
Maine's Learning Results Mathematics Performance Indicators Content Clarification Crosswalk

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Maine's Learning Results Mathematics Performance Indicators

Content Clarification Crosswalk for Elementary Grades PreK-2

Standard A: Numbers and Number Sense

Maine's Learning Results	Principles and Standards For School Mathematics	Science for All Americans	Project 2061 Benchmarks for Science Literacy
1. Demonstrate an understanding of what numbers mean (e.g., that the number 7 stands for a group of objects).	Content Standard Overview (CSO) p 33 par. 1; S-1, Goal-1 p 78 (left column); Goal Discussion (GD) p 79 par. 4; p 80 par. 1, 2	The Mathematical World p 130, par. 1, 2	Benchmark (BM) 9A K 2 #1 p 211
2. Understand the many uses of numbers (e.g., prices, recipes, measurement, directions in play).	S-1, G-1 p 78 (left column); GD p 80 par. 1	The Mathematical World p 131, par. 3	BM 9A K-2 #1 p 211
3. Order, compare, read, group, and apply place value concepts to numbers up to 1,000.	S-1, G-1 p 78 (left column); GD p 80 par. 3,4; p 81 par. 1,3; p 82 par. 1	The Mathematical World p 130, par. 1	BM 9A K-2 #1 p 211
4. Determine reasonableness of results when working with quantities.	S-1 (CSO) p 79 par. 2	Habits of Mind p 188, par. 3; p 189, par. 2	BM 9A K-2 #3 p 211

Standard B: Computation

1. Use and apply estimation with quantities, measurements, computations, and problem-solving.	S-1 (CSO) p 79 par. 2; S-1 G-4 p 78 (left column)	Habits of Mind p 190 par. 1,2	BM 9A K-2 #3 p 211; BM 12B Overview, p 288 par. 3,4; BM 12B K-2 #3,5 p 290
2. Use multiple strategies in solving problems involving addition and subtraction of whole numbers	Content Standard Overview (CSO) G-1 p 35 par. 1,2; S-6 G-3 p 53 par. 4; p 54 par. 1; Process Standard Overview (PSOV) S-7 G-4 p 53 par. 4, p 54 par. 1; PSOV S-10 G-2 p 69, par. 2; S-1, G-3 p 78 (left column); GD p 84 par. 3,4; p 85 par. 1,2;		
3. Show understanding of addition and subtraction by using a variety of materials, strategies and symbols.	CSO S 1 G-3 p 35 par. 1; PSOV S-7 G-4 p 57 par. 4; G-2, G-3 p 78 (left column); GD p 83 par. 2,3,4; p 84 par. 1,2,3,4; p 85 par. 1,2; p 86 par. 1		BM 12B K-2 #4 p 290

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Content Clarification Crosswalk for Elementary Grades PreK-2

Standard C: Data Analysis and Statistics

1. Formulate and solve problems by collecting, arranging, and interpreting data.	Content Standard Overview (CSO) S-5 G-1 p 49 par. 1,2,3,4; p 50 par. 1; PSOV S-10 G-2 p 67 par. 3, p 68 par. 1; S-5 G-1 p 108 (left column); GD p 109 par. 1,4,5; p 110 par. 1,2,3	The Mathematical World p 137, par. 2	BM 9D K-2 Overview p 227 par. 1
2. Make tallies and graphs of information gathered from immediate surroundings.	S-5 G-1 p 108 (left column); Content Standard Preview (CSP) S-5 p 109 par. 2; GD p 111; p 112 par. 2		BM 9A K-2 #4 p 211

1. Use concepts of chance and record outcomes of simple events.	CSOV S-5 G-4 p 51 par. 1,2; S-5 G-4 p 108 (left column); CSP S-5 p 109 par 3; GD p 114 par. 2,3		BM 9D K-2 p 227
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Standard E: Geometry

1. Describe, model, and classify 2D shapes and selected 3D figures.	S-4 G-1 p 96 (left column); GD p 97 par. 3,4,5; p 98 par. 1	The Mathematical World p 134 par. 1	BM 2A K-2 #1 p 26 BM 9C K-2 #1 p 223
2. Investigate and predict the results of combining, dividing, and changing 2D shapes.	CSOV S-4 G-3 p 43 par. 1; CSOV S-4 G-1 p 41 par. 4; S-4 G-1 p 96 (left column); GD p 98 par. 2; S-4 G-3 p 96 (left column): GD p 99 par. 2,3		BM 2A K-2 #2 p 26
3. Use positional words to describe the relationship of two or more objects (e.g. over, under, beside, to the left).	CSOV S-4 G-2 p 42 par. 2; S-4 G-2 p 96 (left column); GD p 98 par. 3,4; p 99 par. 1		BM 9C K-2 Overview p 223 par. 2

