

Who Should Win This Election? (2021)

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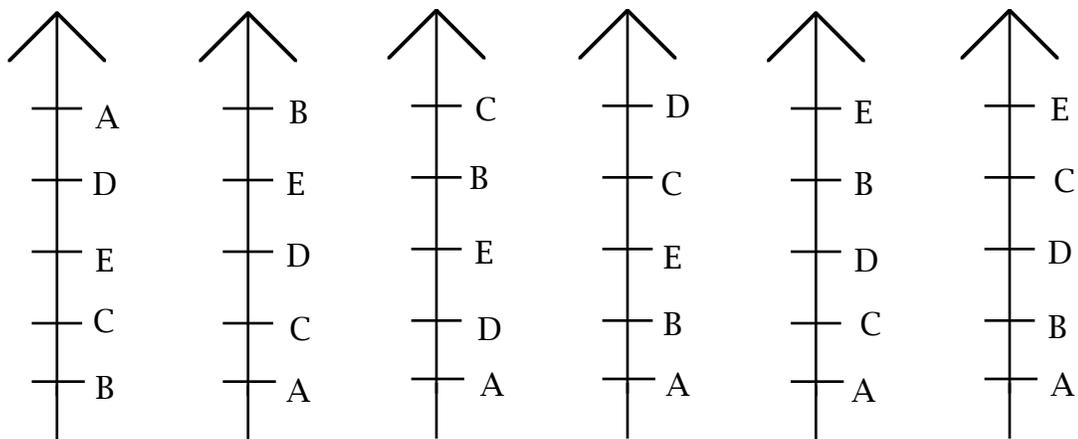
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Fifty-five voters have produced the following collection of ballots on 5 choices:



Votes: 18

12

10

9

4

2

Questions:

1. Who should be declared the winner? (Candidates higher up are preferred.)
2. What method did you use in deciding who the winner should be?

3. If a ranking is to be made, rather than selecting a single winner, how would you rank the 5 choices from "highest" to "lowest?"
4. Are you still happy with the plurality method of conducting elections after studying this example?
5. If different reasonable methods of conducting elections lead to different winners what lesson does this have for democracies?
6. If all of the numbers of votes for the 6 kinds of ballots are doubled, does this affect the winner for any of the methods you looked at?
7. If all of the numbers of votes for the 6 kinds of ballots are increased by one, does this affect the winner for any of the methods you looked at?
8. If all of the numbers of votes for the 6 kinds of ballots are decreased by one, does this affect the winner for any of the methods you looked at?
9. In the election above relatively few types of ballots that rank 5 candidates were selected by the voters. What is the maximum number of different types of ballots that can be created when there are 5 candidates and ties are not permitted?
10. Suggest a variety of different contexts where the ballots shown above might have been produced. For example, A, B, C, D, E might represent the choices for a single entree that might be served at the 10th graduation reunion planned for the 55 graduates who can attend from a small high school. Alternatively, they might be the 5 choices for a Calculus text used in an AP Calculus course by the 55 teachers in several counties of state Z who will be teaching the AP Calculus course, and there is to be one book chosen for all the classes in these counties.