Econ8500_Consumer_Theory

Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 1. Indifference curves
a. do not intersect.
b. are contour lines of a utility function.
c. are most of the times negatively sloped.
d. all of the above.

____ 2. For an individual who consumes only two goods, *X* and *Y*, the opportunity cost of consuming one unit of *X* in terms of how much *Y* must be given up is reflected by
a. the individual's marginal rate of consumption.
b. the slope of the individual's budget constraint.
c. the slope of the individual's indifference curve.
d. none of the above.

____ 3. If bundles of goods *A* and *B* lie on the same indifference curve, it must be true that
a. the individual prefers bundle *A* to bundle *B*.
b. the individual prefers bundle *B* to bundle *A*.
c. the individual enjoys bundle *A* and *B* equally.
d. bundle *A* contains the same goods as bundle *B*.

____ 4. Bundles *A* and *B* both contain two economic goods. If bundle *A* lies on an indifference curve and bundle *B* lies to the right of the curve, the individual
a. prefers bundle *A* to bundle *B*.
b. prefers bundle *B* to bundle *A*.
c. enjoys bundle *A* and *B* equally.
d. cannot afford bundle *B*.

____ 5. "If an individual is to maximize the utility received from consumption, he or she should spend all available income…." This statement assumes
a. that saving is impossible.
b. that the individual is not satiated in any good.
c. that no goods are "inferior."
d. both a and b.

____ 6. 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
a. buy more steak and less beer.
b. buy more beer and less steak.
c. continue with current consumption plans.
d. Not enough information to answer this question.

____ 7. Suppose that at the current consumption level 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
a. 5.
b. 2.
c. 1/2.
d. 1/5.

____ 8. If an individual's indifference curve map does not obey the assumption of a diminishing MRS, then
   a. the individual will not maximize utility.
   b. the individual will buy none of good *X*.
   c. tangencies of indifference curves to the budget constraint may not be points of utility maximization.
   d. the budget constraint cannot be tangent to an appropriate indifference curve.

____ 9. As an individual moves northwest along an indifference curve, substituting more and more *Y* for *X*, his or her MRS of *X* for *Y*
   a. increases.
   b. decreases.
   c. stays the same.
   d. changes in a way that cannot be determined.

____ 10. The X-intercept of the budget constraint represents
   a. how much of good *Y* can be purchased if no good *X* is purchased and all income is spent.
   b. how much of good *X* can be purchased if no good *Y* is purchased and all income is spent.
   c. total income divided by the price of *X*.
   d. b and c.

____ 11. The point of tangency between a consumer's budget constraint and his or her indifference curve represents
   a. complete satisfaction for the consumer.
   b. the equivalence of prices the consumer pays.
   c. constrained utility maximization for the consumer.
   d. the least he or she can spend.

____ 12. An increase in an individual's income without changing prices will
   a. rotate the budget constraint about the X-axis.
   b. shift the indifference curves outward.
   c. shift the budget constraint outward in a parallel way.
   d. rotate the budget constraint about the Y-axis.

____ 13. The slope of the budget constraint is
   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 the above.

____ 14. If the price of *X* falls, the budget constraint
   a. shifts outward in a parallel fashion.
   b. shifts inward in a parallel fashion.
   c. rotates outward about the X-intercept.
   d. rotates outward about the Y-intercept.

____ 15. If an individual has a constant MRS of shoes for sneakers of ¾ (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
   a. buy only sneakers.
   b. buy only shoes.
   c. spend his or her income equally on sneakers and shoes.
   d. wear sneakers only ¾ of the time.

____ 16. *Ceteris paribus* is a
   a. Latin expression which means "other things being unimportant."
   b. Greek expression which means "other things being unimportant."
   c. Latin expression which means "other things being equal."
   d. Greek expression which means "other things being equal."

____ 17. When an individual cannot decide whether he likes a MEC Wanderer 2 tent better than a MEC Tarn 2 tent or vice versa, or whether he is indifferent between the two tents, his preferences violate the assumption of
a. nonsatiation.
b. transitivity.
c. completeness.
d. All of the above.

____ 18. Ron's utility from an apple is 10, and his utility from an orange is 3. Rob's utility from an apple is 5, and his utility from an orange is 6. This means that
a. Ron likes apples twice more than Rob.
b. Rob likes oranges twice more than Ron.
c. Ron prefers apples and Rob prefers oranges.
d. All of the above.

____ 19. Because of the assumption of ____, if Michelle likes Old Navy jeans more than Esprit jeans, and Jacobs jeans more than Old Navy jeans, we also know that she likes ____ jeans more than ____ jeans.
a. Completeness; Esprit; Jacobs.
b. Transitivity; Jacobs; Esprit.
c. Transitivity; Esprit; Jacobs.
d. "More is better"; Jacobs; Esprit.

____ 20. Indifference curves cannot cross because
a. they are always parallel.
b. they are widely spaced.
c. the marginal rate of substitution is diminishing.
d. the intersection point would have two levels of utility, and this is impossible.

____ 21. Left shoes and right shoes are perfect complements for most consumers. This type of preference violates the following assumption:
a. completeness.
b. transitivity.
c. more is better.
d. No assumption about preferences is violated.

____ 22. Bicycle frames and wheels are perfect complements for you: you need two wheels for every bicycle frame you own. If frames are on the X-axis and wheels are on the Y-axis, your indifference curves for bicycle frames and wheels have the following shape:
a. L-shape, with corners at (1,2), (2,4), (3,6) etc.
b. L-shape, with corners at (2,1), (4,2), (6,3) etc.
c. continuously downward sloping, because of the decreasing marginal rate of substitution.
d. upward sloping.

____ 23. Dave's utility function for Kokanee (K) and Guinness (G) beer is $U(K,G) = K + 2G$. This means that Dave would give up ____ bottle(s) of Guinness for ____ bottle(s) of Kokanee, and the two types of beer are ____.
a. one; two; substitutes, but not perfect substitutes.
b. two; one; substitutes, but not perfect substitutes.
c. one; two; perfect substitutes.
d. two; one; perfect substitutes.

____ 24. Dave's utility function for Kokanee (K) and Guinness (G) beer is $U(K,G) = 2K + 3G$. If we draw his indifference curves with K on the X-axis and G on the Y-axis, the absolute value of their slope will be
a. 2.
b. 3.
c. 2/3.
d. 3/2.

____ 25. The Real Canadian Superstore has a discount on corn cobs: they are ¢50 each for the first six cobs, and $1 for any additional cob. Jack's grocery budget is $50, and he can only buy corn cobs and a composite good called "other food." The price of a unit of other food is $1. Corn is on the X-axis and other food on the Y-axis. Jack's budget constraint crosses the X-axis at ____, the Y-axis at ____, and it has a kink at ____.
a. 100; 50; (6,47)
b. 50; 53; (6,50);
c. 50; 50; (6,44);
d. 53; 50; (6,47).

____ 26. Jane has $90 to spend on saskatoons (S) and blueberries (B). The marginal utility of saskatoons is $MU_S = 2B$, and the marginal utility of blueberries is $MU_B = S$. A crate of each costs $3. Jane's utility maximizing choice, (S^*,B^*), is:
a. (20,10).
b. (10,20).
c. (30,0).
d. (0,30).

____ 27. Heidi's consumption bundle consists of high-heel shoes and backpacking boots. Since she lives on a mountain hut in Switzerland, she perceives high-heel shoes as being a useless good. If high-heel shoes are on the X-axis and backpacking boots are on the Y-axis, Heidi's indifference curves are:
a. vertical.
b. horizontal.
c. upward sloping.
d. downward sloping.

____ 28. The Canadian Goods and Services Tax (GST) rate has been reduced from 7% to 6%, effective July 1, 2006. The two goods in your consumption bundle are: basic food, for which no GST is charged, and a composite good for which you must pay GST. If we put basic food on the vertical axis and the composite good on the horizontal axis, the tax rate change
a. shifts your budget constraint out.
b. shifts your budget constraint in.
c. makes your budget constraint flatter without changing its vertical intercept.
d. makes your budget constraint flatter without changing its horizontal intercept.

____ 29. The Canadian Goods and Services Tax (GST) rate has been reduced from 7% to 6%, effective July 1, 2006. The two goods in your consumption bundle are: basic food, for which no GST is charged, and a composite good for which you must pay GST. This tax rate change has
a. increased the opportunity cost of basic food.
b. increased the opportunity cost of the composite good.
c. decreased the opportunity cost of food.
d. decreased the opportunity cost of the composite good.

____ 30. A diminishing MRS implies that
a. people prefer variety in their consumption choices.
b. indifference curves are convex.
c. any bundle that represents an "average" between two equally attractive extremes will be preferred to those extremes.
d. All of the above.

____ 31. Kassie's marginal rate of substitution of good *X* for good *Y* is $MRS_{XY} = \frac{3Y}{2X}$. She is currently consuming four units of *Y* and two units of *X*. Should she accept an offer to trade two units of *Y* for one unit of *X*?
a. Yes, because trade always makes everyone better off.
b. No, because this would put her on a lower indifference curve.
c. No, because she cannot afford this trade.
d. Yes, because what she has to give up for the additional unit of *X* is less than her maximum willingness to pay.

