PreAlgebra   Name_____
Substitution and Word Problems
Date_____ Period_____

Solve each system by substitution.

1) $y = x + 8$
   $y = 3x + 18$

2) $y = 6x + 10$
   $y = -8x - 18$

3) $y = -5x + 11$
   $y = 4x + 2$

4) $y = 3x - 8$
   $y = 2x - 7$

5) $3x - 8y = 11$
   $y = 4x - 5$

6) $y = 6x - 10$
   $-4x - 6y = 20$

7) $-4x - 4y = 4$
   $y = -5x + 19$

8) $y = 5x - 5$
   $5x + 3y = -15$

Write the equations and solve. Define the variables

9) My neighbor has both chickens and roosters. He has a total of 31 birds. The number of chickens is ten more than twice the number of roosters. How many chickens does he have?

10) Alfred is four years older than Tina. Together they are 36 years old. How old is Alfred?

11) Jonas has three more nickels than dimes. He has 41 coins in all. How many are dimes?

12) The number of nails in the bucket is 50 less than twice the number of screws. Together, there are 400 nails and screws in the bucket. How many of each are there?

13) Pippi sold ten more cups of lemonade than cups of iced tea. She sold 120 cups in all. How many cups of lemonade did she sell?

PreAlgebra

Name_____

Substitution and Word Problems

Date_____ Period_____

Solve each system by substitution.

1) $y = x + 8$
   $y = 3x + 18$

   $(-5, 3)$

2) $y = 6x + 10$
   $y = -8x - 18$

   $(-2, -2)$

3) $y = -5x + 11$
   $y = 4x + 2$

   $(1, 6)$

4) $y = 3x - 8$
   $y = 2x - 7$

   $(1, -5)$

5) $3x - 8y = 11$
   $y = 4x - 5$

   $(1, -1)$

6) $y = 6x - 10$
   $-4x - 6y = 20$

   $(1, -4)$

7) $-4x - 4y = 4$
   $y = -5x + 19$

   $(5, -6)$

8) $y = 5x - 5$
   $5x + 3y = -15$

   $(0, -5)$

Write the equations and solve. Define the variables

9) My neighbor has both chickens and roosters. He has a total of 31 birds. The number of chickens is ten more than twice the number of roosters. How many chickens does he have?

let x = number of chickens
Let y = number of roosters
x + y = 31
x = 2y + 10

24 chickens, 7 roosters

10) Alfred is four years older than Tina. Together they are 36 years old. How old is Alfred?

Let x = Alfreds age
Let y = Tina's age
x + y = 36
x = y + 4

Alfred = 20
Tina = 16

11) Jonas has three more nickels than dimes. He has 41 coins in all. How many are dimes?

Let x = # of nickels
Let y = # of dimes
x + y = 41
x = y + 3
22 nickels, 19 dimes

12) The number of nails in the bucket is 50 less than twice the number of screws. Together, there are 400 nails and screws in the bucket. How many of each are there?

Let x = # of nails
Let y = # of screws
x + y = 400
x = 2y - 50
250 nails, 150 screws

13) Pippi sold ten more cups of lemonade than cups of iced tea. She sold 120 cups in all. How many cups of lemonade did she sell?

Let x = cups of lemonade
Let y = cups of iced tea
x + y = 120
x = y + 10
65 cups of Lemonade
55 cups of Iced Tea