

# Glencoe Algebra 1 ©2003

correlated to

## SOUTH CAROLINA MATH CURRICULUM STANDARDS Algebra 1

OBJECTIVES	LESSON REFERENCES
<p><b>I. Understanding Functions</b></p> <p><b>A. Relationships</b></p> <ol style="list-style-type: none"> <li>1. Describe independent and dependent quantities in functional relationships.</li> <li>2. Gather and record data or use data sets to determine functional (systematic) relationships between quantities.</li> <li>3. Describe functional relationships for given problem situations and write equations, inequalities, and recursive relations to answer questions arising from the situations.</li> <li>4. Represent relationships among quantities using concrete models, tables, graphs, diagrams, verbal</li> </ol>	<p>1-8, 4-3, 4-4, 4-5, 4-6, 4-SGR, 5-2AA, 5-4, 6-1, 6-4, 6-6, 8-5</p> <p>1-8, 1-8AA, 1-SGR, 1-STP, 4-6, 4-SGR, 4-PT, 10-1, 10-2, 10-5, 10-7, 10-7AA, 10-SGR, 10-PT, 10-STP, 11-3GCI, 12-1, 12-2GCI, 12-SGR, 12-STP, SH</p> <p>1-8, 1-SGR, 1-STP, 4-6, 4-6SI, 4-7, 4-8, 4-SGR, 4-PT, 5-2, 5-2AA, 5-3, 5-4, 5-5, 6-1, 6-2, 6-3, 6-4, 6-5, 6-PT, 10-1, 10-2, 10-5, 10-6, 10-7, 10-7AA, 10-SGR, 10-STP, 12-1, 12-2, 12-4, 12-STP, SH</p> <p>1-8, 1-8AA, 1-SGR, 1-STP, 4-5, 4-5GCI, 4-6, 4-8, 4-SGR, 4-PT, 4-STP, 5-2, 5-2AA, 5-3, 5-3GCI, 5-4, 5-7, 5-7GCI, 5-SGR, 5-PT, 10-1,</p>

**KEY** AA = Algebra Activity  
CO = Chapter Opener  
GCI = Graphing Calculator Investigation  
PT = Practice Test

SGR = Study Guide Review  
SH = Student Handbook  
SI = Spreadsheet Investigation  
STP = Standardized Test Practice

OBJECTIVES	LESSON REFERENCES
<p>descriptions, equations, and inequalities including representations involving computer algebra systems, spreadsheets, and graphing calculators.</p> <p>5. Make judgments about units of measure and scales within a system and between systems.</p> <p>6. Interpret and make inferences from explicit and recursive functional relationships.</p> <p><b>B. Linear and Quadratic Functions and Data Representations</b></p> <p>1. Identify and sketch the general forms of linear (<math>y = x</math>) and quadratic (<math>y = x^2</math>) parent functions.</p> <p>2. For a variety of situations, identify and determine reasonable domain and range values for given situations.</p> <p>3. Interpret situations in terms of given graphs or create situations that fit given graphs.</p> <p>4. Represent, display, and interpret data using scatterplots, bar graphs, stem-and-leaf plots, and box-and-whiskers diagrams, including representations on graphing calculators and computers.</p>	<p>10-1GCI, 10-2, 10-3, 10-3GCI, 10-5, 10-6, 10-7, 10-7AA, 10-SGR, 10-PT, 10-STP, 11-3GCI, 11-STP, 12-1, 12-2, 12-4, 12-STP, SH</p> <p>3-8, 12-3, 12-4, 12-8, facing page inside back cover</p> <p>4-6, 4-6SI, 4-7, 4-SGR, 4-PT</p> <p>4-5, 10-1GCI, 10-3GCI</p> <p>1-8, 4-4, 4-5, 4-6, 4-SGR, 4-PT, 5-2, 5-3, 5-4, 5-5, 10-1, 10-2, SH</p> <p>1-8, 1-SGR, 1-STP, 4-5, 4-5GCI, 4-8, 4-SGR, 4-PT, 10-1, 10-1GCI, 10-2, 10-3GCI, 10-SGR, 10-PT, SH</p> <p>1-8, 1-9, 1-SGR, 2-5, 2-6, 2-SGR, 3-2, 5-7, 5-7GCI, 5-SGR, 5-PT, 6-1, 8-6, 13-3GCI, 13-4, 13-5, 13-SGR, 13-PT, 13-STP, 14-1, SH</p>

