


Systems of Equations Applications Class Work

 **Objective:** *You will be able to model real world situations using systems of equations, and solve problems using the models you design.*

Model each situation with a system of equations. Use your system to answer each question. Be sure to check and justify your solutions.

1. At Office Spot, Jane bought three pencils and one pen for a total of \$5.50. Her friend, Karen, bought five of the same pencils and two of the same pens. Karen spent \$9.50. You would like to buy four pencils and one pen. Determine how much money you will spend.
2. Admission to a concert is \$35.50 for people who are on a guest list, and \$50 for those who are not on a guest list. If a total of 350 people attended the concert, and the venue brought in \$14,411.50, how many people were on the guest list? How many people did not use the guest list?
3. At the baseball game, Joe's family ordered four hot dogs and three large sodas. Hailey's family ordered five hotdogs and four large sodas. If Joe's family spent \$40.75 and Hailey's family spent \$52.25. You would like to purchase one hotdog and one soda. Determine how much money you will spend.
4. The admission fee for a small fair is \$1.50 for children and \$4.00 for adults. Last Saturday, a total of 2,200 people attended the fair and \$5,050 was collected from admissions. How many children attended the fair last Saturday? How many adults were in attendance last Saturday?
5. Two baseball cards together are worth \$45. One card is worth 45% more than the other. How much money is the more expensive card worth?
6. In a game of basketball, you make some three-point shots and some two-point shots. You made five times as many two-point shots as three-point shots, and earned a total of 52 points! How many of each type of shot did you make?
7. A rectangular pool is going to be built in such a way that the width is two feet longer than double the length, and the length is no less than six feet. The pool will must have a perimeter less than 200 feet. Determine the range of possible lengths for the pool.
8. Create and solve any problem that could be solved using a system of equations.
9. Write down any important reminders related to solving problems using systems of equations.