



Switched-On
SCHOOLHOUSE® 2011 EDITION

Curriculum Catalog

Algebra II

Welcome to Switched-On Schoolhouse!

We are excited that you are including Switched-On Schoolhouse as part of your program of instruction, and we look forward to serving you and your students.

Switched-On Schoolhouse comes complete with a full, multimedia-rich curriculum for grades 3-12 in five core subjects and electives.

Thanks for choosing us!

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Algebra II

UNIT 1: ALGEBRA II – SET, STRUCTURE, AND FUNCTION

Assignment Titles

- | | |
|---|---|
| 1. Properties of Sets | 11. Algebraic Expressions: Exponents Part 1 |
| 2. Operations of Sets | 12. Algebraic Expressions: Exponents Part 2 |
| 3. Quiz 1: Set, Structure, Function | 13. Multiplication and Division Part 1 |
| 4. Structure: Axioms | 14. Multiplication and Division Part 2 |
| 5. Structure: Applications | 15. Exponents of Exponential Expressions |
| 6. Relations and Functions: Definitions | 16. Algebraic Expressions: Combining Terms |
| 7. Relations and Functions: Graphs | 17. Quiz 3: Set, Structure, Function |
| 8. Relations and Functions: Function Notation | 18. Special Project |
| 9. Relations and Functions: Inverses | 19. TEST |
| 10. Quiz 2: Set, Structure, Function | 20. ALTERNATE TEST |

UNIT 2: ALGEBRA II – NUMBERS, SENTENCES, AND PROBLEMS

Assignment Titles

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|---|--|
| 1. Number Order and Absolute Value | 11. Compound Sentences |
| 2. Sums and Products | 12. Quiz 2: Numbers, Sentences, and Problems |
| 3. Quiz 1: Numbers, Sentences, and Problems | 13. Number Problems |
| 4. Solving Equations | 14. Motion Problems |
| 5. Multiplication Property | 15. Miscellaneous Problems |
| 6. Multi-Step Equations | 16. Quiz 3: Numbers, Sentences, and Problems |
| 7. Equations with Parentheses | 17. Special Project |
| 8. Literal Expressions | 18. TEST |
| 9. Solving Inequalities | 19. ALTERNATE TEST |
| 10. Graphing Solution Sets for Inequalities | |

UNIT 3: ALGEBRA II – LINEAR EQUATIONS AND INEQUALITIES

Assignment Titles

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|---|---|
| 1. Line Graphs | 12. Solutions by Addition |
| 2. Line Graphs by Two Points | 13. Solutions by Multiplication and Addition |
| 3. Slope of Lines Part 1 | 14. Solutions by Substitution |
| 4. Slope of Lines Part 2 | 15. Application of Systems of Equations |
| 5. Equations: Point Slope Part 1 | 16. Quiz 2: Linear Equations and Inequalities |
| 6. Equations: Point Slope Part 2 | 17. Solving Inequalities |
| 7. Equations: Point Slope Part 3 | 18. Solving Two-order Inequalities |
| 8. Equations: Slope-Intercept | 19. Quiz 3: Linear Equations and Inequalities |
| 9. General Equation of a Line | 20. Special Project |
| 10. Quiz 1: Linear Equations and Inequalities | 21. TEST |
| 11. Solutions for Systems of Equations | 22. ALTERNATE TEST |

UNIT 4: ALGEBRA II - POLYNOMIALS

Assignment Titles

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|---|----------------------------------|
| 1. Products and Factoring | 11. Synthetic Division |
| 2. Multiplying Polynomials by Polynomials | 12. Quiz 2: Polynomials |
| 3. Using Special Products Part 1 | 13. Direct Variation |
| 4. Using Special Products Part 2 | 14. Inverse Variation |
| 5. Factoring Trinomials | 15. Joint and Combined Variation |
| 6. Factoring Special Products Part 1 | 16. Quiz 3: Polynomials |
| 7. Factoring Special Products Part 2 | 17. Special Project |
| 8. Quiz 1: Polynomials | 18. TEST |
| 9. Addition and Subtraction Operations | 19. ALTERNATE TEST |
| 10. Division with Polynomials | |

UNIT 5: ALGEBRA II – ALGEBRAIC FRACTIONS

Assignment Titles

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|---|---------------------------------|
| 1. Multiplying and Dividing with Fractions | 11. Fractional Equations |
| 2. Reducing Rational Expressions | 12. Proportions |
| 3. Multiplying Algebraic Fractions | 13. Quiz 3: Algebraic Fractions |
| 4. Dividing Algebraic Fractions | 14. Applications of Fractions |
| 5. Quiz 1: Algebraic Fractions | 15. Mixture Problems |
| 6. Adding and Subtracting Algebraic Fractions | 16. Work Problems |
| 7. Addition and Subtraction | 17. Quiz 4: Algebraic Fractions |
| 8. Mixed Expressions and Complex Fractions | 18. Special Project |
| 9. Quiz 2: Algebraic Fractions | 19. TEST |
| 10. Equations with Fractions | 20. ALTERNATE TEST |

Algebra II (cont.)