OBJECTIVES	LESSON REFERENCES
<p>5. Write a linear equation that fits a data set, check the model for “goodness of fit,” and make predictions using the model.</p> <p><b>C. Generalizations, Algebraic Symbols, and Matrices</b></p> <p>1. Read, write, and represent very large and very small numbers in a variety of forms including exponential.</p> <p>2. Use unit analysis to check measurement computations.</p> <p>3. Given situations, determine patterns and represent generalizations algebraically.</p> <p>4. Use symbolic representation, reasoning, and proof to verify statements about numbers.</p> <p>5. Recognize and justify the relationship between the magnitude of a number and the application of specific operations.</p> <p>6. Identify and use properties related to operations with matrices (addition, subtraction, and scalar multiplication) to solve applied problems.</p> <p><b>D. Algebraic Expressions in Problem Solving Situations</b></p> <p>1. Find specific function values and evaluate expressions.</p>	<p>5-7, 5-7GCI, 5-SGR, 5-PT, SH</p> <p>8-3, 8-SGR, 8-PT, SH</p> <p>3-8, 12-3, 12-4, 12-8</p> <p>4-7SI, 4-7, 4-8, 4-SGR, SH</p> <p>1-2, 1-4, 1-5, 1-6, 1-7, 1-SGR, 1-PT, 2-2, 2-3, 2-4, 2-SGR, 3-1, 8-1, 8-2, 8-3, 8-SGR, 11-1, 11-2</p> <p>2-2, 2-3, 2-4, 2-5, 2-6, 2-SGR, 2-PT, 8-3, 8-SGR, 8-PT, 11-1, 11-2, 11-4, 11-SGR, 11-PT, SH</p> <p>13-2, 13-4, 13-SGR, 13-PT, SH</p> <p>1-2, 1-3, 1-5, 1-SGR, 1-PT, 2-CO, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 2-SGR, 2-PT, 4-6, 4-7, 4-SGR, 4-PT, SH</p>

OBJECTIVES	LESSON REFERENCES
<p>2. Simplify polynomial expressions and perform polynomial arithmetic.</p> <p>3. Transform and solve equations and inequalities, factoring as necessary in problem situations.</p> <p>4. Given a problem situation, determine whether to use a rough estimate, an approximation, or an exact answer. Select a suitable method of computing from techniques such as the use of mental mathematics, paper-and-pencil combinations, calculators, and computers.</p> <p>5. Use supporting data to explain why a solution is mathematically reasonable.</p> <p>6. Use the commutative, associative, and distributive properties to simplify algebraic expressions.</p>	<p>8-1, 8-2, 8-4, 8-4AA, 8-5, 8-6, 8-6AA, 8-7, 8-8, 8-SGR, 8-PT, SH</p> <p>3-2AA, 3-2, 3-3, 3-3AA, 3-4, 3-5, 3-6, 3-7, 3-8, 3-9, 3-9SI, 3-SGR, 3-PT, 6-CO, 6-1, 6-1AA, 6-2, 6-3, 6-5, 6-6, 6-SGR, 6-PT, SH</p> <p>1-2, 1-3, 1-5, 1-8AA, 1-9, 2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 3-6, 3-7, 3-8, 3-9, 3-9SI, 4-1, 4-3, 4-4, 4-5, 5-2, 5-3, 5-4, 5-7, 5-7GCI, 5-SGR, 5-PT, 6-1, 6-6, 7SI, 7-1, 7-2, 7-4, 7-5, 8-5, 8-6, 8-8, 9-3, 9-4, 10-2, 10-3, 10-4, 10-5, 10-6, 10-7, 11-3, 11-5, 11-6, 11-7, 12-1, 12-3, 12-4, 12-9, 13-2, 13-3GCI, 14-1, 14-2, 14-5, SH</p> <p>1-3, 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, 3-SGR, 3-PT, 4-5, 5-7, 6-1, 6-2, 6-3, 6-5, 6-SGR, 6-PT</p> <p>1-5, 1-6, 1-7, 1-SGR, 2-3, 2-4, 2-5, 2-6, 2-SGR, 2-PT, 8-5, 8-6, 8-7, 8-SGR, 8-PT, 11CO, 12-6, 12-7, SH</p>
<p><b>II. Linear Functions</b></p> <p><b>A. Representations</b></p> <p>1. Determine whether or not given situations can be represented by linear functions.</p> <p>2. Based on the constraints of the problem, determine the domain and range values for linear functions.</p>	<p>1-8, 1-SGR, 4-5, 4-6, 4-8, 4-SGR, 5-2, 5-3, 5-4, 5-5, 5-PT, SH</p> <p>1-8, 4-4, 4-5, 4-6, 4-SGR, 4-PT, 5-2, 5-3, 5-4, 5-5, SH</p>

