

### POLS 4073 – Homework 3

1. Three roommates are voting to decide how much toilet paper and paper towels they should buy for their apartment. They are currently out of both (0 rolls of toilet paper and 0 rolls of paper towels). Pam would like to buy 1 roll of toilet paper and 4 rolls of paper towels. Steve prefers 3 rolls of toilet paper and 6 rolls of paper towels. Reba wants 8 rolls of toilet paper and only 2 rolls of paper towels. The roommates have decided they will use simple majority rule voting to determine their shopping list.
  - Graph the preference of the roommates. For goodness sake, please use graph paper. ([www.csun.edu/science/ref/measurement/data/graphpaper/graphpaper.pdf](http://www.csun.edu/science/ref/measurement/data/graphpaper/graphpaper.pdf))
  - For each roommate, show which allocations of toilet paper and paper towels are preferred to having no toilet paper and no paper towels.
  - A proposal for buying 6 rolls of toilet paper and 6 rolls of paper towels has been made. Would Pam prefer this to the current lack of paper products? Calculate Pam's distance to the proposal and status quo to help answer this.
  - Determine the set of all proposals that would beat the current status quo of no toilet paper or paper towels.
  - Suppose Reba gets to make a single proposal and there will be a single vote (Reba's proposal versus status quo). What should Reba propose and why?
2. You are conducting the first serious academic study of the Barnett Shoals Elementary Parent Teacher Organization (PTO). Five people showed up the August PTO meeting and voted on the following outdoor festival related issues:
  - Maude, Claire, and Raoul supported a proposal to have a pony ride at the Spring Fling. Brock and Leah voted no.
  - Raoul, Brock, Maude, Claire, and Leah supported a proposal to invite the library to set up a booth on the importance of reading.
  - Raoul and Maude voted to rent two bounce houses for the festival. Claire, Leah, and Brock thought one bounce would do.
  - Leah proposal to have a cakewalk was supported by Raoul, Claire, Leah, and Maude. Brock didn't think enough parents would donate a cake to make a cake-walk worthwhile and voted no.
  - Maude supported a proposal to hire a Coldplay cover band to perform at the festival. Everyone else wisely voted no.

Use the information from these votes to place the five parents on a single ideological scales. How should you label the scale? What have you learned about the both the issues and the parents?

3. At the September meeting, Brock proposes having a beer tent at the festival. Beer sales could help raise money for the PTO, and the kids could all just hang out on the playground, while the parents enjoy the beer tent. Raoul and Brock enthusiastically support the beer tent idea. Maude, Claire, and Leah seem to think that elementary school children festivals should not serve alcohol and vote no.

Is this vote consistent with your answer for #2? Can you consistently explain this vote and the votes from #2? A graph is probably a good idea.

This assignment is due Friday, September 30 at the start of class.