

Birzeit University
Economic Department

First Exam Eco 3311

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2nd

Semester.

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ALL MULTIPLE CHOICE ANSWERS MUST BE ON THIS SHEET FOR
CREDIT

Point multiple choice:

- | | | | |
|--------------|---------------|---------------|---------------|
| 1. <u>d</u> | 8. <u>de</u> | 15. <u>ax</u> | 22. <u>b</u> |
| 2. <u>a</u> | 9. <u>dX</u> | 16. <u>b</u> | 23. <u>cX</u> |
| 3. <u>d</u> | 10. <u>d'</u> | 17. <u>a</u> | 24. <u>b</u> |
| 4. <u>b</u> | 11. <u>c</u> | 18. <u>b</u> | 25. <u>b</u> |
| 5. <u>d</u> | 12. <u>c</u> | 19. <u>bX</u> | |
| 6. <u>c</u> | 13. <u>a</u> | 20. <u>c</u> | yo |
| 7. <u>bX</u> | 14. <u>d</u> | 21. <u>a</u> | |

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Question one(50 points)

- 1- The slope of the production possibility frontier shows
- a. how inputs must be changed to keep them fully employed.
 - b. the technically efficient combinations of the two goods.
 - c. how demanders are willing to trade one good for another.
 - d. the opportunity cost of one good in terms of the other.

2- Let $Q_D = -5P + 54$ and $Q_S = P - 6$. Equilibrium can be found at

- a. $Q = 4; P = 10$
- b. $Q = 6; P = 10$
- c. $P = 6; Q = 0$
- d. $Q = \frac{54}{5}; P = 2$

$$-5P + 54 = P - 6$$

$$6P = 60$$

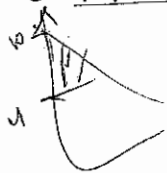
$$P = 10$$

$Q = 10 - 6 = 4$
 $-5P + 54 = P - 6$
 $54 + 6 = 6P$
 $60 = 6P$
 $P = 10$



3- The difference between what a consumer is willing to pay for a unit of a good and what must be paid when actually buying it is called:

- a. Producer surplus.
- b. Cost benefits analysis.
- c. Net utility.
- d. Consumer surplus.



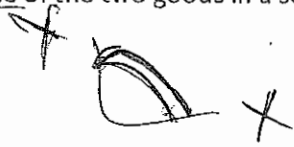
4- Which of the following functional forms for utility suggests the greatest substitution effect when starting at the point where $P_X = P_Y$.

- a. $U = \min(X, Y)$
- b. $U = X + Y$
- c. $U = X^{1/2}Y^{1/2}$
- d. $U = X^{1/4}Y^{3/4}$

$U = X + Y$

5- An increase in the technology used in the production of only one of the two goods in a society will

- a. eliminate scarcity
- b. move the production possibilities frontier out in all directions*
- c. move the production possibilities frontier in all directions*
- d. leave one corner of the production possibilities frontier fixed and swing out from the other



6- Suppose right (R) and left (L) shoes are only useful if produced in equal proportion and societal happiness is expressed as $\min(R, L)$. The contour lines would be

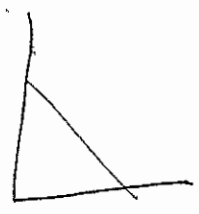
- a. downward sloping lines
- b. upward sloping lines
- c. L-shaped
- d. backward L-shaped



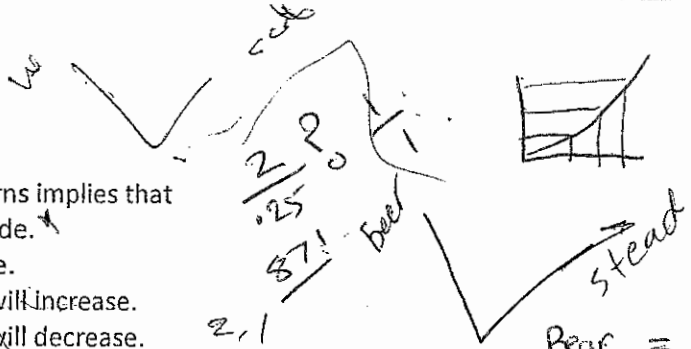
7- Demand functions are "homogeneous of degree zero in all prices and income." This means

- a. a proportional increase in all prices and income will leave quantities demanded unchanged.
- b. a doubling of all prices will not alter consumption decisions.*
- c. prices directly enter individuals' utility functions.
- d. an increase in income will cause all quantities demanded to increase proportionately.

