



## MATHConnections Correlation to the Hawaii Mathematics Content & Performance Standards, Algebra I

### NUMBERS AND OPERATIONS

Standard	Location/Page where Standard is found
<b>Standard 1: Numbers and Operations: NUMBER SENSE: Understand numbers, ways of representing numbers, relationships among numbers, and number systems</b>	
MA.AI.1.1 Recognize situations that can be represented by matrices	<b>Book 2b:</b> pp. 511 – 513, 525 – 525, 528 – 534, 539 – 541
<b>Standard 2: Numbers and Operations: OPERATION SENSE: Understand the meaning of operations and how they relate to each other</b>	
There are no benchmarks for this standard for this Grade/Course.	
<b>Standard 3: Numbers and Operations: COMPUTATION STRATEGIES: Use computational tools and strategies fluently and, when appropriate, use estimation</b>	
MA.AI.3.1 Apply arithmetic properties to operate on and simplify expressions that include radicals and other real numbers	<b>Book 1a:</b> pp. 63 – 68 <b>Book 1b:</b> pp. 285 – 287 <b>Book 2a:</b> pp. 84 – 89, 93, 97, 98, 206 – 210, 267 – 270 <b>Book 2b:</b> pp. 336, 441 – 446, 454, 462 - 467 <b>Book 3a:</b> pp. 18 – 25, 78 – 83 <b>Book 3b:</b> pp. 372 – 382, 400, 422, 507 – 510
MA.AI.3.2 Apply the laws of exponents to perform operations on expressions with integral exponents	<b>Book 1a:</b> pp. 140 – 147 <b>Book 1b:</b> pp. 388 – 389 <b>Book 3a:</b> pp. 74 – 78, 82, 85 – 90, 97 – 99
MA.AI.3.3 Use addition, subtraction, and scalar multiplication of matrices to solve problems	<b>Book 2b:</b> pp. 524 – 542

## MEASUREMENT

Standard	Location/Page where Standard is found
<b>Standard 4: Measurement: FLUENCY WITH MEASUREMENT: Understand attributes, units, and systems of units in measurement; and develop and use techniques, tools, and formulas for measuring</b>	
MA.AI.4.1 Use formulas, functions, or conversion equations to solve problems dealing with determining a measurement based on another derived or given measurement	<b>Book 1a:</b> pp. 86 – 95 <b>Book 1b:</b> pp. 419 <b>Book 2a:</b> pp. 4 – 6, 13, 14, 51, 52, 61, 92, 98, 103, 104, 110 – 112, 117, 118, 128, 129, 187 – 189, 200 – 216, 235 <b>Book 2b:</b> pp. 373 – 377, 407 – 408, 412 – 415, 421 <b>Book 3a:</b> pp. 158 – 161 <b>Book 3b:</b> pp. 371 – 382

## GEOMETRY AND SPATIAL SENSE

Standard	Location/Page where Standard is found
<b>Standard 5: Geometry and Spatial Sense: PROPERTIES AND RELATIONSHIPS: Analyze properties of objects and relationships among the properties</b>	
There are no benchmarks for this standard for this Grade/Course.	
<b>Standard 6: Geometry and Spatial Sense: TRANSFORMATIONS AND SYMMETRY: Use transformations and symmetry to analyze mathematical situations</b>	
There are no benchmarks for this standard for this Grade/Course.	
<b>Standard 7: Geometry and Spatial Sense: VISUAL AND SPATIAL SENSE: Use visualization and spatial reasoning to solve problems both within and outside of mathematics</b>	
There are no benchmarks for this standard for this Grade/Course.	

**Standard 8: Geometry and Spatial Sense: REPRESENTATIONAL SYSTEMS: Select and use different representational systems, including coordinate geometry**

MA.AI.8.1 Graph linear equations using slope-intercept, point-slope, and $x$ - and $y$ -intercept techniques	<b>Book 1a:</b> pp. 189, 192 – 216, 234 – 237, 241 <b>Book 1b:</b> pp. 293 – 299, 373 – 378 <b>Book 2a:</b> pp. 180, 181 <b>Book 2b:</b> pp. 482 – 484 <b>Book 3a:</b> pp. 4 – 6 <b>Book 3b:</b> pp. 322 – 333
MA.AI.8.2 Determine the slope of a line when given the graph of a line, two points on the line, or the equation of the line	<b>Book 1a:</b> pp. 176 – 182, 185, 188, 192 – 205, 211 – 216, 234, 241 <b>Book 2a:</b> pp. 180, 181 <b>Book 3a:</b> pp. 4 – 6