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Standard F: Measurement

1. Estimate and measure length, time, temperature, weight, and capacity.	CSOV S-4 G-1 p 44 par. 4; p 45 par. 1,2,3,4; p 46 par. 1 p 47 par. 1; S-4 G-1 p 102 (left column); GD 103 par. 3,4,5; p 104 par. 1,2,3; p 105 par. 1,2; S-4 G-1 p 102 (left column); GD p106 par. 3		BM 11D K-2 #1 p 277
2. Identify and give the value of different coins.			
3. Select standard and non-standard tools for determining length, time, temperature, weight, and capacity, and use them to solve everyday problems.	CSOV S-4 G-2 p 46 par. 2,3,4; p 47 par. 1; S-4 G-2 p 102 (left column); GD p 105 par. 2,3; p 106 par. 1,2		

Standard G: Patterns, Relations, Functions

1. Recognize, describe, extend, copy and create a wide variety of patterns.	CSOV S-2 G-1 p 38 par. 1,2; G-2 p 38 par. 5; S-2 G-1 p 90 (left column); GD p 91 par. 1,2,3,4; p 92 par. 1,2,3	The Nature of Mathematics p 16 par. 1,2,3 The Mathematical World p 132 par. 2	BM 2A K-2 #1,2
2. Explore the use of variables and open sentences to describe relationships.	CSOV S-2 G-2 p 39 par. 1; S-2 G-2 p 90 (left column); GD p 91 par. 2; p 94 par. 3; p 95 par. 1,2	The Nature of Mathematics p 19 par. 2,3	
3. Represent and describe both geometric and numeric relationships.	S-2 G-1,2 p 90 (left column); GD p 92 par. 1,2,3; GD p 93 par. 1,2,3; p 94 par. 3; PSOV S-8 G-1 p136 (left column); GD p 137 par. 1; p 138 par. 1, 2; p 139 par. 1, 2, 3, 4; p 149 par. 1; p 141 par. 1, 2	The Mathematical World p 132 par. 2	

Standard H: Algebra Concepts

1. Make drawings for problem situations and mathematical expressions in which there is an unknown, using a variety of tools and approaches.	CSOV S-2 G-2 p 39 par. 1; S-2 G-2 p 90 (left column); GD p 91 par. 2; p 94 par. 3; p 95 par. 1,2; S-2 G-3 p 90 (left column); GD p 95 par. 1,2		
2. Use language and symbols to express numerical and other relationships.	S-2 G-1 p 90 (left column); GD p 92 par. 1,2,3; S-2 G-2 p 90 (left column): GD p 93 par. 1,2,3; p 94 par. 3	The Nature of Mathematics p 19, par. 2,3 The Mathematical World p 132, par. 3	BM 9B K-2 #2 p 217

Standard I: Discrete Mathematics

1. Classify sets of objects into two or more groups using their attributes.	S-5 G-1 p 108 (left column); GD p 109 par. 5		
2. Create and use an organized list to determine possible outcomes or solve problems.	S-5 G-1 p 108 (left column): GD p 110 par. 1, 2		

Maine's Learning Results Mathematics Performance Indicators Content Clarification Crosswalk for Elementary Grades 3-4

Standard A. Numbers & Number Sense

Maine's Learning Results	Principles and Standards For School Mathematics	Science For All Americans	Project 2061 Benchmarks for Science Literacy
1. Read, compare, order, classify, and explain whole numbers up to one million.	S-1, G-1 p 148 (left column); GD p 149, par 3,4	Habits of Mind p 187, par. 4	Benchmark (BM) 9A Grades 3-5 #1 p 212
2. Read, compare, order, classify, and explain simple fractions through tenths.	S-1, G-1 p 148 (left/right column); GD p 150, par. 1,2,3	The Mathematical World p 130, par. 3 Habits of Mind p 187, par. 4	BM 12B Grades 3-5 #2 p 290
3. Demonstrate knowledge of the meaning of decimals and integers and an understanding of how they may be used.	S-1, G-1 p 148 (left/right column); GD p 150, par. 2	The Mathematical World p 131, par. 1 Habits of Mind p 187, par. 4	BM 12B Grades 3-5 #2 p 290

