File: ch04, Chapter 4: Consumer Choice

Multiple Choice

1.   Suppose a consumer has an income equal to I which he/she spends on either food or clothing. The price of food is given by P_f and the price of clothing is given by P_c. If the consumer spends all of his/her income on clothing, the expression for the number of units of clothing he/she buys is
    a) I/P_f
    b) $I \times P_c$
    c) I/P_c
    d) I

2.   If food is on the x-axis and clothing is on the y-axis, using the information in problem 1 above, the consumer is at the
    a)   point of maximum indifference.
    b)   y-intercept.
    c)   interior of the budget constraint.
    d)   origin.

3.   Suppose a consumer has an income I = $50 which he/she spends on pizza and tacos per month. The price of pizza is $10 and the price of tacos is $5. If the units of pizza consumed per month is on the x-axis and the units of tacos consumed per month is on the y-axis, the slope of the budget line is equal to
    a)   1/2
    b)   2
    c)   -2
    d)   2I

4.   Using the information in problem 3 above and letting Z = the quantity of pizza per months and T = the number of tacos per month, the equation for the budget line is best represented by

a) $10 = 10Z + 5T$
b) $1000 = 20Z + 10T$
c) $50 = 10Z + 5T$
d) $1000 = A + B$

5.   An agent consumes goods x and y, with prices $P_x =$ $5 per unit and $P_y =$ $8 per unit. The consumer's income is $I =$ $48. The government imposes a tax of $1 per unit on good x. What is the new equation for the budget constraint?
a) $y = 6 – (5/8)x$
b) $y = 6 - .75x$
c) $y = 8 – (6/8)x$
d) $y = 48 – 8x$

6.   The budget line
a)   represents the set of all baskets the consumer can afford.
b)   represents the set of all baskets the consumer can afford while spending all available income.
c)   represents the set of all baskets that give the consumer the same level of utility while holding spending constant.
d)   represents the set of all baskets in which the consumer purchases only one of the goods.

7.   A set of baskets that a consumer can purchase with a limited amount of income is
a)   Consumer choice
b)   Consumer purchase
c)   Budget Constraint
d)   Budget line

8.   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. Which of the following baskets is not on the consumer's budget line?
a) $A = 40, B = 20$
b) $A = 5, B = 90$
c) $A = 2.5, B = 95$

      d)   *A = 20, B = 40*

9.   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)   *1000 = A + B*

10.   Evaluate the truthfulness of the following statements.
      I.   The budget constraint is a function of consumer preferences.
      II.   The budget constraint defines the set of baskets that a consumer can purchase with a specific level of income.

      a)   Both I and II are true.
      b)   Both I and II are false.
      c)   I is true; II is false.
      d)   I is false; II is true.

11.   Evaluate the truthfulness of the following statements.
      I.   All points to the interior of the budget constraint are affordable.
      II.   All points that lie on the budget constraint cost the same amount of money.

      a)   Both I and II are true.
      b)   Both I and II are false.
      c)   I is true; II is false.
      d)   I is false; II is true.

12.   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

13.   If good x is measured along the horizontal axis and good y is measured along the vertical axis, then the slope of the budget constraint can be expressed as

a) $-P_x/P_y$

b) $-I/P_y$

c) $-I/P_x$

d) $-P_y/P_x$

14.   If a consumer purchases two goods, food (measured along the x axis) and housing (measured along the y axis), and if the price of food is $3 per unit and the price of housing is $400 per unit, then what is the slope of the consumer's budget constraint if the consumer has an income of $600?
a)   -3/600.
b)   -3/400
c)   -400/600
d)   -400/3

15.   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.

16.   Suppose all prices double and income triples. The budget line
        a)   will become steeper.
        b)   will become flatter.
        c)   will shift in toward the origin.
        d)   will shift out from the origin.

17.   Suppose the price of A is $20 and the price of B is $10 and that good A is plotted on the horizontal axis. If the price of A doubles and the price of B triples, leaving the consumer's income unchanged, the budget line
        a)   will become steeper.
        b)   will become flatter.
        c)   will shift in toward the origin.
        d)   will shift out from the origin.

18.   Suppose a consumer purchases two goods, A and B, and that the price of A doubles, the consumer's income doubles, and the price of B remains unchanged. If good A is plotted on the horizontal axis, the budget line
        a)   will remain unchanged.
        b)   will become steeper.
        c)   will become flatter.
        d)   will shift out from the origin parallel to the original budget line.

19.   If a consumer purchases two goods, food (measured along the x-axisaxis) 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.

20.   Suppose that a consumer's income triples. However, at the same time, both the price of x and the price of y also triple. This consumer has experienced
      a)   an increase in purchasing power.
      b)   a decrease in purchasing power.
      c)   no change in purchasing power.
      d)   a pivot in the budget constraint with an undetermined effect on purchasing power.

