

*Curriculum Guide Algebra 2*

**Unit 1: Equations and Inequalities**

**12 Lessons**

**A2#1, A2#2**

<b>Objectives</b>	<b>Methods</b>	<b>Resources</b>	<b>Assessment</b>
The students will <ol style="list-style-type: none"><li>1. Use a number line to graph and order real numbers.</li><li>2. Identify properties of and use operations with real numbers.</li><li>3. Evaluate algebraic expressions.</li><li>4. Simplify algebraic expressions by combining like terms.</li><li>5. Solve linear equations.</li><li>6. Rewrite equations and formulas.</li><li>7. Solve problems using algebraic models.</li><li>8. Solve linear inequalities.</li><li>9. Solve absolute value equations and inequalities.</li></ol>	<ul style="list-style-type: none"><li>• teacher lecture</li><li>• teacher working examples on the board</li><li>• student guided practice of problems in book</li><li>• cooperative learning groups</li><li>• individual assistance</li><li>• partner work</li><li>• worksheets</li><li>• homework</li></ul>	McDougal Littell Algebra 2 , 2004	<ul style="list-style-type: none"><li>• check homework</li><li>• Quizzes</li><li>• Mid-Chapter Test</li><li>• Free-Response Chapter test</li><li>• Oral response</li><li>• Board work</li></ul>

## Curriculum Guide Algebra 2

### Unit 2: Linear Equations and Functions

12 Lessons

A2#2

Objectives	Methods	Resources	Assessment
The students will 10. Graph and evaluate linear functions. 11. Calculate slope and rate of change of linear functions. 12. Graph linear functions. 13. Write equations of lines. 14. Solve linear inequalities in two variables. 15. Graph and evaluate piecewise defined functions. 16. Graph and evaluate absolute value functions.	<ul style="list-style-type: none"><li>• teacher lecture</li><li>• teacher working examples on the board</li><li>• student guided practice of problems in book</li><li>• cooperative learning groups</li><li>• individual assistance</li><li>• partner work</li><li>• worksheets</li><li>• homework</li></ul>	McDougal Littell Algebra 2 , 2004	<ul style="list-style-type: none"><li>• check homework</li><li>• Quizzes</li><li>• Mid-Chapter Test</li><li>• Free-Response Chapter test</li><li>• Oral response</li><li>• Board work</li></ul>

*Curriculum Guide Algebra 2*

**Unit 3: Systems of Linear Equations and Inequalities**

**14 Lessons**

**A2#1, A2#3**

<b>Objectives</b>	<b>Methods</b>	<b>Resources</b>	<b>Assessment</b>
The students will 17. Solve linear systems by graphing. 18. Solve linear systems algebraically. 19. Graph and solve linear inequalities. 20. Graph linear equations in three variables. 21. Solve linear equations in three variables.	<ul style="list-style-type: none"><li>• teacher lecture</li><li>• teacher working examples on the board</li><li>• student guided practice of problems in book</li><li>• cooperative learning groups</li><li>• individual assistance</li><li>• partner work</li><li>• worksheets</li><li>• homework</li></ul>	McDougal Littell Algebra 2 , 2004	<ul style="list-style-type: none"><li>• check homework</li><li>• Quizzes</li><li>• Mid-Chapter Test</li><li>• Free-Response Chapter test</li><li>• Oral response</li><li>• Board work</li></ul>

*Curriculum Guide Algebra 2*

**Unit 4: Matrices and Determinants**

**12 Lessons**

**A2#3**

<b>Objectives</b>	<b>Methods</b>	<b>Resources</b>	<b>Assessment</b>
The students will 22. Perform matrix operations. 23. Multiply matrices. 24. Evaluate the determinant of a matrix and use determinants to solve a system of linear equations using Cramer's Rule. 25. Define an identity matrix and determine the inverse of a matrix. 26. Solve systems of equations using inverse matrices.	<ul style="list-style-type: none"><li>• teacher lecture</li><li>• teacher working examples on the board</li><li>• student guided practice of problems in book</li><li>• cooperative learning groups</li><li>• individual assistance</li><li>• partner work</li><li>• worksheets</li><li>• homework</li></ul>	McDougal Littell Algebra 2 , 2004	<ul style="list-style-type: none"><li>• check homework</li><li>• Quizzes</li><li>• Mid-Chapter Test</li><li>• Free-Response Chapter test</li><li>• Oral response</li><li>• Board work</li></ul>

*Curriculum Guide Algebra 2*

**Unit 5: Quadratic functions**

**15 Lessons**

**A2#2, A2#5**

<b>Objectives</b>	<b>Methods</b>	<b>Resources</b>	<b>Assessment</b>
The students will 27. Graph quadratic functions. 28. Solve quadratic equations by factoring. 29. Solve quadratic functions by completing the square. 30. Define and use complex numbers. 31. Use the quadratic formula and the discriminant. 32. Graph and solve quadratic inequalities.	<ul style="list-style-type: none"><li>• teacher lecture</li><li>• teacher working examples on the board</li><li>• student guided practice of problems in book</li><li>• cooperative learning groups</li><li>• individual assistance</li><li>• partner work</li><li>• worksheets</li><li>• homework</li></ul>	McDougal Littell Algebra 2 , 2004	<ul style="list-style-type: none"><li>• check homework</li><li>• Quizzes</li><li>• Mid-Chapter Test</li><li>• Free-Response Chapter test</li><li>• Oral response</li><li>• Board work</li></ul>

