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| **Algebra 2** |
| Time Frame | Topic/Unit | Skills/Concepts | Major Assessments  | Core Standards | Resources |
| 2 weeks | U1 Functions | * Function notation
* Evaluating Functions
* Graphing Functions
* Even and Odd Functions
* Piecewise functions
* Transformations of Graphs
* Inequalities
* Average Rate of Change
* Inverse functions
 | End of Unit Assessment | AII-A.CED.1AII-A.REI.11AII-F.IF.4AII-F.IF.6AII-F.BF.1bAII-F.BF.3bAII-F.BF.4a | *Integrated Mathematics Course 3 (Glencoe)**Integrated Mathematics Course III (AMSCO)**Functions Modeling Change**Algebra: Form and Function**Algebra 2 (AMSCO)* |
| 2 – 3 weeks | U2 Operations with Polynomials | * Exponent Rule Review
* Intro to Polynomials
* Add and Subtract Polynomials
* Multiply Polynomials
* Dividing Polynomials: No Remainder
* Dividing Polynomials: With Remainder
* Remainder and Factor Theorems
 | End of Unit Assessment | AII-A.APR.3AII-A.APR.6AII-F.BF.1b | *Integrated Mathematics Course 3 (Glencoe)**Integrated Mathematics Course III (AMSCO)**Functions Modeling Change**Algebra: Form and Function**Algebra 2 (AMSCO)* |
| 4 – 5 weeks | U3 Solving Polynomials Equations | * Solving Linear Equations
* Solving a System of Linear Equations in Two Variables Graphically
* Solving a System of Linear Equations in Two Variables Algebraically (Substitution)
* Solving a System of Linear Equations in Two Variables Algebraically (Elimination)
* Solving a System of Linear Equations in Three Variables Using Elimination
* Intro to Factoring
* Factor by Grouping
* The AC Method
* Completing the Square
* The Quadratic Formula
* Solving Quadratic Equations Graphically
* Factoring Higher Order Polynomaisl
* Factoring Using Algebraic Identities
* Applications of Polynomials: Volume Problems
* Facotr Completely
* Solving Polynomial Equations Graphically
* Solving Non-Linear Systems Algebraically
* Solving Non-Linear Systems Graphically
 | Solving Linear Systems QuizFactoring Quiz End of Unit Assessment | AII-A\_SSE.3AII-A\_SSE.3aAII-A\_SSE.3cAII-A.APR.2AII-A.APR.3AII-A.APR.6AII-A.CED.1AII-A.REI.4AII-A.REI.4bAII-A.REI.7bAII-A.REI.11 | *Integrated Mathematics Course 3 (Glencoe)**Integrated Mathematics Course III (AMSCO)**Functions Modeling Change**Algebra: Form and Function**Algebra 2 (AMSCO)* |
| 2 – 3 weeks | U4: Graphs of Polynomials | * Special Role of Zero
* Graphs and Standard Form
* Eros and Turning Point
* Even and Odd Functions
* Sketching the Graph of a Function
* Writing the Equation of a Function
* Intro to Parabolas
* Writing Quadratics in Vertex Form
 | End of Unit Assessment | AII-A.CED.1AII-A.REI.11AII-F.IF.4AII-F.IF.7AII-F.IF.7cAII-F.IF.7eAII-F.IF.8AII-F.IF.9AII-F.BF.3b | *Integrated Mathematics Course 3 (Glencoe)**Integrated Mathematics Course III (AMSCO)**Functions Modeling Change**Algebra: Form and Function**Algebra 2 (AMSCO)* |
| 2 – 3 weeks | U5: Rational Expressions | * Intro to Rational Expressions
* Simplifying Rational Expressions
* Multiplying Rational Expressions
* Dividing Rational Expressions
* Add and Subtract Rational Expressions
* Simplify Complex Fractions
* Solving Rational Equations
 | End of Unit Assessment | AII-A.CED.1AII-A.REI.1bAII-A.REI.2 | *Integrated Mathematics Course 3 (Glencoe)**Integrated Mathematics Course III (AMSCO)**Functions Modeling Change**Algebra: Form and Function**Algebra 2 (AMSCO)* |
| 3 weeks | U6: Complex Numbers | * Intro to Radical
* Simplify Radicals
* Add and Subtract Radical Expressions
* Multiply and Divide Radical Expressions
* Rationalize the Denominator
* Solve Radical Equations
* Imaginary Numbers
* Complex Numbers
* Complex Roots of Quadratic Equations
* Factoring in the Complex Realm
* Fundamental Theorem of Algebra
 | End of Unit Assessment | AII.N.CN.1AII.N.CN.2AII-A.REI.1bAII-A.REI.2 | *Integrated Mathematics Course 3 (Glencoe)**Integrated Mathematics Course III (AMSCO)**Functions Modeling Change**Algebra: Form and Function**Algebra 2 (AMSCO)* |
