For Problems 1-8, consider the Preference Schedule below, representing votes on a mascot for a local baseball team. The choices for mascot were: Aardvark, Buffalo, Camel, and Dingo.

| Votes | 5 | 6 | 2 | 3 | 1 |
|-------|---|---|---|---|---|
| 1st | A | B | C | D | B |
| 2nd | B | A | A | C | D |
| 3rd | C | C | B | B | C |
| 4th | D | D | D | A | A |

(1) How many votes were cast?

17

(2) Using Plurality, which mascot wins the election? How many votes did the winner get?

Buffalo – 7 votes

(3) Using the Borda Count Method, how many points did each mascot receive? Who won the election if the Borda Count is used?

A: 48

B: 53          Buffalo

C: 41

D: 28

(4) How many votes are needed for a majority?

9

(5) Using Plurality with Elimination, which mascot gets eliminated first? Who wins the election if Plurality with Elimination is used?

eliminated first Camel

Buffalo wins (after eliminating) Camel & Dingo

(6) Using Pairwise Comparison, How many comparisons must be made?

$$\frac{4(3)}{2} = 6$$

(7) Using Pairwise Comparison, complete the table of comparisons, and determine the winner.

| Pairings | Votes | Winner/Points |
|----------|-------|---------------|
| A v B | | B - 1 |
| A v C | | A - 1 |
| A v D | | A - 1 |
| B v C | | B - 1 |
| B v D | | B - 1 |
| C v D | | C - 1 |
| | | |
| | | |
| | | |
| | | |

Buffalo wins

(8) Using Pairwise Comparison, is there a Condorcet Candidate? If so, what candidate?

Yes - Buffalo

For Problems 9-16, consider the Preference Schedule below, representing votes for which ice cream to serve for a birthday party. Choices were: Chocolate, Vanilla, and Strawberry.

| Votes | 5 | 4 | 4 | 2 |
|---|---|---|---|---|
| First Choice | C | V | S | V |
| Second Choice | S | S | C | C |
| Third Choice | V | C | V | S |

(9) How many votes were cast?

15

(10) Using Plurality, which flavor wins the election? How many votes did the winner get?

Vanilla — 6 votes

(11) Using the Borda Count Method, how many points did each flavor receive? Who won the election if the Borda Count is used?

C: 31
V: 27
S: 32

Strawberry wins

(12) How many votes are needed for a majority?

8

(13) Using Plurality with Elimination, which flavor gets eliminated first? Who wins the election if Plurality with Elimination is used?

*eliminated first - Strawberry*

*Chocolate wins*

(14) Using Pairwise Comparison, How many comparisons must be made?

$$\frac{3(2)}{2} = 3$$

(15) Using Pairwise Comparison, complete the table of comparisons, and determine the winner.

| Pairings | Votes | Winner/Points |
|---|---|---|
| C v V | | C − 1 |
| C v S | | S − 1 |
| V v S | | S − 1 |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

*Strawberry wins*

(16) Using Pairwise Comparison, is there a Condorcet Candidate? If so, what candidate?

*Yes Strawberry*