

MICROECONOMICS
(Introductory course/propedeuse) for BSc in Economics and Business
Fall 2001

Compilation of all weekly progress test with answers.
The right answers are indicated with a *:

Test #1

1.

Consider a competitive market for which quantities demanded and quantities supplied at various prices are given as follows:

demand:	26	22	18	20	16	24	14	12
price:	20	60	100	80	120	40	140	160
supply:	20	10	24	12	16	22	18	14
price:	120	20	160	40	80	140	100	60

What is the equilibrium price for this market?

1. 100*
2. 40
3. 120
4. 1,2, and 3 are wrong

2.

Consider a competitive market for which quantities demanded and quantities supplied at various prices are given as follows:

demand:	26	22	18	20	16	24	14	12
price:	20	60	100	80	120	40	140	160
supply:	20	10	24	12	16	22	18	14
price:	120	20	160	40	80	140	100	60

What is the equilibrium quantity for this market?

1. 20
2. 14
3. 18*
4. 1,2, and 3 are wrong

3.

For automobiles and gasoline it is true that:

1. They are complements.*
2. For both the short-run price elasticity of demand is the larger than the long-run price elasticity of demand.
3. For both the short-run price elasticity of demand is the smaller than the long-run price elasticity of demand.
4. They are substitutes.

4.

Consider the following two statements:

- I If we increase the income tax it will take longer for unemployed people to find a job.
- II A reduction of the unemployment benefits is the most efficient way to get unemployed to work..

1. Both statements involve positive economic analysis.
2. Statement I involves positive economic analysis and statement II involves normative economic analysis.*
3. Statement I involves normative economic analysis and statement II involves positive economic analysis.
4. Both statements involve normative economic analysis.

5.

In a recent investigation (Economic Inquiry July 1999) the price elasticity of demand for cocaine was estimated. The short run price elasticity (1 month) is -0.34 and the long run price elasticity of (1 year) is -0.57 .

Consider the following two statements

- I The price elasticity of demand for cocaine is inelastic in the short-run and elastic in the long-run.
- II If cocaine gets cheaper by 10% then the consumption of cocaine will increase by approximately 5.7% in the long-run.

1. I and II are right
2. I is right; II is wrong
3. I is wrong; II is right*
4. I and II are right

6.

In a recent investigation (Economic Inquiry July 1999) it was shown that the cross-price elasticity of demand for alcohol with respect to the price of cocaine negative is. This means that:

1. alcohol and cocaine are complements*
2. alcohol and cocaine are substitutes
3. the price elasticity of demand of alcohol is zero
4. the price mechanism does not work for alcohol and cocaine.

7.

Consider the linear demand function : $Q = 8 - 2P$. What is the price elasticity of demand if the price of the good is 2?

1. $-\infty$
2. - 2
3. - 1*
4. 0

8.

The following table shows the nominal price of eggs and the consumer price index (CPI) for the years 1970 to 1998

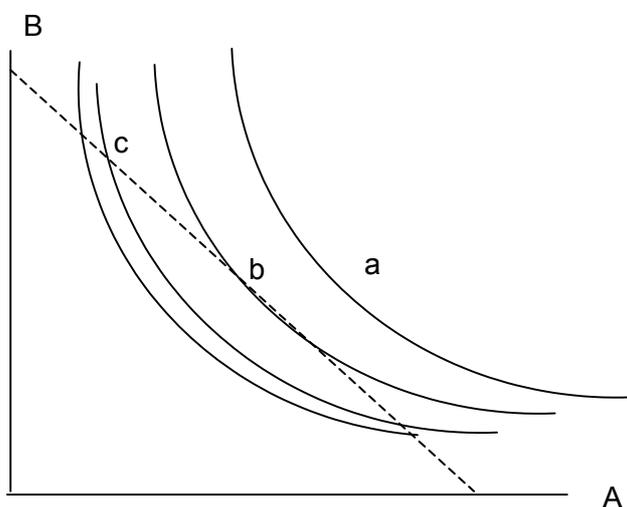
Year	1970	1975	1980	1985	1990	1998
Nominal price of eggs (in euros)	0.61	0.77	0.84	0.80	1.01	1.04
CPI	38.8	53.8	82.4	107.6	130.7	163.0

What is the real price of eggs in the year 1990 calculated in 1970 euros? (rounded values)

1. 0.18
2. 0.30*
3. 3.40
4. 1.01

Test #2

1. Consider the following indifference curves (solid curves) reflecting the preferences of an individual and the budget line (broken line) with respect to goods A and B. Suppose this person wants to maximize her/his satisfaction:



Which of the following statements is *wrong*?

