Worksheet 2: More Voting Theory (IRV / RCV)

Group Names: _____

1. A class is voting on what kind of ice cream to have. The choices are strawberry (S), chocolate (C), and vanilla (V). The students in the class ranked their ice cream choices and the following preference table was constructed.

# votes	2	5	1	2	2
1st choice	S	V	S	C	C
2nd choice	V	C	C	S	V
3rd choice	C	S	V	V	S

   Find the winner under the Instant Runoff Voting (Ranked Choice Voting!) method, by answering the following:

   (a) Which flavor gets eliminated in round 1? _____

   (b) Construct the new preference table after the first elimination round.

   (c) Who is the IRV (RCV) winner? _____

   (d) Do you think the IRV winner accurately represents the class's preference for ice cream? Explain your answer in a sentence or two.

2. Consider the following preference schedule for an election, with choices Abbot (a), Bingham (b), Chowdhury (c), and Dennison (d).

	5	6	12	3	6	3	3	3
1st choice	d	d	c	c	b	b	d	a
2nd choice	a	a	a	a	c	a	c	c
3rd choice	b	c	d	b	d	d	b	d
4th choice	c	b	b	d	a	c	a	b

(a) How many people voted? _____ How many are needed for a majority? _____

(b) How many possible rounds of IRV/RCV might this election require? How do you know?

(c) Who is the plurality winner? _____ Do they have a majority? _____

(d) Determine the IRV/RCV winner, if one exists. Show what choices you made at each step, along with the necessary preference schedules.

Who won the election? _____

3. Extra question: Construct a 3-choice preference schedule where the plurality winner is different from the IRV / RCV winner.