____ 32. Ken is a passionate photographer who always frames three 6x8 pictures in one frame. He wants to frame some of the pictures from this year's trip to Iceland. He has $99, a frame costs $21 and printing one 6x8 photograph at the Nova Photo Centre in Calgary costs $4. Pictures and frames are ____. Ken will purchase ____ frames and he will print ____ pictures.
a. perfect substitutes; 2;6.
b. perfect substitutes; 3; 9.
c. perfect complements; 2;6.
d. perfect complements; 3;9.

____ 33. Ken's utility function for 6x8 photo prints from London Drugs (LD) and the Nova Photo Centre (N) is $U(LD, N) = LD + 1.5N$. The price of a print is $1.19 in London Drugs and $4 at the Nova Photo Centre. Given his preferences and the available prices, Ken will choose to print
a. all his photos at London Drugs.
b. all this photos at the Nova Photo Centre.
c. some of his photos at London Drugs and some at Nova, but we cannot know the exact proportion until we know his printing budget.
d. There is not enough information to answer this question.

____ 34. Ken's utility function for 6x8 photo prints from London Drugs (LD) and the Nova Photo Centre (N) is $U(LD, N) = LD + 4N$. The price of a print is $1.19 in London Drugs and $4 at the Nova Photo Centre. Given his preferences and the available prices, Ken will choose to print
a. all his photos at London Drugs.
b. all his photos at the Nova Photo Centre.
c. some of his photos at London Drugs and some at Nova, but we cannot know the exact proportion until we know his printing budget.
d. There is not enough information to answer this question.

____ 35. Jason's utility function for Caramilk and Snickers bars is $U(C, S) = 5C - 10S$. Both chocolate bars cost $1 and Jason's weekly budget for sweets is $5. His utility maximizing choice will be
a. 5 Caramilk bars and no Snickers.
b. No Caramilk and five Snickers bars.
c. 2 Caramilk bars and 3 Snickers bars.
d. 3 Caramilk bars and 2 Snickers bars.

____ 36. Jason's utility function for Caramilk and Snickers bars is $U(C, S) = 5C - 10S$. Draw three of his indifference curves, with Caramilk on the horizontal axis and Snickers on the vertical axis. Pick a bundle on the second indifference curve which contains positive amounts of both goods, and denote it (C^*,S^*). Denote the corresponding indifference curve by IC^*. Assuming he will always choose a bundle in the positive quadrant, Jason's utility will go up if he moves from this point:
a. anywhere to the right of IC^*.
b. anywhere to the left of IC^*.
c. anywhere to the northeast.
d. anywhere to the southwest.

____ 37. Willie's utility from cigarettes (C) and apples (A) is $U(C, A) = CA$. The marginal utility of cigarettes is $MU_C = A$, and the marginal utility of apples is $MU_A = C$. The price of an apple is ¢50, the price of a cigarettes is also ¢50, and his weekly budget is $10. His uncle offers to give him a weekly monetary compensation if he quits smoking. The minimum amount that would convince Willie to accept the offer is:
a. $10.
b. $100.
c. $1000.
d. No amount of money would deter Willie from smoking.

____ 38. Willie's utility from cigarettes (C) and apples (A) is $U(C, A) = CA$. The marginal utility of cigarettes is $MU_C = A$, and the marginal utility of apples is $MU_A = C$. The price of an apple is ¢50, the price of a cigarette is also ¢50, and his weekly budget is $10. His uncle offers to give him a weekly monetary compensation if he only smokes one cigarette per week. The minimum amount that would convince Willie to accept the offer is:
a. $10.5.
b. $20.5.
c. $30.5.
d. $40.5.

____ 39. Economists see consumers as utility maximizing individuals, whose choices are constrained by:
a. the lack of storage space for their purchases.
b. their inability to state their preferences.
c. their limited income.
d. the preferences of their friends and relatives.

____ 40. The Albertan government is worried about the increased consumption of crystal meth. The targeted consumers have access to two goods: money and crystal meth. The more crystal meth they consume, the more money they are willing to give up for it. These preferences deviate from the classical assumption that
a. people do not consume drugs.
b. money and drugs are perfect substitutes.
c. consumers maximize their utility.
d. the marginal rate of substitution is diminishing.

____ 41. The utility maximizing condition "slope of budget constraint = slope of indifference curve" can never be satisfied for
a. Cobb-Douglas preferences.
b. perfect complements.
c. perfect substitutes.
d. all of the above.

____ 42. Mahmood manages to survive eating only Persian dates (D) and Chilean grapes (G). His utility function is $U(D, G) = 4D + 2G$. His weekly budget is $50, one pound of dates costs $5 and one pound of grapes costs $2.5. His preferred bundle of dates and grapes, (D^*, G^*),
a. is (8,4).
b. is (4,8).
c. is (10,0).
d. will be situated anywhere on his budget constraint.

____ 43. The marginal utility of good *X* is
a. the extra utility obtained by consuming one more unit of *X*.
b. the amount of good X a consumer needs to increase his or her utility by one unit.
c. always equal to the utility of the first unit of good *X* purchased by the consumer.
d. the utility of one unit of *X* multiplied by the amount of good *X* purchased by the consumer.

____ 44. If a firm knows the typical consumer's indifference curves
a. it can force all consumers to make the same choice.
b. the other firms will have to shut down.
c. consumers will loose their freedom.
d. it can position a new brand in such a way that it provides more utility to the consumer than the brands produced by the other firms on the market, while keeping the new product's costs competitive.

____ 45. Antiscalping laws
a. are the creation of economists, who have a malign view of ticket scalping.
b. prevent voluntary exchange between buyers and sellers.
c. are easy to enforce.
d. reduce profits for licensed ticket brokers.

____ 46. 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.

____ 47. "Demand functions are homogeneous 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.

____ 48. The relationship between changes in income and purchase of a good indicates
a. whether the good is a luxury or necessity.
b. whether the good is normal or inferior.
c. whether the good is a complement or substitute.
d. Both a and b.

____ 49. If income doubles and the quantity demanded of good *X* more than doubles, then good *X* can be described as
a. substitute good.
b. complement good.
c. necessity.
d. luxury.

____ 50. During your trip to Iceland you camped most of the nights, and stayed in youth hostels only when the rain was too strong. Had you had more money, you would have chosen less nights in a tent and more in a hostel. During your trip to Austria, you spent most of the nights in small hotels, and only a few nights in a hostel. Had you had more money, you would have chosen less nights in a hostel and more in small hotels. Hostel accommodation was a(n) ____ during your trip to Iceland, and a(n) ____ during your trip to Austria.
a. normal good; inferior good.
b. inferior good; normal good.
c. Giffen good; normal good.
d. normal good; Giffen good.

____ 51. When price increases, the income effect
a. is negative for normal goods.
b. is negative for inferior goods.
c. is negative for a Giffen good.
d. is zero for a Giffen good.

____ 52. If an individual buys only two goods which must be used in a fixed relationship with one another (e.g. coffee and cream for a coffee drinker who never varies the amount of cream used in each cup), then
a. there is no substitution effect from a change in the price of coffee.
b. there is no income effect from a change in the price of coffee.
c. Giffen's Paradox must occur if both coffee and cream are inferior goods.
d. an increase in income will not affect cream purchases.

____ 53. Consider the two statements: I. X is an inferior good. II. X exhibits Giffen's Paradox. Which of the following is true?
a. I implies II, but II does not necessarily imply I.
b. II implies I, but I does not necessarily imply II.
c. I and II are statements of the same phenomenon.
d. None of the above.

____ 54. Two goods, X and Y, are called substitutes if
a. an increase in P_X causes more Y to be bought.
b. an increase in P_X causes less Y to be bought.
c. an increase in P_Y causes more Y to be bought.
d. an increase in income causes more of both X and Y to be bought.

____ 55. Two goods, X and Y, are called complements if
a. an increase in P_X causes more Y to be bought.
b. an increase in P_X causes less Y to be bought
c. an increase in P_Y causes more Y to be bought.
d. an increase in income causes more of both X and Y to be bought.

____ 56. If good X is a normal good and its price rises, the quantity demanded
a. may or may not fall.
b. will always fall.
c. will always rise.
d. will remain unchanged.

____ 57. Assume X and Y are the only two goods a person consumes. If after a rise in P_X the quantity demanded of Y increases, one could say
a. the income effect dominates the substitution effect for Y.
b. the substitution effect dominates the income effect for Y.
c. it is impossible to determine whether the substitution or income effect dominates for Y.
d. None of the above.

____ 58. An individual's demand curve
a. represents the various quantities that a consumer is willing to purchase of a good at various price levels.
b. is derived from an individual's indifference curve map.
c. will shift if preferences, prices of other goods, or income change.
d. all of the above.

____ 59. An increase in quantity demanded is represented by
a. a shift outward of the entire demand curve.
b. a shift inward of the entire demand curve.
c. a movement along the demand curve in a southeasternly direction in response to a decline in the good's price.
d. a movement along the demand curve in a northwesterly direction in response to a decline in the good's price.

