

Unit 4. Consumer choice

Quiz

1. According to the principle of diminishing marginal utility,
- A. marginal utility remains the same
 - B. total utility remains the same
 - C. marginal utility decreases with each additional unit of a good that that is consumed
 - D. marginal utility and total utility both decrease
 - E. total utility declines

The answer is C. Personal utility is ascending with every additional unit of the good consumed but the increment in utility is less and less.

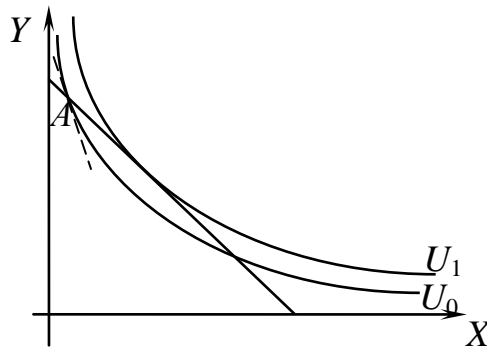
2. You have 450 roubles per week available to spend as you wish on commodities X and Y . The price of these commodities, the quantities you now buy, and your evaluation of the utility provided by these quantities are as follows:

| Good | Unit price | Total bought | Utility | Marginal utility |
|------|------------|--------------|---------|------------------|
| X | 45 roubles | 6 | 800 | 90 |
| Y | 20 roubles | 9 | 2000 | 30 |

For maximum satisfaction, assuming diminishing marginal utility, you should:

- A. buy less of X , more of Y
- B. buy the same quantity of X , more of Y
- C. buy more of X , less of Y
- D. buy more of X , same quantity of Y
- E. remain in your present position

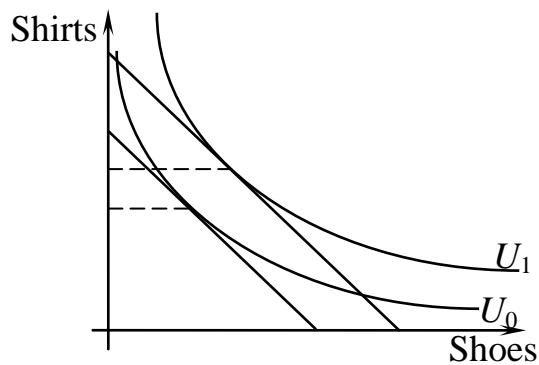
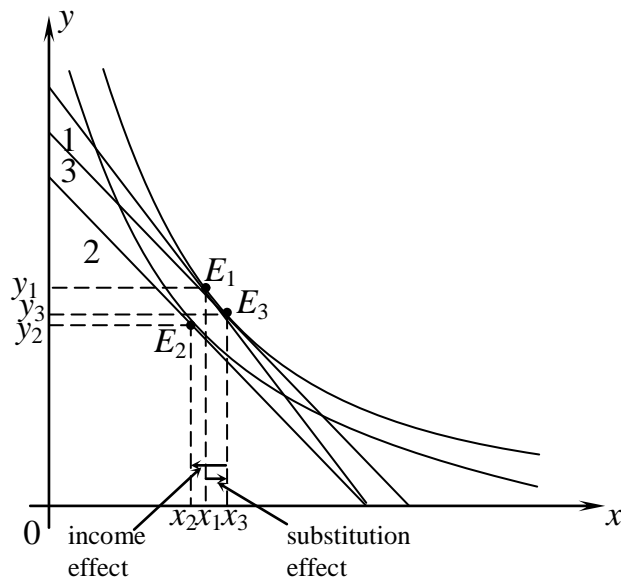
The answer is C. Consumer's budget is totally spent for the two commodities: $TE = p_x x + p_y y = 450 = M$. It follows that $\frac{MU_x}{MU_y} > \frac{p_x}{p_y}$, so the consumer is situated at the point A , where the slope of the budget constraint is less than the slope of the line tangent to indifference curve (see the graph below). To increase the level of satisfaction the consumer has to buy less Y and more X .



3. Suppose a consumer decreases her consumption of good x when the price of good y rises. Which of the following is the most likely explanation for this behaviour?

- A. Goods x and y are substitutes.
- B. Good x is an inferior good.
- C. Good y is an inferior good.
- D. the income effect dominates the substitution effect for good x .
- E. the substitution effect dominates the income effect for good x .

The answer is D. See the graph below.



4. In the diagram above, given that U_1 represents a higher utility than U_0 , shirts are a(n):

- (A) inferior good
- (B) normal good
- (C) substitute good to shoes
- (D) complement good to shoes
- (E) Giffen good

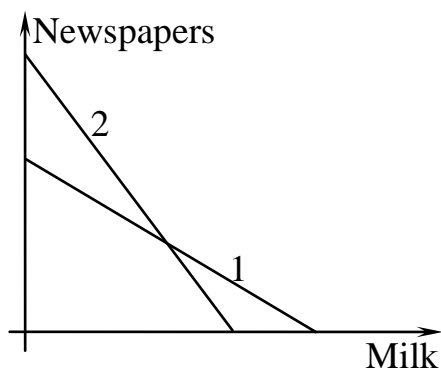
The answer is B. With an increase in income consumption of shirts goes up.