1. Point b will be chosen.
2. Point c will not be chosen because b gives a higher value.
3. Point a will not be chosen because indifference curves reflect only an ordinal ordering.*
4. Point a will not be chosen because it is not attainable given the income and prices.

Answer 3 is wrong. The decision for b has nothing to do with ordinal preferences; a will not be chosen because it is not attainable, given income and prices.

2. The preferences of an individual with respect to commodities X and Y are given by the utility function $U=XY$. The budget line is given by $2X+Y=100$. How much of X and Y does the individual consume? (*Hint: use the "equal marginal principle"*).

1. $X=25, Y=50^*$
2. $X=50, Y=25$
3. $X=40, Y=20$
4. 1, 2, and 3 are wrong

use $MRS=MU_y/MU_x = P_y/P_x$; $MU_y = dU/dY = X$, etc.

3.

Suppose that empirical research has shown that the short-run price elasticity of demand for cigarettes is -0.05 and that the long-run price elasticity of demand is -1.05. Which of the following statements is true:

1. demand for cigarettes is elastic in the short- and in the long run.
2. demand for cigarettes is inelastic in the short- and in the long run.
3. demand for cigarettes is elastic in the short-run and inelastic in the long-run.
4. demand for cigarettes is inelastic in the short-run and elastic in the long run.*

Demand is elastic if it is smaller than -1 (larger than 1 in absolute terms) and inelastic if it is larger than -1 (smaller than 1 in absolute terms).

4.

Suppose that we have an aggregated demand curve which is linear, runs through the point $p=5, q=100$ and that the price elasticity of demand at that point is equal to -2. The equation of for the demand curve is given by:

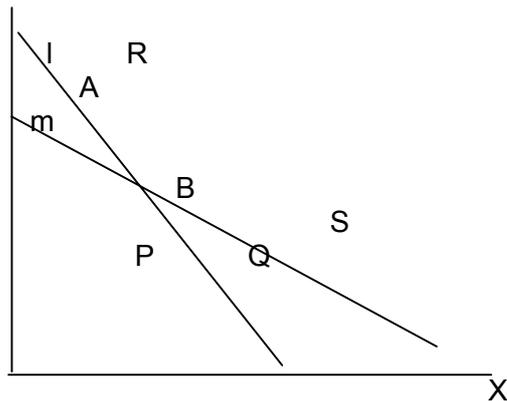
1. $Q_D = 300 - 40P$ *
2. $Q_D = 110 - 2P$
3. $Q_D = 200 - 20P$
4. $Q_D = 100 - 40P$

*Take the demand curve $Q_D=a+bp$. The elasticity is $(dQ/dP)(p/q) = b*5/100$. This gives for b the value -40; you can find a by using $p=5$ and $q=100$ in the equation $Q=a-40P$.*

5.

Take a look at the figure below.

Y



Suppose that an individual chooses A when confronted with the budget line I , and chooses B when confronted with budget line m . Which of the other points can lie on the indifference curve that runs through A?

1. P
2. Q
3. R
4. S*

P is not possible since A is revealed better than P; Q is not possible because B is revealed better than Q and A is revealed better than B; R is not possible because "more is better".

6.

Suppose that for an individual goods F and C are perfect substitutes. Suppose further that the indifference curve for utility level 100 is given by the equation $F=100 - C$. If the prices are given by $P_C=1$ and $P_F=2$, this consumer will:

1. use all her income to consume good F
2. use all her income to consume good C *
3. use one-third of her income to consume good F and two-thirds to consume good C
4. use one-third of her income to consume good C and two-thirds to consume good F

tip: draw the indifference curves (slope is -1) and the budget line; intuitive: C and F are perfect substitutes and C is cheaper; use all your income to consume C.

