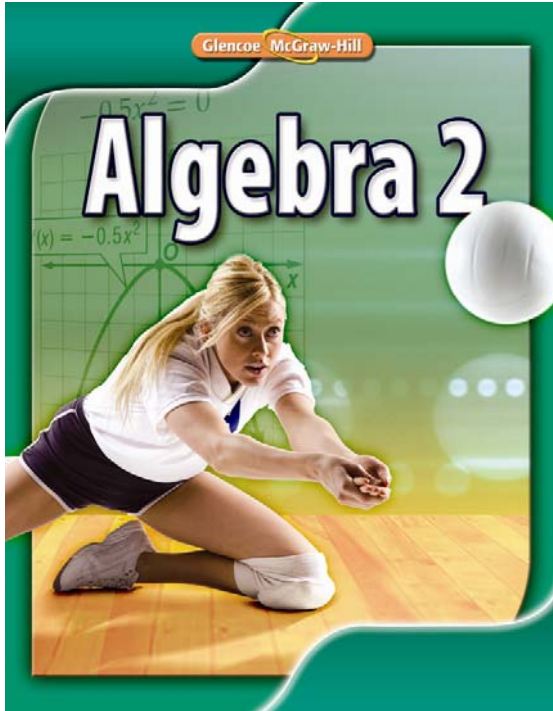




Glencoe

Mathematics Curriculum Framework  
Grades 9-12



# Algebra 2

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STANDARDS	PAGE REFERENCES
<p><b>Algebraic Reasoning: Patterns And Functions</b> – Patterns and functional relationships can be represented and analyzed using a variety of strategies, tools and technologies.</p> <p><b>How do patterns and functions help us describe data and physical phenomena and solve a variety of problems?</b></p>	
<p><b>1.1 Understand and describe patterns and functional relationships.</b></p>	
<p>a. Describe relationships and make generalizations about patterns and functions.</p>	<p><b>Student Edition:</b> 66 #33, 70 Real-World Example 2, 93 Real-World Example 1, 94 Real-World Example 2, 95-97, 103 Real-World Example 3, 105 #31, 186 Real-World Example 2, 716 Example 4 <i>Algebra Lab</i> 99-100, 785 <i>Graphing Technology Lab</i> 319, 751 <i>Standardized Test Practice</i> 98 #20, 107 #45</p> <p><b>Teacher Edition:</b> A 100; AE 93, 95, 716; SQ 259</p>

STANDARDS	PAGE REFERENCES
<b>1.2 Represent and analyze quantitative relationships in a variety of ways.</b>	
<p>a. Represent and analyze linear and nonlinear functions and relations symbolically and with tables and graphs.</p>	<p><b>Student Edition:</b>  P4-P5, 61-67, 69, 71 #1-#4, 74 #61-#63, 101, 135-140, 143-149, 151-156, 160-165, 167-173, 231-233, 348, 350, 424, 577  <i>Algebra Lab</i> 68  <i>Concept Summary</i> 146  <i>Graphing Technology Lab</i> 142, 158, 236  <i>Why?</i> 135</p> <p><b>Teacher Edition:</b>  AE P5, 62, 63, 64, 136, 137, 138, 144, 145, 152;  DI 67, 141, 146, 157; T 135; TT 62</p>
<b>1.3 Use operations, properties and algebraic symbols to determine equivalence and solve problems.</b>	
<p>a. Manipulate equations, inequalities and functions to solve problems.</p>	<p><b>Student Edition:</b>  20-23, 28 Example 2, 44 Example 5, 72 #25, #41-#43, 76-81, 89 #47-#49, 98 #24-#27, 249-257, 259-265, 268-274, 284-289  <i>Algebra Lab</i> 311, 356  <i>Graphing Technology Lab</i> 236, 267, 291, 319  <i>Mid-Chapter Quiz</i> 91 #14</p> <p><b>Teacher Edition:</b>  AE 20, 44, 77, 78, 250, 251, 252, 253, 269, 271, 286; DI 257; FM 252</p>
<p><b>Numerical and Proportional Reasoning</b> – Quantitative relationships can be expressed numerically in multiple ways in order to make connections and simplify calculations using a variety of strategies, tools and technologies.  <b>How are quantitative relationships represented by numbers?</b></p>	
<b>2.1 Understand that a variety of numerical representations can be used to describe quantitative relationships.</b>	
<p>a. Extend the understanding of number to include integers, rational numbers and real numbers.</p>	<p><b>Student Edition:</b>  11, 16 #51, #53, 27, 32 #59, 285, 371 Example 6, 433  <i>Check Your Understanding</i> 393 #4-#9  <i>Preparing for Standardized Tests</i> 403 #2  <i>Study Tip</i> 12</p> <p><b>Teacher Edition:</b>  AE 403; DI 12; WO 12, 285</p>

