Math Foundations Course Syllabus

Course Title: Math Foundations

Instructor: Alexandra Hatfield ("Aly")

Contact: ahatfield@goodwillvalleys.com

Office Hours for Extra Help: Fridays 10:00 AM - 12:00 PM, or by appointment.

Communication Expectations: Please feel free to reach out via email for any questions or concerns. I will respond within 24 hours during the school week.

Course Overview

Welcome to Math Foundations! This course is designed to help you build a strong and confident understanding of the essential pre-algebra skills needed to succeed in Algebra 1. The course is delivered through a self-paced online program, allowing you to learn at a pace that works best for you.

My role in this class is to be your guide and support system. While the primary lessons and assignments are provided by the online program, I am here to proctor, offer one-on-one help, provide examples, and lead mini-lessons whenever you need clarification or extra practice on a topic. Our focus is on building a solid foundation through clear explanations and targeted practice to ensure you are fully prepared for your next steps in mathematics.

Materials Needed

To ensure your success in this course, please have the following materials available:

- Notebook or binder with paper for notes and practice problems
- Pencils and erasers
- Calculator (a scientific calculator or the Desmos calculator is recommended)
- Access to a laptop or computer with a reliable internet connection

Units & Topics Covered

All units in this course are aligned with the Virginia Standards of Learning (SOL) for pre-algebra to prepare you for Algebra I.

- **Unit 1 - Whole Number Foundations**
    - Focus: Building confidence with the basics.
    - Topics: Place value, estimation strategies, the four operations (add, subtract, multiply, divide), and the order of operations (PEMDAS).
- **Unit 2 - Understanding Fractions**
    - Focus: Demystifying fractions by making them visual and conceptual.
    - Topics: What a fraction represents (part of a whole), equivalent fractions, simplifying, and comparing fraction sizes.
- **Unit 3 - The Decimal & Percent Connection**
    - Focus: Seeing fractions, decimals, and percents as three different languages for the same idea.
    - Topics: What decimals are (fractions with a denominator of 10, 100, etc.), what percents are ("out of 100"), and converting between all three forms.
- **Unit 4 - Operations with Fractions & Decimals**
    - Focus: Applying the four operations to real-world scenarios involving parts of a whole.
    - Topics: Adding/subtracting with common denominators, multiplying fractions, and performing all four operations with decimals in practical contexts (money, measurement).
- **Unit 5 - Proportional Reasoning: Ratios & Rates**
    - Focus: Developing the single most important real-world math skill.
    - Topics: Ratios for comparison, rates (miles per hour), and the crucial concept of the unit rate (cost per ounce, etc.).
- **Unit 6 - Proportional Reasoning: Applications**
    - Focus: Using proportions and percents to solve everyday problems.
    - Topics: Setting up and solving proportions, finding the percent of a number, and calculating discounts, sales tax, and tips.
- **Unit 7 - The Language of Algebra: Expressions**
    - Focus: Transitioning from arithmetic to algebraic thinking.
    - Topics: Integers (positive and negative numbers), the concept of a variable as an unknown, and writing and simplifying algebraic expressions (e.g., $3x+2+5x$).
- **Unit 8 - Solving Equations & The Coordinate Plane**
    - Focus: Finding the missing piece of the puzzle and visualizing relationships.
    - Topics: The "balancing" concept for solving one- and two-step equations. Introduction to the coordinate plane and plotting points (x,y).

Course Completion & Progress

Your progress in this course is determined by your completion of the modules within our online learning program. There are no formal grades assigned by me; instead, successful completion is based on finishing all required lessons, practice problems, and assessments in the online system. It is important to work consistently through the material to ensure you stay on track.

Expectations for Success

To create a positive and productive learning experience, you are encouraged to:

1. **Work Consistently:** Dedicate regular time each week to work through the online modules.
2. **Ask for Help:** Don't hesitate to reach out to me when you're stuck. My job is to help you succeed!
3. **Stay Engaged:** Take notes as you go through the online lessons, just as you would in a traditional class.
4. **Use Your Resources:** Make full use of the class resource page, including the extra practice and mini-lessons.
5. **Try Your Best:** A positive attitude and a willingness to work through challenging problems are the keys to success.

Support and Accommodations

This class welcomes all learners, and my goal is to help everyone succeed.

- If you have documented accommodations or specific learning needs, please share them with me as soon as possible so we can work together to ensure your success.
- Additional tutoring or one-on-one help is always available. Please do not hesitate to talk with me if you feel you need extra support.

Class Resources

Several resources are available to support your learning throughout this course:

- **Main Learning Platform:** All primary lessons, assignments, and quizzes will be delivered through our main online program.
    - **URL:**
- **Class Resource Page:** This is your central hub for support materials. You can find links to extra practice, the syllabus, and my mini-lessons/examples here.
    - **URL:** ahatmath.com
- **Synergy**: You can view your grades, attendance, and assignments in real time,

communicate with your teachers, and access course materials.
    - **URL:**
- **Desmos Calculator:** A free online graphing calculator that is a great tool for visualizing problems and checking your work.