**PATTERNS, FUNCTIONS, AND ALGEBRA**

<b>Standard</b>	<b>Location/Page where Standard is found</b>
<b>Standard 9: Patterns, Functions, and Algebra: PATTERNS AND FUNCTIONAL RELATIONSHIPS: Understand various types of patterns and functional relationships</b>	
MA.AI.9.1 Determine if a linear pattern exists in a set of data and represent the data algebraically and graphically	<b>Book 1a:</b> pp. 219 – 271 <b>Book 1b:</b> pp. 307 – 312
MA.AI.9.2 Compare and contrast the concepts of direct and inverse variation of a relation	<b>Book 2a:</b> pp. 91 – 98
MA.AI.9.3 Determine the zeros of a linear or quadratic function algebraically and graphically	<b>Book 1a:</b> pp. 199 <b>Book 3a:</b> pp. 18 – 29
MA.AI.9.4 Compare and contrast the properties of linear functions and exponential functions	<b>Book 1b:</b> pp. 317 – 319 <b>Book 3a:</b> pp. 72, 73, 120 – 126
<b>Standard 10: Patterns, Functions, and Algebra: SYMBOLIC REPRESENTATION: Use symbolic forms to represent, model, and analyze mathematical situations</b>	
MA.AI.10.1 Solve linear equations and inequalities in one variable using a variety of strategies (e.g., algebraically, by graphing, by using a graphing calculator)	<b>Book 1a:</b> pp. 86 – 90, 109 – 129, 193 – 216, 232 – 236 <b>Book 1b:</b> pp. 288 – 306, 320 – 326, 380 – 386 <b>Book 2b:</b> pp. 481 – 499 <b>Book 3a:</b> pp. 4, 5, 121 – 130 <b>Book 3b:</b> pp. 316 – 342

MA.AI.10.2 Translate between verbal mathematical situations and algebraic expressions and equations	<b>Book 1a:</b> pp. 82, 90 – 95, 117 – 120, 128, 182, 200 – 202, 212 – 214 <b>Book 1b:</b> pp. 295 – 299, 319, 342, 380 – 386 <b>Book 2a:</b> pp. 65, 91 – 98, 103, 104, 180 – 182, 207 – 216 <b>Book 2b:</b> pp. 509, 510, 522, 523 <b>Book 3a:</b> pp. 4, 5, 9 – 13, 17, 29, 47, 53, 54, 87 – 89, 92, 93, 99, 100, 106, 107, 136, 137 <b>Book 3b:</b> pp. 316 – 357
MA.AI.10.3 Justify the steps used in simplifying expressions and solving equations and inequalities	<b>Book 1a:</b> pp. 105 – 108, 112 – 120 <b>Book 3b:</b> pp. 463 – 466, 472
MA.AI.10.4 Determine the equation of a line when given the graph of the line, the slope and a point on the line, or two points on the line	<b>Book 1a:</b> pp. 203 – 216, 232 – 236 <b>Book 1a:</b> pp. 173, 180, 181, 192, 197, 199, 200, 202, 205, 208, 211 – 215, 241

### PATTERNS, FUNCTIONS, AND ALGEBRA (CONTINUED)

MA.AI.10.5 Solve systems of two linear equations in two variables algebraically and graphically	<b>Book 1a:</b> pp. 89, 90, 117 <b>Book 1b:</b> pp. 282, 283, 288 – 312, 320 – 326 <b>Book 2a:</b> pp. 180 – 182, 187 <b>Book 2b:</b> pp. 481 – 523
MA.AI.10.6 Factor first- and second-degree binomials and trinomials in one or two variables	<b>Not presented</b>
MA.AI.10.7 Solve quadratic equations in one variable algebraically, graphically, or by using graphing technology	<b>Book 1a:</b> pp. 112, 118 <b>Book 1b:</b> pp. 420 <b>Book 3a:</b> pp. 18 – 29
MA.AI.10.8 Select and use a variety of strategies (e.g., concrete objects, pictorial representations, algebraic manipulation) to perform operations on polynomials	<b>Book 2a:</b> pp. 56 – 65 <b>Book 3a:</b> pp. 18 – 47
MA.AI.10.9 Analyze transformations of lines and understand how the transformation are represented in equations	<b>Book 1a:</b> pp. 183 – 201

## DATA ANALYSIS, STATISTICS, AND PROBABILITY

Standard	Location/Page where Standard is found
<b>Standard 11: Data Analysis, Statistics, and Probability: FLUENCY WITH DATA: Pose questions and collect, organize, and represent data to answer those questions</b>	
There are no benchmarks for this standard for this Grade/Course.	
<b>Standard 12: Data Analysis, Statistics, and Probability: STATISTICS: Interpret data using methods of exploratory data analysis</b>	
MA.AI.12.1 Compare data sets using statistical techniques (e.g., measures of central tendency, standard deviation, range, stem-and-leaf plots, and box-and-whisker graphs)	<b>Book 1a:</b> pp. 4, 32 – 34, 39, 50, 53, 59, 70 – 73
MA.AI.12.2 Display bivariate data in a scatter plot, describe its shape, and determine the line of best fit that models a trend (if a trend exists)	<b>Book 1a:</b> pp. 219 – 271 <b>Book 1b:</b> pp. 307 – 312
<b>Standard 13: Data Analysis, Statistics, and Probability: DATA ANALYSIS: Develop and evaluate inferences, predictions, and arguments that are based on data</b>	
There are no benchmarks for this standard for this Grade/Course.	
<b>Standard 14: Data Analysis, Statistics, and Probability: PROBABILITY: Understand and apply basic notions of chance and probability</b>	
There are no benchmarks for this standard for this Grade/Course.	