



Correlation of *Interactive Mathematics Program (IMP)* with West Virginia Specific Criteria for Content and Skills Integrated Math Year Two

INTRODUCTION

Integrated Mathematics – Years I, II and III provide a core mathematics curriculum for all students in grades 9 - 12; year IV continues the preparation of students for college mathematics. The courses are designed to implement the vision of high school mathematics portrayed in the National Council of Teachers of Mathematics Principles and Standards for School Mathematics. These courses feature ‘strands’ of algebra and function, geometry and trigonometry, statistics and probability, and discrete mathematics connected within units by fundamental ideas and across units by mathematical processes.

The evaluation of all mathematics materials is based on separate criteria for three (3) categories:

- Category I: Standards Based Components
- Category II: Technology and Manipulatives
- Category III: Mathematics Content

In order to be approved and listed on the West Virginia Multiple List for Mathematics Materials, each category must be evaluated separately.

- Category I: Standards Based Components must meet 80% (4/5) of the criteria at "In-depth" and/or "Adequate."
- Category II: Technology and Manipulatives must also meet 80% (7/8) of the criteria at "In-depth" and/or "Adequate."
- Category III: Mathematics Content must meet 80% of the criteria at "In-depth" and/or "Adequate" for each grade level or course.



Standard	Expectations	Correlation of <i>IMP</i> Year 2
<p>All materials at this grade level (1) be research based and theory driven; (2) incorporate basic, accurate information that is developmentally appropriate; (3) use interactive activities that actively engage students; (4) provide students with opportunities to model and practice relevant skills; (5) develop higher order thinking opportunities; and (6) be based on national standards. The instructional materials should provide students with opportunities to:</p>	<hr/> <p>1. solve multi-step linear equations in one variable and apply skills toward solving practical problems (A1.2.2)</p> <hr/> <p>2. solve multi-step linear inequalities in one variable, interpret the results on a number line and apply the skills toward solving practical problems (A1.2.3)</p> <hr/> <p>3. solve literal equations for a given variable and apply the skills toward solving practical problems (A1.2.4)</p> <hr/> <p>4. solve absolute value equations in one variable and interpret the results on a number line (A1.2.6)</p> <hr/> <p>5. use the laws of exponents to perform operations on expressions with integral exponents (A1.2.7)</p>	<p>A. ALGEBRA/PRECALCULUS 2</p> <hr/> <p><i>Solve It!</i> Solving Equations & Understanding Situations: pp. 7-8, 10, 15-16 Keeping Things Balanced: pp. 20-22, 25-26, 28-30 What's the Same?: pp. 60-66 Linear World: pp. 68-70 Beyond Linearity: pp. 88-90</p> <hr/> <p><i>Cookies</i> Cookies & Inequalities: pp. 305-310 Picturing Cookies: p. 314</p> <hr/> <p><i>Solve It!</i> Keeping Things Balanced: pp. 29-32 Linear World: pp. 71, 75-78 Beyond Linearity: p. 81</p> <p><i>Cookies</i> Using the Feasible Region: p. 337 Cookies & the University: pp. 348-352 Creating Problems: p. 357</p> <hr/> <p>YEAR 4: <i>World of Functions</i></p> <hr/> <p><i>All About Alice</i> Extending Exponentiation: pp. 393-395 "Curiouser & Curiouser!": pp. 407-408-410 YEAR 3: <i>Small World, Isn't It?</i></p>



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	<p>6. estimate and simplify square roots into both exact and approximate forms (A1.2.15)</p> <hr/> <p>7. simplify radicals and expressions involving fractional exponents and convert between the two forms (A2.2.5)</p> <hr/> <p>8. solve equations containing radicals and exponents (A2.2.8)</p> <hr/> <p>9. solve and graph the solution set of systems of linear inequalities in two variables by finding the maximum and minimum values of a function over a region using linear program techniques (A2.2.12)</p>	<p>A. ALGEBRA/PRECALCULUS 2 (<i>continued</i>)</p> <hr/> <p><i>Do Bees Build it Best?</i> Special Property of Right Triangles: pp. 231, 233 Corral Problem: pp. 245, 247</p> <hr/> <p><i>Do Bees Build it Best?</i> Corral Problem: p. 245</p> <p><i>All About Alice</i> "Curiouser & Curiouser!": pp. 402-403, 406</p> <hr/> <p><i>Solve It!</i> Linear World: pp. 77-78</p> <p><i>Do Bees Build it Best?</i> Special Property of Right Triangles: pp. 228-229, 233, 238-239 Corral Problem: pp. 242-244, 246 From Two Dimensions to Three: p. 266</p> <p><i>All About Alice</i> Turning Exponents Around: pp. 413-416</p> <hr/> <p><i>Cookies</i> Cookies & Inequalities: pp. 302-304, 310 Picturing Cookies: pp. 312-313, 315, 318, 323-324 Using the Feasible Region: pp. 326-328, 330-331, 334-336 Cookies & the University: pp. 348-349, 352 Creating Problems: pp. 355-357</p>



