Math of Elections #7

Pairwise Comparison Method (continued)

Exercise

There is an election with 27 voters and 3 candidates: Alejandro (A), Baobao (B), and Corrina (C).

Number of Voters	**7**	**6**	**5**	**3**	**3**	**3**
1st	A	B	C	A	B	C
2nd	C	C	B	B	A	A
3rd	B	A	A	C	C	B

1. Who would win using (basic) plurality?

2. Who would win using a Borda count?

3. Who would win using plurality with elimination?

4. Who would win using pairwise comparison?

5. Which of the four methods do think does a better job of choosing the winner of this election? Why?

Exercise

There is an election with 9 voters and 3 candidates: Amber (A), Bernard (B), and Crystal (C). Ties are common with the pairwise comparison method. Complete the ballots below so that each candidate wins exactly one of the one-on-one comparisons. This means they all tie for 1st place using the pairwise comparison method, so how would you decide a winner?

Ranking	**Ballot**	**Ballot**	**Ballot**	**Ballot**	**Ballot**	**Ballot**	**Ballot**	**Ballot**	**Ballot**
1st	A	A	A	A	B	B	C	C	C
2nd									
3rd									

Exercise

1. In a couple of sentences, explain why the pairwise comparison method satisfies the *Condorcet criterion*. (See Handout 02.)

2. In a couple of sentences, explain why the pairwise comparison method satisfies the *majority criterion*. (See Handout 03.)