

Math 1015: Homework #1

Write your answers on separate paper (or on an iPad or something). I did not leave enough space for you to print this out and write on this paper. You don't need to copy out the questions if you don't want to- just the answers is fine.

Question 1. Log in to gradescope and read the feedback that I gave you on the dummy assignment. For your answer for this question, tell me my favorite number. (This is just to make sure you know how to see my feedback on gradescope- you click on the assignment, and then click on the specific question to see my comments. Please let me know if it's not working for you.)

Question 2. I'm voting with my friends about the best local dog salon. Our choices are "Snip Doggy Dog" (D), "Sham Pooch" (P), "Woof" (W), and "Ruff Cut" (R). (These are all real places.)

One person ranks them like: R, D, W, P (where R is best, P is worst). Two people rank them like W, R, D, P. One person says D, R, P, W, and one other person says the same thing but with W over P at the end. Then 4 people say P, W, D, R.

- a) Make a chart like we've done in class summarizing the votes. (Numbers on top, letters in the columns beneath.)
- b) Decide the winner if we use the Plurality system
- c) Decide the winner if we use Ranked Choice Voting

Question 3. In the 1980 US senate race in New York, the candidates were D'Amato (D), Holtzman (H), and Javits (J). Based on polling people's opinions between the three, the population's preferences were something like this:

22%	23%	15%	29%	7%	4%
D	D	H	H	J	J
H	J	D	J	H	D
J	H	J	D	D	H

Please determine the results if we are using each system (you should add up the percentages just the same was as if they were numbers of votes):

- a) Plurality
- b) Ranked Choice Voting

Question 4. Invent your own example election where the plurality winner is different from the ranked choice winner. (You don't need to make up a cute story— just give me a table of the votes and show that the two winners are different.)

(most assignments will be longer than this, but we haven't covered very much yet)