Version 111

THE UNIVERSITY OF WESTERN ONTARIO
LONDON CANADA
Department of Economics
Economics 2150A - 003
Sample Mid-term #1

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Multiple Choice (2 marks each)

1. Let $U = x^2y^3$ be the utility function of an individual who may purchase goods x and y. Which of the following statements is true for this utility function?

   A) Good x and good y are perfect complements.
   B) The underlying preferences do not display a "taste for variety".
   C) As x increases and y decreases, the marginal rate of substitution decreases.
   D) The underlying preferences for this utility function are not transitive.
   E) None of the above.

2. Let Martha's marginal utility of raspberries be 5 and her marginal utility from strawberries be 4. The price of a box of raspberries is $2.00 and the price of a box of strawberries is $1. Which of the following statements is true for Martha?

   A) Martha is at an interior consumption optimum.
   B) Martha could increase her utility by increasing her consumption of raspberries and decreasing her consumption of strawberries.
   C) Martha could increase her utility by decreasing her consumption of raspberries and increasing her consumption of strawberries.
   D) Martha is maximizing her utility.
   E) A) and D).

3. Let the demand for market be $P = 2500 - q/3$. Which of the following is true?

   A) The price elasticity of demand is -1/4 when q = 6000.
   B) The price elasticity of demand is -1/3 when q = 6000.
   C) The price elasticity of demand is -2.
   D) The income elasticity is 2500.
   E) The cross price elasticity is 3.

4. An individual consumes two goods, x and y, and has utility $U = x + y$, income I and faces prices p_x and p_y for goods x and y. Which of the following statements is true?

A) The demand for good x is $x = I/(p_x + p_y)$.
B) x is a normal good.
C) x is an inferior good.
D) y is an inferior good.
E) B) and D).

5. A consumer choosing between apples and oranges is at her best affordable point. Then the price of apples decreases. If both apples and oranges are normal goods, which of the following statements is true about her new best affordable point?

A) She will consume more apples and more oranges.
B) She will consume more apples and fewer oranges.
C) She will consume fewer apples and more oranges.
D) She will consume fewer apples and fewer oranges.
E) She will consume more apples, and we cannot tell for sure whether she will consume more or less oranges.

6. Which of the following is true at the best affordable choice for a consumer?

A) Marginal rate of substitution exceeds the slope of the budget line.
B) Marginal rate of substitution is less than the ratio of prices.
C) Expenditures exhaust income.
D) The consumption choice is beyond the budget line.
E) Utility can be raised by altering the consumption bundle.

7. If the demand for a good is unit elastic, then

A) a 5 percent increase in price will cause a 5 percent increase in total revenue.
B) a 5 percent increase in price will cause a 5 percent decrease in total revenue.
C) a 5 percent increase in price will cause total revenue to be unchanged.
D) a 5 percent increase in price will cause an increase in total revenue greater than 5 percent.
E) a 5 percent increase in price will cause an increase in total revenue less than 5 percent.

8. Revenues from the sale of a good will increase if

A) income increases and the good is inferior.
B) its price rises and demand is elastic.
C) its price rises and the demand is inelastic.
D) income falls and the good is normal.
E) its price falls and demand is inelastic.

9. Suppose that the quantity of root beer demanded declines from 103,000 liters per week to 97,000 liters per week as a consequence of a 10 percent increase in its price. The price elasticity of demand

A) is -0.6.
B) is -1.97.
C) is -6.
D) is elastic.
E) cannot be computed unless we know the before and after prices.

10. If X is a normal good and consumer income rises, the demand for X will

A) increase, and thus the price will rise and the quantity traded will increase.
B) increase, and thus the price will rise but the quantity traded will decrease.
C) decrease, and thus the price and quantity traded will decrease.
D) decrease, and thus the price will fall but the quantity traded will increase.
E) decrease, and thus both the price and the quantity traded will rise.

11. If both demand and supply increase, what will be the effect on the equilibrium price and quantity traded?

A) Both the price and quantity traded will increase.
B) Price will fall but the quantity traded will increase.
C) Quantity traded will increase but the equilibrium price could either rise or fall.
D) Price will rise but the quantity traded could either increase or decrease.
E) Price could either fall or rise, and quantity traded could either increase or decrease.

