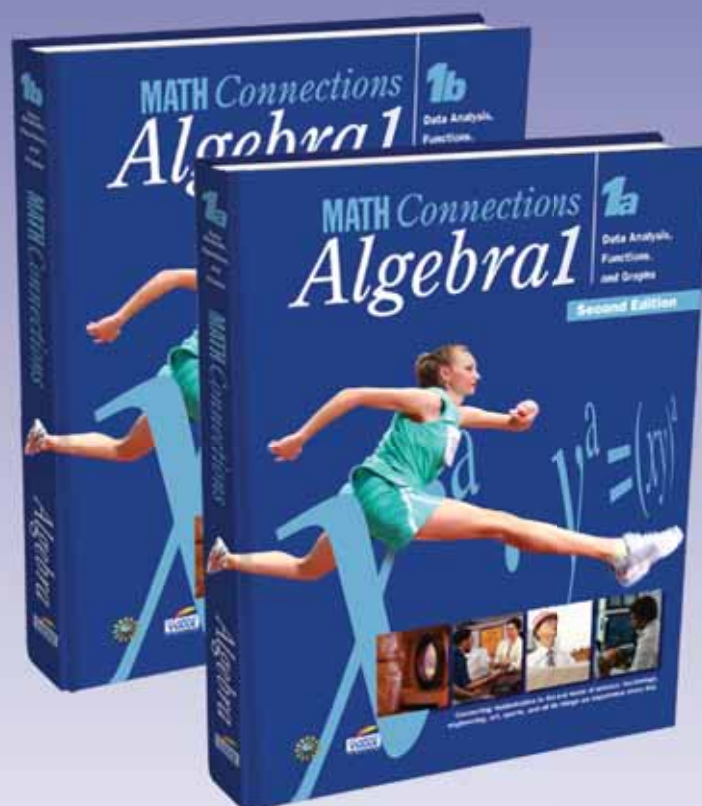


# MATH *Connections*<sup>®</sup>

Algebra 1 Correlation to the  
**Indiana**  
Standards for Mathematics K-12



Indicators	Location/Page where Standard is found
<b>Standard 1: Relations and Functions</b>	
A1.1.1 Determine whether a relation represented by a table, graph, words or equation is a function or not a function and translate among tables, graphs, words and equations.	Book 1b: 427 – 430, 433 – 435, 437, 438, 446, 452, 453, 460 – 465, 471 – 476, 482 – 487, 491 – 493, 508 – 510, 627 – 646, 652, 653, 661, 665, 666
A1.1.2 Identify the domain and range of relations represented by tables, graphs, words, and equations.	Book 1b: 427 – 429, 433 – 435, 437, 438, 441, 446, 452, 453, 461, 471, 509, 510, 636
<b>Standard 2: Linear Functions, Equations and Inequalities</b>	
A1.2.1 Translate among various representations of linear functions including tables, graphs, words and equations.	Book 1a: 79, 80, 82, 83, 85 – 94, 105, 106, 114 – 117, 148 – 150, 204, 205, 213 – 214, 226, 227, 232 – 235, 243 – 247, 250 – 254, 323 – 332, 338 – 347 Book 1b: 375 – 385, 389, 394 – 400, 411, 412, 415, 416, 433, 441, 451 – 465, 471, 474 – 476, 635
A1.2.2 Graph linear equations and show that they have constant rates of change.	Book 1a: 203 – 214 Book 1b: 635
A1.2.3 Determine the slope, x-intercept, and y-intercept of a line given its graph, its equation, or two points on the line and determine the equation of a line given sufficient information.	Book 1a: 207 – 214, 227 – 238, 240 – 259, 264, 265, 268, 274, 276, 306, 307, 310, 311, 314, 316, 326, 328, 335, 336, 342, 344, 350, 355 Book 1b: 373, 381 – 385, 390, 393 – 397, 399, 400, 405 – 407, 413 – 415, 471, 476, 479, 509, 510, 635
A1.2.4 Write, interpret, and translate among equivalent forms of equations for linear functions (slope-intercept, point-slope, and standard), recognizing that equivalent forms reveal more or less information about a given situation.	Book 1a: 233, 253, 255 – 259
A1.2.5 Solve problems that can be modeled using linear equations and inequalities, interpret the solutions, and determine whether the solutions are reasonable.	Book 1a: 114 – 117, 148 – 150, 204, 205, 213 – 214, 226, 227, 232 – 235, 243 – 247, 250 – 254, 323 – 332, 338 – 347 Book 1b: 375 – 385, 389, 394 – 400, 411, 412, 415, 416, 433, 441, 451 – 465, 471, 474 – 476, 635
A1.2.6 Graph a linear inequality in two variables.	Book 1a: 266 – 273
<b>Standard 3: Pairs of Linear Equations and Inequalities</b>	
A1.3.1 Understand the relationship between a solution of a pair of linear equations in two variables and the graphs of the corresponding lines and solve pairs of linear equations in two variables by graphing, substitution or elimination.	Book 1b: 375 – 385, 393, 407, 411, 414 – 422
A1.3.2 Graph the solution set for a pair of linear inequalities in two variables with and without technology and use the graph to find the solution set.	Book 1a: 273 In-depth Book 3a: Chapter 4
A1.3.3 Solve problems that can be modeled using pairs of linear equations in two variables, interpret the solutions, and determine whether the solutions are reasonable.	Book 1a: 88 Book 1b: 368, 369, 377 – 387, 393, 398 – 407, 411, 414 – 422