21.   Suppose that the quantity of pizzas consumed per month is on the x-axis and the quantity of tacos consumed per month is on the y-axis, an increase in the price of pizza holding the price of tacos constant will

      a)   cause the budget line to shift inward toward the origin in a parallel fashion.
      b)   cause the y-intercept to remain the same, but the x-intercept will move closer to the origin.
      c)   cause the budget line to shift outward from the origin in a parallel fashion.
      d)   cause the x-intercept to shift away from the origin.

22.   Given the expression min $_{(x,y)}$ expenditure $P_x x + P_y y$ subject to: $U(x, y) = U^*$, the endogenous variables are
      a) x and P_x.
      b)   only U^*.
      c) x and y.
      d) P_x and P_y.

23.   Consumer choice of the basket of goods that (a) maximizes utility (b) allows his/her to live within the budget constraint and (c) includes a positive amount of all commodities is the consumer's
      a)   Optimal choice
      b)   Maximum choice
      c)   Interior optimum
      d)   Consumer choice

24.   The theory of consumer choice
    a)   describes how a consumer chooses between different budget constraints.
    b)   describes how a consumer chooses between different income levels.
    c)   describes how a consumer allocates her limited income among available goods and services.
    d)   describes how a consumer allocates her limited preferences among available income levels.

25.   The tangency condition for the optimal choice for a consumer is given by
    a) $MRS_{x,y} = P_y/P_x$
    b) $MU_x/MU_y = 1$
    c) $MRS_{x,y} = P_x/P_y$
    d) $MU_x/MU_y = P_y/P_x$

26.   At a consumer's interior optimum solution, which of the following will *not* necessarily hold true?
    a) $MU_x = MU_y$
    b) $\dfrac{MU_x}{MU_y} = \dfrac{P_x}{P_y}$
    c) $MRS_{x,y} = \dfrac{MU_x}{MU_y}$
    d) $MRS_{x,y} = \dfrac{P_x}{P_y}$

27.   The "equal bang for the buck" idea means that the consumer is equating
    a)   the marginal utilities of all of the goods purchased.
    b)   the prices of all the goods purchased.
    c)   the marginal utilities of the last dollar spent on each good purchased.
    d)   the ratios of the last dollar spent on each good purchased.

28.   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 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.

29.   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 6 and the marginal utility of B is 4.
    a)   The consumer is 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.

30.   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 2.
    a)   The consumer is 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.

31.   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 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.

32.   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) $x = 6, y = 4$

33.   Suppose that $U(x,y) = min(3x,y)$. Further suppose that $P_x = \$5$ per unit and $P_y = \$10$ per unit and income is $I = \$105$. For this consumer, the optimal basket to buy would be
a) $(x,y) = (9,3)$
b) $(x,y) = (3,1)$
c) $(x,y) = (1,3)$
d) $(x,y) = (3,9)$

34.   Suppose that the ratio of marginal utility to price for good A is 10, and the ratio of marginal utility to price for good B is 5. Assume that for her current consumption of goods A and B the consumer is experiencing diminishing marginal utility for each good. In order for this consumer to be at her utility maximizing point, she should
a)   consume less A and more B.
b)   consume more A and less B.
c)   consume more A and more B.
d)   do nothing – the consumer is already in equilibrium.

35.   Which of the following statements is true about the consumer's expenditure minimization problem?
a)   The consumer's expenditure minimization problem results in the same optimal basket as the consumer's utility maximization problem if the required level of

utility for the expenditure minimizer is the same as the maximized utility for the utility maximizer.
b)   The consumer's expenditure minimization problem has an optimum at an expenditure of zero.
c)   The consumer's utility maximization problem results in a tangency between the budget constraint and an indifference curve, whereas the expenditure minimization problem results in a solution where the indifference curve crosses the budget line.
d)   The consumer always prefers to maximize utility rather than to minimize expenditure.

36.   Economists describe consumer choice as a constrained optimization problem. What is the consumer trying to do?
    a)   Maximize income subject to the budget constraint.
    b)   Maximize the budget constraint.
    c)   Maximize utility subject to the budget constraint.
    d)   Minimize spending.

37.   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.

38.   Suppose that a consumer considers coffee and tea to be perfect substitutes, but he requires two cups of tea to give up one cup of coffee. This consumer's budget constraint can be written as $3C + T = 10$. What should the consumer buy?
    a)   2 cups of tea and no coffee.
    b)   10 cups of tea and no coffee
    c)   3 cups of coffee and no tea.
    d)   4 cups of coffee and no tea.

