

# **BASIC MATHEMATICS**

## **Table of Contents**

### **CD 1 Whole Numbers**

- Place Value, Addition, Subtraction and Rounding
  - 1 Whole Number Terms
  - 2 Adding Whole Numbers
  - 3 Properties of Addition
  - 4 Adding Whole Numbers in Columns
  - 5 Subtracting Whole Numbers
  - 6 Addition and Subtraction Applications
  - 7 Rounding Whole Numbers on a Number Line
  - 8 Rounding Whole Numbers
- Multiplication and Order of Operations
  - 1 Properties of Multiplication
  - 2 Multiplying Whole Numbers
  - 3 Multiplication Applications
  - 4 Introduction to Exponents
  - 5 The Order of Operations
- Division
  - 1 Properties of Division
  - 2 Long Division with and without Remainders
  - 3 Division Applications
- Estimating
  - 1 Estimating Sums
  - 2 Estimating Products and Quotients
  - 3 Estimation Applications
- Factors and Multiples
  - 1 Whole Numbers as Products of Prime Numbers
  - 2 Greatest Common Factor
  - 3 Least Common Multiple

### **CD 2 Fractions**

- Equivalent Fractions, Lowest Terms, Comparing Fractions and Mixed Numbers
  - 1 Introduction to Fractions
  - 2 Comparing Fractions
  - 3 Visualizing Fractions
  - 4 Mixed Numbers and Improper Fractions
- Multiplication and Division
  - 1 Multiplying Fractions
  - 2 Dividing Fractions
  - 3 Multiplying and Dividing Mixed Numbers
  - 4 Multiplication and Division Applications of Fractions

# **BASIC MATHEMATICS**

- Least Common Denominator, Addition and Subtraction
  - 1 Adding and Subtracting Like Fractions
  - 2 Adding and Subtracting Unlike Fractions
  - 3 Addition and Subtraction Applications of Fractions
- Real World Applications of Fractions
  - 1 Perimeter and Area
  - 2 Fraction Applications I
  - 3 Fraction Applications II

## **CD 3 Decimals & Ratio and Proportion**

- Decimals - Addition, Subtraction, Multiplication and Rounding
  - 1 Understanding Decimal Numbers
  - 2 Adding and Subtracting Decimals
  - 3 Multiplying Decimals
  - 4 Rounding Decimals
  - 5 Decimal Applications
- Decimals - Division, Converting to Fractions
  - 1 Dividing Decimals
  - 2 Decimal Division Applications
  - 3 Converting Fractions to Decimals and Decimals to Fractions
- Ratio and Proportion - Fundamentals of Ratios and Proportions
  - 1 Units and Ratios
  - 2 Rates
  - 3 Proportions
  - 4 Finding an Unknown in a Proportion
- Ratio and Proportion – Applications of Proportions
  - 1 Applications of Proportions I
  - 2 Applications of Proportions II

## **CD 4 Percent**

- Converting Among Fractions, Decimals and Percents
  - 1 The Definition of Percent
  - 2 Percent and Decimal Conversions
  - 3 Converting Percents to Equivalent Fractions and Mixed Numbers
  - 4 Converting Fractions and Mixed Numbers to Percents
  - 5 Percent Applications
- Real World Applications of Percents
  - 1 Percent Applications using Equations
  - 2 Percent of Increase or Decrease
- Using Percents in Everyday Situations
  - 1 Converting Common Percents to Fractions
  - 2 Finding Percents by Moving the Decimal Point
  - 3 Finding Percentages by Multiplying or using Common Fractions
  - 4 Calculating 10%, 15% and 20% of Rounded Quantities
  - 5 Estimating Percent Discounts
  - 6 More Percent Applications

# **BASIC MATHEMATICS**

## **CD 5 Measurement**

- U.S. Customary System
  - 1 Length, Capacity and Weight
  - 2 Unit Fractions
  - 3 Adding and Subtracting Customary Units
- Metric System
  - 1 The Metric Prefixes and Metric Unit Fractions
  - 2 Using a Table to Convert Metric Units
- Customary and Metric System Conversions
  - 1 Units of Capacity
  - 2 Units of Length
  - 3 Units of Mass

## **CD 6 Geometry & Statistics and Probability**

- Geometry – Lines, Angles and Triangles
  - 1 Geometry Terms
  - 2 Angles and Triangles
  - 3 Right Triangles
  - 4 Similar Triangles and Applications
- Geometry – Perimeter, Area and Volume
  - 1 Perimeter and Circumference
  - 2 Area
  - 3 Volume
- Statistics – Graphs and Charts
  - 1 Pictographs, Bar Graphs and Line Graphs
  - 2 Circle Graphs
  - 3 Histograms
- Statistics – Mean, Median and Mode and Organizing Data
  - 1 Mean, Median, Mode and Range
  - 2 Stem-and-Leaf Plots and Box-and-Whisker Plots
  - 3 Scatterplots
- Probability – Introduction to Probability
  - 1 Tree Diagrams
  - 2 Probability

## **CD 7 Signed Numbers and Exponents**

- Operations on Signed Numbers
  - 1 Adding Signed Numbers
  - 2 Subtracting Signed Numbers
  - 3 Multiplying Signed Numbers
  - 4 Dividing Signed Numbers
- The Order of Operations and Signed Numbers
  - 1 Order of Operations I
  - 2 Order of Operations II
  - 3 Order of Operations III

# **BASIC MATHEMATICS**

- Using Exponents
  - 1 Evaluating Exponential Expressions with Signed Numbers
  - 2 The Product Rule for Exponents I
  - 3 The Product Rule for Exponents II
  - 4 The Quotient Rule for Exponents
  - 5 Zero Exponents
- Exponent Rules and Radicals
  - 1 The Power Rule for Exponents
  - 2 The Power Rule for Products
  - 3 The Power Rule for Quotients
  - 4 Square Roots and Radical Notation
  - 5 Higher Order Roots and Radical Notation

## **CD 8 Introduction to Algebra**

- Variables and Like Terms
  - 1 Variables
  - 2 The Substitution Property
  - 3 The Substitution Property and Formulas
  - 4 Collecting Like Terms
- Solving Equations
  - 1 The Distributive Property
  - 2 Solving Addition and Subtraction Equations
  - 3 Solving Multiplication and Division Equations
  - 4 Mixed Equation Practice
- Applications of Linear Equations
  - 1 Turning Phrases into Mathematical Expressions
  - 2 Applications of Linear Equations I
  - 3 Applications of Linear Equations II