# 2017 Mathematics Textbooks and Instructional Materials Committee Consensus Form

## **Correlation to the 2016 Mathematics Standards of Learning and Curriculum Framework – Algebra I**

**Text/Instructional Material Title: \_Big Ideas Math Algebra 1: Virginia Edition\_\_\_**

**Publisher: \_\_Big Ideas Learning, LLC\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Copyright Date: 2019**

The tables included in this document represent the consensus ratings of 2017 Mathematics Textbook committee members.

**KEY:**

* **X** - rating applicable
* **\*** - rating not applicable

### Section I. Correlation with the Mathematics 2016 SOL and Curriculum Framework

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| **Mathematics Standard of Learning** | **Adequate** | **Limited** | **No Evidence** |
| **A.1** | **X** | **\*** | **\*** |
| **A.2** | **X** | **\*** | **\*** |
| **A.3** | **X** | **\*** | **\*** |
| **A.4** | **X** | **\*** | **\*** |
| **A.5** | **X** | **\*** | **\*** |
| **A.6** | **X** | **\*** | **\*** |
| **A.7** | **X** | **\*** | **\*** |
| **A.8** | **X** | **\*** | **\*** |
| **A.9** | **X** | **\*** | **\*** |

### Section II. Additional Criteria: Instructional Planning and Support

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| **Criteria** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| **1.** Materials emphasize the use of effective instructional practices and learning theory. | **n/a** | **n/a** | **n/a** |
| * 1. Students are guided through critical thinking and problem-solving approaches. | **X** | **\*** | **\*** |
| * 1. Concepts are introduced through concrete experiences that use manipulatives and other technologies. | **X** | **\*** | **\*** |
| * 1. Multiple opportunities are provided for students to develop and apply concepts through the use of calculators, hand held devices, computers, and other technologies. | **X** | **\*** | **\*** |
| * 1. Students use the language of mathematics including specialized vocabulary and symbols. | **X** | **\*** | **\*** |
| * 1. Students use a variety of representations (graphical, numerical, symbolic, verbal, and physical) to connect mathematical concepts. | **X** | **\*** | **\*** |
| 1. The mathematics content is significant and accurate. | **n/a** | **n/a** | **n/a** |
| * 1. Materials are presented in an organized, logical manner which represents the current thinking on how students learn mathematics. | **X** | **\*** | **\*** |
| * 1. Materials are organized appropriately within and among units of study. | **X** | **\*** | **\*** |
| * 1. Format design includes titles, subheadings, and appropriate cross-referencing for ease of use. | **X** | **\*** | **\*** |
| * 1. Writing style, length of sentences, vocabulary, graphics, and illustrations are appropriate. | **X** | **\*** | **\*** |
| * 1. Level of abstraction is appropriate, and practical examples, including careers, are provided. | **X** | **\*** | **\*** |
| * 1. Sufficient applications are provided to promote depth of application. | **X** | **\*** | **\*** |
| 1. Materials present content in an accurate, unbiased manner. | **X** | **\*** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| A.1 The student will | **n/a** | **n/a** | **n/a** |
| 1. represent verbal quantitative situations algebraically; and | X | **\*** | **\*** |
| 1. evaluate algebraic expressions for given replacement values of the variables. | X | **\*** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| A.2 The student will perform operations on polynomials, including | **n/a** | **n/a** | **n/a** |
| a) applying the laws of exponents to perform operations on expressions; | X |  | **\*** |
| b) adding, subtracting, multiplying, and dividing polynomials; and | \* | **X** | **\*** |
| c) factoring completely first- and second-degree binomials and trinomials in one variable. | X | **\*** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| A.3 The student will simplify | **n/a** | **n/a** | **n/a** |
| 1. square roots of whole numbers and monomial algebraic   expressions; | X | **\*** | **\*** |
| 1. cube roots of integers; and | X | **\*** | **\*** |
| 1. numerical expressions containing square or cube roots. | X | **\*** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| A.4 The student will solve | **n/a** | **n/a** | **n/a** |
| * 1. multistep linear equations in one variable algebraically; | X | **\*** | **\*** |
| * 1. quadratic equations in one variable algebraically; | X | **\*** | **\*** |
| * 1. literal equations for a specified variable; | X | **\*** | **\*** |
| * 1. systems of two linear equations in two variables algebraically and graphically; and | X | **\*** | **\*** |
| 1. practical problems involving equations and systems of equations. | X | **\*** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| A.5 The student will | **n/a** | **n/a** | **n/a** |
| 1. solve multistep linear inequalities in one variable algebraically and   represent the solution graphically; | X | **\*** | **\*** |
| 1. represent the solution of linear inequalities in two variables graphically; | X | **\*** | **\*** |
| c) solve practical problems involving inequalities; and | X | **\*** | **\*** |
| 1. represent the solution to a system of inequalities graphically. | X | **\*** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| A.6 The student will | **n/a** | **n/a** | **n/a** |
| a) determine the slope of a line when given an equation of the line, the graph of the line, or two points on the line; | X | **\*** | **\*** |
| b) write the equation of a line when given the graph of the line, two  points on the line, or the slope and a point on the line; and | **X** | **\*** | **\*** |
| c) graph linear equations in two variables. | **X** | **\*** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| A.7 The student will investigate and analyze linear and quadratic function  families and their characteristics both algebraically and graphically,  including | **n/a** | **n/a** | **n/a** |
| a) determining whether a relation is a function; | **X** | **\*** | **\*** |
| b) domain and range; | **X** | **\*** | **\*** |
| c) zeros; | **X** | **\*** | **\*** |
| d) intercepts; | **X** | **\*** | **\*** |
| e) values of a function for elements in its domain; and | **X** | **\*** | **\*** |
| f) connections between and among multiple representations of functions using verbal descriptions, tables, equations, and graphs. | **X** | **\*** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| A.8 The student, given a data set or practical situation, will analyze a relation to determine whether a direct or inverse variation exists, and represent a direct variation algebraically and graphically and an inverse variation algebraically. | X | **\*** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| A.9 The student will collect and analyze data, determine the equation of the curve of best fit in order to make predictions, and solve practical problems, using mathematical models of linear and quadratic functions. | **X** | **\*** | **\*** |

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