Name:

Remark:

- You have two hours and thirty minutes to complete the exam (2h 30m).

A

Group A (14 points)

1. A consumer has 600 euros to spend on two goods, whose quantities are represented by x and y. The prices of the goods are $p_x = 60$ and $p_y = 15$, respectively.

   a) Draw the budget line (placing x on the horizontal axis) and comment on the following: «The bundles $(x_A; y_A) = (1;36)$ and $(x_B; y_B) = (9;4)$ give the same utility to the consumer, because both are on the budget line.» **(1,5 points)**

   b) Knowing that the optimal consumption bundle has $x = 7$, what is the value of y? **(1 point)**

   c) At the optimal consumption bundle, the marginal utility (*MU*) of good x is $MU_x = 180$. Compute the marginal utility of good y (MU_y) at the optimal consumption bundle. **(1,5 points)**

2. Consider the following table, where Q^D represents the quantity demanded and Q^S represents the quantity supplied of a certain good at prices P:

P	70	50	30	20	10
Q^D	0	2	4	5	6
Q^S	12	8	4	2	0

a)   Find the market equilibrium. **(0,5 points)**

b)   What are the consequences of a price ceiling of 20 euros regarding: 1st) Equilibrium between demand and supply; 2º) Consumers' welfare (no need to compute values); 3º) Producers' welfare (no need to compute values). Hint: represent graphically. **(1,5 points)**

b)   Now assume that the government, instead of setting a price ceiling, decides to restrict the quantity sold to 2 units by setting an excise tax. Determine: i) The amounts of the tax and of the fiscal revenue; ii) Tax incidence on consumers ando n producers; iii) The change in consumer surplus; iv) The change in producer surplus; v) The d*eadweight loss*. **(3 points)**

c)   Comment on the following statement: «Different forms of governmet intervention as those described in a) and b) have the same final effects; in this case, the same quntity of the good is traded.» **(1 point)**

3. Grace bought a small shop by 48 thousand euros to sell copies of DVD's. She also bought a machine for 2 thousand euros, which she uses to make the copies. Variable costs are given in the following table:

| Quantity produced of DVD'S (Q), in thousands	Variale Cost (VC), in thousand euros
0	0
2	8
3	9
4	14
5	20
6	33
7	49
8	72
9	99

a) Compute the marginal cost (MC), the average variable cost (AVC) and the average total cost (ATC), for the quantities of DVD's indicated in the table. Hint: use the table above to insert columns. **(1,5 points)**

b) Suppose that the market for DVD's is perfectly competitive and that the price of a DVD is 23 euros. What is Grace's firm profit? **(1 point)**

c) Does the situation in b) correspond to a long run equilibrium? If not, explain the changes that will occur in this market in order to reach a long run equilibrium and determine the long run equilibrium price of a DVD. **(1,5 points)**

Group B (6 points)

Using the following table, signal the correct answers with an X. You will obtain 0,6 points for each right answer 0,2 points will be discounted for each wrong answer.

	1	2	3	4	5	6	7	8	9	10
a)	a)	a)	a)	a)	a)	a)	a)	a)	a)	a)
b)	b)	b)	b)	b)	b)	b)	b)	b)	b)	b)
c)	c)	c)	c)	c)	c)	c)	c)	c)	c)	c)
d)	d)	d)	d)	d)	d)	d)	d)	d)	d)	d)

1. In the following diagram, the reason for the shift in the production possibility frontier may have been:
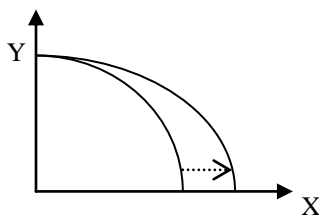
a) A decrease in the price of good X.
b) A change in consumers' preferences towards good X.
c) The fact that more resources are available for the production of good X.
d) Every alternative is true.

2. Which of the following statements is true?
a) If a country has absolute advantage in the production of a good, it also has comparative advantage in the production of that good.
b) A country may have absolute advantage in the production of a good, without having comparative advantage in the production of that good.
c) If a country has comparative advantage in the production of a good, then it also has absolute advantage in the production of that good.
d) None of the remaining alternatives is correct.

3. Suppose that, starting at a market equilibrium, both the supply and demand curves of a good shift to the left. Comparing with the initial equilibrium situation, we can say that:
a) Equilibrium quantity will be lower and equilibrium price will be higher.
b) Equilibrium quantity will be higher and equilibrium price will be lower.
c) We do not have enough information to tell how both equilibrium quantity and price change.
d) Equilibrium quantity will be lower, but twe do nt have enough information to tell how the equilibrium price changes.

4. When a producer reduces the market price of the good he produces, total revenue increases when:
a) The demand for the good is unit-elastic.
b) The demand for the good is elastic.
c) The demand for the good is inelastic.
d) Always, since a decrease in the market price leads to a reduction in total revenue.

5. Average total costs (ATC):
a) Decrease when marginal costs (MC) < average total costs (ATC) and increase when $MC > ATC$.
b) Increase when marginal costs (MC) decrease.
c) Decrease when marginal costs (MC) increase.
d) Increase when $ATC > AVC$ (average variable costs).

6. According to the Law of Diminishing returns:
a) When a fixed and a variable input are used in a production process, there is a reduction in the marginal product of the variable input after some level of production.
b) The marginal product of the variable input increases if we use a higher number of units of the variable input when compared to the number of units of the fixed input.
c) The average total cost increases up to some amount of production and decreases afterwards.
d) Production increases less than proportionally due to a failure in the firm's organization.

7. If a monopolist uses perfect price discrimination, then::
a) His profit is maximum when MR (marginal revenue) $= MC$ (marginal cost).
b) Consumer surplus is zero.
c) A consumer's marginal utility of consumption is zero.
d) He will obtain the same profit if as if the market was perfectly competitive.

8. A monopolist can sell 10 units of a good at the price of 1.000 euros. In case he decides to sell 11 units, the

price falls to 900 euros. The quantity and price effects of the 11th unit are, respectively:
a) 1000 and 100.
b) 1000 and -900.
c) 900 and -1000.
d) None of the remaining alternatives is correct.

9. Considerthe following two-player game, assuming that each player's objective is to maximize his own payoff.

		Player 2	
		Strategy C	Strategy D
Playerr	Strategy A	2,4	x,3
	Strategy B	3,y	2,1

PoIn order for (B,C) to be a Nash equilibrium in dominant strategies, the values of x and y have to be:
a) $x > 2$ and $y < 1$.
b) $x < 2$ and $y > 1$.
c) $x > 1$ and $y < 2$.
d) $x < 1$ and $y > 2$.

10. One of the features of an oligopoly is:

a) Strategic independence of the decisions of the oligopolists.
b) The fact that there exist two firms in the market.
c) The fact that the product is homogeneous.
d) The fact that the decison variable is quantity instead of price.