OBJECTIVES	LESSON REFERENCES
<p>3. Translate among and use algebraic, tabular, graphical, or verbal descriptions of linear functions using computer algebra systems, spreadsheets, and graphing calculators.</p> <p><b>B. Interpretations</b></p> <p>1. Develop the concept of slope as rate of change and determine slope from graphs, tables, and algebraic representations.</p> <p>2. Interpret the meaning of slope and intercepts in situations using data, symbolic representations, or graphs.</p> <p>3. With and without using a graphing calculator, investigate, describe, and predict the effects of changes in <math>m</math> and <math>b</math> on the graph of <math>y = mx + b</math>.</p> <p>4. Graph and write equations of lines given characteristics such as two points, a point and a slope, or a slope and <math>y</math>-intercept.</p> <p>5. Determine the intercepts of linear functions from graphs, tables, and algebraic representations.</p> <p>6. With and without using a graphing calculator, interpret and predict the effects of</p>	<p>1-8, 1-SGR, 4-5, 4-5GCI, 4-6, 4-8, 4-SGR, 4-PT, 5-2, 5-3, 5-4, 5-5, 5-SGR, 5-PT, 10CO, SH</p> <p>5-1, 5-2, 5-3, 5-SGR, 5-PT</p> <p>5-1, 5-2, 5-2AA, 5-3, 5-4, 5-5, SH</p> <p>5-2, 5-3GCI, 5-6, 5-SGR</p> <p>4-5, 4-5GCI, 4-6, 4-SGR, 4-PT, 5-1, 5-2, 5-3, 5-3GCI, 5-4, 5-5, 5-SGR, 5-PT, SH</p> <p>4-5, 5-2AA, 5-3, 5-3GCI, 5-4, 5-PT, SH</p> <p>5-1, 5-2, 5-2AA, 5-3GCI, 5-6, 5-SGR</p>

OBJECTIVES	LESSON REFERENCES
<p>changing slope and <math>y</math>-intercept in applied situations.</p> <p>7. Relate direct variation to linear functions and solve problems involving proportional change.</p> <p><b>C. Equations and Inequalities</b></p> <p>1. Analyze situations involving linear functions and formulate linear equations or inequalities to solve problems.</p> <p>2. Investigate methods for solving linear equations and inequalities using concrete models, graphs, and the properties of equality; select a method and solve the equations and inequalities.</p> <p>3. Use the commutative, associative, distributive, equality, and identity properties to justify the steps in solving equations and inequalities.</p> <p>4. Using concrete models for given contexts, interpret and determine the reasonableness of solutions to linear equations and inequalities.</p> <p><b>D. Systems of Linear Equations</b></p> <p>1. Analyze situations and formulate systems of linear equations to solve problems.</p>	<p>5-2, 5-3, 5-4, 5-SGR, 5-PT, SH</p> <p>3-1, 3-1AA, 3-2, 3-3, 3-3AA, 3-4, 3-5, 3-6, 3-7, 3-9, 3-SGR, 6-1, 6-1AA, 6-2, 6-3, SH</p> <p>3-2AA, 3-2, 3-3, 3-3AA, 3-4, 3-5, 3-6, 3-7, 6-1, 6-1AA, 6-2, 6-3, 6-5, 6-6 6-SGR, 6-PT, SH</p> <p>3-2, 3-3, 3-4, 3-5, 3-6, 3-7, 3-8, 3-9, 3-SGR, 6-1, 6-2, 6-3, 6-SGR</p> <p>3-1AA, 3-3AA, 6-1AA</p> <p>7SI, 7-1, 7-2, 7-3, 7-4, 7-PT, SH</p>

