

**Mathematics Learning Lab Resource Manual
Forrest County Center 2006-2007**

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Software Descriptions and Lessons For Mathematics Skills Bank V (networked)

Description: This computerized tutorial is a comprehensive resource for diagnosing and remediating students' basic skills.

Lessons: **BASIC MATHEMATICS: NUMBER CONCEPTS:**

Place Values of Digits
Expanded Notation
Number Lines
Rounding
Estimating
Multiples and Factors
Even, Odd, and Prime Numbers
Prime Factorization
The Greatest Common Factor
Least Common Multiple and Denominator
Simplify Fractions
Equations and Inequalities
Finding the Missing Operations
Finding the Missing Numbers in Equations
Finding the Missing Numbers in Inequalities
Missing Numbers in Related Number Sentences
The Commutative Property
The Associative Property
The Distributive Property
Identity Elements and Inverses
BASIC MATHEMATICS: COMPUTATION
Addition of Whole Numbers
Subtraction of Whole Numbers
Multiplication of Whole Numbers
Division of Whole Numbers
Addition of Decimals
Subtraction of Decimals
Addition of Like Fractions
Addition of Mixed Numerals
Subtraction of Like Fractions
Subtraction of Unlike Fractions
Subtraction of Mixed Numerals
Multiplication of Fractions

Multiplication of Mixed Number

Division of Fractions

**Software Descriptions and Lessons
For Mathematics
Skills Bank V -continued
(networked)**

Division of Mixed Numbers

Introduction to Ration and Percent

Interchanging Percents and Decimals

Interchanging Fractions and Percents

Finding the Percent of a Number

BASIC MATHEMATICS: WORD PROBLEMS

One-Step Addition Problems

One-Step Subtraction

One-Step Multiplication Problems

One-Step Division Problems

Two-Step Problems for Addition and Subtraction

Two-Step Problems Using Multiplication

Needed Operations

Needed Information

Word Problems about Money

Menus and Price Lists

Averages

Decimals and Fractions

Standard Units of Measure

BASIC MATHEMATICS: MEASUREMENT AND GEOMETRY

Reading a Ruler

Appropriate Units of Measure

Time and the Calendar

Temperature

Money

Roman Numerals

Fractional Part of a Set

Terms in Geometry

Plane and Solid Figures

Perimeter of a Polygon

Area and Volume

INTERMEDIATE MATHEMATICS: PROPORTION & PERCENT

Relationships of Rations, Percents and Decimals

Ration and Proportion

Using Proportions to Find Group Prices

Finding the Part by Using Proportions

Finding the Percent by Using Proportions

Finding the Whole by Using Proportions

**Software Descriptions and Lessons
For Mathematics
Skills Bank V -continued
(networked)**

Finding the Part by Using Number Sentences

Finding the Whole by Using Number Sentences

Percent of Charge

Discounts

Simple Interest

Absolute Value

Addition and Subtraction of Integers

Multiplication and Division of Integers

Exponents and Square Roots

Scientific Notation

Operations with Exponents

Simplifying Numerical Expressions

Sequences

Evaluating Variable Expressions

Simplifying Variable Expressions

One-Step Equations

Two-Step Equations

Graphing on the Coordinate Plane

Writing Equations from Words

Distance-Rate-Time Problems

INTERMEDIATE MATHEMATICS: GEOMETRY

Units of Length

Units of Weight and Capacity

Time Zones

Angles

Lines and Angles

Areas of Polygons

Circumference of Circles

Area of Circles

Surface of Area

Volume of Prisms and Cylinders

Formulas in Geometry

Pythagorean Theorem

INTERMEDIATE MATHEMATICS: STATISTICS &

PROBABILITY

Pictographs

Bar Graphs

Line Graphs

Software Descriptions and Lessons

For Mathematics

Skills Bank V -continued

(networked)

