

Thoughtful Percent Problems Worksheet

These problems challenge your thinking and ability to explain your reasoning.

1. I bought a motorbike from a friend for \$2,000. I sold it to another friend for \$2,500. She decided she didn't want it, so I bought it back from her for \$2,200. I sold it to another friend for \$2,000, since he was desperately in need of transportation, and that was all that he could afford. What was my total profit or loss on all of these transactions?
2. John bought a car for \$20,000. He sold it for a 30% profit. From the money raised from this sale, he bought another more expensive car, which unfortunately he had to sell for a 30% loss. What was his overall profit or loss?
3. Last year a company made a net profit of \$20,000 on sales of \$1,000,000. This year they made a net profit of \$40,000 on sales of \$1,000,000. When talking to the shareholders, they claimed that their profit increased by 100%, and asked for a bonus for doing so well. When talking to the union about a possible wage raise, they claimed that their profit only increased by 2%, which hasn't even kept up with inflation. How did they determine these figures? Which one do you think is correct?
4. Why is a percent decrease or increase like finding the percent one number is of another?
5. The original price is \$2.60. If the price next year were 5% more than this year's price, what would that price be? If the price dropped 5% the year after that, show that the price would not return to \$2.60. Explain the apparent paradox.
6. The population of a small town increased 25% two years ago and then decreased by 25% last year. The population is now 4,500 people. What was the population before the two changes?
7. In 1996, 30% of the 2,100 car buyers at Faketown Auto Dealers financed through the dealership. How many car buyers financed through the dealership?
8. A computer software retailer used a markup rate of 40%. Find the selling price of a computer game that cost the retailer \$25.
9. A golf shop pays its wholesaler \$40 for a certain club, and then sells it for \$75. What is the markup rate?