

Exam 3

Name: Key

Alex and Charlie are dreaming about their new apartment, especially the furnishings for their room. They made a top 5 list and marked the highest price they'd be willing to pay for each item, but Alex and Charlie only find a few items when they shop separately.

	Big Mirror	Storage Bin	Alarm Clock	Trash Can	Drawers
Alex	\$20	\$15	\$20	\$10	\$40
Charlie	\$30	\$25	\$15	\$1	\$25

a. Alex bought a nice big Mirror and Charlie bought a set of Drawers. Explain why they might both be happy trading.

	Before	After	
Alex	Mirror = \$20	→ Drawer = \$40	Alex feels like they got \$20 more ☺
Charlie	Drawer = \$25	→ Mirror = \$30	Charlie feels like they got \$5 more ☺

b. If Alex had an Alarm Clock and Charlie had a ~~\$20~~^{\$30} bill, then would they both be happy trading the Clock for the money?

No. Trading money is basically buying. Charlie won't pay \$20 for an alarm clock (but \$15 might be OK with Charlie. Alex probably not OK with \$15 since they might have paid \$20 for it)

c. Alex bought a Storage Bin, and Charlie bought a Trash Can. Explain why Alex would not be happy just trading. (Even though Alex wants the Trash Can more than Charlie does, and Charlie wants the Storage Bin more than Alex does.)

	Before	After	
Alex	Storage Bin = 15	→ Trash Can = 10	Alex feels like they lost \$5 ☹

d. How much would Charlie need to pay Alex to make the trade happen? Would Charlie still want the trade at that price? (So Alex gets money and the Trash Can but loses the Storage Bin; Charlie loses money and

the Trash Can but gains the Storage Bin.)

Charlie would have to "give back" the \$5 Alex feels that Alex lost.

	Before	After
Charlie	\$5 + Trash Can = \$5 + \$1 = \$6	Just Storage Bin = \$25

Definitely! Charlie would feel like they traded \$6 for \$25, so \$19 extra ☺ Maybe Charlie could give Alex a little of that \$19 to sweeten the deal.

2. Blair and Dakota are looking at a 2-bedroom apartment for \$500 per month plus the cable bill. They are trying to come to a rental agreement where they choose rooms, choose a cable plan, divvy up the chores, and split the rent. They are ok splitting things "unevenly" as long as both (i) Blair thinks Blair is getting more than Blair is paying for, and (ii) Dakota thinks Dakota is getting more than Dakota is paying for.

	Front	Back	Regular	Reg+Premium	Living	Kitchen
Blair	\$300	\$240	\$10	\$60	\$10	\$20
Dakota	\$240	\$250	\$10	\$50	\$5	\$5
Cost	\$500 total		\$45	\$45+\$50		

The rooms look the same to you, but Blair likes the Front room better because of the view, and Dakota likes the Back room better because it has a nicer closet. If forced to put a number on it, Blair would pay \$300 for the Front room and \$240 for the Back room, while Dakota would pay \$240 for the Front room and \$250 for the Back room. *(The closet isn't that nice!)*

(a) Who should get which room? Explain why.

Blair \rightarrow Front = \$300
 Dakota \rightarrow Back = \$250 } Together they'd be more than happy to pay the total rent.

The only other option that makes any sense

is Blair \rightarrow Back = \$240
 Dakota \rightarrow Front = \$240 } but now they are \$20 short on rent.

They'd be happier getting their favorite rooms (in this case)

Blair and Dakota are considering Cable for \$45 a month and Premium Cable for an extra \$50 per month (and it requires regular cable). Blair would be happy paying anything less than \$10 for regular cable, but would personally pay up to \$60 per month to have both regular cable and premium cable together. Dakota also is only willing to pay \$10 for regular cable, but would only go up to \$50 per month for both. *(Premium isn't that nice!)*

(b) Should they get premium cable, just regular cable, or no cable at all? Explain why.

✓ Premium Cable - they'd be willing to pay \$60 + \$50 = \$110 for \$45 + \$50 = \$95 of cable, so that is \$15 extra they would pay, but don't have to. \therefore

X Reg Cable - it costs \$45, but they will only pay \$10 + \$10 = \$20, so that other \$25 has to come out of the extra rent in (a). \therefore

? No Cable - it's free, but worth nothing. That's fine, but nothing extra.

They are also nervous about who cleans the main room and who cleans the kitchen. Blair would pay Dakota \$10 a month to take care of the living room and \$20 a month to take care of the kitchen. (Dishes? Eww!) On the other hand, if Blair is forced to do the living room, that's \$10 a month, and \$20 a month for the kitchen. (Just to be fair.) Dakota's prices are \$5 a month for the living room and \$5 a month for the kitchen. (Either Blair pays Dakota to clean them, or for Dakota to pay Blair to clean them.)

(c) Who should clean the living room? Who should clean the kitchen? Explain why.

Dakota? They only charge \$5 a room, but Blair would pay $\$10 + \$20 = \$30$. That's \$20 extra.

Assume Blair gets the Front room and has to clean the living room, Dakota gets the Back room and has to clean the kitchen, and together they get regular cable but not premium.

(d) What is the most Blair is willing to pay a month for this arrangement?

	Room	Utilities	Chores they have to do	Chores done for them	Total
Blair	300	10	- 10	+ 20	320

(e) What is the most Dakota is willing to pay a month for this arrangement?

	Room	Utilities	Chores they have to do	Chores done for them	Total
Dakota	250	10	- 5	+ 5	260

(f) Is it enough? Can you do better?

$320 + 260 = 580$ they are willing to pay for the apartment and cable, a cost of $500 + 45 = 545$. So yeah, good enough. Can knock \$35 off their "rent".

Better? Definitely! Dakota cleans it all. Premium cable

B: $300 + 60 - 0 + 30 = 390$
D: $250 + 50 - 10 + 0 = 290$
680 total for $500 + 45 + 50 = 590$
that is \$90 off their "rent"

3. Essays. Pick one, and explain your thoughts clearly.

(a) Bryan happily pays \$8 a month for standard definition Netflix streaming on one screen. Gabe points out that for only \$1 more, Bryan could get high definition streaming one two screens simultaneously. In fact, Gabe is willing to pay that extra dollar in exchange for one of those screens. Bryan instinctively says no way. Gabe offers to pay \$3 per month for the screen. So right now Bryan pays \$8 a month for a single standard def screen, but with Gabe's deal Bryan would pay \$6 per month ($\$8 + \$1 - \3) for a single high definition screen and Gabe would pay \$3 per month for the same thing. We can assume Bryan agrees that high definition is better than standard definition (especially since he can just select standard definition in preferences in order to turn it off). Let's assume Netflix thinks their deal is legal.

Should Bryan accept Gabe's deal?

(b) Alex wouldn't pay more than \$100 for a phone. In other words, Alex would rather have \$100 than a new phone. Blair offers to buy Alex's phone for \$200.

Explain why it sounds like Alex should accept the deal. In a second paragraph, explain why Alex might not like the deal.

Label your answer (a) or (b).

Use complete sentences.

Make sure to explain your position.

Give explanations that would apply to you, your friends, and the people you know. If people are complicated make sure answer indicates that.