

6-2 Solve Systems by Substitution

Solve each system by the substitution method. Circle your answers.

1. $y = 3x - 14$

$y = x - 10$

$3x - 14 = x - 10$

$2x = 4$

$x = 2$

$y = 2 - 10 = -8$

 $(2, -8)$

(3)

2. $y = -3x + 5$

$5x - 4y = -3$

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

$5x + 12x - 20 = -3$

$17x = 17$

$x = 1$

$y = -3(1) + 5 = 2$

 $(1, 2)$

(3)

3. $-7x - 2y = -13$

$x = 2y + 11$

$-7(2y + 11) - 2y = -13$

$-14y - 77 - 2y = -13$

$-77 - 16y = -13$

$-16y = 64$

$y = -4$

$x = 2(-4) + 11 = 3$

 $(3, -4)$

(3)

4. Check your answer to #2.

$y = -3x + 5$

$2 = -3(1) + 5$

$2 = -3 + 5$

$2 = 2 \checkmark$

$5x - 4y = -3$

$5(1) - 4(2) = -3$

$5 - 8 = -3$

$-3 = -3 \checkmark$

(1)