Name: _____ Date:_____

Ms. Napolitano Activity: 6.1

Topic: Equations

I can use substitution to determine whether a given number in a specified set makes an equation or inequality true.

Homework

Solve the problems.

1 Which value makes each equation true?

Write a value for the variable that makes each equation true. Use the values in the box below. Not all values will be used.

$\frac{2}{7}$	$\frac{3}{7}$	$\frac{9}{7}$	$\frac{10}{7}$	43	71

$y + \frac{4}{7} = \frac{6}{7}$	$17 + b = 60$	$\frac{6}{7} = m + \frac{3}{7}$

2 Siera has 11.5 yards of yarn. She uses a certain amount for a project, leaving 5.25 yards of yarn. The equation $11.5 - x = 5.25$ represents this situation, where x is the amount of yarn Siera used for her project.

How much yarn did Siera use for her project?

A 5.25 yards

B 5.75 yards

C 6.25 yards

D 6.5 yards

3 Harry solves the equation $\frac{1}{3}t = 15$. He says the solution is 30.

Is his solution correct?

Fill in the blanks to explain how Harry can check whether his solution is correct.

Harry can first substitute _____ for t. He can then multiply $\frac{1}{3}$ by _____ to get a product of _____. Since 15 _____ equal to _____, Harry's solution _____ correct.

4 Write a real-world problem that you could represent with the equation $20 - n = 4$. Solve the equation to find the answer to your problem.

_____

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RSCS

Name:_____

Class:_____

Date:_____

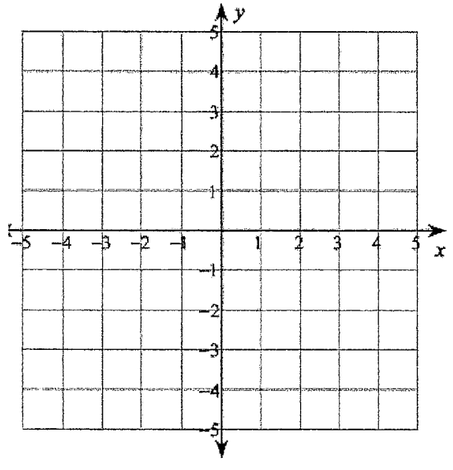
Systems of Linear Equations Project

Solve the following systems of equations graphically on the coordinate plane given.

1)

$y = 4x + 3$

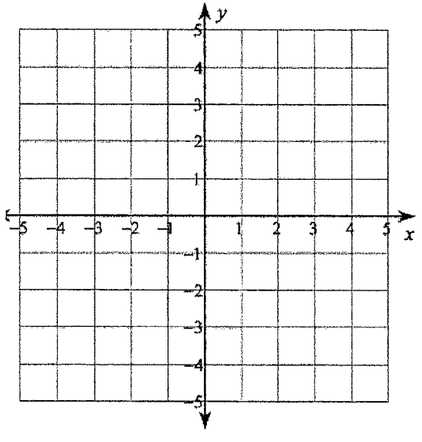
$y = -x - 2$



2)

$y = -1$

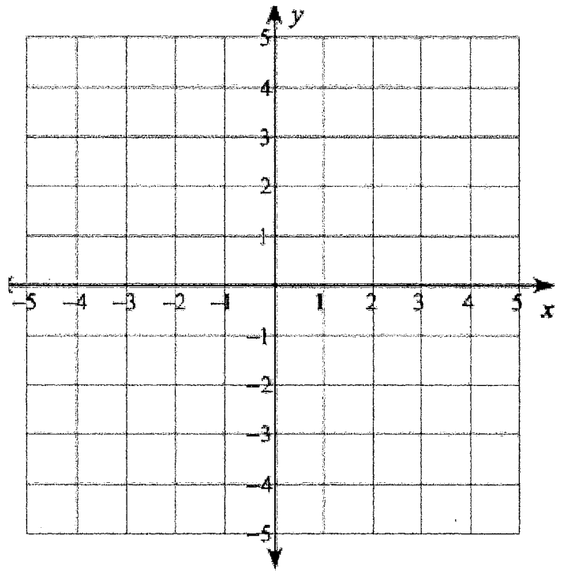
$y = -\frac{5}{2}x + 4$



3)

$3x - 2y = 6$

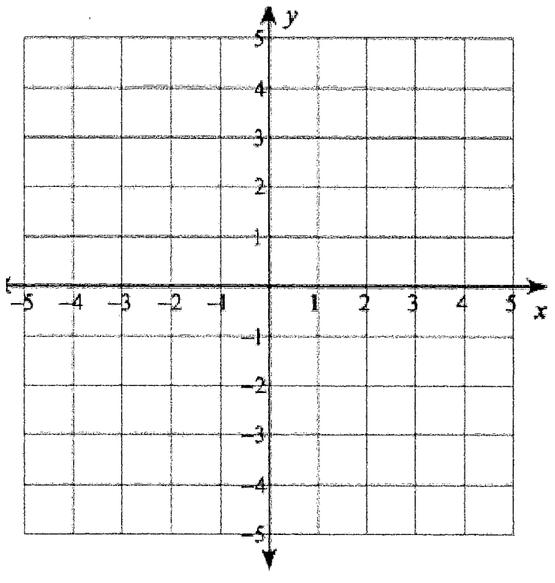
$x + y = 2$



4)

$y = 2x + 1$

$y = 2x - 3$



Solve the following systems of equations using the substitution method.

5) $4x-2y=8$
$y=-2$

6) $4x+3y=-8$
$-8x+y=-12$

Solve the following systems of equations using the elimination method.

7) $-4x-2y=-12$
$4x+8y=-24$

8) $x-y=11$
$2x+y=19$

9) $-7x-8y=-23$
$4x+4y=12$

10) $-3x-10y=-4$
$x-5y=18$

Solve the following system of equations given the word problems. Make sure you write your let statements defining your variables.

11) Roberto got $30 for his birthday. He decides to save that amount and add $5 to his savings each week. Jack starts saving the same day as Roberto and puts $8 in his savings each week. After how many weeks will the boys have the same amount in savings?

12) The sum of two numbers is 27. One number is 3 more than the other number. Write and solve a system of equations to find the two numbers.

13) Roberta has $4.00 in dimes and quarters. She has 5 more dimes than quarters. Write a system of equations that you could use to find how many dimes and quarters she has.

How many dimes, and how many quarters does Roberta have?

$(.10)(q+5)+(.25)q=4$

$.10q+.5+.25q=4$

$.35q+.5=4$

$(.10)d+(.25)q=4$

$q+5=d$

$.35q=3.5$

$.35\overline{)3.50}$ 10.

35

14) The events committee buys 100 flowers for a school dance. The flowers are a combination of carnations and roses. Each carnation costs $0.75, and each rose costs $2.75. The committee spends a total of $139, not including tax.

How many of each type of flower does the committee buy?

let c = carnations #of

let r = roses #of

$.75c+2.75r=139$

$c+r=100$

$q=10$

$d=q+5$

$d=10+5$

$d=15$

Write your own word problem for a systems of equations problem. Then write and solve the system of equations. Make sure you write your let statements defining your variables.