Chapter 6: Marginal Analysis & Consumer Choice (Utility Maximization)

AP Microeconomics Unit 1 | 练习作业（不含答案）| 重点：$MU_x/P_x = MU_y/P_y$

Part I: Multiple Choice

1. 题库 Unit3 Marginal Q3

The additional satisfaction received from consuming an additional unit of a good is called the

A. marginal utility
B. marginal product
C. average product
D. average utility
E. total utility
Answer:

2. 题库 Unit3 Marginal Q2

Assume the following utility schedule for Aaliyah's ice cream consumption. If she consumes 6 units, what is the value of her total utility from consuming ice cream?

Quantity Consumed	Marginal Utility
1	8
2	6
3	4
4	2
5	0
6	-2

A. 22
B. 20
C. 18
D. 0
E. -2
Answer:

3. 题库 Unit3 Marginal Q7

Which of the following is true if consuming one unit of a good yields 100 utils and consuming

the second unit of the good increases satisfaction by 20 utils?

A. The total utility of consuming two units is 120 utils.
B. The total utility of consuming two units is 20 utils.
C. The marginal utility of the second unit is 100 utils.
D. The marginal utility of the second unit is 120 utils.
E. The marginal utility of the second unit is greater than the marginal utility of the first unit.
Answer:

4. 题库 Unit3 Marginal Q13

To maximize utility, a consumer with a fixed budget will purchase quantities of goods so that the ratios of the marginal utility of each good to its price are

A. greatest
B. equal
C. smallest
D. increasing
E. decreasing
Answer:

5. 题库 Unit3 Marginal Q18

Suppose that a consumer purchases two goods X and Y and that the marginal utility of X is MU_x, the total utility of X is TU_x, the marginal utility of Y is MU_y, and the total utility of Y is TU_y. If the prices of X and Y are P_x and P_y, which of the following expressions defines consumer equilibrium?

A. $TU_x = TU_y$
B. $MU_x = MU_y$
C. $TU_x/P_x = TU_y/P_y$
D. $MU_x/P_x = MU_y/P_y$
E. $(MU_x)(P_x) + (MU_y)(P_y) = 1$
Answer:

6. 题库 Unit3 Marginal Q20

Which of the following best describes how a consumer maximizes total utility from the consumption of a bundle of goods and services?

A. By choosing the quantity of each good such that the quantity demanded of each good is equal to the quantity supplied

B. By choosing the quantity of each good such that the marginal utility from each good is equal to zero

C. By choosing the quantity of each good such that the price is equal to the marginal revenue

D. By choosing the level of output where marginal revenue is equal to marginal cost

E. By choosing the combination of goods such that the marginal utility per dollar spent on the last unit of each good is equal

Answer:

7. 题库 Unit3 Marginal Q25

Assume a consumer is spending all her income on two goods: X and Y. At the current consumption combination of the two goods, if the marginal utility per dollar spent on the last unit of good X exceeds that of the marginal utility per dollar spent on the last unit of good Y, what should the consumer do to maximize utility?

A. Purchase more units of X and more units of Y.

B. Decrease the price of good X.

C. Purchase more units of X and less units of Y.

D. Increase income to buy more of both good Y and good X.

E. Nothing; utility is maximized at current consumption bundles.

Answer:

8. 题库 Unit3 Marginal Q34

The table below shows the per-unit prices and marginal utility for the last unit of video games and comic books that Kyle purchased. Kyle spent all of his allocated budget. To maximize his utility, Kyle should have purchased:

	Video Games	Comic Books
Price per unit	$25	$10
Marginal utility	50	50

A. more video games and fewer comic books

B. fewer video games and more comic books

C. fewer of both goods

D. equal amounts of both goods

E. more of both goods

Answer:

9. 题库 Unit3 Marginal Q24

Garcia is currently spending his entire lunch budget on 3 sodas and 4 hot dogs. At his current level of consumption, Garcia's marginal utility for sodas is 5 utils and his marginal utility for hot

dogs is 10 utils. In order to maximize his total utility, Garcia should

A. consume more sodas and fewer hot dogs regardless of the prices
B. consume more hot dogs and fewer sodas regardless of the prices
C. maintain his current level of consumption of sodas and hot dogs regardless of the prices
D. maintain his current level of consumption if the price of a soda is $1 and the price of a hot dog is $2
E. maintain his current level of consumption if the price of a soda is $2 and the price of a hot dog is $1

Answer:

10. 题库 Unit3 Marginal Q28

Jane spends all her weekly allowance to buy only two goods: soda and apples.

Goods	Price	Qty Purchased	Marginal Utility
Soda	$1	10	10
Apples	$2	5	25

If her preferences are characterized by the law of diminishing marginal utility, then which of the following statements is correct?

A. Jane is maximizing her utility.
B. Jane can buy more apples and less soda to maximize her utility.
C. Jane can buy more soda and fewer apples to maximize her utility.
D. Jane can buy more apples and the same amount of soda to maximize her utility.
E. Jane can buy more soda and the same amount of apples to maximize her utility.

