Preference Ballot:

It's a ballot in which the voter lists his/her choices in order of preference.

Example:

In an election with candidates of A, B, C, and D, a preference ballot might be

Ballot
1st : B
2nd : C
3rd : A
4th : D

Preference Table:

It's a table that summarizes all the preference ballots cast in an election.

Example:

Number of votes	120	100	80	75
1st	A	B	A	D
2nd	B	C	D	C
3rd	C	D	C	B
4th	D	A	B	A

1) How many people voted in the election?

120 + 100 + 80 + 75 = 375

2) How many voted for the order A, D, C, B?

80

3) How many chose A as their first choice?

120 + 80 = 200

4) How many chose A as their second choice?

0

5) How many chose A as their fourth choice?

100 + 75 = 175

Methods of Determining a Winner in an Election:

The Plurality Method:

The candidate with the most first-place votes is the winner.

Example: In the following election, who is the plurality winner?

Number of votes	120	100	80	75
1st	A	B	B	D
2nd	B	C	A	C
3rd	C	D	C	B
4th	D	A	B	A

B has the most first-place votes with 180, so B is the plurality winner.

The Borda Count Method:

Each last-place vote is given 1 point. Each next-to-last-place vote is given 2 points, and so on. The candidate with the most total points is the winner.

Example: In the following election, who is the Borda count winner?

Number of votes	15	10	8	6
1st	A	B	C	B
2nd	C	C	A	A
3rd	B	A	B	C

Candidate	3rd –place points	2nd –place points	1st –place points	Total
A	10	28	45	83
B	23	0	48	71
C	6	50	24	80

A has the most points, so A is the Borda count winner.

Who is the plurality winner?

B has the most first-place votes with 16, so B is the plurality winner.

The Plurality-with-Elimination Method:

The candidate with a majority of first-place votes is the winner. If no candidate received a majority of first-place votes, then the candidate or candidates with the fewest first-place votes is(are) eliminated. If a candidate now has a majority of first-place votes, then that candidate is the winner. If not, continue the elimination process, until a candidate receives a majority of first-place votes.

Example: In the following election, who is the plurality-with-elimination winner?

Number of votes	12	10	9	5
1st	A	B	C	A
2nd	B	C	B	C
3rd	C	A	A	B

What's a majority?

36/2 + 1 = 19, so 19 or more is a majority. No one has a majority of first-place votes.

C has the fewest first-place votes and is eliminated.

Number of votes	12	10	9	5
1st	A	B	B	A
2nd	B	A	A	B

B now has a majority of first-place votes with 19, so B is the plurality-with-elimination winner.

Who is the plurality winner?

A has the most first-place votes with 17, so A is the plurality winner.

Who is the Borda count winner?

	3rd	2nd	1st	Total
A	**19**	**0**	**51**	70
B	**5**	**42**	**30**	77
C	**12**	**30**	**27**	69

B has the most points, so B is the Borda count winner.

The Pairwise Comparison Method:

The candidates are compared in pairs. If a candidate is preferred over another, then the preferred candidate receives 1 point. If it's a tie, then both candidates receive ½ point. The candidate with the most total points is the winner.

Example: In the following election, who is the pairwise comparison winner?

Number of votes	17	10	9
1st	A	B	C
2nd	C	C	B
3rd	B	A	A

Pair	Comparison	Points
A vs. B	A is preferred to B by 17. B is preferred to A by 19.	B gets 1 point, A gets 0 points
A vs. C	A is preferred to C by 17. C is preferred to A by 19.	C gets 1 point, A gets 0 points
B vs. C	B is preferred to C by 10. C is preferred to B by 26.	C gets 1 point, B gets 0 points

	A	B	C
Total	0	1	2

C is the pairwise comparison winner.

Who is the plurality winner?

Number of votes	17	10	9
1st	A	B	C
2nd	C	C	B
3rd	B	A	A

A is the plurality winner.

Who is the Borda count winner?

	3rd	2nd	1st	Total
A	19	0	51	70
B	17	18	30	65
C	0	54	27	81

C is the Borda count winner.

Who is the plurality-with-elimination winner?

A majority is 19 or more. When C is eliminated, B has a majority of first-place votes, so B is the plurality-with-elimination winner.