

**CS2984: Introduction to Problem Solving, Fall 2007**  
**Homework Assignment 6**  
**Due at 11:00pm on Tuesday, October 2**  
**45 Points**

1. Solve the following cryptarithmic problem. The standard rules apply (no leading 0, a given letter is replaced by a digit consistently, etc.).

$$\begin{array}{r}
 \text{A B C} \\
 \text{A C D} \\
 + \text{E C D} \\
 \hline
 \text{E C C A}
 \end{array}$$

2. The following is a type of puzzle sometimes called a “Futoshiki”. Each box is filled with a digit from 1 to 5, such that every row and column contains one of each such digit. The puzzle starts with a few boxes filled in for you. There are also less than (<) and greater than (>) constraints noted on some of the boxes. Fill in the boxes in a way that meets all of these requirements.

□	2	>	□	□	□	
□	□	□	<	□	>	□
□	□	□	□	□	□	
□	<	□	□	□	□	
5	>	□	>	3	□	
				□	<	□

3. The following is a type of puzzle sometimes called a “Kakuro” and sometimes called “Cross Sums”. Fill in the empty boxes with digits (1-9). The numbers indicate what the adjacent horizontal or vertical boxes must sum to. You may never repeat a digit in any given sum.

	23	30			27	12	16
16				24			
17			29				
35			15			12	
	7			8			7
	11	16					
21					5		
6					3		