STANDARDS	PAGE REFERENCES
<p>b. Interpret and represent large sets of numbers with the aid of technologies.</p>	<p><b>Student Edition:</b>            93 Real-World Example 1, 94 Real-World Example 2, 95-97, 186 Real-World Example 2, 189 #21, #28, 197 #28b, 766 Example 4#b  <i>Algebra Lab</i> 99-100, 785  <i>Check Your Progress</i> 93 #1D  <i>Graphing Technology Lab</i> 319 #5, #7, 751  <i>Spreadsheet Lab</i> 192</p> <p><b>Teacher Edition:</b>            AA 93, 94, 187</p>
<p><b>2.2 Use numbers and their properties to compute flexibly and fluently, and to reasonably estimate measures and quantities.</b></p>	
<p>a. Develop strategies for computation and estimation using properties of number systems to solve problems.</p>	<p><b>Student Edition:</b>            11-17, 203, 299 #45  <i>Concept Summary</i> 297, 333  <i>Key Concept</i> 5, 19, 33, 43, 384, 409, 425, 455</p> <p><b>Teacher Edition:</b>            FM 35; TT 6</p>
<p>b. Solve proportional reasoning problems.</p>	<p><b>Student Edition:</b>            25 #73, 76 Example 1, 80 #18-#28, 87 #27-#29, 88 #33-#36, 94 Example 2, 96-97 #3-#11, 533-535  <i>Algebra Lab</i> 340, 356  <i>Concepts and Skills Bank</i> 993-994  <i>Graphing Technology Lab</i> 90  <i>Spreadsheet Lab</i> 807  <i>Standardized Test Practice</i> 82  <i>Study Guide and Review</i> 124 2-3  <i>Why?</i> 553</p> <p><b>Teacher's Edition:</b>            AE 77; DI 8</p>

STANDARDS	PAGE REFERENCES
<p><b>Geometry and Measurement</b> – Shapes and structures can be analyzed, visualized, measured and transformed using a variety of strategies, tools and technologies.</p> <p><b>How do geometric relationships and measurements help us to solve problems and make sense of our world?</b></p>	
<p><b>3.1 Use properties and characteristics of two- and three-dimensional shapes and geometric theorems to describe relationships, communicate ideas and solve problems.</b></p>	
<p>a. Investigate relationships among plane and solid geometric figures using geometric models, constructions and tools.</p>	<p><b>Student Edition:</b>  P15-P18, 107 #56, 452 #91, 701 #60, 721-722, 870 #78  <i>Algebra Lab</i> 726  <i>Geometry Lab</i> 840  <i>Spreadsheet Lab</i> 807  <i>Standardized Test Practice</i> 763 #28</p> <p><b>Teacher’s Edition:</b>  AE P15, P16; EC 807; WO P16</p>
<p>b. Develop and evaluate mathematical arguments using reasoning and proof.</p>	<p><b>Student Edition:</b>  265 #52, 274 #79, 289 #58, 415 #60, 451 #69-#70, 514 #62, 710 #60-#61, 727-731, 891  <i>Concept Summary</i> 297  <i>Graphing Technology Lab</i> 267  <i>Study Guide and Review</i> 736 11-7</p> <p><b>Teacher Edition:</b>  A 107, 199, 266, 275, 347; AE 728; CS 287; DI 731; QF 293; T 267</p>
<p><b>3.2 Use spatial reasoning, location and geometric relationships to solve problems.</b></p>	
<p>a. Verify geometric relationships using algebra, coordinate geometry, and transformations.</p>	<p><b>Student Edition:</b>  27-29, 43 Example 3, 45 #22, 86 Example 4, #6-#7, 87 #23-#26, 88 #40, 107 #50-#52, 111 Example 4, 109-115, 863-869  <i>Graphing Technology Lab</i> 108, 862  <i>Key Concept</i> 85  <i>Study Guide and Review</i> 124 #39-#40  <i>Why?</i> 109</p> <p><b>Teacher Edition:</b>  AE 86, 110, 111, 112, 864, 865</p>

