Math 456/556: Networks and Combinatorics
HW #3, due Monday, 1/25

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

Chapter 5: 6, 9, 11, 15, 16, 18, 19, 48, 50.

The following problems are to be turned in:

3.1 Evaluate the following two expressions:

a) $\displaystyle\sum_{k=0}^{100}(-2)^k\binom{100}{k}$

b) $\displaystyle\sum_{k=0}^{100}\frac{(-2)^{k+1}}{k+1}\binom{100}{k}$

3.2 Let X be the poset consisting of the elements $\{1,\ldots,100\}$, ordered by divisibility. Show that X does not contain an antichain of size 51.

3.3 What is the coefficient of x^3y^{10} in $(y-2x)^{13}$?