Systems of Equations: Substitution Method #1 Problems from page 497-498 with one equation already isolated for 1 variable.

Solve the following by using the substitution method.
Remember solve for both "x" and "y"

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

3) $x = 3y + 10$
$x + 5y = -22$

4) $5x - 3y = 22$
$y = 4x - 19$

5) $x = -7y - 11$
$-2x - 5y = 4$

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

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

Notes : 11.2

Systems of Equations: Substitution Method #1 Problems from page 497-498 with one equation already isolated for 1 variable.

Solve the following by using the substitution method.
Remember solve for both "x" and "y"

(-2 , -4)

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

(1 , 3)

$2x + (\quad) = 5$
$2x - 5x + 8 = 5$
$-3x + 8 = 5$
$-8 \quad -8$
$\frac{-3x}{-3} = \frac{-3}{-3}$

$y = -5x + 8$
$y = -5(1) + 8$
$y = 3$

3) $x = 3y + 10$
$x + 5y = -22$

$(3y + 10) + 5y = -22$
$3y + 10 + 5y = -22$
$8y + 10 = -22$
$-10 \quad -10$
$\frac{8y}{8} = \frac{-32}{8}$
$y = -4$

$x = 3y + 10$
$x = 3(-4) + 10$
$x = -12 + 10$
$x = -2$

4) $5x - 3y = 22$
$y = 4x - 19$

(5 , 1)

$5x - 3(4x - 19) = 22$
$5x - 12x + 57 = 22$
$-7x + 57 = 22$
$-57 \quad -57$
$\frac{-7x}{-7} = \frac{-35}{-7}$
$x = 5$

$y = 4x - 19$
$y = 4(5) - 19$
$y = 20 - 19$
$y = 1$

5) $x = (-7y - 11)$
$-2x - 5y = 4$

(3, -2)

$-2(-7y - 11) - 5y = 4$
$14y + 22 - 5y = 4$
$9y + 22 = 4$
$-22 \quad -22$
$9y = -18$
$y = -2$

$x = -7y - 11$
$x = -7(-2) - 11$
$x = 14 - 11$
$x = 3$

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

$-4(-y + 3) - 4y = 12$
$\cancel{4y} - 12 - \cancel{4y} = 12$
$-12 = 12$

Parallel Lines

No Solution

9) $y = (x + 5)$
$3x - 3y = -15$

$3x - 3(x + 5) = -15$
$\cancel{3x - 3x} - 15 = -15$
$-15 = -15$

Lines Coincide

∞ solutions

Kuta Software - Infinite Algebra 1

Name Homework

Solving Systems of Equations by Substitution

Date_____ Period____

Solve each system by substitution.

1) $y = 6x - 11$
$-2x - 3y = -7$

2) $2x - 3y = -1$
$y = x - 1$

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

4) $-3x - 3y = 3$
$y = -5x - 17$

5) $y = -2$
$4x - 3y = 18$

6) $y = 5x - 7$
$-3x - 2y = -12$

7) $\cancel{4x + y = 6} \rightarrow y = 4x + 6$
$-5x - y = 21$

8) $-7x - 2y = -13$
$\cancel{x - 12y = 11} \rightarrow x = 2y + 11$

9) $\cancel{-5x + y = 2} \rightarrow y = 5x - 2$
$-3x + 6y = -12$

10) $\cancel{5x + y = -3} \rightarrow y = 5x - 3$
$3x - 8y = 24$