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### Solving Systems of Equations Using Any Method

$$\begin{array}{r} 1) 7x - 5y = -24 \\ + -9x + 5y = 18 \\ \hline -2x = -6 \\ \frac{-2x}{-2} = \frac{-6}{-2} \\ x = 3 \end{array}$$

$$\begin{array}{r} 7(3) - 5y = -24 \\ 21 - 5y = -24 \\ -21 \quad -21 \\ \hline -5y = -45 \\ \frac{-5y}{-5} = \frac{-45}{-5} \\ y = 9 \end{array}$$

**(3, 9)**

$$\begin{array}{r} 6) x + y = 7 \\ + x - y = 3 \\ \hline 2x = 10 \\ \frac{2x}{2} = \frac{10}{2} \\ x = 5 \end{array}$$

$$\begin{array}{r} (5) + y = 7 \\ -5 \quad -5 \\ \hline y = 2 \end{array}$$

**(5, 2)**

$$\begin{array}{r} 2) y = \frac{2}{3}x - 1 \\ y = 3 \\ \frac{2}{3}x - 1 = 3 \\ +1 \quad +1 \\ \hline \frac{2}{3}x = 4 \\ \frac{2}{3}x \cdot \frac{3}{2} = \frac{4}{1} \cdot \frac{3}{2} \\ x = 6 \end{array}$$

**(6, 3)**

$$\begin{array}{r} 7) 5x + 8y = 14 \\ 5(6) + 8y = 14 \\ 30 + 8y = 14 \\ -30 \quad -30 \\ \hline 8y = -16 \\ \frac{8y}{8} = \frac{-16}{8} \\ y = -2 \end{array}$$

$$\begin{array}{r} 4x = 24 \\ \frac{4x}{4} = \frac{24}{4} \\ x = 6 \end{array}$$

**(6, -2)**

$$\begin{array}{r} 3) y = -\frac{13}{4}x + 7 \\ y = -\frac{3}{4}x - 9 \\ -\frac{5}{2}x = -16 \\ x = \frac{32}{5} \end{array}$$

$$\begin{array}{r} -\frac{13}{4}x + 7 = -\frac{3}{4}x - 9 \\ +\frac{3}{4}x \quad +\frac{3}{4}x \\ \hline -5x + 7 = -9 \\ -7 \quad -7 \\ \hline -5x = -16 \\ \frac{-5x}{-5} = \frac{-16}{-5} \\ x = \frac{16}{5} \end{array}$$

$$\left(\frac{32}{5}, \frac{-69}{5}\right) y = -\frac{3}{4}\left(\frac{32}{5}\right) - 9$$

**$\left(\frac{32}{5}, \frac{-69}{5}\right)$**

$$\begin{array}{r} 8) y = \frac{1}{3}x - 4 \\ y = -6 \\ -6 = \frac{1}{3}x - 4 \\ +4 \quad +4 \\ \hline -2 = \frac{1}{3}x \\ \frac{-2}{\frac{1}{3}} = \frac{\frac{1}{3}x}{\frac{1}{3}} \\ x = -6 \end{array}$$

**(-6, -6)**

$$\begin{array}{r} 4) y = 4x - 10 \\ y = \frac{1}{3}x + 1 \\ 4x - 10 = \frac{1}{3}x + 1 \\ -\frac{1}{3}x \quad -\frac{1}{3}x \\ \hline \frac{11}{3}x - 10 = 1 \\ +10 \quad +10 \\ \hline \frac{11}{3}x = 11 \\ x = 3 \end{array}$$

$$\begin{array}{r} y = 4(3) - 10 \\ y = 12 - 10 \\ y = 2 \end{array}$$

**(3, 2)**

$$\begin{array}{r} 9) 2x + 3y = -1 \\ 2(3x + 4y = -4) \\ \hline 6x + 9y = -3 \\ -6x + 8y = -8 \\ \hline y = 5 \end{array}$$

$$\begin{array}{r} 2x + 3(5) = -1 \\ 2x + 15 = -1 \\ -15 \quad -15 \\ \hline 2x = -16 \\ \frac{2x}{2} = \frac{-16}{2} \\ x = -8 \end{array}$$

**(-8, 5)**

$$\begin{array}{r} 5) 7x + 3y = 22 \\ 4y = \frac{20}{4} \\ y = 5 \\ 7x + 3(5) = 22 \\ 7x + 15 = 22 \\ -15 \quad -15 \\ \hline 7x = 7 \\ \frac{7x}{7} = \frac{7}{7} \\ x = 1 \end{array}$$

**(1, 5)**

$$\begin{array}{r} 10) y = \frac{7}{4}x - 3 \\ y = 4 \\ 4 = \frac{7}{4}x - 3 \\ +3 \quad +3 \\ \hline 7 = \frac{7}{4}x \\ \frac{7}{\frac{7}{4}} = \frac{\frac{7}{4}x}{\frac{7}{4}} \\ x = 4 \end{array}$$

**(4, 4)**