ECON 0100 Introduction to Microeconomics
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Recitation 2

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Week 2 (9/4-9/10): Consumer choice

Recap of this week's most important concepts (Consumer Choice):

- Indifference curves:
  - Draw on graph (approximately!), know slope ($MRS_{xy} = MU_x/MU_y$)
  - Convex shape because of diminishing MRS
  - Extreme cases (perfect substitutes, perfect complements)
- Budget constraint:
  - Write equation, draw on graph, know slope (P_x/P_y) and intercepts (Income/price)
  - Parallel shift (if income changes) or pivot (if a price changes)
- Optimal consumption point: slopes are equal at that point (so $MU_x/P_x = MU_y/P_y$)
- Using consumer choice (and optimal consumption decision) to interpret relationship between goods: change in the price of one good will change consumption of other good in a different direction depending on relationship (complements or substitutes).
- How to use consumer choice (and optimal consumption decision) to construct consumer's demand curve.
- Demand is marginal benefit
- From individual demand to market demand
- Shifts of demand curve
- Consumer surplus (definition, graphical representation, mathematical computation)

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1. Suppose that Kelly spends her income, \$10, on two goods, apples and oranges. She gets exactly the same additional satisfaction from 1 apple as she does from 1 orange. The current price of apples is \$2 per unit, and the current price of oranges is \$1 per unit. If the price of apples decreases to \$0.5 per unit, how will her optimal consumption of apples change?

a. It increases by 15

b. It increases by 20

c. It decreases by 15

d. It decreases by 20

e. It does not change

f. Not enough information

2. Allwyn likes to consume cake and cups of tea. His income is \$12. When the price of cake is \$2 and the price of tea is \$1, he consumes bundle A: $(Q_{\text{cakes}} = 3, Q_{\text{tea}} = 6)$. Due to price volatility in the market, the price of cake drops to \$1 and the price of tea rises to \$1.50. It is observed that he now consumes bundle B: $(Q_{\text{cakes}} = 6, Q_{\text{tea}} = 4)$. What can we say about his preferences between the two bundles A and B?

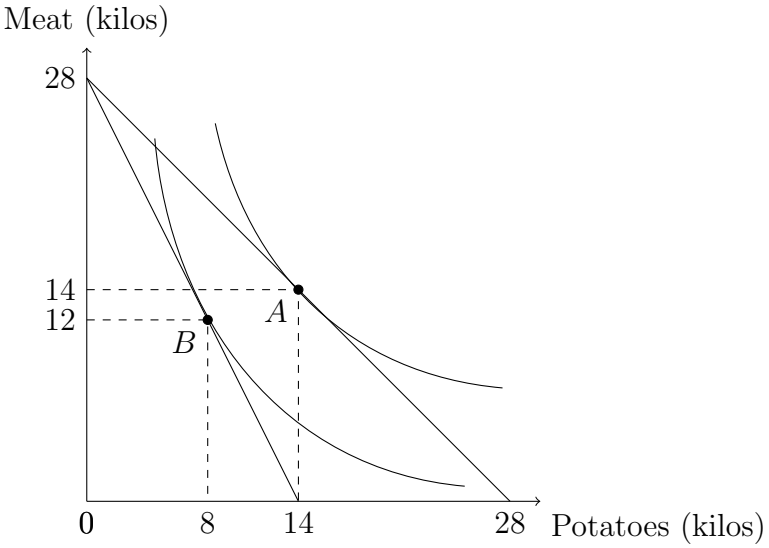
a. A is preferred to B

b. B is preferred to A

c. Both are preferred equally

d. Not enough information

3. The following graph shows Sacha's preferred consumption points A and B under two different budget lines. In both cases her income is \$280.



Which of the following points will be on Sacha's potatoes demand curve:

a. $(Q = 8, P = 12)$, $(Q = 14, P = 14)$

b. $(Q = 12, P = 20)$, $(Q = 14, P = 10)$

c. $(Q = 14, P = 28)$, $(Q = 28, P = 24)$

d. $(Q = 14, P = 10)$, $(Q = 8, P = 20)$

4. Emma's linear downward sloping demand curve for pizza has the same slope as Eric's; however, it lies to the right of Eric's. The same increase in the price of pizza will cause:

   a. Emma to incur a greater loss of consumer surplus than Eric will.

   b. Eric to incur a greater loss of consumer surplus than Emma will.

   c. Emma and Eric to incur the same loss of consumer surplus.

   d. Emmas demand curve to shift closer to Eric's.

The next questions are for your own practice.

5. Rick's income is \$1400 and he consumes only two goods, food and books. We know that the price of food is \$2 and the price of books is \$20. Which of the following are true?

   I. Rick's marginal rate of substitution of one unit of food per book at his consumption point is 1/10 books.

   II. If Rick got an extra \$600 for income, he would consume at a point where his marginal rate of substitution of food per book is the same as without the change in income.

   III. After receiving his extra \$600 for income, Rick consumes food and books in the same proportion as before.

   a. I only

   b. II only.

   c. I and II only.

   d. I and III only.

   e. II and III only.

   f. All the statements are true

6. Suppose that ice cream and frozen yogurt are perfect substitutes to Ryan. Currently, he consumes 1 ice cream and no frozen yogurt. He receives a coupon for one free frozen yogurt. The coupon cannot be traded and can only be used for the consumption of one frozen yogurt. Which of the following is his new optimal bundle?

   a. 2 ice cream, 0 frozen yogurt

b. 1 ice cream, 1 frozen yogurt

c. 0 ice cream, 2 frozen yogurt

d. 2 ice cream, 1 frozen yogurt

7. Suppose that $MU_X = Y$ and $MU_Y = X$. The prices of good X and good Y are \$5 and \$4, respectively. How many units of good X does the consumer buy if she has \$410 of income?

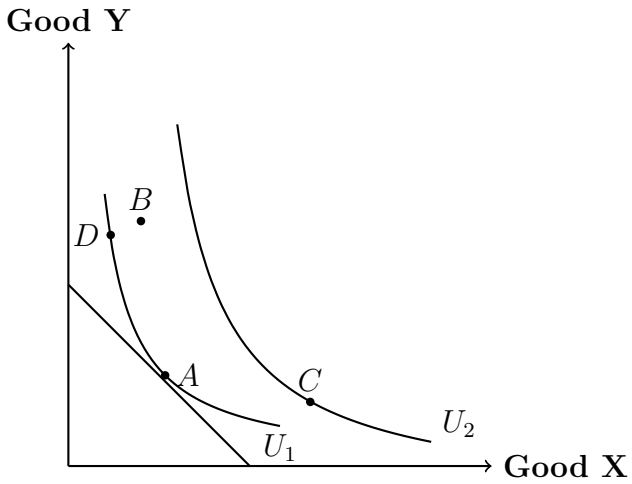
   a. 15

   b. 41

   c. 25

   d. 33

8. The graph below shows a consumer's budget line, two of her indifference curves and four possible consumption bundles of goods X and Y.



   Bundle A is at the exact tangency point of the indifference curve U_1 and the budget line. Given this information, which of the following statements are true?

   I. If it were feasible, the consumer would choose bundle B

   II. The consumer chooses bundle A

   III. Bundle A is preferred to bundle D;

   IV. Both bundles B and C yield the consumer higher utility than A

   a. I and II

   b. I and III

c. I and IV
d. II and III
e. II and IV
f. III and IV