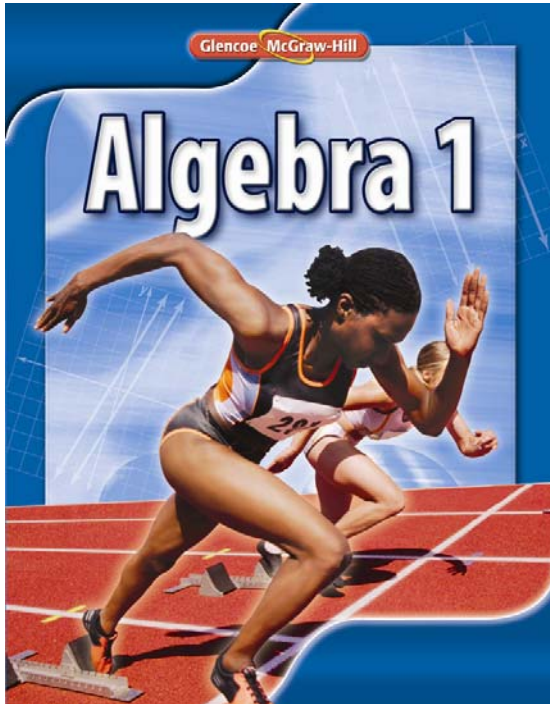




**Glencoe**

Mathematics Curriculum Framework  
Grades 9-12



# Algebra 1

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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>            153-160, 167-168, 180-186, 187-193, 194, 195-200, 222-223, 525-535, 536, 544-549, 558-564, 567-572, 573-577, 578-583, 584-589, 590-591  <i>Algebra Lab</i> 194, 536  <i>Graphing Technology Lab</i> 167-168, 222-223, 590-591  <i>Study Tip</i> 155, 156, 188, 189, 527, 529, 545</p>

STANDARDS	PAGE REFERENCES
<p><b>1.2 Represent and analyze quantitative relationships in a variety of ways.</b></p>	
<p>a. Represent and analyze linear and nonlinear functions and relations symbolically and with tables and graphs.</p>	<p><b>Student Edition:</b>            53, 75-80, 81-82, 92-95, 153-160, 161-166, 167-168, 180-187, 195-200, 525-535, 536, 537-542, 544-549, 550-551, 567-572, 605-610, 611, 670-676, 678-683  <i>Algebra Lab</i> 81-82  <i>Graphing Technology Lab</i> 63, 167-168, 536, 550-551, 611  <i>Study Tip</i> 606, 671</p>
<p><b>1.3 Use operations, properties and algebraic symbols to determine equivalence and solve problems.</b></p>	
<p>a. Manipulate equations, inequalities and functions to solve problems.</p>	<p><b>Student Edition:</b>            83-89, 90-96, 97-102, 195-200, 146-147, 206-207, 245-251, 283-288, 289, 290-295, 296-301, 304-309, 310-314, 326-327, 552-557, 558-564, 565, 567-572, 573-577, 720-726  <i>Algebra Lab</i> 289  <i>Graphing Technology Lab</i> 565  <i>Preparing for Standardized Tests</i> 206-207, 326-327</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>	
<p><b>2.1 Understand that a variety of numerical representations can be used to describe quantitative relationships.</b></p>	
<p>a. Extend the understanding of number to include integers, rational numbers and real numbers.</p>	<p><b>Student Edition:</b>            P7-P10, P11-P12, P13-P16, P17-P19, 92-95, 141, 283-289, 290-295, 558-563  <i>Study Tip</i> P8, P9, P10, P12, P14, P15, P18, P19, 93  <b>Teacher Edition:</b>            AE P7-P9, P11-P12, P13-P16, P17-P18, 93, 559-560; WO P11, P15, P18</p>