____ 60. Which of the following *will not* cause a demand curve to shift position?
a. A doubling of the good's price.
b. A doubling of the price of a closely substitutable good.
c. A doubling of income.
d. A doubling of both the price of *X* and the price of *Y*.

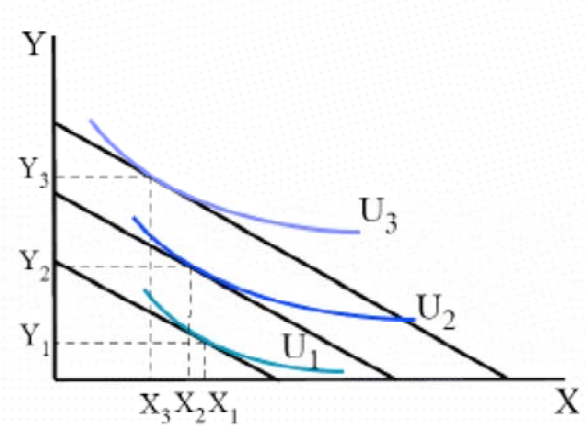
____ 61. A decrease in demand is represented by
a. a shift outward of the entire demand curve.
b. a shift inward of the entire demand curve.
c. a movement along the demand curve in a southeasterly direction.
d. a movement along the demand curve in a northwesterly direction.

____ 62. Engel's law states that
a. the fraction of income spent on clothing tends to decline as income increases.
b. the fraction of income spent on luxury goods tends to increase as prices increase.
c. the fraction of income spent on food tends to decline as income increases.
d. all of the above.

____ 63. According to Engel's law food is a ____, because the fraction of income spent on food tends to ____ as income increases.
a. necessity; decline.
b. necessity; increase.
c. luxury; decline.
d. luxury; increase.

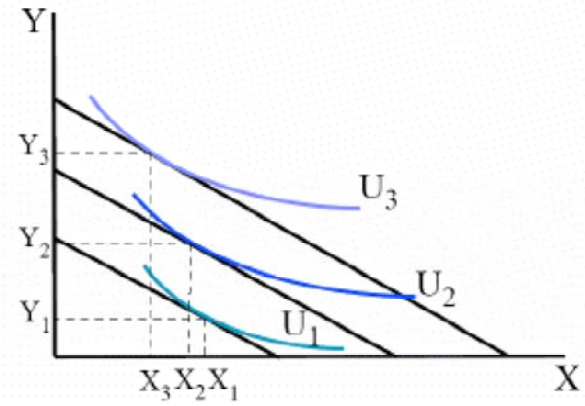
____ 64. "Kraft dinner is always an inferior good." This statement is
a. True.
b. False.
c. Uncertain.
d. None of the above.

____ 65. A consumer can purchase goods *X* and *Y*. The following figure shows how his preferred bundle changes as his income increases from I_1 to I_2 to I_3. His initial consumption bundle is (X_1,Y_1). The following statement is true:



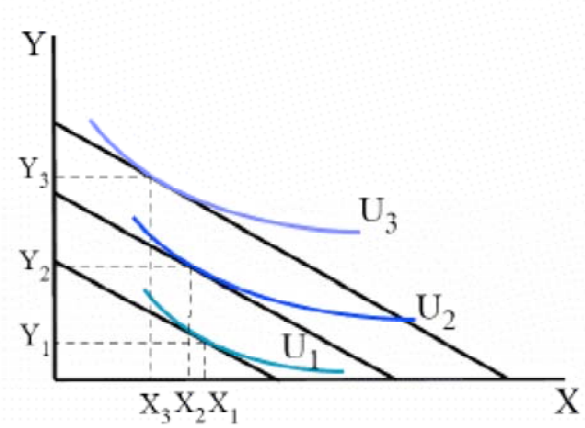
a. Both goods *X* and *Y* are normal.
b. Both goods *X* and *Y* are inferior.
c. Good *X* is normal and good *Y* is inferior.
d. Good *X* is inferior and good *Y* is normal.

____ 66. A consumer can purchase goods *X* and *Y*. The following figure shows how his preferred bundle changes as his income increases from I_1 to I_2 to I_3. His initial consumption bundle is (X_1,Y_1). The following statement is true:



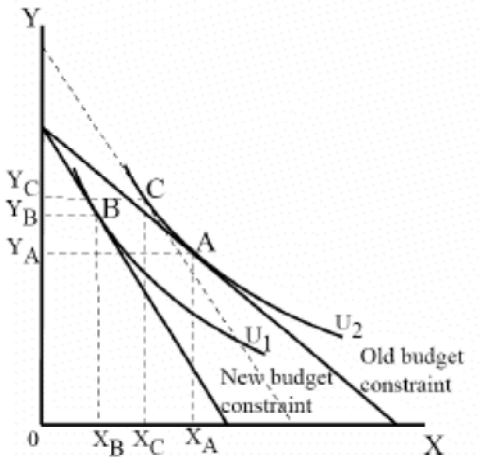
a. The substitution effect causes the change in consumption, as good *X* is gradually substituted by good *Y*.
b. The change in consumption is solely due to an income effect.
c. The change in consumption is due both to a substitution and an income effect.
d. None of the above.

____ 67. A consumer can purchase goods *X* and *Y*. The following figure shows how his preferred bundle changes as his income increases from I_1 to I_2 to I_3. His initial consumption bundle is (X_1,Y_1). The following statement is true:



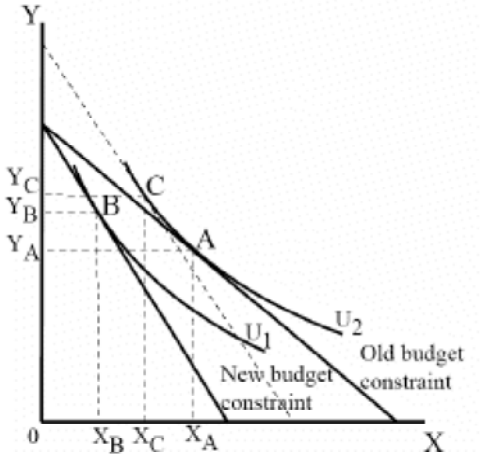
a. The income effect for good *X* is negative and the income effect for good *Y* is positive.
b. The income effect for good *X* is positive and the income effect for good *Y* is negative.
c. The income effects for both goods are negative.
d. The income effects for both goods are positive.

____ 68. A consumer can purchase goods *X* and *Y*. Her initial choice is bundle *A*. The following figure shows how she adjusts her consumption of both goods after an increase in the price of good *X*. The substitution effect for good *X* is equal to ____ and the income effect for good *X* is equal to ____. The total effect for good *X* is ____.



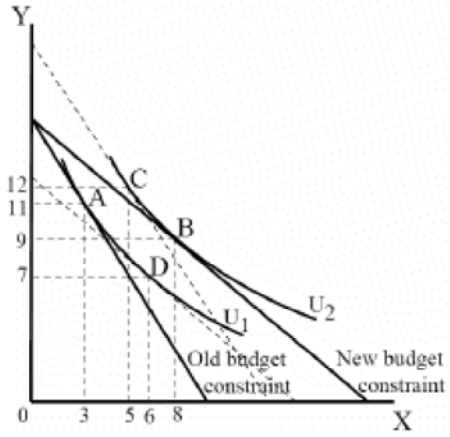
a. $X_A - X_C$; $X_A - X_B$; $X_B - X_A$.
b. $X_A - X_B$; $X_B - X_C$; $X_A - X_C$.
c. $X_C - X_A$; $X_B - X_C$; $X_B - X_A$.
d. $X_C - X_B$; $X_A - X_B$; $X_A - X_C$.

____ 69. A consumer can purchase goods *X* and *Y*. Her initial choice is bundle *A*. The following figure shows how she adjusts her consumption of both goods after an increase in the price of good *X*. The substitution effect for good *Y* is represented by ____. The income effect for good *Y* is represented by ____. The total effect is represented by ____.



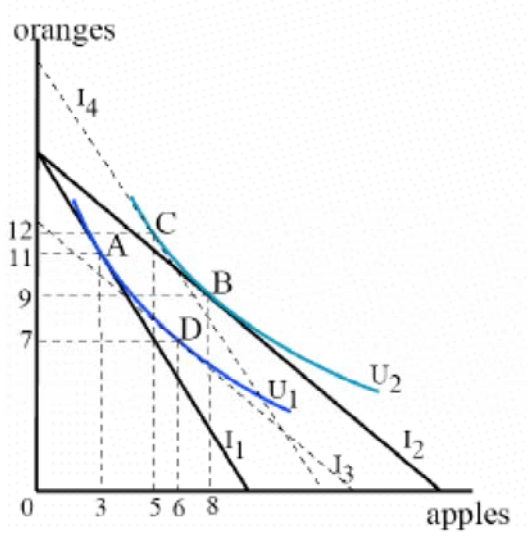
a. $Y_C - Y_A$; $Y_B - Y_C$; $Y_B - Y_A$.
b. $Y_A - Y_B$; $Y_B - Y_C$; $Y_A - Y_C$.
c. $Y_A - Y_C$; $Y_A - Y_B$; $Y_B - Y_A$.
d. $Y_C - Y_B$; $Y_A - Y_B$; $Y_A - Y_C$.

