



Illinois Learning Standards for Mathematics for Late High School Correlated to *Glencoe Algebra 2*

Lessons in which the goals are a primary focus are indicated in bold.

Standard		Student Edition Lesson(s)*
State Goal 6		
<i>Demonstrate and apply a knowledge and sense of numbers, including numeration and operations (addition, subtraction, multiplication, division), patterns, ratios and proportions.</i>		
6.A.5	Perform addition, subtraction and multiplication of complex numbers and graph the results in the complex plane.	5-9
6.B.5	Identify, represent and apply numbers expressed in exponential, logarithmic and scientific notation using contemporary technology.	5-1, 10-4, 10-5
6.C.5	Determine the level of accuracy needed for computations involving measurement and irrational numbers.	<i>Glencoe Geometry:</i> 1-2
6.D.5	Solve problems involving loans, mortgages and other practical applications involving geometric patterns of growth.	10-5, 10-6, 11-3, 11-4, 11-5, 11-6P
State Goal 7		
<i>Estimate, make and use measurements of objects, quantities and relationships and determine acceptable levels of accuracy.</i>		
7.A.5	Apply nonlinear scales (e.g., Richter, decibel, pH) to solve practical problems.	10-2, 10-3, 10-4
7.B.5	Estimate perimeter, area, volume, and capacity of irregular shapes, regions and solids and explain the reasoning supporting the estimate.	<i>Glencoe Geometry:</i> 1-6, 11-4, 13-1, 13-2, 13-3, 13-4
7.C.5a	Use dimensional analysis to determine units and check answers in applied measurement problems.	5-1
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).	<i>Glencoe Geometry:</i> 12-2, 12-3, 13-1, 13-4

P = Preview Lesson, F = Follow-Up Lesson, PS = Prerequisite Skill Lesson

* *Glencoe Algebra 2* unless noted otherwise

Standard		Student Edition Lesson(s)*
State Goal 8		
<i>Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems and predict results.</i>		
8.A.5	Solve mathematical problems involving recursive patterns and use models that employ such relationships.	11-6
8.B.5	Use functions including exponential, polynomial, rational, parametric, logarithmic, and trigonometric to describe numerical relationships.	7-1, 9-3, 9-6, 10-1, 10-2, 10-3, 10-4, 10-5, 10-6, 13-3, 13-7, 14-1, 14-2, 14-7; <i>Glencoe Advanced Mathematical Concepts: 8-6, 8-7</i>
8.C.5	Use polynomial, exponential, logarithmic and trigonometric functions to model situations.	7-1, 10-1, 10-2, 10-3, 10-4, 10-5, 10-6, 13-3, 13-7, 14-1, 14-2, 14-7
8.D.5	Formulate and solve nonlinear equations and systems including problems involving inverse variation and exponential and logarithmic growth and decay.	5-8, 6-2, 6-3, 6-5, 7-3, 8-7, 9-4, 9-6, 10-6
State Goal 9		
<i>Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes and space.</i>		
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.	Entire <i>Glencoe Geometry</i> course
9.B.5	Construct and use two- and three-dimensional models of objects that have practical applications (e.g., blueprints, topographical maps, scale models).	Entire <i>Glencoe Geometry</i> course, especially WebQuest Internet Project 4; chapters 12, 13
9.C.5a	Perform and describe an original investigation of a geometric problem and verify the analysis and conclusions to an audience.	<i>Glencoe Geometry: WebQuest Internet Projects</i>
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).	2-5F, 2-7, Chapter 3, 4-4, 5-8, 6-2, 6-3, 6-7, 7-1, 7-9, Chapter 8, 9-3, 9-6, 10-1, 12-1, Chapter 14, <i>Glencoe Geometry: 9-6, Glencoe Advanced Mathematical Concepts: 2-3</i>
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.	13-6, 13-7, Chapter 14

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Standard		Student Edition Lesson(s)*
State Goal 10		
<i>Collect, organize and analyze data using statistical methods; predict results; and interpret uncertainty using concepts of probability.</i>		
10.A.5	Construct a statistics-based presentation, individually and as members of a team, to communicate and justify the results of a project.	WebQuest Internet Projects 1, 2
10.B.5	Design a statistical experiment to answer a question about a realistic situation, conduct the experiment, use statistics to interpret the data, and communicate the results, individually and as members of a team.	12-8F
10.C.5a	Compute conditional probabilities and the probabilities of independent events.	12-4
10.C.5b	Compute probabilities in counting situations involving permutations and combinations.	12-3
10.C.5c	Make predictions using probabilities associated with normally distributed events.	12-7

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