STANDARDS	PAGE REFERENCES
<p>b. Interpret and represent large sets of numbers with the aid of technologies.</p>	<p><b>Student Edition:</b>            416-422, 429 #61-#66, 520 #9, 572 #56-#58, 629 #13, 713 #89-#91, 788-791  <i>Problem-Solving Tip</i> 417  <i>Reading Math</i> 789  <i>Study Tip</i> 418  <i>Watch Out!</i> 417</p> <p><b>Teacher Edition:</b>            AE 417-418, 788-789; DI 420; FMC 418, 788; SQ 416; TNT 418, 419; WO 420</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>            10-15, 16-22, 23-29, 30, 83-89, 111-117, 163-165, 296-301, 401-407, 408-415, 447-452, 453-458, 537-542  <i>Review Vocabulary</i> 297  <i>Study Tip</i> 538, 539  <i>Watch Out!</i> 297, 538</p> <p><b>Teacher Edition:</b>            AE 11-12, 17-19, 24-26, 112-114, 163, 538-539; DI 542; FMC 298; TNT 163</p>
<p>b. Solve proportional reasoning problems.</p>	<p><b>Student Edition:</b>            P20-P22, 111-117, 119-124, 128-130, 142-143, 145, 195-200, 204, 642-647, 660, 670-676  <i>Reading Math</i> 643, 671  <i>Study Tip</i> P21, 112, 113, 121, 196, 197, 643, 671</p> <p><b>Teacher Edition:</b>            AE P20-P21, 112-114, 120-121, 196-197, 643-644, 671</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>  P23-P25, P26-P28, P29-P30, P31-P32, 21 #53, 37 #73, 80 #53, 200 #29, 307 #36, 339 #54, 460-461, 629 #29, 630-635, 642-647, 648, 649-655, 664 #3-#4, 762 #36  <i>Algebra Lab</i> 648  <i>Study Tip</i> P24, P25, P27, P32  <b>Teacher Edition:</b>  AE 631, 643-644</p>
<p>b. Develop and evaluate mathematical arguments using reasoning and proof.</p>	<p><b>Student Edition:</b>  21 #53, 54-59, 66, 67 #22-#25, 68-69, 194, 252, 303, 307 #36, 655  <i>Algebra Lab</i> 60-61, 194, 252, 303  <i>Preparing for Standardized Tests</i> 68-69  <i>Reading Math</i> 66  <i>Study Tip</i> 55, 56  <b>Teacher Edition:</b>  AE 55-56; DI 59, 655; FMC 56; SQ 54; TNT 59; TT 303; WO 57</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>  127-129, 231-236, 238-243, 260 #28, 307 #36, 354 #51, 544-549, 630-635, 636-641, 648, 662-663  <i>Algebra Lab</i> 648  <i>Preparing for Standardized Tests</i> 662-663  <i>Study Tip</i> 233, 545, 637  <i>Watch Out!</i> 546, 638  <b>Teacher Edition:</b>  AE 239; DI 243, 635, 647; FMC 546, 637; SQ 630, 636; TNT 240</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>            169, 170-178, 630-635, 636-641, 642-647, 648, 649-655, 660, 661, 662-663  <i>Algebra Lab</i> 169, 648  <i>Preparing for Standardized Tests</i> 662-663  <i>Reading Math</i> 643  <i>Study Tip</i> 171, 637, 643</p> <p><b>Teacher Edition:</b>            AE 171-174, 631, 637-638, 643-644, 650-651; DI 178, 641, 647; SQ 170, 630, 649; TNT 171</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>            P40-P43, P45 #69-#71, 245-251, 253-260, 590-591, 739, 746-755, 771-777, 779-784, 785-786, 798-799  <i>Algebra Lab</i> 739  <i>Graphing Technology Lab</i> 590-591, 785-786  <i>Preparing for Standardized Tests</i> 789-799  <i>Study Tip</i> P43, 255</p> <p><b>Teacher Edition:</b>            AE P40-P42, 246-247, 254-255, 747-749, 780-781, 799</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>            740-745, 746-755, 756-762, 763, 770 #48, 778 #44, 785-786, 794, 797, 798-799, 842-843, 856  <i>Graphing Technology Lab</i> 785-786  <i>Preparing for Standardized Tests</i> 798-799  <i>Review Vocabulary</i> 757  <i>Study Tip</i> 758, 759  <i>Watch Out!</i> 747</p> <p><b>Teacher Edition:</b>            AE 741-742, 747-749, 757-759, 799; DI 745, 762; FMC 741; SQ 740, 746, 756</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:**

764-770, 771-778, 779-784, 785-786, 787-792,  
795-796, 797, 843-844, 856

*Graphing Technology Lab* 785-786

*Problem-Solving Tip* 772

*Reading Math* 765, 789

*Study Tip* 765, 766, 773, 780

*Watch Out!* 767

**Teacher Edition:**

AE 765-767, 772-774, 780-781, 788-789; DI 771;  
FMC 765, 766, 773