____ 70. Consider the following figure. A consumer's initial choice of goods *X* and *Y* is *A*. After a decrease in the price of good *X* the consumer chooses a different utility maximizing bundle. The change in consumption for good *X* can be split into a substitution effect equal to ____ and an income effect equal to ____. The total effect for good *X* is equal to ____.



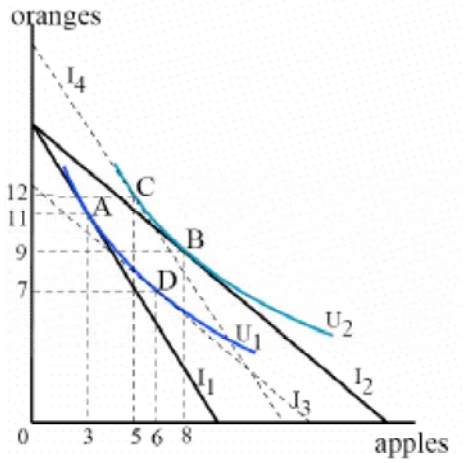
a. 3; 2; 5.
b. -3; -2; -5.
c. 2; 3; 5.
d. -2; -3; -5.

____ 71. Jason only eats apples and oranges. Point *A*, (3,11), in the following figure shows his initial choice. His income on budget constraint I_1 is \$10. After a decrease in the price of apples his budget constraint rotates to I_2 and Jason chooses the bundle from *B*, (8,9). On budget line I_3 Jason has \$8, and on budget line I_4 he has \$12. Budget line I_3 was drawn so that the utility level is the same as at point *A* and the prices are the same as at point *B*. Budget line I_4 was drawn so that the utility level is the same as at point *B* and the prices are the same at point *A*. Assume the government does not allow the low price of apples and forces the producers to return to their original prices. If they want to keep Jason as happy as with the low price of apples, they have to give him a subsidy of ____.



a. 2 apples and 1 orange.
b. \$4.
c. \$2.
d. both (a) and (c).

____ 72. Jason only eats apples and oranges. Point *A*, (3,11), in the following figure shows his initial choice. His income on budget constraint I_1 is \$10. After a decrease in the price of apples his budget constraint rotates to I_2 and Jason chooses the bundle from *B*, (8,9). On budget line I_3 Jason has \$8, and on budget line I_4 he has \$12. Budget line I_3 was drawn so that the utility level is the same as at point *A* and the prices are the same as at point *B*. Budget line I_4 was drawn so that the utility level is the same as at point *B* and the prices are the same at point *A*. Now assume that some producers charge the high price for apples, and others charge the low price. The maximum fee the low-price producers can charge Jason for allowing him to buy from them (think of it as an entrance fee for their farmers' market) is:



a. \$6.
b. \$5.
c. \$4.
d. \$2.

____ 73. Assume the typical basket defined by Statistics Canada for the purpose of calculating the Consumer Price Index (*CPI*) contains only food (*F*) and clothing (*C*). The prices of these goods in 1992 are given by P_F^{92} = \$1 and P_C^{92} = \$1 (per unit). The 2004 price are P_F^{04} = \$1.40 and P_C^{04} = \$1.25. A typical bundle contains 20 units of food and 10 of clothing. Under these conditions, the rate of inflation between 1992 and 2004 was:
a. 32.50%
b. 0.325%.
c. 35%.
d. 0.35%.

____ 74. The problem with calculating the CPI for 2007 by dividing the cost of a typical bundle in the base year (1992) to the cost of the typical bundle in 2007 is:
a. the assumption that the proportion of each commodity in the basket did not change between 1992 and 2007.
b. the assumption that the composition of the typical basket does not change over time to allow for the presence of new goods on the market.
c. the assumption that everybody shops at the same retail outlets over time.
d. All of the above.

____ 75. The government needs to collect a certain amount of tax revenue. They have two options which bring the same revenue: imposing a tax on a narrow selection of commodities (e.g. cigarettes, alcohol, CDs etc) or increasing the existing income tax. The lump-sum principles states that:
a. taxes imposed on a narrow selection of commodities will have larger welfare costs than taxes imposed on general purchasing power.
b. a general income tax would make a consumer better off than a tax on selected goods.
c. a tax on selected commodities has both an income and a substitution effect on consumer's choice, while an income tax only has an income effect, thus making individuals better off.
d. All of the above.

____ 76. Brian only consumes two goods: DVDs (*D*) and CDs (*C*). His utility function is $U(D,C) = DC$, the marginal utilities are $MU_D(D,C) = C$, $MU_C(D,C) = D$, and he has $12 to spend. The price of a DVD is $2, and the price of a CD is $1. A copyright per unit tax of $1 is imposed on DVDs. Brian's choice before the tax was ____ DVDs and ____ CDs. After the tax is imposed his choice is ____ DVDs and ____ CDs. The government collects $____ in tax revenues.
a. (2 DVDs, 8 CDs); (1 DVD, 11 CDs); $1.
b. (3 DVDs, 6 CDs); (2 DVDs, 6 CDs), $2.
c. (3 DVDs, 6 CDs); (3 DVDs, 3 CDs), $3.
d. (3 DVDs, 6 CDs); (2 DVDs, 6 CDs), $3.

____ 77. Brian only consumes two goods: DVDs (*D*) and CDs (*C*). His utility function is $U(D,C) = DC$, the marginal utilities are $MU_D(D,C) = C$, $MU_C(D,C) = D$, and he has $12 to spend. The price of a DVD is $2, and the price of a CD is $1. A copyright per unit tax of $1 is imposed on DVDs. If the government replaces the excise tax with an income tax which collects an equal revenue of $____, Brian's preferred consumption bundle would contain ____ DVDs and ___ CDs. This would make Brian ____ off than the excise tax, since his utility ____ from ___ to ___.
a. $2; (2.5 DVDs, 5 CDs); better; increases; 12; 12.5.
b. $2; (3 DVDs, 6 CDs); worse; decreases; 16; 12
c. $1; (2.5 DVDs, 5 CDs); worse; decreases; 12.5, 10.
d. $2; (3 DVDs, 6 CDs); better; increases; 12; 12.5

____ 78. Assume the government spends $2 per child per day through the "free milk for school children" programme. From an economic point of view this programme is ____ for children than a programme which would give them $2 per day in cash to buy snacks while in school, because ____.
a. better; given cash, children would be tempted to buy unhealthy snacks.
b. better; because the government is thus able to influence children's diets.
c. worse; because the free milk distorts their consumption, while the $2 in cash would put them on a higher indifference curve.
d. worse; because it is more difficult to implement.

____ 79. If the government wants to keep utility loss to a minimum they should be taxing goods for which
a. substitution effects are small.
b. substitution effects are large.
c. there are few substitutes.
d. both (a) and (c).

____ 80. Donna's utility function from food and clothing is $U(F,C) = F^2C^3$. The marginal utility of food is $MU_F(F,C) = 2FC^3$ and the marginal utility of clothing is $MU_C(F,C) = 3F^2C^2$. P_F is the price of food and P_C is the price of clothing. She can spend *I* dollars on her purchases. Donna's demand functions for food and clothing are:

a. $F = \frac{2I}{5P_F};\ C = \frac{3I}{5P_C}$.

b. $F = \frac{3I}{5P_F};\ F = \frac{2I}{5P_C}$.

c. $F = \frac{2CP_C}{3P_F};\ C = \frac{3CP_F}{2P_C}$.

d. $F = \frac{I - P_C C}{P_F};\ C = \frac{I - P_F F}{P_C}$.

____ 81. Ken's utility function from food and clothing is $U(F,C) = F^3C$. The marginal utility of food is $MU_F(F,C) = 3F^2C$ and the marginal utility of clothing is $MU_C(F,C) = F^3$. P_F is the price of food and P_C is the price of clothing. He can spend *I* dollars on her purchases. The following statement is true:

a. We cannot determine the proportion of income he will spend on food and clothing without knowing the prices of the two goods.
b. We cannot determine the proportion of income he will spend on food and clothing without further information on his income.
c. Ken will spend three quarters of his income on food and one quarter on clothing.
d. Ken will spend two thirds of his income on food and one third on clothing.

____ 82. The demand function for iTunes songs (*S*) is $S = 1000 - 0.1P_s - 0.01P_P$, where P_S is the price of a song and P_P is the price of an iPod. The following statement is true:

a. An increase in the price of iPods decreases the quantity demanded of songs.
b. An increase in the price of iPods decreases the demand for songs.
c. An increase in the price of songs decreases the demand for songs.
d. All of the above.

____ 83. The discovery of E. coli in bagged spinach in September 2006 has lead to

a. a reduction in individuals' demand for spinach.
b. a reduction in the quantity of spinach demanded by individuals.
c. an increase in the demand for spinach since grocery stores charged a lower price.
d. an increase in the quantity demanded of spinach since grocery stores charged a lower price.

