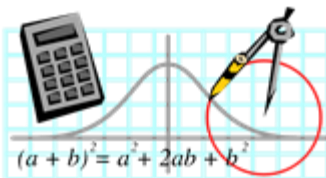


HomeSchoolMathOnline.com Pre-Algebra Course Checklist

HomeSchoolMathOnline.com



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Introduction

Special Message from the Teacher:

Welcome to the HSMO/TabletClass Math Basic Pre-Algebra course. First I want to say that I'm very excited to have you as a student. My goal is to give you an enjoyable and high quality learning experience. Moreover I want you to know that you can master this material if you work hard and never give up. The secret to being successful in mathematics is your approach to studying the topic- i.e. your study habits. From years of teaching math I can say that those students with the best study habits almost always earn the top grades. As such, parents and teachers must focus on holding students accountable for the quality of their work.

Below are critical guidelines for students as they take the course:

1. Never give up- especially when a topic is not understood easily or immediately.
2. Strive to be as neat and organized as possible.
3. Excellent note taking is a must to succeed in math.
4. Show all steps when working problems.
5. Double check your work as you write your solution steps.
6. Always go back and review incorrect problems and discover where the error was made.
7. Master the fundamentals and don't move forward unless you understand previous material.

Remember the course material builds on itself so you want to ensure that you don't skip chapters and sections. Furthermore you want to correct your weak areas before moving onto the next topic. Lastly, I want to stress that you can be great in math if you work hard. Even if you have struggled in math before I want you to look at this course as a fresh start in your mathematics journey- I know in my heart you can ace this course!

Best of luck!

John Zimmerman

TabletClass Math Teacher

Pre-Algebra Course

Chapter 1

Chapter 1: Introduction to Algebra Terms and Concepts

(Date started _____ | Date completed _____)

This chapter introduces students to basic terms and concepts used in algebra. Time is taken to ensure the student understands basic number operations, variables and their applications. Additionally, the student gains a fundamental sense of equations, inequalities and their solutions.

Section Summary (circle / complete after chapter is finished):

1. Number Operations

totally understand | kind of understand | not understanding

2. Variables

totally understand | kind of understand | not understanding

3. Order of Operations

totally understand | kind of understand | not understanding

4. Translating Verbal and Algebraic Phrases

totally understand | kind of understand | not understanding

5. Equations/Inequalities/Solutions

totally understand | kind of understand | not understanding

Pre-Algebra Course

Chapter 2

Chapter 2: Real Numbers and Simplifying Variable Expressions

(Date started _____ | Date completed _____)

This chapter focuses on getting the student to master working with the Real Numbers. Students learn the rules of integers and practice through many examples. Also, students will learn to apply the Distributive property and simplify variable expressions by combining like terms.

Section Summary (circle / complete after chapter is finished):

1. Real Number System

totally understand | kind of understand | not understanding

2. Adding Real Numbers

totally understand | kind of understand | not understanding

3. Subtracting Real Numbers

totally understand | kind of understand | not understanding

4. Multiplying and Dividing Real Numbers

totally understand | kind of understand | not understanding

5. Distributive Property

totally understand | kind of understand | not understanding

6. Simplifying by Combining Like Terms

totally understand | kind of understand | not understanding

Pre-Algebra Course

Chapter 3

Chapter 3: Fractions and Decimals

(Date started _____ | Date completed _____)

1. Introduction to Fractions and Decimals

totally understand | kind of understand | not understanding

2. Least Common Multiple/Denominator

totally understand | kind of understand | not understanding

3. Multiplying and Dividing Fractions

totally understand | kind of understand | not understanding

4. Adding and Subtracting Fractions

totally understand | kind of understand | not understanding

Pre-Algebra Course

Chapter 4

Chapter 4: Solving Equations

(Date started _____ | Date completed _____)

The chapter breaks down the steps to solve multi-step linear equations. Students will build up their skills as they progress from one and two-step equations to more advance equations. Core concepts involved will be reviewed to include the distributive property and combining like terms.