OBJECTIVES	LESSON REFERENCES
<p>2. Solve systems of linear equations using concrete models, graphs, tables, and algebraic methods including computer algebra systems, spreadsheets, and graphing calculators.</p> <p>3. For given contexts, interpret and determine the reasonableness of solutions to systems of linear equations.</p>	<p>7SI, 7-1, 7-1GCI, 7-2, 7-3, 7-4, 7-SGR, 7-PT, SH</p> <p>7-1</p>
<p><b>III. Quadratic and Other Functions</b></p>	
<p><b>A. Quadratic Functions</b></p>	
<p>1. Given the constraints of the problem, determine the domain and range values for quadratic functions.</p>	<p>10-1, 10-2</p>
<p>2. With and without using a graphing calculator, investigate, describe, and predict the effects of changes in the coefficient <math>a</math> on the graph of <math>y = ax^2</math>.</p>	<p>10-1, 10-1GCI</p>
<p>3. With and without using a graphing calculator, investigate, describe, and predict the effects of changes in the constant <math>c</math> on the graph of <math>y = x^2 + c</math>.</p>	<p>10-1, 10-1GCI</p>
<p>4. For problem situations, analyze graphs of quadratic functions and draw conclusions.</p>	<p>10-1, 10-2, SH</p>

OBJECTIVES	LESSON REFERENCES
<p>5. Solve quadratic equations using concrete models, tables, graphs, and algebraic methods that include factoring and using the quadratic formula as well as computer algebra systems, spreadsheets, and graphing calculators.</p>	<p>9CO, 9-2, 9-3, 9-4, 9-5, 9-6, 9-SGR, 9-PT, 10-2, 10-3, 10-4, 10-SGR, 10-PT, SH</p>
<p>6. Relate the solutions of quadratic equations to the roots of their functions.</p>	<p>9-6, 9-SGR, SH</p>
<p><b>B. Other Functions</b></p>	
<p>1. Use patterns to generate the laws of exponents and apply the laws of exponents in problem-solving situations.</p>	<p>8-1, 8-2, 8-3, 8-SGR, 8-PT, SH</p>
<p>2. Analyze data and represent situations involving inverse variation using concrete models, tables, graphs, or algebraic methods as well as computer algebra systems, spreadsheets, and graphing calculators.</p>	<p>12-1, 12-2, 12-3, 12-SGR, 12-PT, 14-4, SH</p>
<p>3. Analyze data and represent situations involving exponential growth and decay using concrete models, tables, graphs, or algebraic methods as well as computer algebra systems, spreadsheets, and graphing calculators.</p>	<p>10-5, 10-6, 10-7, 10-SGR, 10-PT, SH</p>

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## SOUTH CAROLINA MATH CURRICULUM STANDARDS Mathematics for the Technologies 1

OBJECTIVES	LESSON REFERENCES
<p><b>I. Generalizations and algebraic symbols.</b></p> <p><b>A.</b> Use unit analysis to check measurement computations of English and metric units (e.g., 5 miles per hour = <math>x</math> feet per second).</p> <p><b>B.</b> Make judgments about the appropriateness of units of measure within a system and between systems.</p> <p><b>C.</b> Determine patterns.</p> <p><b>D.</b> Recognize and justify the effects of such operations as multiplication, division, and computing powers and roots on the magnitudes of quantities.</p>	<p>3-8, 12-3, 12-4, 12-8</p> <p>3-8, 12-3, 12-4, 12-8, facing page inside back cover</p> <p>4-6SI, 4-7, 4-8, 4-SGR, SH</p> <p>2-2, 2-3, 2-4, 2-5, 2-6, 2-SGR, 2-PT, 8-3, 8-SGR, 8-PT, 11-1, 11-2, 11-4, 11-SGR, 11-PT, SH</p>

**KEY** AA = Algebra Activity  
CO = Chapter Opener  
GCI = Graphing Calculator Investigation  
PT = Practice Test

SGR = Study Guide Review  
SH = Student Handbook  
SI = Spreadsheet Investigation  
STP = Standardized Test Practice

