

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
National Aviation University
Faculty of Transport, Management and Logistics
Management of Foreign Economic Activity of Enterprises Department

Methodical Recommendations to Execution of Homework
on «Microeconomics»

Educational Degree Bachelor
Educational and Professional Program: “Management of Foreign Economic Activity”
Field of study: 07 “Management and Administration”
Specialty: 073 “Management”

Developer: PhD in Economics, Associate Professor
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MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
NATIONAL AVIATION UNIVERSITY
Management of Foreign Economic Activity of Enterprises Department

HOMEWORK

on the subject «Microeconomics»

Topic: “.....”

Performed by: Last name, Name

Group

**Checked by: PhD in Economics, Associate Professor
Oleksandr FEDORCHUK**

Option 1

I. Theoretical task

1. Under what conditions does a market reach equilibrium? Define the equilibrium price

2. Describe the total, average and marginal product production.

3. Give the correct answer to the test tasks

1. The fifth ice cream you eat gives you less pleasure than the first. Example:

a) the law of demand;

b) the law of diminishing marginal utility;

c) the presence of a surplus of goods;

d) the presence of a shortage of goods.

2. The price elasticity of demand for a good measures the sensitivity of the volume of demand to change:

a) prices of other goods;

b) consumer preferences and tastes;

c) the price of the product in question;

d) consumer income

II. Practical task

Problem. When the price of good X increased from 110 to 115 UAH, the consumption of good Y increased from 150 to 175 units. Calculate the coefficient of cross-elasticity of demand and determine which goods are the same.

Lecturer _____ Fedorchuk O.M.

(signature) (full name)

Option #2

I. Theoretical task

1. Analysis of consumer behavior using indifference curves. Marginal rate of substitution
2. Interaction of supply and demand. Market equilibrium. Deficit and surplus. Graphical representation.

1. Give the correct answer to the test tasks

1. In the model of the household cycle:

- a) act as entities in the resource market;
- b) act as entities in the product market;
- c) act as entities in the income market;
- d) correct answers a and b.

2. If the price of a good increases, it is according to the law of demand:

- a) demand is declining;
- b) demand is growing;
- c) the volume of demand is declining;
- d) the volume of demand is growing.

II. Practical task

1. Problem: A vacuum cleaner manufacturing company has reduced the price of its products from 1000 UAH to 500 UAH, and then to 300 UAH per unit over three years. Accordingly, demand increased from 10 thousand units to 30 thousand units, and then to 40 thousand units per year. Determine the coefficient of price elasticity of demand for each price change. To what level should the price be reduced?

Lecturer _____ Fedorchuk O.M.

(signature) (full name)

Option #3

I. Theoretical task

1. A cardinalist approach to studying needs and determining utility
2. Offer. The function of supply. The supply curve. Factors influencing the supply

Give the correct answer to the test tasks

1. marginal utility is:

- a) additional utility from the consumption of an additional unit of a good;
- b) the change in the total utility of a set of goods with the amount of a certain good per unit;
- c) increase in aggregate utility;
- d) all answers are correct.

2. If the cross-demand elasticity is negative, the goods for which it is determined are:

- a) normal goods;
- b) lower-end goods;
- c) substitute goods;
- d) complementary goods.

II. Practical task

1. Problem. The function of demand for a product is given by equation:

$$Q_d = 4750 - 350 P;$$

$$\text{Supply function: } Q_s = 1600 + 100 P;$$

Draw a graph and determine the equilibrium price and sales volume.

What will happen if the government sets a fixed price of UAH 9 for this product?

Lecturer _____ Fedorchuk O.M.

(signature) (full name)

Option #4

I. Theoretical task

1. The concept of utility. The function of utility
2. How is the cross elasticity of demand determined? What does it reflect? What factors influence the cross elasticity of demand?

analysis of consumption and savings

3. Give the correct answer to the test tasks

1. Indifference curves are curves:

- a) the same amount of two goods;
- b) the same level of utility of the sets of two goods;
- c) the same level of consumer income;
- d) the same prices of two goods.