7.

Person A has a utility function $U = F^2 C^2$. Person B has, on an ordinal scale, exactly the same preferences. Which of the following utility functions reflects person B's preferences:

1. $U = F^2 + C^2$
2. $U = 2F + 2C$
3. $U = \sqrt{F} \sqrt{C}$ *
4. $U = F + C$

Since utility is measured only on an ordinal scale each (and only) utility functions preserving the ordering can be used; only 3 does not change the ordering (it is a monotone transformation of person A's utility function; the others are not).

8.

A consumer buys 10 units of good F and 20 units of good C in year 0. At this time the prices for F and C are 1 and 3, respectively. One year later (year 1) the prices have increased to 2 and 10, respectively, and the consumer buys 20 units of good F and 10 units of good C. The Laspeyres price index (LI) and the Paasche price index (PI) are:

1. $LI=314.3$ and $PI=280$ *
2. $LI=280$ and $PI=314.3$
3. $LI=200$ and $PI=440$
4. $LI=440$ and $PI=200$

You can calculate them by using the formulas on page 96 in Pindyck en Rubinfeld.

Test #3

1

Suppose that the price of good A increases and that as a consequence of that the demand curve of good B shifts to the right. From that we can conclude that:

- 1 A is a normal good.
- 2 B is an inferior good.
- 3 A and B are substitutes. *
- 4 A and B are complements.

Follows from the fact that for each price of B the demand for B is higher after the price increase of A.

2

On the price-consumption curve it holds that:

- 1 Going from the left to the right income is decreasing.
- 2 Going from the left to the right income is increasing.
- 3 Income is constant. *
- 4 The level of income depends on the utility level.

The price-consumption curve depicts the relationship between quantities demanded and price, ceteris paribus; that is, at constant income.

3

If there is a negative network externality a decrease of the price leads to:

1. A shift of the demand curve.
2. A shift along the demand curve.
3. A shift of the demand curve and a shift along the demand curve. *
4. A smaller utility.

See figure 4.17 in Pindyck/Rubinfeld

4

Assume that the demand for good X is linear. Suppose that at a price of $P=7.5$ the quantity demanded is given by $X=750$ units. Furthermore, we know that at this point the price elasticity of demand is given by -2 .

From this information we can conclude that the *inverse* demand function is of the form:

1. $P = 11.25 - X/200$ *
2. $X = 2250 - 200 P$
3. $P = 2250 - 200 X$
4. The given information is insufficient to find the exact form of the demand curve.

This question is similar to one last week. It refers to chapter 2 in Pindyck/Rubinfeld. It is asked again because to little people got it right then.

Set up the linear equation $X = a - b P$; use the formula for the price elasticity of demand and the given price, quantity and elasticity to find b ; then use the demand equation to calculate a ; rearrange such that P is the dependent and X the independent variable.

5

The aggregated demand curve for CD's is given by $Q = 300 - 5P$. At a price of 40 the consumer surplus is equal to:

- 1 13000
- 2 4000
- 3 1000 *
- 4 100

The area between the (inverse) demand curve and the price $p=40$ (Q between 0 and 100) is a triangle with a surface of 1000.

6.

Which of the following statements is *right*?

1. Each Giffen good is a normal good.
2. Each normal good is a given good.
3. Each Giffen good is an inferior good. *
4. Each inferior good is a Giffen good.

A Giffen good is an inferior good since for such a good the income effect is always opposite to the substitution effect (is negative in case the price decreases; positive in case the price increases). However, a good can be inferior but not a Giffen good if the income effect is smaller than the substitution effect.

7.

Which of the following statements is *wrong*?

1. If demand is inelastic expenditures increase when the price increases.
2. If demand is elastic expenditures increase when the price decreases.
3. If demand is unit elastic expenditures increase by the same amount as the price. *
4. If demand is elastic expenditures decrease when the price increases.

See table 4.3 in Pindyck/Rubinfeld.

