

Contents

Front Matter	iii
Quick Review Lessons	
Quick Review 1: The Real-Number System	1
Quick Review 2: Inequalities and Interval Notation	9
Quick Review 3: Operations and Properties of Real Numbers	17
Quick Review 4: Rational Numbers and Operations with Fractions	25
Quick Review 5: Exponents	35
Quick Review 6: Absolute Value and Order of Operations	43
Quick Review 7: Radicals and Properties of Radicals	53
Quick Review 8: More with Radicals and Rational Exponents	65
Chapter 1: Polynomials, Rational Expressions, and Equations in One Variable	
Section 1.1: Adding, Subtracting & Multiplying Polynomials	75
Section 1.2: Dividing Polynomials	85
Section 1.3: Factoring Polynomials - GCF and Trinomials	95
Section 1.4: Factoring Polynomials - Grouping, Special Cases, and Extensions	103
Section 1.5: Rational Expressions	111
Section 1.6: Solving One-Variable Equations	123
Chapter 2: Functions and Graphs	
Section 2.1: Introduction to Graphing and Equations in Two Variables	133

Section 2.2: Distance, Midpoint, and Circles	143
Section 2.3: Introduction to Functions	153
Chapter 3: Linear Equations and Functions	
Section 3.1: Linear Equations, Functions & Graphs	165
Section 3.2: More with Linear Equations	177
Section 3.3: Linear Inequalities in One and Two Variables	185
Chapter 4: Quadratic Equations and Functions	
Section 4.1: The Complex Number System	199
Section 4.2: Zeros of Quadratic Functions	207
Section 4.3: Graphing Quadratic Functions	217
Chapter 5: More with Functions	
Section 5.1: Increasing and Decreasing, Maximum and Minimum Values; Piece-wise Functions	227
Section 5.2: The Algebra of Functions	241
Section 5.3: The Composition of Functions	249
Section 5.4: Symmetry and Even & Odd Functions	259
Section 5.5: Transformations of Functions	269
Chapter 6: More with Equations and Inequalities	
Section 6.1: Solving Rational Equations and Radical Equations	283
Section 6.2: Solving Equations & Inequalities with Absolute Value	291
Section 6.3: Polynomial & Rational Inequalities	297
Chapter 7: Polynomial Functions and Rational Functions	
Section 7.1: Polynomial Functions	305

Section 7.2: Graphing Polynomial Functions	315
Section 7.3: Polynomial Function Theorems	321
Section 7.4: Additional Polynomial Function Theorems	333
Section 7.5: Rational Functions & Asymptotes	343
Section 7.6: Graphing Rational Functions	351

Chapter 8: Systems and Partial Fraction Decomposition

Section 8.1: Systems of Equations in Two Variables	359
Section 8.2: Systems of Equations in Three Variables	369
Section 8.3: Systems of Inequalities	375
Section 8.4: Partial Fraction Decomposition	383

Chapter 9: Exponential and Logarithmic Functions

Section 9.1: Inverse Functions	393
Section 9.2: Exponential Functions & Graphs	405
Section 9.3: Logarithmic Functions & Graphs	413
Section 9.4: Properties of Logarithms	423
Section 9.5: Solving Exponential and Logarithmic Equations	431