2. The law of demand describes:

- a) inverse proportional relationship between price and demand volume;
- b) a direct relationship between price and demand;
- c) an inverse relationship between price and demand volume;
- d) a direct proportional relationship between the price and the volume of demand.

II. Practical task

Problem. Suppose that a family's income has increased from 600 UAH to 1500 UAH per month, and its expenditures on good A have increased from 50 UAH to 100 UAH over the same period. Calculate the coefficient of income elasticity of demand and determine the price of good A.

Lecturer _____ Fedorchuk O.M.

(signature) (full name)

Option #5

I. Theoretical task

1. Define indifference curves, characterize their properties
2. Interaction of supply and demand. Market equilibrium. Deficit and surplus.

3. Give the correct answer to the test tasks

1. Total utility is:

- a) the total amount of satisfaction from consuming a certain set of goods;
- b) the minimum amount of satisfaction from the consumption of a certain set of goods;
- c) the average amount of satisfaction from consuming a certain set of goods;
- d) additional satisfaction from consuming an additional unit of a good;

2. An increase in demand for a product may result from a decrease in price:

- a) the product in question;
- b) a substitute product;
- c) a supplementary product;
- d) a neutral product.

II. Practical task

Problem. When the price of good X increased from 10 to 15 UAH, the consumption of good Y increased from 50 to 75 units. Calculate the coefficient of cross-elasticity of demand and determine what these goods are.

Lecturer _____ Fedorchuk O.M.

(signature) (full name)

Option #6

I. Theoretical task

1. Explain the concept of consumer equilibrium using isoquant and isocost
2. Price elasticity of demand. Factors of price elasticity of demand.
3. Give the correct answer to the test tasks

1. In the short term:

- a) all resources are fixed;
 - b) the volume of at least one of the resources cannot be changed;
 - c) all resources are variable;
 - d) the amount of resources cannot be changed.
- 2 The average product of a variable factor reaches its maximum value when:
- a) the total product of the variable factor is maximized;
 - b) the marginal product of the variable factor is maximized;
 - c) the marginal product of the variable factor is zero;
 - d) it is equal to its marginal product.

II. Practical task

3. Problem. The price of wheat on the market ranges from 15 to 20 UAH per cent, and the demand, respectively, from 40 to 20 thousand centners per month.

Determine the coefficient of price elasticity of demand under conditions of price reduction and price increase and provide conclusions.

Lecturer _____ Fedorchuk O.M.

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Option #7

I. Theoretical task

1. Explain the essence of the law of diminishing marginal productivity of a variable factor of production.

2. Supply elasticity and factors that influence it.

3. Give the correct answer to the test tasks

1. The long-term period of a firm's operation is:

a) the longest cycle of the enterprise's operation;

b) the maximum possible period of the firm's operation in this industry;

c) the time required to change all the resources involved;

d) the time interval during which the firm will receive economic profit.

2. The total product of a variable factor reaches a maximum when the average product is reduced:

a) the marginal decreases to zero;

b) the total product of a variable factor decreases when both the average and marginal products decrease;

c) the aggregate product of a variable factor increases when the marginal product increases and the average product decreases;

d) the aggregate product of a variable factor decreases when the average product increases and the marginal product decreases.

II. Practical task

Problem. The demand function for a product is given by the equation:

$Q_d = 2800 - 160P$; Offer function: $Q_s = 1600 + 140P$;

Determine the equilibrium price and sales volume. Draw a graph.

What will happen if the government sets a fixed price of UAH 8 for this product?

Lecturer _____ Fedorchuk O.M.
(signature) (full name)

Option #8

I. Theoretical task

1. Define indifference curves, characterize their properties
2. How is the cross elasticity of demand determined? What does it reflect? What factors influence the cross elasticity of demand?
3. Give the correct answer to the test tasks

1. A monopoly firm:

- a) never incurs losses because it has monopoly power;
- b) can produce any volume of products and sell them at any price;
- c) sets the highest possible price for its products;
- d) taking into account the market demand curve, determines the combination of output and price that maximizes profit.

2. The law of demand describes:

- a) inverse proportional relationship between price and demand volume;
- b) a direct relationship between price and demand;
- c) an inverse relationship between price and demand volume;
- d) a direct proportional relationship between the price and the volume of demand.