8.

The utility function of a consumer is given by $U=F+C$ (Note: the indifference curves associated with such a utility function are straight lines). Initially, the prices for F and C are $P_F=1$ and $P_C=2$. Income is equal to 10. Now, suppose that the price of good F increases to $P_F=3$. Given this price change, how large is the substitution effect (SE) and how large is the income effect (IE) for good F?

1. SE = 0 and IE = -10.
2. SE = -10 and IE = 0.*
3. SE = -5 and IE = -5.
4. SE = -10 and IE = -10.

Because of the price change the chosen point "jumps" from the corner solution 10 F, 0 C (giving a utility of $U=10$) to another corner solution 0 F, 5 C ($U=5$). At the new price relation and the old utility level $U=10$ the consumer would consume 0 F and 10 C; that means that the SE for F is -10. The demanded quantity of F does not change any more when the utility is lowered to $U=5$ by lowering the income; i.e. the IE for F is 0.

Test #4

Fill in the gaps in the table and determine A en B

Units of labor (L)	Output (Q)	Average product	Marginal product
3	33	--	--
4	--	9.5	--
5	42	--	A
6	B	--	3

1. A = 4 and B = 45
2. A = 5 and B = 50
3. A = 4 and B = 45*
4. None of the above three answers is right

Fill in the gaps step by step: output for L=4 (38); marginal product for L=5 (4); output for L=6 (45). You can also find the other missing data (with the exception of the marginal product for L=3).

2.

The marginal rate of technical substitution (MRTS) of labor for capital is 3 and the marginal product of labor is 18 (Note: MRTS of labor for capital is the amount by which capital input can be reduced when labor input is increased by one unit, so that output remains constant.). The marginal product of capital is then:

1. 1/18
2. 1/6
3. 18
4. 6*

$$MRTS = MP_L / MP_K \Leftrightarrow MP_K = MP_L / MRTS = 6$$

3.

The law of diminishing marginal returns says that:

1. From a particular point on the quality of additional units of labor decreases.
2. From a particular point on additional units of labor lead to a negative marginal product.
3. From a particular point on the increase of production due to additional units of labor decreases.*
4. Doubling the quantity of capital input and labor input leads to a less than doubled output.

See Pindyck & Rubinfeld, page 185.

4

The aggregated demand curve for a good is given by $Q = 200 - 4P$. At a price of 20 the consumer surplus is equal to:

1. 1800*
2. 120
3. 2400
4. 3600

This question is similar to one of last week. It refers to chapter 4 in Pindyck/Rubinfeld. It is asked again because too little people got the answer right last week.

For $Q = 0$ the price is 50, which is also the vertical intercept of the inverse demand curve. At the price of 20 the quantity demanded is 120. The consumer surplus is then the one-half of the difference of the price at demand of zero (i.e. 50) and the price consumers have to pay (i.e. 20) times the quantity demanded (that is $(1/2)(50-20)120=1800$). See also Pindyck and Rubinfeld, p. 123-125.

5

The utility function of a consumer is given by $U = \min\{X, Y\}$ (Note: The indifference curves associated with such a utility function are L-shaped). The income of the consumer is 10 and fixed. Initially, the prices for goods X and Y are $P_X = 1$ and $P_Y = 1$, respectively. Now, suppose that the price of good X increases to $P_X = 4$. Given this price change, how large is the substitution effect (SE) and how large is the income effect (IE) for good X.

- 1 SE = 0 and IE = 0
- 2 SE = -3 and IE = -3
- 3 SE = -3 and IE = 0
- 4 SE = 0 and IE = -3*

This question is similar to one of last week. It refers to chapter 4 in Pindyck/Rubinfeld. It is asked again because too little people got the answer right last week.

Since the indifference curves are L-shaped (i.e. the two goods in question are perfect complements) the consumer will consume the two goods always in the same portion. Furthermore, the "corner" of the "L" occurs at $X=Y$ for any utility level. Using this information together with the budget constraint for the initial prices you find that $X=Y=5$ (i.e. $U = 5$) when prices are $P_X = P_Y = 1$. Similarly, using $X=Y$ and the budget line for prices $P_X = 4$ and $P_Y = 1$ you can find that $X=Y=2$. Hence, the total effect is -3. Now, you use the information that X and Y are perfect complements, which implies that there will be no substitution. Hence, $SE = 0$ which implies that $IE = -3$. You can find the right answer also graphically.