OBJECTIVES	LESSON REFERENCES
<p><b>II. Algebraic expressions in problem-solving situations.</b></p> <p><b>A.</b> Find specific function values and evaluate expressions.</p> <p><b>B.</b> Simplify polynomial expressions using addition and subtraction.</p> <p><b>C.</b> Identify the steps to simplify algebraic expressions using the commutative, associative, and distributive properties.</p> <p><b>D.</b> Use symbolic representation and reasoning to verify statements about numbers.</p> <p><b>E.</b> Given a problem situation, determine the type of solution required and an appropriate technique (a rough estimate, an approximation, and an exact answer).</p> <p><b>F.</b> Select a suitable method of computing (mental mathematics, paper and pencil combinations, calculators, and computers).</p> <p><b>III. Equations and inequalities.</b></p> <p><b>A.</b> Transform and solve linear equations and inequalities using forms (one-step and multi-step) and properties (commutative, associative, distributive and equality).</p>	<p>1-2, 1-3, 1-5, 1-SGR, 1-PT, 2-CO, 2-1, 2-2, 2-3, 2-4, 2-5, 2-SGR, 2-PT, 4-6, 4-7, 4-SGR, 4-PT, SH</p> <p>8-4AA, 8-5, 8-6, 8-SGR, 8-PT, SH</p> <p>1-5, 1-6, 1-7, 1-SGR, 2-3, 2-4, 2-5, 2-SGR, 2-PT, 8-5, 8-6, 8-7, 8-SGR, 8-PT, 11-CO, 12-6, 12-7, SH</p> <p>1-2, 1-4, 1-5, 1-6, 1-7, 1-SGR, 1-PT, 2-2, 2-3, 2-4, 2-SGR, 3-1, 8-1, 8-2, 8-3, 8-SGR, 11-1, 11-2, 11-SGR</p> <p>1-2, 1-3, 1-5, 1-8 AA, 1-9, 2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 3-6, 3-7, 3-8, 3-9, SI3-9, 4-1, 4-3, 4-4, 4-5, 5-2, 5-3, 5-4, 5-7, 5-7GCI, 5-SGR, 5-PT, 6-1, 6-6, 7SI, 7-1, 7-2, 7-4, 7-5, 8-5, 8-6, 8-8, 9-3, 9-4, 10-2, 10-3, 10-4, 10-5, 10-6, 10-7, 11-3, 11-5, 11-6, 11-7, 12-1, 12-3, 12-4, 12-9, 13-2, 13-3GCI, 14-1, 14-2, 14-5, SH</p> <p>2-2, 2-3, 2-4, 2-5, 2-SGR, 2-PT, 8-3, 8-SGR, 8-PT, 11-1, 11-2, 11-4, 11-SGR, 11-PT, SH</p> <p>3-2AA, 3-2, 3-3, 3-3AA, 3-4, 3-5, 3-6, 3-7, 3-8, 3-9, 3-9SI, 3-SGR, 3-PT, 6-CO, 6-1, 6-2AA, 6-2, 6-3, 6-5, 6-6, 6-SGR, 6-PT, SH</p>

OBJECTIVES	LESSON REFERENCES
<p><b>B.</b> Represent relationships among quantities using representations (concrete models, tables, graphs, diagrams, verbal descriptions, equations, inequalities) and tools (computer algebra systems (CAS), spreadsheets, and graphing calculators).</p> <p><b>C.</b> Analyze problem situations (describe functional and recursive relations, write equations, and write inequalities).</p> <p><b>D.</b> For given contexts use concrete models to interpret and determine the reasonableness of solutions to linear equations and inequalities.</p> <p><b>E.</b> Use supporting data to explain why a solution is mathematically reasonable.</p>	<p>1-8, 1-8AA, 1-SGR, 1-PT, 1-STP, 2-3, 3-1, 3-SGR, 3-PT, 4-2GCI, 4-3, 4-5, 4-5GCI, 4-6, 4-7, 4-8, 4-SGR, 4-PT, 4-STP, 5-1, 5-2, 5-2AA, 5-3, 5-3GCI, 5-4, 5-5, 5-6, 5-SGR, 5-PT, 6-1, 6-2, 6-3, 6-5, 6-6, 6-6GCI, 6-SGR, 6-PT, 6-STP, 10-1, 10-1GCI, 10-5, 10-6, 10-7, 10-SGR, 10-PT, 10-STP, 11-3, 11-3GCI, 12-1, 12-2GCI, 12-SGR, 12-PT, SH</p> <p>1-3, 1-8, 1-SGR, 1-STP, 4-6, 4-6SI, 4-7, 4-8, 4-SGR, 4-PT, 5-2, 5-2AA, 5-3, 5-4, 5-5, 6-1, 6-2, 6-3, 6-4, 6-5, 6-PT, SH</p> <p>3-1AA, 3-3AA, 6-1AA</p> <p>1-3, 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, 3-SGR, 3-PT, 4-5, 5-7, 6-1, 6-2, 6-3, 6-5, 6-SGR, 6-PT</p>
<p><b>IV. Slopes of lines.</b></p> <p><b>A.</b> Develop the concept of slope as a rate of change, and determine slope using graphs, tables, and algebraic representations.</p> <p><b>B.</b> Interpret the meaning of slope and intercepts in situations involving data, symbolic representations, and graphs.</p> <p><b>C.</b> With and without a graphing calculator, investigate, describe, and predict the effects of changes in <math>m</math> and <math>b</math> on the</p>	<p>5-1, 5-2, 5-3, 5-SGR, 5-PT</p> <p>5-1, 5-2, 5-2AA, 5-3, 5-4, 5-5, SH</p> <p>5-2, 5-3GCI, 5-6, 5-SGR</p>

