# Algebra I Gateway Resources

August 2015

| Module | Lesson Title | SE |
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| 1 Functional Relationships | Writing Equations to Describe Functional Relationships (Table to Equation) | (12)(A) |
| | Writing Verbal Descriptions of Functional Relationships | (2)(C)<br>(4)(C)<br>(8)(B) |
| | Writing Equations to Describe Functional Relationships (Verbal to Equation) | (2)(C) |
| | Writing Inequalities to Describe Relationships (Verbal to Symbolic) | (2)(C)<br>(2)(H)<br>(4)(C) |
| | Writing Inequalities to Describe Relationships (Graph to Symbolic) | (3)(D) |
| | Writing Inequalities to Describe Relationships (Symbolic to Graph) | (3)(D) |
| | Connecting Multiple Representations of Linear Functions | (2)(C) |
| | Writing the Symbolic Representation of a Function (Graph to Symbolic) | (2)(C)<br>(7)(A) |
| 2 Properties and Attributes of Functions | Determining Parent Functions (Verbal/Graph) | (3)(C)<br>(7)(A) |
| | Determining Reasonable Domains and Ranges (Verbal/Graph) | (2)(A)<br>(6)(A) |
| | Interpreting Graphs | (1)(E)<br>(1)(F)<br>(2)(C) |
| | Interpreting Scatterplots | (4)(A)<br>(4)(C) |
| | Making Predictions and Critical Judgments (Table/Verbal) | (2)(C) |
| | Collecting Data and Making Predictions | (4)(A)<br>(4)(B)<br>(4)(C) |
| 3 Algebraic Symbols and Symbolic Manipulation | Writing Expressions to Model Patterns (Table/Pictorial to Symbolic) | (12)(D) |
| | Finding Specific Function Values (Verbal/Symbolic) | (12)(B) |
| | Simplifying Polynomial Expressions | (10)(A) |
| | Solving Equations and Inequalities | (5)(A)<br>(5)(B) |

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| | Solving One-Variable Inequalities | (5)(B) |
| | Factoring to Solve Problems | (8)(A)<br>(10)(E) |
| **4**<br>**Linear Functions** | Determining the Domain and Range for Linear Functions | (2)(A) |
| | Determining the Meaning of Slope and Intercepts | (1)(A)<br>(3)(B)<br>(3)(C) |
| | Determining the Meaning of Intercepts | (1)(A)<br>(1)(D)<br>(3)(C) |
| | Analyzing the Effects of the Changes in *m* and *b* on the Graph of *y = mx + b* | (3)(E) |
| | Writing Equations of Lines | (2)(B) |
| | Determining Intercepts and Zeroes of Linear Functions | (3)(C) |
| | Predicting the Effects of Changing *Y*-Intercepts in Problem Situations | (3)(E) |
| | Predicting the Effects of Changing Slope in Problem Situations | (3)(E) |
| | Direct Variation and Proportional Change | (2)(D) |
| **5**<br>**Linear Equations** | Investigating Methods for Solving Linear Equations and Inequalities | (3)(D)<br>(5)(A)<br>(5)(B) |
| | Selecting a Method to Solve Equations or Inequalities | (3)(D)<br>(5)(A)<br>(5)(B) |
| | Solving Linear Equations and Inequalities | (3)(D)<br>(5)(A)<br>(5)(B) |
| | Solving Linear Inequalities | (3)(D)<br>(5)(B) |
| | Formulating Systems of Equations (Verbal to Symbolic) | (1)(A)<br>(2)(I) |
| | Solving Systems of Equations with Graphs | (2)(I)<br>(3)(F)<br>(3)(G)<br>(5)(C) |
| | Solving Systems of Equations with Algebraic Methods | (3)(F)<br>(3)(G)<br>(5)(C) |

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| | Determining Reasonableness of Solutions (System of Equations) | (1)(B)<br>(5)(C) |
| **6 Quadratic and Other Non-Linear Functions** | Determining the Domain and Range for Quadratic Functions | (6)(A) |
| | Determining the Domain and Range for Quadratic Functions: Restricted Domain/Range | (1)(B)<br>(1)(G)<br>(6)(A) |
| | Analyzing the Effects of the Changes in *a* on the Graph *y = ax^2 + c* | (7)(C) |
| | Analyzing Graphs of Quadratic Functions | (7)(A) |
| | Solving Quadratic Equations Using Concrete Models | (1)(C)<br>(1)(D)<br>(8)(A)<br>(10)(B)<br>(10)(E)<br>(10)(F) |
| | Solving Quadratic Equations Using Tables | (1)(C)<br>(1)(D)<br>(8)(A) |
| | Solving Quadratic Equations Using Graphs | (1)(C)<br>(1)(D)<br>(8)(A) |
| | Solving Quadratic Equations Using Algebraic Methods | (8)(A) |
| | Quadratics: Connecting Roots, Zeros, and *X*-Intercepts | (7)(B) |
| | Applying the Laws of Exponents: Verbal/Symbolic | (11)(B) |
| | Using the Laws of Exponents to Solve Problems | (11)(B)<br>(12)(E) |