

**SINCLAIR COMMUNITY COLLEGE
DAYTON, OHIO
MATERIALS AVAILABLE FOR
MAT 101 - ELEMENTARY ALGEBRA (4th Ed.)
JUNE 17, 2009**

NOTE: Chapter 1 is for review purposes only and will not be covered in class.

I. The Real Number System

1. Fractions

101 & 102 CD Lectures 1.1
V-BIA Tape 1
101-102 InterAct Chptr 1.1
EV 1005, "Equivalent Fractions, Lowest Terms, Comparing, Mixed Numbers"
EV 1006, "Fractions-Multiplication and Division"
EV 1007, "Least Common Denominator, Addition, and Subtraction"
105 CD Lectures Disk 1 Chapter 2 (all sections)
105 InterAct Disk 1, Chptr 2 (all programs)
Calculating Drug Dosages, Basic Math Review, Fractions (CD)
V-BEJ Tape 1.3
TV Sinclair 101 Tape 1 Lecture 1
Boxer Beginning Algebra Lesson 5 All Sections (CD)
WORKSHEET 1.1 "Fractional Notation"

2. Exponents, Order of Operations, and Inequality

101 & 102 CD Lectures 1.2
V-BIA Tape 1
101-102 InterAct Chptr 1.2
EV 1025 "Order of Operations"
116 Computer Tutor Review 1.3
V-BEJ Tape 1.8
TV Sinclair 101 Tape 1 Lecture 2
Boxer Beginning Algebra Lesson 2 Section 5 (CD)
WORKSHEET 1.2 "Exponential Notation and Order of Operations"

I. 3. Variables, Expressions, and Equations

101 & 102 CD Lectures 1.3
V-BIA Tape 1
101-102 InterAct Chptr 1.3
VKB Tape 1 “Intro to Algebra and Expressions”
TV Sinclair 101 Tape 1 Lecture 1
VCOMAP Tape 16 Part B, “Language of Algebra”
Boxer Beginning Algebra Lesson 3 all sections (CD)
WORKSHEET 1.3 “Introduction to Algebra”

4. Real Numbers and the Number Line

101 & 102 CD Lectures 1.4
V-BIA Tape 1
101-102 InterAct Chptr 1.4
Computer-Video Lesson 1 Parts 1 & 2 (classifying numbers)
V-BEJ Tape 1.4
TV Sinclair 101 Tape 1 Lecture 1
VCOMAP 20 Part A “Absolute Value” (watch up to “PopQuiz”)
VCOMAP Tape 16 Part B “Language of Algebra”
Boxer Beginning Algebra Lesson 2 All Sections (CD)
WORKSHEET 1.4 “Real Numbers and the Number Line”

5. Adding and Subtracting Real Numbers

101 & 102 CD Lectures 1.5
V-BIA Tape 2
101-102 InterAct Chptr 1.5
EV 1013 (no fractions), “Operations on Signed Numbers”
VKB Tape 1 “Addition and Subtraction”
V-BEJ Tape 1.5-1.7
TV Sinclair 101 Tape 1 Lecture 2
Boxer Beginning Algebra Lesson 2 Section 11 and 12 (CD)
WORKSHEET 1.5 “Addition, Subtraction, Multiplication, and Division of Real Numbers”

I. 6. Multiplying and Dividing Real Numbers

101 & 102 CD Lectures 1.6
V-BIA Tape 2
101-102 InterAct Chptr 1.6
EV 1013 (no fractions), "Operations on Signed Numbers"
VKB Tape 2 "Multiplication and Division"
V-BEJ Tape 1.5-1.7
TV Sinclair Tape 1 Lecture 2
Boxer Beginning Algebra Lesson 2 Sections 13, 14 (CD)
WORKSHEET 1.5-1.6 "Addition, Subtraction, Multiplication, and Division of Real Numbers"

7. Properties of Real Numbers

101 & 102 CD Lectures 1.7
V-BIA Tape 2
101-102 InterAct Chptr 1.7
Computer-Video, Lesson 1, Parts III, IV
VKB Tape 2, Part 2
V-BEJ Tape 1.2
TV Sinclair 101 Tape 1 Lecture 1
VCOMAP Tape 16, "Language of Algebra"
Boxer Beginning Algebra Lesson 2 Section 6 (CD)
WORKSHEET 1.7 "Properties of Real Numbers: The Commutative, Associative, and Distributive Laws"