STANDARDS	PAGE REFERENCES
<p><b>3.3 Develop and apply units, systems, formulas and appropriate tools to estimate and measure.</b></p>	
<p>a. Solve a variety of problems involving 1-, 2-, and 3-dimensional measurements using geometric relationships and trigonometric ratios.</p>	<p><b>Student Edition:</b>            37 #40, 272 #16, 316 #32, #45, 373 #71, 811, 817-822, 826 Example 2, 827 Example 3, 831 #59-#61, 827 Example 1, 850, 874 #30, 919  <i>Concept Summary</i> 819  <i>Key Concept</i> 826  <i>Mid-Chapter Quiz</i> 283 #16  <i>Preparing for Standardized Tests</i> 55 #4, 327 #4, 403 #1  <i>Standardized Test Practice</i> 549 #13  <i>Why?</i> 817</p> <p><b>Teacher’s Edition:</b>            AE 811, 819; EC 840; T 825; TT 819</p>
<p><b>Working with Data: Probability and Statistics</b> – Data can be analyzed to make informed decisions using a variety of strategies, tools and technologies.  <b>How can collecting, organizing and displaying data help us analyze information and make reasonable predictions and informed decisions?</b></p>	
<p><b>4.1 Collect, organize and display data using appropriate statistical and graphical methods.</b></p>	
<p>a. Create the appropriate visual or graphical representation of real data.</p>	<p><b>Student Edition:</b>            93 Real-World Example 1, 94 Real-World Example 2, 95-97, 186 Real-World Example 2, 189 #21, #28, 190 #33  <i>Algebra Lab</i> 99, 785  <i>Check Your Progress</i> 93 #1A, 187 #2A  <i>Graphing Technology Lab</i> 319 #2  <i>Spreadsheet Lab</i> 192 #1</p> <p><b>Teacher Edition:</b>            AA 93</p>
<p><b>4.2 Analyze data sets to form hypotheses and make predictions.</b></p>	
<p>a. Analyze real-world problems using statistical techniques.</p>	<p><b>Student Edition:</b>            187, 189 #21, #28, 191 #46, 197 #28, 766 Example 4 #b, 769 #17-#19  <i>Algebra Lab</i> 99-100  <i>Graphing Technology Lab</i> 319 #5, 751  <i>Spreadsheet Lab</i> 192  <i>Study Tip</i> 195</p> <p><b>Teacher Edition:</b>            AA 187; AE 766</p>

## STANDARDS

## PAGE REFERENCES

**4.3 Understand and apply basic concepts of probability.**

- a. Understand and apply the principles of probability in a variety of situations.

**Student Edition:**

759-763, 764-771, 773-778, 786-792

*Algebra Lab* 779

*Why?* 759

**Teacher Edition:**

A 763; AE 760, 765, 787, 788, 789; DI 763, 771;

T 764