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	<p>10. solve practical problems involving direct, inverse, and joint variation (A2.2.13)</p> <hr/> <p>1. apply the Pythagorean Theorem and its converse in solving practical problems and in deriving the special right triangle relationships (G.3.11)</p> <hr/> <p>2. develop properties of tessellating figures and use those properties to tessellate the plane (G.3.14)</p> <hr/> <p>3. develop and apply formulas for area, perimeter, surface area, and volume and apply them in the modeling of practical problems (G.3.15)</p>	<p>A. ALGEBRA/PRECALCULUS 2 (<i>continued</i>)</p> <hr/> <p><i>Solve It!</i> Solving Equations & Understanding Situations: pp. 7-8, 15-16 Keeping Things Balanced: pp. 26, 29-32 Linear World: pp. 77-78 Beyond Linearity: pp. 82-83</p> <p>B. GEOMETRY/TRIGONOMETRY 2</p> <hr/> <p><i>Do Bees Build it Best?</i> Special Property of Right Triangles: pp. 226, 228-233, 238-239 Corral Problem: pp. 242-244, 246</p> <hr/> <p><i>Do Bees Build it Best?</i> Special Property of Right Triangles: pp. 226-240 Corral Problem: pp. 234-237 Back to Bees: p. 271</p> <hr/> <p><i>Do Bees Build it Best?</i> Bees & Containers: p. 198 Area, Geoboards, & Trigonometry: pp. 202-215, 217-218 Special Property of Right Triangles: pp. 238-240 Corral Problem: pp. 242-244, 246 From Two Dimensions to Three: pp. 250-263, 266-269 Back to Bees: p. 272</p>



Standard	Expectations	Correlation of <i>IMP</i> Year 2
	<p>4. find or approximate the area of irregularly shaped regions (G.3.20)</p> <hr/> <p>5. find the area of a triangle given the measures of two sides and the included angle or the measures of three sides (Heron's formula) (T.3.9)</p> <hr/> <p>1. describe individual performances in terms of percentiles, z-scores, and t-scores (PS.5.8)</p> <hr/> <p>2. describe the role of sampling, randomness, bias, and sample size in data collection and interpretation (PS.5.9)</p> <hr/> <p>3. explain and illustrate the use and misuse of statistics (PS.5.10)</p>	<p>B. GEOMETRY/TRIGONOMETRY 2 <i>(continued)</i></p> <hr/> <p><i>Do Bees Build it Best?</i> Area, Geoboards, & Trigonometry: pp. 202-206, 208</p> <hr/> <p><i>Do Bees Build it Best?</i> Special Property of Right Triangles: pp. 238-239 Corral Problem: pp. 243-244, 246</p> <hr/> <p>C. DATA ANALYSIS/STATISTICS 2</p> <hr/> <p><i>Is There Really a Difference?</i> Tool for Measuring Differences: pp. 137, 139-140, 149-157 Comparing Populations: pp. 167-174</p> <hr/> <p><i>Is There Really a Difference?</i> Data, Data, Data: pp. 110-111, 113-115 Coins & Dice: pp. 117-118, 122-125, 128-129 Tool for Measuring Differences: pp. 142-146, 153, 154-156 Comparing Populations: pp. 172-174</p> <hr/> <p><i>Is There Really a Difference?</i> Data, Data, Data: pp. 110-111, 113-115 Coins & Dice: pp. 119-121 Tool for Measuring Differences: pp. 136-137, 141, 154-156 Comparing Populations: pp. 167-174</p>



Standard	Expectations	Correlation of <i>IMP</i> Year 2
	<hr/> <p>4. test the validity of a hypothesis using appropriate statistical concepts (PS.5.11)</p> <hr/> <p>5. calculate the Chi-Square values for a given population (PS.5.13)</p> <hr/> <p>6. perform a t-test for a designated set of data, and use the results to test the validity of a hypothesis (PS.5.14)</p>	<p>C. DATA ANALYSIS/STATISTICS 2 (<i>continued</i>)</p> <hr/> <p><i>Is There Really a Difference?</i> Tool for Measuring Differences: pp. 136-140, 154-157 Comparing Populations: pp. 167-174</p> <hr/> <p><i>Is There Really a Difference?</i> Tool for Measuring Differences: pp. 142-148, 151, 153-157 Comparing Populations: pp. 165-174</p> <hr/> <p><i>Is There Really a Difference?</i> Tool for Measuring Differences: pp. 132-140 YEAR 4: <i>The Pollster's Dilemma</i></p>