

# MA111: Contemporary mathematics

## Entrance Slip (due 5 min past the hour):

Blair and Devin see an ad for this apartment for \$700/mo. Blair is willing to pay \$425 per month for the master bedroom or \$300/mo for the other bedroom. Devin is willing to pay \$350/mo for the master bedroom, or \$325/mo for the other bedroom.

Is it reasonable to rent this place? Explain how or why not:

Who should get which room?

How much should each pay per month?

Schedule:

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

Today we look at the trouble with splitting the bill



# 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?

# Important concepts

- The **value** depends on who is asked
- Splitting the bill might not be even if people get different values from it
- The **surplus** is the amount of money leftover after everyone pays the most they are willing for what they get
- That there **is** a surplus is pretty amazing

## Exit quiz

- Alex, Blair, Casey, and Devin consider going on a ghost tour. They have different ideas about how much it is worth to them.

	Ghost tour
Alex's value	\$12
Blair's value	\$16
Casey's value	\$ 8
Devin's value	\$32
Cost per person	\$16

The total cost is  $4 \times \$16 = \$64$ .

- How can the cost be split so that no one has to pay more than they think the tour is worth?

Alex pays: \_\_\_\_\_

Blair pays: \_\_\_\_\_

Casey pays: \_\_\_\_\_

Devin pays: \_\_\_\_\_