Standard B. Computation

1. Solve multi-step, real-life problems using the four operations with whole numbers.	S-1, G-1 p 148 (left/right column); GD p 149, par. 2,4; S-1 G-2 p 148 (left column: GD p151 par. 3, 4; p 152 par. 1, 2		BM 12A Grades 3-5 #1 p 290
2. Solve real-life problems involving addition and subtraction of simple fractions.	S-1, G-1 p 148 (right column); GD p 150, par. 1,2; S-1, G-3 p 155, par. 3		

Maine's Learning Results Mathematics Performance Indicators

Content Clarification Crosswalk for Elementary Grades 3-4

<p>3. Demonstrate and explain the problem-solving process using appropriate tools and technology and defend the reasonableness of results.</p>	<p>S-1, G-1 p 148 (left/right column); S-1, G-3 GD p 155, par. 4, p 156, par. 1; PSOV S-6 G-2 G-3 G-4 p 52 (left column): GD p 53 par. 3, 4; p 54 par. 1, 2, 3; S-6 G-2 G-3 p 182 (left column): GD p 185 par. 3, 4; p 187 par. 1; PSOV S-7 G-2 p 56 (left column): GD p 57 par. 4; PSOV S-7 G-3 p 56 (left column): GD p 59 par. 1, 2, 3; S-7 G-4 p 188 (left column): GD p 191 par. 1, 2</p>	<p>Habits of Mind p 188, par. 2, 3, 4; p 189 par. 1, 2</p>	<p>BM 12B Overview p 288 par. 3, 4; p 289, par. 3; 12C Grades 3-5 #4 p 293</p>
<p>4. Develop proficiency with the facts and algorithms of the four operations on whole numbers using mental math and variety of materials, strategies, and technologies.</p>	<p>S-1, G-1 p 148 (left column); GD p 151, par. 1,2; S-1, G-2 p 152, par. 1,2; S-1, G-3 p 152, par. 3,5; p 153, par. 1; p 155, par. 1,2</p>		<p>BM 12B Overview p 289 par. 3</p>

Standard C. Data Analysis and Statistics

<p>1. Make generalizations and draw conclusions using various types of graphs, charts, and tables.</p>	<p>S-2, G-1 p 158 (left/right column); GD p 160, par. 3; S-2, G-4 p 158 (left column) GD p 168, par. 1; S-5 G-1 p 176 (left/right column): GD p 177 par. 3; p 178 par. 1, 2, 3</p>	<p>Habits of Mind p 192 par. 1</p>	
<p>2. Read and interpret displays of data.</p>	<p>S-2, G-4 p158 (left/right column): GD p 179 par. 1, 2; p 180 par. 1; S-5 G-2 p 176 (left/right column): GD p 179 par. 1, 2; p 180 par. 1; S-5 G-3 p 176 (left/right column): GD p 180 par. 2, 3</p>	<p>Habits of Mind p 192 par. 1</p>	<p>BM 9D Grades 3-5 #4 p 228</p>

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Content Clarification Crosswalk for Elementary Grades 3-4

Standard D. Probability

1. Explain the concept of chance in predicting outcomes.	S-2, G-4 p 176; GD p 181, par. 1	The Mathematical World p 135 par. 3; p 136 par. 1	BM 9D Grades 3-5 #6 p 228
2. Estimate probability from a sample of observed outcomes and simulations.	S-2, G-4 p 176; GD p 181, par.1,2	The Mathematical World p 135 par. 3	BM 9D Grades 3-5 #3 p 228

Standard E. Geometry

1. Describe, model, and classify shapes and figures using applicable properties.	S-3, G-1 p 164 (left column); GD p 165 par. 3,4; p 168 par. 3,4	The Mathematical World p 134 par. 1	BM 9C Grades 3-5 #5 p 223
2. Experiment with shapes and figures to make generalizations regarding congruency, symmetry, and similarity.	S-3, G-1 (left column); GD p 166 par. 2, 4; p 167, par. 2 S-3, G-3 p 164 (left column); GD p 166, par. 2,3,4; p 167, par.2	The Mathematical World p 134 par. 1	BM 9C Grades 3-5 #4 p 223
3. Use transformations such as slides, flips, and rotations.	S-3, G-3 p 164 (left column); GD p 167, par. 3, p 168 par. 1,2	The Mathematical World p 134 par. 1	BM 9C Grades 3-5 #4 p 223
4. Use the properties of shapes and figures to describe the physical world.	S-3, G-4 p 164 (left column); GD p 169 par. 3,4	The Mathematical World p 134 par. 1	BM 9C Grades K-2 #1 p 222

