

TOPIC: PAIRWISE COMPARISON METHOD

Pairwise Comparison Method

P	BC	PWE	Pairwise Comparison 
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- ◆ For the **Pairwise Comparison** method, candidates go _____. The candidate with more votes earns 1 point.
 - ▶ After completing *all* pairs, the candidate with the most points wins.

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 pairwise comparison method.

New

Pairwise Comparison 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

of pairs: $C = \frac{n(n-1)}{2}$
 $n = \# \text{ of candidates}$

Callie vs. Nick:

Callie vs. Colleen:

Callie vs. Jenn:

Nick vs. Colleen:

Nick vs. Jenn:

Colleen vs. Jenn:

Winner:



- ◆ If there is ever a tie between candidates in a pair, they each earn _____.

TOPIC: PAIRWISE COMPARISON METHOD

P

BC

PWE

Pairwise Comparison



PRACTICE

Determine the number of pairs of candidates in each of the following elections.

(A) An election with 7 candidates and 200 voters.

(B) An election with 10 candidates and 50 voters.

Recall

$$C = \frac{n(n - 1)}{2}$$

(# of pairs)

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 pairwise comparison method, who would win the election?

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