$P_1 = 10$
 $P_2 = 20$



$$\frac{\text{Beer}}{\text{Steak}} = \frac{2}{1}$$



- 8- The Ricardian notion that of diminishing returns implies that
- as more input is used more output will be made.
 - as more input is used less output will be made.
 - as more input is used the increase in output will increase.
 - as more input is used the increase in output will decrease.

9- Suppose an individual's MRS (of steak for beer) is 2:1. That is, at the current consumption choices he or she is willing to give up 2 beers to get an extra steak. Suppose also that the price of a steak is \$1 and a beer is 25¢. Then in order to increase utility the individual should

- buy more steak and less beer.
- buy more beer and less steak.
- continue with current consumption plans.
- Not enough information to answer the question.

Handwritten notes and calculations for question 9:

- $MRS = \frac{MU_{steak}}{MU_{beer}} = \frac{2}{1} = 2:1$
- $P_{steak} = 1, P_{beer} = 0.25$
- $\frac{P_{steak}}{P_{beer}} = \frac{1}{0.25} = 4$
- $\frac{MU_{steak}}{MU_{beer}} = 2 < \frac{P_{steak}}{P_{beer}} = 4$
- Conclusion: Buy more steak and less beer.

- 10- Indifference curves
- are nonintersecting.
 - are contour lines of a utility function.
 - are negatively sloped.
 - All of the above.



11- The point of tangency between a consumer's budget constraint and his or her indifference curve represents

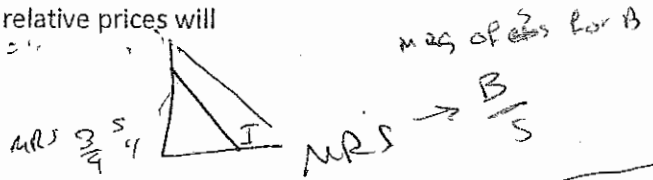
- complete satisfaction for the consumer.
- the equivalence of prices the consumer pays.
- constrained utility maximization for the consumer.
- the least he or she can spend.

Handwritten notes for question 11:

- $\frac{MU_{steak}}{P_{steak}} = \frac{MU_{beer}}{P_{beer}}$
- $\frac{8}{1} = \frac{1}{1}$

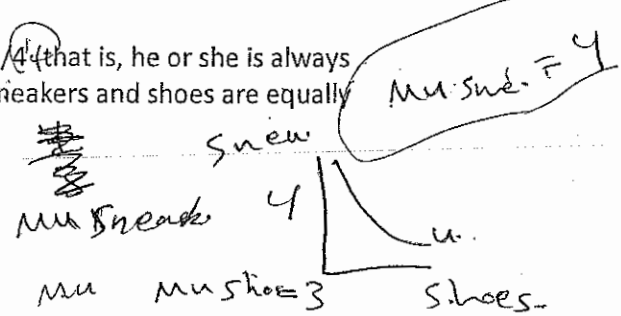
12- An increase in an individual's income without changing relative prices will

- rotate the budget constraint about the X-axis.
- shift the indifference curves outward.
- shift the budget constraint outward in a parallel way.
- rotate the budget constraint about the Y axis.



13- If an individual has a constant MRS of shoes for sneakers of 3/4 (that is, he or she is always willing to give up 3 pairs of sneakers to get 4 pairs of shoes) then, if sneakers and shoes are equally costly, he or she will

- buy only sneakers.
- buy only shoes.
- spend his or her income equally on sneakers and shoes.
- wear sneakers only 3/4 of the time.



14- Suppose that at current consumption levels an individual's marginal utility of consuming an extra hot dog is 10 whereas the marginal utility of consuming an extra soft drink is 2. Then the MRS (of soft drinks for hot dogs) — that is, the number of hot dogs the individual is willing to give up to get one more soft drink is

- 5
- 2
- 1/2

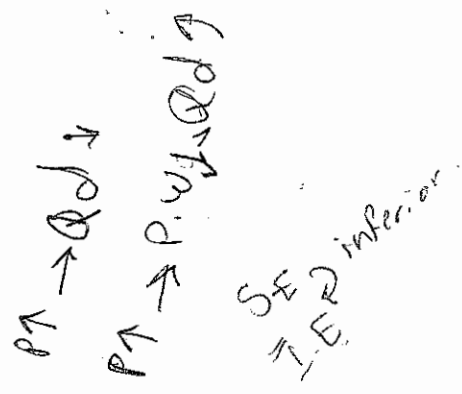
Handwritten calculations and graph for question 14:

- $MU_H = 10, MU_S = 2$
- $MRS = \frac{MU_H}{MU_S} = \frac{10}{2} = 5$
- Graph showing indifference curve with axes 'hot dog' and 'soft drink'.