OBJECTIVES	LESSON REFERENCES
<p>graph of <math>y = mx + b</math> and the results of these changes in applied situations.</p> <p><b>D.</b> Graph and write equations of lines with given characteristics (two points, one point and a slope, and a slope and <math>y</math>-intercept.)</p> <p><b>E.</b> Determine the intercepts of linear functions using graphs and tables.</p>	<p>4-5, 4-5GCI, 4-6, 4-SGR, 4-PT, 5-1, 5-2, 5-3, 5-3GCI, 5-4, 5-5, 5-SGR, 5-PT, SH</p> <p>4-5, 5-2AA, 5-3, 5-3GCI, 5-4, 5-PT, SH</p>
<p><b>V. Linear functions and data representations.</b></p> <p><b>A.</b> For a variety of situation, identify and determine reasonable domain and range of values.</p> <p><b>B.</b> Match situations to given graphs, and justify or interpret the match</p> <p><b>C.</b> Create situations that fit given graphs.</p> <p><b>D.</b> Represent, display, and interpret data, including representations on graphing calculators and computers (scatter plots and bar graphs).</p>	<p>1-8, 4-4, 4-5, 4-6, 4-SGR, 5-PT, 5-2, 5-3, 5-4, 5-5, SH</p> <p>1-8, 1-SGR, 1-PT, 1-STP, 2-3, 4-5, 4-6, 4-8, 4-SGR, 4-PT, 5-2, 5-3, 5-4, 5-5, 5-6, 5-7, 5-STP, SH</p> <p>1-8, 1-SGR, 1-PT, 1-STP, 2-3, 4-5, 4-6, 5-2, SH</p> <p>1-8, 1-9, 1-SGR, 1-STP, 5-7, 5-7GCI, 5-SGR, 5-PT, 13-3GCI, SH</p>

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## SOUTH CAROLINA MATH CURRICULUM STANDARDS Mathematics for the Technologies 2

OBJECTIVES	LESSON REFERENCES
<p><b>I. Generalizations, algebraic symbols, and matrices.</b></p> <p><b>A.</b> Represent very large and very small numbers in exponential form and scientific form (interpreting calculator display).</p> <p><b>B.</b> Identify and use properties related to operations with matrices (addition, subtraction, scalar multiplication).</p> <p><b>C.</b> Solve applied problems using matrices.</p> <p><b>II. Algebraic expressions in problem-solving situations.</b></p> <p><b>A.</b> Find specific function values, and evaluate expressions.</p> <p><b>B.</b> Use patterns to generate the laws of exponents (multiplication, division, power raised to a power).</p>	<p>8-3, 8-SGR, 8-PT, SH</p> <p>13-2, 13-4, 13-SGR, 13-PT, SH</p> <p>13-2, SH</p> <p>1-2, 1-3, 1-5, 1-SGR, 1-PT, 2-CO, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 2-SGR, 2-PT, 4-6, 4-7, 4-SGR, 4-PT, SH</p> <p>8-1</p>