Standard F. Measurement

1. Solve and justify solutions to real-life problems involving the measurement of time, length, area, perimeter, weight, temperature, mass, capacity, and volume.	S-2, G-1 p158 (left column): GD p160, par. 2; CSOV S-4 G-1 p 170 (left/right column): GD p 171 par. 2, 3; p 172 par. 1, 5, 6; p 173 par. 1; p 175 par. 1	Habits of Mind p 190 par. 1	BM 9A Grades 3-5 Overview p 212 par. 2; BM 9A Grades 3-5 #4 p 212; BM 12B Grades 3-5 #3 p 290
2. Select measuring tools and units of measurement that are appropriate for what is being measured.	S-2 G-4 p 158 (left column): GD p 163, par. 1; CSOV S-4 G-2 p 170 (left/right column): GD p 171 par. 2, 3; S-4 G-1 p 170 (left/right	Habits of Mind p 190 par. 1	BM 9A Grades 3-5 Overview p 212 par. 2; BM 9A Grades 3-5 #3 p 212;

	column): GD p 172 par. 2, 3, 4; S-4 G-2 p 170 (left/right column): GD 173 par. 2; p 174 par. 3;		
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Maine’s Learning Results Mathematics Performance Indicators Content Clarification Crosswalk for Elementary Grades 3-4

Standard G. Patterns, Relations, Functions

1. Use the patterns of number, geometry, and a variety of graphs to solve a problem.	CSOV S-2 G-1 p 158 (left column): GD p 159 par. 1; S-2 G-1 p 158 (left/right column): GD p 159 par. 2; p 160 par. 1, 2, 3	Habits of Mind p 192 par. 1; The Mathematical World p 132 par. 2	BM 2A Grades 3-5 #1 p 27; BM 9B Grades 3-5 #2 p 218
2. Use variables and open sentences to express relationships.	S-2 G-2 p 158 (left/right column): GD 161 par. 3	The Mathematical World p 132 par. 3	BM 9A Grades 3-5 Overview p 217 par. 1; BM 9B Grades 3-5 #1 p 218

Standard H. Algebra Concepts

1. Develop and evaluate simple formulas in problem-solving contexts.	S-2 G-1 p158 (left column) GD: p 159, par. 2,3; p 160, par. 1; S-2 G-2 p 161, par. 2; S-2 G-3 p 162, par. 2,3,4	The Mathematical World p 132 par. 2, 3	BM 9B Grades 3-5 #1 p 218
2. Find replacements for variables that make simple number sentences true.	S-2 G-2 p 161 par. 3; S-2 G-3 p 162, par. 2,4	The Mathematical World p 132 par. 2, 3	BM 9A Grades 3-5 Overview p 217 par. 1

Standard I. Discrete Mathematics

1. Create and use organized lists, tree diagrams, Venn diagrams, and networks.	Grades 6-8 S-5 G-4 p 248 (left/right column): GD p 254 par. 4; p 255 par. 1		
2. Give examples of infinite and finite solutions.			

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Content Clarification Crosswalk for Middle Grades 5-8

Maine's Learning Results	Principles and Standards For School Mathematics	Science For All Americans	Project 2061 Benchmarks For Science Literacy
1. Use numbers in a variety of equivalent and interchangeable forms (e.g. integer, fraction, decimal, percent, exponential, and scientific notation) in problem-solving.	S-1 G-1 p 214, (left/right column) GD: p 215, par. 2,3; p 216, par. 1,2,3 p 217, par. 1,3	The Mathematical World p 130 par. 3; Habits of Mind p 187 par. 4	Benchmark (BM) 12B Grades 6-8 #1, 2, 9 p 291
2. Demonstrate understanding of the relationships among the basic arithmetic operations on different types of numbers.	S-1 G-2 p 214 (left/right column): GD p 218, par. 1,2,3,4; p 219, par. 1,2,3; p 221, par. 1,2	The Mathematical World p 131 par. 2 Habits of Mind p 187 par. 4; p 188 par. 4	BM Grades 3-5 #1 p 290
3. Apply concepts of rations, proportions, percents, and number theory (e.g. primes, factors, and multiples) in practical and other mathematical situations.	S-1, G-1 p 214 (left/right column): GD p 217, par. 2,4,5; S-1 G-3 p 214 (left/right column): GD 220 par. 3; p 221 par. 1, 2; S-4 G-2 p 240 (left/right column): GD p 245 par. 2, 3; p 246 par. 1, 2; p 247 par. 1; S-6 G-1 p 256 (left/right column): GD p 256 par. 4; p 257 par. 1, 2; S-10 G-1 G-2 G-3 p 280 (left column): GD p 280 par. 3, 4; p 281 par. 1, 2	The Mathematical World p 130 par. 3; p 131 par. 2	BM 12B Grades 6-8 #1, 2 p 291
4. Represent numerical relationships in graphs, tables, and charts.	Grades 3-5 S-5 G-1 GD p 178 par. 1, 2; Grades 6-8 S-4 G-2 p 240 (left/right column): GD p 247 par. 2; Grades 6-8 S-10 G-1 G-2 G-3 p 280 (left column): GD p 280 par. 1, 3; p 281 par. 1, 2; p 282 par. 1, 2, 3, 4; p 283 par. 2; p 284 par. 1	The Mathematical World p 135 par. 2 Habits of Mind p 192 par. 1	BM 12B Grades 6-8 #4 p 291

