

Independent Study in Idaho

Math 108 Intermediate Algebra

Providing independent study opportunities for more than 40 years.

The University of Idaho in statewide cooperation with Boise State University — Idaho State University — Lewis-Clark State College

Course Guide

Independent Study in Idaho

Self-paced study. Anytime. Anywhere!

Math 108 Intermediate Algebra

University of Idaho 3 Semester-Hour Credits

Prepared by: Patricia Rush Mathematics teacher Kendrick High School Updated: Katherine Ohlmeyer, August 2015

WR:1/07/ Updated: 10/15 3–Math 108 Copyright Independent Study in Idaho/SBOE

Table of Contents

| Policies and Procedures 1 Course Description 1 Course Delivery 1 Course Objectives 1 Lessons 2 Exams 3 Grading 3 About the Course Developer 4 Assignment Submission Log 5 Lesson 2: Translating, Story Problems, and Linear Equations (<i>self-study</i>) 11 Lesson 3: Intersections, Absolute Value, and the Coordinate Plane (<i>self-study</i>) 14 Lesson 1: Broparties of Real Numbers and Linear Equations (<i>self-study</i>) 14 Lesson 3: Intersections, Absolute Value, and the Coordinate Plane (<i>self-study</i>) 14 Lesson 4: Slope and Linear Equations in Two Variables (<i>self-study</i>) 20 Lesson 4: Slope and Linear Equations in Two Variables (<i>self-study</i>) 24 Lesson 6: Applications of Linear Systems of Equations (<i>self-study</i>) 27 Lesson 4: A Gorian and 2 31 Exam 1 Information: Covers Lessons 4-6, and 1-3 as required 33 Lesson 7: Adding and Subtracting Polynomials, CCF, and Factoring (| Welcome! | 1 |
|---|--|----|
| Course Description 1 Course Materials 1 Course Delivery 1 Course Objectives 1 Course Objectives 1 Lessons 2 Exams 3 Grading 3 Grading 3 Grading 3 Grading 3 Grading 4 Contacting Your Instructor 4 Assignment Submission Log 5 Lesson 1: Properties of Real Numbers and Linear Equations (self-study) 8 Lesson 2: Translating, Story Problems, and Linear Inequalities (self-study) 14 Lesson 3: Intersections, Absolute Value, and the Coordinate Plane (self-study) 14 Lesson 4: Stope and Linear Equations in Two Variables (self-study) 21 Lesson 5: Introduction to Functions, Linear Systems of Equations (self-study) 24 Lesson 5: Introduction to Functions, Linear Systems, and L-3 as required. 30 Practice Exam 2 31 Exam 1 Information: Covers Lessons 4-6, and 1-3 as required. 33 Lesson 6: Aby Written Assignment Submission 34 Lesson 9: Factoring Trinomials and Special Factoring Patterns (self-study | Policies and Procedures | 1 |
| Course Materials 1 Course Delivery 1 Course Delivery 1 Course Objectives 1 Lessons 2 Exams 3 Grading 3 About the Course Developer. 4 Contacting Your Instructor 4 Assignment Submission Log 5 Lesson 1: Properties of Real Numbers and Linear Equations (<i>self-study</i>). 8 Lesson 2: Translating, Story Problems, and Linear Inequalities (<i>self-study</i>). 11 Lesson 3: Intersections, Absolute Value, and the Coordinate Plane (<i>self-study</i>). 14 Lesson 4: Stope and Linear Equations in Two Variables (<i>self-study</i>). 20 Lesson 5: Introduction to Functions, Linear Systems of Equations (<i>self-study</i>). 21 Lesson 5: Applications of Linear Systems, Integer Exponents, and Scientific Notation (<i>self-study</i>). 21 Lesson 5: Applications of Linear Systems of Equations (<i>self-study</i>). 33 Lesson 7: Adding and Subtracting Polynomials, Polynomial Functions (<i>self-study</i>). 34 Lesson 7: Adding and Subtracting Polynomials, GCF, and Factoring by Grouping (<i>self-study</i>). 34 Lesson 1: More on Rational Expressions, Complex Fractions, and Functions (<i>self-study</i>). 37 | Course Description | 1 |
| Course Delivery 1 Course Introduction 1 Course Objectives 1 Lessons 2 Exams 3 Grading 3 About the Course Developer. 4 Contacting Your Instructor 4 Assignment Submission Log 5 Lesson 1: Properties of Real Numbers and Linear Equations (<i>self-study</i>). 11 Lesson 2: Translating, Story Problems, and Linear Inequalities (<i>self-study</i>). 14 Lesson 3: Introduction to Event Low, and the Coordinate Plane (<i>self-study</i>). 14 Lesson 4: Slope and Linear Equations in Two Variables (<i>self-study</i>). 14 Lesson 5: Introduction to Functions, Linear Systems of Equations (<i>self-study</i>). 24 Lesson 5: Introduction to Functions, Linear Systems of Equations (<i>self-study</i>). 24 Lesson 5: Introduction to Functions, Linear Systems of Equations (<i>self-study</i>). 24 Lesson 5: A-6 Written Assignment Submission 30 Practice Exam 2 31 Exam 1 Information: Covers Lessons 4-6, and 1-3 as required. 33 Lesson 7: Adding and Subtracting Polynomials, CCF, and Factoring by Grouping (<i>self-study</i>). 34 Lesson 10: Solving Equations by Factoring, Rational Expresions, and R | Course Materials | 1 |
| Course Introduction 1 Course Objectives 1 Lessons 2 Exams 3 Grading 3 About the Course Developer. 4 Contacting Your Instructor 4 Contacting Your Instructor 4 Contacting Your Instructor 4 Assignment Submission Log 5 Lesson 1: Properties of Real Numbers and Linear Equations (self-study). 14 Lesson 3: Intersections, Absolute Value, and the Coordinate Plane (self-study). 14 Lesson 4: Slope and Linear Equations in Two Variables (self-study). 14 Lesson 5: Applications of Linear Systems of Equations (self-study). 20 Lesson 4: Slope and Linear Equations in Two Variables (self-study). 21 Lesson 5: Applications of Linear Systems, Integer Exponents, and Scientific Notation (self-study). 27 Lesson 4: Applications of Linear Systems, Integer Exponents, and Scientific Notation (self-study). 31 Exeson 7: Adding and Subtracting Polynomials, CoCF, and Factoring by Grouping (self-study). 34 Lesson 7: Adding and Dividing Polynomials, CoCF, and Factoring by Grouping (self-study). 31 Lesson 9: Factoring Trinomials and Special Factoring Patteris (self-study). 37 <td>Course Delivery</td> <td> 1</td> | Course Delivery | 1 |
| Course Objectives 1 Lessons 2 Exams 3 Grading 3 Grading 3 Grading Your Instructor 4 Assignment Submission Log 5 Lesson 1: Properties of Real Numbers and Linear Equations (<i>self-study</i>) 8 Lesson 2: Translating, Story Problems, and Linear Inequalities (<i>self-study</i>) 11 Lesson 3: Intersections, Absolute Value, and the Coordinate Plane (<i>self-study</i>) 14 Lesson 4: Slope and Linear Equations in Two Variables (<i>self-study</i>) 20 Lesson 4: Slope and Linear Equations, Intera Systems of Equations (<i>self-study</i>) 21 Lesson 5: Introduction to Functions, Linear Systems of Equations (<i>self-study</i>) 21 Lesson 4: Slope and Linear Equations in Two Variables (<i>self-study</i>) 21 Lesson 5: Applications of Linear Systems, Integer Exponents, and Scientific Notation (<i>self-study</i>) 27 Lesson 4: Written Assignment Submission 30 Practice Exam 2 31 Exam 2 Information: Covers Lessons 4-6, and 1-3 as required 33 Lesson 7: Adding and Subtracting Polynomials, Polynomial Functions (<i>self-study</i>) 37 Lesson 7: Adding and Subtracting Polynomials, GCF, and Factoring by Grouping (<i>self-study</i>) 3 | Course Introduction | 1 |