6

Suppose a production function with only one variable input. Which of the following statements is *true*?

1. Total output is at its maximum when the marginal product of the input is at its maximum.
2. Total output is at its maximum when the marginal product of the input equals the average product of the input.
3. Total output is at its maximum when the marginal product of the input is zero.*
4. None of the above statements is true.

Total output is maximized when the marginal product of the input is zero. See also Figure 6.2 in Pindyck and Rubinfeld, p. 183.

7

Which of the following statements is *wrong*?

- 1 The marginal product curve runs through the maximum of the average product curve.
- 2 If the total production curve decreases then the marginal product is negative.
- 3 In the graphic of the total production curve the slope of the line connecting the origin with any point on the total production curve gives the average product at this point.
- 4 If the marginal product curve decreases then the total production curve decreases, too.*

A decreasing but positive marginal product curve leads to increasing production.

8

The production function $Q=0.01 K L$ exhibits

- 1 Increasing returns to scale.*
- 2 Constant returns to scale.
- 3 Decreasing returns to scale.
- 4 First increasing and then decreasing returns to scale.

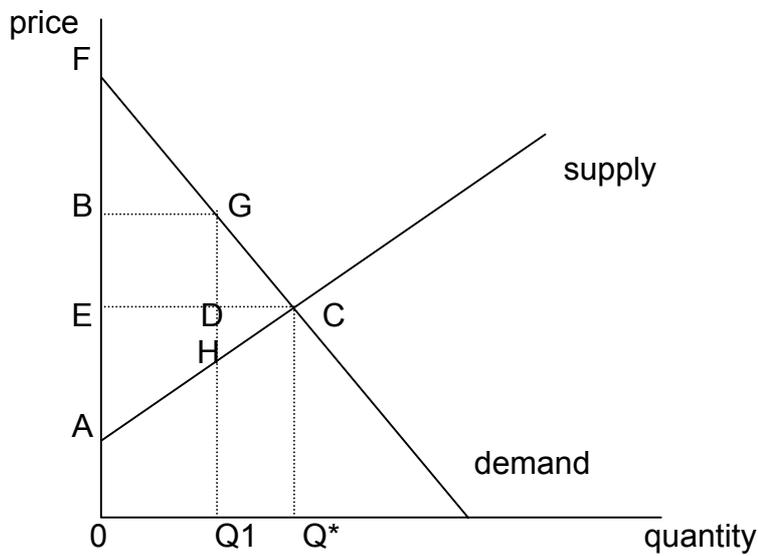
Multiply K en L with $p>1$ and total production becomes $p^2 0.01KL = p(pQ) > pQ$.

Test #5

1
 If the government sets a maximum-price that is below the equilibrium price we get that
 (with increasing supply- and decreasing demand curve):

1. Only consumer surplus decreases
2. Only producer surplus decrease
3. Consumer surplus decreases for sure and possibly also the producer surplus
4. Producer surplus decreases for sure and possibly also the consumer surplus*

The next two questions are about the figure below



2
 With a minimum price of 0B and a quantity Q1 the producer surplus is equal to:

1. AEC
2. BGF
3. 0BGQ1
4. ABGH*

3
 With a minimum price of 0B and a quantity Q1 the welfare loss (deadweight loss) is equal to:

1. DCG
2. HDC
3. HGC*
4. 0FGQ1

4

The formula $E_S/(E_S-E_D)$ represents:

1. the fraction of a specific tax borne by consumers*
2. the fraction of a specific tax borne by producers
3. the welfare loss of a price subsidy
4. the welfare loss of a maximum-price

5

Consider the following two statements:

- I. The welfare loss of a specific tax is smaller the more elastic the demand is.
- II. The tax burden of a specific tax borne by consumers is the higher the less elastic the demand is.