II. Practical task

Problem. The demand function for a product is given by the equation:

$$Q_d = 8 - P;$$

Supply function: $Q_s = 2P - 4$;

Determine the equilibrium price and sales volume.

What will happen if the government sets a fixed price of UAH 3 for this product?

Lecturer _____ Fedorchuk O.M.

(signature) (full name)

Option #9

I. Theoretical task

1. The concept of utility, its features. Total and marginal utility.
2. Give the definition of isoquant, isoquant maps, characterize the directions of their use
3. Give the correct answer to the test tasks

1 If the price of a commodity rises, it is according to the law of demand:

- a) demand is declining;
- b) demand is growing;
- c) the volume of demand is declining;
- d) the volume of demand is growing.

2. Marginal utility is:

- a) additional utility from the consumption of an additional unit of a good;
- b) the change in the total utility of a set of goods with the amount of a certain good per unit;
- c) increase in aggregate utility;
- d) all answers are correct.

II. Practical task

Objective.

The demand function for a product is given by the equation:

$$Q_d = 4750 - 350 P;$$

Supply function: $Q_s = 1600 + 100 P;$

Draw a graph, determine the equilibrium price and sales volume.

Lecturer _____ Fedorchuk O.M.

(signature) (full name)

Option #10

I. Theoretical task

1. The function of the offer. Changes in the volume of supply. Factors that lead to the movement of the supply curve

2. Analysis of consumer behavior. Indifference curve. Map of indifference curves.

3. Give the correct answer to the test tasks

1.. Total utility is:

- a) the total amount of satisfaction from consuming a certain set of goods;
- b) the minimum amount of satisfaction from the consumption of a certain set of goods;
- c) the average amount of satisfaction from consuming a certain set of goods;
- d) additional satisfaction from consuming an additional unit of a good;

2. The long-term period of a firm's operation is:

- a) the longest cycle of the enterprise's operation;
- b) the maximum possible period of the firm's operation in this industry;
- c) the time required to change all the resources involved;
- d) the time interval during which the firm will receive economic profit.

II. Practical task

1. Problem. The supply and demand for lunches in the student cafeteria are described by the equations:

$$Q_d = 2400 - 100 P$$

$$Q_s = 100 + 250 P$$

Determine the equilibrium price and the number of meals sold at this price.

Taking care of the students, the administration set the price of lunch at 3 UAH. Describe the consequences of this decision.

Lecturer _____

(signature) (full name)

_____ Fedorchuk O.M.

Option 11

I. Theoretical task

1. Explain the essence of the law of diminishing marginal productivity of a variable factor of production.

2. Supply elasticity and factors that influence it.

3. Give the correct answer to the test tasks

1. The long-term period of a firm's operation is:

a) the longest cycle of the enterprise's operation;

b) the maximum possible period of the firm's operation in this industry;

c) the time required to change all the resources involved;

d) the time interval during which the firm will receive economic profit.

2. The total product of a variable factor reaches a maximum when the average product is reduced:

a) the marginal decreases to zero;

b) the total product of a variable factor decreases when both the average and marginal products decrease;

c) the aggregate product of a variable factor increases when the marginal product increases and the average product decreases;

d) the aggregate product of a variable factor decreases when the average product increases and the marginal product decreases.

II. Practical task

Problem. The demand function for a product is given by the equation:

$$Q_d = 2800 - 160P; \text{ Offer function: } Q_s = 1600 + 140P;$$

Determine the equilibrium price and sales volume. Draw a graph.

What will happen if the government sets a fixed price of UAH 8 for this product?

Lecturer _____ Fedorchuk O.M.

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Option #12

I. Theoretical task

1. Define indifference curves, characterize their properties
2. How is the cross elasticity of demand determined? What does it reflect? What factors influence the cross elasticity of demand?
3. Give the correct answer to the test tasks

1. A monopoly firm:

- a) never incurs losses because it has monopoly power;
- b) can produce any volume of products and sell them at any price;
- c) sets the highest possible price for its products;
- d) taking into account the market demand curve, determines the combination of output and price that maximizes profit.

