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| **ALGEBRA I SCOPE & SEQUENCE 2016 - 2017** |
| **Unit 1** |
| ***Chapter 1:*** *Expressions, Equations and Functions (6 days)* |
| Essential Question(s): | How can mathematical ideas be represented?How can I represent quantities, patterns and relationships? |
| Student Friendly Objectives(s): | * **1.1** I can write algebraic expressions (A.SSE.1a, A.SSE.2/ A2AA1, A2BA1)
* **1.2** I can evaluate expressions using the order of operations (A.SSE.1b, A.SSE.2/ A2AA1, A2BA1)
* **1.3** I can describe the properties of equality and identity (A.SSE.1b, A.SSE.2/ A2AA1, A2BA1)
* **1.4** I can use the distributive property to simplify and evaluate expressions (A.SSE.1a, A.SSE.2/ A2AA1, A2BA1)***/*1.5** I can solve equations with one variable
* **Review**
* ***Test***
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| ***Chapter 2:*** *Solving Equations (10 days)* |
| Essential Question(s): | Can equations that appear to be different be equivalent?How can I solve equations? |
|  Student Friendly Objectives(s): | * **2.1** I can translate sentences into equations and inequalities (A.CED.1/ A2AA1)
* **2.2** I can solve one-step equations (A.REI.1, A.REI.3/ A2CA1, A2AA1)
* **2.3** I can solve multi-step equations with variables on one side(A.REI.1, A.REI.3/ A2CA1, A2AA1)
* **Quiz 2.1-2.3**
* **2.4** I can solve equations with variables on both sides (A.REI.1, A.REI.3/ A2CA1, A2AA1)
* **2.5** I can solve equations involving absolute value (A.REI.1, A.REI.3/ A2CA1, A2AA1)
* **2.6** I can compare ratios (A.REI.1, A.REI.3/ A2CA1, A2AA1)/**2.6** I can solve proportions (A.REI.1, A.REI.3/ A2CA1, A2AA1)
* **2.8** I can solve literal equations for a variable (A.CED.4, A.REI.3/ A2BA1, A2AA1)
* **Review**
* ***Test***
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| ***Chapter 5 :*** *Linear Inequities (4 days)* |
| Essential Question(s): | How do I represent relationships between quantities that are not equal?How does solving linear inequalities compare to equations? |
|  Student Friendly Objectives(s): | * **5.1** I can graph and identify solutions of one-step linear inequalities (A.CED.1, A.REI.3/ A2AA1)/**5.2** I can solve two-step linear inequalities (A.CED.1, A.REI.3/ A2AA1)
* **5.3** I can solve multi-step linear inequalities (A.CED.1, A.REI.3/ A2AA1)
* **Review (UNIT 1 Review)**
* **Mini Test**

**Use this review day to add extend items as needed*** **5.4** I can solve compound inequalities (A.CED.1, A.REI.3/ A2AA1) **EXTEND**
* **5.5** I can solve absolute value inequalities (A.CED.1, A.REI.3/ A2AA1) **EXTEND**
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| End of Unit 1 | ***BENCHMARK TEST (21 days)*** |
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| ***UNIT 2*** |
| ***Chapter 1 and Chapter 3: Linear Function (8 days)*** |
| Essential Question(s): | What are characteristics of graphs of linear equations?How can I represent and describe functions? |
|  Student Friendly Objectives(s): | * **1.6** I can represent and interpret graphs of relations (A.REI.10, F.IF.1)
* **1.7** I can determine whether a relation is a function and find function values (F.IF.1, F.IF.2)
* **1.8** I can interpret graphs of functions, including intercept, positive, negative, increasing and decreasing behavior (F.IF.4)
* **3.1** I can graph linear equations using a table (F.IF.4, F.IF.7a/ A1DA1, A4AA1)

Intro to 2 variables and tables * **3.5** I can recognize and relate arithmetic sequences to linear functions (F.BF.2, F.LE.2/ A1BA1)/**3.6** I can write an equation for a proportional relationship and write and equation for non-proportional relationships.
* **3.3** I can find rate of change and slope of a line (F.IF.6, F.LE.1a/ A4AA1, A3AA1)
* **Review**
* **Test**

Embedded * **3.2** Solving Linear Equation by Graphing**…**one variable
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| ***Chapter 4: Equations of Linear Functions (10 days)*** |
| Essential Question(s): | How can I write equations of lines?What information does the equation of a line give me? |
| Student Friendly Objectives(s): | * **4.1** I can graph the equation of a line in slope-intercept form (F.IF.7a, S.ID.7/ A1DA1, D3AA1)
* **Extension 4.1**
* **4.2** I can write an equation in slop intercept form
* **4.3** I can write the equation of a line of point-slope form (F.IF.2, F.LE.2/ A1BA1)
* **Quiz 4.1-4.3**
* **3.1** I can graph the equation of a line in standard form (F.IF.4, F.IF.7a/ A1DA1, A4AA1) (x & y intercept and standard form)
* **4.4** I can write equations of parallel and perpendicular lines (F.LE.2, S.ID.7/ A1BA1, D3AA1)
* **5.6** I can graph linear inequalities with two variables (A.CED.3, A.REI.12/ A2AA1, A2DA1)/**EXTENSION 5.6**
* **Review**
* **Test**
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| ***Chapter 6:Systemsof Linear Equations (6 days)***  |
| Essential Question(s): | What methods do I have to solve systems of equations?How can system of equations model real world situations?  |
| Student Friendly Objectives(s): | * **6.1** I can solve systems of equations by graphing (A.CED.3, A.REI.6/ A2DA1)
* **6.2** I can solve systems of equations by substitution (A.CED.3, A.REI.6/ A2DA1)
* **6.3** I can solve systems of equations by elimination (A.CED.2, A.REI.6/ A2DA1)
* **6.4** I can solve systems of equations by elimination with multiplication (A.CED.2, A.REI.6/ A2DA1)
* **Review**
* **Project**