8. Simplifying Expressions

101 & 102 CD Lectures 1.8
V-BIA Tape 2
101-102 InterAct Chptr 1.8

II. Linear Equations and Inequalities in One Variable; Applications

1. The Addition Property of Equality

101 & 102 CD Lectures 2.1
V-BIA Tape 3
101-102 InterAct Chptr 2.1
EV 2002, "Solving Linear Equations"
116 Computer Tutor Review 2.3
V-BEJ Tape 2.1
TV Sinclair 101 Tape 1 Lecture 3
Boxer Beginning Algebra Lessons 4,6 All Sections (CD)
WORKSHEET 2.1-2.3 "Properties of Equalities and Solving Equations"

2. The Multiplication Property of Equality

101 & 102 CD Lectures 2.2
V-BIA Tape 3
101-102 InterAct Chptr 2.2
EV 2002 "Solving Linear Equations"
116 Computer Tutor Review 2.3
V-BEJ Tape 2.2
TV Sinclair 101 Tape 1 Lecture 3
Boxer Beginning Algebra Lessons 4,6 All Sections (CD)
WORKSHEET 2.1-2.3 "Properties of Equalities and Solving Equations"

3. More on Solving Linear Equations

101 & 102 CD Lectures 2.3
V-BIA Tape 3
101-102 InterAct Chptr 2.3
116 Computer Tutor Review 2.3
V-BEJ Tape 2.1-2.2
TV Sinclair 101 Tape 1 Lecture 3
Boxer Beginning Algebra Lesson 9 All Sections (CD)
WORKSHEET 2.1-2.3 "Properties of Equalities and Solving Equations"

II. 4. Applications of Linear Equations (omit objective 4 – mixtures)

101 & 102 CD Lectures 2.4
V-BIA Tape 3
101-102 InterAct Chptr 2.4
EV 2015 “Word Problems” (very basic word problems)
V-BEJ Tape 2.4-2.5
TV Sinclair 101 Tape 2 Lecture 5
VKB Tape 5 “Solving Problems”
WORKSHEET 2.4 “Applications of Linear Equations”

**5. Formulas and Applications from Geometry
(omit objective 3 – angles)**

101 & 102 CD Lectures 2.5
V-BIA Tape 4
101-102 InterAct Chptr 2.5
116 Nongraphing Computer Tutor 1.2
Computer-Video, Lesson 7, Parts I,II “Formulas”
V-BEJ Tape 2.3
TV Sinclair 101 Tape 2 Lecture 4
EV 1012 “Perimeter and Area”
EV 1122 “Lines, Angles, and Triangles”
EV 3002 “Applications That Lead to Linear Equations”
VKB Tape 5 “Solving Problems, Formulas”
WORKSHEET 2.5 “Formulas”

**7. More about Problem Solving
(only objectives 1, 3, 4)**

101 & 102 CD Lectures 2.7
V-BIA Tape 4
101-102 InterAct Chptr 2.7
116 Computer Tutor Review 2.2, 2.4 (mixture, investment, motion)
V-BEJ Tape 2.4-2.5
TV Sinclair 101 Tape 2 Lectures 4,5
EV 1010 “Percent and Applications I”
EV 1011 “Percent and Applications II”
WORKSHEET 2.7 “Problem Solving – Interest, Increase/Decrease, and Denominations of Money”

II. 8. Solving Linear Inequalities

101 & 102 CD Lectures 2.8

V-BIA Tape 4

101-102 InterAct Chptr 2.8

EV 2003 “Solving Linear Inequalities”

VKB Tape 9 “Addition and Multiplication Properties”

TV Sinclair 101 Tape 2 Lecture 6

EV 3005 “Compound Inequalities”

116 Computer Tutor Review 2.5

116 Nongraphing Computer Tutor 1.5

V-BEJ Tape 2.6-2.7

Boxer Beginning Algebra Lesson 4 Section 6 (CD)

Lesson 6 Section 5 (CD)

WORKSHEET 2.8 “Solving Linear Inequalities (Including Word Problems)”

III. Linear Equations in Two Variables

1. Linear Equations in Two Variables (omit objective 1 – bar graphs)

101 & 102 CD Lectures 3.1

V-BIA Tape 5

101-102 InterAct Chptr 3.1

TV Sinclair 101 Tape 2 Lecture 7

V-BEJ TAPE 3.1

Boxer Beginning Algebra Lesson 10 Section 2 (CD)

Computer Video Lesson 19 “Rectangular Coordinate System

WORKSHEET 3.1-3.2 “Linear Equations and Their Graphs”

2. Graphing Linear Equations in Two Variables

101 & 102 CD Lectures 3.2

V-BIA Tape 5

EV 2012 “Graphing Linear Equations”

101-102 InterAct Chptr 3.2

V-BEJ Tape 3.2-3.4

TV Sinclair 101 Tape 2 Lecture 7

Boxer Beginning Algebra Lesson 10 Section 3 (CD)

