Graph WS

1) $(3, 4)$
5) $(-1, -4)$
9) $(-2, 1)$

2) $16 - 8y = -6x$
$\frac{1}{4}x = -1 + \frac{1}{3}y$

3) $0 = -4 - x$
$16 + 5x = 4y$

3.1b: Solve Systems of Equations Algebraically

Substitution Method

$$-2x + y = -10$$

$$y = -4x + 8$$

$$x + y = 2$$

$$2x + y = 3$$

Math Practice:
Substitution WS

1) $5x + 5y = 20$

$y = 6$

Substitution WS

1) $(-2, 6)$
5) No solution
9) $(2, -1)$

Elimination

(Stack & Add)

$$\begin{array}{r} 4x - 3y = 29 \\ +\ 4x + 3y = 35 \\ \hline \frac{8x}{8} = \frac{64}{8} \end{array}$$

$x = 8$

$$\begin{array}{r} 1\ 1\ \ \\ 123 \\ +\ 789 \\ \hline 912 \end{array}$$

$4(8) - 3y = 29$

$32 - 3y = 29$

$-32 \qquad -32$

$\frac{-3y}{-3} = \frac{-3}{-3}$

$y = 1$

$4(8) + 3y = 35$

$32 + 3y = 35$

$-32 \qquad -32$

$3y = 3$

$y = 1$

$\boxed{(8, 1)}$

$4x - 2y = 10$

$y = 3x + 4$

$-3x \quad -3x$

$\rightarrow$

$4x - 2y = 10$

$+2(\cancel{-3x + y = 4})$

$\rightarrow$

$4x - 2y = 10$

$\cancel{-6x + 2y = 8}$

$+$

$\frac{-2x}{-2} = \frac{18}{-2}$

$x = -9$

$y = 3(-9) + 4$

$-27 + 4$

-23

$4(-9) - 2y = 10$

$-36 - 2y = 10$

$+36 \quad +36$

$-2y = 46$

$y = -23$

$(-9, -23)$

$$y = -\frac{1}{3}x - 2$$

$$y = \frac{2}{5}x + 1$$

Elimination Method

$$2x + 5y = 7$$

$$x + 4y = 2$$

Math Practice: Elimination WS

1) $-2x - 8y = -12$
$2x - 9y = -5$