Circle Graphs

Measures of Central Tendency

Simple Probability

Counting Outcomes

Predicting Outcomes

ALGEBRA I: EQUATIONS, INEQUALITIES, & POLYNOMIALS

Linear Equations in One Variable

Applications of Linear Equations

Direct and Inverse Variation

Literal Equations

Linear Inequalities in One Variable

Combined Inequalities

Absolute Value Equations & Inequalities

Monomials & Properties of Exponents

Adding & Subtracting Polynomials

Multiplying a Polynomial by a Monomial

Multiplying a Polynomial by a Binomial

Dividing Polynomials

ALGEBRA 1: FACTORING AND RATIONAL EXPRESSIONS

Common Monomial Factors

Factoring Trinomials

Factoring Completely

Solving Equations by Factoring

Simplifying Rational Expressions

Multiplying & Dividing Rational Expressions

Adding and Subtracting Rational Expressions I

Adding and Subtracting Rational Expressions II

Solving Rational Equations

ALGEBRA I: FUNCTIONS, GRAPHING & SYSTEMS OF EQUATIONS

Relations and Functions

Evaluating Functions

Graphing Linear Equations

Slope of a Line

Equations of Lines

Graphing Linear Inequalities

Systems of Linear Equations: Graphing

Systems of Linear Equations: Substitution

Systems of Linear Equations: Linear Combination

Software Descriptions and Lessons

For Mathematics

Skills Bank V -continued

(networked)

Applications of Systems of Equations

Systems of Linear Inequalities

**Software Descriptions and Lessons
For Mathematics
MATHPRO EXPLORER 2nd EDITION
Basic College Mathematics
(free with text- networked)**

Description : MATHPRO EXPLORER has been developed to accompany BASIC COLLEGE MATHEMATICS by K. Elayn Martin-Gay. It corresponds to the objective exercises in the text. Each exercise has an example and a guided step-by-step solution to help you learn important algebraic concepts and skills.

- Lessons:**
- CHAPTER 1 WHOLE NUMBERS**
 - 1.1 Tips for Success in Mathematics
 - 1.2 Place Value and Names for Numbers
 - 1.3 Adding Whole Numbers
 - 1.4 Subtracting Whole Numbers
 - 1.5 Rounding and Estimating
 - 1.6 Multiplying Whole Numbers
 - 1.7 Dividing Whole Numbers
 - 1.8 An Introduction to Problem Solving
 - 1.9 Exponents and Order of Operations
 - CHAPTER 2 MULTIPLYING AND DIVIDING FRACTIONS**
 - 2.1 Introduction to Fractions & Mixed Numbers
 - 2.2 Factors & Prime Factorization
 - 2.3 Simplest Form of a Fraction
 - 2.4 Multiplying Fractions
 - 2.5 Dividing Fractions
 - CHAPTER 3 ADDING & SUBTRACTING FRACTIONS**
 - 3.1 Adding & Subtracting Like Fractions
 - 3.2 Least Common Multiple
 - 3.3 Adding & Subtracting Unlike Fractions
 - 3.4 Adding & Subtracting Mixed Numbers
 - 3.5 Order, Exponents, and the Order of Operations
 - 3.6 Fractions & Problem Solving
 - CHAPTER 4 DECIMALS**
 - 4.1 Introduction to Decimals
 - 4.2 Order and Rounding
 - 4.3 Adding and Subtracting Decimals
 - 4.4 Multiplying Decimals
 - 4.5 Dividing Decimals
 - 4.6 Estimating and Order of Operations

**Software Descriptions and Lessons
For Mathematics
MATHPRO EXPLORER 2nd EDITION
Basic College Mathematics
(free with text- networked)**

CHAPTER 5 RATIO AND PROPORTION

- 5.1 Ratios
- 5.2 Rates
- 5.3 Proportions
- 5.4 Proportions and Problem Solving

CHAPTER 6 PERCENT

- 6.1 Introduction to Percent
- 6.2 Percents and Fractions
- 6.3 Solving Percent Problems with Equations
- 6.4 Solving Percent Problems with Proportions
- 6.5 Applications of Percent
- 6.6 Percent & Problem Solving: Sales Tax, Commission & Discount
- 6.7 Percent & Problem Solving: Interest

