



**MATHConnections Correlation to the Oklahoma Priority Academic  
Student Skills  
Grade 9-12  
Algebra I**

Standard	Location/Page where Standard is found
<b>Standard 1: Number Sense and Algebraic Operations - The student will use expressions and equations to model number relationships.</b>	
<b>1. Equations and Formulas</b>	
a. Translate word phrases and sentences into expressions and equations and vice versa.	<b>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</b> <b>Book 1b: 375 – 385, 389, 394 – 400, 411, 412, 415, 416, 433, 441, 451 – 465, 471, 474 – 476, 635</b>
b. Solve literal equations involving several variables for one variable in terms of the others.	<b>Book 1a: 115, 213, 223, 233, 255 – 258</b> <b>Book 1b: 389 – 392, 404 – 406, 416, 477, 646, 655 – 657, 663</b>
c. Use the formulas from measurable attributes of geometric models (perimeter, circumference, area and volume), science, and statistics to solve problems within an algebraic context.	<b>Book 1a: 81 – 85, 91, 92, 124, 152, 158 – 160, 238 – 245, 292 – 360</b> <b>Book 1b: 373, 374, 382 – 384, 392 – 396, 399, 406 – 412, 432, 433, 448, 467 – 473, 477, 478, 502, 509, 526, 535, 593, 594, 617, 618, 624 – 629, 632, 640 – 645, 653, 665</b>
d. Solve two-step and three-step problems using concepts such as rules of exponents, rate, distance, ratio and	<b>Book 1a: 82, 84, 92, 93, 100, 101, 106, 116 – 127, 134 – 145,</b>

proportion, and percent.	148 – 150, 235, 244, 246, 247, 250, 252, 326 Book 1b: 370, 384, 391, 397, 434, 447, 457, 458, 465, 481 – 493 499 – 501, 504, 505, 509, 511 – 517, 561 – 563, 584, 590, 624, 625, 628, 632, 640, 642, 647, 664
<b>2. Expressions</b>	
a. Simplify and evaluate linear, absolute value, rational and radical expressions.	Book 1a: 81 – 83, 87 – 94, 114, 116, 117, 148 – 150, 152, 152, 154 – 156, 158 – 161, 165 – 169, 232, 234, 244, 274, 275, 342 – 346 Book 1b: 368, 470, 474 – 480, 497 – 505, 507 – 509, 512 – 524, 617, 618, 621, 622
b. Simplify polynomials by adding, subtracting or multiplying.	Book 1a: 138, 152, 153 Book 1b: 497, 503, 507, 619 – 623
c. Factor polynomial expressions.	Book 1b: 623, 645, 647, 650 – 652, 658, 660, 663, 666, 677, 678, 681, 682
<b>Standard 2: Relations and Functions - The student will use relations and functions to model number relationships.</b>	
<b>1. Relations and Functions</b>	
a. Distinguish between linear and nonlinear data.	Book 1a: 118 – 120, 125, 221, 225 Book 1b: 397, 398, 626, 633
b. Distinguish between relations and functions.	Book 1b: 427 – 430, 433 – 435, 437, 438, 446
c. Identify dependent and independent variables, domain and range.	Book 1b: 389, 427 – 429, 433 – 435, 437, 438, 441, 446, 452, 453, 461, 471, 486, 509, 510, 636
d. Evaluate a function using tables, equations or graphs.	Book 1b: 429 – 436, 440 – 453, 455, 456, 459, 461, 463 – 465, 470, 474 – 480, 482 – 487, 490 – 493, 497 – 505, 507 – 509, 627, 629, 632, 637 – 643, 652, 653
<b>2. Linear Equations and Graphs</b>	

