Chapter 16 Q and A with Answers

1. Why is the price of water so much lower than the price of diamonds even though people cannot survive long without water?

A) This is an unsolved mystery.
B) A price change affects the purchasing power of an individual's income.
C) Marginal utility, not total utility, determines how much a person is willing to pay for a good.
D) There are no good substitutes for diamonds while there are good substitutes for water.

2. A new restaurant offers an all-you-can-eat buffet for $9.99. What economic concept is this business relying on to earn a profit?

A) a price ceiling
B) elastic demand
C) diminishing marginal utility
D) price discrimination

3. Jason is trying to decide what to buy Diane for her birthday. Fortunately, Diane has given him the following utility table. If Jason has $100 to spend (and he intends on spending all of it on Diane) what combination of goods should he buy her to maximize the amount of utility she gets?

Roses $20/dozen	Marginal Utility	Candy $10/box	Marginal Utility
1	40	1	18
2	32	2	16
3	24	3	14
4	11	4	12
5	8	5	10

A) 5 dozen roses
B) 4 dozen roses and 2 boxes of candy
C) 3 dozen roses and 4 boxes of candy
D) 2 dozen roses and 6 boxes of candy

4. Refer to the following MU table:

Mangoes	MUm	MU/Pm	Pineapple	MUp	MU/Pp
1	20	20	1	24	12
2	15	15	2	18	9
3	10	10	3	12	6
4	5	5	4	6	3

You have a budget of $10. Mangoes cost $1 and Pineapples cost $2. How many of each should you buy to maximize total utility?

Answer: 4 Mangoes and 3 Pineapples.

Using the 3rd and 6th columns that you must calculate yourself we see that the consumer will buy 20 utils, then 15, then 12, then 10, then 9, then 6 and final 5 utils (at that point they have spent their entire budget).

5. You and a friend try the burritos at Illegal Pete's. You give the burritos15 utils and your friend gives them 10 utils. Circle the best answer below:

You like the burritos more than your friend than you

Your friend likes the burritos more

The friends should have gone to Chipotle

You cannot compare utils among friends

6. In the table, diminishing marginal utility begin?

Units Bought	Total utility
0	0
1	10
2	35
3	70
4	120
5	165
6	175
7	170
8	155

a. after the 1st unit
b. after the 2nd unit
c. after the 7th unit
d. after the 4th unit

7. Tina enjoys fresh produce. If Tina gets more utility per dollar spent (**Hint:** think of the equal marginal principle) from broccoli than from tomatoes she should

a. eat more broccoli because it is cheaper than tomatoes.
b. eat more tomatoes.
c. eat more organic tomatoes since it is healthier than regular tomatoes.
d. eat more broccoli.

8. The following table describes the extra utility a customer gets from Pumpkin pie. When does diminishing marginal utility begin?

Slices of pumpkin pie consumed	**Marginal Utility (utils)**
1	10
2	25
3	35
4	30
5	20
6	5
7	-15

a. after they eat the second slice.
b. after they eat the third slice.
c. after they eat the sixth slice.

9. A consumer is trying to decide between purchasing one hamburger or one order of fries. They get 20 utils of enjoyment from fries and the fries cost $4 and they get 30 utils of enjoyment from the hamburger. Below what price will they decide to buy the hamburger? Answer: ____$6_____

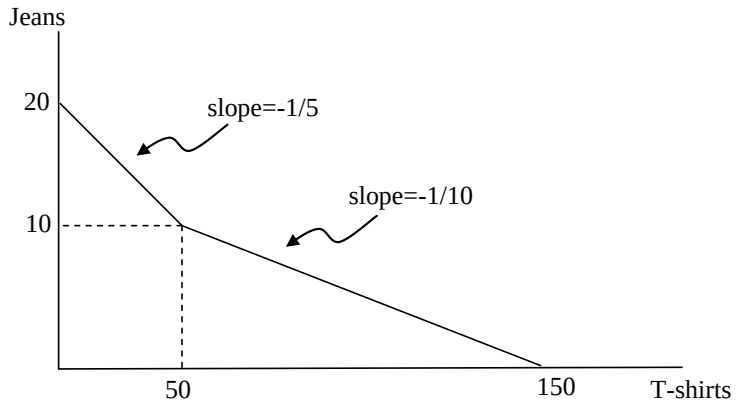
10. If the price of a pack of a certain brand of gum goes up by 50 cents, this creates

a. a substitution effect.
b. an income effect.
c. both a substitution and an income effect.
d. neither a substitution nor and income effect.

