

First Choice Finish

Use plurality and majority to analyze elections.

HIGH SCHOOL • MA.912.LT.3.1

MA.912.LT.3.1 "Define and explain the basic concepts of Election Theory and voting."

NAME _____

DATE _____

COUNT FIRST CHOICES

An election uses voters' ballots to choose among candidates. In plurality voting, count only each ballot's first-choice vote. The candidate with the greatest total wins, even if that total is not more than half of all votes. A majority is more than half of the votes.

WORKED EXAMPLE

In a club election, first-choice votes are Atlas: 17, Beacon: 12, and Comet: 8. Who wins by plurality?

1. Look only at the first-choice totals.
2. Compare 17, 12, and 8.
3. 17 is the greatest total.

Answer: Atlas wins by plurality.

PRACTICE 6 problems

- 1** First-choice totals are Kai: 26, Luz: 20, and Ren: 15. Who wins by plurality?

ANSWER _____

- 2** There are 54 voters. Candidate R receives 28 first-choice votes. Does R have a majority?

ANSWER _____

- 3** Use plurality voting. Ballots: 31 | 23 | 19 First choice: Mina | Omar | Priya Who wins?

ANSWER _____

- 4** First-choice totals are Dana: 27, Ezra: 27, and Farah: 20. What is the plurality result?

ANSWER _____

- 5** In an election with 100 votes, Ivy receives 45 first-choice votes, Jae receives 41, and Noor receives 14. Who wins by plurality, and does the winner have a majority?

ANSWER _____

- 6** Use plurality voting. Ballots: 24 | 29 | 21 First choice: Leo | Nia | Omar Second choice: Nia | Omar | Leo Third choice: Omar | Leo | Nia Who wins?

ANSWER _____

APPLY IT Show your work

1

Students are choosing a concert headliner. The election rule says that a candidate must have a majority to win. If no candidate has a majority, the two candidates with the most first-choice votes move to a runoff. The totals are Aria: 46, Ben: 41, Carmen: 29, and Dev: 24. Is there a winner now? If not, who is in the runoff?

WORK SPACE

ANSWER _____

2

A gaming club is choosing its next tournament game by plurality voting. The first-choice totals are Racing: 36, Soccer: 33, Strategy: 26, and Puzzle: 25. Which game is chosen, and does it have a majority?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A student council election has 150 votes. The first-choice totals are A: 44, B: 43, C: 39, and D: 24. The council uses plurality voting, but it holds a runoff between the top two candidates if the plurality winner does not have a majority. State the plurality winner, decide whether a runoff is needed, and explain using the vote totals.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	First-choice totals are Kai: 26, Luz: 20, and Ren: 15. Who wins by plurality?	Kai wins by plurality.
2	There are 54 voters. Candidate R receives 28 first-choice votes. Does R have a majority?	Yes. 28 is more than half of 54.
3	Use plurality voting. Ballots: 31 23 19 First choice: Mina Omar Priya Who wins?	Mina wins by plurality.
4	First-choice totals are Dana: 27, Ezra: 27, and Farah: 20. What is the plurality result?	Dana and Ezra are tied for the plurality lead.
5	In an election with 100 votes, Ivy receives 45 first-choice votes, Jae receives 41, and Noor receives 14. Who wins by plurality, and does the winner have a majority?	Ivy wins by plurality, but Ivy does not have a majority.
6	Use plurality voting. Ballots: 24 29 21 First choice: Leo Nia Omar Second choice: Nia Omar Leo Third choice: Omar Leo Nia Who wins?	Nia wins by plurality.

PART 2 • APPLY IT

- There is no winner now because no candidate has more than 70 votes. Aria and Ben are in the runoff.**
There are 140 total votes, so a majority is more than 70 votes. Aria has the most votes and Ben has the second most votes, so they advance to the runoff.
- Racing is chosen by plurality, and it does not have a majority.** Racing has the greatest first-choice total, 36.
There are 120 votes total, and a majority would require more than 60 votes.

CHALLENGE

A is the plurality winner because 44 is the greatest total. A does not have a majority because a majority of 150 is more than 75. A runoff is needed between A and B, the two candidates with the highest totals.

Accept equivalent wording that identifies the candidate with the greatest first-choice total as the plurality winner. For majority, accept statements showing that the candidate has more than half of all votes, or does not have more than half.