WORKSHEET 3.1-3.2 “Linear Equations and Their Graphs”

IV. Exponents and Polynomials

1. The Product Rule and Power Rules for Exponents

101 & 102 CD Lectures 4.1
V-BIA Tape 6
101-102 InterAct Chptr 4.1
EV 2004 “Exponents”
Computer Video Lesson 4, Parts I, II, III
116 Computer Tutor Review 6.1
V-BEJ Tape 4.1
TV Sinclair 101 Tape 2 Lecture 8
Boxer Beginning Algebra Lesson 7 Section 4 (CD)
WORKSHEET 4.1 “Exponents and Their Properties”

2. Integer Exponents and the Quotient Rule

101 & 102 CD Lectures 4.2
V-BIA Tape 6
101-102 InterAct Chptr 4.2
EV 2004 “Exponents”
Computer-Video, Lesson 5, all parts
V-BEJ Tape 4.9
TV Sinclair 101 Tape 3 Lecture 11
VCOMAP 17 Part A “Exponents and Radicals”
Boxer Beginning Algebra Lesson 7 Sections 4, 5 (CD)
WORKSHEET 4.1 “Exponents and Their Properties”

4. Adding and Subtracting Polynomials (omit objective 6 – graphing)

101 & 102 CD Lectures 4.4
V-BIA Tape 6
101-102 InterAct Chptr 4.4
116 Computer Tutor Review 6.2
116 Nongraphing Computer Tutor P.4
V-BEJ Tape 4.2-4.3
TV Sinclair 101 Tape 2 Lecture 8
Tape 3 Lecture 9
Boxer Intermediate Algebra Lesson 6 Sections 1,2,3 (CD)
VKB Tape 11 “Calculations with Polynomials”
WORKSHEET 4.4 “Adding and Subtracting Polynomials”

IV. 5. Multiplying Polynomials

101 & 102 CD Lectures 4.5
V-BIA Tape 7
101-102 InterAct Chptr 4.5
VKB Tape 11 “Multiplying Polynomials”
116 Computer Tutor Review 6.3
116 Nongraphing Computer Tutor P.4
V-BEJ Tape 4.4-4.6
TV Sinclair 101 Tape 3 Lecture 9
Boxer Intermediate Algebra Lesson 6 Sections 4,5 (CD)
WORKSHEET 4.5 “Multiplying Polynomials and Special Products”

6. Special Products

101 & 102 CD Lectures 4.6
V-BIA Tape 7
101-102 InterAct Chptr 4.6
VKB Tape 11 “Special Products”
V-BEJ Tape 4.4-4.6
TV Sinclair 101 Tape 3 Lecture 10
Boxer Intermediate Algebra Lesson 6 Sections 4,5 (CD)
WORKSHEET 4.6 “Multiplying Polynomials and Special Products”

7. Dividing Polynomials

101 & 102 CD Lectures 4.7
V-BIA Tape 7
101-102 InterAct Chptr 4.7
Computer-Video, Lesson 10, Parts 1,2,3
116 Computer Tutor Review 6.4
V-BEJ Tape 4.7-4.8
TV Sinclair 101 Tape 3 Lecture 11
Boxer Intermediate Algebra Lesson 6 Section 6 (CD)
WORKSHEET 4.7 “Dividing Polynomials”

V. Factoring and Applications

1. The Greatest Common Factor; Factoring by Grouping

101 & 102 CD Lectures 5.1
V-BIA Tape 8
101-102 InterAct Chptr 5.1
EV 2006 “Factoring Part I”
116 Computer Tutor Review 7.1
V-BEJ Tape 5.1
TV Sinclair 101 Tape 4 Lecture 12
116 Nongraphing Computer Tutor P.5
VCOMAP Tape 17 Part B “Factoring Polynomials”
Boxer Intermediate Algebra Lesson 7 Sections 1,2,3,5 (CD)
WORKSHEET 5.1-5.3 “Factoring”

2. Factoring Trinomials

101 & 102 CD Lectures 5.2
V-BIA Tape 8
101-102 InterAct Chptr 5.2
EV 2006 “Factoring Part I”
116 Computer Tutor Review 7.2
116 Nongraphing Computer Tutor P.5
VKB Tape 12 “Factoring Trinomials”
V-BEJ Tape 5.2-5.3
TV Sinclair 101 Tape 4 Lecture 12
VCOMAP Tape 17 Part B “Factoring Polynomials”
Boxer Intermediate Algebra Lesson 7 Section 6 (CD)
WORKSHEET 5.1-5.3 “Factoring”

