Math 111 Constructing Fairness Examples

Names:

Sometimes voting methods give results that don't always seem "fair." For each scenario below, suppose an election has four candidates: Christopher, David, Matt and Peter. **Construct an example** preference schedule **and choose one of our four voting methods** so that the statement comes true. Your preference schedule should have between 20 and 30 voters, and you should **show steps to justify that the statement is true**. There are many possible correct answers.

1. David gets the most first place votes, but David doesn't win the election.

   Preference Schedule:

   Which voting method did you find that chooses a winner other than David?

2. David gets more than half the first place votes, but David does not win the election.

3. Peter gets the most last place votes, and Peter wins the election.

4. David wins every head-to-head matchup, but David does not win the election. (i.e., David is a Condorcet candidate.)

5. Matt wins. But if Christopher drops out of the race, and people rank the remaining candidates in the same order they did before, and use the same voting method they did originally, Matt doesn't win anymore.

When you finish these, make sure that every example has four things: (1) a **preference schedule**, (2) the **name of the voting method used**, (3) **clear steps to show the result** of the election, and (4) clearly shows the required **conditions are met**.