| 3 weeks | U7: Trigonometry | * Intro to Angles
* Intro to Radians
* Review of the Trig Functions
* Trig Functions and Circular Functions
* Using the Definition of Trig Functions
* Using Reference Angles
* Reinterpreting the Tangent Function
* The Reciprocal Trig Functions
* Graphs of Sine and Cosine
* Intro to Sinusoidal Functions
* Sketching Sinusoidal Functions
* Equations of Sinusoidal Functions
* Applications of Sinusoidal Functions
* Modeling Data sing Sinusoidal Functions
 | End of Unit Assessment | AII-A.CED.1AII-F.IF.4AII-F.IF.9AII-F.BF.1AII-F.BF.3bAII-F.TF.1AII-F.TF.2AII-F.TF.4AII-F.TF.5AII-F.TF.8 | *Integrated Mathematics Course 3 (Glencoe)**Integrated Mathematics Course III (AMSCO)**Functions Modeling Change**Algebra: Form and Function**Algebra 2 (AMSCO)* |
| 1 week | U8: Rational Exponents | * Integer Exponents
* Scientific Notation
* Rational Exponents
* Properties of Exponents and Radicals
* Solving Equations with Rational Exponents
 | End of Unit Assessment | AII-N.RN.1AII-N.RN.2 | *Integrated Mathematics Course 3 (Glencoe)**Integrated Mathematics Course III (AMSCO)**Functions Modeling Change**Algebra: Form and Function**Algebra 2 (AMSCO)* |
| 3 – 4 weeks | U9: Exponential and Logarithmic Functions | * Intro to Exponential Functions
* Exponential Growth Versus Linear Growth
* Graphs of Exponential Functions
* Solving Exponential Equations
* The Number e
* Intro to Logarithms
* Properties of Logarithms
* Solving Exponential Equations Part 2
* Change of Base Formula
* Solving Logarithmic Equations
* Graphs of Logarithmic Functions
* Transformations of Log Functions
* Transformations of Exponential Function
* General Form of Log and Expo Function
 | End of Unit Assessment | AII-A.CED.1AII-F.IF.4AII-F.IF.6AII-F.IF.7AII-F.IF.7cAII-F.IF.7eAII-F.IF.8AII-F.IF.8bAII-F.BF.1AII-F.BF.3bAII-F.BF.4aAII-F.BF.5aAII-F.BF.6AII-F.BF.7AII.F.LE.2AII.F.LE.4AII.F.LE.5 | *Integrated Mathematics Course 3 (Glencoe)**Integrated Mathematics Course III (AMSCO)**Functions Modeling Change**Algebra: Form and Function**Algebra 2 (AMSCO)* |
| 2 weeks | U10: Applications of Logs and Exponential Functions | * Modeling Data with Function
* Arithmetic Sequences
* Geometric Sequences
* Exponential Growth and Decay
* Compound Interest and Continuous Growth
* Geometric Series
* Annuities Future Value

Loans and Mortgage Present Value | End of Unit Assessment | AII-F.IF.3AII-F.BF.1aAII-F.BF.2 | *Integrated Mathematics Course 3 (Glencoe)**Integrated Mathematics Course III (AMSCO)**Functions Modeling Change**Algebra: Form and Function**Algebra 2 (AMSCO)* |
| 2 weeks | U11: Probability | * Intro to Probability
* Two Way Tables
* Intro to Conditional Probability
* Venn Diagrams
* Multiplication Rule
* Addition Rule
* Conditional Probability Rule
 | End of Unit Assessment | AII-S.CP.1AII-S.CP.4S-CP.1S-CP.2S-CP.3S-CP.5S-CP.6AII-S.CP.7 | *Integrated Mathematics Course 3 (Glencoe)**Integrated Mathematics Course III (AMSCO)**Functions Modeling Change**Algebra: Form and Function**Algebra 2 (AMSCO)* |
| 3 – 4 weeks | U12: Statistics | * Data Distributions
* Intro to Normal Distributions
* Normal Probabilities Part 1
* Normal Probabilities Part 2
* Statistical Studies
* Sample Variability
* Margin of Error for Proportions
* Margin of Error for Proportions 2
* Sampling Variability in the Sample Mean
* Margin of Error when Estimating the Sample Mean Part 1
* Margin of Error when Estimating the Sample Mean Part 2
* Experiments and Random Assignments
* Difference due to Random Chance
* Ruling out Chance Part 1
* Ruling out Chance Part 2
* Randomization Testing
 | End of Unit Assessment | AII-S.ID.4aAII-S.ID.4bAII-S.ID.6AII-S.ID.6aAII-S.IC.2AII-S.IC.4AII-S.IC.6aAII-S.IC.6b | *Integrated Mathematics Course 3 (Glencoe)**Integrated Mathematics Course III (AMSCO)**Functions Modeling Change**Algebra: Form and Function**Algebra 2 (AMSCO)* |