Math 456/556: Networks and Combinatorics
HW #2, due Friday, 1/15

The following problems from the textbook are **not** to be turned in:

Chapter 2: 21, 28, 38, 41, 43, 56, 57;
Chapter 3: 9, 14, 18, 20.

The following problems are to be turned in:

2.1 Compute the number of permutations of the letters BOOGIEWOOGIE.

2.2 Show that any 2-coloring of the edges of a K_8 contains at least 8 monochromatic triangles. Give an example of a specific 2-coloring with exactly 8 monochromatic triangles. (To make your picture clear, just draw the red edges. Any edge that you don't draw will be assumed to be blue.)

2.3 Suppose that I gave an quiz out of 20 points to a class of 10 students. Show that I can choose two disjoint groups of students such that each group has the same total score.

2.4 How many non-negative integral solutions of $x_1 + x_2 + x_3 \leq 17$ are there with $x_1 \geq 2$?