignment and**  **Teacher Comments** |
| **Chapter 11 – Statistics** | | |  | | | |  |  | |  |
| **11-6 Analyzing Data**  EQ – How can you describe and compare sets of data using various statistical measures? | | | S-IC.2.6  MP 1, MP 3, MP 4, MP 6 | | | | 1 | * Calculate measures of central tendency * Draw and interpret box-and-whisker plots | |  |
| **11-7 Standard Deviation**  EQ – What is standard deviation? What is variance? How do you measure each of these? How does standard deviation and variance relate to each other?  NOTE: students will NOT be required to calculate standard deviation | | | S-ID.1.4  S-IC.2.6  MP 1, MP 3, MP 4, MP 5, MP 8 | | | | 1-2 | * Find the standard deviation and variance of a set of values * Apply standard deviation and variance * Calculate z score when given the standard deviation to compare data points | |  |
| **11-10 Normal Distributions**  EQ – How can you derive a normal distribution from a set of numbers? | | | S-ID.1.4  S-IC.2.4  S-IC.2.5  MP 1, MP 3, MP 4 | | | | 1-2 | * Use a normal distribution | |  |
| **Concept Byte: Drawing Conclusions from Samples p748** | | | S-IC.2.4 | | | | 1 |  | |  |
| **11-8 Samples and Surveys**  EQ – What is a population and a sample when dealing with members of a set?  How does population and sample relate to each other? | | | S-IC.1.1  S-IC.2.3  S-IC.2.4  S-IC.2.6  MP 1, MP 2, MP 3, MP 4 | | | | 1-2 | * Identify sampling methods * Recognize bias in samples and surveys | |  |
| **Chapter 11 Review** | | |  | | | | 1 |  | |  |
| **Chapter 11 Test** | | |  | | | | 1 |  | |  |
| **11-9 Binomial Distributions**  **Can be done after EOC**  EQ – What is a binomial experiment? How can you derive possible outcomes from a binomial experiment? | | | S-CP.2.9\*  MP 1, MP 2, MP 3, MP 4, MP 5 | | | | **Optional NOT tested on EOC** | * Find binomial probabilities * Use binomial distributions | |  |
| **Lessons – Pearson Florida Algebra 2**  **Math Florida Standards** | | | **Benchmarks and Math Practices**  **MAFS.912…** | | | | **Days**  **Dates** | **Learning Target Goal**  **“Students will be able to…”** | | **Homework Assignment and**  **Teacher Comments** |
| **Chapter 10 – Conic Sections**  **Can be done after EOC** | | |  | | | | **Optional NOT tested on EOC** |  | |  |
| **10-1 Exploring Conic Sections**  **Can be done after EOC**  EQ – What are the 4 curves known as conic sections? How does each curve have its own distinct shape and properties? | | | G-GPE.1.2  MP 1, MP 2, MP 3, MP 5 | | | | **Optional NOT tested on EOC** |  | |  |
| **10-2 Sideways Parabolas** | | | G-GPE.1.2  MP 1, MP 3, MP 4, MP 6 | | | | **Optional NOT tested on EOC** | * Write the equation of a parabola when given the focus and directrix | |  |
| **10-3 Circles**  **Can be done after EOC**  EQ – What is a circle and its parts?  What does each part of the equation for a circle represent? | | | G-GPE.1.1\*  MP 1, MP 3, MP 4, MP 7 | | | | **Optional NOT tested on EOC** | * Write and graph the equation of a circle * Find the center and radius of a circle and use them to graph the circle | |  |
| **10-4 Ellipses**  **Can be done after EOC**  EQ – What is an ellipse?  How do a circle and ellipse compare and contrast to each other? | | | G-GPE.1.3\*  MP 1, MP 2, MP 3, MP 4, MP 7 | | | | **Optional NOT tested on EOC** | * Write an equation of an ellipse * Find the foci of an ellipse * Graph an ellipse | |  |