Answer:

11. 题库 Unit3 Marginal Q40

An art student spends all of her income on pencils and drawing pads. The student currently buys 30 pencils at $1 each and 10 pads at $5 each. If the marginal utility of the 30th pencil is 100 utils and the marginal utility of the 10th pad is 400 utils, to maximize utility the student should change her purchases in which of the following ways?

	Pencils	Pads
(A)	Buy more	Buy more
(B)	Buy less	Buy more
(C)	Buy more	Buy less
(D)	Buy less	Buy less
(E)	No change	No change

Answer:

12. 题库 Unit3 Marginal Q22

A consumer pays $1.50 for a bottle of water but $1,500 for a diamond ring. Economists explain this difference in prices by stating that

A. the total utility from consuming water is less than the total utility of consuming a diamond ring
B. the total utility from consuming water is greater than the total utility from consuming a diamond ring
C. the marginal utility from consuming water is less than the marginal utility of consuming a diamond ring
D. the marginal utility from consuming water is greater than the marginal utility from consuming a diamond ring
E. it costs more to produce a diamond ring than it does to produce a bottle of water

Answer:

13. 题库 Unit3 Marginal Q27

Suppose a consumer's income doubles and the prices of both good X and good Y also double. What would happen to the consumer's optimal quantities of goods X and Y?

A. The consumer buys more of both goods.
B. The consumer buys less of both goods.
C. The consumer buys more of X and less of Y.
D. The quantities of both goods remain unchanged.
E. The consumer can no longer afford either good.

Answer:

Part II: Free Response Questions

14. (FRQ) 题库 Unit3 Marginal FRQ Q4 - Ahmet

The table below shows the marginal benefit, in dollars, that Ahmet derives from consuming two goods, books and Good D. Ahmet has a limited weekly income of $18, and he spends it all on books and Good D. Assume the price of each book is $4 and the price of Good D is $1 per unit.

Quantity of Books	Marginal Benefit of Books	Quantity of Good D	Marginal Benefit of Good D
1	$28	1	$32
2	$16	2	$16
3	$4	3	$8
4	$2	4	$4
5	$1	5	$2
6	$0	6	$1

(a) Calculate the total consumer surplus from books if Ahmet buys 5 books. Show your work.

(b) Given his weekly income, would Ahmet be able to buy 3 books and 2 units of Good D? Explain using numbers.

(c) Identify the quantity of books and the quantity of Good D that will maximize Ahmet's total benefit given his weekly income. Explain using marginal analysis.

(d) Assume books are produced in a perfectly competitive market and that there is an increase in the number of buyers in the market for books.

(i) Would Ahmet's total consumer surplus from books if he buys 5 books increase, decrease, or stay the same compared to your answer in part (a)? Explain.

(ii) Will the quantity of books that will maximize Ahmet's total benefit increase, decrease, or stay the same? Explain.

15. (FRQ) 题库 Unit3 Marginal FRQ Q5 - Andrew

The table below shows the total benefit, in dollars, that Andrew derives from consuming two goods, cheeseburgers and Good J. Andrew has a limited weekly income of $65, and he spends it all on cheeseburgers and Good J. Assume the price of each cheeseburger is $10 and the price of Good J is $5 per unit.

Qty Cheeseburgers	Total Benefit of Cheeseburgers	Qty Good J	Total Benefit of Good J
0	$0	0	$0
1	$40	1	$30
2	$70	2	$50
3	$90	3	$65
4	$100	4	$75
5	$105	5	$80
6	$105	6	$83

(a) Calculate Andrew's consumer surplus from the second unit of Good J. Show your work.

(b) Identify the quantity of cheeseburgers and the quantity of Good J that will maximize Andrew's total benefit given his weekly income. Explain using marginal analysis.

(c) If Andrew's weekly income increases from $65 to $75, would Andrew be able to buy 5 cheeseburgers and 6 units of Good J? Explain using numbers.

(d) Suppose the price of Good J decreases by 10% and Andrew buys 12% more of Good J and 8% more of Good S. Based on this change, identify whether Good J and Good S are substitutes, complements, or not related. Explain using numbers.

(e) Suppose instead that cheeseburgers are produced in a perfectly competitive market and the price of beef, an input to the production of cheeseburgers, decreases. If cheeseburgers are a normal good, will the quantity of cheeseburgers that will maximize Andrew's total benefit increase, decrease, or stay the same? Explain.

16. (FRQ) 题库 Unit3 Marginal FRQ Q11 - Dana

Dana has a budget of $30 and spends it all on water and Good X. The price of water is $3 per bottle and the price of Good X is $6 per unit. The table below shows the marginal benefit for each good.

Qty Water	MB Water ($)	Qty Good X	MB Good X ($)
1	24	1	24
2	18	2	18
3	12	3	12
4	6	4	6
5	3	5	3

(a) Calculate the total benefit of consuming 3 bottles of water. Show your work.

(b) Calculate the consumer surplus from buying 2 units of Good X. Show your work.

(c)(i) Explain why 2 bottles of water and 4 units of Good X is NOT the combination that maximizes Dana's total benefit. Use marginal analysis in your explanation.

(c)(ii) Identify the quantity of water and the quantity of Good X that will maximize Dana's total benefit. Explain using marginal analysis.