

PreAlgebra COURSE DESCRIPTION

PreAlgebra content This PreAlgebra course covers all typical PreAlgebra material, over 90 topics in all from arithmetic to equations to polynomials. Whether you are getting ahead of the curriculum, aiming for better grades, or preparing for the next level with deeper understanding of the concepts, this class will give you a solid foundations needed to succeed in school as the fundamental and important concepts will be taught in great details. Designed for all levels of learners from remedial to the advanced. (Material fee is due on the first day of class).

Homework: A page corresponds to each chapter lesson will be assigned. **Tests:** Chapter tests and exam at the end of course.

Content

Chapter 1 - The Tools

Lesson 1 - Using a Problem-Solving Plan

Lesson 2 - Numbers and Expressions

Lesson 3 - Variables and Expressions

Lesson 4 - Properties

Lesson 5 - Variables and Equations

Lesson 6 - Ordered Pairs and Relations

Lesson 7 - Scatter Plots

Chapter 2 - Integers

Lesson 1 - Integers and Absolute Value

Lesson 2 - Adding Integers

Lesson 3 - Subtracting Integers

Lesson 4 - Multiplying Integers

Lesson 5 - Dividing Integers

Lesson 6 - The Coordinate System

Chapter 3 - Equations

Lesson 1 - The Distributive Property

Lesson 2 - Simplifying Algebraic Expressions

Lesson 3 - Solving Equations by Adding or Subtracting

Lesson 4 - Solving Equations by Multiplying or Dividing

Lesson 5 - Solving Two-Step Equations

Lesson 6 - Writing Two-Step Equations

Lesson 7 - Using Formulas

Chapter 4 - Factors and Fractions

Lesson 1 - Factors and Monomials

Lesson 2 - Powers and Exponents

Lesson 3 - Prime Factorization

Lesson 4 - Greatest Common Factor (GCF)

Lesson 5 - Simplifying Algebraic Fractions

Lesson 6 - Multiplying and Dividing Monomials

Lesson 7 - Negative Exponents

Lesson 8 - Scientific Notation

Chapter 5 - Rational Numbers

Lesson 1 - Writing Fractions as Decimals

Lesson 2 - Rational Numbers

Lesson 3 - Multiplying Rational Numbers

Lesson 4 - Dividing Rational Numbers

Lesson 5 - Adding and Subtracting Like Fractions

Lesson 6 - Least Common Multiple

Lesson 7 - Adding and Subtracting Unlike Fractions

Lesson 8 - Measures of Central Tendency

Lesson 9 - Solving Equations with Rational Numbers

Lesson 10 - Arithmetic and Geometric Sequences

Chapter 6 - Ratio, Proportion, and Percent

Lesson 1 - Ratios and Rates

Lesson 2 - Using Proportions

Lesson 3 - Scale Drawings and Models

Lesson 4 - Fractions, Decimals, and Percents

Lesson 5 - Using the Percent Proportion

Lesson 6 - Finding Percents Mentally

Lesson 7 - Using Percent Equations

Lesson 8 - Percent of Change

Lesson 9 - Probability and Predictions

Chapter 7 - Equations and Inequalities

Lesson 1 - Solving Equations with Variables on Each Side

Lesson 2 - Solving Equations with Grouping Symbols

Lesson 3 - Inequalities

Lesson 4 - Solving Inequalities by Adding or Subtracting

Lesson 5 - Solving Inequalities by Multiplying or Dividing

Lesson 6 - Solving Multi-Step Inequalities

Chapter 8 - Functions and Graphing

Lesson 1 - Functions

Lesson 2 - Linear Equations in Two Variables

Lesson 3 - Graphing Linear Equations Using Intercepts

Lesson 4 - Slope

Lesson 5 - Rate of Change

Lesson 6 - Slope-Intercept Form

Lesson 7 - Writing Linear Equations

Lesson 8 - Best-Fit Lines

Lesson 9 - Solving Systems of Equations

Lesson 10 - Graphing Inequalities

Chapter 9 - Real Numbers and Right Triangles

Lesson 1 - Squares and Square Roots

Lesson 2 - The Real Number System

Lesson 3 - Angles

Lesson 4 - Triangles

Lesson 5 - The Pythagorean Theorem

Lesson 6 - The Distance and Midpoint Formulas

Lesson 7 - Similar Triangles and Indirect Measurement

Lesson 8 - Sine, Cosine, and Tangent Ratios

Chapter 10 - Two-Dimensional Figures

Lesson 1 - Line and Angle Relationships

Lesson 2 - Congruent Triangles

Lesson 3 - Transformations on the Coordinate Plane

Lesson 4 - Quadrilaterals

Lesson 5 - Area: Parallelograms, Triangles, and Trapezoids

Lesson 6 - Polygons

Lesson 7 - Circumference and Area: Circles

Lesson 8 - Area: Irregular Figures

Chapter 11 - Three-Dimensional Figures Lesson 1 - Three-Dimensional Figures

Lesson 2 - Volume: Prisms and Cylinders

Lesson 3 - Volume: Pyramids and Cones

Lesson 4 - Surface Area: Prisms and Cylinders

Lesson 5 - Surface Area: Pyramids and Cones

Lesson 6 - Similar Solids

Lesson 7 - Precision and Significant Digit

Chapter 12 - More Statistics and Probability

Lesson 1 - Stem-and-Leaf Plots

Lesson 2 - Measures of Variation

Lesson 3 - Box-and-Whisker Plots

Lesson 4 - Histograms

Lesson 5 - Misleading Statistics

Lesson 6 - Counting Outcomes

Lesson 7 - Permutations and Combinations

Lesson 8 - Odds

Lesson 9 - Probability of Compound Events

Chapter 13 - Polynomials and Nonlinear Functions

Lesson 1 - Polynomials

Lesson 2 - Adding Polynomials

Lesson 3 - Subtracting Polynomials

Lesson 4 - Multiplying a Polynomial by a Monomial

Lesson 5 - Linear and Nonlinear Functions

Lesson 6 - Graphing Quadratic and Cubic Function