LESSON MAKER PRO

Votes and Rules

See how election rules and turnout affect results.

HIGH SCHOOL · FM.FD.A.22.b

FM.FD.A.22.b "Analyze the impact of legal and cultural features of political systems on the mathematical aspects of elections."

NAME _____ **DATE** _____

COUNT THE VOTES

A plurality winner has more votes than any other candidate. A majority winner has more than half of all valid votes. Some election rules require a runoff between the top two candidates when no one has a majority.

WORKED EXAMPLE

Under plurality, who wins? Under a majority rule, do the top two candidates enter a runoff?

CLUB ELECTION

Candidate	Votes
A	17
B	11
C	6

1. Total votes: 17 + 11 + 6 = 34.
2. A majority needs at least 18 votes.
3. A has the most votes, but 17 is less than 18.

Answer: A wins under plurality. A and B enter a runoff under the majority rule.

PRACTICE 4 problems

1 A gets 20 votes, B gets 14, and C gets 10. What is the least number of votes needed for a majority?

ANSWER _____

2 A gets 25 votes, B gets 16, and C gets 7. Does A have a majority?

ANSWER _____

3 A gets 24 votes, B gets 23, and C gets 13. Who wins under plurality? Which two candidates enter a runoff under a majority rule?

ANSWER _____

4 A has 21 votes and B has 20. Four absent voters would all vote for B. Who wins by plurality if they vote? Who wins if they do not?

ANSWER _____

APPLY IT Show your work

1 A city votes on later buses for students. Of 90 valid ballots, 47 favor the plan and 43 oppose it. City law requires a majority. Does the plan pass, and by how many votes does it exceed the minimum needed?

WORK SPACE

ANSWER _____

2 A youth council chooses a representative for city hall. Jay has 39 votes, Kai has 35, and Luz has 16. A neighborhood voter drive adds 8 votes for Kai and 3 for Luz. Under plurality, who wins before and after the drive?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A town elects a youth liaison. A gets 42 votes, B gets 38, and C gets 20. Plurality would elect A, but town law requires a majority. In the runoff between A and B, their voters keep their choices. Of C's voters, 15 choose B and 5 choose A. Who wins the runoff, by how many votes, and how did the rule change the result?

WORK SPACE AND ANSWER

ANSWER KEY

Votes and Rules

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A gets 20 votes, B gets 14, and C gets 10. What is the least number of votes needed for a majority?	**23 votes**
2	A gets 25 votes, B gets 16, and C gets 7. Does A have a majority?	**Yes. A has 25 of 48 votes.**
3	A gets 24 votes, B gets 23, and C gets 13. Who wins under plurality? Which two candidates enter a runoff under a majority rule?	**A wins under plurality. A and B enter the runoff.**
4	A has 21 votes and B has 20. Four absent voters would all vote for B. Who wins by plurality if they vote? Who wins if they do not?	**B wins if they vote. A wins if they do not.**

PART 2 · APPLY IT

1. **Yes. It exceeds the minimum by 1 vote.** A majority of 90 needs at least 46 votes. The plan gets 47.
2. **Jay wins before the drive. Kai wins after it.** Jay leads with 39 votes at first. After the drive, Kai has 43, Jay has 39, and Luz has 19.

CHALLENGE

B wins the runoff by 6 votes, 53 to 47. The majority rule leads to a runoff that elects B instead of plurality winner A.

Accept equivalent wording. Count a majority as strictly more than half of the valid votes.