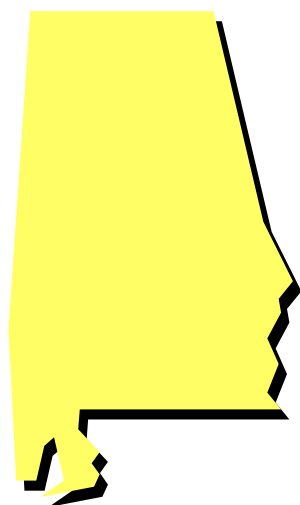
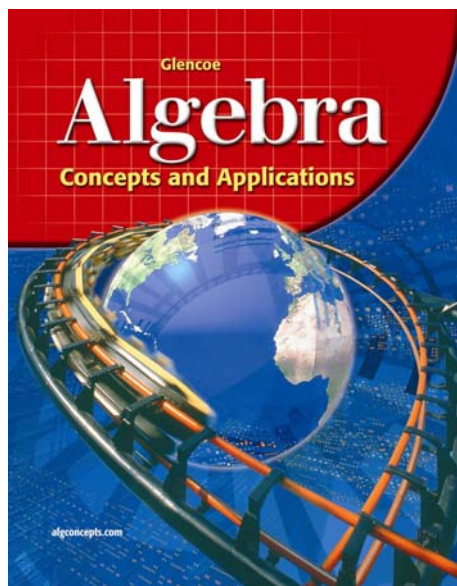


Glencoe/McGraw-Hill

Algebra: Concepts and Applications ©2004

ISBN# 0-07-845771-8



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**Alabama
Course of Study:
Algebra 1**

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CORRELATED TO

**ALABAMA
COURSE OF STUDY: ALGEBRA 1**

OBJECTIVES	PAGE REFERENCES
Number and Operations	
Students will:	
1. Simplify numerical expressions using properties of real numbers and order of operations, including those involving square roots, radical form, or decimal approximations.	
<ul style="list-style-type: none"> • Applying laws of exponents to simplify expressions, including those containing zero and negative integral exponents 	SE: 336–340, 341–345, 347–351, 352–356, 374–377, 455, 617–619, 631, 633 TWE: 336–340, 341–345, 347–351, 352–356, 374–377, 455, 617–619, 631, 633
Algebra	
2. Analyze linear functions from their equations, slopes, and intercepts.	
<ul style="list-style-type: none"> • Finding the slope of a line from its equation or by applying the slope formula 	SE: 284–289, 291–295, 296–301, 312–315, 322–327, 328–331 TWE: 284–289, 291–295, 296–301, 312–315, 322–327, 328–331
<ul style="list-style-type: none"> • Determining the equations of linear functions given two points, a point and the slope, tables of values, graphs, or ordered pairs 	SE: 290–295, 296–301, 302–307 TWE: 290–295, 296–301, 302–307
<ul style="list-style-type: none"> • Graphing two-variable linear equations and inequalities on the Cartesian plane 	SE: 310–315, 316–321, 322–327, 535–539, 550–553, 586–591 TWE: 310–315, 316–321, 322–327, 535–539, 550–553, 586–591

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OBJECTIVES	PAGE REFERENCES
3. Determine characteristics of a relation, including its domain, range, and whether it is a function, when given graphs, tables of values, mappings, or sets of ordered pairs.	
<ul style="list-style-type: none"> • Finding the range of a function when given its domain 	SE: 238–243, 245–249, 255–256, 279, 301, 304, 308, 310 TWE: 238–243, 245–249, 255–256, 279, 301, 304, 308, 310
4. Represent graphically common relations, including $x = \text{constant}$, $y = \text{constant}$, $y = x$, $y = \sqrt{x}$, $y = x^2$, and $y = x $.	
<ul style="list-style-type: none"> • Identifying situations that are modeled by common relations, including $x = \text{constant}$, $y = \text{constant}$, $y = x$, $y = \sqrt{x}$, $y = x^2$, and $y = x$ 	SE: 256–261, 284–289, 316–321, 464–467, 473, 499, 585 TWE: 256–261, 284–289, 316–321, 464–467, 473, 499, 585
5. Perform operations of addition, subtraction, and multiplication on polynomial expressions.	
<ul style="list-style-type: none"> • Dividing by a monomial 	SE: 342–345, 347–351, 375, 377, 430, 432, 439, 451, 646, 648, 649 TWE: 342–345, 347–351, 375, 377, 430, 432, 439, 451, 646, 648, 649
6. Factor binomials, trinomials, and other polynomials using GCF, difference of squares, perfect square trinomials, and grouping.	
	SE: 420–425, 428–432, 434–439, 440–443, 445–449 TWE: 420–425, 428–432, 434–439, 440–443, 445–449

