

## Translated Examples Document

### \*\*Example 1\*\*

The company "TO, Ltd." reported total costs of 6,546,000 CZK in 2020 and produced and sold 2,032,500 inflatable balloons. In 2021, 10% more balloons were produced compared to 2020, and total costs increased by 536,800 CZK. The company sold balloons for 3.50 CZK/unit.

Using the two-period method, construct and write the cost function.

Calculate the total profit for both years.

Determine the necessary production volume of balloons to reach the break-even point in units.

A)

$$7,082,800 = v * 2,235,750 + F$$

$$6,546,000 = v * 2,032,500 + F$$

$$536,800 = 203,250 v$$

$$v = 2.64 \text{ CZK/unit}$$

$$F = 1,180,200 \text{ CZK}$$

B)

$$VH = (p * Q) - (v * Q + F)$$

$$VH1 = (3.5 * 2,235,750) - (2.64 * 2,235,750 + 1,180,200) = 742,545 \text{ CZK}$$

$$VH2 = (3.5 * 2,032,500) - (2.64 * 2,032,500 + 1,180,200) = 567,750 \text{ CZK}$$

C)

$$Q_{bz} = F / (p - v) = 1,180,200 / (3.5 - 2.64) = 1,372,325.58 \text{ units}$$

---

**\*\*Example 2\*\***

The company calculates the production cost of a product (wardrobe). The margin on this product is 30% of its direct costs. An employee assembling the wardrobe takes 30 minutes. The painter takes 40 minutes to paint it. The production costs are as follows:

- Wood costs: 190 CZK/unit
- Employee wage (assembly): 160 CZK/hour
- Hall lighting: 0.25 CZK/unit
- Shipping costs: 15 CZK/unit
- Screws: 5 CZK/unit
- Nuts: 3.50 CZK/unit
- Advertising costs: 10,175 CZK/600 units
- Electricity: 3 CZK/unit
- Painter's wage: 180 CZK/hour
- Management wage: 900,000 CZK/10,000 units
- Total production overhead: 10 CZK/unit
- Accountant wage: 200,000 CZK/10,000 units
- Paint cost: 100 CZK/10 units

What is the selling price (using the calculation formula)?

What will be the cost to produce 48 wardrobes?

$$1 \text{ Material} = 190 + 5 + 3.5 + 10 = 208.50$$

$$2 \text{ Wage} = 80 + 120 = 200$$

$$3 \text{ Other direct} = 0.25 + 3 = 3.25$$

$$4 \text{ Production overhead} = 10$$

$$\text{**Total Production (1-4)**} = 421.75$$

$$5 \text{ Administrative overhead} = 90 + 20 = 110$$

$$\text{**Total Production and Admin (1-5)**} = 531.75$$

$$6 \text{ Sales overhead} = 15 + 16.96$$

$$\text{**Production cost**} = 563.71 \text{ CZK/unit}$$

$$\text{**Selling price**} = 563.71 * 1.3 = 732.82 \text{ CZK/unit}$$

$$\text{**Production of 48 tables**} = 48 * 563.71 = 27,058.08 \text{ CZK}$$

---

### **\*\*Example 3\*\***

Next year, the company can produce and sell 50,000 units. Each unit consumes 33 kg of raw material; the price per kg is 7 CZK. The raw material stock at the time of the balance sheet is 140,000 kg, and the expected consumption by the end of the year is 71,500 kg. The company expects further deliveries of 68,000 kg this year. The required stock at the end of next year is expected to be 52,000 kg.

Task:

Calculate the planned raw material consumption for next year and its cost in CZK.

Determine the total raw material purchase for next year based on the balance equation.

### **\*\*Consumption\*\***

$$50,000 * 33 = 1,650,000 \text{ kg}$$

$$1,650,000 * 7 = 11,550,000 \text{ CZK}$$

**\*\*Year 1:\*\***

Resources vs Needs

140,000      71,500

68,000      x = final stock

140 000 + 68 000 - 71 500

x = **136,500** kg

**\*\*Year 2:\*\***

Resources vs Needs

**136,500**      **1,650,000**

x = purchase    52,000

1 650 000 + 52 000 - 136 500

x = **1,565,500** kg

---