| Lessons 2 Exams 3 Grading 3 About the Course Developer 4 Contacting Your Instructor 4 Assignment Submission Log 5 Lesson 1: Properties of Real Numbers and Linear Equations (<i>self-study</i>) 8 Lesson 2: Translating, Story Problems, and Linear Inequalities (<i>self-study</i>) 11 Lesson 3: Intersections, Absolute Value, and the Coordinate Plane (<i>self-study</i>) 14 Lessons 1: 3 Written Assignment 17 Practice Exam 1 18 Exson 4: Stope and Linear Equations in Two Variables (<i>self-study</i>) 21 Lesson 5: Introduction to Functions, Linear Systems of Equations (<i>self-study</i>) 24 Lesson 5: A Opplications of Linear Systems, Integer Exponents, and Scientific Notation (<i>self-study</i>) 24 Lesson 6: Applications of Linear Systems, Integer Exponents, and Scientific Notation (<i>self-study</i>) 33 Lesson 7: Adding and Subtracting Polynomials, Polynomial Functions (<i>self-study</i>) 34 Lesson 7: Adding and Subtracting Polynomials, CCF, and Factoring by Grouping (<i>self-study</i>) 37 Lesson 7: B written Assignment Submission 44 Practice Exam 3 45 Exam 3 Information: Covers Lessons 7-9, and 1-6 as required. | Course Objectives | 1 |
| Exams 3 Grading 3 About the Course Developer. 4 Contacting Your Instructor 4 Assignment Submission Log 5 Lesson 1: Properties of Real Numbers and Linear Equations (<i>self-study</i>). 8 Lesson 2: Translating, Story Problems, and Linear Inequalities (<i>self-study</i>). 11 Lesson 3: Intersections, Absolute Value, and the Coordinate Plane (<i>self-study</i>). 14 Lesson 4: Slope and Linear Equations in Two Variables (<i>self-study</i>). 20 Lesson 5: Introduction to Functions, Linear Systems of Equations (<i>self-study</i>). 21 Lesson 5: Introduction to Functions, Linear Systems of Equations (<i>self-study</i>). 27 Lesson 5: Applications of Linear Systems, Integer Exponents, and Scientific Notation (<i>self-study</i>). 27 Lesson 5: Applications of Linear Systems, Integer Exponents, and Scientific Notation (<i>self-study</i>). 31 Lesson 7: Adding and Subtracting Polynomials, Polynomial Functions (<i>self-study</i>). 34 Lesson 7: Adding and Subtracting Polynomials, CCF, and Factoring by Grouping (<i>self-study</i>). 37 Lesson 10: Solving Equations by Factoring, Rational Expressions, and Rutional Equations (<i>self-study</i>). 47 Lesson 11: More on Rational Expressions, Complex Fractions, and Rational Equations (<i>self-study</i>). 47 | Lessons | 2 |
| Grading 3 About the Course Developer 4 Contacting Your Instructor 4 Assignment Submission Log 5 Lesson 1: Properties of Real Numbers and Linear Equations (<i>self-study</i>). 8 Lesson 2: Translating, Story Problems, and Linear Inequalities (<i>self-study</i>). 14 Lesson 3: Intersections, Absolute Value, and the Coordinate Plane (<i>self-study</i>). 14 Lesson 4: Slope and Linear Equations in Two Variables (<i>self-study</i>). 20 Lesson 5: Introduction to Functions, Linear Systems of Equations (<i>self-study</i>). 21 Lesson 6: Applications of Linear Systems, Integer Exponents, and Scientific Notation (<i>self-study</i>). 27 Lesson 7: Adding and Subtracting Polynomials, Polynomial Functions (<i>self-study</i>). 34 Lesson 7: Adding and Subtracting Polynomials, Polynomial Functions (<i>self-study</i>). 34 Lesson 7: Adding and Subtracting Polynomials, GCF, and Factoring by Grouping (<i>self-study</i>). 34 Lesson 7: Adding and Subtracting Polynomials, GCF, and Factoring by Grouping (<i>self-study</i>). 44 Practice Exam 3 45 Exam 1 Information: Covers Lessons 7-9, and 1-6 as required. 46 Lesson 10: Solving Equations by Factoring, Rational Expressions, and Functions (<i>self-study</i>). 50 Lesson 11: More on Rational Expressio | Exams | 3 |
| About the Course Developer 4 Contacting Your Instructor 4 Assignment Submission Log 5 Lesson 1: Properties of Real Numbers and Linear Inequalities (<i>self-study</i>). 8 Lesson 2: Translating, Story Problems, and Linear Inequalities (<i>self-study</i>). 11 Lesson 3: Intersections, Absolute Value, and the Coordinate Plane (<i>self-study</i>). 14 Lessons 1: 3 Written Assignment. 17 Practice Exam 1 18 Exam 1 Information: Covers Lessons 1-3. 20 Lesson 4: Slope and Linear Equations in Two Variables (<i>self-study</i>). 24 Lesson 5: Introduction to Functions, Linear Systems of Equations (<i>self-study</i>). 24 Lesson 6: Applications of Linear Systems, Integer Exponents, and Scientific Notation (<i>self-study</i>). 27 Lesson 6: Applications of Linear Systems of Equations (<i>self-study</i>). 24 Lesson 7: Adding and Subtracting Polynomials, Polynomial Functions (<i>self-study</i>). 33 Lesson 8: Multiplying and Dividing Polynomials, CCF, and Factoring by Grouping (<i>self-study</i>). 44 Lesson 7: Subritter Assignment Submission. 46 Practice Exam 3. 45 Exam 3 Information: Covers Lessons 7-9, and 1-6 as required. 46 Lesson 10: Solving Equations by Factoring, Rational Exp | Grading | 3 |
| Contacting Your Instructor 4 Assignment Submission Log 5 Lesson 1: Properties of Real Numbers and Linear Equations (<i>self-study</i>). 8 Lesson 2: Translating, Story Problems, and Linear Inequalities (<i>self-study</i>). 11 Lesson 3: Intersections, Absolute Value, and the Coordinate Plane (<i>self-study</i>). 14 Lesson 3: Intersections, Absolute Value, and the Coordinate Plane (<i>self-study</i>). 14 Lesson 4: Slope and Linear Equations in Two Variables (<i>self-study</i>). 20 Lesson 5: Introduction to Functions, Linear Systems of Equations (<i>self-study</i>). 21 Lesson 6: Applications of Linear Systems, Integer Exponents, and Scientific Notation (<i>self-study</i>). 24 Lesson 7: Adding and Subtracting Polynomials, Polynomial Functions (<i>self-study</i>). 31 Lesson 7: Adding and Subtracting Polynomials, CGF, and Factoring by Grouping (<i>self-study</i>). 34 Lesson 7: Adding and Subtracting Polynomials, GCF, and Factoring by Grouping (<i>self-study</i>). 34 Lesson 7: Adding and Subtracting Polynomials, GCF, and Factoring by Grouping (<i>self-study</i>). 41 Lesson 7: Swritten Assignment Submission 44 Practice Exam 3. 45 Exam 1 Information: Covers Lessons 7-9, and 1-6 as required. 45 Exam 1 Subjeting and Operations on Complex Fractions, and Rational Equations (<i>self</i> | About the Course Developer | 4 |
| Assignment Submission Log 5 Lesson 1: Properties of Real Numbers and Linear Equations (self-study). 8 Lesson 2: Translating, Story Problems, and Linear Inequalities (self-study). 11 Lesson 3: Intersections, Absolute Value, and the Coordinate Plane (self-study). 14 Lesson 4: Story Problems, and Linear Inequalities (self-study). 14 Lesson 4: Stope and Linear Equations in Two Variables (self-study). 20 Lesson 5: Introduction to Functions, Linear Systems of Equations (self-study). 21 Lesson 6: Applications of Linear Systems, Integer Exponents, and Scientific Notation (self-study). 24 Lesson 4: Gwritten Assignment Submission 30 Practice Exam 2. 31 Exam 2 Information: Covers Lessons 4-6, and 1-3 as required. 33 Lesson 7: Adding and Subtracting Polynomials, GCF, and Factoring by Grouping (self-study). 34 Lesson 9: Factoring Trinomials and Special Factoring Patterns (self-study). 41 Lesson 10: Solving Equations by Factoring, Rational Expressions, and Functions (self-study). 47 Lesson 11: More on Rational Expressions, Complex Fractions, and Rational Equations (self-study). 53 Lesson 10: Solving Equations by Factoring, Rational Exponents (self-study). 53 Lesson 11: More on Rational Expressions, Complex Fractions (self-stu | Contacting Your Instructor | 4 |