5. An increase in income with no changes in the price of either good will cause the consumer's budget line to:

- A. Pivot so that it becomes flatter.
- B. Shift inward.
- C. Pivot so that it becomes steeper.
- D. Shift outward.
- E. None of the above.

The answer is D. Income changes do not affect the slope of the budget line, only its intercepts with the axes.

6. Mr. Smith consumes only milk and newspapers. Once he found that his budget line moved from position 1 to position 2 (see the graph below). How could it be explained?



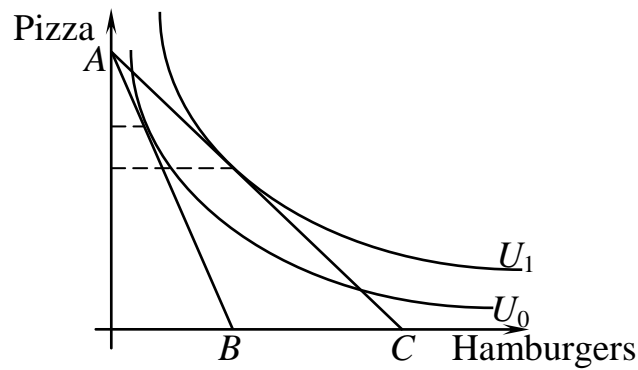
- A. The price of milk has increased, the price of newspapers stayed the same, and Mr. Millionaire's income stayed the same.
- B. The price of newspapers has increased, the price of milk stayed the same, and Mr. Millionaire's income stayed the same.
- C. The price of milk has increased, the price of newspapers stayed the same, and Mr. Millionaire's income has increased.
- D. The price of newspapers has increased, the price of milk stayed the same, and Mr. Millionaire's income has increased.
- E. The price of milk has increased, the price of newspapers has decreased, and the income stayed the same.
- F. More than one answer is correct.

The answer is F. Answers C and E are both correct. In both cases the relative price of milk increases, and the budget line becomes steeper. In both cases the consumer can buy more newspapers (if he buys only newspapers), and hence the vertical intercept rises.

7. Suppose a consumer decreases her consumption of good x when the price of good y rises. None of the commodities x and y is a Giffen good. Which of the following is the most likely explanation for this behaviour?

- A. goods x and y are substitutes.
- B. good x is an inferior good.
- C. good y is an inferior good.
- D. the income effect dominates the substitution effect for good x .
- E. the substitution effect dominates the income effect for good x .
- F. none of the above.

The answer is D. The cross-price elasticity of demand is negative, and the goods are complements (the case of a Giffen good is not considered here). The income effect reduces the consumption of x , while the substitution effect raises the consumption of x . The direction of the total effect coincides with the direction of the income effect, and hence the income effect dominates the substitution effect.



8. Using diagram above, rotation of the budget constraint from the position AB to AC is caused by a(n) _____ in the price of hamburgers. Given the indifference curves, pizza is a _____ for hamburgers.

- A. increase ; substitute
- B. increase ; complement
- C. decrease ; substitute
- D. decrease ; complement
- E. not enough information to answer

The answer is C. Budget constraint: $M = p_h x_h + p_p x_p$, where p_h and p_p , x_h and x_p are correspondingly prices and quantities of hamburgers and pizza; M is consumer's income. The intercept of the budget constraint at the horizontal axis is $\frac{M}{p_h}$. At the point B quantity of hamburgers is bigger as compared to C ; thus given the constant income M the rotation of the budget constraint is caused by a decrease in the price of hamburgers. As a result consumption of hamburgers has grown up and consumption of pizza has fallen down. So pizza is a substitute for hamburgers.

9. Suppose a person consumes two goods: pepsi and sandwiches. An increase in the price of a sandwich will:

- A. Increase consumption of pepsi if the income effect dominates the substitution effect.
- B. Increase consumption of pepsi if the substitution effect dominates the income effect.
- C. Increase consumption of sandwiches if the income effect dominates the substitution effect.
- D. Increase consumption of sandwiches if the substitution effect dominates the income effect.
- E. More than one answer is correct.
- F. None of the above.

The answer is E. Answers B and C may be both correct. Pepsi becomes relatively cheaper, and hence the substitution effect raises its consumption. However, the consumer becomes poorer, and hence the income effect reduces its consumption (provided pepsi is a normal good). If the substitution effect dominates the income effect, the overall effect has the same direction as the substitution effect, and consumption of pepsi goes up. C may be correct, if sandwiches are a Giffen good. In that case the income effect is positive (it raises the consumption of sandwiches because the consumer is poorer) and so large that it offsets the negative substitution effect (which reduces consumption of sandwiches, because sandwiches are relatively more expensive).

10. Suppose that the marginal utilities from the first 5 units of good X consumed are 10, 8, 6, 5 and 4, respectively. Then:

- A. Total utility when 5 units of X are consumed is 33
- B. The utility function is decreasing with X
- C. Consumer does not strictly prefer large quantities of X
- D. All of the above statements are true
- E. None of the above statements is true

The answer is E. TU is indeterminate, as utility in the absence of X is not given (which is not necessarily zero). MU is positive, thus the utility function is increasing. The utility function is increasing, thus C is also not true.