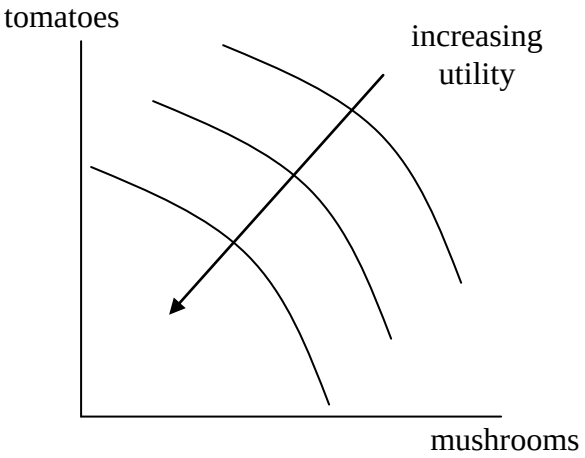
11. Suppose that George is currently consuming 4 apples and 4 bananas. If the price of apples is .25 and George spends $6 on apples and bananas, then what is the price of bananas?

Answer: Use the budget constraint equation to obtain: P1*X1+P2*X2=M. Let apples be X1 and bananas be X2. This gives us .25*4+P2*4=6. Solving for P2 we get that P2=1.25. Therefore, the price of bananas is $1.25.

12. Sketch the budget constraint for jeans and t-shirts under the condition that the price of blue jeans is $50, and the price of t-shirts is $10 for the first 50 t-shirts and then drops to $5 for any additional t-shirt. Assume that income is equal to $1000. Put blue jeans on the y-axis and t-shirts on the x-axis. Label the x-intercept, the y-intercept, and the slope of the budget constraint.

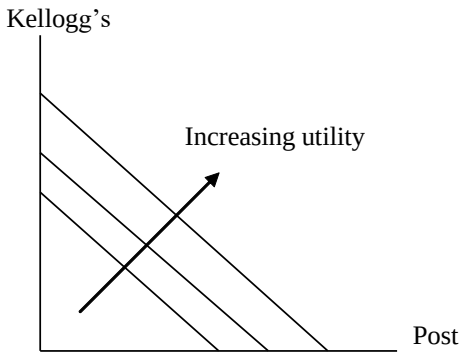


13. Suppose that Jeremy hates **both** mushrooms and tomatoes. In addition, assume that the marginal disutility of mushrooms and tomatoes increases as Jeremy consumes more of each. Sketch a few of Jeremy's indifference curves and show the direction in which Jeremy's utility is increasing.



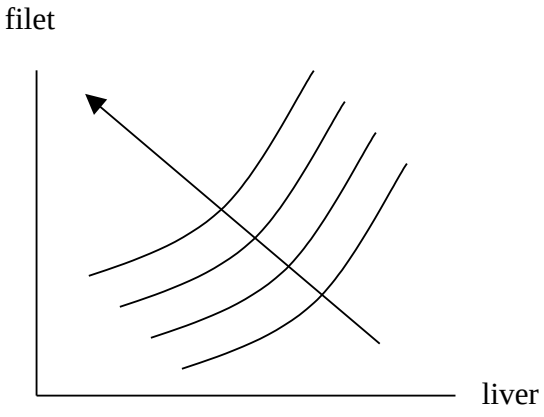
14. Suppose that Uncle Alvarez likes to eat raisin bran every morning for breakfast but he doesn't care if he eats Kellogg's raisin bran or Post raisin bran. For him they are perfect substitutes. Sketch at least three indifference curves for Uncle Alvarez and show the direction in which his utility is increasing.