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OBJECTIVES	LESSON REFERENCES
<p><b>C.</b> Apply the laws of exponents in problem situations.</p> <p><b>D.</b> Simplify polynomial expressions using multiplication and division by monomial.</p> <p><b>E.</b> Investigate factoring techniques using greatest common factor, difference between squares, quadratic trinomial, and grouping.</p>	<p>8-1, 8-2, 8-3, 8-SGR, 8-PT, SH</p> <p>8-1, 8-2, 8-6, 8-7AA, 8-7, 8-8, 8-SGR, 8-PT, 12-5, 12-SGR, 12-PT, SH</p> <p>9-1, 9-2AA, 9-2, 9-2AA, 9-3, 9-4, 9-5, 9-6, 9-SGR, 9-PT, SH</p>
<p><b>III. Interpretations.</b></p> <p><b>A.</b> Relate direct variation to linear functions.</p> <p><b>B.</b> Solve problems involving proportional change.</p>	<p>5-2, 5-3, 5-4, 5-SGR, 5-PT, SH</p> <p>5-2, 5-PT, SH</p>
<p><b>IV. Linear functions and data representations.</b></p> <p><b>A.</b> Extend the study of linear functions (domain, range, and graph interpretations).</p> <p><b>B.</b> Represent, display, interpret data, including representations on graphing calculators and computers (scatter plots, stem and leaf plots, and box-and-whiskers diagrams).</p> <p><b>C.</b> Write a linear equation that fits a data set, check the model for “goodness-of-fit,” and make predictions using the model.</p>	<p>1-8, 4-4, 4-5, 4-5GCI, 4-6, 4-8, 4-SGR, 4-PT, 5-2, 5-3, 5-4, 5-5, SH</p> <p>1-8AA, 1-9, 2-5, 2-6, 2-SGR, 3-2, 5-7, 5-7GCI, 5-SGR, 5-PT, 6-1, 8-6, 13-3GCI, 13-4, 13-5, 13-SGR, 13-PT, 13-STP, 14-1, SH</p> <p>5-7, 5-7GCI, 5-SGR, 5-PT, SH</p>

OBJECTIVES	LESSON REFERENCES
<p><b>V. Systems of linear equations.</b></p> <p><b>A.</b> Analyze situations and formulate systems of linear equations to solve problems.</p> <p><b>B.</b> Solve systems of linear equations using concrete models, graphs, tables, and algebraic methods (e.g., elimination, substitution) including Computer Algebra Systems (CAS), spreadsheets, and graphing calculators.</p> <p><b>C.</b> For given contexts, interpret and determine the reasonableness of solutions to systems of linear equations.</p> <p><b>VI. Linear and quadratic functions and data representations.</b></p> <p><b>A.</b> Identify the parent functions (linear (<math>y = x</math>) and quadratic (<math>y = x^2</math>)).</p> <p><b>B.</b> Sketch the parent functions (linear (<math>y = x</math>) and quadratic (<math>y = x^2</math>)).</p> <p><b>VII. Quadratic functions.</b></p> <p><b>A.</b> Determine the domain and range values for quadratic functions given the constraints of the problem.</p>	<p>7-SI, 7-1, 7-2, 7-3, 7-4, 7-PT, SH</p> <p>7-SI, 7-1, 7-1GCI, 7-2, 7-3, 7-4, 7-SGR, 7-PT, SH</p> <p>7-1</p> <p>4-5, 10-1GCI, 10-3GCI</p> <p>4-5, 10-1GCI, 10-3GCI</p> <p>10-1, 10-2</p>

OBJECTIVES	LESSON REFERENCES
<p><b>B.</b> With and without using a graphing calculator, investigate, describe, and predict the effects of changing the constant <math>a</math> on the graph of <math>y = ax^2</math> and the constant <math>c</math> on the graph of <math>y = x^2 + c</math>.</p> <p><b>C.</b> For problem situations, analyze graphs of quadratic functions, and draw conclusions.</p> <p><b>D.</b> Solve quadratic equations using concrete models, tables, graphs, and algebraic methods that include factoring and using the quadratic formula, as well as CAS, spreadsheets, and graphing calculators.</p> <p><b>E.</b> Relate the solutions of quadratic equations to the roots of the function.</p>	<p>10-1, 10-1GCI</p> <p>10-1, 10-2, SH</p> <p>9-CO, 9-2, 9-3, 9-4, 9-5, 9-6, 9-SGR, 9-PT, 10-2, 10-3, 10-4, 10-SGR, 10-PT, SH</p> <p>9-6, 9-SGR, SH</p>
<p><b>VIII. Other functions.</b></p> <p><b>A.</b> Data as functions (inverse variation and exponential growth and decay).</p> <p><b>B.</b> Data as representation (concrete models, tables, graphs, and algebraic methods as well as CAS, spreadsheets, and graphing calculators).</p>	<p>10-5, 10-6, 10-SGR, 10-PT, 12-1, 12-SGR, 12-PT, SH</p> <p>10-5, 10-6, 10-7, 10-SGR, 10-PT, 11-3, 11-3GCI, 12-1, 12-2GCI, 12-SGR, 12-PT, SH</p>