

Algebra II Curriculum 2007-08

Chapter 1

1.1

Expressions and Formulas

- Use scientific calculators only
- Show steps of solving in vertical format
- Emphasize Order of Operations
- Evaluating Expressions

Mixed review (to the extent possible)

1.2

Properties of real numbers

- Do all five properties
- Review properties of real numbers
- Combining Like Terms

Mixed review (to the extent possible)

Quiz

(1.3, mixed review on page 26, #30-34 only – skip MMM)

1.4

Solving Equations

Review

- 1 & 2 Step solving
- variables on both sides
- simplifying
- how to clear fractions
- distributive

#19-24, write algebraic expression from verbal expression

#49-54 with Honors only (symbolic manipulation of literal equations)

#55-63 – write an equation, solve it (vs. write an expression and leave it)

Mixed review (to the extent possible)

Quiz

1.5A – Graphing Technology, optional Honors

1.5

Solving Absolute Value Equations

- Define Absolute Values

- Look at graphs of absolute value equations
- Table of values
 - Find an equation where solutions would be on screen at same time
- Just solving, not graphing by hand
- No solution problems

#16-38

Honors - #39-42. #44 good vs. word problems

Mixed review (to the extent possible)

1.6

Solving Inequalities

- Graph solution set
- #14-32 ACP, #33-37 Honors, #38-43 Both ACP and Honors
Mixed review (to the extent possible)

Quiz

1.7

Solving Absolute Value Inequalities

#21-26, good for recognizing if it's or/and

#27-37

Mixed review (to the extent possible)

Use book review

Test

Chapter 2

2.1

Relations and Functions

- Ordered pairs
- Independent and dependent variables
- Domain and range
- Mapping set of x onto set of y
- Vertical line test
- Function notation (can be $f(x)$ or any letter)

#16-41, 43

Do #51 in class, #54 as HW

Mixed review (to the extent possible)

2.2

Linear Equations

- Introduce Standard Form to slope-intercept form, then book content

- Standard form, $Ax + By = C$
 - Honors, perfect standard form
 - Definition of linear equations
 - Graphing by intercepts
- #18-45, ACP - #46-48 if they can clear fractions
 #18-48 Honors
 Word problems, #50, 52, or 53
 Mixed review (to the extent possible)

Quiz

2.3

Slope

- Slope as a rate of change
- Positive, Negative, Zero, Undefined slope
- Parallel – same slope
- Perpendicular – negative reciprocal slope

#18-39

(#24-29 – how many ways can you come up with to solve this problem?)

#43

#45 good, possibly in class

Mixed review (to the extent possible)

2.4

Writing Linear Equations

- Slope-Intercept Form, graphing form
 - Given 2 points
 - Given slope and 1 point
- Point-Slope Form

Problems – do half in slope-intercept form, half in point-slope form

#21-44

Word problems, #52, 54

Mixed review (to the extent possible)

Quiz

2.7

Linear Inequalities

- Graphing linear inequalities
 - Honors, graph absolute value inequalities

#13-21

Mixed review (to the extent possible)

Do Book Review

Test

College Entrance Exam Practice, 1-8 (MC) for HW after a test

Chapter 3

3.1A

Solving Systems by Graphing

- Use calculator to solve systems

3.1

Graphing Systems of Equations

- Graph by hand (# of solutions – one, none, many)
- Drop inconsistent/consistent, dependent/independent language

#14-17 – state the solution points, if any

#18-25 – only graph and solve – avoid fractions

in class #46 – use a table, guess and check to approach solution

Mixed review (to the extent possible)

3.2

Solving Systems of Equations Algebraically

- Substitution method
 - Review Alg I substitution, go next step
- Elimination method
 - Clear fractions with common multiple

Supplement with worksheets on each method first

#15-20 in class, substitutions worksheet for homework

#21-38

#44 – Tweedledee and Tweedledum problem (Through the Looking Glass)

Mixed review (to the extent possible)

