

Name:

Date: Monday, October 3, 2016

MATH 181 F1 Worksheet: Manipulating Voting Systems

Question 1: Consider the following preference lists.

	Voter 1	Voter 2	Voter 3	Voter 4	Voter 5	Voter 6
1st	<i>A</i>	<i>B</i>	<i>A</i>	<i>E</i>	<i>A</i>	<i>E</i>
2nd	<i>B</i>	<i>C</i>	<i>B</i>	<i>D</i>	<i>B</i>	<i>D</i>
3rd	<i>C</i>	<i>A</i>	<i>C</i>	<i>C</i>	<i>C</i>	<i>C</i>
4th	<i>D</i>	<i>D</i>	<i>D</i>	<i>B</i>	<i>D</i>	<i>B</i>
5th	<i>E</i>	<i>E</i>	<i>E</i>	<i>A</i>	<i>E</i>	<i>A</i>

i. Calculate the winner using the Borda count.

ii. What is the outcome using the Borda count if only Voters 3-6 voted?

Question 2: As Voter 1, can you manipulate the election so Candidate *A* wins?

	Voter 1	Voter 2	Voter 3	Voter 4	Voter 5	Voter 6
1st		<i>B</i>	<i>A</i>	<i>E</i>	<i>A</i>	<i>E</i>
2nd		<i>C</i>	<i>B</i>	<i>D</i>	<i>B</i>	<i>D</i>
3rd		<i>A</i>	<i>C</i>	<i>C</i>	<i>C</i>	<i>C</i>
4th		<i>D</i>	<i>D</i>	<i>B</i>	<i>D</i>	<i>B</i>
5th		<i>E</i>	<i>E</i>	<i>A</i>	<i>E</i>	<i>A</i>