| Lesson 1: Properties of Real Numbers and Linear Equations (self-study). 8 Lesson 2: Translating, Story Problems, and Linear Inequalities (self-study). 11 Lesson 3: Intersections, Absolute Value, and the Coordinate Plane (self-study). 14 Lesson 3: Nuriten Assignment. 17 Practice Exam 1. 18 Exam 1 Information: Covers Lessons 1–3. 20 Lesson 4: Slope and Linear Equations in Two Variables (self-study). 21 Lesson 5: Introduction to Functions, Linear Systems of Equations (self-study). 24 Lesson 6: Applications of Linear Systems, Integer Exponents, and Scientific Notation (self-study). 27 Lesson 4: Govers Lessons 4–6, and 1–3 as required. 33 Lesson 7: Adding and Subtracting Polynomials, Polynomial Functions (self-study). 34 Lesson 9: Factoring Trinomials and Special Factoring Patterns (self-study). 34 Lesson 9: Factoring Trinomials and Special Factoring Patterns (self-study). 41 Lesson 10: Solving Equations by Factoring, Rational Expressions, and Functions (self-study). 47 Lesson 11: More on Rational Expressions, Complex Fractions, and Functions (self-study). 47 Lesson 12: Radical Expressions and Graphs, Rational Expressions, and Functions (self-study). 50 Lesson 12: Radical Expressions and Graphs, Rational Expressions | Assignment Submission Log | 5 |
| Lesson 2: Translating, Story Problems, and Linear Inequalities (self-study) 11 Lesson 3: Intersections, Absolute Value, and the Coordinate Plane (self-study) 14 Lesson 1: Store Ressons 1-3 17 Practice Exam 1 18 Exam 1 Information: Covers Lessons 1-3 20 Lesson 5: Introduction to Functions, Linear Systems of Equations (self-study) 21 Lesson 5: Introduction to Functions, Linear Systems, Integer Exponents, and Scientific Notation (self-study) 24 Lesson 4: Slope and Linear Systems, Integer Exponents, and Scientific Notation (self-study) 27 Lessons 4-6 Written Assignment Submission 30 Practice Exam 2 31 Exam 2 Information: Covers Lessons 4-6, and 1-3 as required 33 Lesson 7: Adding and Subtracting Polynomials, Polynomial Functions (self-study) 34 Lesson 9: Factoring Trinomials and Special Factoring Patterns (self-study) 41 Lesson 7: Bwritten Assignment Submission 44 Practice Exam 3 45 Exam 3 Information: Covers Lessons 7-9, and 1-6 as required 46 Lesson 10: Solving Equations by Factoring, Rational Expressions, and Functions (self-study) 47 Lesson 11: More on Rational Expressions (Complex Fractions, and Rational Equations (self-study) 50 | Lesson 1: Properties of Real Numbers and Linear Equations (self-study) | 8 |
| Lesson 3: Intersections, Absolute Value, and the Coordinate Plane (self-study) 14 Lessons 1-3 Written Assignment. 17 Practice Exam 1 18 Exam 1 Information: Covers Lessons 1-3 20 Lesson 4: Slope and Linear Equations in Two Variables (self-study) 21 Lesson 5: Introduction to Functions, Linear Systems of Equations (self-study) 24 Lesson 6: Applications of Linear Systems, Integer Exponents, and Scientific Notation (self-study) 27 Lessons 4-6 Written Assignment Submission 30 Practice Exam 2 31 Exam 2 Information: Covers Lessons 4-6, and 1-3 as required 33 Lesson 7: Adding and Subtracting Polynomials, Polynomial Functions (self-study) 34 Lesson 8: Multiplying and Dividing Polynomials, GCF, and Factoring by Grouping (self-study) 41 Lesson 7-8 Written Assignment Submission 44 Practice Exam 3 45 Exam 3 Information: Covers Lessons 7-9, and 1-6 as required 46 Lesson 10: Solving Equations by Factoring, Rational Expressions, and Rational Equations (self-study) 50 Lesson 11: More on Rational Expressions, Complex Fractions, and Rational Equations (self-study) 50 Lesson 12: Radical Expressions and Graphs, Rational Expressions (self-study) 50 | Lesson 2: Translating, Story Problems, and Linear Inequalities (self-study) | 11 |
| Lessons 1-3 Written Assignment 17 Practice Exam 1 18 Exam 1 Information: Covers Lessons 1-3. 20 Lesson 4: Slope and Linear Equations in Two Variables (self-study). 21 Lesson 5: Introduction to Functions, Linear Systems of Equations (self-study). 24 Lesson 6: Applications of Linear Systems, Integer Exponents, and Scientific Notation (self-study) 27 Lessons 4-6 Written Assignment Submission 30 Practice Exam 2 31 Exam 2 Information: Covers Lessons 4-6, and 1-3 as required. 33 Lesson 7: Adding and Subtracting Polynomials, Polynomial Functions (self-study). 34 Lesson 8: Multiplying and Dividing Polynomials, GCF, and Factoring by Grouping (self-study). 37 Lesson 9: Factoring Trinomials and Special Factoring Patterns (self-study). 41 Lesson 7-8 Written Assignment Submission 44 Practice Exam 3 45 Exam 3 Information: Covers Lessons 7-9, and 1-6 as required. 46 Lesson 10: Solving Equations by Factoring, Rational Expressions, and Functions (self-study). 50 Lesson 11: More on Rational Expressions, Complex Fractions, and Rational Equations (self-study). 53 Lesson 12: Radical Expressions and Graphs, Rational Exponents (self-study) 53 | Lesson 3: Intersections, Absolute Value, and the Coordinate Plane (self-study) | 14 |
| Practice Exam 1 18 Exam 1 Information: Covers Lessons 1–3 20 Lesson 4: Slope and Linear Equations in Two Variables (<i>self-study</i>) 21 Lesson 5: Introduction to Functions, Linear Systems of Equations (<i>self-study</i>) 24 Lesson 6: Applications of Linear Systems, Integer Exponents, and Scientific Notation (<i>self-study</i>) 27 Lessons 4-6 Written Assignment Submission 30 Practice Exam 2 31 Exam 2 Information: Covers Lessons 4–6, and 1–3 as required 33 Lesson 7: Adding and Subtracting Polynomials, Polynomial Functions (<i>self-study</i>) 37 Lesson 8: Multiplying and Dividing Polynomials, GCF, and Factoring by Grouping (<i>self-study</i>) 37 Lesson 9: Factoring Trinomials and Special Factoring Patterns (<i>self-study</i>) 41 Lessons 7-8 Written Assignment Submission 44 Practice Exam 3 45 Exam 3 Information: Covers Lessons 7–9, and 1–6 as required 46 Lesson 10: Solving Equations by Factoring, Rational Expressions, and Functions (<i>self-study</i>) 50 Lesson 11: More on Rational Expressions, Complex Fractions, and Rational Equations (<i>self-study</i>) 50 Lesson 12: Radical Expressions and Graphs, Rational Exponents (<i>self-study</i>) 50 Lesson 12: Rore on Rational Expressions (Complex Fractions (<i>self-stu</i> | Lessons 1-3 Written Assignment | 17 |
| Exam 1 Information: Covers Lessons 1–3 | Practice Exam 1 | 18 |
| Lesson 4: Slope and Linear Equations in Two Variables (self-study) 21 Lesson 5: Introduction to Functions, Linear Systems of Equations (self-study) 24 Lesson 6: Applications of Linear Systems, Integer Exponents, and Scientific Notation (self-study) 27 Lessons 4-6 Written Assignment Submission 30 Practice Exam 2 31 Exam 2 Information: Covers Lessons 4-6, and 1-3 as required 33 Lesson 7: Adding and Subtracting Polynomials, Polynomial Functions (self-study) 34 Lesson 8: Multiplying and Dividing Polynomials, GCF, and Factoring by Grouping (self-study) 37 Lesson 9: Factoring Trinomials and Special Factoring Patterns (self-study) 41 Lesson 7-8 Written Assignment Submission 44 Practice Exam 3 45 Exam 3 Information: Covers Lessons 7-9, and 1-6 as required 46 Lesson 10: Solving Equations by Factoring, Rational Expressions, and Functions (self-study) 47 Lesson 11: More on Rational Expressions, Complex Fractions, and Rational Equations (self-study) 50 Lesson 12: Radical Expressions and Graphs, Rational Exponents (self-study) 50 Lesson 12: Radical Expressions 10-12, and 1-9 as required 56 Practice Exam 4 57 Exam 4 Information: Covers Lessons 10-12, and 1-9 as required | Exam 1 Information: Covers Lessons 1–3 | 20 |