Quiz

3.4

Graphing Systems of Inequalities

- Skip absolute value inequalities

#8-27 all, skipping 12, 21, 22 (skipping absolute value inequalities)

Mixed review (to the extent possible)

Quiz

3.7

Solving Systems of Equations in Three Variables

- Skip book problems - Do carefully with worksheets
 - Nice solutions, first variable easily eliminated

Test

Chapter 4

3.3

Cramer's Rule

- Brief introduction to Matrices language
 - Determinants, rows, columns

#13-30

4.1

Matrices

- Scalar multiplication
- Skip transformations

#13-24

Word problems if possible

Mixed review (to the extent possible)

4.2

Adding and Subtracting Matrices

#10-15

#21 in class

#22 HW

Mixed review (to the extent possible)

Quiz

4.3

Multiplying Matrices

- Skip transformations

#12-23, 26-29, 36, 39

Mixed review (to the extent possible)

4.1A

Matrices with the Graphing Calculators

Test

Chapter 5

5.1

Monomials

- Chunk it up with worksheets
- Rules of monomials, Properties of monomials
- Skip scientific notation
- Negative exponents

- Practice with “write with positive exponents” AND “write with no fractions”
 - Section 6.3 in Algebra I book and/or Connections for more basic problems
- #19-45
#58-60, challenge ACP (Honors #58-63)
#64
Mixed review (to the extent possible)

5.2

Polynomials

- FOIL
 - Need supplemental problems
- Distributive Property
- Area representation
- Degree of a polynomial

#18-52, 60

Honors, #54-59

Mixed review (to the extent possible)

Quiz

5.3

Dividing Polynomials

- Long division
 - Do a few
- Synthetic division
 - Do a few
 - Do only with first coefficient of 1
- Choose method they like after shown both

#15-42, pick and choose

Mixed review (to the extent possible)

5.4

Factoring

- Do GCF first with worksheets

Quiz (on 5.3 and GCF's)

- Graph quadratics (see 6.1A)
 - Identify vertex, min/max, zeros on calculator
- Amy's factoring exploration worksheet
- Common factoring techniques
 - Except factoring by grouping – leave out for ACP

Supplement with a lot of handouts

#18-47, except 40-42

Quiz throughout factoring
Test (5.1-5.4)

5.5

Roots of Real Numbers

- Factor under the radicals for Honors
 - Emphasize variables under radicals for both
- #20-49

Mixed review (to the extent possible)

5.6

Radical Expressions

- Simplifying Radicals
 - Add Good Radical/Bad Radicals
- #23-34, skip 31-32

Mixed review (to the extent possible)

Quiz

Chapter 6

6.1

Solving Quadratic Equations by Graphing

- Use calculator rather than graph by hand
 - Roots = zeros = x-intercepts = solutions
- #16-42, 44, 45

Mixed review (to the extent possible)

(Start getting them to memorize the Quadratic Formula now)

6.2

Solve Quadratic Equations by Factoring

- Relate factored solutions to graphs
 - Watch for cubics, present to them in class – 3 answers
- #11-35

Mixed review (to the extent possible)

Quiz

Introduce Imaginary Numbers – use worksheet, in 5.9 can use #'s 6, 20-22

6.4

Quadratic Formula and the Discriminant

- Require to put in simplified radical form
- Graph it, enter equation into Trace to show connection

- Use discriminant to produce number of solutions
- Use graph to explore imaginary portions

#16-29

Mixed review (to the extent possible)

Quiz

6.6A

Graphing Families of Parabolas

- Exploration – Guess what the shifts will do

#4-15 with no calculator, then check answers after on calculator

6.6

Analyzing Graphs of Quadratic Functions

- Insert $-b/2a$
- Don't rewrite into graphing form, use $-b/2a$

#18-48, except 36-39

Mixed review (to the extent possible)

Quiz (short quiz)

Test (non-calc portion - to graph by hand, and interpret graphs)

5.7

Rational Exponents

(To be finished at an Algebra II Study Group in January)