*Curriculum Guide Algebra 2*

**Unit 6: Polynomials and Polynomial Functions**

**10 Lessons**

**A2#4**

<b>Objectives</b>	<b>Methods</b>	<b>Resources</b>	<b>Assessment</b>
The students will 33. Use properties of exponents. 34. Evaluate and graph polynomial functions. 35. Add, subtract and multiply polynomial expressions. 36. Factor and solve polynomial equations. 37. Use remainder and factor theorems to evaluate polynomials. 38. Find rational zeros of polynomial functions. 39. Use the Fundamental Theorem of Algebra. 40. Analyze graphs of polynomial functions.	<ul style="list-style-type: none"><li>• teacher lecture</li><li>• teacher working examples on the board</li><li>• student guided practice of problems in book</li><li>• cooperative learning groups</li><li>• individual assistance</li><li>• partner work</li><li>• worksheets</li><li>• homework</li></ul>	McDougal Littell Algebra 2 , 2004	<ul style="list-style-type: none"><li>• check homework</li><li>• Quizzes</li><li>• Mid-Chapter Test</li><li>• Free-Response Chapter test</li><li>• Oral response</li><li>• Board work</li></ul>

*Curriculum Guide Algebra 2*

**Unit 7: Powers, Roots, and Radicals**

**9 Lessons**

**A2#4, A2#7, A2#8**

<b>Objectives</b>	<b>Methods</b>	<b>Resources</b>	<b>Assessment</b>
The students will 41. Simplify and evaluate expressions containing $n$ th roots and rational exponents. 42. Use properties of rational exponents. 43. Find the inverse of a function. 44. Solve radical equations.	<ul style="list-style-type: none"><li>• teacher lecture</li><li>• teacher working examples on the board</li><li>• student guided practice of problems in book</li><li>• cooperative learning groups</li><li>• individual assistance</li><li>• partner work</li><li>• worksheets</li><li>• homework</li></ul>	McDougal Littell Algebra 2 , 2004	<ul style="list-style-type: none"><li>• check homework</li><li>• Quizzes</li><li>• Mid-Chapter Test</li><li>• Free-Response Chapter test</li><li>• Oral response</li><li>• Board work</li></ul>

*Curriculum Guide Algebra 2*

**Unit 8: Exponential and Logarithmic Functions**

**11 Lessons**

**A2#8, A2#9**

<b>Objectives</b>	<b>Methods</b>	<b>Resources</b>	<b>Assessment</b>
The students will 45. Growth exponential growth functions. 46. Growth exponential decay functions. 47. Define the number e. 48. Graph and evaluate logarithmic functions. 49. Use properties of logarithms. 50. Solve exponential and logarithmic equations.	<ul style="list-style-type: none"><li>• teacher lecture</li><li>• teacher working examples on the board</li><li>• student guided practice of problems in book</li><li>• cooperative learning groups</li><li>• individual assistance</li><li>• partner work</li><li>• worksheets</li><li>• homework</li></ul>	McDougal Littell Algebra 2 , 2004	<ul style="list-style-type: none"><li>• check homework</li><li>• Quizzes</li><li>• Mid-Chapter Test</li><li>• Free-Response Chapter test</li><li>• Oral response</li><li>• Board work</li></ul>



*Curriculum Guide Algebra 2*

**Unit 9: Rational Equations and Functions**

**14 Lessons**

**A2#7**

<b>Objectives</b>	<b>Methods</b>	<b>Resources</b>	<b>Assessment</b>
The students will 51. Write and use inverse variation models. 52. Write and use joint variation models. 53. Graph and evaluate rational functions. 54. Multiply and divide rational expressions. 55. Add and subtract rational expressions. 56. Simplify complex fractions. 57. Solve rational equations.	<ul style="list-style-type: none"><li>• teacher lecture</li><li>• teacher working examples on the board</li><li>• student guided practice of problems in book</li><li>• cooperative learning groups</li><li>• individual assistance</li><li>• partner work</li><li>• worksheets</li><li>• homework</li></ul>	McDougal Littell Algebra 2 , 2004	<ul style="list-style-type: none"><li>• check homework</li><li>• Quizzes</li><li>• Mid-Chapter Test</li><li>• Free-Response Chapter test</li><li>• Oral response</li><li>• Board work</li></ul>

