# 2017 Mathematics Textbooks and Instructional Materials Committee Consensus Form

## Correlation to the 2016 Mathematics Standards of Learning and Curriculum Framework – Grade 8

**Text/Instructional Material Title: \_ Big Ideas Math Course 3 (Grade 8): 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**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| **8.1** | **\*** | **X** | **\*** |
| **8.2** | **X** | **\*** | **\*** |
| **8.3** | **X** | **\*** | **\*** |
| **8.4** | **X** | **\*** | **\*** |
| **8.5** | **X** | **\*** | **\*** |
| **8.6** | **X** | **\*** | **\*** |
| **8.7** | **X** | **\*** | **\*** |
| **8.8** | **X** | **\*** | **\*** |
| **8.9** | **\*** | **X** | **\*** |
| **8.10** | **X** | **\*** | **\*** |
| **8.11** | **X** | **\*** | **\*** |
| **8.12** | **X** | **\*** | **\*** |
| **8.13** | **X** | **\*** | **\*** |
| **8.14** | **X** | **\*** | **\*** |
| **8.15** | **X** | **\*** | **\*** |
| **8.16** | **\*** | **X** |  |
| **8.17** | **X** | **\*** | **\*** |
| **8.18** | **X** | **\*** | **\*** |

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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** | **\*** | **\*** |

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

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| * 1. The student will compare and order real numbers. | \* | **X** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| * 1. The student will describe the relationships between the subsets of the real number system. | X | **\*** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| 8.3 The student will | **n/a** | **n/a** | **n/a** |
| 1. estimate and determine the two consecutive integers between which a square root lies; and | X | **\*** | **\*** |
| 1. determine both the positive and negative square roots of a given perfect square. | X | **\*** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| 8.4 The student will solve practical problems involving consumer applications. | X | **\*** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| 8.5 The student will use the relationships among pairs of angles that are vertical angles, adjacent angles, supplementary angles, and complementary angles to determine the measure of unknown angles. | X | **\*** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| 8.6 The student will | **n/a** | **n/a** | **n/a** |
| 1. solve problems, including practical problems, involving volume and surface area of cones and square-based pyramids; and | X | **\*** | **\*** |
| 1. describe how changing one measured attribute of a rectangular prism affects the volume and surface area. | X | **\*** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| 8.7 The student will | **n/a** | **n/a** | **n/a** |
| a) given a polygon, apply transformations, to include translations, reflections, and dilations, in the coordinate plane; and | \* | **X** | **\*** |
| b) identify practical applications of transformations. | X | **\*** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| 8.8 The student will construct a three-dimensional model, given the top or  bottom, side, and front views. | X | **\*** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| 8.9 The student will | **n/a** | **n/a** | **n/a** |
| 1. verify the Pythagorean Theorem; and | **\*** | **X** | **\*** |
| 1. apply the Pythagorean Theorem. | **\*** | **X** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| 8.10 The student will solve area and perimeter problems, including practical  problems, involving composite plane figures. | **X** | **\*** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| 8.11 The student will | **n/a** | **n/a** | **n/a** |
| 1. compare and contrast the probability of independent and dependent events; and | **X** | **\*** | **\*** |
| 1. determine probabilities for independent and dependent events. | **X** | **\*** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| 8.12 The student will | **n/a** | **n/a** | **n/a** |
| 1. represent numerical data in boxplots; | **X** | **\*** | **\*** |
| 1. make observations and inferences about data represented in boxplots; and | **X** | **\*** | **\*** |
| 1. compare and analyze two data sets using boxplots. | **X** | **\*** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| 8.13 The student will | **n/a** | **n/a** | **n/a** |
| a) represent data in scatterplots; | **X** | **\*** | **\*** |
| b) make observations about data represented in scatterplots; and | **X** | **\*** | **\*** |
| c) use a drawing to estimate the line of best fit for data represented in a  scatterplot. | **X** | **\*** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| 8.14 The student will | **n/a** | **n/a** | **n/a** |
| 1. evaluate an algebraic expression for given replacement values of the variables; and | **X** | **\*** | **\*** |
| 1. simplify algebraic expressions in one variable. | **X** | **\*** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| * 1. The student will | **n/a** | **n/a** | **n/a** |
| a) determine whether a given relation is a function; and | **X** | **\*** | **\*** |
| b) determine the domain and range of a function. | **X** | **\*** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| 8.16 The student will | **n/a** | **n/a** | **n/a** |
| 1. recognize and describe the graph of a linear function with a slope that is positive, negative, or zero; | **X** | **\*** | **\*** |
| 1. identify the slope and *y*-intercept of a linear function, given a table of values, a graph, or an equation in *y* = *mx* + *b* form; | **\*** | **X** | **\*** |
| 1. determine the independent and dependent variable, given a practical situation modeled by a linear function; | **\*** | **X** | **\*** |
| 1. graph a linear function given the equation in *y* = *mx* + *b* form; and | **\*** | **X** | **\*** |
| 1. make connections between and among representations of a linear function using verbal descriptions, tables, equations, and graphs. | **\*** | **X** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| 8.17 The student will solve multistep linear equations in one variable with the  variable on one or both sides of the equation, including practical problems  that require the solution of a multistep linear equation in one variable. | **X** | **\*** | **\*** |

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| **Mathematics Standard of Learning** | **Adequate**  **Rating** | **Limited**  **Rating** | **No Evidence**  **Rating** |
| 8.18 The student will solve multistep linear inequalities in one variable with the variable on one or both sides of the inequality symbol, including practical problems, and graph the solution on a number line. | **X** | **\*** | **\*** |

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