

# Eliminate It

$$1) \begin{aligned} x + 2y &= 4 \\ -x - 4y &= -14 \end{aligned}$$

Start  
Here →

$$2) \begin{aligned} 5x - 6y &= 6 \\ + \cancel{-5x} + 4y &= \cancel{-14} \end{aligned}$$

$$\begin{aligned} -2y &= -8 \\ \cancel{-2} \quad \quad & \quad \quad \cancel{-2} \\ y &= 4 \end{aligned}$$

$$\boxed{y=4}$$

$$5x - 6y = 6$$

$$5x - 6(4) = 6$$

$$\begin{aligned} 5x - 24 &= 6 \\ + 24 &= +24 \end{aligned}$$

$$\frac{5x}{5} = \frac{30}{5}$$

$$\boxed{x=6}$$

**Eliminate It**

$$\begin{aligned} 3) \quad & 5x - 6y = 6 \\ & -5x + 4y = -14 \end{aligned}$$

$$\begin{aligned} 4) \quad & 2x - 2y = -12 \\ & 5x + 2y = 5 \end{aligned}$$

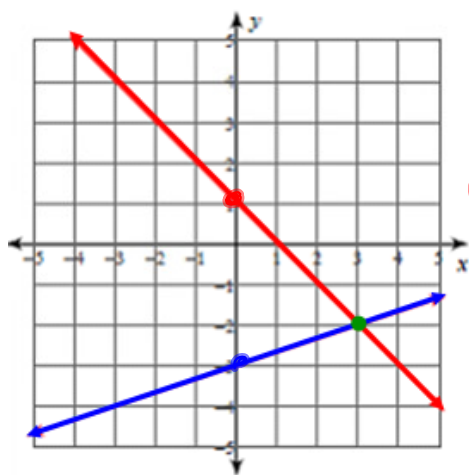
**Eliminate It**

$$\begin{aligned} 5) \quad & -4x - 2y = -12 \\ & 4x + 8y = -24 \end{aligned}$$

$$\begin{aligned} 6) \quad & 4x + 8y = 20 \\ & -4x + 2y = -30 \end{aligned}$$

## Warm Up!

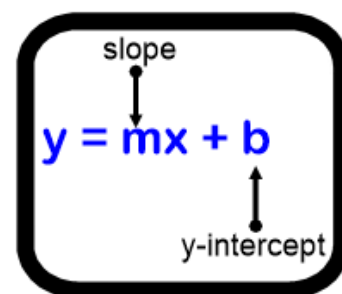
Write the equations for the system of linear equations shown below **AND** state the coordinates of the solution:



$$R \quad y = \frac{-x + 1}{-1x + 1}$$

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

$$(3, -2)$$



$$\begin{array}{r} -3(x + y = 15) \\ \underline{1(-3x + 2y = 30)} \end{array}$$

Elimination  
Time!

$$\begin{array}{r} -3x - 3y = -45 \\ \underline{-3x + 2y = 30} \\ \hline -5y = -75 \\ \underline{-5} \\ \hline y = 15 \end{array}$$

$$\begin{array}{r} -3x + 2y = 30 \\ -3x + 2(15) = 30 \\ -3x + 30 = 30 \\ \underline{-30} \quad \underline{-30} \\ \hline -3x = 0 \\ \underline{-3} \\ \hline x = 0 \end{array}$$



$$\begin{aligned}5x + 4y &= 9 \\3x + 2y &= 5\end{aligned}$$

$$\begin{aligned}2x - 3y &= 0 \\-4x + 2y &= 0\end{aligned}$$

$$\begin{array}{r} 4 \cdot (1) \\ \hline x + 4y = 7 \\ 4x - 3y = 9 \end{array} \quad (3,1)$$

$$\begin{array}{r} 4x + 16y = 28 \\ -4x - 3y = -9 \\ \hline 19y = 19 \\ \hline 19 \cancel{y} = 19 \\ \hline \boxed{y=1} \end{array}$$

**Elimination**

$$\begin{array}{r} x + 4y = 7 \\ x + 4(1) = 7 \\ x + 4 = 7 \\ \hline -4 \quad -4 \\ \hline \boxed{x=3} \end{array}$$

$$\begin{array}{r} 2x - 3y = 1 \\ x + 2y = -3 \end{array}$$

$$\begin{aligned}4x + y &= 0 \\ x - 3y &= 26\end{aligned}$$



eliminate

$$\begin{aligned}x - y &= 1 \\ 3x - 4y &= 12\end{aligned}$$



**TRY IT  
NOW!**

$$\begin{aligned}10x + 5y &= 30 \\ 3x + 11y &= 28\end{aligned}$$

$$\begin{aligned}5x - 2y &= -5 \\ 6x + 6y &= -6\end{aligned}$$

**HOMEWORK! HOMEWORK!! HOMEWORK!!!**

Solve each of the systems of equations below using the elimination method

$$\begin{cases} x + 3y = 9 \\ -2x + 4y = -8 \end{cases}$$

$$\begin{cases} 7x - 2y = 3 \\ x + y = 3 \end{cases}$$

