



Unit 5. PROBLEMS.

1. (5 marks) Define the following concepts and give an example of each of them:

a) What is the ratio between two comparable amounts?

b) What is a proportion, how do you represent it and what are the names of each of the terms in the proportion?

2. (5 marks) Calculate the missing term in the following proportions:

$$\text{a) } \frac{3,2}{5,8} = \frac{4,8}{x}$$

$$\text{b) } \frac{0,4}{x} = \frac{x}{0,9}$$

3. (5 marks) Define the following concepts and give an example of each of them:

When do we say that two magnitudes are directly proportional? When are they inversely proportional?

4. (5 marks) My mother has a last-generation mobile phone and its clock is slow by 2 minutes every 36 hours. How many minutes will it be slow after 5 days?

5. (5 marks) A container is loaded with 1,500 bags of oranges with 3 kg each. If each bag had 2 kg., how many bags could fit into the container?

6. (5 marks) What percentage discount did they give me in the corner shop de if I have bought an external hard disk drive that was priced at € 120 and they have charged me € 50?

7. (5 marks) In a mixture of the coffee that they use in my cousin's restaurant there are 75 g of pure coffee for every 350 g of mixed coffee. Calculate the percentage of pure coffee in the mixture. What percentage is not pure coffee?

8. (5 marks) In a clothes shop they are having sales, and there is a 80% discount for a T-shirt that costs € 24. Calculate how much you have to pay for that T-shirt.

9. (5 marks) My neighbour Anthony has got 40% discount on a compatible ink cartridge. If it now costs € 9, how much did it cost before?

10. (5 marks) At which interest rate must we make a deposit of € 7,500 for 120 days to obtain € 350?

11. (10 marks) In a factory where they worked for 8 hours a day they took 5 days to make 1,000 parts. How many days will they take to make 3,000 parts if they worked for 10 hours a day?

12. (10 marks) Three harvesting machines harvested a 27 hectare field in three hours. How many machines will be necessary to harvest 36 hectares in 2 hours?

