

CURRICULUM MAP FOR Algebra II

(Suggested timeline for introducing content and process standards - some overlap all four quarters)

GSE's NCTM Standards	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
1. Numbers Sense and Operations (content)	<ul style="list-style-type: none"> • Order of operations 1.2.1 • Evaluate expressions, and use formulas 1.5.1 • Properties of real numbers 1.1.1, 1.2.1 • Properties of equality of algebra 1.5.1 • Equations and inequalities 3.4.1 • Scientific notation 1.2.2 • Accuracy of results 1.3.1, 1.4.2 <p style="color: red; margin-top: 10px;">Required problems</p> <ul style="list-style-type: none"> • Missing the Boat #3 • Video Games #5 • Cal's Dinner Card Deals #11 	<ul style="list-style-type: none"> • Order of operations 1.2.1 • Evaluate expressions, and use formulas 1.5.1 • Properties of real numbers 1.1.1, 1.2.1 • Properties of equality of algebra 1.5.1 • Equations and inequalities 3.4.1 • Scientific notation 1.2.2 • Accuracy of results 1.3.1, 1.4.2 <p style="color: red; margin-top: 10px;">Required problems</p> <ul style="list-style-type: none"> • School Proposal # 2 • Law of Exponents #9 • Making the Most of It #12 • Bracelets and Necklaces #13 • Blending Problem #14 • School Proposal #16 	<ul style="list-style-type: none"> • Order of operations 1.2.1 • Evaluate expressions, and use formulas 1.5.1 • Properties of real numbers 1.1.1, 1.2.1 • Properties of equality of algebra 1.5.1 • Equations and inequalities 3.4.1 • Scientific notation 1.2.2 • Accuracy of results 1.3.1, 1.4.2 • Rational exponents 1.3.1 <p style="color: red; margin-top: 10px;">Required problems</p> <ul style="list-style-type: none"> • Holiday Inn Pool Problem#1 • The Square Pattern Task #6 • Exploring Area and Perimeter #7 • Radicals/Fractional Exponent Task #10 • Quadratic Equation Task #15 	<ul style="list-style-type: none"> • Order of operations 1.2.1 • Evaluate expressions, and use formulas 1.5.1 • Properties of real numbers 1.1.1, 1.2.1 • Properties of equality of algebra 1.5.1 • Equations and inequalities 3.4.1 • Scientific notation 1.2.2 • Accuracy of results 1.3.1, 1.4.2 • Compound interest 1.3.4 <p style="color: red; margin-top: 10px;">Required problems</p> <ul style="list-style-type: none"> • The Price is Rice # 4 • Penny Problem #8
2. Functions and Algebra (content)	<ul style="list-style-type: none"> • Linear functions 1.3.5 • Inequalities 3.4.1 • Patterns and sequences 3.1.1 • Domain and range 3.2.2 • 2 x 2 system of equations (supplement with graphing calculator) 3.4.1 	<ul style="list-style-type: none"> • Linear functions 1.3.5 • Inequalities 3.4.1 • Patterns and sequences 3.1.1 • Domain and range 3.2.2 • 3 x 3 system of equations 3.4.1 • Linear programming 3.4.1 • Rules of exponents 1.3.2 • Scientific notation 1.2.2 • Add, subtract, multiply and divide polynomials 3.3.1 • Factor polynomials 3.3.1 	<ul style="list-style-type: none"> • Linear functions 1.3.5 • Inequalities 3.4.1 • Patterns and sequences 3.1.1 • Domain and range 3.2.2 • inequalities • Simplify radicals having various indices, and use a calculator to estimate roots of numbers 3.3.1 • Radical expressions and equations 3.3.1 • Rational exponents and expressions 1.3.3 • Add, subtract, multiply and divide rational functions 3.3.1 	<ul style="list-style-type: none"> • Linear functions 1.3.5 • Inequalities 3.4.1 • Patterns and sequences 3.1.1 • Domain and range 3.2.2 • Quadratic functions (supplement with graphing calculator) 1.3.6 • Maximum and minimum values 3.2.2 • Higher degree polynomial functions 3.3.1 • Zeros (supplement with graphing calculator) 1.3.6, 3.2.2 • Exponential functions

