MA 1115 Quiz 03 Worksheet

Friday, January 27, 2012.

For Problems 1 through 5, use this preference schedule.

<table>
<thead>
<tr>
<th>1st choice</th>
<th>3</th>
<th>4</th>
<th>10</th>
<th>20</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd choice</td>
<td>B</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>3rd choice</td>
<td>C</td>
<td>C</td>
<td>B</td>
<td>C</td>
<td>B</td>
</tr>
</tbody>
</table>

For Problems 1-11, use the Plurality Method to rank the candidates.

1. How many votes did Candidate A get? (Just enter the number.)
2. How many votes did Candidate B get?
3. How many votes did Candidate C get?
4. Who won? (Just enter the letter.)
5. Who came in second?
6. Who came in third?
7. Suppose the three voters in the first column change their votes to B, then A, then C. Who wins now?
8. What is it called when voters can affect an election like this?
9. With the original preference schedule, how many voters prefer B over C?
10. How many prefer C over B?
11. The fact that C beats B means that this election is an example that shows that the Plurality Method violates the ___________ Criterion.

For Problems 12-19, use this preference schedule.

<table>
<thead>
<tr>
<th>1st choice</th>
<th>20</th>
<th>15</th>
<th>10</th>
<th>5</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd choice</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>B</td>
<td>D</td>
</tr>
<tr>
<td>3rd choice</td>
<td>C</td>
<td>D</td>
<td>C</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>4th choice</td>
<td>D</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>B</td>
</tr>
</tbody>
</table>

For Problems 12-16, use the Borda Count Method to rank the candidates.

12. How many points does Candidate A get?
13. How many points does Candidate B get?
14. How many points does Candidate C get?
15. How many points does Candidate D get?
16. Who wins?
17. Who has a plurality of first place votes? (Just enter the letter, or no one).
18. Who has a majority of first place votes?
19. Does this example show that the Borda Count Method violates the Majority Criterion?

20. There were names for three problems with voting methods discussed in Lecture 03. List them in order. Your answer should take the form I-------- V-----, M------- C--------, and C-------- C--------.