2. The law of demand describes:

- a) inverse proportional relationship between price and demand;
- b) a direct relationship between price and demand;
- c) an inverse relationship between price and demand volume;
- d) a direct proportional relationship between the price and the volume of demand.

II. Practical task

Problem. The demand function for a product is given by the equation:

$$Q_d = 8 - P;$$

$$\text{Supply function: } Q_s = 2P - 4;$$

Determine the equilibrium price and sales volume.

What will happen if the government sets a fixed price of UAH 3 for this product?

Lecturer _____ Fedorchuk O.M.

(signature) (full name)

Option #13

I. Theoretical task

1. The concept of utility, its features. Total and marginal utility.
2. Give the definition of isoquant, isoquant maps, characterize the directions of their use
3. Give the correct answer to the test tasks

1 If the price of a commodity increases, it is according to the law of demand:

- a) demand is declining;
- b) demand is growing;
- c) the volume of demand is declining;
- d) the volume of demand is growing.

2. Marginal utility is:

- a) additional utility from the consumption of an additional unit of a good;
- b) the change in the total utility of a set of goods with the amount of a certain good per unit;
- c) increase in aggregate utility;
- d) all answers are correct.

II. Practical task

Objective.

The demand function for a product is given by the equation:

$$Q_d = 4750 - 350 P;$$

Supply function: $Q_s = 1600 + 100 P;$

Draw a graph and determine the equilibrium price and sales volume.

Lecturer _____ Fedorchuk O.M.

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Option #14

I. Theoretical task

1. The function of the offer. Changes in the volume of supply. Factors that lead to the movement of the supply curve

2. Analysis of consumer behavior. Indifference curve. Map of indifference curves.

3. Give the correct answer to the test tasks

1.. Total utility is:

- a) the total amount of satisfaction from consuming a certain set of goods;
- b) the minimum amount of satisfaction from consuming a certain set of goods;
- c) the average amount of satisfaction from consuming a certain set of goods;
- d) additional satisfaction from consuming an additional unit of a good;

2. The long-term period of a firm's operation is:

- a) the longest cycle of the enterprise's operation;
- b) the maximum possible period of the firm's operation in this industry;
- c) the time required to change all the resources involved;
- d) the time interval during which the firm will receive economic profit.

II. Practical task

1. Problem. The supply and demand for lunches in the student cafeteria are described by the equations:

$$Q_d = 2400 - 100 P$$

$$Q_s = 100 + 250 P$$

Determine the equilibrium price and the number of meals sold at this price.

Taking care of the students, the administration set the price of lunch at 3 UAH. Describe the consequences of this decision.

Lecturer _____

(signature) (full name)

_____ Fedorchuk O.M.

Option #15

I. Theoretical task

1. Under what conditions does a market reach equilibrium? Define the equilibrium price

2. Describe the total, average and marginal product production.

3. Give the correct answer to the test tasks

1. The fifth ice cream you eat gives you less pleasure than the first. Example:

a) the law of demand;

b) the law of diminishing marginal utility;

c) the presence of a surplus of goods;

d) the presence of a shortage of goods.

2. The price elasticity of demand for a good measures the sensitivity of the volume of demand to change:

a) prices of other goods;

b) consumer preferences and tastes;

c) the price of the product in question;

d) consumer income

II. Practical task

Problem. When the price of good X increased from 110 to 115 UAH, the consumption of good Y increased from 150 to 175 units. Calculate the coefficient of cross-elasticity of demand and determine what these goods are.

Lecturer _____ Fedorchuk O.M.

(signature) (full name)

Option #16

I. Theoretical task

1. Analysis of consumer behavior using indifference curves. Marginal rate of substitution
2. Interaction of supply and demand. Market equilibrium. Deficit and surplus. Graphical representation.

2. Give the correct answer to the test tasks

1. In the model of the household cycle:

- a) act as entities in the resource market;
- b) act as entities in the product market;
- c) act as entities in the income market;
- d) correct answers a and b.

2. If the price of a good increases, it is according to the law of demand:

- a) demand is declining;
- b) demand is growing;
- c) the volume of demand is declining;
- d) the volume of demand is growing.

