MATH F113X: Quiz 2

Name: _____ score: _____ / 10

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

1. *(3 pts)* The table shows the preference schedule for an election with three candidates (A, B, and C).

Number of Voters	**18**	**12**	**10**
1st	A	C	C
2nd	B	B	A
3rd	C	A	B

   a. Find the winner using the Plurality method.

   b. Find the winner using the Borda count method.

2. *(4 pts)* The table shows the preference schedule for an election with three candidates (A, B, and C).

Number of Voters	**13**	**24**	**35**
1st	B	C	A
2nd	C	B	B
3rd	A	A	C

   a. Does a candidate have a majority of first place votes?

   b. Find the Instant Run-off Voting (IRV) method winner.

   c. The table on the right calculates the votes and winners for every head-to-head comparison.

match-up	A (35) vs B (37)	A (35) vs C (37)	B (48) v. C (24)
winner	B wins	C wins	B wins

   Does the IRV method violate the Condorcet criterion in this election? Explain.

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Weighted Voting

3. *(3 pts)* Consider the weighted voting system [24: 11, 9, 5, 2].

   a. What is the meaning of the number 24?

   b. What is the meaning of the number 11?

   c. Do Players 1, 2 and 3, $\{P_1, P_2, P_3\}$, form a winning coalition?