## USE A SEPARATE SHEET OF PAPER TO SHOW YOUR WORK THAT JUSTIFIES YOUR ANSWERS FOR EACH OF THE FOLLOWING QUESTIONS.

1) On Tuesday, preferences were given for ranking favorite ice creams. 34 students participated. The class results can be found in the table below:

| $C$ | $C$ | $C$ | $C$ | $\vee$ | $C C$ | $C C$ | $C C$ | $C C$ | $C C$ | $C C$ | $C C$ | S | S | $C$ | $C$ | $C C$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $C C$ | V | S | $C C$ | S | V | V | $C$ | $C$ | S | S | $C$ | $C$ | $C C$ | $C C$ | $C C$ | $C$ |
| V | $C C$ | $C C$ | V | $C$ | $C$ | $C$ | S | V | $C$ | V | V | V | V | V | S | S |
| S | S | V | S | $C C$ | S | S | V | S | V | $C$ | S | $C C$ | $C$ | S | V | V |


| $C C$ | $C C$ | $C C$ | S | S | $C$ | $C$ | $C$ | V | $C C$ | $C C$ | $C C$ | $C C$ | $C C$ | $C C$ | $C C$ | $C C$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| V | $C$ | $C$ | $C C$ | $C C$ | $C C$ | $C C$ | $C C$ | $C$ | V | $C$ | V | V | V | S | S | V |
| $C$ | V | V | V | V | S | S | S | S | S | S | S | S | S | V | $C$ | $C$ |
| S | S | S | $C$ | $C$ | V | V | V | $C C$ | $C$ | V | $C$ | $C$ | $C$ | $C$ | V | S |

First, create a preference table using the preference ballots. Then determine a winner by applying the following methods:
a) Plurality
b) Plurality with Elimination
c) Borda Count
d) Run-off
e) Approval (use the first 2 preferences as votes of approval)
f) pairwise comparison
2) Team up with 2-3 other people to create a ranking situation with three (3) choices. Have fifteen (15) of your classmates give a preference vote. Record each person's ranking. Create a preference table based upon their responses. Then determine a winner by applying the following methods:
a) Plurality
b) Borda Count
c) Run-off
d) Approval (use the first 2 preferences as votes of approval)