____ 84. Consumer surplus is

a. the extra value individuals receive from consuming a good over what they pay for it.
b. what people would be willing to pay for the right to consume a good at its current price.
c. the area below the demand curve and above the market price.
d. All of the above.

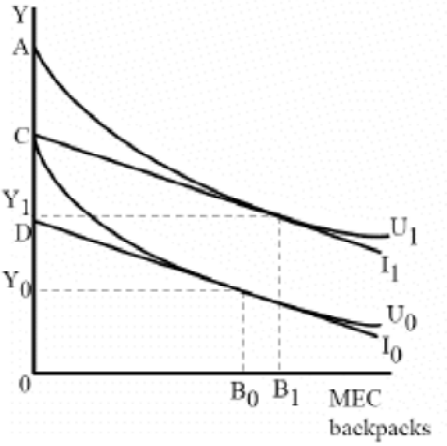
____ 85. Jen's annual demand function for movie tickets is $Q_M = 24 - 2P_M$. A movie ticket costs $8. The local movie theatre decides to reduce the price of a ticket to $6 and require an access card that would have to be renewed annually. Without the card Jen would not be allowed to buy any movie tickets. The maximum amount Jen would pay for the access card is:
a. $10.
b. $16.
c. $20.
d. $36.

____ 86. Jen's annual demand function for movie tickets is $Q_M = 24 - 2P_M$. A movie ticket costs $8. Jen's consumer surplus is equal to:
a. 4.
b. 8.
c. 16.
d. 32.

____ 87. Alex's monthly demand function for iTunes songs (*S*) is $S = 30 - 5.05P$, where *P* is the price of a song, currently at ¢99. Anticipating that some customers might be tempted to switch away from iTunes to purchase songs from Microsoft's Zune, Apple decides to drop their price to ¢59 per song. Alex's consumer surplus will increase by approximately:
a. 10.00.
b. 10.35.
c. 10.80.
d. 11.00

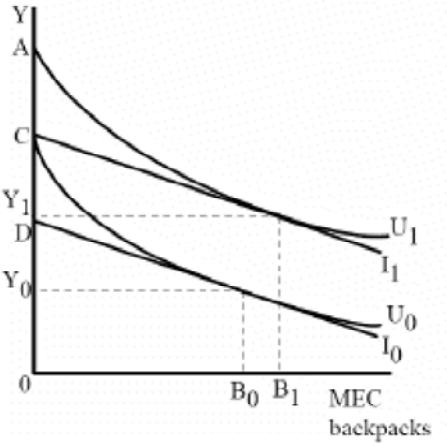
____ 88. The linear demand curves for two goods, *X* and *Y*, are drawn on the same graph, with price on the vertical axis and quantities on the horizontal axis. The two curves intersect at point *A*, where the price is equal to P_A and the quantity is equal to Q_A. At this point, the demand curve for *X* is flatter than the demand curve for *Y*. This means that
a. a $1 increase in price, from P_A to $P_A + 1$, decreases the quantity of good *X* demanded and increases the quantity of good *Y* demanded.
b. a $1 increase in price, from P_A to $P_A + 1$, increases the quantity of good *X* demanded and decreases the quantity of good *Y* demanded.
c. a $1 increase in price, from P_A to $P_A + 1$, decreases the quantity of good *X* demanded by more than it decreases the quantity of good *Y* demanded.
d. a $1 increase in price, from P_A to $P_A + 1$, decreases the demand for good *Y* by more than it decreases the demand for good *X*.

____ 89. Jason buys Mountain Equipment Co-op (MEC) backpacks (B) and a composite good Y. The price of a backpack is P_B and the price of good Y is P_Y. The following figure shows his initial choice, (B_1, Y_1), which makes him reach utility level U_1. If he were not allowed to buy MEC backpacks his choice would move to point C, where he would still spend his entire income, I_1, but his utility level would decrease to U_o. How much money would he need to be compensated for not being allowed to buy MEC backpacks?



a. $P_Y AC$.
b. $P_Y CD$.
c. CD / P_Y.
d. $P_Y Y_1 Y_0$.

____ 90. Jason buys Mountain Equipment Co-op (MEC) backpacks (B) and a composite good Y. The price of a backpack is P_B and the price of good Y is P_Y. The following figure shows his initial choice, (B_1, Y_1), which makes him reach utility level U_1. Now assume that his membership card has disappeared. He cannot purchase MEC backpacks without it. If he were not allowed to buy MEC backpacks his choice would move to point C, where he would still spend his entire income, I_1, but his utility level would decrease to U_o. What is the maximum amount the store can charge him for a replacement card without loosing him as a client?



a. $P_Y AC$.
b. $P_Y CD$.
c. $P_Y Y_1 Y_0$.
d. CD / P_Y.

Econ8500_Consumer_Theory
Answer Section

MULTIPLE CHOICE

1. ANS: D
   Indifference curves cannot cross because this would mean that the bundle of goods situated at the intersection would have two different utility levels. The concept of contour lines is used to show points with the same altitude on a map, while indifference curves show bundles with the same utility. In general, a person has to give up a certain amount of one good to get more of the other good and still derive the same utility from consumption, which explains the negative slope of indifference curves.

   PTS: 1 REF: 63 |67
2. ANS: B
   The budget constraint shows how many units of Y an individual has to give up to afford one more unit of X.

   PTS: 1 REF: 74
3. ANS: C
   By definition, bundles on the same indifference have the same utility. If two bundles contained the same goods they would be on the same indifference curve, but this is not something which “must be true”.

   PTS: 1 REF: 63
4. ANS: B
   A point to the right of an indifference curve contains more of both goods and is therefore preferred to a point on the indifference curve.

   PTS: 1 REF: 63
5. ANS: D
   If an individual always spends all available income it means that no utility is derived from saving, which is therefore impossible, since the individual’s goal is to maximize his or her utility. According to one of our assumptions about preferences, more is always better, which is sometimes called “nonsatiation.” An individual spends his or her entire income because the more goods they buy, the higher their utility is.

   PTS: 1 REF: 72
6. ANS: B
   MRS = 2 means that the individual is willing to give up 2 beers to get an extra steak or he is willing to give up one steak to get two beers, and this trade would keep his utility constant. At the current consumption point, giving up one steak would give him four additional beers, two beers more than expected, and since more is always better his utility will increase.

   PTS: 1 REF: 72
7. ANS: D
   MRS = $MU_S/MU_H = 2/10 = 1/5$. One hot dog brings as much additional utility as five soft drinks, so the individual is indifferent between one soft drink and one fifth of a hot dog.

   PTS: 1 REF: 66

8. ANS: C
   If the MRS were increasing, it would still be possible for the budget constraint to be tangent to an indifference curve, but this tangency point might no longer be a utility maximizing point. Draw a diagram with convex indifference curves and one with concave indifference curves, find the utility maximizing points for both, and note the difference.

   PTS: 1 REF: 64
9. ANS: A
   Since the MRS is defined as how much *Y* the individual is willing to give up for an additional unit of *X*, if an individual is willing to substitute more and more *Y* for an additional unit of *X* it means that the MRS is increasing.

   PTS: 1 REF: 64
10. ANS: D
    An individual would spend the entire income at any point on the budget constraint. At the X-intercept zero units of *Y* are bought, and the amount of *X* the individual can afford is given by total income divided by the price of *X*. Therefore d is the correct answer.

    PTS: 1 REF: 74
11. ANS: C
    The consumer is never completely satisfied, since we assume that more is always better. The utility maximization process is constrained by his or her income. The consumer will spend his or her entire income at this point, which is the maximum amount that can be spent.

    PTS: 1 REF: 76
12. ANS: C
    Equation (2.4) shows that the slope of the budget constraint stays the same if the price ratio does not change, and the intercept of the budget constraint moves up if income increases, shifting the budget constraint outward in a parallel way.

    PTS: 1 REF: 74
13. ANS: B
    See equation (2.4).

    PTS: 1 REF: 74
14. ANS: D
    The Y-intercept does not change, and the X-intercept moves to the right, so the budget constraint rotates outward about the Y-intercept.

    PTS: 1 REF: 74
15. ANS: A
    MRS = ¾ means that if he has to choose between one pair of sneakers and one of shoes, the individual prefers sneakers, since three pairs of sneakers are as valuable as four pairs of shoes. Since they are as expensive as shoes, the individual will buy only sneakers.

    PTS: 1 REF: 70

16. ANS: C
Ceteris paribus does not imply that other factors affecting the analysis are not important. It means that factors are held constant to simplify the economic study.

PTS: 1 REF: 58

17. ANS: C
If preferences are complete, an individual must be able to state his preferences. We do not have enough information to analyze the validity of transitivity and nonsatiation.

PTS: 1 REF: 61

18. ANS: C
Utility is ordinal, not cardinal, so we can only use utility numbers to understand one person's preferences, we cannot use them to compare two consumers.