Indicators	Location/Page where Standard is found
<b>Standard 4: Polynomials</b>	
A1.4.1 Use the laws of exponents for variables with exponents and multiply, divide, and find powers of variables with exponents.	Book 1a: 137 – 144
A1.4.2 Add, subtract and multiply polynomials and divide polynomials by monomials.	Book 1b: 619 – 623 In-depth Book 3b: Chapter 7
A.1.4.3 Factor common terms from polynomials and factor quadratic expressions.	Book 1b: 645 – 652, 663, 677 – 682
<b>Standard 5: Quadratic Equations and Functions</b>	
A1.5.1 Graph quadratic functions.	Book 1a: 221, 222, 225 Book 1b: 627 – 632, 638 – 643, 646, 649, 652, 659, 669, 675, 683 – 686
A1.5.2 Solve quadratic equations in the real-number system with real-number solutions by factoring, by completing the square, and by using the quadratic formula.	Book 1b: 644 – 661, 663 – 664
A1.5.3 Solve problems that can be modeled using quadratic equations, interpret the solutions, and determine whether the solutions are reasonable.	Book 1b: 625 – 629, 632 – 634, 637 – 643, 647, 648, 652, 653, 661, 664 – 666
A1.5.4 Analyze and describe the relationships among the solutions of a quadratic equation, the zeros of a quadratic function, the x-intercepts of the graph of a quadratic function, and the factors of a quadratic expression.	Book 1b: 645 – 648
A1.5.5 Sketch and interpret linear and non-linear graphs representing given situations and identify independent and dependent variables.	Book 1a: 211, 212, 226, 227, 232 – 235, 243 – 247, 250 – 254, 323 – 332, 338 – 347, Book 1b: 375 – 385, 389, 394 – 400, 411, 412, 415, 416, 433, 441, 451 – 465, 471, 474 – 476, 486, 508 – 510, 627 – 632, 638 – 643, 646, 649, 652, 659, 669, 675, 683 – 686
<b>Standard 6: Rational and Radical Expressions and Equations</b>	
A1.6.1 Add, subtract, multiply, divide, reduce, and evaluate rational expressions with polynomial denominators. Simplify rational expressions with linear and quadratic denominators, including denominators with negative exponents.	Book 1a: 138, 144 Book 1b: 511 – 517 In-depth Book 3b: Chapter 7
A1.6.2 Solve equations involving rational and common irrational expressions.	Book 1a: 155 – 161 Book 1b: 511 – 517
A1.6.3 Simplify radical expressions involving square roots.	Book 2a: Chapter 3 Book 3a: Chapter 2
A1.6.4 Solve equations that contain radical expressions on only one side of the equation and identify extraneous roots when they occur.	Book 1a: 165, 166

Indicators	Location/Page where Standard is found
<b>Standard 7: Data Analysis</b>	
<p>A1.7.1 Organize and display data using appropriate methods to detect patterns and departures from patterns. Summarize the data using measures of center (mean, median) and spread (range, percentiles, variance, standard deviation). Compare data sets using graphs and summary statistics.</p>	<p>Book 1a: 10 – 74, 91, 119, 120, 311 – 314, 323 – 326, 330 – 332, 342 346, 350</p>
<p>A1.7.2 Distinguish between random and non-random sampling methods, identify possible sources of bias in sampling, describe how such bias can be controlled and reduced, evaluate the characteristics of a good survey and well-designed experiment, design simple experiments or investigations to collect data to answer questions of interest, and make inferences from sample results.</p>	<p>Book 3b: Chapter 5</p>
<p>A1.7.3 Evaluate reports based on data published in the media by considering the source of the data, the design of the study, the way the data are analyzed and displayed, and whether the report confuses correlation with causation.</p>	<p>Book 3b: Chapter 5</p>