*Curriculum Guide Algebra 2*

**Unit 10: Quadratic Relations and Conic Sections**

**12 Lessons**

**A2#6**

<b>Objectives</b>	<b>Methods</b>	<b>Resources</b>	<b>Assessment</b>
The students will 58. Use distance and midpoint formulas. 59. Graph and write equations of parabolas. 60. Graph and write equations of circles. 61. Graph and write equations of ellipses. 62. Graph and write equations of hyperbolas.	<ul style="list-style-type: none"><li>• teacher lecture</li><li>• teacher working examples on the board</li><li>• student guided practice of problems in book</li><li>• cooperative learning groups</li><li>• individual assistance</li><li>• partner work</li><li>• worksheets</li><li>• homework</li></ul>	McDougal Littell Algebra 2 , 2004	<ul style="list-style-type: none"><li>• check homework</li><li>• Quizzes</li><li>• Mid-Chapter Test</li><li>• Free-Response Chapter test</li><li>• Oral response</li><li>• Board work</li></ul>

*Curriculum Guide Algebra 2*

**Unit 11: Sequences and Series**

**11 Lessons**

**A2#12**

<b>Objectives</b>	<b>Methods</b>	<b>Resources</b>	<b>Assessment</b>
The students will 63. Use and write sequences. 64. Use summations notation to write and evaluate series. 65. Use and write arithmetic sequences and series. 66. Use and write geometric sequences and series. 67. Find the sum of an infinite geometric series.	<ul style="list-style-type: none"><li>• teacher lecture</li><li>• teacher working examples on the board</li><li>• student guided practice of problems in book</li><li>• cooperative learning groups</li><li>• individual assistance</li><li>• partner work</li><li>• worksheets</li><li>• homework</li></ul>	McDougal Littell Algebra 2 , 2004	<ul style="list-style-type: none"><li>• check homework</li><li>• Quizzes</li><li>• Mid-Chapter Test</li><li>• Free-Response Chapter test</li><li>• Oral response</li><li>• Board work</li></ul>

*Curriculum Guide Algebra 2*

**Unit 12: Probability and Statistics**

**10 Lessons**

**A2#13, A2#14**

<b>Objectives</b>	<b>Methods</b>	<b>Resources</b>	<b>Assessment</b>
The students will 68. Use the fundamental counting principle to count the number of ways an event can happen. 69. Use permutations to count the number of ways an event can happen. 70. Use combinations to count the number of ways an event can happen. 71. Find theoretical and experimental probabilities. 72. Find probabilities of unions and intersections of two events.	<ul style="list-style-type: none"><li>• teacher lecture</li><li>• teacher working examples on the board</li><li>• student guided practice of problems in book</li><li>• cooperative learning groups</li><li>• individual assistance</li><li>• partner work</li><li>• worksheets</li><li>• homework</li></ul>	McDougal Littell Algebra 2 , 2004	<ul style="list-style-type: none"><li>• check homework</li><li>• Quizzes</li><li>• Mid-Chapter Test</li><li>• Free-Response Chapter test</li><li>• Oral response</li><li>• Board work</li></ul>

Curriculum Guide Algebra 2

Unit 13: Trigonometric Ratios and Functions

12 Lessons

A2#10, A2#11

Objectives	Methods	Resources	Assessment
<p>The students will</p> <p>73. Use trigonometric relationships to evaluate trigonometric functions of angles.</p> <p>74. Measure angles in standard position using degree measure and radian measure.</p> <p>75. Calculate arc lengths and areas of sectors.</p> <p>76. Evaluate inverse trigonometric functions.</p> <p>77. Use the law of sines to find the sides and angles of a triangle.</p> <p>78. Use the law of cosines to find the sides and angles of a triangle.</p> <p>79. Find areas of triangles using appropriate formulas.</p>	<ul style="list-style-type: none"><li>• teacher lecture</li><li>• teacher working examples on the board</li><li>• student guided practice of problems in book</li><li>• cooperative learning groups</li><li>• individual assistance</li><li>• partner work</li><li>• worksheets</li><li>• homework</li></ul>	<p>McDougal Littell Algebra 2 , 2004</p>	<ul style="list-style-type: none"><li>• check homework</li><li>• Quizzes</li><li>• Mid-Chapter Test</li><li>• Free-Response Chapter test</li><li>• Oral response</li><li>• Board work</li></ul>

*Curriculum Guide Algebra 2*

**Unit 14: Trigonometric Graphs, Identities, and Equations**

**10 Lessons**

**A2#10, A2#11**

<b>Objectives</b>	<b>Methods</b>	<b>Resources</b>	<b>Assessment</b>
The students will 80. Graph sine, cosine, and tangent functions. 81. Graph translations and reflections of sine, cosine and tangent graphs. 82. Use trigonometric identities to simplify trigonometric expressions. 83. Solve a trigonometric equation. 84. Evaluate trigonometric functions of the sum or difference of two angles.	<ul style="list-style-type: none"><li>• teacher lecture</li><li>• teacher working examples on the board</li><li>• student guided practice of problems in book</li><li>• cooperative learning groups</li><li>• individual assistance</li><li>• partner work</li><li>• worksheets</li><li>• homework</li></ul>	McDougal Littell Algebra 2 , 2004	<ul style="list-style-type: none"><li>• check homework</li><li>• Quizzes</li><li>• Mid-Chapter Test</li><li>• Free-Response Chapter test</li><li>• Oral response</li><li>• Board work</li></ul>