CHAPTER 7 MEASUREMENT

- 7.1 Length: U.S. & Metric Systems of Measurement
- 7.2 Weight & Mass: U.S. & Metric Systems of Measurements
- 7.3 Capacity: U.S. & Metric Systems of Measurements
- 7.4 Temperature: U.S. & Metric Systems of Measurements
- 7.5 Energy: U.S. & Metric Systems of Measurement

CHAPTER 8 GEOMETRY

- 8.1 Lines and Angles
- 8.2 Plane Figures and Solids
- 8.3 Perimeter
- 8.4 Area
- 8.5 Volume
- 8.6 Square Roots and the Pythagorean
- 8.7 Congruent and Similar Triangles

CHAPTER 9 STATISTICS AND PROBABILITY

- 9.1 Reading Pictographs, Bar Graphs, and Line Graphs
- 9.2 Reading Circle Graphs
- 9.3 Reading Histograms
- 9.4 Mean, Median, and Mode
- 9.5 Counting and Introduction to Probability

**Software Descriptions and Lessons
For Mathematics
MATHPRO EXPLORER 2 EDITION
Basic College Mathematics
(free with text- networked)**

CHAPTER 10 SIGNED NUMBERS

- 10.1 Signed Numbers**
- 10.2 Adding Signed Numbers**
- 10.3 Subtracting Signed Numbers**
- 10.4 Multiplying and Dividing Signed Numbers**
- 10.5 Order of Operations**

CHAPTER 11 INTROUDCTION TO ALGEBRA

- 11.1 Introduction to Variables**
- 11.2 Solving Equations: The Addition Property**
- 11.3 Solving Equations: The Multiplication Property**
- 11.4 Solving Equations: Using Addition and Multiplication Properties**
- 11.5 Equations and Problem Solving**

**Software Descriptions and Lessons
For Mathematics
MATHPRO EXPLORER 2nd EDITION
Introductory Algebra
(free with text- networked)**

Description : MATHPRO EXPLORER has been developed to accompany Introductory Algebra by K. Elayn Martin-Gay. It corresponds to the objective exercises in the text. Each exercise has an example and a guided step-by-step solution to help you learn important algebraic concepts and skills.

- Lessons:**
- CHAPTER R-PREALGEBRA REVIEW**
 - R.1 Factors & Least Common Multiples**
 - R.2 Fractions**
 - R.3 Decimals & Percents**
 - CHAPTER 1 REAL NUMBERS & INTRODUCTION TO ALGEBRA**
 - 1.1 Tips for Success in Mathematics**
 - 1.2 Symbols & Sets of Numbers**
 - 1.3 Introduction to Variable Expressions & Equations**
 - 1.4 Adding Real Numbers**
 - 1.5 Subtracting Real Numbers**
 - 1.6 Multiplying Real Numbers**
 - 1.7 Dividing Real Numbers**
 - 1.8 Properties of Real Numbers**
 - 1.9 Reading Graphs**
 - CHAPTER 2 EQUATIONS, INEQUALITIES, & PROBLEM SOLVING**
 - 2.1 Simplify Expressions**
 - 2.2 The Addition Property of Equality**
 - 2.3 The Multiplication Property of Equality**
 - 2.4 Further Solving Linear Equations**
 - 2.5 An Introduction to Problem Solving**
 - 2.6 Formulas & Problem Solving**
 - 2.7 Percents, Ration & Proportion**
 - 2.8 Solving Linear Inequalities**
 - CHAPTER 3 EXPONENTS AND POLYNOMIALS**
 - 3.1 Exponents**
 - 3.2 Negative Exponents & Scientific Notation**
 - 3.3 Introduction to Polynomials**
 - 3.4 Adding & Subtracting Polynomials**