UNIT 6: ALGEBRA II – REAL NUMBERS

Assignment Title

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|----------------------------------|---|
| 1. Real Numbers | 10. Quadratic Formula |
| 2. Law of Radicals | 11. Word Problems Involving Quadratic Equations |
| 3. Conjugates | 12. Sum and Product of Roots |
| 4. Radical Equations | 13. The Discriminant |
| 5. Quiz 1: Real Numbers | 14. Imaginary Numbers |
| 6. Quadratic Equations | 15. Quiz 3: Real Numbers |
| 7. Factoring Quadratic Equations | 16. Special Project |
| 8. Completing the Square | 17. TEST |
| 9. Quiz 2: Real Numbers | 18. ALTERNATE TEST |

UNIT 7: ALGEBRA II – QUADRATIC RELATIONS AND SYSTEMS

Assignment Title

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|--|------------------------------------|
| 1. Distance Formula | 12. Systems of Equations |
| 2. Circle | 13. Systems of Inequalities |
| 3. Ellipse | 14. Applications of Conic Sections |
| 4. Ellipse Continued | 15. Applications Continued |
| 5. Quiz 1: Real Numbers | 16. Applications Continued Again |
| 6. Conic Sections: Parabola | 17. Constant of Proportionality |
| 7. Conic Sections: Parabola Continued | 18. Quiz 3: Real Numbers |
| 8. Conic Sections: Hyperbola | 19. Special Project |
| 9. Conic Sections: Hyperbola Continued | 20. TEST |
| 10. Identifying Conic Sections | 21. ALTERNATE TEST |
| 11. Quiz 2: Real Numbers | |

UNIT 8: ALGEBRA II – EXPONENTIAL FUNCTIONS

Assignment Title

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|--|---|
| 1. Exponential Functions | 13. Graphs of Logarithmic Functions |
| 2. Fractional Exponents | 14. Computation with Logarithms |
| 3. Exponential Equations | 15. Logarithmic Applications |
| 4. Graphing Exponential Functions | 16. Quiz 2: Exponential Functions |
| 5. Exponential Applications | 17. Matrices |
| 6. Quiz 1: Exponential Functions | 18. System Solutions with Matrices |
| 7. Logarithmic Functions | 19. Addition and Multiplication of Matrices |
| 8. Evaluation of Logarithms | 20. Interpretations of Using Matrices |
| 9. Evaluating Exponential Functions, Common Logarithms, and Natural Logarithms | 21. Quiz 3: Exponential Functions |
| 10. General Properties of Logarithms | 22. Special Project |
| 11. Scientific Notation | 23. TEST |
| 12. Calculation of Common Logarithms | 24. ALTERNATE TEST |

UNIT 9: ALGEBRA II – COUNTING PRINCIPLES

Assignment Title

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|---|---|
| 1. Progressions: Sequences | 11. Quiz 3: Counting Principles |
| 2. Progressions: Series | 12. Probability: Concepts |
| 3. Quiz 1: Counting Principles | 13. Probability: Equally Likely Outcomes |
| 4. Permutations: Factorials | 14. Probability: Multiplication Principle |
| 5. Permutation Formula | 15. Conditional Probability |
| 6. Permutations: Applications | 16. Quiz 4: Counting Principles |
| 7. Quiz 2: Counting Principles | 17. Special Project |
| 8. Combination Formula | 18. TEST |
| 9. Combinations: Applications | 19. ALTERNATE TEST |
| 10. Combinations: Binomial Coefficients | |

Algebra II (cont.)

UNIT 10: ALGEBRA II - REVIEW	
Assignment Title	
1. Integers	14. Real Numbers Continued
2. Integers Continued	15. Quiz 2: Review
3. Open Sentences	16. Quadratic Relations and Systems
4. Open Sentences Continued	17. Quadratics Continued
5. Graphs	18. Exponential Functions
6. Graphs Continued	19. Exponential Functions Continued
7. Quiz 1: Review	20. Counting Principles
8. Polynomials	21. Counting Principles Continued
9. Polynomials Continued	22. Quiz 3: Review
10. Algebraic Fractions Part 1	23. Special Project
11. Algebraic Fractions Part 2	24. TEST
12. Algebraic Fractions Part 3	25. ALTERNATE TEST
13. Real Numbers	