**MICROECONOMICS IX.**

1. What is the quantitative relationship between normal profit and the size of implicit costs? Which items does normal profit include?
2. You have data concerning the production process in one factory, where PK = 300 CZK (price of capital - rent) and PL = 50 CZK (price of labor - wage rate):

|  |  |  |  |
| --- | --- | --- | --- |
| **L** | 0 | 1 | 2 |
| **K** | 10 | 10 | 10 |
| **Q** | 0 | 10 | 15 |

1. determine the FC corresponding to the production level Q = 15
2. determine the TC corresponding to the production level Q = 10
3. write what the table describes and in what time horizon we are.
4. When producing 25 units of goods, FC are CZK 50 and TC are 550. Calculate the size of the average variable costs.
5. Fill in the missing data X, assume the divisibility of all production units:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Q** | **FC** | **VC** | **TC** | **MC** | **AFC** | **AVC** | **AC** |
| 0 |  |  |  |  |  |  |  |
| 1 |  |  |  |  |  |  |  |
| 2 |  |  | 60 |  |  | 20 |  |
| 3 |  |  |  |  |  |  |  |
| 4 |  |  |  |  | X |  |  |

1. Decide if the following statements are true:

a) The AR curve is always identical to the demand curve for the company's production.

b) Average revenue is the revenue from the sale of one unit of output.

c) If the demand curve is horizontal, the MR is less than price of production only in the case of inelastic demand.

d) If demand is inelastic, then the percentage increase in the volume of sold production is less than the percentage decrease in price, and total income decreases.

e) In perfect competition, the total revenue curve is a function of the sold quantity.

f) In conditions of imperfect competition, the AR curve is decreasing.

g) The total profit represents the difference between TR and TC.

1. For the price of CZK 30, the price elasticity of demand is equal to (-1.5). Determine the corresponding MR.

1. The daily demand of chewing gum is given by the equation Q = 100 - 10P.

a) Derive the equation of MR.

b) Assuming that we sell 40 chewing gums on one day, 39 on the second day and 50 on the third day, prove whether this is a perfectly or imperfectly competitive market.

c) How much chewing gum would you recommend selling if we need to get maximum crowns from the sale in one day? How many crowns would we receive?

1. It may be a case when a company makes an accounting profit, but in terms of economic theory realizes a loss? Give examples. What is the cause?
2. The individual demand curve in conditions of perfect competition is perfectly elastic and blends with the curve:

a) TR

b) AR

c) MC

d) MR

e) answers b) and d) apply simultaneously

1. The total revenues are described by the equation TR = 20Q - Q2. The marginal income from the fourth realized unit of production will then be exactly:

a) 12 CZK

b) 64 CZK

c) 4 CZK

d) CZK 80

e) we do not have enough information to answer.

1. The following information is given regarding the company's output:

MPA = 2, MPB = 5, PA = 1, PB = 4, TR = 3 500.

Prices and total revenues are measured in CZK, marginal products are then expressed in the number of pieces produced per unit of time. Does this company maximize profits? If not, suggest a solution. A and B represent two types of inputs used.

1. Assume that the MC of production of a computer company are constant at CZK 10,000 per computer. Fixed production costs are CZK 100,000.

a) calculate AVC and AC of company

b) Should a company that wants to minimize AC production be very small or very large?

1. LTC can be expressed by the function LTC = Q2 and STC of this company using the function STC = 2K + Q4 /(8K), where:

K ……… represents the level of the fixed production factor in the SR.

a) If K = 4, specify STC, SMC, and LMC.

b) Calculate the production volume at which LTCs are tangent of STCs.

c) At the production level calculated in the previous case, are LAC the tangent of SAC?

1. Prove that in the case of a cost function in the form STC = 10 + 3Q, MC are <AC for each level of production.
2. In the car repair shop, they found out that the repairing cost of X cars can be expressed by the function TC = 2x + 10. Write the function of:

a) VC, FC

b) AVC, AFC

c) AC, MC