3.5 Multiplying Polynomials
Software Descriptions and Lessons
For Mathematics
MATHPRO EXPLORER 2nd EDITION
Introductory Algebra
(free with text- networked)

3.6 Special Products

3.7 Dividing Polynomials

CHAPTER 4 FACTORING POLYNOMIALS

4.1 The Greatest Common Factor

4.2 Factoring Trinomials

4.3 Factoring Trinomials

4.4 Factoring Trinomials by Grouping

4.5 Factoring Perfect Square Trinomials & the Difference of Two Squares

4.6 Solving Quadratic Equations by Factoring

4.7 Quadratic Equations & Problem Solving

CHAPTER 5 RATIONAL EXPRESSIONS

5.1 Simplifying Rational Expressions

5.2 Multiplying & Dividing Rational Expressions

5.3 Adding & Subtracting Rational Expressions with the Same Denominator & Least Common Denominators

5.4 Adding & Subtracting Rational Expressions with Different Denominators

5.5 Solving Equations Containing Rational Expressions

5.6 Rational Equations & Problem Solving

5.7 Simplifying Complex Fractions

CHAPTER 6 GRAPHING EQUATIONS & INEQUALITIES

6.1 The Rectangular Coordinate System

6.2 Graphing Linear Equations

6.3 Intercepts

6.4 Slope

6.5 Equations of Lines

6.6 Introduction to Functions

6.7 Graphing Linear Inequalities in Two Variables

CHAPTER 7 SYSTEMS OF EQUATIONS

7.1 Solving Systems of Linear Equations by Graphing

7.2 Solving Systems of Linear Equations by Substitution

7.3 Solving Systems of Linear Equations by Addition

7.4 Systems of Linear Equations & Problem Solving

CHAPTER 8 ROOTS AND RADICALS

8.1 Introduction to Radicals

8.2 Simplifying Radicals

**Software Descriptions and Lessons
For Mathematics
MATHPRO EXPLORER 2nd EDITION
Introductory Algebra
(free with text- networked)**

8.3 Adding and Subtracting Radicals

8.4 Multiplying & Dividing Radicals

8.5 Solving Equations Containing Radicals

8.6 Radical Equations & Problem Solving

CHAPTER 9 QUADRATIC EQUATIONS

9.1 Solving Quadratic Equations by the Square Root Property

9.2 Solving Quadratic Equations by Completing the Square

9.3 Solving Quadratic Equations by the Quadratic Formula

9.4 Graphing Quadratic Equations in Two Variables

**Software Descriptions and Lessons
For Mathematics
MATHPRO EXPLORER 2nd EDITION
Intermediate Algebra
(free with text- networked)**

Description : MATHPRO EXPLORER has been developed to accompany Intermediate Algebra by K. Elayn Martin-Gay. It corresponds to the objective exercises in the text. Each exercise has an example and a guided step-by-step solution to help you learn important algebraic concepts and skills.

- Lessons:**
- CHAPTER 1 REAL NUMBERS & ALGEBRAIC EXPRESSIONS**
 - 1.1 Tips for Success in Mathematics
 - 1.2 Sets of Numbers
 - 1.3 Properties of Real Numbers
 - 1.4 Operations on Real Numbers
 - 1.5 Order of Operations & Algebraic Expressions
 - 1.6 Exponents & Scientific Notation
 - 1.7 More Work with Exponents & Scientific Notation
 - CHAPTER 2 EQUATIONS, INEQUALITIES, & PROBLEM SOLVING**
 - 2.1 Linear Equations in One Variable
 - 2.2 An Introduction to Problem Solving
 - 2.3 Formulas & Problem Solving
 - 2.4 Linear Inequalities & Problem Solving
 - 2.5 Sets & Compound Inequalities
 - 2.6 Absolute Value Equations & Inequalities
 - CHAPTER 3 GRAPHS & FUNCTIONS**
 - 3.1 Graphing Linear Equations
 - 3.2 The Slope of a Line
 - 3.3 The Slope-Intercept Form
 - 3.4 More Equations of Lines
 - 3.5 Introduction to Functions
 - 3.6 Graphing Linear Inequalities
 - CHAPTER 4 SYSTEMS OF EQUATIONS & INEQUALITIES**
 - 4.1 Solving Systems of Linear Equations in 2 Variables
 - 4.2 Solving Systems of Linear Equations in 3 Variables
 - 4.3 Systems of Linear Equations & Problem Solving
 - 4.4 Solving Systems of Equations Using Matrices
 - 4.5 Systems of Linear Inequalities
 - CHAPTER 5 POLYNOMIALS & POLYNOMIAL FUNCTIONS**

