LESSON MAKER PRO

Ballot Turnaround

Compare winners when voters rank their choices.

HIGH SCHOOL · FM.FD.A.22.a

FM.FD.A.22.a "Identify impacts of using a preferential ballot voting system and compare it to single candidate voting and other voting systems."

NAME _____ DATE _____

HOW RANKED RUNOFF WORKS

A single-choice ballot counts only each voter's first choice. In ranked runoff, a candidate with more than half the votes wins. If no one has a majority, remove the candidate with the fewest votes and give those ballots to each voter's next remaining choice.

WORKED EXAMPLE

Compare the single-choice and ranked-runoff winners.

BALLOTS

Ranking	Voters
A > B > C	9
B > A > C	6
C > B > A	4

1. First choices: A 9, B 6, C 4. Single-choice winner: A.
2. No one has more than half of 19 votes, so remove C.
3. C's 4 ballots go to B. New totals: A 9, B 10.

Answer: Single-choice: A. Ranked runoff: B.

PRACTICE 4 problems

1 Ballots: 7 rank A > B > C; 5 rank B > A > C; 3 rank C > B > A. Who wins by single choice and by ranked runoff?

ANSWER _____

2 Ballots: 7 rank X > Y > Z; 3 rank Y > Z > X; 2 rank Z > Y > X. Does ranked runoff need to remove a candidate? Who wins?

ANSWER _____

3 Ballots: 10 rank A > B > C; 8 rank B > A > C; 3 rank C > A > B. After C is removed, how many votes does A have? How many more is that than A's first-choice total?

ANSWER _____

4 Ballots: 12 rank A > B > C; 10 rank B > A > C; 7 rank C > B > A. Who wins by ranked runoff, and with how many votes?

ANSWER _____

APPLY IT Show your work

1 Students rank songs for a pep rally. Which song wins by single choice? Which wins by ranked runoff?

SONG BALLOTS

Ranking	Voters
A > B > C	13
B > A > C	10
C > B > A	5

ANSWER _____

2 A club votes on a logo. In ranked runoff, every C-first voter ranks A next. In approval voting, students may select more than one logo. Which logo wins under each system?

LOGO VOTES

Logo	First-choice votes	Approval votes
A	14	16
B	11	17
C	7	15

ANSWER _____

CHALLENGE One step up

These voters rank field trip options. Show the vote totals after each removal. Then compare the single-choice and ranked-runoff winners.

FIELD TRIP BALLOTS

Ranking	Voters
A > B > C > D	13
B > C > A > D	11
C > A > B > D	7
D > C > B > A	5

WORK SPACE AND ANSWER

ANSWER KEY

Ballot Turnaround

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Ballots: 7 rank A > B > C; 5 rank B > A > C; 3 rank C > B > A. Who wins by single choice and by ranked runoff?	**Single-choice: A. Ranked runoff: B.**
2	Ballots: 7 rank X > Y > Z; 3 rank Y > Z > X; 2 rank Z > Y > X. Does ranked runoff need to remove a candidate? Who wins?	**No. X wins with 7 of 12 votes.**
3	Ballots: 10 rank A > B > C; 8 rank B > A > C; 3 rank C > A > B. After C is removed, how many votes does A have? How many more is that than A's first-choice total?	**A has 13 votes, 3 more than its first-choice total.**
4	Ballots: 12 rank A > B > C; 10 rank B > A > C; 7 rank C > B > A. Who wins by ranked runoff, and with how many votes?	**B wins with 17 votes.**

PART 2 · APPLY IT

1. **Single-choice: A. Ranked runoff: B.** A has the most first-choice votes. In ranked runoff, C's 5 ballots move to B, giving B 15 of 28 votes.
2. **Ranked runoff: A. Approval voting: B.** C has the fewest first-choice votes, so its 7 ballots move to A. A wins ranked runoff with 21 of 32 votes, while B has the most approval votes at 17.

CHALLENGE

Single-choice winner: A with 13 votes. Remove D: A 13, B 11, C 12. Remove B: A 13, C 23. Ranked-runoff winner: C.

Accept option names without vote totals unless the question asks for them. A ranked-runoff majority must be more than half the votes.