Introduction

“Math is hard.” That’s what it said on my husband’s t-shirt. I wish I could add the words, “It’s a myth. Don’t believe him.” However, I do believe that a solid foundation is necessary to excel in math. Building up a solid foundation is hard work, but it does help you to advance in math without much frustration. That being said, we’ll spend three and a half weeks reviewing pre-algebra before we begin Algebra I.

Before we begin, I’d like to make some remarks to help you to understand how this course works.

1. Textbook refers to Beginning and Intermediate Algebra by Tyler Wallace which you can download from SchoolhouseTeachers.com.
2. The answers for the practice questions in the textbook can be found at the end of the textbook.
3. I’d encourage you to correct all your mistakes before you proceed. See it as just another way to enhance your learning.
4. Each day’s lesson will take approximately one hour or less.
5. This course will mainly follow the flow of Beginning and Intermediate Algebra by Tyler Wallace. However, I find the other two textbooks Siyavula Grade 10 Mathematics and Siyavula Grade 11 Mathematics have some gems, too. So, from time to time, you will see me incorporate some of the reading and exercises from these two textbooks as well. Both of these textbooks can be downloaded from SchoolhouseTeachers.com as well.
6. Occasionally, I add in some notes and extra exercises which I think might be beneficial to you but are not covered in the textbook.
7. After each chapter, you’ll be asked to solve the example questions in Beginning Algebra Lab Notebook by the same author. You don’t have to write in the notes. However, if you find that writing in the notes would be helpful, please do so. My purpose is to use these questions as review exercises for each chapter. I have worked out the solutions for these questions and grouped them by week in the Solutions for Beginning Algebra Lab Notebook.

Let’s begin!
Week 1: Pre-algebra Review

Monday

1. Read textbook pp. 7-8: Chapter 0.1 (Pre-algebra - Integers).
2. Notes:

   I. \[7 - 9 = 7 + (-9)\] \[\text{but}\] \[7 - 9 \neq 7(-9)\]
   You’ll learn more about \(7(-9)\) tomorrow.

   II. When you subtract negative numbers like what you see in Example 9 and Example 10 in the textbook, you can remind yourself that when negative meets with negative, it will become positive. But when negative meets with positive, it stays negative.

   For example: \[11 - (-8) = 11 + 8\]
   \[\text{Negative meets with negative, the sign becomes positive.}\]

   \[11 + (-8) = 11 - 8\]
   \[\text{Negative meets with positive, the sign stays negative.}\]

3. Do 0.1 Practice - Integers: questions 1 to 15 on p. 10 in the textbook.

Tuesday

Do 0.1 Practice-Integers: questions 16-30 on p. 10 in the textbook.
**Wednesday**

1. Read textbook p. 9: Chapter 0.1 (Pre-algebra - Integers).

2. Do 0.1 Practice - Integers: questions 31-45 on pp. 10-11 in the textbook.

**Thursday**

Do 0.1 Practice - Integers: questions 46-60 on p.11 in the textbook.

**Friday**

1. Read textbook pp. 12-13: Chapter 0.2 (Pre-algebra - Fractions). Stop after the explanation of Example 15 which ends with “... until it cannot be reduced any further.”

2. Do 0.2 Practice – Fractions: questions 1-20 on p. 16 in the textbook. Remember: All the rules you have learned about integers apply to the fractions as well.
Week 2: Pre-algebra Review

Monday

1. Before you read, recap:

   The dot between two numbers or two fractions, e.g., 10 • 13 or \( \frac{1}{2} \cdot \frac{3}{4} \) means **multiply**.

2. Read textbook (continue from where you stopped last week) p. 13: Chapter 0.2 (Pre-algebra - Fractions). Stop after Example 17.

3. Do 0.2 Practice - Fractions: questions 21-36 on p. 16 in the textbook.

Tuesday

1. Read textbook (continue from where you stopped yesterday) pp. 13-14: Chapter 0.2 (Pre-algebra - Fractions). Stop after Example 18.

2. Do 0.2 Practice - Fractions: questions 37-52 on p. 17 in the textbook.

Wednesday

1. Before you read, recap:

   **LCD** is an acronym for **Least Common Denominator**.

2. Read textbook (continue from where you stopped yesterday) pp. 14-15: Chapter 0.2 (Pre-algebra - Fractions).

3. Do 0.2 Practice - Fractions: questions 53-66 on p. 17 in the textbook.
Thursday

Do 0.2 Practice - Fractions: questions 67 to 82 on p. 17 in the textbook.

Friday

1. Today I won’t assign any practice questions because I’d like you to spend some time reading and developing a good grasp of the order of operations. I can’t emphasize enough how important it is that you understand how it works. Please make sure you memorize the acronym, **PEMDAS**, and what it means.

   P
   E
   M
   D
   A
   S

2. Read textbook pp. 18-20: Chapter 0.3(Pre-Algebra - Order of Operations).