5.1 Adding & Subtracting Polynomials
Software Descriptions and Lessons
For Mathematics
MATHPRO EXPLORER 2nd EDITION
Intermediate Algebra
(free with text- networked)

- 5.2 Multiplying Polynomials**
- 5.3 Dividing Polynomials**
- 5.4 The Greatest Common Factor & Factoring by Grouping**
- 5.5 Factoring Trinomials**
- 5.6 Factoring by Special Products**
- 5.7 Solving Equations by Factoring & Solving Problems**
- 5.8 An Introduction to Graphing Polynomial Functions**
- CHAPTER 6 RATIONAL EXPRESSIONS**
- 6.1 Multiplying & Dividing Rational Expressions**
- 6.2 Adding & Subtracting Rational Expressions**
- 6.3 Simplifying Complex Fractions**
- 6.4 Solving Equations Containing Rational Expressions**
- 6.5 Rational Equations & Problem Solving**
- 6.6 Variation & Problem Solving**
- CHAPTER 7 RATIONAL EXPONENTS, RADICALS, AND COMPLEX NUMBERS**
- 7.1 Radical Expressions**
- 7.2 Rational Expressions**
- 7.3 Simplifying Radical Expressions**
- 7.4 Adding, Subtracting & Multiplying Radical Expressions**
- 7.5 Rationalizing Numerators & Denominators of Radical Expressions**
- 7.6 Radical Equations & Problem Solving**
- 7.7 Complex Numbers**
- CHAPTER 8 QUADRATIC EQUATIONS & FUNCTIONS**
- 8.1 Solving Quadratic Equations by Completing the Square**
- 8.2 Solving Quadratic Equations by the Quadratic Formula**
- 8.3 Solving Quadratic Equations by Using Quadratic Methods**
- 8.4 Nonlinear Inequalities in One Variable**
- 8.5 Quadratic Functions & Their Graphs**
- 8.6 Further Graphing of Quadratic Functions**
- CHAPTER 9 CONIC SECTIONS**
- 9.1 The Parabola and the Circle**
- 9.2 The Ellipse and the Hyperbola**
- 9.3 Graphing Nonlinear Functions**
- 9.4 Solving Nonlinear Systems of Equations**

9.5 Nonlinear Inequalities & Systems of Inequalities

Software Descriptions and Lessons

For Mathematics

MATHPRO EXPLORER 2nd EDITION

Intermediate Algebra

(free with text- networked

CHAPTER 10 EXPONENTIAL & LOGARITHMIC FUNCTIONS

10.1 The Algebra of Functions

10.2 Inverse Functions

10.3 Exponential Functions

10.4 Logarithmic Functions

10.5 Properties of Logarithms

10.6 Common Logarithms, Natural Logarithms, & Change of Base

10.7 Exponential & Logarithmic Equations & Problem Solving

Software Descriptions and Lessons For Mathematics Derive 6 CD-ROM

Description:

Derive is the trusted mathematical assist relied upon by students, educators, engineers and scientists around the world. It does for algebra, equations, trigonometry, vectors, matrices and calculus what the scientific calculator does for high school mathematics. Derive can easily solve both symbolic and numeric problems and then plot the results as 2D graphs or 3D surfaces.

