

**GLENCOE CORRELATION**  
**ALGEBRA 2**  
**ILLINOIS**  
 Learning Standards for Mathematics  
 Late High School

LEARNING STANDARDS	PAGE REFERENCES
<b>STATE GOAL 6: Demonstrate and apply a knowledge and sense of numbers, including numeration and operations (addition, subtraction, multiplication, division), patterns, ratios and proportions.</b>	
<b>A. Demonstrate knowledge and use of numbers and their representations in a broad range of theoretical and practical settings.</b>	
6.A.5 Perform addition, subtraction and multiplication of complex numbers and graph the results in the complex plane.	SE: 270-273, 280, 372 TWE: AA 272 E 274, 744 IE 373
<b>B. Investigate, represent, and solve problems using number facts, operations (addition, subtraction, multiplication, division) and their properties, algorithms, and relationships.</b>	
6.B.5 Identify, represent and apply numbers expressed in exponential, logarithmic and scientific notation using contemporary technology.	SE: 225, 227, 257-260, 531-533 <i>Algebra Activity 522</i> TWE: A 262 DI 534
<b>C. Compute and estimate using mental mathematics, paper-and-pencil methods, calculators, and computers.</b>	
6.C.5 Determine the level of accuracy needed for computations involving measurement and irrational numbers.	SE: 705, 725-729, 734-735 <i>Algebra Activity 716</i> <i>Spreadsheet Investigation 700</i> TWE: E 9, 731
<b>D. Solve problems using comparison of quantities, ratios, proportions, and percents.</b>	
6.D.5 Solve problems involving loans, mortgages and other practical applications involving geometric patterns of growth.	SE: 588, 591-592, 594-595, 599 <i>Spreadsheet Investigation 605</i> TWE: E 597
<b>STATE GOAL 7: Estimate, make and use measurements of objects, quantities and relationships and determine acceptable levels of accuracy.</b>	
<b>A. Measure and compare quantities using appropriate units, instruments, and methods.</b>	
7.A.5 Apply nonlinear scales (e.g., Richter, decibel, pH) to solve practical problems.	SE: 28, 31, 531, 535, 545, 547, 550 <i>WebQuest Internet Project 565</i> TWE: DI 549 IE 548
<b>B. Estimate measurements and determine acceptable levels of accuracy.</b>	
7.B.5 Estimate perimeter, area, volume, and capacity of irregular shapes, regions and solids and explain the reasoning supporting the estimate.	SE: 8, 9, 17, 184-187, 367, 378-379, 415, 603, 707 <i>Maintain Your Skills 32</i> TWE: E 280, 369
<b>C. Select and use appropriate technology, instruments, and formulas to solve problems, interpret results, and communicate findings.</b>	
7.C.5a Use dimensional analysis to determine units and check answers in applied measurement problems.	SE: 225, 226, 494-495 <i>Maintain Your Skills 238, 708</i> TWE: IE 225

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7.C.5b Determine how changes in one measure may affect other measures (e.g., what happens to the volume and surface area of a cube when the side of the cube is halved).	This objective can be met during teacher/class discussion.
<b>STATE GOAL 8: Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems and predict results.</b>	
<b>A. Describe numerical relationships using variables and patterns.</b>	
8.A.5 Solve mathematical problems involving recursive patterns and use models that employ such relationships.	SE: 606-609, 625, 853 <i>Algebra Activity</i> 611 TWE: A 610
<b>B. Interpret and describe numerical relationships using tables, graphs, and symbols.</b>	
8.B.5 Use functions including exponential, polynomial, rational, parametric, logarithmic, and trigonometric to describe numerical relationships.	SE: 346-351, 485-490, 523-529, 531-537, 701-708 <i>Algebra Activity</i> 522 <i>Graphing Calculator Investigation</i> 491 TWE: A 352
<b>C. Solve problems using systems of numbers and their properties.</b>	
8.C.5 Use polynomial, exponential, logarithmic and trigonometric functions to model situations.	SE: 346-347, 353-358, 523, 525, 529, 531, 701, 705 <i>Algebra Activity</i> 522 <i>Graphing Calculator Investigation</i> 359, 539-540 TWE: DI 527 E 537, 707
<b>D. Use algebraic concepts and procedures to represent and solve problems.</b>	
8.D.5 Formulate and solve nonlinear equations and systems including problems involving inverse variation and exponential and logarithmic growth and decay.	SE: 28-31, 360-363, 371-375, 455-458, 493-496, 560-564 TWE: A 565
<b>STATE GOAL 9: Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes and space.</b>	
<b>A. Demonstrate and apply geometric concepts involving points, lines, planes, and space.</b>	
9.A.5 Use geometric figures and their properties to solve problems in the arts, the physical and life sciences and the building trades, with and without the use of technology.	SE: 701, 705, 707, 713, 723, 729, 731, 733, 735, 737 TWE: E 74, 714, 731
<b>B. Identify, describe, classify, and compare relationships using points, lines, planes, and solids.</b>	
9.B.5 Construct and use two- and three-dimensional models of objects that have practical applications (e.g., blueprints, topographical maps, scale models).	SE: 412-415 <i>Standardized Test Practice</i> 751 TWE: E 74, 148, 714, 731, 767
<b>C. Construct convincing arguments and proofs to solve problems.</b>	
9.C.5a Perform and describe an original investigation of a geometric problem and verify the analysis and conclusions to an audience.	SE: <i>Algebra Activity</i> 19, 716 TWE: E 311, 357, 723
9.C.5b Apply physical models, graphs, coordinate systems, networks and vectors to develop solutions in applied contexts (e.g., bus routing, areas of irregular shapes, describing forces and other physical quantities).	SE: 67, 744 <i>Algebra Activity</i> 417-418 TWE: A 745 E 74, 126, 134, 204, 714, 796

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<b>D. Use trigonometric ratios and circular functions to solve problems.</b>	
9.D.5 Analyze and solve problems involving periodic patterns (e.g., sound waves, tide variations) using circular functions and communicate results orally and in writing.	SE: 739-744, 746-750, 762-767, 769-775, 791-796 TWE: A 751

### Codes Used for TWE Pages

A	Assess
AA	Algebra Activity
DI	Daily Intervention
E	Enrichment
IE	In-Class Example