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	С	B	С	D	Α
2nd choice	D	Α	Α	B	С
3rd choice	B	D	B	С	B
4th choice	A	С	D	A	D

-> # votes = 7+6+5+11+13 = 42

(a) How many voters participated? \_\_\_

(b) Does any candidate win a **majority**? **Justify** your answer.

No. A majority would require 21+1=22 votes. The Lally is: A: 13 No one got 22.

B: 6
C: 7+5=12

(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.

Round 0: A: 13 No majority. Bis eliminated

A: 6+13=19 No majority. D is c:7+5=12 eliminated

Round 2: A; 6+13=19

C wins

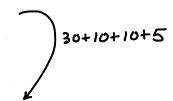
 $C: 7+5+11 = \frac{23}{2}$ 

2. (5 points) Below is the same preference schedule.

D6°	ints
ľ	4
	3
	2

1

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



(a) How many voters participated? \_

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

B: 
$$30(2) + 10(4) + 10(2) + 5(3) = 135$$

D wins

(c) Which fairness criteria is violated in this case?