MATHEMATICAL FEATURES:

- *Algebraically simplify, expand, and factor symbolic expressions**
- *Solve equations, inequalities, and systems polynomial equations for real and complex roots**
- *Perform exact rational arithmetic without round-off errors**
- *Adjust precision for approximate arithmetic**
- *Define functions and assign variable values**
- *Use flexible block, loop, and if-then-else control constructs for procedural programming**

MATHEMATICAL WORKSHEETS

PLOT WINDOWS

2D GRAPHS

- *Create explicit, implicit, and parametric plots**
- *Graph using rectangular or polar coordinates**
- *Specify plot range using a “zoom” box**
- *Show real and imaginary parts**

3D SURFACES

- *Display surfaces in rectangular, cylindrical, and spherical coordinates**
- *Rotate one or more plots in real time**
- *Shade plot surfaces using color schemes**

Software Descriptions and Lessons For Mathematics Trigonometry-Math Cue (network)

- Description:** **The key features of this software include:**
- *The software presents problems, evaluates answers and gives immediate feedback**
 - *Topics are keyed to each text section**
 - *Each problem is accompanied by a complete, step-by-step solution**
 - *A result summary provides scores for you session**
- Lessons:** **Chapter 1: The Six Trigonometric Functions**
Chapter 2: Right Triangle Trigonometry
Chapter 3: Radian Measure
Chapter 4: Graphing and Inverse Functions
Chapter 5: Identities and Formulas
Chapter 6: Equations
Chapter 7: Triangles
Chapter 8: Complex Numbers and Polar Coordinates

**Software Descriptions and Lessons
For Mathematics
Calculus 8th Edition
(accompanies text 1 copy)
CD-ROM**

Description: This program provides:
PREREQUITES SKILLS REVIEW: These tutorial exercises help you relearn the concepts you will need to be successful in calculus.

SECTION FEATURES INDEX: Each chapter and section contain resources designed to support learning, practice and test preparation including: open explorations

ADDITIONAL RESOURCES: Links to an online graphing calculator.

Lessons:

CHAPTER –PREPARATION FOR CALCULUS

- P.1 Graphs & Models**
- P.2 Linear Models & Rates of Change**
- P.3 Functions & Their Graphs**
- P.4 Fitting Models to Data**
 - Review Exercises
 - Problem Solving

CHAPTER 1-LIMITS & THEIR PROPERTIES

- 1.1 A Preview of Calculus**
- 1.2 Finding Limits Graphically & Numerically**
- 1.3 Evaluating Limits Analytically**
- 1.4 Continuity & One-sided Limits**
- 1.5 Indefinite Limits**
 - Graphs & Limits of Trigonometric Functions**
 - Review Exercises
 - Problem Solving

CHAPTER 2 DIFFERENTIATION

- 2.1 The Derivative & the Tangent Line Problem**
- 2.2 Basic Differentiation Rules & Rates of Change**
- 2.3 Product & Quotient Rules & Higher Order Derivatives**
- 2.4 The Chain Rule**
- 2.5 Implicit Differentiation**
 - Optical Illusion
- 2.6 Related Rates**

