

4.1 PROJECT

PROPORTIONS, PERCENTAGES, AND ELECTIONS

Our political system is based on a voting method called the plurality method. In the plurality method, voters are presented with a list of candidates and each voter selects their first-choice candidate. The choice with the greatest number of first place votes is declared the winner.

A small town decided to ask voters to do something slightly different during an election to fill a town council seat: they were asked to rank the four candidates in order of preference, from first to fourth. The following table, called a preference table, summarizes all of the votes that were cast during the election. For example, the first column shows that 540 voters picked Smith as their first choice, Thomas as their second choice, Orlando as their third choice, and Patel as their last choice.

Preference Table for the Town Council Election

	540	250	160	140
1st choice	Smith	Thomas	Patel	Orlando
2nd choice	Thomas	Patel	Thomas	Thomas
3rd choice	Orlando	Orlando	Orlando	Patel
4th choice	Patel	Smith	Smith	Smith

1. Determine the total number of voters who participated in this election.
2. How many voters chose Smith as their first choice? How many chose Smith as their last choice?
3. What proportion of voters chose Smith as their first choice? What proportion of voters chose Smith as their last choice? Write each proportion as a fraction of the total number of voters, reduced to lowest terms.
4. What percentage of voters chose Smith as their first choice? What percentage of voters chose Smith as their last choice? Round your answer to the nearest hundredth, if necessary.
5. According to the plurality method, which candidate should be declared the winner?
6. Considering the entire preference table, is there anything that strikes you as odd about the chosen winner?
7. Is there a candidate that would be less polarizing?