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

**Text/Instructional Material Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Publisher: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Committee Member: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**NOTE: The rating cells in the tables below are empty in order for division-level review teams to utilize this form.**

## **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** |  |  |  |
| **8.2** |  |  |  |
| **8.3** |  |  |  |
| **8.4** |  |  |  |
| **8.5** |  |  |  |
| **8.6** |  |  |  |
| **8.7** |  |  |  |
| **8.8** |  |  |  |
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| **8.12** |  |  |  |
| **8.13** |  |  |  |
| **8.14** |  |  |  |
| **8.15** |  |  |  |
| **8.16** |  |  |  |
| **8.17** |  |  |  |
| **8.18** |  |  |  |

## **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. |  |  |  |
| * 1. Students are guided through critical thinking and problem-solving approaches.
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| * 1. Concepts are introduced through concrete experiences that use manipulatives and other technologies.
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| * 1. Multiple opportunities are provided for students to develop and apply concepts through the use of calculators, hand held devices, computers, and other technologies.
 |  |  |  |
| * 1. Students use the language of mathematics including specialized vocabulary and symbols.
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| * 1. Students use a variety of representations (graphical, numerical, symbolic, verbal, and physical) to connect mathematical concepts.
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| 1. The mathematics content is significant and accurate.
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| * 1. Materials are presented in an organized, logical manner which represents the current thinking on how students learn mathematics.
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| * 1. Materials are organized appropriately within and among units of study.
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| * 1. Format design includes titles, subheadings, and appropriate cross-referencing for ease of use.
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| * 1. Writing style, length of sentences, vocabulary, graphics, and illustrations are appropriate.
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| * 1. Level of abstraction is appropriate, and practical examples, including careers, are provided.
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| * 1. Sufficient applications are provided to promote depth of application.
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| 1. Materials present content in an accurate, unbiased manner.
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| **Mathematics Standard of Learning** | **Adequate****Rating** | **Limited****Rating** | **No Evidence Rating** |
| * 1. The student will compare and order real numbers.
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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.
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| **Mathematics Standard of Learning** | **Adequate****Rating** | **Limited****Rating** | **No Evidence Rating** |
| 8.3 The student will  |  |  |  |
| 1. estimate and determine the two consecutive integers between which a square root lies; and
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| 1. determine both the positive and negative square roots of a given perfect square.
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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. |  |  |  |

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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. |  |  |  |

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| **Mathematics Standard of Learning** | **Adequate****Rating** | **Limited****Rating** | **No Evidence Rating** |
| 8.6 The student will  |  |  |  |
| 1. solve problems, including practical problems, involving volume and surface area of cones and square-based pyramids; and
 |  |  |  |
| 1. describe how changing one measured attribute of a rectangular prism affects the volume and surface area.
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| **Mathematics Standard of Learning** | **Adequate****Rating** | **Limited****Rating** | **No Evidence Rating** |
| 8.7 The student will  |  |  |  |
| a) given a polygon, apply transformations, to include translations, reflections, and dilations, in the coordinate plane; and |  |  |  |
| b) identify practical applications of transformations. |  |  |  |

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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. |  |  |  |

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

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| **Mathematics Standard of Learning** | **Adequate****Rating** | **Limited****Rating** | **No Evidence Rating** |
| 8.11 The student will  |  |  |  |
| 1. compare and contrast the probability of independent and dependent events; and
 |  |  |  |
| 1. determine probabilities for independent and dependent events.
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| **Mathematics Standard of Learning** | **Adequate****Rating** | **Limited****Rating** | **No Evidence Rating** |
| 8.12 The student will  |  |  |  |
| 1. represent numerical data in boxplots;
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| 1. make observations and inferences about data represented in boxplots; and
 |  |  |  |
| 1. compare and analyze two data sets using boxplots.
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| **Mathematics Standard of Learning** | **Adequate****Rating** | **Limited****Rating** | **No Evidence Rating** |
| 8.13 The student will |  |  |  |
| a) represent data in scatterplots; |  |  |  |
|  b) make observations about data represented in scatterplots; and |  |  |  |
|  c) use a drawing to estimate the line of best fit for data represented in a scatterplot. |  |  |  |

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| **Mathematics Standard of Learning** | **Adequate****Rating** | **Limited****Rating** | **No Evidence Rating** |
| 8.14 The student will  |  |  |  |
| 1. evaluate an algebraic expression for given replacement values of the variables; and
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| 1. simplify algebraic expressions in one variable.
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| **Mathematics Standard of Learning** | **Adequate****Rating** | **Limited****Rating** | **No Evidence Rating** |
| * 1. The student will
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|  a) determine whether a given relation is a function; and  |  |  |  |
|  b) determine the domain and range of a function. |  |  |  |

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

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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.  |  |  |  |

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