The Plurality Method

Robb T. Koether

Hampden-Sydney College

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1. Definitions

2. The Math Club Election

3. The Plurality Method

4. Assignment
1 Definitions

2 The Math Club Election

3 The Plurality Method

4 Assignment
Definitions

**Definition (The Candidates)**

The *candidates* are the people running for office in an election. If we are choosing something other than people, we call them *alternatives*.

**Definition (The Voters)**

The *voters* are the people who have a say in the outcome of the election. All voters have equal say.
Definition (Single-choice Ballot)
In a single-choice ballot, each voter selects one candidate.

Definition (Preference Ballot)
In a preference ballot, each voter ranks all the candidates from most preferred to least preferred.

Definition (Truncated Preference Ballot)
In a truncated preference ballot, each voter ranks some, but not all, the candidates by preference.
Outline

1. Definitions

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Example

- There are four candidates for Math Club president: A, B, C, and D.
- There are 37 voting members. Their preferences are shown on the next slide.
## Voters’ Preferences

### Example

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Who won?

Example

- Who should be elected president?
- Who is more popular, A or B?
- Who is more popular, A or C?
- Who is more popular, A or D?
- Who is least popular?
The Plurality Method

Definition (The Plurality Method)

By the plurality method, the candidate with the most first-place votes wins.

Example

In the Math Club example, A wins by the plurality method.
The 2010 Republican primary in Virginia’s 5th district, there were 7 candidates:
- Robert Hurt
- Jim McKelvey
- Mike McPadden
- Kenneth Boyd
- Feda Morton
- Laurence Verga
- Ron Ferrin

Robert Hurt was the “establishment” candidate.
The other 6 were Tea Party candidates.
Example

- Robert Hurt won 48.42% of the vote.
- Was he the most popular candidate? Could he have been the least popular candidate?

(See http://www.sbe.virginia.gov/)
The 2012 Republican primary for senator, there were 4 candidates:

- George Allen
- Jaime Radtke
- Bob Marshall
- E. W. Jackson

George Allen was the “establishment” candidate.

The other 3 were more conservative.

George Allen won 65.45% of the vote.

Was he the most popular candidate? Could he have been the least popular candidate?

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- Page 28, Exercises 1, 3, 7, 9.