Name _____ Period _____ Date _____

Writing Word Problems As Systems of Equations and Solving

Write the system of equations needed to solve the following problems and solve.

Example:

If 8 pens and 7 pencils cost \$3.37 while 5 pens and 11 pencils cost \$3.10, how much does each pen and pencil cost?

Let: x = cost of 1 pen y = cost of 1 pencil

The two equations will be:

$8x + 7y = 337$ and $5x + 11y = 310$

1. The sum of two numbers is -11. Twice the first number minus the second number is 32. Find the numbers.

2. A collection of nickels and dimes is worth \$3.30. There are 42 coins in all. How many of each kind of coin are there?

3. One night a theater sold 548 movie tickets. An adult's ticket cost \$6.50, and a child's ticket cost \$3.50. In all, \$2881 was taken in. How many of each kind of ticket were sold?

4. The perimeter of a rectangular field is 110 feet. The length is 7 feet more than twice the width. Find the dimensions of the field.

5. A second run movie theater charges \$4 for an adult ticket and \$2 for a child's ticket. One night, 380 tickets were sold for a total of \$1320. How many children attended the movie that night?

6. The state fair is a popular field trip destination. This year the senior class at High School A and the senior class at High School B both planned trips there. High School A rented and filled 8 vans and 8 buses with 240 students. High School B rented and filled 4 vans and 1 bus with 54 students. Every van had the same number of students in it as did every bus. Find the number of students in each van and each bus.

7. An orange has 20 fewer calories than a banana. If 7 bananas have the same number of calories as 9 oranges, how many calories are there in a banana?

8. Alexis bought pizza and soda for the ski club meeting. For one meeting she bought 4 pizzas and 10 sodas for \$63. The next meeting she bought 3 pizzas and 8 sodas for \$48. What is the cost of one pizza?

What Does Cate Often Call Her Twin Sister?

Solve the system of equations using multiplication with the addition method. Then cross out the letter next to the correct answer. When you finish, the answer to the title question will remain.

A	(3, 1)
D	(1, −5)
O	(2, −3)
R	(2, −1)
A	(−2, 4)
T	56, 44
W	(4, 0)
O	(−2, −5)
I	(1, 4)
E	(−1, 1)
N	65, 35
S	(0, 2)
C	(5, −2)
E	(5, −3)
R	(−1, −3)
A	(0, −4)
T	(−2, −2)
I	(3, −6)
O	(4, 3)
N	(−2, 1)
A	72, 28
L	(5, 0)

1. $3x + 2y = 11$
   $7x - y = 3$

2. $3x - 4y = 18$
   $x + 3y = -7$

3. $5x + 2y = -8$
   $9x - 4y = -22$

4. $x - 5y = 15$
   $4x - 3y = 26$

5. $2x + 5y = 11$
   $-3x + 8y = -1$

6. $7x - 3y = 2$
   $5x + 4y = -17$

7. $4x - 5y = -28$
   $-9x - 2y = 10$

8. $2x + 3y = 10$
   $3x - 10y = 15$

9. $-7x + 4y = -6$
   $2x - 5y = 21$

10. $8x + 3y = -12$
    $6x + 5y = -20$

11. $-4x - 9y = 1$
    $-x + 2y = -4$

12. $5x - 12y = -16$
    $-3x + 4y = 0$

13. An algebra teacher drove by a farmyard full of chickens and pigs. The teacher happened to notice that there were a total of 100 heads and 270 legs. How many chickens were there? How many pigs were there?