**Curriculum Map**

**Unit 1 – The Foundations of Algebra**

|  |  |  |  |
| --- | --- | --- | --- |
| **1-1** | **The Real Number System** |  |  |
| **1-2** | **Operations on Integers** |  |  |
| **1-3** | **Simplifying Numerical Expressions (Order of Operations)** |  |  |
| **1-4** | **Rational Numbers** |  |  |
| **1-5** | **Approximating Square Roots** |  |  |
| **1-6** | **Constants, Variables and Expressions** |  |  |
| **1-7** | **Evaluating Expressions** |  |  |
| **1-8** | **Equivalent Expressions** |  |  |
| **1-9** | **Operations on Polynomials: Addition and Subtraction** |  |  |
| **1-10** | **Operations on Polynomials: Multiplication and Division**  |  |  |

**Unit 2 – Special Products and Factoring**

|  |  |  |  |
| --- | --- | --- | --- |
| **2-1** | **Multiplying Binomials**  |  |  |
| **2-2** | **Square of a Binomial** |  |  |
| **2-3** | **Square of a Trinomial** |  |  |
| **2-4** | **Sum and Difference of Two Terms** |  |  |
| **2-5** | **Cube of a Binomial** |  |  |
| **2-6** | **Factoring the Common Monomial Factor** |  |  |
| **2-7** | **Factoring the Difference of Two Squares** |  |  |
| **2-8** | **Factoring a Perfect Square Trinomial** |  |  |
| **2-9** | **Factoring a General Trinomial** |  |  |
| **2-10** | **Factoring the Sum and Difference of Two Cubes** |  |  |
| **2-11** | **Factoring by Grouping** |  |  |

**Unit 3 – Solving Equations and Inequalities in One Variable**

|  |  |  |  |
| --- | --- | --- | --- |
| **3-1** | **Solving Equations Using Properties of Equality** |  |  |
| **3-2** | **Solving Equations Involving Factored Expressions** |  |  |
| **3-3** | **Solving Equations Involving Variables in the Denominator** |  |  |
| **3-4** | **Literal Equations and Formulas** |  |  |
| **3-5** | **Inequalities and Their Graphs** |  |  |
| **3-6** | **Solving Inequalities Using Addition and Subtraction** |  |  |
| **3-7** | **Solving Inequalities Using Multiplication and Division** |  |  |
| **3-8** | **Solving and Graphing Compound Inequalities** |  |  |

**Unit 4 – Relations and Functions**

|  |  |  |  |
| --- | --- | --- | --- |
| **4-1** | **Relations: Definition and Representation** |  |  |
| **4-2** | **Functions: Definition and Representation** |  |  |
| **4-3** | **The Function Notation** |  |  |
| **4-4** | **The Composition of Functions** |  |  |
| **4-5** | **Writing a Function Rule** |  |  |
| **4-6** | **Graph of a Function** |  |  |

**Unit 5 - Linear Functions and Equations**

|  |  |  |  |
| --- | --- | --- | --- |
| **5-1** | **Linear Functions: Defined and Described** |  |  |
| **5-2** | **Domain and Range of Linear Functions** |  |  |
| **5-3** | **Standard Form and Slope-Intercept Form of Linear Equations** |  |  |
| **5-4** | **Slope and Intercepts of a Line** |  |  |
| **5-5** | **Determining Points on the Line** |  |  |
| **5-6** | **Graphing Linear Equations**  |  |  |
| **5-7** | **Finding the Equation of the Line** |  |  |

**Unit 6 – Linear Inequalities and Their Graphs**

|  |  |  |  |
| --- | --- | --- | --- |
| **6-1** | **Linear Inequality in Two Variables Defined** |  |  |
| **6-2** | **Solutions of Linear Inequalities in Two Variables** |  |  |
| **6-3** | **Graphs of Linear Inequalities** |  |  |

**Unit 7 - Systems of Linear Equations and Inequalities**

|  |  |  |  |
| --- | --- | --- | --- |
| **7-1** | **Solving Systems by Graphing** |  |  |
| **7-2** | **Solving Systems Using Substitution** |  |  |
| **7-3** | **Solving Systems Using Elimination** |  |  |
| **7-4** | **Applications of Linear Systems** |  |  |
| **7-5** | **Systems of Linear Inequalities** |  |  |

**Unit 8 - Quadratic Functions and Equations**

|  |  |  |  |
| --- | --- | --- | --- |
| **8-1** | **Quadratic Functions Defined** |  |  |
| **8-2** | **The Graph of Quadratic Functions** |  |  |
| **8-3** | **Solving Quadratic Equations by Extracting Square Roots** |  |  |
| **8-4** | **Solving Quadratic Equations by Factoring** |  |  |
| **8-5** | **Solving Quadratic Equations by Completing the Square** |  |  |
| **8-6** | **Solving Quadratic Equations by Using the Quadratic Formula** |  |  |
| **8-7** | **Discriminant and Nature of Roots** |  |  |
| **8-8** | **Systems of Linear and Quadratic Equations** |  |  |

**Unit 9 - Exponents and Exponential Functions**

|  |  |  |  |
| --- | --- | --- | --- |
| **9-1** | **Positive Integral Exponents** |  |  |
| **9-2** | **Zero and Negative Exponents** |  |  |
| **9-3** | **Simplifying Exponential Expressions** |  |  |
| **9-4** | **Rational Exponents and Radicals** |  |  |
| **9-5** | **Exponential Functions Defined** |  |  |
| **9-6** | **The Graph of an Exponential Function** |  |  |
| **9-7** | **Exponential Equations** |  |  |
| **9-8**  | **Exponential Growth and Decay** |  |  |

**Unit 10 – Rational and Radical Expressions and Equations**

|  |  |  |  |
| --- | --- | --- | --- |
| **10-1** | **Simplifying Rational Expressions** |  |  |
| **10-2** | **Multiplying and Dividing Rational Expressions** |  |  |
| **10-3** | **Adding and Subtracting Rational Expressions** |  |  |
| **10-4** | **Solving Rational Expressions** |  |  |
| **10-5** | **Simplifying Radicals** |  |  |
| **10-6** | **Operations with Radical Expressions** |  |  |
| **10-7** | **Solving Radical Equations** |  |  |
| **10-8** | **Graphing Square Root Functions** |  |  |

**Unit 11 – Sequences and Series**

|  |  |  |  |
| --- | --- | --- | --- |
| **11-1** | **Sequences Defined** |  |  |
| **11-2** | **Recursive Formula for Sequences** |  |  |
| **11-3** | **Arithmetic Sequence** |  |  |
| **11-4** | **Geometric Sequence** |  |  |
| **11-5** | **Other Types of Sequences** |  |  |
| **11-6** | **The Binomial Theorem** |  |  |

**Unit 12 – Statistics and Probability**

|  |  |  |  |
| --- | --- | --- | --- |
| **12-1** | **Shapes of Distributions** |  |  |
| **12-2** | **The Center of Data Distributions** |  |  |
| **12-3** | **Measure of Variability for Symmetrical and Skewed Distribution** |  |  |
| **12-4** | **Categorical Data on Two Variables** |  |  |
| **12-5** | **Numerical Data on Two Variables** |  |  |
| **12-6** | **Permutations and Combinations** |  |  |
| **12-7** | **Probability of Compound Events** |  |  |
| **12-8** | **Probability of Independent Events** |  |  |