

Entrance examination for the Bachelor IBEC

First name: _____

Family name: _____

Day of birth: _____

Each answer option can be correct or false! You get 1 point if you mark a correct answer as correct. You get also 1 point if you don't mark a wrong option. In contrast, if you mark a wrong answer or don't mark a correct answer you get 0 points for these answers. Be aware that it is possible that all answer options in a question are wrong or correct.

In all answers to the maths part, 2 decimal places are sufficiently precise.

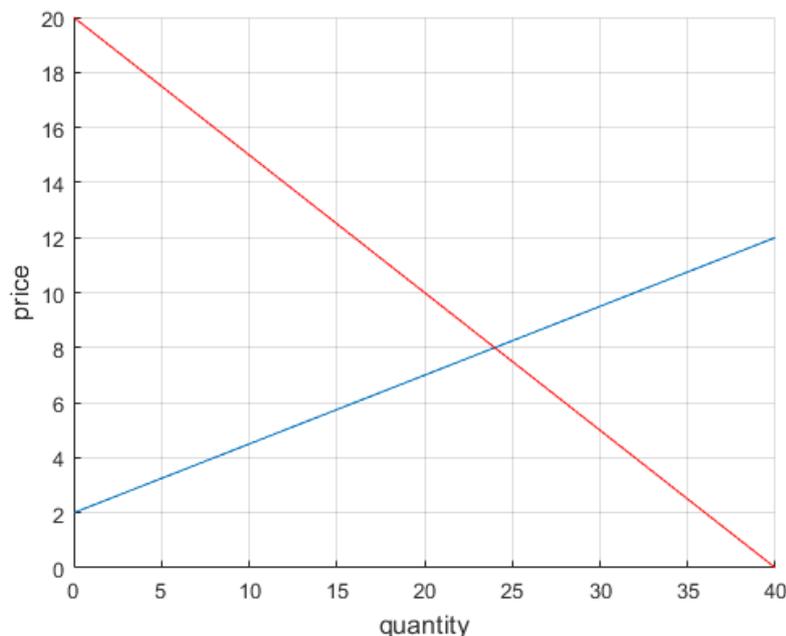
Questions

(1) Market equilibrium

- 1 In the case of excess demand prices should rise.
- 2 Prices and quantities in competitive equilibrium may change in response to supply and demand shocks.
- 3 In the case of excess supply prices should go down.
- 4 Market equilibrium is a state of a market in which there is no tendency for the quantities bought and sold or the market price to change, unless there is some change in the underlying costs, preferences, or other determinants of the behaviour of market actors.

(2) Consider the following demand and supply curves for textbooks

(ignore decimal places, e.g., 13.9 or 14.1 can be considered as 14)



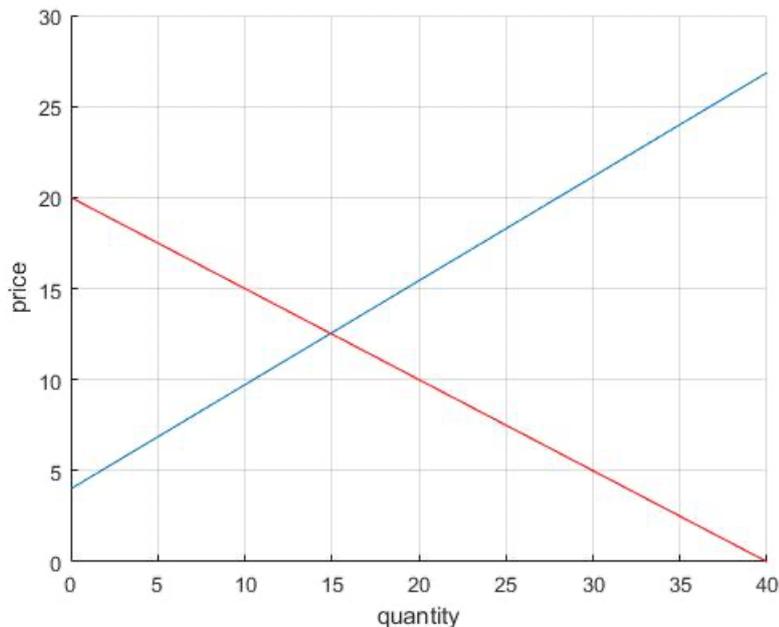
- 1 At a price of 10 the quantity demanded is approximately 20.
- 2 At a price of 6 the quantity demanded is approximately 15.
- 3 The minimal reservation price of a potential seller is approximately 2.
- 4 The minimal reservation price of a potential seller is approximately 20.

