

APPLICATIONS OF LINEAR SYSTEMS Assignment

Solve the following verbal problems involving linear systems:

1. The sum of two numbers is 13 and their difference is 3. Find the numbers.
2. A flour merchant has two types of flours, one selling for \$4 per pound and the other for \$7 per pound. The flours are to be mixed to provide 80lb of a mixture selling for \$12 per pound. How much of each type of flour should be used to form 100lb of the mixture?
3. A chemist has a 40% and a 20% basic solution. How much of each solution should be used to form 300 ml of a 30% acid solution?
4. The sum of 5 times a larger number and twice a smaller is 6. The difference of 4 times the larger and the smaller is 4. Find the numbers.
5. A roll of 24 bills contains only \$5 bills and \$10 bills. If the value of the roll is \$160, then how many of each bill are in the roll?
6. A total of \$5500 was invested in two accounts. Part was invested in a CD at 2% annual interest rate and part was invested in a money market fund at 3% annual interest rate. If the total simple interest for one year was \$250, then how much was invested in each account?
7. Mary traveled a total of 10 hours and a total of 1850 miles by car and by plane. Driving to the airport by car, she averaged 50 miles per hour. In the air, the plane averaged 300 miles per hour. How long did it take her to drive to the airport?
8. A manufacturer produces a standard model and deluxe model of a 20 inch TV set. The standard model requires 10 h of work to produce, and the deluxe model requires 16 h. The company has 350 h of work available per week. The capacity of the plant is a total of 20 sets per week. If all the available time and capacity are to be used, how many of each type of set should be produced?