Middle School Algebra I Honors 2019-2020

Weeks	Resource Materials *Website Lesson/Activities*	Standards/Objectives Third Quarter	Dates	
			Taught	Tested
Weeks 1 – 3 Jan. 7 – Jan. 24	**Stations** **"Algebra II Station Activities for Common Core State Standards"** Graphing Quadratics p. 59-68 -- Unit 3	**Unit 3 Quadratic Functions (Part 2)** 8. Use the structure of an expression to identify ways to rewrite it. [A-SSE2] 5. Define appropriate quantities for the purpose of descriptive modeling. [N-Q2] 6. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. [N-Q3] 9. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression b) Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. [A-SSE3b] c) Determine a quadratic equation when given its graph or roots. (Alabama) 18. Solve quadratic Equations in one variable. [A-REI4] a) Use the method of completing the square to transform any quadratic equation in x into an equation of the form (x - p)2 = q that has the same solutions. Derive the quadratic formula from this form. [A-REI4a] b) Solve quadratic equations by inspection (e.g., for x2 = 49), taking square roots, completing the square and 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. [A-REI4b] 32. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. [F-IF8] a) Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context. [F-IF8a] *Text: 8-1, 8-2, 8-3, 8-4, 8-5, 8-6, 8-7, 8-8* Factoring only for 8-9 9-1, 9-2, 9-3, 9-5		

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Weeks 4 – 6 Jan. 27 – Feb. 14	**Unit 4** Representing Linear and Exponential Growth (FAL) Jogging Task (Rational Expressions Applying Properties of Exponents (FAL) **Stations** **Exponent Discovery Station** **Exponent Property Stations**	**Unit 4 Exponent Properties and Exponential Functions** **Part 1: Exponents** 9. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. d) Use the properties of exponents to transform expressions for exponential functions. [A-SSE3c] (ACT) 32. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. [F-IF8] (ACT) b) Use the properties of exponents to interpret expressions for exponential functions. [F-IF8b] (ACT) 40. Interpret the parameters in a linear or exponential function in terms of a context. [F-LE5] (ACT) 28. For a function that models a relationship between two quantities, interpret key features of the graphs and tables in term of the quantities, and sketch the graphs showing key features given a verbal description of the relationship. (F-IF4} 38. Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input output pairs (include reading these from a table). [F-LE2] 37. Distinguish between situations that can be modeled with linear functions and with exponential functions. [F- LE1] (ACT) a) Prove that linear functions grow by equal differences over equal int ervals, and that exponential functions grow by equal factors over equal intervals. [F- LE1a] (ACT) 8. Use the structure of an expression to identify ways to rewrite it.[A-SSE2] 22. 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). [A-REI10] 5. Define appropriate quantities for the purpose of descriptive modeling. [N-Q2] 12. Create equations and inequalities in one variable, and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions. [A-CED1] 34. Write a function that describes a relationship between two quantities.* [F-BF1] a) Determine an explicit expression, a recursive process, or steps for c alculation from a context. [F-BF1a] *Text: 7-1, 7-2, 7-3, 7-5, 7-6, 7-7*		

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Weeks 7 – 9 Feb. 17 – Mar. 12	**Unit 4 – Part 2** • Evaluating Statements about Radicals (FAL) • The Marvel of Medicine (Constructing Task) pages 36-45 • Visualizing Square Roots (Learning Task) • Paper Folding (Constructing Task) page 21 -33 **Stations** **"Algebra I Station Activities for Common Core State Standards"** Simplifying Radical Expressions with Variables p. 28-38 Operations with Radicals and Variables p. 39-52	**Unit 4 Exponent Properties and Exponential Functions** **Part 2: Radicals** 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. [N-RN1] (ACT) 2. Rewrite expressions involving radicals and rational exponents using the properties of exponents. [N-RN2] (ACT) 18. Solve quadratic equations in one variable. [A-REI4b] (ACT) a) Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form. [A-REI4a] b) Solve quadratic equations by inspection (e.g., for x2 = 49), taking square roots, completing the square and 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. [A-REI4b] 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 an irrational number is irrational. [N-RN3] 8. Use the structure of an expression to identify ways to rewrite it. [A-SSE2] 5. Define appropriate quantities for the purpose of descriptive modeling. [N-Q2] 7. Interpret expressions that represent a quantity in terms of its context.* [A-SSE1] b) Interpret complicated expressions by viewing one or more of their parts as a single entity. [A-SSE1b] *Text: 10-2, 10-3,10-4* **EQT Testing** **End of Quarter 3**		