Maine's Learning Results Mathematics Performance Indicators

Content Clarification Crosswalk for Middle Grades 5-8

Standard B. Computation

1. Compute and model all four operations with whole numbers, fractions, decimals, sets of numbers, and percents, applying the proper order of operations.	Grades 3-5 S-1 G-1 p 148 (left/right column): GD p 150 par. 1, 2, 3; p 151 par. 1, 2; Grades 6-8 S-1 G-1 p 214 (left/right column): GD p 215 par. 2, 3; p 216 par. 1, 2, 3; Grades 6-8 S-1 G-2 p 214 (left/right column): GD p 218, par. 1,2,3,4; p 219, par. 1,2,3; p 221, par. 1,2	Habits of Mind p 187 par. 4	BM 12B Grades 3-5 #1, 2 p 290; BM 12B Grades 6-8 #1, 2 p 291
2. Create, solve, and justify the solution for multi-step, real-life problems including those with ratio and proportion.	S-1 G-1 p 214 (left/right column): GD p 216 par. 2; p 217, par. 2, 5; S-6 G-1 G-2 G-3 G-4 p 256 (left/right column): GD p 256 par. 2, 3, 4; p 257 par. 1, 2; p 258 par. 1, 2		BM Grades 9-12 #1 p 291

Standard C. Data Analysis and Statistics

1. Organize and analyze data using mean, median, mode, and range.	S-5 G-2 p 248 (left/right column): GD p 250, par. 2; p 251, par. 1	The Mathematical World p 137 par. 2, 3; p 138 par. 1 Habits of Mind p 188 par. 4	BM 9D Grades 6-8 #3 p 229 BM 12B Grades 6-8 #4 p 291
2. Assemble data and use matrices to formulate and solve problems.			
3. Construct inferences and convincing arguments based on data.	S-5 G-3 p 248 (left/right column): GD p 251, par. 3; p 252 par. 1, 2; p 252 par. 1, 2, 3	The Mathematical World p 137 par. 3; p 138 par. 1, 2, 3 Habits of Mind p 192 par. 1	BM 9D Grades 6-8 Overview p 228 par. 2; p 229 par. 1; BM 9D Grades 6-8 #4 p 229

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Content Clarification Crosswalk for Middle Grades 5-8

Standard D. Probability

1. Find the probability of simple events and make predictions by applying the theories of probability.	S-5 G-3 p 248 (left/right column): GD p 253, par. 4; p 254, par. 1,2,3; S-5 G-4 p 248 (left/right column): GD p 254, par. 4		BM 9C Grades 6-8 #4 p 224; BM 9D Grades 6-8 Overview p 229 par. 3, 4
2. Explain the idea that probability can be represented as a fraction between and including zero and one.	Grades 3-5 S-5 G-4 p 176 (left/right column): GD p 181 par. 2	The Mathematical World p 136 par. 1	BM 9D Grades 6-8 #2 p 229
3. Use simulations to estimate probabilities.	S-5 G-4 p 248 (left/right column): GD p 254, par. 3	The Mathematical World P 136 par. 2, 3; p 137 par. 1	BM 9D Grades 6-8 #1 p 229
4. Find all possible combinations and arrangements involving a limited number of variables.	S-5 G-4 p 248 (left/right column): GD p 255, par. 1		