Answer: Since Post raisin bran and Kellogg's raisin bran are perfect substitutes the indifference curves are linear (in this case the slope will be 1). The indifference curves will be parallel. The arrow shows the direction in which the utility is increasing.



15. Suppose that Victoria hates chicken liver but loves filet mignon. Draw a few indifference curves for Victoria. Put chicken liver on the x-axis and label the direction in which Victoria's utility is increasing.

Note: In drawing these indifference curves it has been assumed that the marginal utility of filet mignon is decreasing, and that the marginal disutility of liver is increasing.



16.

a. *Briefly* explain to someone who has never taken an economics class what the following condition means.

$$\frac{MU_1}{p_1} = \frac{MU_2}{p_2}.$$

Answer: This condition means that the additional happiness you get from the last dollar you spend on good 1 must equal to the additional happiness you get from the last dollar you spend on good 2.

b. Give a brief *intuitive* explanation of *how* and *why* an individual should change his or her optimal consumption of good 1 and good 2 if

$$\frac{MU_1}{p_1} < \frac{MU_2}{p_2}.$$

Answer: If the additional happiness that a person gets from the last dollar they spend on good 2 outweighs the additional happiness that a person gets from the last dollar they spend on good 1, then this individual should spend less money on good 1 and more money on good 2. People should spend their money on the goods that give them the greatest additional happiness per dollar (the biggest bang for their buck).

17. Suppose that Fiona's marginal utility from drinking milk is 5 utils per ounce and her marginal utility from eating cereal is 10 utils per ounce. If the price of milk is 50 cents per ounce and the price of cereal is 80 cents per ounce, is Fiona maximizing her utility? If so, explain how you know. If not, explain how she should change her spending to increase her utility.

The rational spending rule implies that at the optimal consumption bundle is:

$$\frac{MU_m}{p_m} = \frac{MU_c}{p_c}.$$

Therefore, since 5/50 < 10/80, we know that Fiona is not maximizing her utility. She should decrease her consumption of milk and increase her consumption of cereal, putting her money where she gets the biggest bang for her buck.

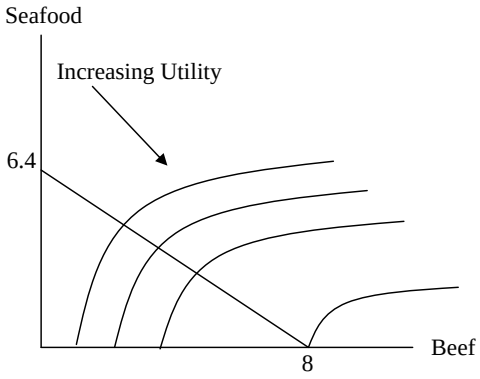
18. Suppose that Geoff loves beef and hates seafood. In addition, suppose that the marginal utility of beef is decreasing, and that the marginal disutility of seafood is increasing.

a. Sketch a few of Geoff's indifference curves for beef and seafood, putting beef on the x-axis and seafood on the y-axis. Show the direction in which Geoff's utility is increasing.

Answer: see below.

b. Suppose that Geoff has $64 dollars to spend on seafood and beef, and suppose that the price of seafood is $10/lb and that the price of beef is $8/lb. If Geoff maximizes his utility, how many pounds of beef and seafood will Geoff consume?

Answer: Geoff will optimally consume 8 lbs of beef and no seafood.



19. You and your friend meet every Wednesday night to play a game of racquetball, but lately your friend has been cancelling on you. You wonder if she is getting tired of playing racquetball or getting tired of spending time with you. How can you find out which it is?

Answer: Diminishing marginal utility is an economic concept that describes how we gain less and less additional satisfaction from doing the same thing over and over. We can use that concept to help determine if your friendship is in trouble. If you schedule a different activity that you know your friend enjoys and she is back to meeting with you every Wednesday for that activity, then you can conclude that your friend had been playing enough racquetball games for diminishing marginal utility to set in. She likely was not enjoying the additional games as much as the first games and needed a change to a new activity. If she continues to cancel, then diminishing marginal utility must have set in on the amount of visits she had with you, rather than on racquetball games!