PTS: 1 REF: 59

19. ANS: B
Transitivity is the property which says that if Jacobs jeans are preferred to Old Navy jeans, and Old Navy jeans are preferred to Esprit jeans, then Jacobs jeans must be preferred to Esprit jeans.

PTS: 1 REF: 61

20. ANS: D
A point on an indifference map can only have one level of utility.

PTS: 1 REF: 67

21. ANS: C
A consumer's utility from six left shoes and seven right shoes is the same as her utility from six left shoes and six right shoes – too many right shoes do not make the consumer happier.

PTS: 1 REF: 61 | 71

22. ANS: A
Once you own a bike frame and two wheels, you utility remains unchanged if you get more wheels and no additional frames, or more frames and no additional wheels. The bundle (1,2) is on the same indifference curve as (2,2), (3,2), (4,2) etc and (1,3), (1,4), (1,5) etc, which gives us an L-shaped indifference curve with a corner at (1,2). We can construct similar indifference curves for two frames and four wheels, three frames and six wheels etc.

PTS: 1 REF: 69

23. ANS: C
$U(2,0) = 2 + 0 = U(0,1) = 0 + 2x1 = 2$. Dave derives the same utility from two bottles of Kokanee as from one bottle of Guinness, and the two types of beer are perfect substitutes because he would always be willing to trade them at this ratio (since the utility function is linear). For example $U(5,3) = 5 + 2x3 = U(3,4) = 3 + 2x4 = 11$, which means that if he has five Kokanees and three bottles of Guinness he is willing to trade two Kokanees for one more bottle of Guinness and end up with the same level of utility.

PTS: 1 REF: 70

24. ANS: C
The linear utility function tells us that the two types of beer are perfect substitutes, and that all indifference curves will be parallel straight lines. It is enough to find the slope of one of them: U(5,4) = 22 = U(6, 10/3). Dave would give up (4 – 10/3) = 2/3 bottles of Guinness for one bottle of Kokanee, so the absolute value of the slope of his indifference curves is 2/3.

PTS: 1 REF: 70

25. ANS: D
1. How many cobs can Jack buy with $50? The first 6 will cost $3, and he can buy 47 more from the remaining $47. Thus the budget constraint intersects the X-axis at 53 units of corn. 2. How many units of other food can he buy with $50? The answer is 50 units, since each costs $1, which gives us the Y-axis intercept. 3. Where is the kink? The price of corn changes if he exceeds six units, and so does the slope of the budget constraint. If he buys 6 cobs, he can spend the remaining $47 dollars on 47 units of other food, and the budget constraint has a kink at (6, 47).

PTS: 1 REF: 83

26. ANS: A
The utility maximizing bundle is given by the point of tangency between the budget constraint and an indifference curve. The equation of the budget constraint is $p_S S + p_B B = I \Leftrightarrow 3S + 3B = 90$ (1). The slope of the budget constraint is given by the price ratio of the two types of berries, which is equal to 1. The slope of an indifference curve is given by $MRS_{SB} = \frac{MU_S}{MU_B} = \frac{2B}{S}$ (2). At the point of tangency the two slopes must be equal: $\frac{2B}{S} = 1$ (3). We can find the utility maximizing bundle from equations (1) and (3): $S^*=20$, $B^*=10$.

PTS: 1 REF: 66 | 74 | 75

27. ANS: B
Heidi's utility remains constant as the number of high-heel shoes increases, and since they are drawn on the X-axis her indifference curves will be horizontal

PTS: 1 REF: 69

28. ANS: C
The vertical intercept does not change since the tax change does not affect the maximum amount of basic food you can buy. The horizontal intercept moves to the right since the price of the composite good has decreased and now you can afford more of this good if no basic food is bought. Thus the budget constraint flattens, while the vertical intercept remains unchanged.

PTS: 1 REF: 74

29. ANS: A
With the lower price paid for the composite good you need to forego more of this good than before to purchase an additional unit of basic food. This means that the opportunity cost of food has increased.

PTS: 1 REF: 74

30. ANS: D
Read the subsection about "Balance in Consumption," pg. 63-64.

PTS: 1 REF: 65

31. ANS: D
$MRS_{XY}(2,4) = 3$. This means that Kassie is willing to give up three units of *Y* for one unit of *X*, which is more than she would have to give up in the proposed trade. The trade offer would put her on a higher indifference curve, so it should be accepted.

PTS: 1 REF: 64

32. ANS: D
Since they are always used together in the same proportion, pictures and frames are perfect complements. It makes no sense for Ken to buy more frames than he needs for his prints, or to print more photographs than the frames can accommodate. Thus he will spend his entire $99 budget on three frames and nine pictures.

PTS: 1 REF: 80

33. ANS: A
If we put LD on the horizontal axis and N on the vertical axis, the slope of Ken's indifference curves is 2/3 (in absolute value). The slope of his budget constraint is 1.19/4, which is less than 2/3. Draw this diagram and show that the utility maximizing bundle, given his budget constraint, will solely contain pictures printed at London Drugs. For a slightly different explanation, think about the meaning of the MRS and the price ratio. MRS = 2/3, which means that Ken is willing to give up 2/3 of a Nova picture for one LD picture. The opportunity cost of one LD picture is 1.19/4=0.2975 Nova pictures, which is less than what he is willing to pay for an LD picture. Given this, he will maximize his utility by choosing LD pictures exclusively, since they are relatively cheaper

PTS: 1 REF: 80

34. ANS: B
Ken's utility function shows that he is indifferent between four LD pictures and one N picture, or between one LD picture and ¼ of a Nova picture. The slope of his indifference curves is 1/4 = 0.25. The slope of his budget constraint is given by the price ratio, 1.19/4 = 0.2975, which says that the opportunity cost of one LD picture is 0.2975 N pictures. This opportunity cost is now higher than his willingness to pay for an LD picture (=0.4), so he will end up printing all his pictures at the Nova Photo Centre, even if they are more expensive in absolute terms.

PTS: 1 REF: 80

35. ANS: A
According to his utility function, Snickers bars are an economic bad for Jason (he might be allergic), since the more he has, the worse off he is. In this case he will spend his entire budget on the other good. This gives us the utility maximizing bundle: $(C^*,S^*) = (5,0)$.

PTS: 1 REF: 80

36. ANS: A
Snickers is an economic bad for Jason, since the more bars he has, the lower his utility is. The indifference curves to the right of any IC* contain bundles with a higher level of utility than (C*,S*). Let (C_1,0) be IC*'s intercept with the horizontal axis. From the definition of indifference curves we know that U(C*,S*) = U(C_1,0). Any bundle on the X-axis, to the right of (C_1,0), contains more Caramilk bars than (C_1,0), and therefore has a higher utility. Given that all bundles from the same indifference curve have the same utility, any indifference curve to the right of IC* will contain bundles with higher utility levels. If we move to the left of IC*, all bundles will have a lower utility level. If we move anywhere to the northeast or to the southwest, we might end up on an indifference curve situated to the left of IC*, and the bundles in that region have a lower level of utility compared to (C*,S*). See Figure 2.9, panel (b), page 78.

PTS: 1 REF: 80

37. ANS: D
By equating the MRS with the slope of the budget line, we can find Willie's optimal consumption bundle.
$MRS = MU_C / MU_A = A/C$, $p_C / p_A = 1$, so $A/C = 1$.
If we substitute this into the budget constraint we obtain:

$0.5C + 0.5A = 10 \Leftrightarrow 0.5C + 0.5C = 10 \Leftrightarrow C^* = 10, A^* = 10$.

$(C^*, A^*) = (10,10)$ is Willie's optimal choice without his uncle's intervention. The utility he obtains from this bundle is $U(10,10) = 100$. Note that, irrespective of the amount of money his uncle would give him, Willie will never be able to reach the same level of utility if he has no access to cigarettes: $U(0, A) = 0$. Thus no amount of money will deter him from smoking.

PTS: 1 REF: 81

38. ANS: D
Willie's choice without his uncle's intervention would be (10,10). U(10,10)=100. If he accepts his uncle's offer, he needs to get enough money to afford at least 100 apples, since $U(1,100) = 100$. Since one apple costs ¢50, he needs \$50 to buy 100 apples, plus ¢50 for the only cigarette he is allowed to smoke. So his uncle has to give him at least \$50-\$10+\$0.5 = \$40.5 to convince him to only smoke one cigarette per week.

PTS: 1 REF: 81

39. ANS: C
Economists assume that, other than a limited income, consumers do not face any of the problems stated above.

PTS: 1 REF: 73

40. ANS: D
This is a case of concave indifference curves. Instead of decreasing, the marginal rate of substitution of money for drugs increases with the amount of drugs people purchase. This violates the diminishing MRS assumption.

PTS: 1 REF: 64

41. ANS: B
Pick an example for the Cobb-Douglas utility function from problem 2.10(page 87) and show that the tangency condition holds for the utility maximizing bundle. In the case of perfect substitutes it might happen that the slope of the budget constraint is equal to the slope of an indifference curve, and then the consumer has an infinity of utility maximizing choices. For perfect complements the chosen bundle will be situated at the kink of an indifference curve, where the tangency condition cannot hold.