Standard E. Geometry

1. Compare, classify, and draw two-dimensional shapes and three-dimensional figures.	S-3 G-1 p 232 (left/right column): GD p 233, par. 4		BM 9C Grades 6-8 #1 p 224
2. Apply geometric properties to represent and solve real-life problems involving regular and irregular shapes.	S-3 G-1 (left/right column): GD p 234, par. 2	The Mathematical World p 134 par. 1	BM 9C Grades 6-8 Overview p 224 par. 1, 3 BM 9C Grades 6-8 #1, #2 p 224
3. Use a coordinate system to define and locate position.	Grades 3-5 S-3 G-2 p 164 (left/right column): GD p 167 par. 1, 2	The Mathematical World p 134 par. 3; p 135 par. 1	BM 9C Grades 6-8 #5 p224
4. Use the appropriate geometric tools and measurements to draw and construct two and three-dimensional figures.	S-3 G-4 p 232 (left/right column): GD p 237, par. 1; S-3 G-4 p 238, par. 1; S-4 G-2 p 240 (left/right column): GD p 243 par. 2, 3		

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Content Clarification Crosswalk for Middle Grades 5-8

Standard F. Measurement

1. Demonstrate the structure and use of systems of measurement.	S-4 G-1 p 240 (left/right column): GD p 241, par. 4	Habits of Mind p 190 par. 1	
2. Develop and use concepts that can be measured directly, or indirectly (e.g., the concept of rate).	S-4 G-2 p 240 (left/right column): GD p 245, par. 3; p 246, par. 1,2; p 247, par. 1,2	Habits of Mind p 189 par. 1	BM 9B Grades 6-8 #2 p 219
3. Demonstrate an understanding of length, area, volume, and the corresponding units, square units, and cubic units of measure.	S-4 G-1 p 240 (left/right column): GD p 241, par. 5; p 242, par. 1,2; S-4 G-2 p 240 (left/right column): GD p 243, par. 1,2	Habits of Mind p 189 par. 1, 2; p 191 par. 1	BM 12B Grades 6-8 #3, #7 p 291

Standard G. Patterns, Relations, Functions

1. Describe and represent relationships with tables, graphs, and equations.	S-2 G-1 p 222 (left/right column): GD p 223, par. 2, 3 4; p 225, par. 2 S-4 G-2 p 240 (left/right column): GD p 247, par. 2		
2. Analyze relationships to explain how a change in one quantity can result in a change in another.	S-2 G-1 p 222 (left/right column): GD p 224 par. 1, 2, 3; p 225, par. 1 S-2 G-4 p 222 (left/right column): GD p 229 par. 1,2,3; p 230, par. 1, 2		
3. Use patterns and multiple representations to solve problems.	Grades 3-5 PSOV S-10 G-1,2,3 p 206 (left column): GD p 206 par. 2, 3; p 208, par. 1,3; p 209, par. 1, 2, 3, 4 ; Grades 6-8 S-2 G-1 p 222 (left/right column): GD p 224, par. 1, 2	The Mathematical World p 135 par. 2	

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Standard H. Algebra Concepts

concepts of variables and functions.	S-2 G-2 p 222 (left/right column): GD p 225, par. 3; p 227, par. 1; p 227, par. 1	The Mathematical World p 133, par. 1,2,3	BM 9B Grades 6-8 Overview p 219 par. 1
linear equations using informal, and formal methods which apply the order of operations.	S-2 G-2 p 222 (left/right column): GD p 227, par. 1		
tables and graphs to describe properties and relationships in context.	S-2 G-1 p 222 (left/right column): GD p 223, par. 2, 3, 4; p 235, par. 2; S-2 G-3 p 222 (left/right column): GD p 227, par. 2; p 228, par. 1	The Mathematical World p 132, par. 2	
graphs to represent two-variable equations.	Grades 3-5 S-2 G-4 p 158 (left/right column): GD p 163, par. 1 Grades 6-8 S-2 G-1 p 222 (left/right column): GD p 225, par. 2; S-5 G-2 p 248 (left/right column): GD p 252, par. 2; p 254, par. 1,2	The Mathematical World p 132, par. 2	BM 9B Grades 6-8 #3 p 219
describe an understanding of linear and non-linear equations.	S-2 G-3 p 222 (left/right column): GD p 227, par. 3		

