Fix #1

Name KEY

Date _____ Class _____

More Practice with Solving Systems by Elimination

Use elimination to solve the system of linear equations.

1. $2(-2x + y = 1)$
$-4x + 2y = -6$

$4x - 2y = -2$
$-4x + 2y = -6$
$0 \neq -8$

no solution

none

2. $x - y = 4$
$+ \; x + y = 4$

$2x = 8$
$x = 4$

$4 + y = 4$
$y = 0$

(4, 0)

$4 - 0 = 4$ $\quad 4 + 0 = 4$
$4 = 4$ ✓ $\quad 4 = 4$

3. $6x + 3y = 6$
$-3(2x + y = 2)$

$6x + 3y = 6$
$-6x - 3y = -6$
$0 = 0$

infinite

4. $2(-x - 2y = 3)$
$-2x + 4y = -2$

$-2x - 4y = 6$
$-2x + 4y = -2$
$-4x = 4$
$x = -1$

(-1, -1)

$-2(-1) + 4y = -2$
$2 + 4y = -2$
$4y = -4$
$y = -1$

$-(-1) - 2(-1) = 3$ $\quad -2(-1) + 4(-1) = -2$
$1 + 2 = 3$ $\quad 2 - 4 = -2$
$3 = 3$ ✓ $\quad -2 = -2$

5. $2(-3x - 2y = 6)$
$-6x + 4y = -12$

$-6x - 4y = 12$
$-6x + 4y = -12$
$-12x = 0$
$x = 0$

$-3(0) - 2y = 6$
$-2y = 6$
$y = -3$

(0, -3)

$-3(0) - 2(-3) = 6$ $\quad -6(0) + 4(-3) = -12$
$6 = 6$ ✓ $\quad -12 = -12$

6. $(x + 2y = -3)$
$x - 4y = 15$

$-x - 2y = 3$
$+ \; x - 4y = 15$
$-6y = 18$
$y = -3$

$x - 4(-3) = 15$
$x + 12 = 15$
$x = 3$

(3, -3)

$3 + 2(-3) = -3$ $\quad 3 - 4(-3) = 15$
$3 - 6 = -3$ $\quad 3 + 12 = 15$
$-3 = -3$ ✓ $\quad 15 = 15$

7. $3x + y = -8$
$+\ -3x + 4y = -2$

$5y = -10$
$y = -2$

$3x - 2 = -8$
$3x = -6$
$x = -2$

$(-2, -2)$

$3(-2) - 2 = -8$
$-6 - 2 = -8$
$-8 = -8$ ✓

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

8. $x - y = 5$
$-(x - y = 2)$

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

$0 \neq 3$

none

9. $3x - 10y = -15$
$-3x + 10y = 15$

$0 = 0$

infinite

10. $2(-x - 5y = 30)$
$2x - 7y = 25$

$-2x - 10y = 60$
$+\ 2x - 7y = 25$

$-17y = 85$
$y = -5$

$(-5, -5)$

$2x - 7(-5) = 25$
$2x + 35 = 25$
$2x = -10$
$x = -5$

$-5 - 5(-5) = 30$
$5 + 25 = 30$
$30 = 30$ ✓

$2(-5) - 7(-5) = 25$
$-10 + 35 = 25$
$25 = 25$

11. $3(-x + 8y = 16)$
$3x + 4y = 36$

$-3x + 24y = 48$
$+\ 3x + 4y = 36$

$28y = 84$
$y = 3$

$(8, 3)$

$3x + 4(3) = 36$
$3x + 12 = 36$
$3x = 24$
$x = 8$

$-8 + 8(3) = 16$
$-8 + 24 = 16$
$16 = 16$ ✓

$3(8) + 4(3) = 36$
$24 + 12 = 36$
$36 = 36$

12. $2(6x - 5y = 3)$
$-12x + 10y = 5$

$12x - 10y = 6$
$+\ -12x + 10y = 5$

$0 \neq 11$

none

13. $-2(-2x + y = 6)$
$-4x + 2y = -6$

$4x - 2y = -12$
$-4x + 2y = -6$
$0 = -18$

none

14. $x - 4y = 7$
$4(5x + y = -7)$

$x - 4y = 7$
$20x + 4y = -28$

$-1 - 4y = 7$
$-4y = 8$
$y = -2$

$21x = -21$
$x = -1$

$(-1, -2)$

$-1 - 4(-2) = 7$
$-1 + 8 = 7$
$7 = 7$ ✓

$5(-1) + -2 = -7$
$-5 + -2 = -7$
$-7 = -7$

15. $-9x + 3y = -6$
$-3(-3x + y = -2)$

$-9x + 3y = -6$
$9x - 3y = 6$
$0 = 0$

infinite

16. $4x - y = -11$
$6x + y = -9$

$10x = -20$
$x = -2$

$4(-2) - y = -11$
$-8 - y = -11$
$-y = -3$
$y = 3$

$(-2, 3)$

$4(-2) - 3 = -11$
$-8 - 3 = -11$ ✓

$6(-2) + 3 = -9$
$-12 + 3 = -9$
$-9 = -9$

17. $-7(x - y = 2)$
$7x - 7y = 14$

$-7x + 7y = -14$
$7x - 7y = 14$
$0 = 0$

infinite

18. $5x + 4y = 2$
$-5x - 4y = -1$

$0 \neq 1$

none