# Table of Contents

## Chapter 1: Expressions, Equations, and Inequalities
1-1 Patterns and Expressions
1-2 Properties of Real Numbers
1-3 Algebraic Expressions
1-4 Solving Equations
1-5 Solving Inequalities
   - Part 1: Problems 1-4
   - Part 2: Problems 5 and 6
1-6 Absolute Value Equations and Inequalities
   - Part 1: Problems 1-3
   - Part 2: Problems 4-6

## Chapter 2: Functions, Equations, and Graphs
### Part A
2-1 Relations and Functions
   - Part 1: Problems 1-4
   - Part 2: Problems 5 and 6
2-2 Direct Variation
2-3 Linear Functions and Slope-Intercept Form
2-4 More About Linear Equations
   - Part 1: Problems 1-3
   - Part 2: Problems 4-6
### Part B
2-5 Using Linear Models
2-6 Families of Functions
   - Part 1: Problems 1 and 2
   - Part 2: Problems 3-5
2-7 Absolute Value Functions and Graphs
2-8 Two-Variable Inequalities

## Chapter 3: Linear Systems
3-1 Solving Systems Using Tables and Graphs
3-2 Solving Systems Algebraically
   - Part 1: Problems 1 and 2
   - Part 2: Problems 3-5
3-3 Systems of Inequalities
3-4 Linear Programming
   - Concept Byte: Linear Programming
3-5 Systems with Three Variables
3-6 Solving Systems Using Matrices

## Chapter 4: Quadratic Functions and Equations
### Part A
4-1 Quadratic Functions and Transformations
4-2 Standard Form of a Quadratic Function
Part 1: Problems 1 and 2
Part 2: Problems 3 and 4

4-3 Modeling With Quadratic Functions
   *Concept Byte: Identifying Quadratic Data*

4-4 Factoring Quadratic Expressions
   Part 1: Problems 1 and 2
   Part 2: Problems 3-5

   *Algebra Review: Square Roots and Radicals*

4-5 Quadratic Equations
   Part 1: Problems 1 and 2
   Part 2: Problems 3 and 4

   *Concept Byte: Writing Equations From Roots*

Part B

4-6 Completing the Square
   Part 1: Problems 1-3
   Part 2: Problems 4-6

4-7 The Quadratic Formula

4-8 Complex Numbers
   Part 1: Problems 1-5
   Part 2: Problems 6-7

   *Concept Byte: Powers of Complex Numbers*
   *Concept Byte: Quadratic Inequalities*

---

Chapter 5: Polynomials and Polynomial Functions

Part A

5-1 Polynomial Functions
5-2 Polynomials, Linear Factors, and Zeros
   Part 1: Problems 1-3
   Part 2: Problems 4-6

5-3 Solving Polynomial Equations
   Part 1: Problems 1 and 2
   Part 2: Problems 3 and 4

5-4 Dividing Polynomials
   Part 1: Problems 1 and 2
   Part 2: Problems 3–5

Part B

5-5 Theorems About Roots of Polynomial Equations
   Part 1: Problems 1-2
   Part 2: Problems 3-5

5-6 The Fundamental Theorem of Algebra
   *Concept Byte: Pascal’s Triangle*

5-7 The Binomial Theorem
5-8 Polynomial Models in the Real World
5-9 Transforming Polynomial Functions

---

Chapter 6: Radical Functions and Rational Exponents

Part A

   *Concept Byte: Properties of Exponents*

6-1 Roots and Radical Expressions
6-2 Multiplying and Dividing Radical Expressions
   Part 1: Problems 1-3
   Part 2: Problems 4 and 5

6-3 Binomial Radical Expressions
6-4 Rational Exponents
   Part 1: Problems 1-3
Part 2: Problems 4-6

Part B
6-5 Solving Square Root and Other Radical Equations
  Part 1: Problems 1-3
  Part 2: Problems 4-5
6-6 Function Operations
6-7 Inverse Relations and Functions
  Part 1: Problems 1-3
  Part 2: Problems 4-6

  *Concept Byte: Graphing Inverses*

6-8 Graphing Radical Functions

Chapter 7: Exponential and Logarithmic Functions
7-1 Exploring Exponential Models
7-2 Properties of Exponential Functions
  Part 1: Problems 1-3
  Part 2: Problems 4 and 5
7-3 Logarithmic Functions as Inverses

  *Concept Byte: Fitting Curves to Data*

7-4 Properties of Logarithms
7-5 Exponential and Logarithmic Equations
  Part 1: Problems 1-4
  Part 2: Problems 5 and 6

  *Concept Byte: Using Logarithms for Exponential Models*

Chapter 8: Rational Functions
8-1 Inverse Variation

  *Concept Byte: Graphing Rational Functions*

8-2 The Reciprocal Function Family
8-3 Rational Functions and Their Graphs
8-4 Rational Expressions
8-5 Adding and Subtracting Rational Expressions
  Part 1: Problems 1-3
  Part 2: Problems 4 and 5
8-6 Solving Rational Equations

Chapter 9: Sequences and Series
9-1 Mathematical Patterns
9-2 Arithmetic Sequences
9-3 Geometric Sequences
9-4 Arithmetic Series
9-5 Geometric Series

Chapter 10: Quadratic Relations and Conic Sections
10-1 Exploring Conic Sections

  *Concept Byte: Graphing Conic Sections*

10-2 Parabolas
10-3 Circles
10-4 Ellipses
10-5 Hyperbolas

Chapter 11: Probability and Statistics
Part A
11-1 Permutations and Combinations
  Part 1: Problems 1-3
Part 2: Problems 4 and 5
11-2 Probability
   Part 1: Problems 1 and 2
   Part 2: Problems 3–5
11-3 Probability of Multiple Events
11-4 Conditional Probability

Part B
11-5 Analyzing Data
11-6 Standard Deviation
11-7 Samples and Surveys
   Concept Byte: Describing Data
11-8 Binomial Distributions
11-9 Normal Distributions

Chapter 12: Matrices
12-1 Adding and Subtracting Matrices
   Concept Byte: Working with Matrices
12-2 Matrix Multiplication
12-3 Determinants and Inverses
   Part 1: Problems 1 and 2
   Part 2: Problems 3–5
12-4 Inverse Matrices and Systems
   Part 1: Problems 1 and 2
   Part 2: Problems 3 and 4

Chapter T: Trigonometry Concepts
T-1 Right Triangles and Trigonometric Ratios
T-2 Special Angles
T-3 The Unit Circle
T-4 Degrees and Radian Measure
T-5 Graphs of Sine, Cosine, and Tangent Functions
T-6 Basic Identities