MATHEMATICS FOR ELEMENTARY EDUCATION I (MATH 151)
SPRING 2015
GROUP WORK

Part I

We have extensively discussed the four basic operations, addition, subtraction, multiplication, and division. As a group you are to produce a document that summarizes are discussions on these operations. This summary should include, but need not be limited too:

Definitions: For each operation you should carefully define the operation. If appropriate, you should give multiple definitions for the operations and explain why they are appropriate.

Standard Algorithms: For each operation you should include a careful description of the standard algorithm for computing the result of that operation. In addition, you should explain why the standard algorithm yields the correct answer.

Important Properties: For each of the basic operations you should include a discussion of important properties of the operation, e.g. commutativity, associativity, etc. Each property should be justified in terms of the definition of the operation.

Part II

It is important to understand how these basic relations relate to problems in the real world. To further your understanding of these connections create a series of story problems whose solutions can be found by a single application of one of the basic operations. With each story problem include a brief (one sentence or two) description of which operation to use to solve the problem and why. These story problems should be as representative as possible, for example, addition can be used to solve story problems where two groups of objects are combined or it can be used to solve problems where a known number of objects are removed from an collection of unknown size.

Part III

Create a series of 10 questions designed to test for a deep understanding of the material covered so far in class. As discussed in class such questions will often time use the words "explain" or "show" rather than "calculate." Some of these questions may be chosen to appear on the exams.

A *pdf* without any group members name present should be emailed to me no later than midnight February 26^{th}. These projects will be placed on the course website to serve a resource for the class to study for exams. Please be sure to document in your email the names of all members of your group.