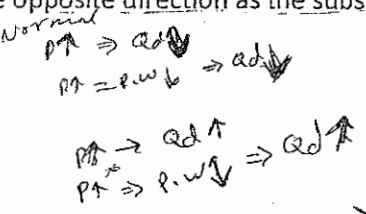
P_0

d. 1/5

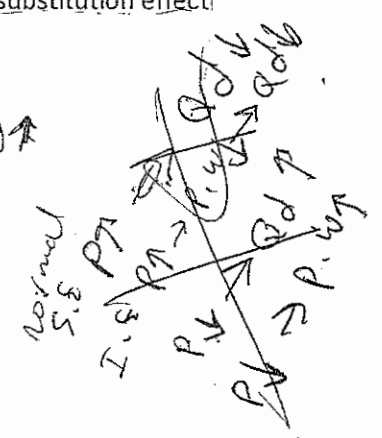
- 15- If people like their goods in fixed proportions, the two goods are
 a. perfect substitutes ~~X~~
 b. perfect complements
 c. complements (but not perfect)
 d. substitutes (but not perfect)



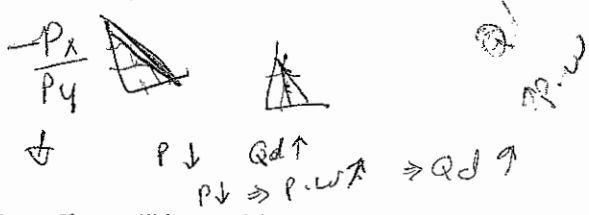
- 16- With only two goods, if the income effect is in the opposite direction as the substitution effect but the substitution effect dominates then the good is
 a. normal
 b. inferior but not Giffen
 c. Giffen ~~X~~
 d. There is not enough information to answer. ~~X~~



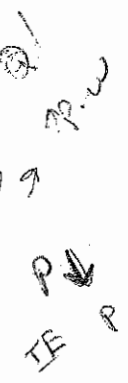
- 17- The lump sum principle suggests that the tax that reduces utility the least is
 a. a tax on income
 b. a tax on a good with many substitutes
 c. an equal tax per-unit on all goods
 d. a tax on a good with only a few substitutes



- 18- The slope of the budget constraint line is (assume good y on the y-axis, good x on the x-axis)
 a. the ratio of the prices (P_x/P_y)
 b. the negative of the ratio of the prices (P_x/P_y)
 c. the ratio of income divided by price of Y (I/P_y)
 d. none of these.

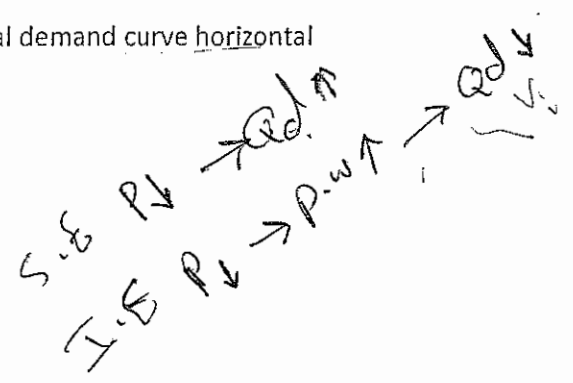
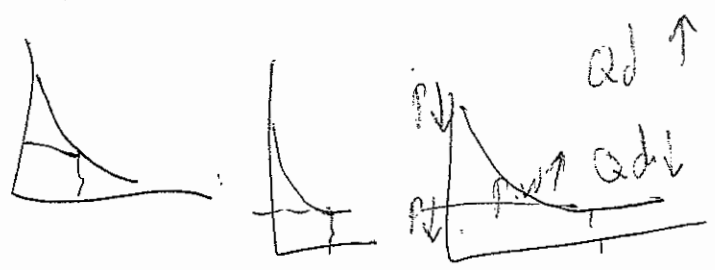


- 19- If a good is inferior and its price decreases,
 a. the income effect will be positive and the substitution effect will be positive.
 b. the income effect will be negative and the substitution effect will be negative. ~~X~~
 c. the income effect will be positive and the substitution effect will be negative.
 d. the income effect will be negative and the substitution effect will be positive ~~X~~



- 20- If the prices of all goods increase by the same proportion as income, the quantity demanded of good X will
 a. decrease.
 b. increase.
 c. remain unchanged.
 d. change in a way that cannot be determined from the information given.

