Econ 101
Prof Wallace
Fall 2003

## Homework \#5 Answers

1. Tonya, who is rich, and Jerome, who is poorer, both buy orange juice and croissants for lunch at the student cafeteria. Their budget constraints on a diagram with orange juice on the vertical axis and croissants on the horizontal have the same
a. horizontal intercepts.
b. vertical intercepts.
c. slopes.
d. midpoints.
2. Lily is a college student who likes to buy only two goods: Cheetos and Pepsi. To determine Lily's budget line, you need to know
I. Lily's preferences for Cheetos and Pepsi.
II. The prices of Cheetos and Pepsi.
III. Lily's income.
a. II only.
b. I and II.
c. II and III.
d. I, II and III
3. Utility can best be described as
a. a concept that can be derived from a demand curve.
b. a testable hypothesis about the level of happiness achieved from consumption of goods.
c. an abstract concept useful for obtaining predictions about human behavior.
d. the units that measure a person's income.
4. Diminishing marginal utility means that
a. Ralph will enjoy his second hamburger less than the first.
b. the total utility from one hamburger exceeds the total utility from two hamburgers.
c. the price of two hamburgers is twice the price of one.
d. beyond a certain point, total utility decreases as income rises.

5. In the figure above, diminishing marginal utility is shown by
a. total utility curve $A$.
b. total utility curve $B$.
c. total utility curve $\boldsymbol{C}$.
d. all three curves.
6. Which of the following occur when a person maximizes utility?
I. the marginal utility of each good bought is equal
II. the highest level of utility is attained
III. all of a person's budget is spent
a. I and II.
b. I and III.
c. II and III.
d. I, II and III.
7. When Ramona is in consumer equilibrium,
a. her total utilities of all goods are equal.
b. she is maximizing her utility, given her income and the prices of goods and services.
c. her total utility per dollar spent is equal for all goods.
d. any change in prices would make her worse off.
8. Suppose the price of a soda is $\$ 2$ each, the price of a hot dog is $\$ 3$ each and the budget is $\$ 20$. If the marginal utility of the fourth soda is 100 and the marginal utility of the fourth hot dog is 150 , to maximize utility, a person will buy
a. 4 sodas and 4 hot dogs.
b. more hotdogs than 4 and fewer sodas than 4 because hot dogs provide more utility.
c. buy more sodas than 4 to increase their utility.
d. fewer sodas than 4 and more hot dogs than 4.

| Bags of popcorn |  | Bottles of sodas |  |
| :---: | :---: | :---: | :---: |
| Quantity | Marginal <br> utility | Quantity | Marginal <br> utility |
| 1 | 100 | 1 | 60 |
| 2 | 80 | 2 | 50 |
| 3 | 60 | 3 | 30 |
| 4 | 50 | 4 | 20 |

9. In the table above, if Brent maximizes his utility by consuming 3 bags of popcorn and 3 bottles of soda, then the ratio of the price of popcorn to the price of soda must be
a. $1 / 2$.
b. 5/6.
c. $6 / 5$.
d. 2 .

10. Morriss has an income of $\$ 100$ per week. The price of dog food is $\$ 2$ per can and the price of cat food is $\$ 2$ per can. However, there is a volume discount for cat food: If he buys more than 25 cans per week, the price of an additional can is only $\$ 1$. In the above figure, Morriss's budget line runs through points
a. $A, B$, and $C$.
b. $\quad A, B$, and $D$.
c. A, B, and E.
d. $A, B$, and $F$
11. Draw a graph with in which you show the effect of decrease in the price of $x$ (decomposed into the income and substitution effects) under the following assumptions
a. x is a normal good, y is a normal good, and x and y are compliments.
b. x is a inferior good, y is a normal good, x and y are compliments.
c. x is a normal good, y is a normal good, x and y are substitutes.

It is very difficult to draw these with the computer. Please refer to the pictures in the book and from your notes.

