

Name: _____

Algebra Unit IV - Worksheet 6
Solving Systems of Equations Word Problems by Multiplication

1. Michelle is making goodie bags for Christmas filled with chocolates and candy. Chocolates cost \$2.50 per lb and candy costs \$3.00 per lb.
 - a. Write an equation showing that Michelle spent a total of \$40 on chocolates and candy.
 - b. Write an equation showing that Michelle bought a total of 15 lbs of chocolates and candy.
 - c. Solve the system of equations to find out how many lbs of chocolate and how many lbs of candy Michelle bought.

2. 20,000 tickets were sold to the Green Day concert. Stage level seats cost \$105 and higher level seats cost \$75. If the total money collected from selling tickets was \$1,740,000, how many tickets of each type were sold?
 - a. Write an equation showing 20,000 tickets were sold.
 - b. Write an equation showing \$1,740,000 in ticket sales.
 - c. Solve the system of equations to find how many of each type of ticket was sold.

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3 Brodie's Gourmet Pretzel Shop specializes in selling the very finest chocolate covered pretzels. Banky bought 4 white chocolate pretzels and 6 dark chocolate pretzels for \$10.50. Holden bought 8 white chocolate and 3 dark chocolate pretzels for \$9.75.

a) Write a system of equations to represent this situation.

b) Solve your system of equations to find out the cost of each type of pretzel.

4. Suppose you invested \$10,000, part at 6% annual interest and the rest at 9% annual interest. If you received a total of \$684 in interest after one year, how much did you invest at each rate?

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5. Tyler is catering a banquet for 250 people. Each person will be served either a chicken dish that costs \$5 each or a beef dish that costs \$7 each. Tyler spent \$1500. How many dishes of each type did Tyler serve?

6. 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?

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7. 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?

8. 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?