1. I and II are right
2. I is right, II is wrong
3. I is wrong, II is right*
4. I and II are wrong

6

Consider that on a market the demand function has the form $Q^D = 240 - 50P$ and the supply function the form $Q^S = 50 + 40P$. Suppose now an introduction of a specific tax, which is collected from the sellers. If this tax $T=2$ then the price P_b paid by the buyers and the price P_s received by the suppliers are:

1. $P_b = 1, P_s = 3$
2. $P_b = 3, P_s = 1^*$
3. $P_b = 0, P_s = 2$
4. $P_b = 2, P_s = 0$

7

Consider the following two statements:

- I: A subsidy never generates a deadweight loss.
- II: If a country wants to restrict imports it is better to use quotas instead of tariffs.

1. I is right, II is wrong
2. I is wrong, II is right
5. I and II are wrong*
3. I and II are right

8

Consider a market where demand and supply are given by the following functions: $Q^D = 100 - P$ en $Q^S = P$. The government thinks about introducing a maximum price of 75. How large is the welfare loss?

1. $312\frac{1}{2}$
2. 625
3. $1562\frac{1}{2}$
4. there is no welfare loss*

Test #6

1

Given are the following demand- and supply functions for goods F and C (D and S stand for demand and supply, respectively).

$$Q_F^D = 100 - P_F - P_C$$

$$Q_F^S = 2 P_F$$

$$Q_C^D = 50 - P_C - P_F$$

$$Q_C^S = P_C$$

Given an equilibrium on both markets, a specific tax of $t=10$ per unit of good F is introduced. What is the new price consumers' have to pay for good F if this price is calculated on the basis of a partial equilibrium analysis?

1. $110/3^*$
2. $80/3$
3. 30
4. 10

2

Take the information from question 1.

What is the new price consumers' have to pay for good F if this price is calculated on the basis of a general equilibrium analysis?

1. $140/5$
2. $190/5^*$
3. 35
4. 15

3

The utility function of John is given by $U_J = F_J C_J$ and the utility function of Karen is given by $U_K = F_K^3 C_K$. Of both goods (F and J) 10 units are available in total. Which of the following equations is the contract curve?

1. $C_J = F_J$
2. $C_J = (30F_J)/(10 + 2F_J)^*$
3. $C_J = (2I)/(3P_C)$
4. $C_J = (40F_J)/(30 + F_J)$

4

Why does - in the absence of market failures - perfect competition lead to a Pareto efficient allocation?

1. Because everybody has the same preferences.
2. Because goods are homogenous.
3. Because everybody faces the same prices.*
4. Because everybody consumes the same amount.

5

Take a look at the following statements:

- I: An efficient allocation of goods is always more equitable than an inefficient allocation.
- II: According to the "market-oriented" view of social welfare the outcome of the competitive market process is equitable because it rewards those who are most able and who work hardest.

- 1. I is right, II is wrong.
- 2. I is wrong, II is right.*
- 3. Both are right.
- 4. Both are wrong.

6

Consider an economy where goods X and Y are exchanged. These goods are produced in a production process with the help of the two inputs labor L and capital K.

Such an economy is output-efficient if:

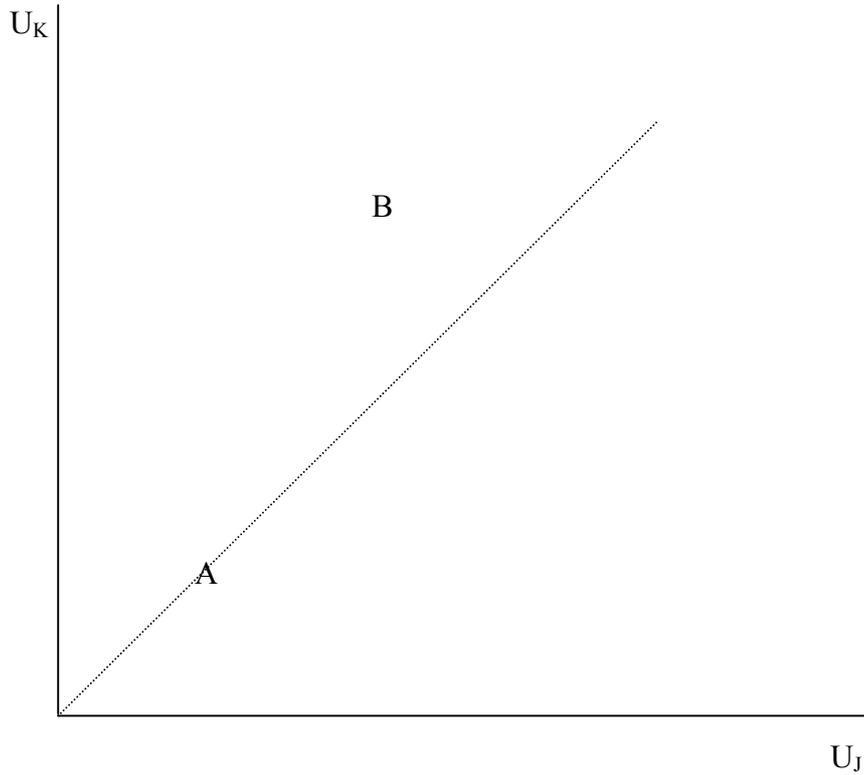
- 1. $MRS_{XY} = MRT_{LK}$
- 2. $MRT_{XY} = MRTS_{LK}$
- 3. $MRTS_{LK} = MRT_{LK}$
- 4. $MRS_{XY} = MRT_{XY}$ *

7

According to the second theorem of welfare economics perfect competition guarantees that:

- 1. The outcomes are equitable.
- 2. The outcomes are efficient.
- 3. The outcomes are efficient and equitable.
- 4. The above answers are all wrong.*

8.



In the figure above the axes represent the utility levels U_K and U_J of two individuals K and J, respectively. The broken line has a slope of 45 degrees. The points A and B represent two combinations of utility levels of the two individuals. According to which view of equity may the society prefer point A to point B?

1. Egalitarian.*
2. Rawlsian.
3. Utilitarian.
4. Egalitarian as well as Rawlsian.

Test #7

1

Compulsory education (i.e. the obligation for every citizen to spend several years in school) is a typical example for government intervention. Which of the following motives can be used to rationalize this intervention.

1. market power
2. education is a public good
3. paternalism*
4. adverse selection

2

An economy consists of three individuals A, B, and C. Suppose that these individuals have the following demand functions concerning a pure public good G:

$$\begin{aligned} \text{A:} \quad & G_A = -p + 3, p > 0 \\ \text{B:} \quad & G_B = -p + 7, p > 0 \\ \text{C:} \quad & G_C = -p + 10, p > 0. \end{aligned}$$

The supply curve S for this pure public good is given by $p = G + 12$.

1. The efficient amount of G is 8.
2. The efficient amount of G is 3.
3. The efficient amount of G is 2.*
4. Answers 1, 2, and 3 are all wrong.

3

Suppose that we use majority voting to determine how much of a public good to provide.

Then the outcome is

1. always economically efficient.
2. never economically efficient.
3. possibly economically efficient, depending on the voters preferences.*
4. is economically efficient, if there is a median voter.

4

Look at the following statements

- I Public goods are characterized by rivalry in consumption and excludability in consumption.
- II If a good is characterized by non-excludability in consumption then the so-called 'free-rider' problem may occur.

1. I and II are right
2. I is right, II is wrong
3. I is wrong, II is right*
4. I and II are wrong.

Similar to the example in the book, we suppose that a factory is polluting the water of a lake that is also used by a fishery. Suppose that there are the following two possibilities. The factory can install a filter and/or the fishery can install a water

treatment plant. Below you find the profits (in euros) associated with each of the four combinations of the above two possibilities. (If the fishery stops fishing the profit for the fishery is zero.) Assume that the factory and the fishery can bargain with incurring any bargaining costs and that there are no third parties involved.

	profit factory	profit fishery
A: no filter, no treatment plant	10.000	2.000
B: a filter, no treatment plant	6.000	10.000
C: no filter, a treatment plant	10.000	1.000
D: a filter, a treatment plant	6.000	1.000

5

Suppose the factory acts profit maximizing and bargaining is not possible. What should a profit-maximizing fishery do in that case?