| **10-5 Hyperbolas**  **Can be done after EOC**  EQ – What is a hyperbola?  What are its parts and their relationship to the hyperbola?  How is a hyperbola and ellipse alike and different? | | | G-GPE.1.3\*  MP 1, MP 2, MP 3, MP 4, P 5 | | | | **Optional NOT tested on EOC** | * Graph hyperbolas * Find and use the foci of a hyperbola | |  |
| **10-6 Translating Conic Sections**  **Can be done after EOC**  EQ – What does it mean to translate a conic section? How do you translate a conic section? | | | G-GPE1.2  G-GPE.1.1\*  F-IF.3.8  MP 1, MP 3, MP 4, MP 5, MP 7 | | | | **Optional NOT tested on EOC** | * Write the equation of a translated conic section * Identify a translated conic section from an equation | |  |
| **Concept Byte: Solving Quadratic Systems**  **Can be done after EOC** | | |  | | | | **Optional NOT tested on EOC** |  | |  |
| **Chapter 10 Review** | | |  | | | |  |  | |  |
| **Chapter 10 Test** | | |  | | | |  |  | |  |
| **Lessons – Pearson Florida Algebra 2**  **Math Florida Standards** | | | **Benchmarks and Math Practices**  **MAFS.912…** | | | | **Days**  **Dates** | **Learning Target Goal**  **“Students will be able to…”** | | **Homework Assignment and**  **Teacher Comments** |
| **Chapter 12 – Matrices**  **Can be done after EOC** | | |  | | | |  |  | |  |
| **12-1 Adding and Subtracting Matrices**  **Can be done after EOC**  EQ – How are adding and subtracting numbers like adding and subtracting matrices? | | | N-VM.3.8  N-VM.3.10  MP 1, MP 2, MP 3, MP 4, MP 8 | | | | **Optional NOT tested on EOC** | * Add and subtract matrices * Solve matrix equations | |  |
| **12-2 Matrix Multiplication**  **Can be done after EOC**  EQ – How do you multiply matrices using both scalar and matrix multiplication? | | | N-VM.3.6  N-VM.3.7  N-VM.3.8  N-VM.3.9  MP 1, MP 2, MP 3, MP 4, MP 8 | | | | **Optional NOT tested on EOC** | * Multiply matrices using scalar and matrix multiplication | |  |
| **12-3 Determinants and Inverses**  **Can be done after EOC**  EQ – What is the inverse of a matrix? | | | N-VM.3.10  N-VM.3.12  MP 1, MP 2, MP 3, MP 4, MP 5, MP 6 | | | | **Optional NOT tested on EOC** | * Find the inverse of a matrix | |  |
| **12-4 Inverse Matrices and Systems**  **Can be done after EOC**  EQ – How do you solve systems of equations using matrix inverses and multiplication? | | | N-VM.3.8  MP 1, MP 2, MP 3, MP 4 | | | | **Optional NOT tested on EOC** | * Solve systems of equations using matrix inverses and multiplication | |  |
| **12-5 Geometric Transformations**  **Can be done after EOC**  EQ – How can you transform a geometric figure using matrix operations? | | | G-CO.1.5  G-CO.1.2  N-VM.3.6  N-VM.3.7  N-VM.3.8  MP 1, MP 2, MP 3, MP 4 | | | | **Optional NOT tested on EOC** | * Transform geometric figures using matrix operations | |  |
| **12-6 Vectors**  **Can be done after EOC**  EQ – What are vectors and how can they be used to solve problems? | | | N-VM.2.5a  N-VM.1.2  N-VM.1.3  N-VM.2.4  N-VM.2.5b  MP 1, MP 2, MP 3, MP 4 | | | | **Optional NOT tested on EOC** | * Use basic vector operations and the dot product | |  |
| **3-6 Solving System Using Matrices**  **Can be done after EOC**  EQ – How can you use a matrix to represent and solve a system of equations without writing the variables? | | | A-REI.3.8  MP 1, MP 2, MP 3, MP 5 | | | | **Optional NOT tested on EOC** | * Represent a system of linear equations with a matrix * Solve a system of linear equations using matrices | |  |
| **Chapter 12 Review** | | |  | | | |  |  | |  |
| **Chapter 12 Test** | | |  | | | |  |  | |  |
| **Final Exam Days - Early Release Days** | | | **5/25/17 & 5/26/17 & 5/30/17** | | | |  |  | |  |