**Software Descriptions and Lessons
For Mathematics
Calculus 8th Edition
(accompanies text 1 copy)
CD-ROM**

Review Exercises

Problem Solving

CHAPTER 3 APPLICATIONS OF DIFFERENTIATION

3.1 Extrema on an Interval

3.2 Rolle's Theorem & the Mean Value Theorem

**3.3 Increasing & Decreasing Functions & the First
Derivative Test**

3.4 Concavity & the Second Derivative Test

3.5 Limits as Infinity

3.6 A Summary of Curve Sketching

3.7 Optimization Problems

3.8 Newton's Method

3.9 Differentials

Review Exercises

Problem Solving

CHAPTER 4 INTEGRATION

4.1 Antiderivatives & Indefinite Integration

4.2 Area

4.3 Riemann Sums & Definite Integrals

**4.4 The Fundamental Theorem of Calculus
Demonstrating the Fundamental Theorem**

4.5 Integration by Substitution

4.6 Numerical Integration

Review Exercises

Problem Solving

**CHAPTER 5 LOGARITHMIC, EXPONENTIAL, AND
OTHER TRANSCENDENTAL FUNCTIONS**

5.1 The Natural Logarithmic Function: Differentiation

5.2 The Natural Logarithmic Function: Integration

5.3 Inverse Functions

5.4 Exponential Functions: Differentiation & Integration

**5.5 Bases Other Than e and Applications
Using Graphing Utilities to Estimate Slope**

5.6 Inverse Trigonometric Functions: Differentiation

5.7 Inverse Trigonometric Functions: Integration

5.8 Hyperbolic Functions

CHAPTER 6 DIFFERENTIAL EQUATIONS

6.1 Slope Fields & Euler's Method

**Software Descriptions and Lessons
For Mathematics
Calculus 8th Edition
(accompanies text 1 copy)
CD-ROM**

- 6.2 Differential Equations: Growth & Decay**
- 6.3 Separation of Variables & the Logistic Equation**
- 6.4 First-Order Linear Differential Equations**
 - Weight Loss
 - Review Exercises
 - Problem Solving
- CHAPTER 7 APPLICATIONS OF INTEGRATION**
- 7.1 Area of a Region Between Two Curves**
- 7.2 Volume: The Disk Method**
- 7.3 Volume: The Shell Method**
 - Saturn
- 7.4 Arc Length & Surfaces of Revolution**
- 7.5 Work**
 - Tidal Energy
- 7.6 Moments, Centers of Mass, & Centroids**
- 7.7 Fluid Pressure & Fluid Force**
 - Review Exercises
 - Problem Solving
- CHAPTER 8 INTEGRATION TECHNIQUES L'HOPITAL'S
RULE, & IMPROPER INTEGRALS**
- 8.1 Basic Integration Rules**
- 8.2 Integration by Parts**
- 8.3 Trigonometric Substitution**
 - Power Lines
- 8.4 Trigonometric Substitution**
- 8.5 Partial Fractions**
- 8.6 Integration by Tables & Other Integration Techniques**
- 8.7 Intermediate Forms & L'Hopital's Rule**
- 8.8 Improper Integrals**
 - Review Exercises
 - Problem Solving
- CHAPTER 9 INFINITE SERIES**
- 9.1 Sequences**
- 9.2 Series & Convergence**
 - Cantor's Disappearing Table
- 9.3 The Integral Test and P-Series**
 - The Harmonic Series

**Software Descriptions and Lessons
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CD-ROM**

- 9.4 Comparisons of Series
Solera Method**
- 9.5 Alternating Series**
- 9.6 The Ration & Root Tests**
- 9.7 Taylor Polynomials & Approximations**
- 9.8 Power Series**
- 9.9 Representation of Functions by Power Series**
- 9.10 Taylor & MacLaurin Series
Review Exercises
Problem Solving**

**CHAPTER 10 CONICS, PARAMETRIC EQUATIONS &
POLAR COORDINATES**

- 10.1 Conics & Calculus**
- 10.2 Plane Curves & Parametric Equations
Cycloids**
- 10.3 Parametric Equations & Calculus'**
- 10.4 Polar Coordinates & Polar Graphs
Anamorphic Art**
- 10.5 Area & Arc Length in Polar Coordinates**
- 10.6 Polar Equations of Conics & Kepler's Laws
Review Exercises
Problem Solving**

CHAPTER 11 VECTORS & THE GEOMETRY OF SPACE

- 11.1 Vectors in the Plane**
- 11.2 Space Coordinates & Vectors in Space**
- 11.3 The Product of Two Vectors**
- 11.4 The Cross Product of Two Vectors in Space**
- 11.5 Lines & Planes in Space
Distances in Space**
- 11.6 Surfaces in Space**
- 11.7 Cylindrical & Spherical Coordinates
Review Exercises
Problem Solving**

