

Lesson: Word Problems Involving Solving Systems of Linear Equations

We are already familiar with solving a system of linear equations three ways: **a graph, substitution or elimination**. In this lesson we will focus mainly on using **elimination or substitution**. Each problem to follow will use a system equations to help solve the problem. **Write out the two equations and use a method to show your solution.**

- 1. The length of a rectangle is 3 times the width. The perimeter is 96 cm. Find the width and length. Draw and label the picture first.**

Equation 1: _____

Equation 2: _____

- 2. The perimeter of a rectangle is 34 inches. If the length is 2 inches more than twice the width, find the length and the width of the rectangle. Draw and label the picture first.**

Equation 1: _____

Equation 2: _____

- 3. A total of 78 seats for a concert are sold, producing a total revenue of \$483. If seats cost either \$2.50 or \$10.50, how many \$2.50 seats and how many \$10.50 seats were sold?**

Equation 1: _____

Equation 2: _____

4. Dennis mowed his next door neighbor's lawn for a handful of dimes and nickels, 80 coins in all. Upon completing the job he counted out the coins and it came to \$6.60. How many of each coin did he earn?

Equation 1: _____

Equation 2: _____

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5. Tickets to a concert cost either \$12 or \$15. A total of 300 tickets are sold, and the total receipts were \$4140. How many of each kind of ticket were sold?

Equation 1: _____

Equation 2: _____

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6. A woman owns 21 pets. Each of her pets is either a cat or a bird. If the pets have a total of 76 legs, how many cats and how many birds does the woman own?

Equation 1: _____

Equation 2: _____