12. Suppose that the supply of apples can be represented by the following equation: $Q^s = 2P + 500$. Further suppose that the demand for apples can be represented by the following equation: $Q^d = 900 - 3P$. Which of the following is the equilibrium price in the market for apples?

A) 10
B) 50
C) 80
D) 100
E) 120

13. Suppose demand is given by $Q^d = 400 – 15P + I$, where Q^d is quantity demanded, P is price and I is income. Supply is given by $Q^s = 5P$, where Q^s is quantity supplied. When $I = 200$, equilibrium price is
    A) 15
    B) 20
    C) 25
    D) 30
    E) 35

14. Which of the following would cause an unambiguous decrease in the equilibrium quantity in a market?
    A) a rightward shift in supply and a rightward shift in demand.
    B) a rightward shift in supply and a leftward shift in demand.
    C) a leftward shift in supply and a rightward shift in demand.
    D) a leftward shift in supply and a leftward shift in demand.
    E) a rightward shift if supply and a no change in demand.

15. Suppose that the market for newspaper is initially in equilibrium. Further suppose that there is both an increase in the price of ink and a decrease in the price of magazines, which people may read in place of a newspaper. Which of the following accurately describes the new equilibrium?
    A) The equilibrium price will rise; the equilibrium quantity is ambiguous.
    B) The equilibrium price is ambiguous; the equilibrium quantity will fall.
    C) The equilibrium price will fall; the equilibrium quantity is ambiguous.
    D) The equilibrium price is ambiguous; the equilibrium quantity will rise.
    E) The equilibrium price will rise, and the equilibrium quantity will rise.

16. Which of the following is False?
    A) Rightward shift in demand + unchanged supply curve = higher equilibrium price and larger equilibrium quantity
    B) Rightward shift in demand + Rightward shift in supply curve = lower equilibrium price and smaller equilibrium quantity
    C) Leftward shift in supply + unchanged demand curve = higher equilibrium price and smaller equilibrium quantity
    D) Leftward shift in demand + unchanged supply curve = lower equilibrium price and smaller equilibrium quantity
    E) Rightward shift in supply + unchanged demand curve = lower equilibrium price and larger equilibrium quantity

17. An income elasticity of demand for milk of 0.1 could mean that
    A) as income falls by 10 percent, quantity demanded rises by 1 percent.
    B) as income rises by 100 percent, quantity demanded rises by 1 percent.
    C) as income rises by 20 percent, quantity demanded rises by 10 percent.
    D) as income rises by 50 percent, quantity demanded rises by 25 percent.
    E) as income rises by 10 percent, quantity demanded rises by 1 percent.

18. A cross price elasticity of demand for product *A* with respect to the price of product *B* of 0.3 means that
    A) an increase in the price of A by 10 percent gives rise to an increase in quantity demanded of B by 3 percent.
    B) an increase in the price of B by 10 percent gives rise to an increase in the quantity demanded of A by 3 percent.
    C) an increase in the price of B by 10 percent gives rise to a decrease in the quantity demanded of A by 3 percent.
    D) an increase in the price of A by 10 percent gives rise to a decrease in the quantity demanded of B by 3 percent.
    E) an increase in the price of B by 10 percent gives rise to a decrease in the quantity demanded of A by 0.3 percent.

19. The assumption that "more is better" requires the consumer
    A) to rank any two baskets.
    B) to say that basket *C* is preferred to basket *A* if basket *B* is preferred to basket *A* and basket *C* is preferred to basket *B*.
    C) to rank a basket with more units of all goods higher than a basket with fewer units of all goods.
    D) to have a diminishing marginal rate of substitution.
    E) to have a increasing marginal rate of substitution.

