

# Pre-Algebra

2019-2020  
Freshman year

## Course Description

This class will review the basic operations of arithmetic on whole numbers, fractions and decimals. These operations will be used in dealing with ratio, proportions, percent, simple geometry and algebra. As students master these basic concepts, they will move into basic algebra. Students will be expected to understand basic operations with integers, rational numbers, irrational, and real numbers; the use of variables; properties of numbers and of equality; solving equations and inequalities; problem solving; relations and functions; and polynomials.

## Pre-Requisites

Math 7

## Resources

The following resources are used in this course:

- Teaching Textbooks Pre-Algebra textbook, DVDs and Answer Key

## Grading

Daily assignments 60%

Unit exams 40%

## Grading scale

A+ 97-100	A 94-96	A- 90-93	B+ 87-89	B 84-86	B- 80-83
C+ 77-79	C 74-76	C- 70-73	D+ 67-69	D 64-66	D- 60-63
F below 59					

## Assignments

Chapter 1: Arithmetic Basics - Number Beginnings, Adding and Subtracting Whole Numbers, Multiplying Whole Numbers, Dividing Whole Numbers, Divisibility

- Chapter test July 31

Chapter 2: Rational Numbers - Fractions, Equivalent Fractions, Factoring and Canceling, Prime Numbers, Adding and Subtracting Fractions, Finding the Lowest Common Denominator, Mixed Numbers, Multiplying and Dividing Fractions, Fractions and Whole Numbers

- Chapter test August 8

Chapter 3: Decimals - Ill-Fitting Fractions, Hundredths, Thousandths ..., Adding and Subtracting Decimals, Filling the Holes, Money and Decimals, Multiplying Decimals, Dividing Decimals, Decimal Remainders, Converting Fractions to Decimals, Never-Ending Decimals

- Chapter test August 23

Chapter 4: Percents - Calculating Percents, Percent of Any Number, Fractional Percents, Percents and Banking, Finding the Percent, Calculating a Grade

- Chapter test August 30

Chapter 5: Measuring Length - Units of Measurement, Unit Conversions, Skipping Around, Making a Table, The Metric System, It's All in a Name, Converting in Metric, Converting Between Common and Metric

- Chapter test September 6

Chapter 6: Measuring Area and Volume - Little Squares, Area Unit Conversions, Area in the Metric System, Little Cubes, Volume Unit Conversions, Liquid Measures of Volume, Volume in the Metric System

- Chapter test September 13

Chapter 7: Simple Algebraic Equations - Advanced Arithmetic, The Golden Rule of Algebra, Undoing Multiplication and Division, Changing Places, New Symbols, Undoing the Algebra Way, Solving Percent Problems with Algebra, Solving Distance Problems with Algebra

- Chapter test September 25

Chapter 8: Integers - Less Than Zero, The Number Line, How Negatives are Used, Addition with Negatives, Subtraction with Negatives, Multiplication with Negatives, Division with Negatives, Undoing Equations with Negatives, Negatives and Fractions, Handling a  $-x$ , Dealing with  $-x$  in a Fraction

- Chapter test October 14

Chapter 9: Longer Algebraic Equations - Order Matters, Writing Equations in Order, Order and the Fraction Bar, Using the Fraction Bar in Equations, Undoing in Reverse, Simplifying First

- Chapter test October 25

Chapter 10: Combining Like Terms - Adding  $x$ 's, Subtracting  $x$ 's,  $x$  and  $1x$ , Work Problems, Fancy Distance Problems,  $x$ 's on Both Sides, Refrigerator Repairs

- Chapter test November 1

Chapter 11: Rational Expressions - Reducing Fractions with x's, Canceling x's, Fractions and Parentheses, Multiplying Fractions with x's, Dividing Fractions with x's, Adding Fractions with x's, Subtracting Fractions with x's

- Chapter test November 8

Chapter 12: Powers, Polynomials, and Radicals - Raising a Number to a Power, Scientific Notation, Order and Powers, Adding and Subtracting Powers, Multiplying Powers, Dividing Powers, Fractions with Powers, Taking a Root, Undoing Powers and Roots, An Exponent of 1, An Exponent of 0

- Chapter test November 19

Chapter 13: Geometry - Points, Lines, and Planes, Angles, Pairs of Angles, Line and Angle Relationships, Triangles, Pythagorean Theorem, Quadrilaterals, Polygons

- Chapter test December 6

Chapter 14: More on Geometry - Congruent Figures, Similar Figures, Perimeter, Symmetry, and Reflections, Area Calculations, Circles, Solids, More on Volume and Surface Area

- Chapter test on December 13

Chapter 15: Relations, Functions, and Graphing - Relations and Functions, Functional Notation, The Coordinate Plane, Graphing Equations, The Slope of a Line, Slope-Intercept Form, Horizontal and Vertical Lines

- Chapter test on January 13

Chapter 16: Statistics, Probability, and Inequalities - Measures of Central Tendency, Range and Stem-and-Leaf Plots, Histograms and Scatter Plots, Probability, Tree Diagrams, Fundamental Counting Principle, Inequalities, Undoing Inequalities, Undoing Inequalities in Reverse Order

- Chapter test on January 21

Chapter 17: Additional Topics - Equations and the Distributive Property, Absolute Value, Distance Formula

- Chapter test on January 24