| Lesson 5: Introduction to Functions, Linear Systems of Equations (self-study) 24 Lesson 6: Applications of Linear Systems, Integer Exponents, and Scientific Notation (self-study) 27 Lessons 4-6 Written Assignment Submission 30 Practice Exam 2 31 Exam 2 Information: Covers Lessons 4-6, and 1-3 as required 33 Lesson 7: Adding and Subtracting Polynomials, Polynomial Functions (self-study) 34 Lesson 8: Multiplying and Dividing Polynomials, GCF, and Factoring by Grouping (self-study) 31 Lesson 9: Factoring Trinomials and Special Factoring Patterns (self-study) 41 Lessons 7-8 Written Assignment Submission 44 Practice Exam 3 45 Exam 1 Information: Covers Lessons 7-9, and 1-6 as required 46 Lesson 10: Solving Equations by Factoring, Rational Expressions, and Functions (self-study) 47 Lesson 11: More on Rational Expressions, Complex Fractions, and Rational Equations (self-study) 50 Lesson 12: Radical Expressions and Graphs, Rational Expressions (self-study) 53 Lesson 12: Radical Expressions 10-12, and 1-9 as required 59 Lesson 13: Simplifying and Operations on Radical Expressions (self-study) 60 Lesson 14: Solving Radical Equations, Complex Fractions (self-study) 62 Lesson | Lesson 4: Slope and Linear Equations in Two Variables (self-study) | 21 |
| Lesson 6: Applications of Linear Systems, Integer Exponents, and Scientific Notation (self-study) 27 Lessons 4-6 Written Assignment Submission 30 Practice Exam 2 31 Exam 2 Information: Covers Lessons 4–6, and 1–3 as required 33 Lesson 7: Adding and Subtracting Polynomials, Polynomial Functions (self-study) 34 Lesson 8: Multiplying and Dividing Polynomials, GCF, and Factoring by Grouping (self-study) 37 Lesson 9: Factoring Trinomials and Special Factoring Patterns (self-study) 41 Lessons 7-8 Written Assignment Submission 44 Practice Exam 3 45 Exam 3 Information: Covers Lessons 7–9, and 1–6 as required 46 Lesson 10: Solving Equations by Factoring, Rational Expressions, and Functions (self-study) 47 Lesson 11: More on Rational Expressions, Complex Fractions, and Rational Equations (self-study) 50 Lesson 12: Radical Expressions and Graphs, Rational Exponents (self-study) 50 Lesson 13: Simplifying and Operations on Radical Expressions (self-study) 60 Lesson 13: Simplifying and Operations on Radical Expressions (self-study) 62 Lesson 13: Simplifying and Queatations, Complex Fractions (self-study) 62 Lesson 13: Simplifying and Queatations, Complex Fractions (self-study) 62 < | Lesson 5: Introduction to Functions, Linear Systems of Equations (<i>self-study</i>) | 24 |
| Lessons 4-6 Written Assignment Submission 30 Practice Exam 2 31 Exam 2 Information: Covers Lessons 4-6, and 1-3 as required 33 Lesson 7: Adding and Subtracting Polynomials, Polynomial Functions (self-study) 34 Lesson 8: Multiplying and Dividing Polynomials, GCF, and Factoring by Grouping (self-study) 37 Lesson 9: Factoring Trinomials and Special Factoring Patterns (self-study) 41 Lessons 7-8 Written Assignment Submission 44 Practice Exam 3 45 Exam 3 Information: Covers Lessons 7-9, and 1-6 as required 46 Lesson 10: Solving Equations by Factoring, Rational Expressions, and Functions (self-study) 47 Lesson 11: More on Rational Expressions, Complex Fractions, and Rational Equations (self-study) 50 Lesson 12: Radical Expressions and Graphs, Rational Exponents (self-study) 53 Lesson 13: Simplifying and Operations on Radical Expressions (self-study) 59 Lesson 14: Solving Radical Equations, Complex Fractions (self-study) 60 Lesson 14: Solving Radical Equations, Complex Fractions (self-study) 62 Lesson 13: Simplifying and Operations on Radical Expressions (self-study) 62 Lesson 14: Solving Radical Equations, Complex Fractions (self-study) 62 Lesson 15: Completing the Squa | Lesson 6: Applications of Linear Systems, Integer Exponents, and Scientific Notation (self-study) | 27 |
| Practice Exam 2 31 Exam 2 Information: Covers Lessons 4–6, and 1–3 as required 33 Lesson 7: Adding and Subtracting Polynomials, Polynomial Functions (self-study) 34 Lesson 8: Multiplying and Dividing Polynomials, GCF, and Factoring by Grouping (self-study) 37 Lesson 9: Factoring Trinomials and Special Factoring Patterns (self-study) 41 Lesson 9: Factoring Trinomials and Special Factoring Patterns (self-study) 41 Lesson 7-8 Written Assignment Submission 44 Practice Exam 3 45 Exam 3 Information: Covers Lessons 7–9, and 1–6 as required 46 Lesson 10: Solving Equations by Factoring, Rational Expressions, and Functions (self-study) 47 Lesson 11: More on Rational Expressions, Complex Fractions, and Rational Equations (self-study) 50 Lesson 10: Solving Equations by Factoring, Rational Exponents (self-study) 53 Lessons 10-12 Written Assignment Submission 56 Practice Exam 4 57 Exam 4 Information: Covers Lessons 10–12, and 1–9 as required 59 Lesson 13: Simplifying and Operations on Radical Expressions (self-study) 60 Lesson 14: Solving Radical Equations, Complex Fractions (self-study) 62 Lesson 15: Completing the Square and Quadratic Formula (self-study) 62 <td>Lessons 4-6 Written Assignment Submission</td> <td> 30</td> | Lessons 4-6 Written Assignment Submission | 30 |
| Exam 2 Information: Covers Lessons 4–6, and 1–3 as required. 33 Lesson 7: Adding and Subtracting Polynomials, Polynomial Functions (self-study). 34 Lesson 8: Multiplying and Dividing Polynomials, GCF, and Factoring by Grouping (self-study). 37 Lesson 9: Factoring Trinomials and Special Factoring Patterns (self-study). 41 Lessons 7-8 Written Assignment Submission. 44 Practice Exam 3 45 Exam 3 Information: Covers Lessons 7–9, and 1–6 as required. 46 Lesson 10: Solving Equations by Factoring, Rational Expressions, and Functions (self-study). 47 Lesson 11: More on Rational Expressions, Complex Fractions, and Rational Equations (self-study). 50 Lesson 12: Radical Expressions and Graphs, Rational Exponents (self-study). 50 Lessons 10-12 Written Assignment Submission 57 Exam 4 Information: Covers Lessons 10–12, and 1–9 as required. 59 Lesson 13: Simplifying and Operations on Radical Expressions (self-study). 60 Lesson 14: Solving Radical Equations, Complex Fractions (self-study). 62 Lesson 15: Completing the Square and Quadratic Formula (self-study). 62 Lesson 13-15 Written Assignment Submission 70 Practice Final Exam. 71 Final Exam Information: Covers Lessons 1–15. | Practice Exam 2 | 31 |
| Lesson 7: Adding and Subtracting Polynomials, Polynomial Functions (self-study) | Exam 2 Information: Covers Lessons 4–6, and 1–3 as required | 33 |
| Lesson 8: Multiplying and Dividing Polynomials, GCF, and Factoring by Grouping (self-study) | Lesson 7: Adding and Subtracting Polynomials, Polynomial Functions (self-study) | 34 |
