
TRAINING EXERCISES

1 Exercise I

1. A cookie is sold 1\$ without tax. The VAT rate is 20%. What is the price with tax of the cookie ?
2. A car is sold 10,000\$ with tax. The VAT rate is 20%. What is the price without tax ?
3. An apple was sold 1.5\$ yesterday. Today, the price has been doubled. By how much, in percentages, has the price increased ?
4. A jean is sold 100\$. During the sales, its price is divided by 2. By how much, in percentages, has the price decreased ?
5. Bob's income had been increased by 10%. By how much should it decreased so that Bob's income is back to the initial value ?
6. Alice's income had increased by 10% the first year and by 15% the second year. What is the annual average growth rate of Alice's income ?
7. An employee says to his boss "You earn +100% more than I do". The boss answers "Your salary is only $x\%$ less than mine." What is x ?
8. The VAT on a tax-included price is lowered from 25% to 15%. What's the global price variation experienced by the final consumers?

2 Exercise II

Robinson is eating goat's cheese and mangos. In January he was paying 3 pesos for 100g of goat's cheese and 2 pesos each mango. He is eating 2kg of goat's cheese and 20 mangos a month. In February, the price of mangos has been doubled whereas goat's cheese has increased by 20%.

1. Compute the Laspeyres index in January (baseline period) and February.
2. Compute the Paasche index in January (baseline period) and February.
3. The Fisher index is the geometric mean of the Laspeyres index and the Paasche Index. Compute the Fisher index in January (baseline period) and February.

3 Exercise III

Let's consider the following salary distribution in a company:

Salaries	Nb of People
10k - 20k	200
20k - 30k	800
30k - 40k	180
40k - 50k	20

Determine the following values and explain what they mean:

1. The mean salary.
2. The median salary.
3. The modal salary
