

Quarter 1

Chapter 0: Prerequisites and Review

0.1 real numbers

0.2 integers exponents and scientific notation

0.3 Polynomials: Basic operations

0.4 factoring polynomials

0.5 rational expressions

0.6 rational exponents and radicals

0.7 complex numbers

chapter 1: equations and inequalities

1.1 linear equations

1.2 applications involving linear equations

1.3 quadratic equations

1.4 other types of equations

1.5 linear inequalities

1.6 polynomial and rational inequalities

1.7 absolute value

chapter 2: graphs

2.1 distance and midpoint

2.2 graphing equations, intercepts, and symmetry

Quarter 2

Chapter 2: Graphs

2.3 Lines

2.4 circles

2.5 linear regressions

chapter 3: Functions and Their Graphs

3.1 functions

3.2 graphs of functions: piecewise functions, average rate of change

3.3 transformations

3.4 composition of functions

3.5 one to one and inverse functions

3.6 modeling functions using variation

Chapter 4: Polynomial and Rational Functions

4.1 Quadratic functions

4.2 polynomial functions of higher degree

4.3 Dividing polynomials

4.4 Rational Zero theorem and finding zeros of a polynomial

4.6 Rational Functions

Quarter 3

Chapter 5 Exponential and Logarithmic Functions

- 5.1 Exponential Functions and their Graphs
- 5.2 Logarithmic Functions and their Graphs
- 5.3 Properties of Logarithms
- 5.4 Exponential and Logarithmic equations
- 5.5 exponential and logarithmic models

Chapter 6 Systems of Linear Equations and Inequalities

- 6.1 Systems of linear equations in two variables
- 6.2 systems of linear equations in three variables
- 6.3 partial fractions
- 6.4 systems of linear inequalities in two variables
- 6.5 linear programming model: optimization

Chapter 7: matrices

- 7.1 Matrices and systems of linear equations
- 7.2 Matrix algebra

Quarter 4

Chapter 7: Matrices

- 7.3 Matrix equations
- 7.4 finding the determinant of a matrix

Chapter 8: Conics and Systems of Nonlinear Equations and Inequalities

- 8.1 Conics
- 8.2 Parabola
- 8.3 Ellipse
- 8.4 Hyperbola
- 8.5 Systems of nonlinear equations
- 8.6 systems of nonlinear inequalities

Chapter 9: Sequences, Series, and Probability

- 9.1 Sequences and Series
- 9.2 Arithmetic Sequences and Series
- 9.3 Geometric Sequences and Series
- 9.4 Mathematical Induction
- 9.5 Binomial Theorem
- 9.6 Counting, Permutations, and Combinations
- 9.7 Probability