| Lesson 9: Factoring Trinomials and Special Factoring Patterns (self-study) 41 Lessons 7-8 Written Assignment Submission 44 Practice Exam 3 45 Exam 3 Information: Covers Lessons 7–9, and 1–6 as required 46 Lesson 10: Solving Equations by Factoring, Rational Expressions, and Functions (self-study) 47 Lesson 11: More on Rational Expressions, Complex Fractions, and Rational Equations (self-study) 50 Lesson 12: Radical Expressions and Graphs, Rational Exponents (self-study) 53 Lessons 10-12 Written Assignment Submission 56 Practice Exam 4 57 Exam 4 Information: Covers Lessons 10–12, and 1–9 as required 59 Lesson 13: Simplifying and Operations on Radical Expressions (self-study) 60 Lesson 14: Solving Radical Equations, Complex Fractions (self-study) 62 Lesson 15: Completing the Square and Quadratic Formula (self-study) 65 Lessons 13-15 Written Assignment Submission 70 Practice Final Exam 71 Final Exam Information: Covers Lessons 1–15. 73 Answer Keys for Even-numbered Practice Problems 74 Answer Keys for Self-study Problems 75 Answer Keys for Self-study Problems 75 | Lesson 8: Multiplying and Dividing Polynomials, GCF, and Factoring by Grouping (self-study) | 37 |
| Lessons 7-8 Written Assignment Submission 44 Practice Exam 3 45 Exam 3 Information: Covers Lessons 7-9, and 1-6 as required 46 Lesson 10: Solving Equations by Factoring, Rational Expressions, and Functions (self-study) 47 Lesson 11: More on Rational Expressions, Complex Fractions, and Rational Equations (self-study) 50 Lesson 12: Radical Expressions and Graphs, Rational Exponents (self-study) 53 Lessons 10-12 Written Assignment Submission 56 Practice Exam 4 57 Exam 4 Information: Covers Lessons 10-12, and 1-9 as required 59 Lesson 13: Simplifying and Operations on Radical Expressions (self-study) 60 Lesson 14: Solving Radical Equations, Complex Fractions (self-study) 62 Lesson 15: Completing the Square and Quadratic Formula (self-study) 65 Lessons 13-15 Written Assignment Submission 70 Practice Final Exam 71 Final Exam Information: Covers Lessons 1-15. 73 Answer Keys for Even-numbered Practice Problems 74 Answer Keys for Self-study Problems 75 Answer Keys for Practice Exams 75 | Lesson 9: Factoring Trinomials and Special Factoring Patterns (self-study) | 41 |
| Practice Exam 3 45 Exam 3 Information: Covers Lessons 7–9, and 1–6 as required | Lessons 7-8 Written Assignment Submission | 44 |
| Exam 3 Information: Covers Lessons 7–9, and 1–6 as required. 46 Lesson 10: Solving Equations by Factoring, Rational Expressions, and Functions (self-study). 47 Lesson 11: More on Rational Expressions, Complex Fractions, and Rational Equations (self-study). 50 Lesson 12: Radical Expressions and Graphs, Rational Exponents (self-study) 53 Lessons 10-12 Written Assignment Submission 56 Practice Exam 4. 57 Exam 4 Information: Covers Lessons 10–12, and 1–9 as required. 59 Lesson 13: Simplifying and Operations on Radical Expressions (self-study) 60 Lesson 14: Solving Radical Equations, Complex Fractions (self-study) 62 Lesson 15: Completing the Square and Quadratic Formula (self-study) 65 Lessons 13-15 Written Assignment Submission 70 Practice Final Exam 71 Final Exam Information: Covers Lessons 1–15. 73 Answer Keys for Even-numbered Practice Problems 74 Answer Keys for Self-study Problems 75 Answer Keys for Practice Exams 75 Answer Keys for Practice Exams 75 | Practice Exam 3 | 45 |
| Lesson 10: Solving Equations by Factoring, Rational Expressions, and Functions (self-study) | Exam 3 Information: Covers Lessons 7–9. and 1–6 as required | 46 |
| Lesson 11: More on Rational Expressions, Complex Fractions, and Rational Equations (self-study) | Lesson 10: Solving Equations by Factoring, Rational Expressions, and Functions (<i>self-study</i>) | 47 |
| Lesson 12: Radical Expressions and Graphs, Rational Exponents (self-study) 53 Lessons 10-12 Written Assignment Submission 56 Practice Exam 4 57 Exam 4 Information: Covers Lessons 10–12, and 1–9 as required 59 Lesson 13: Simplifying and Operations on Radical Expressions (self-study) 60 Lesson 14: Solving Radical Equations, Complex Fractions (self-study) 62 Lesson 15: Completing the Square and Quadratic Formula (self-study) 65 Lessons 13-15 Written Assignment Submission 70 Practice Final Exam 71 Final Exam Information: Covers Lessons 1–15. 73 Answer Keys for Even-numbered Practice Problems 74 Answer Keys for Self-study Problems 75 Answer Keys for Practice Exams 81 | Lesson 11: More on Rational Expressions, Complex Fractions, and Rational Equations (self-study) | 50 |
| Lessons 10-12 Written Assignment Submission 56 Practice Exam 4. 57 Exam 4 Information: Covers Lessons 10–12, and 1–9 as required 59 Lesson 13: Simplifying and Operations on Radical Expressions (self-study) 60 Lesson 14: Solving Radical Equations, Complex Fractions (self-study) 62 Lesson 15: Completing the Square and Quadratic Formula (self-study) 65 Lessons 13-15 Written Assignment Submission 70 Practice Final Exam. 71 Final Exam Information: Covers Lessons 1–15. 73 Answer Keys for Even-numbered Practice Problems 74 Answer Keys for Self-study Problems 75 Answer Keys for Practice Exams 81 | Lesson 12: Radical Expressions and Graphs, Rational Exponents (<i>self-study</i>) | |
| Practice Exam 4 | Lessons 10-12 Written Assignment Submission | |
| Exam 4 Information: Covers Lessons 10–12, and 1–9 as required 59 Lesson 13: Simplifying and Operations on Radical Expressions (self-study) 60 Lesson 14: Solving Radical Equations, Complex Fractions (self-study) 62 Lesson 15: Completing the Square and Quadratic Formula (self-study) 65 Lessons 13-15 Written Assignment Submission 70 Practice Final Exam 71 Final Exam Information: Covers Lessons 1–15. 73 Answer Keys for Even-numbered Practice Problems 74 Answer Keys for Self-study Problems 75 Answer Keys for Practice Exams 81 | Practice Exam 4 | |
| Lesson 13: Simplifying and Operations on Radical Expressions (self-study) 60 Lesson 14: Solving Radical Equations, Complex Fractions (self-study) 62 Lesson 15: Completing the Square and Quadratic Formula (self-study) 65 Lessons 13-15 Written Assignment Submission 70 Practice Final Exam 71 Final Exam Information: Covers Lessons 1–15 73 Answer Keys for Even-numbered Practice Problems 74 Answer Keys for Self-study Problems 75 Answer Keys for Practice Exams 81 | Exam 4 Information: Covers Lessons 10–12, and 1–9 as required | |
| Lesson 14: Solving Radical Equations, Complex Fractions (self-study) | Lesson 13: Simplifying and Operations on Radical Expressions (<i>self-study</i>) | 60 |
| Lesson 15: Completing the Square and Quadratic Formula (self-study) | Lesson 14: Solving Radical Equations, Complex Fractions (<i>self-study</i>) | 62 |
| Lessons 13-15 Written Assignment Submission | Lesson 15: Completing the Square and Quadratic Formula (<i>self-study</i>) | 65 |
| Practice Final Exam | Lessons 13-15 Written Assignment Submission | 70 |
| Final Exam Information: Covers Lessons 1–15 | Practice Final Exam. | 71 |
| Answer Keys for Even-numbered Practice Problems | Final Exam Information: Covers Lessons 1–15 | |
| Answer Keys for Self-study Problems | Answer Keys for Even-numbered Practice Problems | 74 |
| Answer Keys for Practice Exams 81 | Answer Keys for Self-study Problems | 75 |
| | Answer Keys for Practice Exams | 81 |