20. Marginal utility
    A) is the ratio of total utility to total consumption.
    B) is the rate at which total utility changes as the level of consumption rises.
    C) will always be equal to the product's price.
    D) tells us nothing; we're only concerned with total utility.
    E) must never greater than one

21. Suppose that a consumer has utility function $U(x, y)$ with $MU_x = 5y^2x$ and $MU_y = 2x^2y$. What is the marginal rate of substitution?
    A) $10y^3x^3$
    B) $2x/5y$
    C) $10y/2x$
    D) $5y^2x^2$
    E) $5y/2x$

22. Consider the utility function $U = 5x + 3y^2$. The indifference curves for this utility function
A) will be straight lines.
B) will have the same $MRS_{x,y}$ as y increases holding x constant.
C) will have the same $MRS_{x,y}$ as x increases holding y constant.
D) will have a diminishing marginal rate of substitution as the consumer substitutes x for y.
E) will be L-shaped.

23. Suppose the marginal rate of substitution of x for y is constant for all levels of x and y. Goods x and y are
A) perfect substitutes.
B) perfect complements.
C) normal goods.
D) inferior goods.
E) unrelated goods.

24. Suppose the price of A is \$20 per unit, the price of B is \$10 per unit, and the consumer's income is \$1000 per month. The equation of the budget line is
A) $1000 = 10A + 20B$
B) $1000 = 20A + 10B$
C) $20A = 10B$
D) $10A = 20B$
E) $1000 = A + B$

25. Let I be the income of the consumer, P_x be the price of good x and P_y be the price of good y. If good x is measured along the horizontal axis and good y is measured along the vertical axis, then the "x-intercept" measures the maximum amount of good x that the consumer can afford, which can be expressed as
A) P_x / P_y
B) I / P_y
C) I / P_x
D) P_x / I
E) Equal to the level of consumption of good x.

26. At a consumer's interior optimum solution, which of the following will *not* necessarily hold true?
A) $MU_x = MU_y$
B) $\frac{MU_x}{MU_y} = \frac{P_x}{P_y}$
C) $MRS_{x,y} = \frac{MU_x}{MU_y}$
D) $MRS_{x,y} = \frac{P_x}{P_y}$
E) Marginal utility per dollar is the same for both goods.

27. Suppose the price of *A* is \$20, the price of *B* is \$10, and that the consumer is currently spending all available income. At the consumer's current consumption basket the marginal utility of *A* is 8 and the marginal utility of *B* is 4.
A) The consumer is not currently maximizing utility.
B) The consumer could increase utility by consuming more of good *A* and less of good *B*.
C) The consumer could increase utility by consuming more of good *B* and less of good *A*.
D) Nothing can be said about the consumer's utility because we do not know the consumer's income or utility function.
E) The consumer is currently maximizing utility.

28. Suppose that $MU_x = y$ and $MU_y = x$. Further suppose that the consumer's budget constraint can be expressed as $20x + 10y = 400$. For this consumer, the optimal amount of good *x* to buy would be
A) 5.
B) 10.
C) 20.
D) 30.
E) 40.

29. Suppose when the consumer's income rises by 100%, the consumer's consumption of good *x* falls by 1%. We can infer that the consumer's income elasticity for good *x* is
A) –1
B) –0.01
C) 1
D) 0.01
E) 100

30. A composite good
A) must only be consumed by itself.
B) is always an inferior good.
C) is made up of all other goods combined.
D) is not part of the budget constraint.
E) does not enter the utility function.

31. If demand decreases and supply increase, then
A) the quantity traded will increase but the effect on the price is indeterminate.
B) the quantity traded will decrease but the effect on the price is indeterminate.
C) the price will fall but the effect on quantity traded will be indeterminate.
D) the price will rise but the effect on quantity traded will be indeterminate.
E) the effect on both price and quantity traded will be indeterminate.

32. Which of the following will cause a decrease in the equilibrium price?
A) An increase in both demand and supply.
B) A decrease in both demand and supply.
C) An increase demand combined with a decrease in supply.
D) A decrease demand combined with a increase in supply.
E) Any of the above, depending on the circumstances

33. Revenues from the sale of a good will decrease if
A) income increase and the good is normal.
B) its price rises and demand is elastic.
C) its price rises and demand is inelastic.
D) income falls and the good is inferior.
E) it price falls and demand is elastic.

