MA111: Contemporary mathematics



Schedule:

- Mini-exam 3 is in class, Thu Nov 6th, 2014
- Exam 3 is in class, Thu Nov 13th, 2014

Today we look at who gets what.

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.
- Someone explain why they shouldn't rent this place.
- Someone explain why they should.
- Someone who thinks they should rent... who pays how much for what?
- How do we decide who to give a room to?

Important concepts

- The value of a thing depends on who is asked
- By giving things to different people, we can change the total value
 Before: Alex and Blair hate their rooms and want to leave
 After: they switch rooms and are willing to pay the rent
 Same stuff, but different owners with different values
- The surplus or profit is the increase in the amount of value
- A division is **feasible** if the surplus is not negative
- A division is **optimal** if the surplus is as large as possible

• Alex, Blair, and Charlie are splitting a 3-bedroom. The rent is \$800 per month. Here are the values each person puts on each room:

	Mast	Long	Square
Alex	\$400	\$300	\$225
Blair	\$350	\$225	\$100
Charlie	\$325	\$300	\$ 50

- Who gets which room and how much do they pay?
- Bonus points if everyone pays less than they think the room is worth, but they still pay enough to cover the rent.