PTS: 1 REF: 89

42. ANS: D
The marginal utility of dates is 4. The marginal utility of grapes is 2. The MRS is equal to the ratio of the two marginal utilities, i.e. 2. The slope of the budget constraint is equal to the ratio of the prices of the two goods, which is again equal to 2. We have a case of perfect substitutes in which the slope of the budget constraint is equal to the MRS: the rate at which Mahmood is willing to exchange grapes for dates is equal to the opportunity cost of dates. One of his indifference curves coincides with the budget constraint. In this situation, any bundle situated on the budget constraint maximizes his utility, since all bundles will have the same utility and he cannot afford a bundle situated above the budget constraint.

PTS: 1 REF: 80

43. ANS: A
The marginal utility usually changes as the amount of *X* changes, so it is not always equal to the utility of the first unit consumed. See page 63 for the definition.

PTS: 1 REF: 66

44. ANS: D
See Application 2.2, “Product Positioning in Marketing”.

PTS: 1 REF: 68

45. ANS: B
Read Application 2.3, “Ticket Scalping”.

PTS: 1 REF: 77

46. ANS: C
If your income doubles and prices also double, your preferred consumption bundle will not change.

PTS: 1 REF: 92

47. ANS: A
Quantity demanded does not change when prices and income increase in the same proportion.

PTS: 1 REF: 92

48. ANS: D
A good is normal if demand increases when income increases, and inferior if demand decreases when income increases. A good is a luxury if its demand increases rapidly when income increases and a necessity if demand only increases slowly. Describing goods as substitutes or complements has to do with changes in prices, not income.

PTS: 1 REF: 93

49. ANS: D
A good is a luxury if the quantity demanded increases faster than income, which is the case in this question.

PTS: 1 REF: 93

50. ANS: A
Since an increase in income would have increased the number of nights in a hostel in Iceland, hostels were a normal good during that trip. The situation is reversed for Austria, where an increase in income would have decreased the demand for hostel accommodation, so hostels were an inferior good. This example shows that the classification of goods into normal and inferior is relative to the other goods consumers have access to.

PTS: 1 REF: 93| 95

51. ANS: A
A price increase reduces consumers' purchasing power, or their real income. If the good is normal, this will lead to a decrease in the demand for that good. If the good is inferior demand will increase, so (b) is false. The same works for Giffen goods, so (c) and (d) are also false.

PTS: 1 REF: 99

52. ANS: A
The two goods are perfect complements, so there is no substitution effect: the individual would not substitute coffee with cream when the price of coffee increases. The entire change in quantity demanded is determined by the income effect, so (b) is false. It is impossible for both goods a consumer has access to be inferior, so (c) is false. An increase in income affects both cream and coffee purchases, so (d) is false.

PTS: 1 REF: 96

53. ANS: B
A Giffen good is also an inferior good, but an inferior good is not necessarily a Giffen good. Generally speaking, if a good is inferior and its price goes up the income effect will be positive due to the decrease in purchasing power. A good is a Giffen good if the quantity demanded increases with its price. This is caused by a positive income effect larger than the negative substitution effect. If the substitution effect is stronger there will be a negative relationship between price and quantity demanded, and even if the good is inferior, it is not a Giffen good.

PTS: 1 REF: 103

54. ANS: A
When P_X increases consumers buy less of good X. If X and Y are substitutes consumers will divert their consumption towards Y.

PTS: 1 REF: 109

55. ANS: B
When P_X increases consumers buy less of good X. If X and Y are complements consumers will buy less of good Y as well, because the two goods can only be consumed together. A decrease in the consumption of X induces a decrease in the consumption of Y.

PTS: 1 REF: 109

56. ANS: B
An increase in price generates a decrease in consumer's purchasing power, or real income. Since the good is normal, a decrease in income is associated with a decrease in quantity demanded.

PTS: 1 REF: 93

57. ANS: B
A rise in P_X generates a decrease in real income: due to the income effect the demand for *Y* should decrease. The same price change generates a decrease in the consumption of *X*. The demand for *Y* increases due to the substitution effect. We know that the quantity demanded of *Y* increases overall, so it must be true that the substitution effect is stronger than the income effect.

PTS: 1 REF: 99

58. ANS: D
All of these statements are correct.

PTS: 1 REF: 111-114

59. ANS: C
An increase in quantity demanded represents a movement along the demand curve, while an increase in demand represents a shift of the demand curve. An increase in quantity demanded is generated by a decrease in price, and thus we have a movement towards the SE along the demand curve.

PTS: 1 REF: 116

60. ANS: A
A change in the good's price generates a movement along the good's demand curve, and the rest of the changes will shift the demand curve.

PTS: 1 REF: 116

61. ANS: B
A change in demand generates a shift of the entire demand curve. A decrease in demand translates into a downward (inward) shift of the entire demand curve.

PTS: 1 REF: 116

62. ANS: C
The finding that the fraction of income spent on food items tends to decline as income increases is know as Engel's law, after the Prussian economist Ernst Engel (1821-1896).

PTS: 1 REF: 94

63. ANS: A
Since the fraction of income spent on food tends to decline as income increases, it means that consumption of food increases less rapidly than income, which makes food a necessity, not a luxury.

PTS: 1 REF: 94

64. ANS: B
We can decide if a good is inferior or not only when we know the way it relates to the other goods available. A consumer can buy either more or less Kraft dinner as his or her income increases.

PTS: 1 REF: 95

65. ANS: D
The higher our consumer's income is, the lower his consumption of good *X* is, which makes *X* an inferior good. The opposite is true for good *Y*: consumption increases as income increases. Thus *Y* is a normal good.

PTS: 1 REF: 95

66. ANS: B
Since there is no change in prices (all budget lines have the same slope) there will be no substitution effect. The changes in income solely generate an income effect, and consumption bundles change accordingly.

PTS: 1 REF: 95

67. ANS: A
An increase in income decreases the consumption of good *X*, which means that the income effect is negative. The same increase in income generates an increase in the consumption of good *Y*, so the income effect for *Y* is positive.

PTS: 1 REF: 95

68. ANS: C
If prices change but the consumer stays on U_2 her consumption of good *X* will decrease from X_A to X_C. This is the substitution effect, which ignores the effect on real income generated by the price change. If the decrease in real income is taken into consideration, consumption decreases even further, from X_C to X_B. This is the income effect. The total effect is represented by the movement from X_A to X_B, which is the sum of the substitution and income effects.

PTS: 1 REF: 99

69. ANS: A
When utility is held constant, ignoring the change in real income, the consumption of *Y* increases from Y_A to Y_C, which is the substitution effect. When the decrease in real income is taken into account the consumption of *Y* drops from Y_C to Y_B, which is the income effect. The total effect of the change in the price of *X* on the consumption of *Y* is the movement from Y_A to Y_B.

PTS: 1 REF: 108

70. ANS: A
We start at point *A*. If the income effect is ignored, the consumer will move to point *D*, where he reaches the same utility level as before and pays the new prices. This is the substitution effect (*SE*), which has a numerical value of 6 – 3= 3. The decrease in the price of good *X* increases real income, which increases the consumption of good *X* even further, up to point *B*. This increase is due to the income effect (*IE*), which is equal to 8 – 6 = 2. The total effect (*TE*) is given by:
$TE = SE + IE = 3 + 2 = 5.$

PTS: 1 REF: 97

71. ANS: D
The subsidy has to move Jason's preferred bundle from point *A* to point *C*. At point *C* prices are the same as at *A*, and Jason is as happy as at *B*. The monetary difference between the two points is \$12 - \$10 = \$2. If the government does not want to give Jason \$2, they can give him an in-kind transfer of two apples and one orange instead, and he would still reach the utility level from point *B*. Thus both (a) and (c) are correct.

PTS: 1 REF: 96-99

72. ANS: D
The highest fee farmers can charge is the one that would put Jason at point *D*, which has the same utility level as point *A*. They cannot make him pay more because this would put him on a lower utility level than at point *A* and he would prefer to pay the high price for apples and no entrance fee. The monetary difference between I_1 and I_3 is \$10 - \$8 = \$2.

PTS: 1 REF: 96-99

73. ANS: C
CPI (2004) = B^{04} / B^{92}, where B^{92} and B^{04} are the costs of the typical bundle in 1992 and 2004. B^{92} = 20 x \$1 + 10 x \$1 = \$30. B^{04} = 20 x \$1.40 + 10 x \$1.25 = \$40.5. CPI (2004) = B^{04} / B^{92} = 1.35. This tells us that the inflation rate was 35%.

