



# Destination Math™

## Mastering Skills & Concepts V:

### Pre-Algebra **grades 6-8**

This course prepares students for the more formal study of mathematics in high school. Students continue their study of numbers and operations by exploring ratios, proportions, and irrational numbers. They also begin a study of the fundamental skills and concepts found in algebra, geometry, statistics, and probability. Students apply what they have learned to solve sets of questions at varying levels of difficulty.

#### Scope and Sequence

- 1 ESSENTIALS OF ALGEBRA**
  - 1.1 Algebra Fundamentals
    - Introducing Variables
    - Identifying Components of Algebraic Expressions
    - Replacing Variables in a Formula
  - 1.2 Evaluating an Algebraic Expression
    - Representing the Dimensions and Area of a Rectangle
    - Combining Like Terms
    - Evaluating Expressions Using Substitution
  - 1.3 Simple Equations
    - Using Variables to Express Relationships
    - Simplifying Algebraic Expressions
    - Solving Simple Equations
  - 1.4 Variables on Both Sides of the Equation
    - Writing Equations
    - Simplifying Both Sides of an Equation
    - Checking the Solution to an Equation
  - 1.5 Solving Literal Equations
    - Identifying the Variables in a Given Formula
    - Rewriting a Formula in Terms of a Different Variable
    - Substituting Values and Solving an Equation
- 2 FUNDAMENTALS OF GEOMETRY**
  - 2.1 Geometry Fundamentals
    - Naming and Measuring Angles
    - Defining Complementary and Supplementary Angles
    - Recognizing Congruent Angles
  - 2.2 Triangles
    - Classifying Triangles by Sides
    - Exploring the Area of a Triangle
    - Classifying Triangles by Angles
  - 2.3 Volume and Surface Area
    - Calculating the Volume of a Right Triangular Prism
    - Calculating the Surface Area of a Right Triangular Prism
    - Calculating the Volume and Surface Area of a Right Cylinder
- 3 RADICALS AND EXPONENTS**
  - 3.1 Introduction to Radicals and Pythagorean Theorem
    - Exploring the Pythagorean Theorem
    - Investigating Squares and Square Roots
    - Defining Irrational Numbers
  - 3.2 Introduction to Scientific Notation
    - Writing Numbers Using Scientific Notation
    - Comparing Numbers in Scientific Notation
    - Writing Numbers Between 0 and 1 in Scientific Notation
- 4 RATIO AND PROPORTION**
  - 4.1 Ratio
    - Defining Ratio
    - Expressing Ratios as Equivalent Fractions and Decimals
    - Forming Ratios Between Unlike Quantities
  - 4.2 Proportion
    - Defining a Proportion
    - Solving for a Variable in a Proportion
    - Applying the Means/Extremes Property
  - 4.3 Direct and Inverse Variation
    - Exploring and Solving Direct Variation Problems
    - Exploring Inverse Variation
    - Solving Inverse Variation Problems
  - 4.4 Similar Polygons
    - Defining Similarity
    - Identifying Equivalent Ratios
    - Setting Up and Solving Proportions in Similar Polygons
- 5 STATISTICS**
  - 5.1 Interpreting and Constructing Graphs
    - Exploring Line Graphs
    - Exploring Bar Graphs
    - Interpreting Pie Charts
  - 5.2 The Mean, Median, and Mode
    - Defining the Mean and Median
    - Defining the Mode
    - Calculating the Mean, Median, and Mode
  - 5.3 Frequency Distribution and Histograms
    - Creating and Interpreting a Frequency Table
    - Defining a Histogram
    - Exploring Cumulative Frequency Graphs
- 6 PROBABILITY**
  - 6.1 Simple Probability
    - Defining and Expressing Probability
    - Calculating Probabilities on a Color Wheel
    - Determining Probability of Complementary Events
  - 6.2 Probability of Combined Events
    - Calculating the Probability of Independent Events
    - Determining the Sample Space of an Experiment
    - Calculating the Probability of Mutually Exclusive Events