Math 108: Intermediate Algebra

3 Semester-Hour Credits: UI

Welcome!

Whether you are a new or returning student, welcome to the Independent Study in Idaho (ISI) program. Below, you will find information pertinent to your course including the course description, course materials, course objectives, as well as information about assignments, exams, and grading. If you have any questions or concerns, please contact the ISI office for clarification before beginning your course.

Policies and Procedures

Refer to the ISI website at **www.uidaho.edu/isi** and select *Students* for the most current policies and procedures. These include information on setting up accounts, student confidentiality, exams, proctors, transcripts, course exchanges, refunds, academic integrity, library resources, and disability support and other services.

Course Description

Review of algebra including factoring, rational expressions, exponents, radicals, quadratic equations, equations of lines. UI students: carries no credit after Math 137 [Algebra with Applications] or 143 [Precalculus Algebra and Analytic Geometry]. Does not satisfy general education requirement. Polya Math Center unavailable for ISI students.

15 graded assignments, 5 self-study practice exams, 5 proctored exams

Students may submit up to 3 assignments at a time/6 per week. Before taking exams, students MUST wait for grades and feedback on assignments, which may take up to two weeks after date of receipt by the instructor.

ALL assignments and exams must be submitted to receive a final grade for the course.

Course Materials

Required Course Materials

Lial, Margaret L., John Hornsby, and Terry McGinnis. *Intermediate Algebra*. 8th ed. Boston. Pearson Education, Inc., 2005 or 2006. ISBN: 0321279204 ISBN-13: 978-0321279200

Course Delivery

This course is available online. An electronic course guide is accessible through Canvas at no additional cost. Refer to your *Registration Confirmation Email* for instructions on how to access Canvas.

Course Introduction

Mathematics is essential in nearly all aspects of your life. This course introduces you to specific problemsolving techniques. Also, you will learn strategies to help you solve problems that don't fit the "cookiecutter" mold usually seen in textbooks.

Course Objectives

The primary objective of this course is to help you become competent (and confident) at solving algebra problems both in the textbook setting and a "real-life" setting. Additionally, the course will prepare you for higher math courses.

Lessons

This course is divided into 15 lessons. Each lesson contains a reading assignment with practice problems and self-study problems. The practice and self-study problems are **not** submitted for grading. There is also a written assignment for each lesson. Written assignments **are** submitted for grading. There are four regular exams and a final exam.

I expect my students actually to read the reading assignment! Most people who have ever taken a math course listen to the instructor lecture then go immediately to the exercises at the end of each section or chapter and get to work solving problems. Unfortunately, you don't have an instructor to listen to. This means you **must** learn how to read a math textbook as well as how to do the math. While this may seem a bit intimidating at the moment, be patient with yourself. It's not as bad (or as difficult) as you may think.

