

Solving Systems of Equations by Elimination

$$\begin{array}{l}
 1) \quad \begin{array}{l} -4x - 2y = -12 \\ 4x + 8y = -24 \end{array} \\
 \hline
 \begin{array}{l} 6y = -36 \\ 6 \quad 6 \end{array} \\
 \hline
 y = -6 \quad (6, -6) \quad x = 6
 \end{array}$$

$$\begin{array}{l}
 3) \quad \begin{array}{l} x - y = 11 \\ 2x + y = 19 \end{array} \\
 \hline
 \begin{array}{l} 3x = 30 \\ 3 \quad 3 \end{array} \\
 \hline
 x = 10 \\
 \begin{array}{l} 10 - y = 11 \\ -10 \quad -10 \\ \hline -y = 1 \\ -1 \quad -1 \\ \hline y = -1 \end{array} \quad (10, -1)
 \end{array}$$

$$\begin{array}{l}
 5) \quad \begin{array}{l} -2x - 9y = -25 \\ -4x - 9y = -23 \end{array} \\
 \hline
 \begin{array}{l} 2x + 9y = 25 \\ -2x = 2 \\ -2 \quad -2 \\ \hline x = -1 \end{array} \\
 \begin{array}{l} -2(-1) - 9y = -25 \\ 2 - 9y = -25 \\ -2 \quad -2 \\ \hline -9y = -27 \\ -9 \quad -9 \\ \hline y = 3 \end{array} \\
 (-1, 3)
 \end{array}$$

$$\begin{array}{l}
 7) \quad \begin{array}{l} 6x + 6y = 6 \\ 6x + 3y = -12 \end{array} \\
 \hline
 \begin{array}{l} -3y = -18 \\ -3 \quad -3 \\ \hline y = 6 \end{array} \\
 \begin{array}{l} -6x + 3(6) = -12 \\ -6x + 18 = -12 \\ -18 \quad -18 \\ \hline -6x = -30 \\ -6 \quad -6 \\ \hline x = 5 \end{array} \\
 (5, 6)
 \end{array}$$

$$\begin{array}{l}
 9) \quad \begin{array}{l} 5x + y = 9 \\ 10x - 7y = -18 \end{array} \\
 \hline
 \begin{array}{l} -9y = -36 \\ -9 \quad -9 \\ \hline y = 4 \end{array} \\
 \begin{array}{l} 5x + 4 = 9 \\ -4 \quad -4 \\ \hline 5x = 5 \\ 5 \quad 5 \\ \hline x = 1 \end{array} \\
 (1, 4)
 \end{array}$$

$$\begin{array}{l}
 11) \quad \begin{array}{l} -3x + 7y = -16 \\ -9x + 5y = 16 \end{array} \\
 \hline
 \begin{array}{l} 6y = 64 \\ -16 \quad -16 \\ \hline y = -4 \end{array} \\
 \begin{array}{l} -3x + 7(-4) = -16 \\ -3x - 28 = -16 \\ +28 \quad +28 \\ \hline -3x = 12 \\ -3 \quad -3 \\ \hline x = -4 \end{array} \\
 (-4, -4)
 \end{array}$$

$$\begin{array}{l}
 2) \quad \begin{array}{l} 4x + 8y = 20 \\ -4x + 2y = -30 \end{array}
 \end{array}$$

$$\begin{array}{l}
 4) \quad \begin{array}{l} -6x + 5y = 1 \\ 6x + 4y = -10 \end{array}
 \end{array}$$

$$\begin{array}{l}
 6) \quad \begin{array}{l} 8x + y = -16 \\ -3x + y = -5 \end{array}
 \end{array}$$

$$\begin{array}{l}
 8) \quad \begin{array}{l} 7x + 2y = 24 \\ 8x + 2y = 30 \end{array}
 \end{array}$$

$$\begin{array}{l}
 10) \quad \begin{array}{l} -4x + 9y = 9 \\ x - 3y = -6 \end{array}
 \end{array}$$

$$\begin{array}{l}
 12) \quad \begin{array}{l} -7x + y = -19 \\ -2x + 3y = -19 \end{array}
 \end{array}$$