Math 107   Name _____ *key* _____
Dusty Wilson   *Circle Class*   9:00   or   11:00

Reading Assignment Ch. 1
DUE tomorrow

It is important that each of you learn how to retrieve information from the text. Read Chapter One and the appendices and then answer the following questions. If there is a fill-in, write that word/phrase in the space given. Mark down items you have questions on so you can "check off" those that get answered during tomorrow's lecture.

1. Who is the mathematician who discovered there is NO consistently fair democratic method for choosing the winner of an election involving 3 or more candidates?

Arrow.

2. A preference ballot asks you to __*Rank/order*__ the candidates running in an election.

3. What is the table we get when we organize preference ballots by grouping alike ballots called?

preference ballots schedule

Look at this schedule to answer the questions.

Voters	12	16	5	3
1st	A	B	D	D
2nd	B	D	A	C
3rd	D	C	C	B
4th	C	A	B	A

4. How many TOTAL people voted?

36

5. How many **ballots** had this preference: D first choice, C second choice, B third choice, A fourth choice?

3

6. What we typically use to vote (in the U.S.) is called the plurality method. How does a candidate win in a plurality election?

the most 1st place votes.

7. We may think plurality and majority are the same, but they aren't. What is the difference between plurality and majority?

majority requires over 50% of 1st place votes to win.

(OVER)

8. Describe "insincere voting" in your own words.

A ballot is insincere when it does not show one preferences.

9. The Borda Count is the second method explained in the section. This method takes into account all the information provided by the voters' preferences and produces a winner ~~that~~ with the best

_____average_____ _____ranking_____.

10. Plurality with elimination is the third method explained. Our author explains it as survival of the fittest. In each round we eliminate one candidate. The candidate we eliminate has the least what?

1st place votes.

11. The fourth method explained is called the Method of Pairwise Comparisons. Basically it is similar to

a _____round robin_____ tournament.

12. Using the Method of Pairwise Comparisons in an election with 14 people, how many pairwise comparisons will we have to make?

$$\frac{14 (13)}{2} = 91$$

13. (Appendix 2, after chapter 1) What well know venue is chosen using a variation of the Plurality with Elimination Method?

Olympic Games

14. (Appendix 2, after chapter 1) What method is often used to elect members to a corporate board of directors?

Approval ballot

15. (Appendix 2, after chapter 1) Explain how you would mark the following ballot if it were an Approval Ballot?

Susan A   _____

Jeff B   _____

Thomas C   _____

I would mark "yes" next to each candidate I could tolerate.