Mini-Exam 3 Name: _____

Alex, Charlie, Dakota, and Emerson are getting a 4 bedroom apartment for $1200 per month. They value the rooms according to the following chart (feel free to ignore the "total" parts if they are not helpful):

	Mast	Long	Square	Small	Total
Amari	$ 250	$275	$ 350	$200	$1075
Charlie	$ 300	$225	$ 375	$350	$1250
Dakota	$ 350	$200	$ 150	$150	$ 850
Emerson	$ 325	$250	$ 275	$150	$1000
Total	$1225	$950	$1150	$850	$4175

1. What is wrong with giving everyone their favorite room?

so Amari and Charlie get the square bedroom, and Dakota and Emerson get the master bedroom.

2. What is wrong with giving the room to whoever wants it most?

so the master bedroom goes to Dakota, the long bedroom to Amari, the square bedroom to Charlie, and the small bedroom to Charlie.

3. What is wrong with just giving out the rooms in the order they are written?

so the master bedroom goes to Amari, the long bedroom goes to Charlie, the square bedroom goes to Dakota, and the small bedroom goes to Emerson.

4. Give a feasible way to split the rooms, so that the renters are willing to pay enough to cover the rent. You don't need to worry about the leftover money (I'll take it ;-).

Alex, Charlie, Dakota, and Emerson won the Halloween costume contest and got an **amazing prize**. While all four agree they deserve the prize equally (that is, each owns 25% of the prize), the prize itself is not very good divided (it is a set of top and bottom vampire teeth– no one was amused when I suggested each person gets one tooth; I suggested they take turns wearing the teeth, but they just said, "ewwww."). They decided they would prefer one person to own the teeth 100%, and that person will pay the others for their 25%.

	Teeth
Alex	\$30
Charlie	\$15
Dakota	\$10
Emerson	\$ 5
Total	\$60

5. If we want to maximize happiness, who should get the teeth? Explain why.
(In #6-#8 I'll call this person "Toothy")

6. Toothy is happy, but the other 3 people just lost 25% of the teeth. What is the minimum amount Toothy needs to pay each other person to make them happy?

7. What is the maximum total amount Toothy would be willing to pay to the other people?
Hint that won't be there on Thursday: keep in mind Toothy is only paying for 75% of the teeth, they already owned 25%.

8. What should they do with the in-between money? Say exactly who gets the teeth, and who pays whom how much.