

Textbook Information

Math 99 BC – Intermediate Algebra with Geometry Fall 2017

Lecture Notes, Worksheets

Most topics covered in the class will be presented via handouts. These will be available at the [class's web site](#), as pdf files. All students must monitor the class's web site for handouts and announcements.

Textbook

Starting at the fall semester of 2017, the Mathematics Department is using an open source textbook. This means that the textbook is available for free as a pdf download and the printed version at a reasonable price (approximately \$23) at the link

<http://www.wallace.ccfaculty.org/book/book.html>. All students must have the free pdf of the textbook, but the course will not be closely following the text.

Workbook, Videos

It is further recommended that student use the free workbooks used with the text. Each worksheet is linked to a short video that might be helpful. These are available at the link

<http://www.wallace.ccfaculty.org/videos.html>.

Online Homework

Homework will be assigned on MyOpenMath, an open source online platform. The use of MyOpenMath is completely free, and students can register at

<https://www.myopenmath.com>. The use of MyOpenMath will be mandatory in the class.

Contents of Textbook

Chapter 0 – Pre-Algebra

- 0.1 Integers
- 0.2 Fractions
- 0.3 Order of Operations
- 0.4 Properties of Algebra

Chapter 1 – Solving Linear Equations

- 1.1 One-Step Equations
- 1.2 Two-Step Equations
- 1.3 General Linear Equations
- 1.4 Solving Equations with Fractions
- 1.5 Formulas
- 1.6 Absolute Value Equations
- 1.7 Variation
- 1.8 Application: Number/Geometry.
- 1.9 Application: Age
- 1.10 Application: Distance

Chapter 2 – Graphing

- 2.1 Points and Lines
- 2.2 Slope
- 2.3 Slope-Intercept Form
- 2.4 Point-Slope Form
- 2.5 Parallel and Perpendicular Lines

Chapter 3 – Inequalities

- 3.1 Solve and Graph Inequalities
- 3.2 Compound Inequalities
- 3.3 Absolute Value Inequalities

Chapter 4 – Systems of Equations

- 4.1 Graphing
- 4.2 Substitution
- 4.3 Addition/Elimination
- 4.4 Three Variables
- 4.5 Application: Value Problems
- 4.6 Application: Mixture Problems

Chapter 5 – Polynomials

- 5.1 Exponent Properties
- 5.2 Negative Exponents
- 5.3 Scientific Notation
- 5.4 Introduction to Polynomials
- 5.5 Multiply Polynomials
- 5.6 Multiply Special Products
- 5.7 Divide Polynomials

Chapter 6 – Factoring

- 6.1 Greatest Common Factor
- 6.2 Grouping
- 6.3 Trinomials where $a = 1$
- 6.4 Trinomials where a is not 1
- 6.5 Factoring Special Products
- 6.6 Factoring Strategy
- 6.7 Solve by Factoring

Chapter 7 – Rational Expressions

- 7.1 Reduce Rational Expressions
- 7.2 Multiply and Divide. Rational Expressions
- 7.3 Least Common Denominator
- 7.4 Add and Subtract Rational Expressions
- 7.5 Complex Fractions
- 7.6 Proportions
- 7.7 Solving Rational Equations
- 7.8 Application: Dimensional Analysis

Chapter 8 – Radicals

- 8.1 Square Roots
- 8.2 Higher Roots
- 8.3 Adding Radicals
- 8.4 Multiply and Divide Radicals
- 8.5 Rationalize Denominators
- 8.6 Rational Exponents
- 8.7 Radicals of Mixed Index
- 8.8 Complex Numbers

Chapter 9 – Quadratics

- 9.1 Solving with Radicals
- 9.2 Solving with Exponents
- 9.3 Complete the Square
- 9.4 Quadratic Formula
- 9.5 Build Quadratics From Roots
- 9.6 Quadratic in Form
- 9.7 Application: Rectangles
- 9.8 Application: Teamwork
- 9.9 Simultaneous Products
- 9.10 Application: Revenue and Distance
- 9.11 Graphs of Quadratics

Chapter 10 – Functions

- 10.1 Function Notation
- 10.2 Operations on Functions
- 10.3 Inverse Functions
- 10.4 Exponential Functions
- 10.5 Logarithmic Functions
- 10.6 Application: Compound Interest
- 10.7 Trigonometric Functions
- 10.8 Inverse Trigonometric Functions