MA111: Contemporary mathematics

Entrance Slip (due 5 min past the hour):

	40	30	30
1st	Ovid's	K-Lair	Subway
2nd	K-Lair	Subway	K-Lair
3rd	Subway	Ovid's	Ovid's

(a) Explain why you think Ovid's should win or lose.

(b) Name one voting method where Ovid's wins, and one where Ovid's loses.

Schedule:

- HW 2 is due 7am Friday, Sep 17th, 2014
- HW 3 is due 7am Tuesday, Sep 23rd, 2014
- Exam 1 is in-class on Thursday, Sep 25th, 2014

Today we explore majority and condorcet winners in terms of fairness

While we are passing out the worksheet...

- Please turn in your entrance slips. We will do this every non-exam day.
  Please bring your own 3x5 index cards.
- Everyone's votes should count **equally** [**Anonymity**]
- Everyone's votes should count equally and be **good** for top ranked restaurants [**Monotone**]
- Everyone's votes should count equally, and be **equally** good for same ranked restaurants [**Neutral**]
- For 2 restaurants, this tells us exactly who should win! [there is only one right answer]
- For 3 or more restaurants, things are much more complicated

Old words

- ballot, preference schedule,
- voting method, majority winner,
- plurality method, soccer rule, Borda count = Thomas's rule, Daisia's rule
- standard elimination (plurality with elimination)
- pairwise comparison, Condorcet candidate, bracket method, agenda/seed, shape
- Anonymous, Neutral, Monotone, May's theorem

New words: Majority and Condorcet criteria

- Majority and Condorcet should win, right?
- Head-to-head methods agree with both Majority and Condorcet
- But Soccer, Borda Count, and Daisia's rules can disagree!
- Plurality and Plurality with elimination agree with Majority, but not always Condorcet
- Survivor method (a different elimination) does not even always agree with Majority

Exit quiz

- A group wants to decide between four restaurants
- Jordan's method is to count only second and third place votes; 1 point for each 2nd or 3rd place vote; most points wins
- Is Jordan's method anonymous?
- Neutral?
- Monotone?
- Do majority candidates necessarily win?
- Give an example group of people (by Ballots) where Jordan's method doesn't work well; explain why its answer is wrong