**Major Work of Math I**

| **High School**  **Math I** | |
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| **Major Clusters** | **Supporting/Additional Clusters** |
| **The Real Number System**   * Extend the properties of exponents to rational exponents.   **Quantities**   * Reason quantitatively and use units to solve problems.   **Seeing Structure in Expressions**   * Interpret the structure of expressions * Write expressions in equivalent forms to solve problems.   **Creating Equations**   * Create equations that describe numbers or relationships.   **Reasoning with Equations and Inequalities**   * Understand solving equations as a process of reasoning and explain the reasoning. * Represent and solve equations and inequalities graphically   **Interpreting Functions**   * Understand the concept of a function and use function notation. * Interpret functions that arise in applications in terms of the context. * Analyze functions using different representations.   **Building Functions**   * Build a function that models a relationship between two quantities.   **Linear, Quadratic, and Exponential Models**   * Construct and compare linear and exponential models and solve problems. * Interpret expressions for functions in terms of the situation they model.   **Expressing Geometric Properties with Equations**   * Use coordinates to prove simple geometric theorems algebraically.   **Interpreting Categorical and Quantitative Data**   * Summarize, represent, and interpret data on a single count or measurement variable. * Summarize, represent, and interpret data on two categorical and quantitative variables. | **Arithmetic with Polynomials and Rational Expressions**   * Perform arithmetic operations on polynomials   **Reasoning with Equations and Inequalities**   * Solve equations and inequalities in one variable. * Solve systems of equations.   **Building Functions**   * Build new functions from existing functions.     **Congruence**   * Experiment with transformations in the plane.   **Geometric Measurement and Dimension**   * Explain volume formulas and use them to solve problems.   **Interpreting Categorical and Quantitative Data**   * Interpret linear models. |