<p>a. Solve linear equations by graphing or using properties of equality.</p>	<p><b>Book 1a: 108 – 116, 148, 149, 153 – 156, 162, 238, 241 – 245, 259, 265, 306, 307, 310, 311, 314, 316, 326, 335, 336, 342, 344, 350</b>  <b>Book 1b: 388, 396 – 401, 417 – 422, 536</b></p>
<p>b. Recognize the parent graph of the functions <math>y = k</math>, <math>y = x</math>, <math>y =  x </math>, and predict the effects of transformations on the parent graph.</p>	<p><b>Book 1a: 216 – 221, 223, 224, 274 – 286</b>  <b>Book 1b: 667 – 669, 676</b></p>
<p>c. Slope</p> <p>I. Calculate the slope of a line using a graph, an equation, two points or a set of data points.</p> <p>II. Use the slope to differentiate between lines that are parallel, perpendicular, horizontal, or vertical.</p> <p>III. Interpret the slope and intercepts within the context of everyday life (e.g., telephone charges based on base rate [y-intercept] plus rate per minute [slope]).</p>	<p><b>Book 1a: 203 – 214, 222, 223, 218, 221, 224, 225, 227 – 238, 243 – 259, 263 – 265, 306, 307, 310, 311, 314, 316, 326, 328, 335, 336, 342, 344, 350</b>  <b>Book 1b: 375 – 385, 381 – 385, 393, 395, 397 – 400, 405 – 407, 413 – 416, 434, 468 – 471, 476, 479, 480, 488, 491, 492, 509, 616, 635</b></p>
<p>d. Develop the equation of a line and graph linear relationships given the following: slope and y-intercept, slope and one point on the line, two points on the line, x-intercept and y-intercept, a set of data points.</p>	<p><b>Book 1a: 223, 224, 230, 232, 238, 243, 244, 250, 251, 253, 255, 256, 264, 265, 306, 307, 310, 311, 314, 316, 326, 335, 336, 342, 344, 350</b>  <b>Book 1b: 368, 369, 373, 381 – 387, 393, 395, 397, 399, 400, 406, 407, 414 – 416, 461, 477</b></p>
<p>e. Match appropriate equations to a graph, table, or situation and vice versa.</p>	<p><b>Book 1a: 223, 224, 245 – 247, 250, 253, 285, 286</b>  <b>Book 1b: 509, 510, 652, 666</b></p>
<p><b>3. Linear Inequalities and Graphs</b></p>	
<p>a. Solve linear inequalities by graphing or using properties of inequalities.</p>	<p><b>Book 1a: 170 – 180</b></p>
<p>b. Match appropriate inequalities (with 1 or 2 variables) to a graph, table, or situation and vice versa.</p>	<p><b>Book 1a: 201, 202, 272, 273</b>  <b>Book 1b: 606, 685</b></p>
<p><b>4. Solve a system of linear equations by graphing, substitution or elimination.</b></p>	<p><b>Book 1a: 88</b>  <b>Book 1b: 368, 369, 377 – 387, 393, 398 – 407, 411, 413 – 422</b></p>

<b>5. Nonlinear Functions</b>	
a. Match exponential and quadratic functions to a table, graph or situation and vice versa.	<b>Book 1b: 490, 491, 634, 637, 638, 641, 652, 666</b>
b. Solve quadratic equations by graphing, factoring, or using the quadratic formula.	<b>Book 1b: 644 – 661, 663 – 664</b>
<b>Standard 3: Data Analysis, Probability and Statistics - The student will use data analysis, probability and statistics to formulate and justify predictions from a set of data.</b>	
<b>1. Data Analysis</b>	
a. Translate from one representation of data to another and understand that the data can be represented using a variety of tables, graphs, or symbols and that different modes of representation often convey different messages.	<b>Book 1a: 9, 10, 24, 25, 31, 31, 38, 48 – 53, 72 – 74, 294 – 300 Book 1b: 375, 382, 383, 409, 410</b>
b. Make valid inferences, predictions, and/or arguments based on data from graphs, tables, and charts.	<b>Book 1a: 5 – 14, 16, 19, 20, 28 – 32, 38, 39, 49 – 53, 61, 72 – 74, 305 – 314, 323 – 346 Book 1b: 408 – 412, 455, 456</b>
c. Solve two-step and three-step problems using concepts such as probability and measures of central tendency.	<b>Book 1a: 19, 20, 28 – 32, 38, 39, 49 – 53, 61, 67, 68, 72 – 74 Book 1b: 565, 571, 564 – 576, 584 – 586, 590 – 592, 595 – 600</b>
<b>2. Collect data involving two variables and display on a scatter plot; interpret results using a linear model/equation and identify whether the model/equation is a line best fit for the data.</b>	<b>Year 2, Book 2b: 392</b>