

Name: _____ score: _____ / 10

There are 10 points possible on this quiz. No aids (book, notes, etc.) are permitted. You may use a calculator. **Show all work and supporting calculations for full credit. Explain how you get your answers.**

1. (5 points) The student government is holding elections for president. There are four candidates (A,B,C and D for convenience). The preference schedule is below.

number of voters	7	6	5	11	13
1st choice	C	B	C	D	A
2nd choice	D	A	A	B	C
3rd choice	B	D	B	C	B
4th choice	A	C	D	A	D

- (a) How many voters participated? _____
- (b) Does any candidate win a **majority**? **Justify** your answer.
- (c) Find the winner under the Instant Runoff Voting / Ranked Choice Voting method. For each round, state the vote tally and identify the candidate eliminated.

2. (5 points) A large family is voting on where to have the next family reunion. The preference schedule is below.

number of voters	30	10	10	5
1st choice	C	B	D	D
2nd choice	D	D	A	B
3rd choice	B	A	B	A
4th choice	A	C	C	C

(a) How many voters participated? _____

(b) Find the winner under the Borda Count Method. (Show your calculations to earn full credit.)

(c) Pick a fairness criterion that is violated in this case and provide a short explanation with supporting computation.

Condorcet Criterion

Monotonicity Criterion

Majority Criterion

Independence of Irrelevant Alternatives (IIA) Criterion