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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.1  AII-A.REI.11  AII-F.IF.4  AII-F.IF.6  AII-F.BF.1b  AII-F.BF.3b  AII-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.3  AII-A.APR.6  AII-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 Quiz  Factoring Quiz  End of Unit Assessment | AII-A\_SSE.3  AII-A\_SSE.3a  AII-A\_SSE.3c  AII-A.APR.2  AII-A.APR.3  AII-A.APR.6  AII-A.CED.1  AII-A.REI.4  AII-A.REI.4b  AII-A.REI.7b  AII-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.1  AII-A.REI.11  AII-F.IF.4  AII-F.IF.7  AII-F.IF.7c  AII-F.IF.7e  AII-F.IF.8  AII-F.IF.9  AII-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.1  AII-A.REI.1b  AII-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.1  AII.N.CN.2  AII-A.REI.1b  AII-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.1  AII-F.IF.4  AII-F.IF.9  AII-F.BF.1  AII-F.BF.3b  AII-F.TF.1  AII-F.TF.2  AII-F.TF.4  AII-F.TF.5  AII-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.1  AII-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.1  AII-F.IF.4  AII-F.IF.6  AII-F.IF.7  AII-F.IF.7c  AII-F.IF.7e  AII-F.IF.8  AII-F.IF.8b  AII-F.BF.1  AII-F.BF.3b  AII-F.BF.4a  AII-F.BF.5a  AII-F.BF.6  AII-F.BF.7  AII.F.LE.2  AII.F.LE.4  AII.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.3  AII-F.BF.1a  AII-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.1  AII-S.CP.4  S-CP.1  S-CP.2  S-CP.3  S-CP.5  S-CP.6  AII-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.4a  AII-S.ID.4b  AII-S.ID.6  AII-S.ID.6a  AII-S.IC.2  AII-S.IC.4  AII-S.IC.6a  AII-S.IC.6b | *Integrated Mathematics Course 3 (Glencoe)*  *Integrated Mathematics Course III (AMSCO)*  *Functions Modeling Change*  *Algebra: Form and Function*  *Algebra 2 (AMSCO)* |