NAME __ANSWER KEY__ DATE __2/10/16__ PERIOD __Adv.__

Elimination Using Addition and Subtraction

Use **elimination** to solve each system of equations. **SHOW ALL WORK** and **box/circle** your final answer. *(Hint: this should be a coordinate!)*

1. $x - y = 1$
$-\ \ x + y = 3$

$\dfrac{-2y}{-2} = \dfrac{-2}{-2}$

$y = 1$

$x - (1) = 1$

$x = 2$

$\boxed{(2, 1)}$

2. $-x + y = 1$
$-\ \ x + y = 11$

$\dfrac{-2x}{-2} = \dfrac{-10}{-2}$

$x = 5$

$-5 + y = 1$
$+5 \qquad +5$

$y = 6$

$\boxed{(5, 6)}$

3. $x + 4y = 11$
$-\ \ x - 6y = 11$

$\dfrac{10y}{10} = \dfrac{0}{10}$

$y = 0$

$x + 4(0) = 11$

$x = 11$

$\boxed{(11, 0)}$

4. $-x + 3y = 6$
$-\ \ x + 3y = 18$

$\dfrac{-2x}{-2} = \dfrac{-12}{-2}$

$x = 6$

$-6 + 3y = 6$
$+6 \qquad +6$

$\dfrac{3y}{3} = \dfrac{12}{3}$

$y = 4$

$\boxed{(6, 4)}$

5. $3x + 4y = 19$
$-\ \ 3x + 6y = 33$

$\dfrac{-2y}{-2} = \dfrac{-14}{-2}$

$y = 7$

$\boxed{(-3, 7)}$

$3x + 4(7) = 19$
$3x + 28 = 19$
$\quad -28 \quad -28$

$\dfrac{3x}{3} = \dfrac{-9}{3}$

$x = -3$

6. $x + 4y = -8$
$+\ \ x - 4y = -8$

$\dfrac{2x}{2} = \dfrac{0}{2}$

$x = 0$

$0 + 4y = -8$

$\dfrac{4y}{4} = \dfrac{-8}{4}$

$y = -2$

$\boxed{(0, -2)}$

7. $3x + 4y = 2$
$+\ \ 4x - 4y = 12$

$\dfrac{7x}{7} = \dfrac{14}{7}$

$x = 2$

$3(2) + 4y = 2$
$6 + 4y = 2$
$-6 \qquad -6$

$\dfrac{4y}{4} = \dfrac{-4}{4}$

$y = -1$

$\boxed{(2, -1)}$

8. $3x - y = -1$
$+\ -3x - y = 5$

$\dfrac{-2y}{-2} = \dfrac{4}{-2}$

$y = -2$

$3x + 2 = -1$

$\dfrac{3x}{3} = \dfrac{-3}{3}$

$x = -1$

$\boxed{(-1, -2)}$

9. $2x - 3y = 9$
$-\ -5x - 3y = 30$

$\dfrac{7x}{7} = \dfrac{-21}{7}$

$x = -3$

$\boxed{(-3, -5)}$

$2(-3) - 3y = 9$
$-6 - 3y = 9$

$\dfrac{-3y}{-3} = \dfrac{15}{-3} \rightarrow y = -5$

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

$\dfrac{3x}{3} = \dfrac{0}{3}$

$x = 0$

$0 - y = 4$
$y = -4$

$\boxed{(0, -4)}$