II. Practical task

1. Problem: A vacuum cleaner manufacturing company has reduced the price of its products from 1000 UAH to 500 UAH, and then to 300 UAH per unit over three years. Accordingly, demand increased from 10 thousand units to 30 thousand units, and then to 40 thousand units per year. Determine the coefficient of price elasticity of demand for each price change. To what level should the price be reduced?

Lecturer _____ Fedorchuk O.M.

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Option #17

I. Theoretical task

1. The cardinalist approach to studying needs and determining utility

2. Offer. The function of the proposal. The supply curve. Factors influencing the supply

Give the correct answer to the test tasks

1. marginal utility is:

- a) additional utility from the consumption of an additional unit of a good;
- b) the change in the total utility of a set of goods with the amount of a certain good per unit;
- c) Increase in aggregate utility;
- d) all answers are correct.

2. If the cross-demand elasticity is negative, the goods for which it is determined are:

- a) normal goods;
- b) lower-end goods;
- c) substitute goods;
- d) complementary goods.

II. Practical task

1. Problem. The function of demand for a product is given by equation:

$$Q_d = 4750 - 350 P;$$

$$\text{Supply function: } Q_s = 1600 + 100 P;$$

Draw a graph and determine the equilibrium price and sales volume.

What will happen if the government sets a fixed price of UAH 9 for this product?

Lecturer _____ Fedorchuk O.M.

(signature) (full name)

Option #18

I. Theoretical task

1. The concept of utility. The function of utility

2. How is the cross elasticity of demand determined? What does it reflect? What factors influence the cross elasticity of demand?

analysis of consumption and savings

3. Give the correct answer to the test tasks

1. Indifference curves are curves:

- a) the same amount of two goods;
- b) the same level of utility of the sets of two goods;
- c) the same level of consumer income;
- d) the same prices of two goods.

2. The law of demand describes:

- a) inverse proportional relationship between price and demand volume;
- b) a direct relationship between price and demand;
- c) an inverse relationship between price and demand volume;
- d) a direct proportional relationship between the price and the volume of demand.

II. Practical task

1. Problem. Suppose that a family's income has increased from 600 UAH to 1500 UAH per month, and its expenditures on good A have increased from 50 UAH to 100 UAH over the same period. Calculate the coefficient of income elasticity of demand and determine the price of good A.

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Option #19

I. Theoretical task

1. Define indifference curves, characterize their properties
2. Interaction of supply and demand. Market equilibrium. Deficit and surplus.
3. Give the correct answer to the test tasks
 1. Total utility is:
 - a) the total amount of satisfaction from consuming a certain set of goods;
 - b) the minimum amount of satisfaction from the consumption of a certain set of goods;
 - c) the average amount of satisfaction from consuming a certain set of goods;
 - d) additional satisfaction from consuming an additional unit of a good;
 2. An increase in demand for a product may result from a decrease in price:
 - a) the product in question;
 - b) a substitute product;
 - c) a supplementary product;
 - d) a neutral product.

II. Practical task

Problem. When the price of good X increased from 10 to 15 UAH, the consumption of good Y increased from 50 to 75 units. Calculate the coefficient of cross-elasticity of demand and determine what these goods are.

Lecturer _____ Fedorchuk O.M.

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Option #20

I. Theoretical task

1. Explain the concept of consumer equilibrium using isoquant and isocost

2. Price elasticity of demand. Factors of price elasticity of demand.

3. Give the correct answer to the test tasks

1. In the short term:

a) all resources are fixed;

b) the volume of at least one of the resources cannot be changed;

c) all resources are variable;

d) the amount of resources cannot be changed.

2 The average product of a variable factor reaches its maximum value when:

a) the total product of the variable factor is maximized;

b) the marginal product of the variable factor is maximized;

c) the marginal product of the variable factor is zero;

d) it is equal to its marginal product.

II. Practical task

3. Problem. The price of wheat on the market ranges from 15 to 20 UAH per cent, and the demand, respectively, from 40 to 20 thousand centners per month.

Determine the coefficient of price elasticity of demand under conditions of price reduction and price increase and provide conclusions.

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