PTS: 1 REF: 101

74. ANS: D
Please see the discussion about the substitution bias in the CPI, the new product bias and the outlet bias.

PTS: 1 REF: 101-102

75. ANS: D
All three statements (a, b, c) explain that an individual would be better off under an income tax because this tax does not distort his or her consumption choices. While the government collects the same revenue, the consumer would reach a higher indifference curve

PTS: 1 REF: 105-107

76. ANS: B
We know that at his initial choice Brian's budget constraint must be tangent to an indifference curve:

$$MRS(D,C) = \frac{P_D}{P_C} \Leftrightarrow \frac{MU_D}{MU_C} = \frac{P_D}{P_C} \Leftrightarrow \frac{C}{D} = 2 \Leftrightarrow C = 2D \qquad (1)$$

Given that this point must be on his budget constraint we also know that $2D + C = 12$. If we substitute equation (1) into the budget constraint we obtain: $D_1 = 3, C_1 = 6$. This narrows the possible answers to (b) and (c). Similarly, we can find the $D_2 = 2, C_2 = 6$, since equation (1) now becomes $\frac{C}{D} = 3 \Leftrightarrow C = 3D$ and the budget constraint is $3D + C = 12$. The government collects \$1 for each DVD so the total tax revenue is \$2. Thus the correct answer is (b).

PTS: 1 REF: 105-107

77. ANS: A
We know that Brian's budget constraint must be tangent to an indifference curve:
$$MRS(D,C)=\frac{P_D}{P_C}\Leftrightarrow\frac{MU_D}{MU_C}=\frac{P_D+1}{P_C}\Leftrightarrow\frac{C}{D}=3\Leftrightarrow C=3D \qquad (1)$$
Given that this point must be on his budget constraint we also know that $3D+C=12$
If we substitute equation (1) into the budget constraint we obtain: $D_1=2, C_1=6$. For each DVD the government collects \$1, which leads to a total tax revenue of **\$2**. This is the income tax that would be imposed after the elimination of the excise tax. After the new income tax Brian's income shrinks to \$10. We need to solve the same problem again, using the initial prices and the new income. Thus equation (1) becomes: $MRS(D,C)=\frac{P_D}{P_C}\Leftrightarrow\frac{C}{D}=2\Leftrightarrow C=2D \qquad (2)$,
and the budget constraint is $2D+C=10 \qquad (3)$. Substituting (2) into (3) we obtain: $D_2=2.5, C_2=5$. The utility of this bundle is $U(2.5,5)=2.5x5=12.5$, which is larger than $U(2,6)=12$. A more efficient way of approaching the question would be to eliminate (b) and (c) since we know that an income tax would make a consumer better off than an excise tax. Afterwards we only need to determine the excise tax bundle and we can already choose the correct answer,(a).

PTS: 1 REF: 105–107

78. ANS: C
According to the lump-sum principle a cash subsidy would make consumers better off than an in-kind transfer which would distort their consumption.

PTS: 1 REF: 107

79. ANS: D
This is a generalization of the lump-sum principle. If a good has few substitutes the substitution effect of a change in price would be relatively small, thus reducing the consumption distortion generated by the price change and minimizing the utility loss.

PTS: 1 REF: 106

80. ANS: A
The following two equalities have to hold:
$$\begin{cases} MRS(F,C)=\frac{P_F}{P_C} \\ P_FF+P_CC=I \end{cases}\Leftrightarrow\begin{cases} \frac{MU_F(F,C)}{MU_C(F,C)}=\frac{P_F}{P_C} \\ P_FF+P_CC=I \end{cases}\Leftrightarrow\begin{cases} \frac{2C}{3F}=\frac{P_F}{P_C} \\ P_FF+P_CC=I \end{cases}\Leftrightarrow\begin{cases} F=\frac{2CP_C}{3P_F} \\ P_F\frac{2CP_C}{3P_F}+P_CC=I \end{cases}\Leftrightarrow$$
$$F=\frac{2I}{5P_F};C=\frac{3I}{5P_C}$$

PTS: 1 REF: 111

81. ANS: C
The following two equalities have to hold:

$$\begin{cases} MRS(F,C)=\dfrac{P_F}{P_C} \\ P_F F + P_C C = I \end{cases} \Leftrightarrow \begin{cases} \dfrac{MU_F(F,C)}{MU_C(F,C)}=\dfrac{P_F}{P_C} \\ P_F F + P_C C = I \end{cases} \Leftrightarrow \begin{cases} \dfrac{3C}{F}=\dfrac{P_F}{P_C} \\ P_F F + P_C C = I \end{cases} \Leftrightarrow \begin{cases} F=\dfrac{3CP_C}{P_F} \\ P_F \dfrac{3CP_C}{P_F} + P_C C = I \end{cases} \Leftrightarrow$$

$$F=\frac{3I}{4P_F}; C=\frac{I}{4P_C} \Rightarrow P_F F=\frac{3I}{4}; P_C C=\frac{I}{4}.$$

Even without further information on prices and income we have shown that Ken will spend 3I/4, i.e. three quarters of his income, on food, and I/4 on clothing.

PTS: 1 REF: 111

82. ANS: B
An increase in the price of iPods shifts the demand for songs downwards, which means that it decreases the demand for songs, and not the quantity demanded. Thus (a) is false and (b) is true. An increase in the price of songs decreases the number of songs demanded, but it does not decrease the demand for songs, so (c) is also false.

PTS: 1 REF: 116

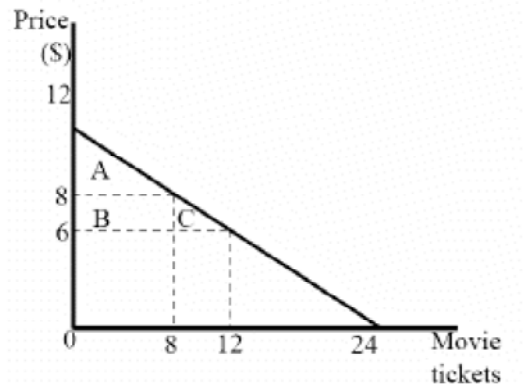
83. ANS: A
The E. coli health scare lead to a downward shift in the demand curve for spinach, and thus to a reduction in individuals' demand for spinach.

PTS: 1 REF: 114

84. ANS: D
These are alternative definitions of consumer surplus.

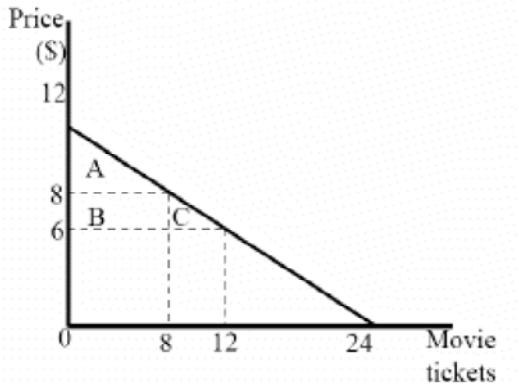
PTS: 1 REF: 116

85. ANS: C
The maximum amount she would pay for the access fee is the difference between her consumer surplus when the price is $6 per movie and the consumer surplus when the price is $8 per movie. This is represented by areas *B* and *C* in following figure. B + C = 16 + 4 = 20, so the correct answer is (c).



PTS: 1 REF: 119

86. ANS: C
Jen's consumer surplus is given by area *A* in this figure, and it is equal to (12–8)(8)/2=32/2=16.



PTS: 1 REF: 117

87. ANS: B
When $S=0$ the price must be at least P = 30 / 5.05 = 5.94. This is the vertical intercept of the demand curve. When the price is ¢99 Alex will buy $S_{0.99} = 30 – 5.05x0.99 = 25$ songs. His consumer surplus is $CS_{0.99} = 25 (5.94 – 0.99)/ 2 = 61.875$. When the price drops to ¢59 he will buy $S_{0.59} = 30 – 5.05x0.59 = 27$ songs. His consumer surplus will be $CS_{0.59} = 27 (5.94 – 0.59)/2 = 72.225$. Thus we can see that his consumer surplus will increase by $CS_{0.59} - CS_{0.99} = \$10.35$.

PTS: 1 REF: 117

88. ANS: C
If a demand curve is relatively flat it means that the quantity demanded would be severely affected by an increase in price. A steeper demand curve shows that the consumer is rather inflexible in his or her preferences: an increase in price would not have a strong effect on the quantity demanded.

PTS: 1 REF: 113

89. ANS: A
If Jason is not allowed to buy backpacks but we want to compensate him for this and bring him back to his initial utility level, U_1, we need to move his consumption choice from point *C* to point *A*, which is on the same indifference curve as (B_1, Y_1). The length of the segment *AC* measures the number of units of good *Y* that would compensate him for the loss of the right to purchase backpacks. Since we need the amount of money that would compensate him, we need to multiply the length of this segment buy the price of a unit of *Y*, P_Y.

PTS: 1 REF: 120

90. ANS: B
Without the card, Jason's choice moves from (B_1, Y_1) to point *C*, where his utility drops to U_o. The store has to set the replacement fee so that, after paying it, Jason would reach at least this utility level. If the fee were too high, he would prefer not to purchase backpacks from MEC anymore. So the worst point he can reach after paying the replacement fee is (B_0, Y_0). At this point his income is the same as his income at point *D* on the *Y*-axis. The maximum possible fee is the difference between Jason's income at point *C* and his income at point *D*. This is equal to the length of the segment *CD*, measured in units of good *Y*, multiplied by the price of good *Y*.

PTS: 1 REF: 120