34. Fred's income has just risen from $946 to $1060 per week. As a result he decides to purchase 9 percent more gum per week. The income elasticity of Fred's demand for gum is
A) 0.9.
B) 1.33.
C) 1.0.
D) 0.12
E) 0.75.

35. An increase in the price of good A will
A) shift the demand curve of good B to the right if the cross price elasticity of demand between A and B is negative.
B) shift the demand curve of good B to the right if the cross price elasticity of demand between A and B is positive.
C) shift the supply curve of good B to the right if the cross price elasticity of demand between A and B is negative.
D) shift the supply curve of good B to the right if the cross price elasticity of demand between A and B is positive.
E) shift the demand curve of good B to the right if the cross income elasticity of demand between A and B is positive.

36. Identify the statement that is *false*.
A) An increase in the amount of income changes the intercepts of the budget constraint but not the slope.
B) An increase in the price of good x changes both the x-intercept and the slope of the budget constraint.
C) An increase in the price of good x and an equal percentage increase in the price of good y changes the x-intercept, the y-intercept, and the slope of the budget constraint.
D) An increase in the price of good x and an increase in the price of good y may or may not change the slope of the budget constraint.
E) A decease in the price of good y changes the slope of the budget constraint.

37. When given a choice between a cash subsidy and a voucher worth the same dollar amount, but only good for the purchase of a single good,
A) the consumer will always prefer the voucher to the cash subsidy or be indifferent between the two.
B) the consumer will always prefer the cash subsidy to the voucher or would be indifferent between the two.
C) the consumer might prefer the cash subsidy to the voucher or might prefer the voucher to the cash subsidy.
D) the consumer would prefer to receive neither the cash subsidy nor the voucher.
E) the consumer would keep the same level of consumption with either.

38. Assume that we are modeling inter-temporal consumption for a typical consumer. Further assume that we measure current consumption on the horizontal axis and future consumption on the vertical axis. A market exists where borrowing and lending can occur for a fixed interest rate, *r*. Now identify the statement that is *false*.
    A) When a consumer can lend or borrow at the same interest rate, the consumer's budget constraint is a straight line.
    B) When the rate at which a consumer can borrow is higher than the rate at which the consumer can lend, the consumer's budget constraint is composed of two straight lines with different slopes.
    C) When a consumer cannot borrow money or earn an interest rate for saving money, the consumer's budget constraint is a straight line.
    D) When a consumer has access to financial markets so that he/she can lend or borrow money, his/her budget constraint is expanded when compared to his/her budget constraint without access to financial markets.
    E) Without access to financial markets the consumer must have consumption equal to their level of income

39. Suppose again the government offers poor people a housing voucher and units of housing is graphed on the x-axis and the composite good is graphed on the y-axis. The consumer will always choose to consume the exact amount of the housing voucher's units of housing when
    A) the consumer's indifference curves are everywhere steeper than the budget line.
    B) the consumer chooses to move into a better school district for educational purposes.
    C) the housing voucher causes the budget line to shift toward the origin.
    D) the consumer's indifference curves are flatter (closer to horizontal) than the budget line where it slopes upward.
    E) housing is a normal good.

40. When analyzing how borrowing and lending affect the consumer's budget constraint, we measure spending in the current time period on the horizontal axis and spending in the future time period on the vertical axis. Assume that the interest rate at which the consumer can lend and borrow is 10%, income in period 1 is $1000 and income in period 2 is $1200. The point of maximum current consumption can be expressed as

    A) 1000+ 1200/1.1.
    B) 1000(1.1) + 1200.
    C) 1000+ 1200 + .1
    D) 1000/1.1 + 1200/1.1 + 1.
    E) 1000+ 1200

41. Suppose a consumer buys two goods, x and y and has income of \$30. Initially $P_x = 3$ and $P_y = 3$ and the consumer chooses basket A with $x = 5$ and $y = 5$. The prices change to $P_x = 4$ and $P_y = 2$ and the consumer chooses basket B with $x = 1$ and $y = 13$.
A) These choices are consistent with utility maximization.
B) These choices are not consistent with utility maximization.
C) With this information it is not possible to determine if these choices are consistent with utility maximization.
D) Basket B must be strictly preferred to basket A.
E) Basket B must be indifferent to basket A.