- 21- At any price, the market demand curve
 a. is flatter than the flattest individual demand curve.
 b. has a slope that is the average of the individual demand curve slopes,
 c. is steeper than the steepest individual demand curve.
 d. has a horizontal intercept equal to the average of the individual demand curve horizontal intercepts.



$$J = 10 - S$$

$$200 = 20J + 20S$$

$$200 - 20S = 20J$$

$$20S + 20(10 - S) = 200$$

$$20S + 200 - 20S = 200 \rightarrow 0$$

$$20S + 200 - 20S = 200$$

$$\frac{MU_J}{MU_S} = \frac{PJ}{PS} = 1$$

Question two (30 points)

Elizabeth makes \$200 a week at her summer job and spend her entire weekly income on new running shoes and jeans, because these are the only two items that provide utility to her. Furthermore, Elizabeth insists that for every pair of jeans she buys, she must also buy a pair of shoes.

a- If jeans cost \$20, and shoes cost 20\$, how many will Elizabeth buy of each?? draw her budget line.

$$\frac{PX}{PY} = \frac{20}{20} = 1, \quad U(J, S) = J + S, \quad \frac{MU_J}{MU_S} = 1$$

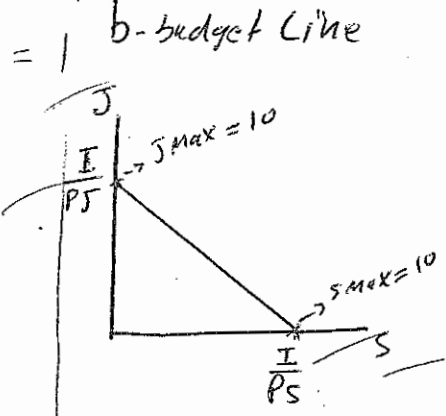
$$I = PJ \cdot J + PS \cdot S \rightarrow 200 = 20(S + J) + 20S$$

$$200 = 20J + 20S \rightarrow 200 = 40S$$

$$J = \frac{-20S + 200}{20}$$

$$J = -S + 10$$

50 she should consume 5J + 5S



b- Suppose that the price of jeans rises to \$30 a pair. How many shoes and jeans will she buy?

$$PJ = 30, \quad \frac{PJ}{PS} = \frac{30}{20} = 1.5$$

$$30J + 20S = 200 \quad (1)$$

$$\frac{PS}{PJ} = \frac{20}{30} = 0.66$$

MRS = $\frac{MU_J}{MU_S} = 1 > 0.66$ so she should consume more of shoes

$$I = 30J + 20S$$

$$-30J = -20S - I$$

$$\frac{-30J}{-30} = \frac{-20S}{-30} - \frac{I}{-30}$$

$$J = \frac{-20S}{-30} - \frac{I}{-30}$$

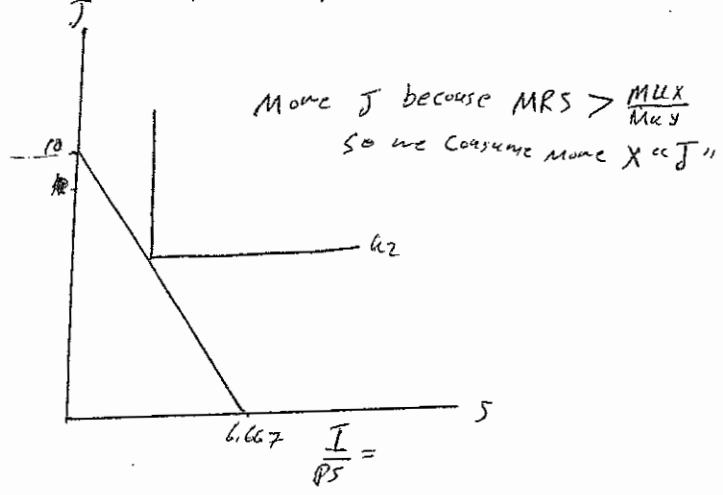
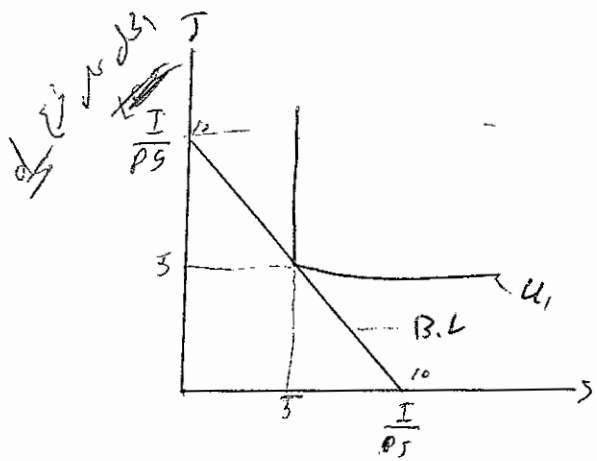
$$I = -20S + 6.667$$