Each lesson includes the following components:

- Lesson objectives
- Reading assignment
- Important terms
- Lecture with practice problems
- Self-study problems
- Written assignment

Study Hints

- Keep a copy of every lesson submitted.
- **Complete** all assigned readings.
- Set a schedule allowing for completion of the course one month prior to your desired deadline. (An *Assignment Submission Log* is provided for this purpose.)
- **Do** the practice and self-study problems. It's very easy to ignore these because they are not graded and you think you understand the material. I can just about guarantee those students who do the practice and self-study problems will have much more success and fun during the course than those who do not! You can find answers to old numbered problems in the back of the book. Answers to even-numbered practice problems and the self-study problems are provided for you at the back of this course guide. Check your solutions for the practice problems and the self-study problems against the solution provided. If you cannot come up with the correct solution, then you may request a full, written explanation for each problem by email from your instructor.
- Show your work!!! I will not give credit for correct answers if there is no work. Mathematics (in my opinion) is not just about getting the right answer. It is also about demonstrating how you got that answer. In other words, show your work.

This is a math class. You will make mistakes. You will need to erase mistakes. Therefore, all written assignments must be done in **pencil**. Please use the following format:

- Write the original problem statement down (except for story problems).
- Write out the necessary steps to solve it.
- Work vertically (top to bottom) on the page.
- Have no more than two columns per page.
- Circle your answer.
- Check your work!
- It would be nice if you could leave room for me to make suggestions and/or corrections.

Refer to the *Course Rules* in Canvas for further details on assignment requirements and submission.

Exams

- You must wait for grades and comments on lessons prior to taking each subsequent exam.
- For your instructor's exam guidelines, refer to the letter sent in your registration packet and the *Exam Information* sections in this course guide.
- Show your work!!! I will not give credit for correct answers if there is no work. Mathematics (in my opinion) is not just about getting the right answer. It is also about demonstrating how you got that answer. In other words, show your work.

There will be four one-hour examinations in this course and a comprehensive, two-hour final examination. Each of the hour exams will consist of problems from the three lessons preceding it. The problems will be similar to the problems you have completed in the practice, self-study, and written assignments.

The final exam will be similar to the hour exams except that it is two hours long and will be comprehensive (covering material from the entire course).

Scientific calculators are allowed but not necessary. Graphing calculators are NOT allowed.

Practice Exams

There are chapter tests in the textbook with answers. I have also included practice exams for you in this course guide. Answers to the practice exams are at the back of the course guide. These are for you and should not be submitted for grading.

See Grading for specific information on exams, points, and percentages.

All exams require a proctor. To submit your *Proctor Information Form* online, visit the ISI website and select *Forms, Proctor Information Form*. Submit this form at least two weeks before your first exam. Refer to *About ISI Policies* on the ISI website for information on acceptable and unacceptable proctors.

Grading

The course grade will be based upon the following considerations:

| 5 Written Lessons (30 pts each): | 150 pts |
|----------------------------------|---------|
| 4 Exams (100 pts each): | 400 pts |
| 1 Final Exam (200 pts): | 200 pts |
| Overall Course Pts | 750 pts |

A letter grade will be assigned upon completion of the course as follows:

| 675–750 points | Α |
|----------------|---|
| 600–674 points | В |
| 525–599 points | С |
| 450–524 points | D |
| 0-449 points | F |

The final course grade is issued after all assignments and exams have been graded.

Acts of academic dishonesty, including cheating or plagiarism, are considered a very serious transgression and may result in a grade of F for the course.

About the Course Developer

I wrote this course and although I am not the instructor I would like to introduce myself.

My name is Pat Rush. I received my Bachelor of Science in Education in 1995 and my Master of Education in 2003 (both at the University of Idaho). I was a nontraditional (politically correct way to say "old") student. While attending UI, I was working full-time and following my children to every activity ever invented! It was a hectic time, but I wouldn't trade it for a million dollars. My guess is that many of you are doing something similar. Trust me—it is well worth the effort.

I taught Math 108, 137, and 143 at the University of Idaho for four years. Since 1999, I have been teaching at the high school level in Kendrick. This is a small town, small school. I teach all levels of math at our high school as I am the only math teacher. I must tell you, I **love** teaching this subject. I think of algebra as a game—like a jigsaw puzzle. I only need to get the pieces in the right places to get it finished. I have a great time with my students. I expect them to work hard and they haven't let me down yet. In the midst of all this hard work though, we do take the time to share some jokes and have some fun.

Contacting Your Instructor

Instructor contact information is posted on your Canvas site under Course Rules.

| Lesson | Section | Reading | Self-Study Assignment | Written Assignment | Date Submitted |
|--------|------------------|--|---|---|-------------------|
| 1 | 1.4, 2.1, 2.2 | pp. 35-40 pp. 54-59 pp. 65-69 | p. 42, #34 p. 62, #24, 54 p. 72, #16, 28 | p. 42, #36 p. 62, #32, 62 p. 72, #22, 36 | |
| 2 | 2.3, 2.4, 3.1 | pp. 77-84 pp. 91-94 pp. 114-122 | p. 86, #20, 46 p. 96, #14 p. 123, #8, 40 | p. 86, #32, 52 p. 96, #22, 24 p. 123, #30 | |
| 3 | 3.2, 3.3, 4.1 | pp. 129-133 p. 139-142 pp. 167-172 | p. 136, #30, 50 p. 147, #44 p. 174, #12, 40 | p. 136, #40, 56 p. 147, #48, 56 p. 174, #36 | |

Assignment Submission Log

Complete Practice Exam 1. Answers are in the back of this course guide. If you have any problems or confusion, contact your instructor or tutor for clarification before taking Exam 1.

It is time for you to make arrangements with your proctor to take Exam 1.

| 4 | 4.2, 4.3 | рр. 177-184 рр. 191-196 | p. 186, #32, 38 p. 200, #24, 36, 68 | p. 186, #50 p. 200, #22, 40, 50, 54 | |
|---|----------|-----------------------------|--|---|--|
| 5 | 4.5, 5.1 | pp. 213-222 pp. 252.260 | p. 224, #16, 42, 54 p. 262, #10, 45 | p. 224, #22, 50, 68 p. 262, #24, 30 | |
| 6 | 5.3, 6.1 | pp. 277, 284 pp. 312-321 | p. 285, #4, 24 p. 324, #44, 52, 124 | p. 285, #18, 28 p. 324, #28, 80, 102 | |

Complete Practice Exam 2. Answers are in the back of this course guide. If you have any problems or confusion, contact your instructor or tutor for clarification before taking Exam 2.

It is time for you to make arrangements with your proctor to take Exam 2.

| 7 | 6.2, 6.3 | pp. 329-332 pp. 335-339 pp. 343-348 | p. 333, #16, 18, 20, 52 p. 341, #24, 32 p. 350, #38, 86 | p. 333, #56 p. 341, #6 and 16 (Parts A and B for both problems), #26, 34 p. 350, #30, 50 | |
|---|------------------|---|---|--|--|
| 8 | 6.4, 6.5, 7.1 | pp. 353-356 pp. 372-376 | p. 357, #10, 46 p. 377, #32 | p. 357, #22 p. 377, #22, 50 | |
| 9 | 7.2, 7.3 | pp. 379-384 pp. 387-390 | p. 385, #8, 26, 46 p. 391, #24, 38 | p. 385, #10, 32 p. 391, #12, 42, 46 | |

Complete Practice Exam 3. Answers are in the back of this course guide. If you have any problems or confusion, contact your instructor or tutor for clarification before taking Exam 3.

| Lesson | Section | Reading | Self-Study Assignment | Written Assignment | Date Submitted |
|--------|------------------|---|---|---|-------------------|
| 10 | 7.4, 8.1 | pp. 395-399 pp. 414-420 | p. 402, #20, 32, 42, 44 p. 422, #48 | p. 402, #28, 40 p. 422, #36, 62, 76 | |
| 11 | 8.2, 8.3, 8.4 | pp. 425-430 pp. 435-438 pp. 441-444 | p. 432, #38, 54 p. 439, #14, 30 p. 446, #20 | p. 432, #64 p. 439, #20, 32 p. 446, #24, 36 | |
| 12 | 9.1, 9.2 | pp. 27-28 pp. 480-484 pp. 489-493 | p. 486, #26, 48 p. 496, #42, 58, 88 | p. 486, #34 p. 495, #22, 28, 66, 76 | |

It is time for you to make arrangements with your proctor to take Exam 3.

