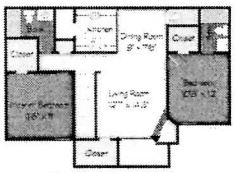
MA111-001 Exam 3 Name: Practice

Emory and Charlie see an ad for a 2-bedroom apartment for $585.00 per month. The apartment has 2 bedrooms: the master bedroom and the other bedroom. Emory is willing to pay $350.00 per month for the master bedroom or $270.00 per month for the other bedroom. Charlie is willing to pay $325.00 per month for the master bedroom or $225.00 per month for the other bedroom.

	master	other
Emory	$350.00	$270.00
Charlie	$325.00	$225.00



1. A generous MA111 student suggested that Emory pays $265.00 for the other bedroom, while Charlie pays $320.00 for the master bedroom.

(a) Would Emory accept this arrangement? (Are they paying at most what the room is worth to them?)

Yes! Emory would pay up to $270 for the other bedroom, and is only being asked to pay $265. That saves $5.

(b) Would Charlie accept this arrangement? (Are they paying at most what the room is worth to them?)

Yes! Charlie would pay up to $325 for the master bedroom, and is only being asked to pay $320. That saves $5.

(c) Would the land-lord accept this arrangement? (Are Emory and Charlie paying enough for rent?)

Yes! Emory and Charlie would pay $265 + $320 = $585 which is exactly how much the land-lord is asking

(d) Does Emory prefer their own room and rent or would they prefer the deal being offered to Charlie?

Emory might prefer the deal offered to Charlie. Emory would pay up to $350 for the master bedroom, so would pay $320, and save $30.

(e) Does Charlie prefer their own room and rent or would they prefer the deal being offered to Emory?

Charlie would not prefer Emory's deal. Charlie would only pay $225 for the other bedroom, so would not pay $265 for it.

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Emory	$350.00	$270.00
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2. A shady stranger suggests Emory pays $292.50 for the master bedroom and Charlie pays $292.50 for the other bedroom. (Each roommate pays half the rent.)

(a) Would Emory accept this arrangement? (Are they paying at most what the room is worth to them?)

Yes! Emory would pay up to $350 for the master bedroom, so $292.50 is a great deal.

(b) Would Charlie accept this arrangement? (Are they paying at most what the room is worth to them?)

No. Charlie would only pay $225 for the other bedroom. $292.50 is an outrage!

(c) Would the land-lord accept this arrangement? (Are Emory and Charlie paying enough for rent?)

Yes. The land-lord would still receive $292.50 + $292.50 = $585 which is the rent.

(d) Does Emory prefer their own room and rent or would they prefer the deal being offered to Charlie?

Emory prefers their own room and rent. They would only pay $270 for the other bedroom. $292.50 is too much.

(e) Does Charlie prefer their own room and rent or would they prefer the deal being offered to Emory?

Charlie would prefer the deal being offered to Emory. Charlie would pay up to $325 for the master bedroom, so $292.50 is a good deal.

Four friends won a contest together. The prize was a charger. They split the prize using Knaster's method (give item to highest bidder; everyone pays or is paid according to their own stated value; extra is split evenly amongst everyone).

	Full Value	Their 25% share	Else's 75% share
Alice	\$4.00	\$1.00	\$3.00
Blair	\$8.00	\$2.00	\$6.00
Charlie	\$12.00	\$3.00	\$9.00
Davin	\$16.00	\$4.00	\$12.00
Average	\$10.00		

So Davin gets the charger; Alice gets paid \$2.50, Blair gets paid \$3.50, Charlie gets paid \$4.50, and Davin pays \$10.50.

Explain how the numbers above help answer these questions:

5. (a) Would Davin rather have what they got or what Alice got?

Davin prefers what they got. They consider their 25% share to be worth \$4 so \$2.50 is not enough.

(b) Would Alice rather have what they got or what Davin got?

Alice prefers what they got. They consider everyone else's share to be worth only \$3 so would not pay \$10.50 for it

(c) Would Alice rather have what they got or what Charlie got?

Alice would prefer what Charlie got, since neither got the charger, but Charlie got \$2 more!

(d) What would be a better way to distribute the prize and the money to avoid having people want other people's share? Explain why your distribution is better.

Davin could take the charger, and pay everybody else \$4. Davin would consider this fair (paying everyone their share). Nobody else would envy people who received money, as they all got the same amount. Nobody else would envy Davin, as they think their 25% of the charger is worth less than \$4, so would not have paid that for other people's shares.

Analyze the following game: Four people play a game: Each person writes down a dollar amount; once everyone has written them down the amounts are revealed. The person who wrote down the biggest dollar amounts gets the "prize" but pays everyone else the second highest dollar amount. (We called this the Dutch auction.)

Alice thinks the prize is worth \$400 total. We consider Alice to have "won" if Alice prefers her own result to everyone else's (or at least considers them equal). Since the prize is worth \$400 to Alice, Alice would feel paying \$300 for the prize is the same as getting paid \$100, but would prefer getting \$150 (but not the prize) to paying \$300 for the prize (and getting the prize).

(a) What could go wrong if Alice writes down the dollar amount \$150? (Feel free to make up numbers for the other three players if it helps you explain.)

If Alice wrote down \$150 and 3 other players wrote down \$149, Alice would pay \$149 x 3 = \$447 for a prize that is only worth \$400 to her!

(b) What could go wrong if Alice writes down the dollar amount \$50?

If Alice wrote down \$50 and another player wrote down \$51 and that ended up being highest, Alice would only get \$50, and would envy the winner's deal — they got a \$400 prize and only had to pay \$50 x 3 = \$150 for it!

(c) What dollar amount would you write down if you were Alice? Explain why.

I would write down \$100. If my bid was the highest, I'd pay less than \$300 and get the prize.

If my bid was not the highest, I would get at least \$100.

Both of these are the same to me in value.

If I put any other amount, I would run the risk of the situations in (a) or (b) happening!