$$20S = 193.3$$

$$S \approx 9.5$$

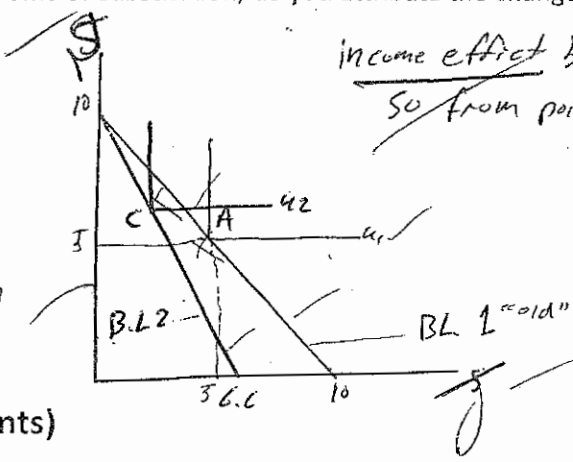
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c- Show your results by graphing the budget constraints for part a and part b. also draw Elizabeth's indifference curves.



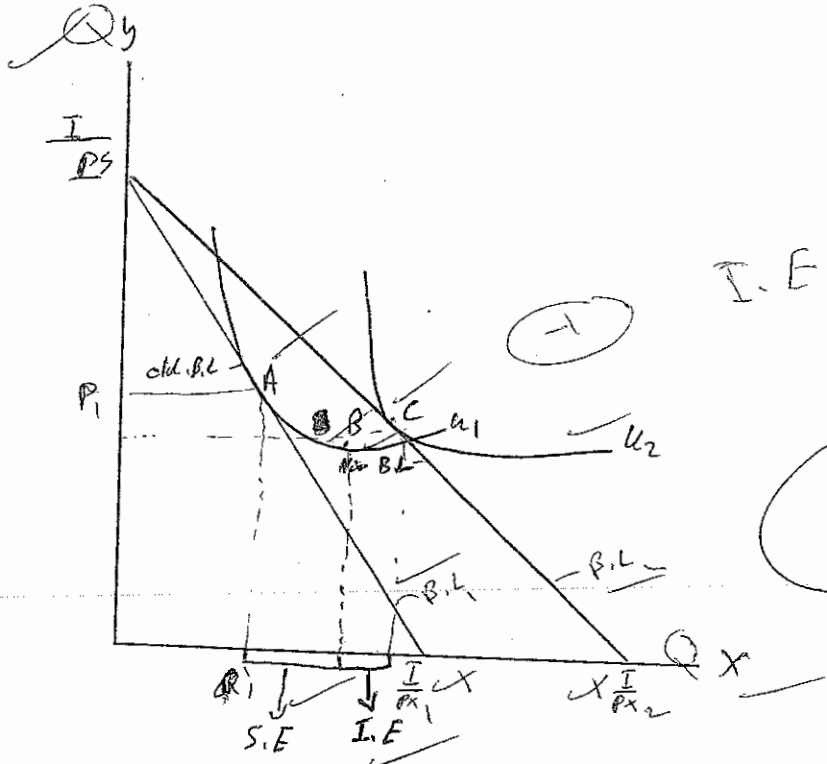
d- To what effect (income or substitution) do you attribute the change in utility levels between part a and part b.

b) graph =>



Question three (20 points)

Assume two goods, X and y they are normal goods, show the effect of a decrease in the price of good x, on the following: (indifference curves, u_1 and u_2 , budget lines BL1 and BL2, quantities of x & y, income effect and substitution effect) all this on the same graph. don't forget to show me your analysis.



as the price of x ↓ the purchasing power ↑ so we will consume more of x this is the income effect "on the graph from point B to C" and the substitution effect "always bigger than income effect" is to move in the same utility => from point A to B

Good Luck