Embedded throughout all units * **6.5** I can solve real-life applications using systems of equations (A.REI.6/ A2DA1, A3AA1
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| ***Chapter 7: Exponential Functions (6 days)*** |
| Essential Question(s): | What are characteristics of graphs of exponential functions? |
|  Student Friendly Objectives(s): | * **7.5** I can graph exponential functions and identify data that display exponential behavior.
* **7.6** I can solve problems involving exponential growth and solve problems involving exponential decay.
* **7.7** I can identify and generate geometric sequences and relate geometric sequences to exponential functions.
* **7.8** I can use a recursive formula to list terms in a sequence and write recursive formulas for arithmetic and geometric sequences.
* **Review**
* **Test**
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| ***End of Unit 2 Benchmark 2 (31 days)***  |
| ***UNIT 5*** |
| ***Chapter 9: Quadratic Functions and Equations (6 days)*** |
| Essential Question(s): | What are characteristics of the graphs of quadratic functions?How can I solve a quadratic equation? |
|  Student Friendly Objectives(s): | * **9.1** I can graph and identify characteristics of the graphs of quadratic equations (F.IF.4, F.IF.7a/ A4AA1)
* **9.2** I can solve quadratic equations by graphing (A.REI.4b, F.IF.7a/ A2CA1, A4AA1)
* **9.3** I can graph transformations of quadratic equations (A.SSE.3b, F.IF.7a/ A2BA1, A4AA1)
* **9.7** I can identify and graph step functions and Identify and graph absolute value and piecewise-defined functions./**10.1** I can graph and analyze dilations of radical functions and graph and analyze reflections and translations of radical functions.
* **Review**
* **Test**

Embed throughout the chapter* **9.6** Analyzing functions with successive Differences (identifying graphs based on the given data)
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| ***End of Unit 5 Benchmark 3 (7 days)*** |
| ***UNIT 4*** |
| ***Chapter 7: Exponents (5 days)*** |
| Essential Question(s): | What are the properties of Exponents?  |
| Student Friendly Objectives(s): | * **7.1** I can multiply exponents with the same base (A.SSE.2, F.IF.8b/ A2BA1)/**7.1** I can raise an exponent to a power (A.SSE.2, F.IF.8b/ A2BA1)
* **7.2** I can divide exponents with the same base (A.SSE.2, F.IF.8b/ A2BA1)/**7.2** I can simplify rational exponents (N.RN.1, N.RN.2/ A2BA1)
* **7.3** Rational Exponents
* **Review**
* **Test**
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| ***Chapter 8: Quadratic Expressions and Equations (PART 1) (6 days)*** |
| Essential Question(s): | When could a non-linear function be used to model a real-world situation?Can two algebraic expressions that appear to be different be equivalent? |
| Student Friendly Objectives(s): | * **8.1** I can classify, add, and subtract polynomials (A.SSE.1a, A.APR.1/ A2AA1, A2BA1)
* **8.2** I can multiply a polynomial by a monomial (A.APR.1/ A2AA1, A2BA1)
* **8.3** I can multiply polynomials (A.APR.1/ A2AA1, A2BA1)
* **8.4** I can factor using the distributive property (A.SSE.2, A.SSE.3a/ A2BA1)
* **Review**
* **Test**
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| ***Chapter 8: Quadratic Expressions and Equations (PART 2) (6 days)*** |
| Essential Question(s): | When could a non-linear function be used to model a real-world situation?Can two algebraic expressions that appear to be different be equivalent? |
| Student Friendly Objectives(s): | * **8.5** I can factor and solve quadratic equations (A.SSE.3a, A.REI.4b/ A2BA1, A2CA1)
* **8.6** I can factor and solve quadratic equations with a leading coefficient (A.SSE.3a, A.REI.4b/ A2BA1, A2CA1)
* **8.7** I can factor trinomials of the form $ax + bx+ c$. I can solve equations of the form $ax+ bx+ c= 0$
* **8.8** I can factor binomials that are the difference of squares and use the difference of squares to solve equations.
* **Review**
* **Test**

**If time allows add in these 2 sections** * **8.9** Factor the perfect square trinomials and solve equations involving perfect squares./**9.4** Complete the square to write perfect square trinomials and solve quadratic equations by completing the square.
* **9.5** I can solve quadratic equations by using the Quadratic Formula. I can use the discriminant to determine the number of solutions of a quadratic equation.
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| ***Chapter 10*** |
| Essential Question(s): | How can I solve rational and radical equations?  |
| Student Friendly Objectives(s): | * 10.2 I can find real solutions to quadratic equations
* 10.4 I can write and interpret quadratic equations and inequalities
* 11.2 I can write and intere
* 11.8
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| ***End of Unit 4 Benchmark 3 (days)*** |
| ***UNIT 4*** |
| ***AML/Seminar time Statistics*** |
| Essential Question(s): | How are statistics and probability used in the real world? |
|  Student Friendly Objectives(s): | ***1st quarter*** * ***Review with prerequisites***

***2nd quarter*** * **0*.*13**
* **12.3** I can describe distributions of data (S.ID.2, S.ID.3)
* **12.4** I can compare sets of data (S.ID.2, S.ID.3)
* **Extension 12.7**  I can find the probability of compound events (S.ID.2, S.ID.3)
* **Extension 12.8**

***3rd quarter*** * **Extension 4.5**
* **4.6**

***4th quarter*** * EOC prep
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