Ch 7.4 Applications Worksheet

Use a system of linear equations to solve each problem.

1. Your teacher is giving you a test worth 100 points containing 40 questions. There are two-point and four-point questions on the test. How many of each type of question are on the test?

2. Suppose you are starting an office-cleaning service. You have spent $315 on equipment. To clean an office, you use $4 worth of supplies. You charge $25 per office. How many offices must you clean to break even?

3. The math club and the science club had fundraisers to buy supplies for a hospice. The math club spent $135 buying six cases of juice and one case of bottled water. The science club spent $110 buying four cases of juice and two cases of bottled water. How much did a case of juice cost? How much did a case of bottled water cost?

4. Suppose you bought supplies for a party. Three rolls of streamers and 15 party hats cost $30. Later, you bought 2 rolls of streamers and 4 party hats for $11. How much did each roll of streamers cost? How much did each party hat cost?

5. Suppose you invest $1500 in equipment to put pictures on T-shirts. You buy each T-shirt for $3. After you have placed the picture on a shirt, you sell it for $20. How many T-shirts must you sell to break even?

6. At an ice cream parlor, ice cream cones cost $1.10 and sundaes cost $2.35. One day, the receipts for a total of 172 cones and sundaes were $294.20. How many cones were sold?

7. You purchase 8 gal of paint and 3 brushes for $152.50. The next day, you purchase 6 gal of paint and 2 brushes for $113.00. How much does each gallon of paint and each brush cost?

8. Grandma's Bakery sells single-crust apple pies for $6.99 and double-crust cherry pies for $10.99. The total number of pies sold on a busy Friday was 36. If the amount collected for all the pies that day was $331.64, how many of each type were sold?

9. You have a total of 25 coins, all nickels and dimes. The total value is $3.85. Write and solve a system of equations to find the number of nickels and dimes.

10. A quantity of 22% acid solution is being diluted with some 8% acid solution. The final solution must be 12% acid and contain 101 mL. How much of each solution must be added to accomplish this? Write a system to solve.