

Math 181 Homework 9

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Due: April 18, 2008

- *1. Consider the weighted voting system [11: 7, 4, 2, 2]
 - (a) Determine all of the winning coalitions.
 - (b) Determine all of the blocking coalitions.
 - (c) Compute the Banzhaf power index of the voting system.
- *2. Compute the Banzhaf power index of [13: 9, 4, 3, 1]
- *3. Use Combinations to answer the questions below:
 - (a) Suppose there are 15 swimmers on the local swimming team. How many ways could you choose a group of 7 of these swimmers to participate in a poll?
 - (b) Suppose a lottery has 50 different numbered balls. How many ways could you select 6 numbers (in any order) for your lottery ticket?
- *4. Use Combinations to compute the Banzhaf power index of the weighted voting system [7: 3, 2, 2, 2, 2].
- *5. Calculate the following. Your answer should be a number.
 - (a) C_3^7
 - (b) C_{100}^{50}
 - (c) C_2^{15}
 - (d) C_{13}^{15}
- *6. Chapter 13 (pg 497): 1, 2.