

Pearson New International Edition

Pearson New International Edition

Thinking Mathematically

Robert Blitzer Fifth Edition

Thinking Mathematically

Table of Contents

Cover

Table of Contents

- 1. Problem Solving and Critical Thinking
 - 1. Inductive and Deductive Reasoning
 - 2. Estimation, Graphs, and Mathematical Models
 - 3. Problem Solving
 - 4. Chapter Summary, Review, and Test

2. Set Theory

- 1. Basic Set Concepts
- 2. Subsets
- 3. Venn Diagrams and Set Operations
- 4. Set Operations and Venn Diagrams with Three Sets
- 5. Survey Problems

Chapter Summary, Review, and Test

3. Logic

- 1. Statements, Negations, and Quantified Statements
- 2. Compound Statements and Connectives
- 3. Truth Tables for Negation, Conjunction, and Disjunction
- 4. Truth Tables for the Conditional and the Biconditional
- 5. Equivalent Statements and Variations of Conditional Statements
- 6. Negations of Conditional Statements and De Morgans Laws
- 7. Arguments and Truth Tables
- 8. Arguments and Euler Diagrams

Chapter Summary, Review, and Test

4. Number Representation and Calculation

- 1. Our Hindu-Arabic System and Early Positional Systems
- 2. Number Bases in Positional Systems
- 3. Computation in Positional Systems
- 4. Looking Back at Early Numeration Systems



Table of Contents

Chapter Summary, Review, and Test

5. Number Theory and the Real Number System

- 1. Number Theory: Prime and Composite Numbers
- 2. The Integers; Order of Operations
- 3. The Rational Numbers
- 4. The Irrational Numbers
- 5. Real Numbers and Their Properties
- 6. Exponents and Scientific Notation
- 7. Arithmetic and Geometric Sequences

Chapter Summary, Review, and Test

6. Algebra: Equations and Inequalities

- 1. Algebraic Expressions and Formulas
- 2. Linear Equations in One Variable and Proportions
- 3. Applications of Linear Equations
- 4. Linear Inequalities in One Variable
- 5. Quadratic Equations

Chapter Summary, Review, and Test

7. Algebra: Graphs, Functions, and Linear Systems

- 1. Graphing and Functions
- 2. Linear Functions and Their Graphs
- 3. Systems of Linear Equations in Two Variables
- 4. Linear Inequalities in Two Variables
- 5. Linear Programming
- 6. Modeling Data: Exponential, Logarithmic, and Quadratic Functions

Chapter Summary, Review, and Test

8. Consumer Mathematics and Financial Management

- 1. Percent, Sales Tax, and Income Tax
- 2. Simple Interest
- 3. Compound Interest
- 4. Annuities, Stocks, and Bonds
- 5. Installment Loans, Amortization, and Credit Cards

Chapter Summary, Review, and Test

9. Measurement



Table of Contents

- 1. Measuring Length; The Metric System
- 2. Measuring Area and Volume
- 3. Measuring Weight and Temperature

Chapter Summary, Review, and Test

10. Geometry

- 1. Points, Lines, Planes, and Angles
- 2. Triangles
- 3. Polygons, Perimeter, and Tessellations
- 4. Area and Circumference
- 5. Volume
- 6. Right Triangle Trigonometry
- 7. Beyond Euclidean Geometry

Chapter Summary, Review, and Test

11. Counting Methods and Probability Theory

- 1. The Fundamental Counting Principle
- 2. Permutations
- 3. Combinations
- 4. Fundamentals of Probability
- 5. Probability with the Fundamental Counting Principle, Permutations, and Combinations
- 6. Events Involving Not and Or; Odds
- 7. Events Involving And; Conditional Probability
- 8. Expected Value

Chapter Summary, Review, and Test

12. Statistics

- 1. Sampling, Frequency Distributions, and Graphs
- 2. Measures of Central Tendency
- 3. Measures of Dispersion
- 4. The Normal Distribution
- 5. Problem Solving with the Normal Distribution
- 6. Scatter Plots, Correlation, and Regression Lines

Chapter Summary, Review, and Test

13. Mathematical Systems

1. Mathematical Systems



Table of Contents

- 2. Rotational Symmetry, Groups, and Clock Arithmetic Chapter Summary, Review, and Test
- 14. Voting and Apportionment
 - 1. Voting Methods
 - 2. Flaws of Voting Methods
 - 3. Apportionment Methods
 - 4. Flaws of Apportionment Methods Chapter Summary, Review, and Test

Index