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	<p>Required problems</p> <ul style="list-style-type: none"> Missing the Boat #3 	<p>Required problems</p> <ul style="list-style-type: none"> School Proposal #2 Law of Exponents #9 Making the Most of It #12 Bracelets and Necklaces #13 Blending Problem #14 School Proposal #16 	<ul style="list-style-type: none"> Complex fractions 3.3.1 Quadratic functions (supplement with graphing calculator) 1.3.6, 3.2.6 Quadratic equations by graphing, factoring, completing the square, and using the quadratic formula 3.3.1, 3.4.1 <p>Required problems</p> <ul style="list-style-type: none"> Holiday Inn Pool Problem #1 The Square Pattern Task #6 Exploring Area and Perimeter #7 Radicals/Fractional Exponent Tasks#10 Quadratic Equation Task #15 	<p>Required problems</p> <ul style="list-style-type: none"> The Price is Rice #4 Penny Problem #8
<p>3. Geometry and Measurement (content)</p>	<p>Required problems</p> <ul style="list-style-type: none"> Holiday Inn Pool Problem #1 	<ul style="list-style-type: none"> Perimeter, circumference, area, surface area, and volume 2.3.2, 2.3.1 Matrices to represent reflections, translations, and rotations 2.1.1 Patterns 3.1.2 <p>Required problems</p> <ul style="list-style-type: none"> The Square Pattern Task #6 	<ul style="list-style-type: none"> Perimeter, circumference, area, surface area, and volume 2.3.2, 2.3.1 <p>Required problems</p> <ul style="list-style-type: none"> Exploring Area and Perimeter #7 	<ul style="list-style-type: none"> Perimeter, circumference, area, surface area, and volume 2.3.1, 2.3.2 Distance and midpoint between two points in the coordinate plane 2.6.3 Equation of a circle 2.6.2 Systems of equations involving a line, circle, and/or a parabola 2.6.4
<p>4. Data, Statistics, and Probability (content)</p>	<ul style="list-style-type: none"> Mean, mode, and median to interpret data 4.2.1 Scatter plot and linear regression 4.1.1 Prediction equation (supplement with the graphing 	<ul style="list-style-type: none"> Mean, mode, and median to interpret data 4.2.1 Scatter plot and linear regression 4.1.1 Prediction equation (supplement with the graphing 	<ul style="list-style-type: none"> Mean, mode, and median to interpret data 4.2.1 	<ul style="list-style-type: none"> Mean, mode, and median to interpret data 4.2.1

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	calculator) 4.1.1 • Data using line plots and stem and leaf plots 4.2.1 Required problems • Video Games # 5	calculator) 4.1.1 Required problems • Video Games #5		
5. Problem Solving, Reasoning and Proof (process)	<ul style="list-style-type: none"> • Problem-solving strategies 5.1.1 • Logical conclusions and generalizations 5.2.1 • Mathematical conjectures and arguments 5.2.2 • Validity of a mathematical solution 5.2.3 • Mathematical reasoning in other disciplines. 5.2.4 	<ul style="list-style-type: none"> • Problem-solving strategies 5.1.1 • Logical conclusions and generalizations 5.2.1 • Mathematical conjectures and arguments 5.2.2 • Validity of a mathematical solution 5.2.3 • Mathematical reasoning in other disciplines. 5.2.4 	<ul style="list-style-type: none"> • Problem-solving strategies 5.1.1 • Logical conclusions and generalizations 5.2.1 • Mathematical conjectures and arguments 5.2.2 • Validity of a mathematical solution 5.2.3 • Mathematical reasoning in other disciplines. 5.2.4 	<ul style="list-style-type: none"> • Problem-solving strategies 5.1.1 • Logical conclusions and generalizations 5.2.1 • Mathematical conjectures and arguments 5.2.2 • Validity of a mathematical solution 5.2.3 • Mathematical reasoning in other disciplines. 5.2.4
6. Communication, Representation, and connections (process)	<ul style="list-style-type: none"> • Ideas clearly and logically in both written and oral form. 6.1.1 • Mathematical terminology, labels, symbols, and notation 6.1.3 • Questions, conjectures, definitions, and generalizations about data, information, and problem situations 6.1.4 • Models and technology 6.2.1 • Representations 6.2.2 • Oral and written form 6.3.3 Required problems #1, #3, #5, #11	<ul style="list-style-type: none"> • Ideas clearly and logically in both written and oral form. 6.1.1 • Mathematical terminology, labels, symbols, and notation 6.1.3 • Questions, conjectures, definitions, and generalizations about data, information, and problem situations 6.1.4 • Models and technology 6.2.1 • Representations 6.2.2 • Oral and written form 6.3.3 Required problems #2, #9, #12, #13, #14, #16	<ul style="list-style-type: none"> • Ideas clearly and logically in both written and oral form. 6.1.1 • Mathematical terminology, labels, symbols, and notation 6.1.3 • Questions, conjectures, definitions, and generalizations about data, information, and problem situations 6.1.4 • Models and technology 6.2.1 • Representations 6.2.2 • Oral and written form 6.3.3 Required problems #1, #6, #7, #10, #15	<ul style="list-style-type: none"> • Ideas clearly and logically in both written and oral form. 6.1.1 • Mathematical terminology, labels, symbols, and notation 6.1.3 • Questions, conjectures, definitions, and generalizations about data, information, and problem situations 6.1.4 • Models and technology 6.2.1 • Representations 6.2.2 • Oral and written form 6.3.3 Required problems #4, #8

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