

Name: _____

Show work needed to justify your answer.

Date: _____

HW # 39: Algebra 1 - Standard 25 - Solve Systems of Equations - Substitution Method

5 points

Use substitution to solve each system of equations.

1. $y = 5x + 1$

$4x + y = 10$

$4x + 5x + 1 = 10$

$9x + 1 = 10$

$9x = 9$

$x = 1$

$y = 5(1) + 1$

$y = 6$

$(1, 6)$

5. $2x + y = 3 \rightarrow y = -2x + 3$

$4x + 4y = 8$

$4x + 4(-2x + 3) = 8$

$4x - 8x + 12 = 8$

$-4x + 12 = 8$

$-4x = -4$

$x = 1$

$y = -2(1) + 3$

$y = 1$

$(1, 1)$

7. $y = -3x + 4$

$-6x - 2y = -8$

$-6x - 2(-3x + 4) = -8$

$-6x + 6x - 8 = -8$

$-8 = -8$

All Real #'s

10. $y = -4x + 11$

$3x + y = 9$

$3x + (-4x + 11) = 9$

$-1x + 11 = 9$

$-1x = -2$

$x = 2$

$y = -4(2) + 11$

$y = 3$

$(2, 3)$

12. $3x + y = -5 \rightarrow y = -3x - 5$

$6x + 2y = 10$

$6x + 2(-3x - 5) = 10$

$6x - 6x - 10 = 10$

$-10 \neq 10$

No solutions

13. $5x - y = 5$

$-x + 3y = 13 \rightarrow x = 3y - 13$

$5(3y - 13) - y = 5$

$15y - 65 - y = 5$

$14y - 65 = 5$

$14y = 70$

$y = 5$

$x = 3(5) - 13$

$x = 15 - 13$

$x = 2$

$(2, 5)$