

WHAT DO YOU CALL YOUR FRIENDS WHO LOVE MATH??

NAME _____

A L G E B R O S
 $(\frac{1}{4}, 0)$ $(1, 4)$ $(1, -2)$ \emptyset $\{(x, y) | x+5y=1\}$ $(-3, 2)$ $(0, 3)$ $(-2, 3)$

$$\begin{cases} y = x + 3 \\ 5x + y = 9 \end{cases} \quad \begin{cases} -x + y = 3 \\ 5x + y = 9 \text{ (mult. -1)} \end{cases} \quad \mathbf{L}$$

$$\begin{aligned} & \begin{cases} -x + y = 3 \\ + -5x + y = -9 \end{cases} \\ & \hline & -6x = -6 \\ & x = 1 \end{aligned} \quad \begin{aligned} & \rightarrow y = x + 3 \\ & y = 1 + 3 \\ & y = 4 \end{aligned} \quad (1, 4)$$

$$\begin{cases} 2y = -4x \\ 4x + 2y = -11 \end{cases} \quad \begin{cases} 4x + 2y = 0 \\ 4x + 2y = -11 \text{ (mult. -1)} \end{cases} \quad \mathbf{E}$$

$$\begin{aligned} & \begin{cases} 4x + 2y = 0 \\ + -4x - 2y = 11 \end{cases} \\ & \hline & 0 = 11 \end{aligned} \quad \emptyset$$

$$\begin{cases} 5x + 4y = 2 \\ -5x - 2y = 4 \end{cases} \quad \begin{aligned} & \rightarrow 5x + 4(3) = 2 \\ & 5x + 12 = 2 \\ & 5x = -10 \\ & x = -2 \end{aligned} \quad \mathbf{S}$$

$$\begin{aligned} & \begin{cases} 2y = 6 \\ y = 3 \end{cases} \end{aligned} \quad (-2, 3)$$

$$\begin{cases} y = 2x + 3 \\ 5x - y = -3 \end{cases} \quad + \begin{cases} -2x + y = 3 \\ 5x - y = -3 \end{cases} \quad \mathbf{O}$$

$$\begin{aligned} & \hline & 3x = 0 \\ & x = 0 \end{aligned} \quad \begin{aligned} & y = 2x + 3 \\ & y = 2(0) + 3 \\ & y = 3 \end{aligned} \quad (0, 3)$$

$$\begin{cases} 14x + 2y = 10 \\ x - 5y = 11 \text{ (mult. -14)} \end{cases} \quad (1, -2) \quad \mathbf{G}$$

$$\begin{aligned} & \begin{cases} 14x + 2y = 10 \\ + -14x + 70y = -154 \end{cases} \\ & \hline & 72y = -144 \\ & y = -2 \end{aligned} \quad \begin{aligned} & x - 5y = 11 \\ & x - 5(-2) = 11 \\ & x + 10 = 11 \\ & x = 1 \end{aligned}$$

$$\begin{cases} x + 5y = 1 \\ 2x = 2 - 10y \end{cases} \quad \begin{cases} x + 5y = 1 \text{ (mult. -2)} \\ 2x + 10y = 2 \end{cases} \quad \mathbf{B}$$

$$\begin{aligned} & \begin{cases} -2x - 10y = -2 \\ + 2x + 10y = 2 \end{cases} \\ & \hline & 0 = 0 \end{aligned} \quad \{(x, y) | x + 5y = 1\}$$

$$\begin{cases} 4x + 3y = -6 \text{ (mult. 2)} \\ 5x - 6y = -27 \end{cases} \quad \mathbf{R}$$

$$\begin{aligned} & \begin{cases} 8x + 6y = -12 \\ + 5x - 6y = -27 \end{cases} \\ & \hline & 13x = -39 \\ & x = -3 \end{aligned} \quad \begin{aligned} & 4x + 3y = -6 \\ & 4(-3) + 3y = -6 \\ & -12 + 3y = -6 \\ & 3y = 6 \\ & y = 2 \end{aligned} \quad (-3, 2)$$

$$\begin{cases} 12x + 14y = 27 \\ 4x - 3y = 9 \text{ (mult. -3)} \end{cases} \quad \mathbf{A}$$

$$\begin{aligned} & \begin{cases} 12x + 14y = 27 \\ + -12x + 9y = -27 \end{cases} \\ & \hline & 23y = 0 \\ & y = 0 \end{aligned} \quad \begin{aligned} & 4x - 3y = 9 \\ & 4x - 3(0) = 9 \\ & 4x = 9 \\ & x = 9/4 \end{aligned} \quad (9/4, 0)$$