7th Grade Assignment – Week #1

Individual Work:

Important Notes for Parents/Teachers!

- This assignment will take a good deal of your oversight. As I mentioned in the lecture, 7th grade is an important year in terms of developing the students' thinking. If your 7th grader is not yet confident in their math skills (learned in earlier grades), then putting in some work now will pay off.
- *Arithmetic Review Sheets*. The file titled "Arithmetic Review Sheets" (found on the assignment page) will give your 7th grader a good amount of practice for these skills. Answers are at the end.
- You should begin working through these *Arithmetic Review Sheets* this week. I will not prescribe which problems everyone should do; this will vary greatly depending upon the student. There are 14 sheets. They start out easy, and then get more difficult. You should skip the sheets that are too easy for you. Begin by glancing through the sheets and determining which sheet you should start with. The first two weeks of "Individual Work" assignments are dedicated to working through these review sheets. She how much progress you can make in these two weeks.
- You will need to judge which problems are helpful to practice - mostly likely it is not best to do all of them. Again, the purpose is to improve. Keep in mind that fractions may be the most important. Also, if long division is just too frustrating, then skip the harder ones – after all, nobody needs to do long division in high school! Also, keep in mind, that soon we'll begin the 7th grade workbook, and the first unit (titled "Arithmetic") also focuses on skills review of topics covered in my 6th Grade Workbook.

Group Assignment: For either Tuesday or Thursday

- Your first group assignment is simply to figure out the perfect, unbeatable strategy for NIM.
- Remember the rules of the game:
  (1) Each turn you may remove 1, 2, or 3 stones, and
  (2) The person who removes the last gem wins.
- Once your group determines this strategy, then you can challenge me, the NIM machine! When you challenge me, I will decide randomly how many gems to start with, and then I will give you the advantage by asking you: "Do you want to go first, or should I go first?" If you don't make a mistake, then you will beat me. As soon as you make a mistake, I will simply announce, "You lose!" That's how it works!
  (**Note**: your tutor, or anther adult who knows the strategy can also play the role of the NIM machine.)

- If you finish NIM and would like another puzzle:

  Coin Puzzle. Jeff has 50 coins worth $6.10 in his pocket. If he has only quarters and nickels, how many of each type of coin does he have?