

Math 116 Problems

Solve using any method you choose. Show all work including trials, charts, diagrams, etc. If you can determine an answer without work, please explain your logic.

1. A jar contains 50 coins, all dimes and nickels. The total value of all the coins is \$4.00. How many nickels are in the jar?
2. There are 4 times as many dimes as quarters in a piggy bank. The total value of the money in the bank is \$9.75. If there are no other types of coins in the bank, how many dimes and quarters are there?
3. Bill split \$2000 in two parts to invest in two banks. One pays 5% annual interest, the other pays 8% annual interest. After one year he had earned a total of \$130 in interest on the two accounts. How much was invested in each account? [NOTE: Interest for one year is computed by multiplying the invested amount by the interest rate in decimal form. That is, 5% = .05]
4. Kona coffee priced at \$4/lb is mixed with Jamaican coffee worth \$5/lb to make 100 lbs of a mixture worth \$4.40/lb. How much of each type of coffee was used to create this mixture?
5. A scientist has 100L of a solution that is 50% water and 50% iodine. He must add pure water to it to dilute it to a 25% concentration of iodine. How much water must be added?
6. A fuel that is 50% oil is to be mixed with another fuel that is 10% oil. How much of each is needed to create 100 gallons of a fuel that is 30% oil?
7. Two cars leave from the same starting point at the same time going in the same direction. After one hour they are 5 miles apart. If the slower car is going 50 mph, how fast is the faster car going?
8. Two cars leave from the same starting point at the same time going in opposite directions. After two hours they are 180 miles apart. If the faster car is going twice as fast as the slower car, how fast is the slower car going?
9. Roger is 10 years older than Sandy. In 5 years the sum of their ages will be 56. How old is each now?
10. I'm thinking of two numbers. Their sum is 100. Their difference is 30. What are they?