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OBJECTIVES	PAGE REFERENCES
7. Solve multistep equations and inequalities including linear, radical, absolute value, and literal equations.	
<ul style="list-style-type: none"> Writing the solution of an equation or inequality in set notation 	SE: 128–131, 134–135, 244–249, 509–512, 515–518, 519–523, 524–529, 531–534, 542–545 TWE: 128–131, 134–135, 244–249, 509–512, 515–518, 519–523, 524–529, 531–534, 542–545
<ul style="list-style-type: none"> Graphing the solution of an equation or inequality 	SE: 128–129, 244–245, 247, 250, 310–315, 316–321, 322–327, 513, 515, 535–539, 550–553, 565, 586–591 TWE: 128–129, 244–245, 247, 250, 310–315, 316–321, 322–327, 513, 515, 535–539, 550–553, 565, 586–591
<ul style="list-style-type: none"> Modeling real-world problems by developing and solving equations and inequalities, including those involving direct and inverse variation 	This objective is addressed throughout. See, for example: SE: 64, 140, 188, 244, 264–265, 267–268, 270–276, 278, 336, 399, 434, 483, 504, 530, 580, 600, 656 TWE: 64, 140, 188, 244, 264–265, 267–268, 270–276, 278, 336, 399, 434, 483, 504, 530, 580, 600, 656
8. Solve systems of linear equations and inequalities in two variables graphically or algebraically.	
<ul style="list-style-type: none"> Modeling real-world problems by developing and solving systems of linear equations and inequalities 	SE: 549–553, 554–559, 560–564, 566–571, 572–577, 586–591 TWE: 549–553, 554–559, 560–564, 566–571, 572–577, 586–591

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OBJECTIVES	PAGE REFERENCES
9. Solve quadratic equations using the zero product property.	
<ul style="list-style-type: none"> • Approximating solutions graphically and numerically 	SE: 458–463, 464–467, 468–471, 474–477, 478–481, 483–486 TWE: 458–463, 464–467, 468–471, 474–477, 478–481, 483–486
Geometry	
10. Calculate length, midpoint, and slope of a line segment when given coordinates of its endpoints on the Cartesian plane.	
<ul style="list-style-type: none"> • Deriving the distance, midpoint, and slope formulas 	SE: 284–286, 607–609, 612–613, 673 TWE: 284–286, 607–609, 612–613, 673
Measurement	
11. Solve problems algebraically that involve area and perimeter of a polygon, area and circumference of a circle, and volume and surface area of right circular cylinders or right rectangular prisms.	
<ul style="list-style-type: none"> • Applying formulas to solve word problems 	SE: 109, 115, 164, 177, 179, 205, 235, 246, 361, 364–365, 379, 386, 477, 499, 596, 654 TWE: 109, 115, 164, 177, 179, 205, 235, 246, 361, 364–365, 379, 386, 477, 499, 596, 654
Data Analysis and Probability	
12. Compare various methods of data reporting, including scatterplots, stem-and-leaf plots, histograms, box-and-whisker plots, and line graphs, to make inferences or predictions.	
<ul style="list-style-type: none"> • Determining effects of linear transformations of data 	SE: 38–43, 302–307 TWE: 38–43, 302–307

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OBJECTIVES	PAGE REFERENCES
<ul style="list-style-type: none"> • Determining effects of outliers 	<p>The opportunity to address this objective is available. See the following:</p> <p>SE: 105, 107</p> <p>TWE: 105, 107</p>
<ul style="list-style-type: none"> • Evaluating the appropriateness of the design of a survey 	<p>SE: 32–37, 38–43, 184–185</p> <p>TWE: 32–37, 38–43, 184–185</p>
13. Identify characteristics of a data set, including measurement or categorical and univariate or bivariate.	<p>The opportunity to address this objective is available. See the following:</p> <p>SE: 107</p> <p>TWE: 107</p>
14. Use a scatterplot and its line of best fit or a specific line graph to determine the relationship existing between two sets of data, including positive, negative, or no relationship.	<p>SE: 283, 302–309, 321, 328–329, 623</p> <p>TWE: 283, 302–309, 321, 328–329, 623</p>
15. Estimate probabilities given data in lists or graphs.	
<ul style="list-style-type: none"> • Comparing theoretical and experimental probabilities 	<p>SE: 219–223, 224–229, 242–243, 279–281, 407–409</p> <p>TWE: 219–223, 224–229, 242–243, 279–281, 407–409</p>

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