Standard I. Discrete Mathematics

1. Create and use networks to explain practical situations or solve problems.	S-3 G-4 p 232 (left/right column): GD p 237 par. 2		
2. Identify patterns in the world and express these patterns with rules.	S-2 G-1 p 222 (left/right column): GD p 223 par. 2, 3, 4; p 224 par. 1, 2, 3; p 225 par. 1, 2		

Maine's Learning Results Mathematics Performance Indicators Content Clarification Crosswalk for High School Grades 9-12

Standard A. Numbers and Number Senses

Maine's Learning Results	Principles and Standards For School Mathematics	Science For All Americans	Project 2061 Benchmarks For Science Literacy
1. Describe the structure of the real number system and identify its appropriate applications and limitations.	S-1 G-1 p 290 (left/right column): GD p 291, par. 5,6; p 292, par. 5; p 293, par. 1		
2. Explain what complex numbers (real and imaginary) mean and describe some of their many uses.	S-1 G-1 p 290 (left/right column): GD p 291, par. 1, 5	The Mathematical World p 132 par. 1	

Standard B. Computation

1. Use various techniques to approximate solutions, determine the reasonableness of answers, and justify the results.	S-1 G-3 p 290 (left/right column): GD p 292, par. 5; p 294, par. 1	Habits of Mind p 190 par. 1, 2	BM 9B 9-12 #6 p 221; BM 12B 9-12 Overview 288 par. 3, 4, 5; BM 12B 9-12 #2, #7 p 291;
2. Explain operations with number systems other than base ten.			BM 9A 9-12 #4 p 214

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Content Clarification Crosswalk for High School Grades 9-12

Standard C. Data Analysis and Statistics

1. Determine and evaluate the effect of variables on the results of data collection.	S-5 G-1 p 248 (left/right column): GD p 249, par. 3	The Mathematical World p 139, par. 1, 2	BM 9D 9-12 Overview p 230 par. 1, 2; BM 9D 9-12 #7 p 230
2. Predict and draw conclusions from charts, tables, and graphs that summarize data from practical situations.	Grades 6-8 S-5 G-1 p 248 (left/right column): GD p 249 par. 6; Grades 6-8 S-5 G-2 p 248 (left/right column): GD p 252 par. 1, 2; p 253 par. 1, 2, 3; Grades 9-12 S-5 G-2 p 324 (left/right column): GD p 327 par. 2, 3; Grades 9-12 S-5 G-3 p 324 (left/right column): GD p 329 par. 2, 3, 4; p 330 par. 1, 2, 3; p 331, par. 1	The Mathematical World p 137 par. 2	BM 9B 9-12 Overview p 220, par. 1, 2; BM 9B 9-12 #4 p 221; BM 9D 9-12 Overview p 230 par. 1 BM 9D 9-12 #3, #4 p 230;
3. Demonstrate an understanding of concepts of standard deviation and correlation and how they relate to data analysis.	S-5 G-2 p 324 (left/right column): GD p 328 par. 2, 3; p 329 par. 1	The Mathematical World p 138 par. 3	BM 9D 9-12 #6 p 230
4. Demonstrate an understanding of the idea of random sampling and recognition of its role in statistical claims and designs for data collection.	S-5 G-1 p 324 (left/right column): GD p 326 par. 1, 2; p 327 par. 1	The Mathematical World P 139 par. 1	BM 9D 9-12 #7 p 230
5. Revise studies to improve their validity (e.g., in terms of better sampling, better controls, or better data analysis techniques).	S-5 G-1 p 324 (left/right column): GD p 325 par. 4; p 327 par. 1	The Mathematical World p 138 par. 2, 3; p 139 par. 1, 2	BM 9D 9-12 Overview p 230 par. 2

Standard D. Probability

1. Find the probability of compound events and make predictions by applying probability theory.	S-5 G-4 p 324 (left/right column): GD p 331, par. 2; p 332, par. 4, 5		
2. Create and interpret probability distributions.	S-5 G-4 p 324 (left/right column): GD p 331, par. 2, 3; p 332, par. 1, 2, 3; p 333, par. 1, 2, 3, 4		BM 9D 9-12 p 230, #3, #4; Overview p 230, par. 1 2

