

## Chapter 7.7

### Mixture Problems Homework, Part 1

For each problem, write two equations and solve for the two unknown values using substitution or elimination. Show your work.

1. The sum of two numbers is 85. Their difference is 51. Find the two numbers.
2. The sum of two numbers is 621. Their difference is 109. Find the two numbers.
3. The sum of two numbers is 996. The difference of the larger number and twice the smaller number is 33. Find the two numbers.
4. The difference of two numbers is 62. The sum of twice the larger number and three times the smaller number is 304. Find the two numbers.

For each problem, make a chart like the one shown below. Solve for the two unknown values using substitution or elimination. Show the work.

	Number	Value	Total
1 <sup>st</sup> thing	x		
2 <sup>nd</sup> thing	y		
Total			

5. Matthew has been saving five and ten dollar bills. He has 20 bills, and the total amount of money he has is \$160. How many five-dollar and ten-dollar bills does he have?
6. Jessi invested \$6000, part at Bank A that pays 7% interest and the rest at Bank B that pays 9% interest. Her accounts earned a total of \$504 interest. How much money does she have saved at each bank?
7. An auditorium seats 2800 people. Some of the seats are balcony seats and some are floor seats. The balcony seat tickets cost \$48 and the floor seat tickets cost \$65. For a sold-out performance, the box office took in \$170,100. How many of each type of seat does the auditorium have?
8. Best Buy had earbuds for \$29.50 and wireless chargers for \$14.95. On Tuesday, they sold 32 items total and the sales had a value of \$740.30. How many chargers and earbuds did they sell?
9. A restaurant bought 36 new tables, some large and some small. The large tables cost \$145 each and the small tables cost \$120 each. The total cost of the tables was \$4870. How many tables of each size did they buy?
10. Marco borrowed \$12,000, part at 10% interest and the rest at 8% interest. He paid \$1050 in interest for a year. Find the amount of each loan.
11. Tracy is selling cupcakes and cookies. A cupcake cost \$2.50 and a cookie cost \$1.30. She sold 107 items and collect \$185.90. How many cupcakes and cookies did she sell?