Section Summary (circle / complete after chapter is finished):

1. One Step Equations

totally understand | kind of understand | not understanding

2. Solving Two Step Equations

totally understand | kind of understand | not understanding

3. Solving Multi-Step Equations

totally understand | kind of understand | not understanding

4. Formulas and Literal Equations

totally understand | kind of understand | not understanding

Pre-Algebra Course

Chapter 5

Chapter 5: Inequalities

(Date started _____ | Date completed _____)

In this chapter students will apply their equation solving skills to solve linear inequalities. Basic concepts and terms are introduced first, along with how to graph inequalities.

Section Summary (circle / complete after chapter is finished):

1. Linear Inequalities

totally understand | kind of understand | not understanding

2. Compound Inequalities

totally understand | kind of understand | not understanding

Pre-Algebra Course

Chapter 6

Chapter 6: Graphing Linear Equations

(Date started _____ | Date completed _____)

This very important chapter walks the student step-by-step to master how to graph linear equations. Concepts involving the coordinate plane, slope and methods to graph lines are thoroughly reviewed and introduced. Upon completion of the chapter students will gain the necessary knowledge and skills needed to learn more advance topics involving linear equations.

Section Summary (circle / complete after chapter is finished):

1. Graphing Lines with One Variable

totally understand | kind of understand | not understanding

2. Graphing Lines with Two Variables

totally understand | kind of understand | not understanding

3. The Slope of a Line

totally understand | kind of understand | not understanding

4. Slope Intercept Method

totally understand | kind of understand | not understanding

5. XY Intercept Method

totally understand | kind of understand | not understanding

Pre-Algebra Course

Chapter 7

Chapter 7: Writing the Equations of Lines

(Date started _____ | Date completed _____)

The chapter builds on the student's prior knowledge and skill of linear equations. Various methods to find and write the equation of a line are introduced and practiced. The chapter focuses on the proper way to set-up and use formulas to write linear equations. Additional related topics are explored to include linear models, linear regression and word problems.

Section Summary (circle / complete after chapter is finished):

1. Using Slope-Intercept Form

totally understand | kind of understand | not understanding

2. Using Point-Slope intercept

totally understand | kind of understand | not understanding

3. Given the Slope and a Point

totally understand | kind of understand | not understanding

4. Given Two Points

totally understand | kind of understand | not understanding

5. Standard Form of Linear Equations

totally understand | kind of understand | not understanding

6. Best Fitting Line

totally understand | kind of understand | not understanding

7. Linear Models/Word Problems

totally understand | kind of understand | not understanding

Pre-Algebra Course

Chapter 8

Chapter 8: Introduction to Systems

(Date started _____ | Date completed _____)

Understanding systems and the methods to solve them are vital in algebra. This chapter introduces the student to systems and what their solutions represent. Techniques to solve systems will build from the student's prior knowledge of solving linear equations. Upon completion of the chapter a student will have a solid skill set in systems that prepares them for Algebra 1 and 2.

Section Summary (circle / complete after chapter is finished):

1. Solving Systems by Graphing

totally understand | kind of understand | not understanding

2. Solving Systems Substitution Method

totally understand | kind of understand | not understanding

3. Solving Systems by Elimination/Linear Combination

totally understand | kind of understand | not understanding

Pre-Algebra Course

Chapter 9

Chapter 9: Absolute Value

(Date started _____ | Date completed _____)

Absolute value problems can be challenging for some students to grasp. Time is taken to teach students core concepts and build understanding. Students will learn how to graph absolute value functions and apply the steps to solve absolute value equations/inequalities.

Section Summary (circle / complete after chapter is finished):

1. Introduction to Absolute Value

totally understand | kind of understand | not understanding

2. Graphing Absolute Value Equations

totally understand | kind of understand | not understanding

3. Solving Absolute Value Equations

totally understand | kind of understand | not understanding

4. Absolute Value Inequalities

totally understand | kind of understand | not understanding

Pre-Algebra Course

Chapter 10

Chapter 10: Powers and Exponents

(Date started _____ | Date completed _____)

This chapter covers the rules of powers and exponents a student needs to learn in algebra. Also, important applications of these rules are covered to include scientific notation, compound interest and exponential growth and decay.