(3) Consider a market for potatoes which is in equilibrium with price equal to €3.20 per kg

- 1 An increase in price to €4.00 would increase the demand.
- 2 An innovative fertilization technology would increase the production and shift the supply curve downwards.
- 3 A change in consumption habits away from potatoes to more corn would shift the demand curve upwards.
- 4 A bad crop would shift the supply curve downwards.

(4) Consider the following demand and supply curves for pizza

(ignore decimal places, e.g., 13.9 or 14.1 can be considered as 14)



- 1 At a price of 15 there is excess demand.
- 2 The willingness to pay is maximal 5.
- 3 The market clearing quantity is approximately 15.
- 4 If some new pizzerias enter the market, the new market clearing price would be higher.

(5) Firms

- 1 Marginal costs describe the effect on total cost of producing one additional unit of output.
- 2 Price-taking firms influence the market price to achieve higher profits.
- 3 If the marginal costs are higher than the market price, producing an additional unit of output would increase the profit.
- 4 In order to achieve the maximum profit in a competitive market, the market price should be higher than the marginal costs.

(6) Gains from trade

- 1 If the marginal cost of producing a good is below the market price, the producer receives a surplus.
- 2 An allocation with the property that there is no alternative technically feasible allocation in which at least one person would be better off, and nobody worse off, is called Pareto efficient.
- 3 The competitive equilibrium always results in a positive dead-weight loss.
- 4 Taxes reduce the gains from trade (sum of consumer and producer surplus).

(7) Perfect competition

- 1 As a condition for perfect competition the good or service being exchanged should be homogeneous.
- 2 As a condition for perfect competition there should be large numbers of potential buyers and sellers of the good, each acting independently of the others.
- 3 Perfect competition is the usual form of a market in reality.
- 4 As a condition for perfect competition buyers should know the sellers' prices.

name: _____

(8) Maths: Percent

- 1 28% of the population of Austria (8,800,000) has a university degree. Is this number equivalent to 1,648,000 people?
- 2 In the EU (512,000,000 people) there are 163,840,000 people with university degrees. Is this equal to 32% of the total population?
- 3 At the last European parliament election, support for the European People's Party dropped from 24% to 21%. Is this equal to a drop by 12.5% in relative terms?
- 4 The student union fee at the University of Klagenfurt is 20.20 Euro. Next year it will increase by 7%. Will the fee be 22.40 Euro?

(9) Maths: Proportions and unit conversion

- 1 Your car uses 7 liters of diesel per 100 km on average. If you drive 800 km, will you need 70 liters of diesel?
- 2 You travel by bicycle 50 kilometers in 4 hours. Is your average speed 12.5 km/hour?
- 3 A car costs 20,000 Euro in Germany. The exchange rate between Euro and US\$ is 1.1 US\$ per Euro. Would the price of the car in US\$ be 21,000 US\$?
- 4 The GDP per capita in China is 15,000 Euro. The GDP per capita in Austria is three times as high as the one in China. The population of Austria is 8,800,000 people. Is the total GDP in Austria 396,000,000,000 Euro?

(10) Maths: Taxes

- 1 The value-added tax in Austria is 20%. You buy a jacket which costs 50 Euro (with tax). Is the price of the jacket without tax 40 Euro?
- 2 You take a 2,000 Euro loan from a bank for 1 year. The nominal interest rate is 5%. Taking some additional fees of the bank into account, you pay back 2,140 Euro at the end of the year. Does it mean that your effective interest rate is 7%?
- 3 Diesel is taxed twice in Austria. On the net price (before taxes) you have to pay 50% taxes for oil products and after that 20% value-added tax. The final price for diesel is 1.20 Euro. Is the net price 0,50 Euro?
- 4 In 2018, you earn 40,000 Euro and pay a tax of 10%. In 2019, your income goes up to 50,000 Euro, however your tax goes up to 12% (we assume a progressive tax, which means 40,000 are taxed at 10% and the remaining 10,000 are taxed at 12%). Does this mean that your net income in 2019 (how much money you will have after taxes) will increase by 9,000 Euro as compared to your net income in 2018?