CHAPTER 12 VECTOR-VALUED FUNCTIONS

- 12.1 Vector-Valued Functions
Witch of Agnesi**
- 12.2 Differentiation & Integration of Vector-Valued
Functions**

**Software Descriptions and Lessons
For Mathematics
Calculus 8th Edition
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CD-ROM**

- 12.3 Velocity & Acceleration
- 12.4 Tangent Vectors & Normal Vectors
- 12.5 Arc Length & Curvature
- Review Exercises
- Problem Solving
- CHAPTER 13 FUNCTIONS OF SEVERAL VARIABLES**
- 13.1 Introduction to Functions of Several Variables
- 13.2 Limits & Continuity
- 13.3 Partial Derivatives
- Moire Fringes
- 13.4 Differentials
- 13.5 Chain Rules for Functions of Several Variables
- 13.6 Directional Derivatives & Gradients
- 13.7 Tangent Planes & Normal Lines
- Wildflowers
- 13.8 Extrema Functions of Two Variables
- 13.9 Applications of Extrema of Functions of Two Variables
- Building a Pipeline
- 13.10 Language Multipliers
- Review Exercises
- Problem Solving
- CHAPTER 14 MULTIPLE INTEGRATION**
- 14.1 Iterated Integrals & Area in the Plane
- 14.2 Double Integrals & Volume
- 14.3 Change of Variables: Polar Coordinates
- 14.4 Center of Mass & Moments of Inertia
- Center of Pressure on a Sail
- 14.5 Surface Area
- Capillary Action
- 14.6 Triple Integrals & Applications
- 14.7 Triple Integrals in Cylindrical & Spherical Coordinates
- Wrinkled & Bumpy Spheres
- 14.8 Change of Variables: Jacobians
- Review Exercises
- Problem Solving
- CHAPTER 15 VECTOR ANALYSIS**
- 15.1 Vector Fields
- 15.2 Line Integrals

**Software Descriptions and Lessons
For Mathematics
Calculus 8th Edition
(accompanies text 1 copy)
CD-ROM**

- 15.3 Conservative Vector Fields & Independence of Path**
- 15.4 Green's Theorem
Hyperbolic & Trigonometric Functions**
- 15.5 Parametric Surfaces**
- 15.6 Surface Integrals
Hyperboloid of One Sheet**
- 15.7 Divergence Theorem**
- 15.8 Stoke's Theorem
Review Exercises
The Planimeter
Problem Solving**

**Software Descriptions and Lessons
For Mathematics
MyMATHLAB
(accompanies text- online)**

Description: **MYMATHLAB gives students online tools they need to Succeed in their courses. MYMATHLAB provides an online Course with multimedia instruction, homework, tutorials, and Testing—all correlated to the examples and exercises in the Addison-Wesley or Prentice Hall textbook. MYMATHLAB Is delivered inside a web-based course delivery system called COURSECOMPASS.**

VIDEOS & DVD'S For Mathematics

Basic College Mathematics
Calculus Instructional DVD
College Algebra
College Algebra & Trigonometry
Intermediate Algebra
Introductory Algebra
Study Skills for Mathematics

ADA STATEMENT

If you have a disability that qualifies under the Americans with Disabilities Act and you require special assistance or accommodations, you should contact the designated coordinator for your campus for information on appropriate guidelines and procedures: Poplarville Campus, Tonia Moody at 601-403-1060 or tmoody@prcc.edu; Forrest County Center, Deborah Hewitt at 601-554-5503 or dhewitt@prcc.edu; Hancock Center, Maggie Smith at 228-467-2761 or masmith@prcc.edu. Distance Learning Students who require special assistance, accommodations, and/or need for alternate format should contact Tonia Moody or Dr. Janice Poole at 601-403-1374 or jpoole@prcc.edu.