

Math 101  
Spring 2009

## Homework #1

This is due on Friday, January 23, at the beginning of class. It is worth 25 points. Late papers lose 4 points if turned in by Monday, plus 3 points per day late after that. You may work by yourself or with one partner. Otherwise, do not discuss this assignment with anyone other than me.

The first step in this assignment is to invent your own voting method – name it, if you wish. It should be different than any of the methods in the book, but you may modify any of the methods we have discussed. Write a report (2-4 pages, word-processed) discussing your method. At some point in the report, respond to *all* of the following prompts, but your report should read well. Do not just type answers “4.Easy. Very. Maybe. No.” but use complete sentences and organize your thoughts. You should answer all of the questions first, and then decide how to organize the report.

1. Describe your method in words, as clearly as possible.
2. Show how to use your method to find the winner in the election on page 5.
3. For at least three of the fairness criteria, determine whether your method can violate the criterion. Explain why or why not.
4. Discuss some of the advantages and disadvantages of your voting method. In particular, how easy would it be for the voting public to understand how the winner is determined? How logical is the method? Is it highly susceptible to insincere voting? Would it tend to encourage or discourage extreme candidates? Would only bland, middle-of-the-road candidates be elected? Any other ideas?