

Syllabus

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Algebra 2

by Sheila Cohen

Grades Levels: 10 - 12

Length of course: 36 weeks (1 credit)

Chapter 1: Review of Basic Algebra

Chapter 2: Linear Equations

Chapter 3: Systems of Linear Equations and Inequalities

Chapter 4: Functions

Chapter 5: Powers, Roots, and Radicals

Chapter 6: Exponential and Logarithmic Functions

Chapter 7: Quadratic Equations and Parabolas

Chapter 8: Polynomials and Polynomial Functions

Chapter 9: Rational Functions

Chapter 10: Matrices and Determinant

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Prerequisites

Algebra I, Geometry

Topics included in the study of Algebra 2

1. Fluency with the four basic mathematics operations using integers.
2. Working acquaintance with a graphing calculator.
3. Solving equations and inequalities.
4. Understanding of exponents, roots and radicals.
5. Understanding of functions and their graphs
6. Operations with complex numbers.
7. Familiarity with the *Family of Functions*.
8. Factoring skills to determine and graph functions, rational expressions and equations.
9. Polynomials and Polynomial functions.
10. Skill in using Matrices.
11. Determine the characteristics of quadratic equations and be able to sketch them.
12. Simplify and solve logarithmic equations.

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Evaluation

A. Successful quarterly grades will require a 70% or better average in each of the components listed below. Students must also complete any mandatory requirements of the course. The percent of each component is the teacher's decision. Suggestions are:

- i. Exams, Projects 40%
- ii. Homework 20%
- iii. Class participation 15%
- iv. Quizzes 25%

B. The final grade for the semester will be based upon an average of each of the marking periods. No grade, other than "I", will be awarded without the satisfactory completion of the following objectives:

- i. All tests must be taken
- ii. 70% of the homework must be complete
- iii. All projects must be completed

C. When students are absent, they are responsible for getting the work they have missed. Each school has their own policy for make-up work, so be sure to consult the guidelines for this or allow a day make-up time for every day missed.

Grading:

I grade on a percent system. Homework is checked every day since this encourages students to complete it every day. Quizzes are shorter than tests and are not given as high a percent as a test. Grading is a personal decision, however. You will need to find what suits your needs.

Approximate Sequence of Topics

Chapter-1 Lesson #	Duration:
Lesson 1 - orientation	1
Lesson 2	1
Lesson 3	1
Lesson 4	1
Lesson 5	
Lesson 6	1
Lesson 7	1
Totals:	periods

Chapter-2 Lesson #	Duration:
Lesson 1	1
Lesson 2	1
Lesson 3	1
Lesson 4	1
Lesson 5	1
Lesson 6	1
Lesson 7	1 – 2
Lesson 8	1 – 2
Lesson 9	1
Lesson 10	1
Lesson 11	1
Lesson 12	1
Lesson 13	1
Lesson 14	1
Totals:	14 – 16 periods

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Chapter-3 Lesson #	Duration:
Lesson 1	1
Lesson 2	1
Lesson 3	1
Lesson 4	1 – 2
Lesson 5	1
Lesson 6	1
Lesson 7	1
Lesson 8	1
Totals:	8 – 9 periods

Chapter-4 Lesson #	Duration:
Lesson 1	1
Lesson 2	1
Lesson 3	1
Lesson 4	1
Lesson 5	1
Lesson 6	1
Lesson 7	1
Lesson 8	1
Totals:	8 periods

Chapter-5 Lesson #	Duration:
Lesson 1	1
Lesson 2	1
Lesson 3	1
Lesson 4	1
Lesson 5	1
Lesson 6	1
Lesson 7	1
Lesson 8	1
Totals:	8 periods

Chapter-6 Lesson #	Duration:
Lesson 1	1
Lesson 2	1
Lesson 3	1
Lesson 4	1
Lesson 5	1
Lesson 6	1
Lesson 7	1
Lesson 8	1
Lesson 9	1
Totals:	9 periods

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Chapter-7 Lesson #	Duration:
Lesson 1	1
Lesson 2	1
Lesson 3	1
Lesson 4	1
Lesson 5	1
Lesson 6	1
Lesson 7	1
Totals:	7 periods

Chapter-9 Lesson #	Duration:
Lesson 1	1
Lesson 2	1 – 2
Lesson 3	1
Lesson 4	1
Lesson 5	1 – 2
Lesson 6	1
Lesson 7	1
Totals:	7 – 9 periods

Chapter-8 Lesson #	Duration:
Lesson 1	1
Lesson 2	1
Lesson 3	1
Lesson 4	1
Lesson 5	1
Lesson 6	1
Lesson 7	1 – 2
Lesson 8	1
Lesson 9	1
Lesson 10	1
Lesson 11	1
Totals:	11 – 12 periods

Chapter-10 Lesson #	Duration:
Lesson 1	1
Lesson 2	1 – 2
Lesson 3	1
Lesson 4	1 – 2
Lesson 5	1 – 2
Lesson 6	1
Totals:	6 – 9 periods

Review	Duration
Lesson 1	1 – 2
Lesson 2	1 – 2
Final Exam	1
Totals:	3 – 5 periods