3. More on Factoring Trinomials

101 & 102 CD Lectures 5.3
V-BIA Tape 8
101-102 InterAct Chptr 5.3
EV 2006 “Factoring Part I”
116 Computer Tutor Review 7.2
V-BEJ Tape 5.2-5.3
TV Sinclair 101 Tape 4 Lecture 12
VKB Tape 12 “Factoring Trinomials”
116 Nongraphing Computer Tutor P.5
VCOMAP Tape 17 Part B “Factoring Polynomials”
Boxer Intermediate Algebra Lesson 7 Section 7 (CD)
WORKSHEET 5.1-5.3 “Factoring”

V. 4. Special Factoring Rules

101 & 102 CD Lectures 5.4
V-BIA Tape 8
101-102 InterAct Chptr 5.4
EV 2007 “Factoring II”
116 Computer Tutor Review 7.4
V-BEJ Tape 5.4-5.6
TV Sinclair 101 Tape 4 Lecture 13
116 Nongraphing Computer Tutor P.5
VCOMAP Tape 17 Part B “Factoring Polynomials”
Boxer Intermediate Algebra Lesson 7 Section 8 (CD)
WORKSHEET 5.4 “Special Factoring Rules”

5. Solving Quadratic Equations by Factoring

101 & 102 CD Lectures 5.5
V-BIA Tape 8
101-102 InterAct Chptr 5.5
116 Computer Tutor Review 7.5
V-BEJ Tape 5.7
TV Sinclair 101 Tape 5 Lecture 14
VKB Tape 12 “Solving Equations by Factoring”
Boxer Intermediate Algebra Lesson 7 Section 9 (CD)
WORKSHEET 5.5 “Solving Quadratic Equations by Factoring”

6. Applications of Quadratic Equations (only objective 3 – Pythagorean)

101 & 102 CD Lectures 5.6
V-BIA Tape 8
101-102 InterAct Chptr 5.6

VI. Rational Expressions and Applications

1. Introduction to Rational Expressions

101 & 102 CD Lectures 6.1
V-BIA Tape 9
101-102 InterAct Chptr 6.1
EV 2009 “Rational Expressions I”
V-BEJ Tape 6.1-6.2
TV Sinclair 101 Tape 5 Lecture 15
Boxer Intermediate Algebra Lesson 10 Sections 3,4 (CD)
WORKSHEET 6.1 “Rational Expressions”

VI. 2. Multiplying and Dividing Rational Expressions

101 & 102 CD Lectures 6.2
V-BIA Tape 9
101-102 InterAct Chptr 6.2
EV 2009 “Rational Expressions I”
116 Computer Tutor Review 8.1
V-BEJ Tape 6.1-6.2
TV Sinclair 101 Tape 5 Lecture 15
TV Sinclair 102 Tape 2
VKB Tape 14 “Mult, Div, and Simplifying Fractional Expressions”
116 Nongraphing Computer Tutor 1.7
Boxer Intermediate Algebra Lesson 10 Section 5 (CD)
WORKSHEET 6.2 “Multiplying and Dividing Rational Expressions”

3. Least Common Denominators

101 & 102 CD Lectures 6.3
V-BIA Tape 9
101-102 InterAct Chptr 6.3
EV 2010 “Rational Expressions II”
V-BEJ Tape 6.3-6.5
TV Sinclair 101 Tape 5 Lectures 15 and 16
116 Computer Tutor Review 8.2
VKB Tape 14 “Addition and Subtraction”
116 Nongraphing Computer Tutor P.6
Boxer Intermediate Algebra Lesson 10 Section 6 (CD)

4. Adding and Subtracting Rational Expressions

101 & 102 CD Lectures 6.4
V-BIA Tape 9
101-102 InterAct Chptr 6.4
EV 2010 “Rational Expressions II”
V-BEJ Tape 6.3-6.5
TV Sinclair 101 Tape 5 Lecture 16
TV Sinclair 102 Tape 2
116 Computer Tutor Review 8.2
116 Nongraphing Computer Tutor P.6
Boxer Intermediate Algebra Lesson 10 Section 6 (CD)
VKB Tape 14 “Addition and Subtraction”
WORKSHEET 6.4 “Adding and Subtracting Rational Expressions”

VI. 5. Complex Fractions

101 & 102 CD Lectures 6.5

V-BIA Tape 10

101-102 InterAct Chptr 6.5

EV 3015 “Complex Fractions”

V-BEJ Tape 6.6

TV Sinclair 101 Tape 5 Lecture 17

TV Sinclair 102 Tape 2

116 Computer Tutor Review 8.3

116 Nongraphing Computer Tutor P.6

VKB Tape 16 “Complex Fractional Expressions” (hard problems)

WORKSHEET 6.5 “Complex Fractions”