

TOPIC: PREFERENCE BALLOTS AND THE PLURALITY METHOD

Preference Ballots

◆ When voting, a **preference ballot** has voters _____ all candidates. The results are organized in a table.

► To make a **preference table**, group & count identical ballots. Record info for each group in a separate column.

EXAMPLE

In an upcoming election, the candidates are Callie, Nick, Colleen, and Jenn. Organize the information collected in the 27 preference ballots into a preference table. Did any candidate get the majority?

B1	B2	B4	B5	B8 1. Colleen 2. Jenn 3. Nick 4. Callie
B3	B6	B7	B9	
B11	B13	B10	B14	
B12	B15	B16	B17 1. Nick 2. Jenn 3. Colleen 4. Callie	
B20	B18	B19		
B22	B25	B21 1. Jenn 2. Colleen 3. Nick 4. Callie		
B23	B26 1. Colleen 2. Nick 3. Jenn 4. Callie			
B24				
B27 1. Callie 2. Nick 3. Colleen 4. Jenn				

Number of Ballots					
1 st					
2 nd					
3 rd					
4 th					

◆ To win the **majority**, a candidate must have more than _____ of rank 1 votes.

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EXAMPLE

Below are 9 preference ballots collected for a student council election with candidates J, K, and L. Organize the results in a preference table.

B1	B2	B3	B4	B5	B6	B7	B8	B9
J, K, L	L, K, J	K, J, L	J, L, K	L, K, J	J, L, K	L, K, J	K, J, L	J, L, K

EXAMPLE

A school committee is deciding how to allocate funds for an after-school program. The choices are to expand the sports (S), arts (A), or technology (T) programs. Of the 800 votes, 25% preferred S to A to T, 40% preferred A to T to S, and the remainder of people indicated they preferred T to S to A. Create a preference table to display the results of this election.

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EXAMPLE

Below is a preference table with the results of an election with candidates Armin, Cora, Evan, and George. Use the table to answer the questions below.

Number of Voters	9	6	4	3
1st	A	C	C	G
2nd	E	A	G	C
3rd	C	G	A	E
4th	G	E	E	A

- | | | | |
|--|---|---|--|
| (A) How many people voted in the election? | (B) How many votes are required for a majority? | (C) Who got the most first place votes? Is it a majority? | (D) Who got the most last place votes? |
| | | | |

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Plurality



BC

PWE

PC

Plurality Method

◆ When using the **plurality method**, the candidate with the most _____ votes wins the election.

► Preference ballots & tables aren't required when using the plurality method since *only* 1st rank votes are needed.

EXAMPLE

In an upcoming election with 27 voters, the candidates are Callie, Nick, Colleen, and Jenn. Using the preference table below, determine the winner of the election using the plurality method.

New

Plurality Method

Number of Ballots	9	7	6	4	1
1 st	Callie	Colleen	Jenn	Nick	Colleen
2 nd	Nick	Nick	Colleen	Jenn	Jenn
3 rd	Colleen	Jenn	Nick	Colleen	Nick
4 th	Jenn	Callie	Callie	Callie	Callie

← 1st Rank

Callie: Nick: Jenn: Colleen:

Winner:

◆ Recall: When there are three or more candidates, the winner may not get the *majority* of first rank votes.

PRACTICE

Determine the winner of the election using the plurality method and determine whether they received the majority of the votes.

(A) In the election for debate team president, Nancy got 26 votes, Frank got 12 votes, and George got 7 votes.

(B) In a vote to decide the school mascot, a tiger got 23 votes, a wildcat got 18 votes, a lion got 13 votes, and a panther got 7 votes.

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Plurality



BC

PWE

PC

EXAMPLE

The preference table below shows the results of an election with 4 candidates: Joe, Karl, Lori & Miles. Use the table to answer the questions below.

Number of Voters	18	12	10	7	3
1st	J	K	L	M	K
2nd	L	J	M	J	M
3rd	K	M	J	K	L
4th	M	L	K	L	J

(A) Using the plurality method, who wins the election?

(B) Find the complete ranking of the candidates using the plurality method.