39.   Suppose John is planning to join a sports club. Membership in the club will allow John to swim at the pool for half price. Normally swimming for an hour would cost $10. If John has an income of $1000, the club membership fee is $100, and we plot the number of visits to the pool on the horizontal axis and a composite "other goods" which have a price of $1 on the vertical axis, the slope of John's budget line after joining the club will be
a)   −10
b)   −5
c)   −2
d)   −1

40.   Suppose that candies are usually sold at $0.05 a piece. The local candy store offers 2 extra candies for free upon purchase of any 10 pieces. Suppose that Laurel gets an allowance of $3.00 per week. Which of the following is a *false* statement about her budget constraint if Laurel may consume either candy, x, measured on the horizontal axis or a composite good, y, measured on the vertical axis and priced at $1.00 per unit?
a)   The maximum number of candies Laurel can purchase is 72.
b)   The budget constraint has horizontal segments.
c)   The budget constraint is a straight line with a negative slope.
d)   With normally shaped preferences, Laurel will never refuse the free candies.

41.   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.

42.   When comparing a cash subsidy and a voucher worth the same dollar amount, but only good for the purchase of a single good,
a)   a consumer can never be better off with a cash subsidy than with a voucher.
b)   a consumer can never be better off with a voucher than with a cash subsidy.
c)   a cash subsidy will always make the consumer better off than the consumer would be with a voucher.

      d)   a voucher will always make the consumer better off than the consumer would be with a cash subsidy.

43.   If a consumer states that he is indifferent between receiving a gift certificate for $10 at the local bookstore and receiving $10 cash, we can infer that this consumer
      a)   would spend less than $10 at the bookstore.
      b)   would spend at least $10 at the bookstore.
      c)   would spend more than $10 at the bookstore.
      d)   would spend exactly $10 at the bookstore.

44.   If the government would like to induce a consumer to consume a specific level of some good
      a)   a cash subsidy system would likely be cheaper for the government than a voucher system.
      b)   a voucher system would likely be cheaper for the government than a cash subsidy system.
      c)   the government should only use a cash subsidy system since this always make consumers better off.
      d)   the government should only use a voucher system since this always makes consumers better off.

45.   Suppose John is planning to join a sports club. Membership in the club will allow John to swim at the pool for half price. Normally swimming for an hour would cost $10. If John has an income of $1000, the club membership fee is $100, and we plot the number of visits to the pool on the horizontal axis and a composite "other goods" which have a price of $1 on the vertical axis, the equation of John's budget line after joining the club, where the composite good, y, is on the vertical axis and pool visits, x, are measured on the horizontal axis is
      a) $y = 900 - 5x$
      b) $y = 1000 - 5x$
      c) $y = 1000 - 10x$
      d) $y = 900 - 10x$

46.   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.

47.   Suppose the government is considering a program to give housing vouchers to poor people. Assuming the value of the voucher is greater than the amount currently being spent on housing per month by poor people, which of the following must be true?
   a)   The housing voucher will necessarily cause more units of housing to be consumed by poor people, whereas an unrestricted cash subsidy with the same dollar value would not.
   b)   The housing voucher will lead to fewer apartments for poor people.
   c)   A subsidy is always preferable, no matter what the policy goal as it allows for freedom of choice.
   d)   Voucher systems have no impact on the housing market.

48.   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 downward.

49. 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.

50. 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% and income in period 1 is $1000 while income in period 2 is $1200. The point of maximum future 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.

51. When we do not have information regarding a consumer's indifference map, which of the following analyses can provide additional information regarding the consumer's choices?
   a)   Revealed preference analysis.
   b)   Indifference curve analysis.
   c)   Market basket analysis.
   d)   Optimization analysis.

52. Revealed preferences tells us that if basket A and basket B lie on the same budget constraint but the consumer chooses B instead of A, then we know that
   a) A is strictly preferred to B.
   b) A is preferred to B.
   c) B is strictly preferred to A.
   d) B is preferred to A.

53.   Consider the concept of revealed preference. Suppose a consumer chooses basket A over
        basket B when basket B costs the same amount. The consumer
        a)   must find basket A better than basket B.
        b)   must find basket B better than basket A.
        c)   must find basket A at least as good as basket B.
        d)   must find basket B at least as good as basket A.

54.   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.

55.   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 $x = 2$ and $y = 8$. The prices
        change to $P_x = 4$ and $P_y = 2$ and the consumer chooses basket B with $x = 7$ and $y = 1$.
        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.

56.   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 $x = 7$ and $y = 3$. The prices change
        to $P_x = 4$ and $P_y = 2$ and the consumer chooses basket B with $x = 5$ and $y = 5$.
        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 preferred to basket A.

57.   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.