1. The sum of two numbers is 21. Half the larger number plus twice the smaller number is 12. What are the numbers?

2. Ling had a total of $1482 in her checking account and her savings account. Her savings account paid 4% in simple interest and her checking account paid 2.5% in simple interest. If she earned $51.42 in interest for the year, how was her money divided between the two accounts?

3. Ben has a total of 49 bills, consisting of $5 bills and $10 bills. If the total value of the bills is $350, how many of each does he have?

4. Alan needs 250 ml of a solution that is 45% alcohol. If he has a solution that is 50% alcohol and purified water (which is 0% alcohol), how much of each should he mix together?

5. Jose wants 8 pounds of a dried fruit mixture that he can sell for $3.75 per pound. If he has dried peaches that cost $4.50 per pound and dried apples that cost $3.25 per pound, how much of each should he use?

6. LaKeshia wants 400 ml of a solution that is 11% HCl. If she has only 8% HCl and 16% HCl, how much of each should she mix together?

7. Darcy has 23 fewer quarters than dimes. Altogether the coins are worth $17.35. How many of each does she have?

8. Two angles are complementary. One angle is 24° less than twice the other. Find the angles. (Hint: complementary angles have a sum of 90°.)

ANSWERS:

1. The numbers are 1 and 20.

2. Ling began the year with $524 in her checking account and $958 in her savings account.

3. Ben has 28 $5 bills and 21 $10 bills.

4. Alan should mix 225 ml of the 50% alcohol and 25 ml of the purified water.

5. Jose should mix 3.2 pounds of dried peaches and 4.8 pounds of dried apples.

6. LaKeshia should mix 250 ml of 8% HCl and 150 ml of 16% HCl.

7. Darcy has 43 quarters and 66 dimes.

8. The angles are 38° and 52°.