Recitation 3

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Week 3 (9/11-9/17): Consumer Choice (end)

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

- Demand Elasticities

    - Percentage change, midpoint method

    - Price Elasticity of Demand: definition, sign, determinants

    - Extreme cases: perfectly elastic / perfectly inelastic

    - Relationship between price elasticity of demand and slope of demand

    - Elasticity on a linear demand changes throughout the demand line (unit-elastic at the "midpoint" on the demand line, elastic above and inelastic below)

    - Impact of a change in the price on sellers' total revenue (or consumers' expenditure) depends on price elasticity of demand

    - Cross-price elasticity of demand: definition, sign (substitutes vs. complements)

    - Income elasticity of demand: definition, sign (normal vs. inferior goods)

- Consumer Choice – Substitution and Income effects:

    - Identifying both effects on a graph

    - Describing directions of each effect.

    - Terminology: If P_X changes:

        * IE reinforces SE if X is normal
            · If X is a *necessity* (income elasticity < 1): IE is weak so total effect is not large: demand is more price-inelastic
            · If X is a *luxury* (income elasticity > 1): IE is strong so total effect is large: demand is more price-elastic
        * IE opposes SE if X is inferior
            · If $IE < SE$: X is *ordinary* (demand for X is downward sloping)
            · If $IE > SE$: X is a *Giffen* good (demand for X is upward sloping)

1. Doug spends all his money on books and beer. When Doug quit his job and moved to the United States to attend graduate school, his income fell by 50%. Fortunately, beer (an inferior good) is 50% cheaper in the USA. The price of books (a normal good) is the same as in his home country. Which of the following is true?

   a. Doug consumes less of both goods.

   b. Doug consumes more of both goods.

   c. Doug consumes less beer and more books.

   d. Doug consumes fewer books but more beer.

2. Suppose Kelly consumes only donuts and coffee, and she views them as perfect complements. Which of the following statements must be true?

   I. If the price of donuts decreases, her consumption of coffee decreases due to the substitution effect.

   II. When the price of donuts decreases, it is not clear if her consumption of coffee would increase or decrease.

   III. Both donuts and coffee must be normal goods for Kelly.

   a. I. only

   b. II. only

   c. III. only

   d. I. and II.

   e. I. and III.

   f. II. and III.

   g. I., II. and III.

   h. None

3. After William helped his friend John out of a tight spot, John gave William a gift voucher for $100 to spend at one of John's many hotel restaurants. William believes a beer cost $15 and a steaks cost $25 at the restaurant and plans to purchase 5 beers and 1 steak. However, when William arrives for his dinner, he realizes that steaks are actually $20, and decides to purchase 4 beers and 2 steaks instead. Which of the following is true?

   I. William's demand for steak is price-elastic between $20 and $25

   II. Steak and beer are substitutes for William

   III. Steak must be a normal good for William

a. I. only

b. II. only

c. III. only

d. I. and II.

e. I. and III.

f. II. and III.

g. I., II. and III.

h. None

The next questions are for your own practice.

4. In an economy with two goods, apples and oranges, which of the following is always true?

a. The income elasticity of demand for either apples or oranges is positive

b. The cross-price elasticity of one good for the other is positive

c. Apples and oranges are complements

d. Either apples or oranges is inferior

5. Suppose Insomnia Cookies (in Houston Hall) marks down all its cookies to $1 on Wednesdays. The store manager finds that their revenue from cookies decreases on Wednesdays, but that strategy may still be worthwhile because it encourages customers to buy more ice cream. What can Insomnia Cookies conclude about the market for cookies?

I. Demand for cookies is price-elastic

II. Cookies and ice cream are complements

a. I. only

b. II. only

c. I. and II.

d. Neither I. nor II.

6. Which of the following is always correct?

a. The price elasticity of demand is equal to the inverse of the slope of the demand curve.

b. If the cross-price elasticity of demand is positive, the two goods are complements

c. Along a linear demand curve, the price elasticity of demand is constant

d. None of the above

7. Philly's bike share service Indego has reported falling revenues in the past. To counteract that downward trend, the service decides to reduce its daily price for bike rental from $11 to $9, hoping to see an increase of 30% in Indego bike ridership. They are assuming that demand for Indego bike ride is:

a. Unit Elastic

b. Elastic

c. Inelastic

d. Can't be determined

8. In a Philadelphia high school, 30% of seniors drive to school and 70% ride their bicycles. The price of gasoline increases from $1 a gallon to $3 a gallon. After the price change, 10% of the seniors decide to drive to school. The seniors' demand for gasoline is:

a. perfectly elastic

b. elastic

c. unit-elastic

d. inelastic

e. perfectly inelastic

9. A survey of fruit consumed by Penn students shows that when peaches cost $5, 100 peaches are demanded. When peaches cost $3, 200 peaches are demanded. Which of the following statements is true about the demand for peaches between these two prices?

a. It is elastic

b. It is inelastic

c. It is unit-elastic

d. Not enough information.

10. The demand for hot dogs at the Phillies Stadium is given by a linear downward sloping demand. As the price of hot dogs increases, what happens to the price elasticity of demand for hot dogs in the Phillies Stadium?

a. It increases.

b. It decreases.

c. It stays the same.

d. We require more information about the demand curve.

11. John owns a sporting good store in Missouri. As the price of footballs increases from \$20 to \$25, water bottle sales decrease from 50 to 40 per day. What is the cross-price elasticity of demand for water bottles with respect to the price of footballs?

    a. -2

    b. -1

    c. 0

    d. 1

    e. 2

12. Alex usually buys 2 bagels and 4 coffees at the Walnut street cafe. Today, the cafe offers 20% off bagels, so Alex decides to buy 4 bagels and 4 coffees. Which of the following must be true for Alex?

    I. Bagels is a normal good

    II. Coffee is a normal good

    III. Bagels and coffee are complements

    IV. Alex's demand for coffee is perfectly inelastic

    a. Only I.

    b. Only II.

    c. Only III.

    d. I. and II.

    e. I. and III.

    f. II. and III.

    g. I., II. and III.

    h. I., II. and IV.

    i. I., II., III., and IV.