

### Exercise 1

Determine the order of production of individual products if you know the data entered in the table. Total fixed costs are CZK 7,500 and production capacity is 150 hours. All products have the same capacity requirements, production time is 3 hours per piece.

	<b>A</b>	<b>B</b>	<b>C</b>
Hours	3	3	3
Unit selling price (CZK)	670	640	630
Unit variable costs (CZK)	280	230	250

### Exercise 2

The company manufactures products. Total fixed costs are CZK 7,500 and production capacity is 150 hours. Determine the order of production if individual products have different capacity requirements. Product A takes 3 hours to produce, product B takes 5 hours to produce, and product C takes 3.75 hours to produce. All the necessary data are listed in the following table.

	<b>A</b>	<b>B</b>	<b>C</b>
Hours	3	5	3,75
Unit selling price (CZK)	670	640	630
Unit variable costs (CZK)	280	230	250

### Exercise 3

The company compares 3 complementary program alternatives. The variable cost of the product is CZK 30. Evaluate alternatives in terms of product pricing decisions in additive manufacturing.

	<b>A</b>	<b>B</b>	<b>C</b>
Unit selling price	20 CZK	30 CZK	40 CZK

### Exercise 4

Two types of irons are produced at Iron, a.s.: iron A requires unit variable costs of CZK 270 and is sold for CZK 500. Iron B requires unit variable costs of CZK 380 and sells for CZK 650.

Task:

- Which of these products should the company prioritize at the moment, if both are equally labour-intensive and require machine capacity?
- Which of the products should the company focus on if iron B requires twice as much time as iron A?

### **Exercise 5**

Two types of irons are produced at Irons, a.s.: iron A requires unit variable costs of CZK 270 and is sold for CZK 500. Iron B requires unit variable costs of CZK 380 and sells for CZK 650. Both products are equally demanding on capacity, and the company decided to produce and sell the more advantageous product in the monitored period. Fixed costs amount to CZK 250,000.

Tasks:

1. Which product is more profitable to produce?
2. How many products need to be produced and sold
  - a) To reach a tipping point?
  - b) To achieve a profit of CZK 370,000?
3. How much is the company's margin of safety?
4. Build a budget for B irons

### **Exercise 6**

The municipal office assesses various options for the construction of a kindergarten from an economic point of view. One of these variants has the following parameters:

- Estimated lifetime is 32 years
- Investment expenses amount to CZK 20 million
- Average annual operating costs amount to CZK 3 million.
  - Express the average annual cost of this investment option, assuming that the cost of capital has been estimated at 10% considering all construction conditions.

### **Exercise 7**

Business management considers variants of the volume sold and changes in prices based on the calculation of how much it would be necessary to increase the quantity sold so as not to change the original budgeted profit. It is based on the fact that the simultaneously achieved contribution from sales amounts to 0.25 or 25% for the company as a whole. Company management is considering a variant price reduction of 5%, 10%, 15% and 20%.

- Find out by what percentage the sales volume would have to increase under the given circumstances in order for the company to reach the original budgeted profit.

### **Exercise 8**

From the analysis of the costs required to produce and sell one bottle of mineral water, it follows that its unit variable costs amount to CZK 11, and the total monthly fixed costs of production and sales amount to CZK 350,000. Based on a market survey, it was found that the selling prices at which one bottle can be sold are CZK 18, CZK 22 and CZK 24. At a price of CZK 18, 200,000 bottles can be expected to be sold. The price elasticity of demand is estimated at 1.2.

- What price should a business set if its objective is to maximize profit?