Mt. Zion High School Curriculum Map

Name:_____Department:_____Math_____Subject:_____Algebra II Concepts_____

Quarter	Essential Skills	Strategies and Activities	CC Standards	Assessments
3	Students will be able to extend the properties of quadratics to all polynomial functions as well as perform polynomial operations and solve polynomial equations. Students will also generalize and analyze the properties of polynomial functions.	5.1.a How to apply the operations of exponents to the properties of polynomial operations such as addition, subtraction, and multiplication 5.2.a How to extend and analyze the algorithm of long division of numbers as it applies to long division and synthetic division of polynomials 5.3.a How to identify and analyze the end behavior or polynomial functions 5.4.a How to identify and analyze the relationship between zeros, roots, and extrema of polynomial functions 5.5.a How to apply, extend and generalize the properties of factoring from quadratic functions to polynomial functions 5.6.a How to derive and apply the Factor and Remainder Theorems for polynomial functions 5.7.a How to relate the factors and zeros of polynomial functions to their graphs and equations by using the Fundamental Theorem of Algebra 5.8.a How to derive and apply the Rational Zero Theorem to find all zeros and solutions to polynomial functions	51.a - A.APR.1 5.2.a - A.APR.6 5.3.a - F.IF.4, F.IF.7c 5.4.a - F.IF.4, F.IF.7c 5.5.a - A.CED.1 5.6.a - A.APR.2, F.IF.7c 5.7.a - N.CN.9, A.APR.3 5.8.a - N.CN.9, A.APR.3	Chapter 5 Quiz, Test, and Semester Exam

	Students will be able to apply the properties of inverse functions to construct, graph, simplify, and analyze radical functions. Students will be able to simplify and define rational exponents and radical expressions as well as solve problems that involve rational exponents. Students will be able to graph and solve problems involving exponential functions using properties of exponents and logarithms.	6.1.a – How to apply the four basic arithmetic operations as well as the composition to functions 6.2.a How to use the definition of an inverse relation to create inverse functions and determine whether two functions are inverses 6.3.a – How to apply properties of the inverse of a quadratic function to create and graph square root functions and inequalities 6.4.a – How to apply the properties of inverse relations to evaluate nth roots and radicals 6.5.a - How to add, subtract, multiply, and divide radical expressions 6.6.a – How to define, write, and simplify expressions using rational exponents 6.7.a – How to solve equations and inequalities containing radicals 7.1.a – How to classify and graph exponential growth and decay functions 7.2.a – How to solve simple exponential equations and inequalities by using properties of exponents 7.3.a – How to define and evaluate simple logarithms 7.4.a – How to solve simple logarithmic equations and inequalities by using the definition of logarithm	6.1.a - F.IF.9, F.BF.1b 6.2.a - F.IF.4, F.BF.4a 6.3.a - F.IF.7b, F.BF.3 6.4.a - A.SSE.2 6.5.a – A.SSE.2 6.6.a – A.SSE.2 6.7.a – A.REI.2 7.1.a. – F.IF.7e, F.IF.8b 7.2.a – A.CED.1, F.LE.4 7.3.a – F.IF.7e, F.BF.3 7.4.a – A.SSE.2, A.CED.1	Chapter 6 Quiz, Test, and Semester Exam Chapter 7 Quiz, Test, and Semester Exam

4	Students will be able to use the six trigonometric functions and three inverse functions to solve problems	7.5.a – How to simplify logarithms using the three major properties of logarithms 7.6.a – How to use common logarithms to solve exponential equations 7.7.a – How to define a natural logarithm and to solve equations that use natural logarithms and base *e* 12.1.a – How to find the values of the six trigonometric functions and use them to solve for missing sides of right triangles 12.4.a – How to solve problems for non-right triangles using the Law of Sines 12.5.a – How to solve problems for non-right triangles using the Law of Cosines	7.5.a – A.CED.1 7.6.a – A.CED.1 7.7.a – A.SSE.2 12.1.a – F.TF.1 12.4.a – F.TF.1 12.5.a – F.TF. 1	Chapter 12 Quiz and Semester Exam
	Students will be able to define, categorize, graph, and solve problems that involve the four conic sections.	9.1.a – How to derive and use the midpoint and distance formulas 9.2.a – How to define, graph, and write parabolas in standard form 9.3.a – How to define, graph, and write circles in standard form 9.4.a – How to define, graph, and write ellipses in standard form 9.5.a – How to define, graph, and write hyperbolas in standard form	9.1.a – A.CED.4 9.2.a – A.SSE.1b, A.CED.2 9.3.a – A.SSE.1b, A.CED.4 9.4.a – A.SSE.1b, A.CED.2 9.5.a – A.SSE.1b, A.CED.2	Homework

	Students will be able to define, simplify, add, subtract, multiply, and divide rational expressions as well as solve problems involving rational functions.	8.1.a – How to simplify rational expressions by multiplication and division 8.2.a – How to simplify rational expressions by using addition and subtraction 8.5.a – How to create and use direct, inverse, and joint variation problems 8.6.a – How to solve general rational equations as well as real-life problems such as combined rates problems	8.1.a – A.APR.7 8.2.a – A.APR.7 8.5.a – A.CED.2 8.6.a – A.CED.1, A.REI.2	Chapter 8 Quiz, Test, and Semester Exam