



Word problems on percentage:

17. After Christmas, some department stores offer a 20% discount on all items. What will be the discounted price of a pair of trainers that cost⁶ €45? And what about a tracksuit that cost €60?
18. A city of 135 000 inhabitants has lost 8% of its population in recent years. Find the current population.
19. Juan earns 10% less than Maria. If she earns €1 500, how much will he earn?



20. Domingo earns €285 per week plus an 8% commission rate on all his sales. If Domingo sells €4 213 merchandise in one week, how much will his total earning for the week be?
21. VAT is a tax that in many products involves a surcharge of 16%. If a plumber /'plʌmə/ does a €240 repair, how much will it be with VAT? What if the repair cost €50?
22. Carlos pays 22% of his salary in taxes. If this year his gross salary⁷ amounts to €25 500, how much will he have to pay in taxes? What net salary has he earned?
23. A video camera costs €650, but the seller gives us a 20% discount. How much will we have to pay?
24. Carlos pays €40 for a 20% discounted shirt. What was the original price?
25. What was the original price of a computer that is discounted by 18% if it cost me €900 in sales?
26. In a restaurant menu, prices do not include 7% VAT. A customer has eaten a salad that costs €3.16, a sole that costs €6.25 and a dessert /dɪ'zɜːt/ that costs €4.78. How much will the customer pay in total?
27. 1 200 students out of 1 500 practice sports. What percentage of students are they?
28. Carmen spends 26% of her salary on food and 35% on paying the rent. If she earns €1 500 a month, how much does she spend on each concept? What percentage does she have left for other expenses?
29. In a village there are 2 350 inhabitants. If 68% are boys, find the number of boys.
30. In a class of 30 students, 6 were absent. What was the percentage of absences?
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31. 76 out of 475 people like football. What is the percentage of those who do not like football?
32. 18% of a lettuce harvest is 10 800 kg. How many kg did the harvest yield⁸?
33. A suit costs €280. If they raise the price by 12%, how much will it cost?
34. The water reserves of a region were 350 hm³. If the reserves have gone up 12%, what are the current reserves?

- 35.** 25% of 1200 students in a high school practice athletics, 15% basketball, and 40% football. Calculate the number of students who practise⁹ each sport and the percentage of those who do not.
- 36.** The price of heating oil has risen by 2%. If it cost €0.95/l, how much will it cost now?
- 37.** When buying a music CD they have applied a 20% discount. If we have paid €16, what was the original price?
- 38.** Ana's monthly pocket money¹⁰ is €50. If her parents have raised 10%, how much does she now receive?
- 39.** Juan has been fined €90 for speeding. After the voluntary payment period, there is now a 20% surcharge. How much will he have to pay?
- 40.** In a certain country the Public Health Service pays 60% of the price of some medicines. If I have purchased a medicine covered by the health system whose retail price¹¹ is €19, how much did I have to pay?

More elaborate:

- 41.** Ana has been working in a company for 10 years and has received €235 for seniority¹², which is 15% of her salary. What is Teo's salary if he earns 5% less than Ana?
- 42.** A shoe manufacturer sells its shoes for 120% of the price it costs to make them. If the cost of manufacturing a pair of shoes is €14, how much will he sell them for?
- 43.** A group of mountaineers carry food for their stay in the mountains. When they arrive at the shelter, they notice that they actually have 15% more provisions than expected. If they have 402.5 kg of food, find how much they thought they had at the beginning.
- 44.** A salesman was selling coffee at €5/kg. If he now sells it at €4.75/kg, obtain the discount percentage applied.



- 45.** A seller gives us a choice between two offers: either the second unit at 50%, or a 3x2 (pay 2 and take 3). Which is better for us? Justify the answer.



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