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Standard E. Geometry

1. Draw coordinate representations of geometric figures and their transformations.	Grades 6-8 S-3 G-2 p 232 (left/right column): GD p 235, par. 1; S-3 G-3 p 232 (left/right column): GD p 235, par. 2, 3; p 236, par. 1,2, 3, 4; Grades 9-12 S-3 G-3 p 308 (left/right column): GD p 314, par. 2; p 315, par. 1		
2. Use inductive and deductive reasoning to explore and determine the properties of and relationships among geometric figures.	Grades 6-8 S-3 G-1 p 232 (left/right column): GD p 233, par. 4, 5; p 234, par. 1, 2, 3; S-3 G-2 p 232 (left/right column): GD p 235, par. 1; S-3 G-4 p 232 (left/right column): GD p 238, par. 2; p 239, par. 1; Grades 9-12 S-3 G-1 p 308 (left/right column): GD p 310 par. 1, 2; p 311 par. 1, 2, 3	The Mathematical World P 134 par. 2	BM 9C 9-12 Overview p 225 par. 2; BM 9C 9-12 #3 p 225
3. Apply trigonometry to problem situations involving triangles and periodic phenomena.	Grades 9-12 S-3 G-1 p 308 (left/right column): GD p 313 par. 1, 2		BM 9C 9-12 #1 p 228;

Standard F. Measurement

1. Use measurement tools and units appropriately and recognize limitations in the precision of the measurement tools.	Grades 6-8 S-4 G-2 p 240 (left/right column): GD p 243, par. 3; Grades 9-12 S-4 G-2 p 320 (left/right column): GD p 322, par. 1, 2, 3; p 323, par. 1	The Mathematical World p 191 par. 1	BM 12B 6-8 #8 p 291
2. Derive and use formulas for area, surface area, and volume of many types of figures.	Grades 6-8 S-4 G-2 p 240 (left/right column): GD p 244, par. 1, 2; p 245, par. 1		BM 9C 6-8 Overview p 224, par. 3; BM 9C 9-12 #2 p 225

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Standard G. Patterns, Relations, Functions

1. Create a graph to represent a real-life situation and draw inferences from it.	S-2 G-1 p 296 (left/right column): GD p 297, par. 5, 6; p 298, par. 2; p 299, par. 2, 3, 4; S-2 G-3 p 296 (left/right column): GD p 305, par. 5		BM 9B 9-12 Overview p 220, par. 1
2. Translate and solve a real-life problem using symbolic language.	S-2 G-3 p 296 (left/right column): GD p 303 par. 1, 2, 3; p 304, par. 1, 2, 3, 4; p 305 par. 1		BM 9B 9-12 #5 p 221
3. Model phenomena using a variety of functions (linear, quadratic, exponential, trigonometric, etc.).	S-2 G-1 p 296 (left/right column): GD p 297, par. 5, 6; p 298, par. 1, 2; 299, par. 1, 2, 3; p 300, par. 1, 2 S-2 G-3 p 296 (left/right column): GD 303, par. 1, 2, 3;		
4. Identify a variety of situations explained by the same type of function.	S-2 G-1 p 296 (left/right column): GD p 300, par. 1, 2		BM 9B 9-12 #2 p 220

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Standard H. Algebra Concepts

1. Use tables, graphs, and spreadsheets to interpret expressions, equations, and inequalities.	S-2 G-1 p 296 (left/right column): GD p 297, par. 5; p 299, par. 2		
2. Investigate concepts of variation by using equations, graphs, and data collection.	Grades 5-8 S-8 G-2 280 (left/right column): GD p 282, par. 1, 2, 3; p 283, par. 1 Grades 9-12 S-2 G-1 p 296 (left/right column): GD p 297, par. 5, 6; p 298, par. 1, 2; p 299, par. 1, 2, 4; p 300, par. 1, 2 S-2 G-4 p 296 (left/right column): GD p 305, par. 2, 3, 4, 5	The Mathematical World p 133 par. 1	
3. Formulate and solve equations and inequalities.	S-2 G-2 p 296 (left/right column): GD p 300, par. 3; p 301, par. 1, 2		
4. Analyze and explain situations using symbolic representations.	Grades 5-8 S-8 G-2 p 280 (left/right column): GD p 283, par. 2 Grades 9-12 S-2 G-2 p 296 (left/right column): GD p 302, par. 1; S-2 G-3 GD p 303, par. 1, 2, 3; p 304, par. 1, 2, 3, 4; p 305, par. 1	The Mathematical World p 133, par. 1, 2, 3, 4	

Standard I. Discrete Mathematics

1. Use linear programming to find optimal solutions to a system.			
2. Use networks to find solutions to problems.	S-3 G-4 p 308 (left/right column): GD p 317, par. 3, 4; p 318, par. 1, 2		
3. Apply strategies from game theory to problem-solving situations.			