1. Install a treatment plant
2. Not install a treatment plant*
3. For the fishery it does not matter if it installs a treatment plant or not
4. Stop fishing

6

Suppose now that the parties can bargain. Then, for both parties an acceptable bargaining outcome would be, if the fishery pays the factory

1. 0 euros for the installation of a filter
2. 500 euros for the installation of a filter
3. 9000 euros for the installation of a filter
4. an amount between 4000 and 8000 euros for the installation of a filter *

7

In the case sketched above the Coase Theorem states that:

1. the economically efficient outcome can only be reached if the fishery has the property right to clean water.
2. the economically efficient outcome can only be reached if the factory has the property right to pollute the water.
3. the economically efficient outcome can be reached if the fishery has the property right to clean water or the factory has the property right to pollute the water.*
4. the Coase Theorem only tells something about the distribution of income but nothing about efficiency.

8

Suppose that there is a factory that pollutes the air. Let Q be the amount of pollution measured in units of emission. The marginal social costs (MSC) of this pollution are given by

$$MSC = -1121 + 22\frac{1}{2}Q.$$

The marginal costs of pollution abatement (reduction) (MCA) are given by

$$MCA = 879 - 17\frac{1}{2}Q.$$

Suppose that MSC and MCA are measured in euros.

At which tax per unit of emission (emission fee) is the socially optimal pollution level obtained?

1. 4*
2. 50
3. 49.82 ($\approx 1121/22\frac{1}{2}$)
4. 0

Test #8

1

A profit maximizing monopolist faces the demand curve $P=20-Q$ and has a total cost function $TC=Q$. What production level will she choose?

1. $Q=19$
2. $Q=10$
3. $Q=9.5^*$
4. $Q=5$

2

A profit maximizing monopolist faces the demand curve $P=10-Q$ and has the marginal cost curve $MC=2$. What price will she ask?

1. $P=2$
2. $P=4$
3. $P=6^*$
4. 1, 2, and 3 are all wrong

3

A profit maximizing monopolist faces the demand curve $P=20-Q$ and has a total cost function $TC=2Q+100$. How much profit does she make?

1. profit = 11
2. profit = -118
3. profit = 77
4. profit = -19*

4

A profit maximizing monopolist faces the demand curve $P=2-\frac{1}{2}Q$ and has the marginal cost curve $MC = Q$. The welfare loss (deadweight loss) induced by the monopoly is equal to:

1. $\frac{1}{12}^*$
2. 0
3. $\frac{1}{2}$
4. 1, 2, and 3 are all wrong

5

Which of the following statements is **wrong**?

1. Also firms which are not the only suppliers operating on a market can have monopoly power.
2. A natural monopoly is always based on the exclusive access to natural resources.*
3. A measure of the monopoly power of a firm is the Lerner index.
4. The more elastic the demand curve a monopolist faces the smaller is her monopoly power.

6

A profit maximizing **monopsonist** will pay a price that is

1. larger than his marginal expenditures.
2. smaller than his marginal expenditures.*
3. equal to his marginal expenditures.
4. either larger or smaller than his marginal.

7

Suppose a profit-maximizing monopolist can separate the market into two isolated sub-markets. On one market (market 1) she faces the demand curve $P=10-Q$ and on the other market (market 2) she faces the demand curve $P=6-Q$. The marginal costs are constant and equal to 2. When the monopolist price discriminates between the two markets then the price is

1. $1\frac{1}{2}$ times higher on market 2 than on market 1
2. the same on both markets
3. $1\frac{1}{2}$ times higher on market 1 than on market 2*
4. indefinite because the price elasticities are not known

8

A monopolist which is maximizing its **revenue** will make sure that
(MR = marginal revenue, AR = average revenue, MC = marginal cost)

1. $MR=MC$
2. $MR=0^*$
3. $MC=0$
4. $AR=MC$