Section Summary (circle / complete after chapter is finished):

1. Product and Power Rules of Exponents

totally understand | kind of understand | not understanding

2. Negative and Zero Exponents Rules

totally understand | kind of understand | not understanding

3. Division Rules of Exponents

totally understand | kind of understand | not understanding

4. Scientific Notation

totally understand | kind of understand | not understanding

5. Compound Interest

totally understand | kind of understand | not understanding

6. Exponential Growth and Decay

totally understand | kind of understand | not understanding

Pre-Algebra Course

Chapter 11

Chapter 11: Polynomials

(Date started _____ | Date completed _____)

Polynomials are the key building blocks of algebra. The chapter starts by covering the parts of a polynomial and related terminology. Students then learn how to perform various polynomial operations, and a special focus is placed on avoiding common mistakes. Lastly, there is a section dedicated to introduce quadratic equations which are extremely important in more advance topics in algebra.

Section Summary (circle / complete after chapter is finished):

1. Introduction to Polynomials

totally understand | kind of understand | not understanding

2. Adding and Subtracting Polynomials

totally understand | kind of understand | not understanding

3. Multiplying Polynomials

totally understand | kind of understand | not understanding

4. Introduction to Quadratic Equations

totally understand | kind of understand | not understanding

Pre-Algebra Course

Chapter 12

Chapter 12: Rational Expressions

(Date started _____ | Date completed _____)

This chapter takes the student through fundamental rational expressions to include ratios, proportions, percent and variation. Students will learn different methods to solve rational expression problems. The section on simplifying rational algebraic expressions starts by reviewing basic examples using numbers before introducing variable examples.

Section Summary (circle / complete after chapter is finished):

1. Ratios and Proportions

totally understand | kind of understand | not understanding

2. Percent

totally understand | kind of understand | not understanding

3. Direct and Inverse Variation

totally understand | kind of understand | not understanding

4. Simplifying Rational Expressions

totally understand | kind of understand | not understanding

Pre-Algebra Course

Chapter 13

Chapter 13: Introduction to Functions and Relations

(Date started _____ | Date completed _____)

Functions and relations transcend all through mathematics. This chapter explains core concepts at the Pre-Algebra level and prepares the student for more advance study of the topic. Time is taken to explain the difference between a function and relation; and introduce the student to the language of functions to include the domain, range and linear/nonlinear functions.

Section Summary (circle / complete after chapter is finished):

1. Introduction to Functions and Relations

totally understand | kind of understand | not understanding

2. Graphing Functions

totally understand | kind of understand | not understanding

3. Linear and Nonlinear Functions

totally understand | kind of understand | not understanding

Pre-Algebra Course

Chapter 14

Chapter 14: Area and Volume

(Date started _____ | Date completed _____)

This chapter explores the link between algebra and geometry. Basic formulas for area and volume are covered. Also, a section is dedicated to explain concepts related to circles to include area, volume, diameter, radius, and pi.

Section Summary (circle / complete after chapter is finished):

1. Area of Basic Figures

totally understand | kind of understand | not understanding

2. Circles: Area and Circumference

totally understand | kind of understand | not understanding

3. Surface Area of Basic Figures

totally understand | kind of understand | not understanding

4. Volume of Basic Figures

totally understand | kind of understand | not understanding

Pre-Algebra Course

Chapter 15

Chapter 15: Right Triangle Theorems and Formulas

(Date started _____ | Date completed _____)

Properties of right triangles form the basis of many more advance topics in algebra, geometry and trigonometry. Sections in the chapter introduce fundamental theorems and formulas to include the distance and mid-point formula and the Pythagorean Theorem.

Section Summary (circle / complete after chapter is finished):

1. The Distance and Mid-Point Formula

totally understand | kind of understand | not understanding

2. The Pythagorean Theorem

totally understand | kind of understand | not understanding