Complete Practice Exam 4. Answers are in the back of this course guide. If you have any problems or confusion, contact your instructor or tutor for clarification before taking Exam 4.

It is time for you to make arrangements with your proctor to take Exam 4.

| 13 | 9.3, 9.4, 9.5 | pp. 499-504 pp. 511-512 pp. 515-520 | p. 507, #54, 92, 104, 114 p. 513, #28, 48, 54 p. 521, #22, 60, 66 | p. 507, #72, 98, 106 p. 513, #18, 44, 52 p. 521, #14, 40, 74, 82 | | |
|---|------------------|---|--|--|------------------|--|
| | | | *NOT | E: This assignment is longer the | an all the rest. | |
| 14 | 9.6, 9.7 | pp. 527-530 pp. 535-540 | p. 531, #10, 20 p. 541, #14, 28, 46 | p. 531, #14, 34 p. 541, #18, 44, 58 | | |
| 15 | 10.1, 10.2 | pp. 558-564 pp. 569-573 | p. 565, #10, 54, 62 p. 575, #4, 14 | p. 565, #16, 44, 66 p. 575, #8, 22 | | |
| HINT: For these problems, first find the discriminant and determine the nature of the | | | | | | |
| | roots; then | roots, then solve the problem. | | | | |

Complete Practice Final Exam. Answers are in the back of this course guide. If you have any problems or confusion, contact your instructor or tutor for clarification before taking the Final Exam.

It is time to make arrangements with your proctor to take the Final Exam.

Lesson 1 Properties of Real Numbers and Linear Equations

Lesson Objectives

After completing this lesson, students will be able to do the following:

- 1. Use the distributive property and others.
- 2. Solve linear equations including those with fractions and decimals.
- 3. Solve and apply formulas.
- 4. Solve percent problems.

Reading Assignment

Read pages 35–40, 54–59, 65–69.

Important Terms

distributive property identity property associative property algebraic expressions linear equation addition and multiplication properties of equality inverse property commutative property multiplication property of 0 algebraic equations formula

Lecture

Note: This is a good time to become familiar with your textbook. You will notice that the important words and/or concepts are highlighted in bold text and in blue boxes. You may find it helpful to put this information on 3×5 index cards and make yourself a set of "flash cards" as a study tool. Also, when I assign practice, self-study, or written problems, I will just give you the first page number even though the problems may be spread out over two or three pages.

1.4 Properties of Real Numbers

- **Real numbers** are the numbers we work with every day. These include integers, fractions and decimals. Please don't let the language of mathematics scare you off!
- The **distributive property** is incredibly important. Be sure you understand how to use it. While the other properties listed are important, I don't really care if you know their names. It's more important that you know how and when to use them and that will come with practice.
- Be sure you can recognize **like** terms.
- Although the book hasn't made a big deal about it, I think it is time to point out the difference between **terms** and **factors**.
 - 1. *Factors* are the numbers and/or variables being multiplied together. Example: -5abc has factors of -5, *a*, *b*, and *c*.
 - 2. A *term* is an indicated product that may have any number of factors. Example: In 7*xy* + 5*abc*, 7*xy* is a term with factors 7, *x*, and *y*. 5*abc* is a term with factors 5, *a*, *b*, and *c*.
- As a general rule, terms are separated by a + or sign.

Practice Problems

Work page 41, #1–10, 11, 15, 19, 23, 27. (Answers to even-numbered problems are given toward the back of this course guide.)

2.1 Linear Equations in One Variable

- An expression *does not* contain an equal sign. It can only be simplified. It is considered an **algebraic** expression when it contains variables such as *x* or *y*.
- An equation *does* contain an equal sign. Equations must be solved. An **algebraic equation** contains at least one variable.
- You will see the term **linear equation** used frequently. What makes an equation linear is the fact that the variable is never raised to a **power** other than one. When the power (or **exponent**) of a number or variable is one, we don't write it. For example: x^1 is the same as x. For this reason, these equations are sometimes called **first-degree equations**.
- As you read this material, take your time! These are the building blocks for much of what we will do during the course. It is essential that you understand the concepts.
- You can do anything you want to an equation as long as you do it to both sides.
- I like the way this text explains solving equations involving fractions (I call these **fractional equations**) and decimals.
- Here is another example of a fractional equation,

$$\frac{3a-1}{4} + \frac{a-2}{3} - \frac{a-1}{5} = \frac{21}{20}$$
 LCM is 60, so

$$60\left(\frac{3a-1}{4} + \frac{a-2}{3} - \frac{a-1}{5}\right) = 60\left(\frac{21}{20}\right)$$

$$60\left(\frac{3a-1}{4}\right) + 60\left(\frac{a-2}{3}\right) - 60\left(\frac{a-1}{5}\right) = 60\left(\frac{21}{20}\right)$$

$$15(3a-1) + 20(a-2) - 12(a-1) = 3(21)$$

$$45a - 15 + 20a - 40 - 12a + 12 = 63$$

$$53a - 43 = 63$$

$$53a = 106$$

a = 2

Practice Problems

Work page 61, #9–41 (every other odd), 43, 49, 55, 59.

2.2 Formulas

- Solving **formulas** for a specific variable is not only fun, but it is also very useful. I like to call these **manipulation** problems because you are manipulating the formula to make it useful for *you*!
- **Percent** problems always give people trouble. Percent is from Latin: *per* means "by," *centum*, "one hundred." This means, for us, "by hundreds."
- I teach my students that percent is the *part divided by the whole*. In this text, the authors say the same thing, but they phrase it differently, saying that percent is the *partial amount* (*a*) divided by the *whole amount* (*b*). What you need to do is figure out what makes sense to you and use that.

Practice Problems

Work page 72, #7–17 odd, 21, 27, 35, 37.

Self-Study Problems

Work the following pages and problems on your own, and then check your solution against the solution provided in Canvas. If you cannot come up with the correct solution, then you may request a full, written explanation for each problem by email from your instructor. Do not submit the self-study assignments to your instructor for grading.

42 (#34) 62 (#24, 54) 72 (#16, 28)

Written Assignment

Written Assignments for Lesson 1-3 will be submitted together via Canvas (15 problems worth 2 pts each):

Work the following pages and problems for Lesson 1. Then move on to Lesson 2. Once you have worked the written assignment problems for Lessons 1, 2 and 3, combine them, and submit them Canvas in PDF format.

42 (#36) 62 (#32, 62) 72 (#22, 36)