Math4010 Problem Set 3

Due date:_____

Please attach the appropriate cover sheet to your assignment when you turn it in. Remember that it must be stapled and also that you cannot turn this in late! **To get full credit, you must have neat work, show all work, and <u>circle or box all answers</u>!!**

(1) (6 points) Create a base 6 multiplication table and base 6 number line.
  (a) (8 points) Use blocks to model and solve these problems.
    $4_6 x 25_6$ (repeated addition)
    $231_6 \div 3_6$ (partitive and measurement)

  (b) (8 points) Use a number line to model and solve these problems.
    $5_6 x 2_6$
    $43_6 \div 2_6$ (repeated subtraction)

  (c) (8 points) Use a chip abacus to model and solve these problems.
    $3_6 x 135_6$
    $224_6 \div 4_6$

(2) (10 points each) For each of these problems, use three different models to find the answer. (You can look through the exercises in Chapter 4 to give you more ideas, if necessary.) Demonstrate your work clearly and indicate which algorithm you're using. Put each problem on a separate sheet of paper.

  (a) $\begin{array}{r} 346 \\ +97 \end{array}$

  (b) $\begin{array}{r} 261 \\ x\ 43 \end{array}$

  (c) $7\overline{)689}$

(3) (10 points) Find GCF(420, 234) using Euclid's algorithm and LCM(420, 234) using the "Layer Cake" algorithm.

(4) (10 points) Find the GCF(924, 840) and LCM(924, 840) using a Venn Diagram.

(5) (10 points) Find the GCF(425, 510) using the area model. Then, find the LCM using the fact that LCM times GCF = product of the two numbers.

(6) From the book: (10 points each)
       4.1 B #42, 43
       4.2 B #35, 43, 47
       4.3 B #18, 20
       Problems for Writing & Discussion (page 200) #1, 2
       5.1 B #30, 32, 33, 40
       5.2 B #23, 24

(7) (10 points) Reflection Question: **(Must be Typed)** As you look back on the class work with whole numbers and arithmetic operations, reflect on what you have learned. Briefly describe one important mathematical morsel you have learned about working in a number system that has been a new idea for you. For instance, you can focus on one or more of these questions:
       ➢ Did you learn more about what an operation means?
       ➢ Do you better understand how an algorithm works? What is clearer for you?
       ➢ What connections between operations do you better understand now and why?
       ➢ What do you understand about place value that you didn't quite get before this?

(8) (10 points) Practicum Observation Report: **Type** a one or two page report describing your insights from your practicum observations.