42. Revealed preferences tells us that if basket A costs less than basket B but the consumer chooses B instead of A, then we know that
A) A is strictly preferred to B.
B) A is at least as preferred to B.
C) B is strictly preferred to A.
D) B is as least as preferred to A.
E) B is must be indifferent to A.

43. If a consumer purchases two goods, food (measured along the x axis) and housing (measured along the y axis), then what happens to the slope of the consumer's budget constraint if the price of food falls?
A) The new budget constraint shifts inward but is parallel to the original budget constraint.
B) The new budget constraint pivots inward (towards the origin) along the x axis. The new slope is steeper than the original slope.
C) The new budget constraint pivots inward (towards the origin) along the x axis. The new slope is flatter than the original slope.
D) The new budget constraint pivots outward (away from the origin) along the x axis. The new slope is flatter than the original slope.
E) The new budget constraint shifts outward but is parallel to the original budget constraint.

44. A corner point solution is always the optimum for a consumer when
A) a unique point of tangency exists between the consumer's indifference curve and the budget line
B) the consumer has straight line (constant slope) indifference curves
C) there is no unique point of tangency between the consumer's indifference curves and the budget line and the consumer does not have straight line indifference curves.
D) the consumer is indifferent to both goods equally.
E) the consumer is has a limited level of income.

45. Suppose the price of good x is \$5 and the price of good y is \$7. Also, suppose $MU_x = y$ and $MU_y = x$. Which of the following baskets could be an interior optimum?

A) $x = 5, y = 7$
B) $x = 4, y = 6$
C) $x = 7, y = 5$
D) $x = 6, y = 4$
E) $x = 5, y = 4$

46. Suppose that $MU_x = 10$ and $MU_y = 20$. Further suppose that the consumer's budget constraint can be expressed as $20x + 10y = 400$. For this consumer, the optimal amount of good x to buy would be

A) 5.
B) 0.
C) 20.
D) 40.
E) 10

47. Which of the following utility functions is an example of Cobb-Douglas preferences?

A) $U(x, y) = y\sqrt{x}$
B) $U(x, y) = \min\{2x, y\}$
C) $U(x, y) = 3x + 5y$
D) $U(x, y) = 2x^2 + 4y$
E) $U(x, y) = 2x^2 + 4y^2$

48. Imagine an indifference curve graph with units of clothing on the y-axis and visits to the neighborhood pizza joint for dinner on the x-axis. If the indifference curves for this individual are negatively sloped but close to horizontal, it means

A) the marginal utility from another pizza dinner is high relative to the marginal utility of clothing.
B) the marginal utility from another pizza dinner is low relative to the marginal utility of clothing
C) this person doesn't like pizza at all.
D) this person can spend a lot of money on clothes at times.
E) pizza in an inferior good

49. A measure of the rate of percentage change of quantity demanded with respect to price, holding all other determinants of demand constant is

A) Price elasticity of market equilibrium
B) Price elasticity of demand
C) Price elasticity of supply
D) Price elasticity equilibrium
E) Price elasticity of income

50. Suppose that when the price of a good is $15, the quantity demanded is 40 units, and when the price falls to $6, the quantity increases to 60 units. The price elasticity of demand near a price of $6 and a quantity of 60 can be calculated as:

A) –5/6
B) –2
C) -2/9
D) –9/2
E) –9

Solutions Econ 2150

1 C
2 C
3 A
4 B
5 E
6 C
7 C
8 C
9 A
10 A
11 C
12 C
13 D
14 D
15 B
16 B
17 E
18 B
19 C
20 B
21 E
22 C
23 A
24 B
25 C
26 A
27 E
28 B
29 B
30 C
31 C
32 D
33 B
34 E
35 B
36 C
37 B
38 C
39 D
40 A
41 A
42 C
43 D
44 C
45 C
46 B
47 A
48 B
49 B
50 C