



Algebra 2

Topic 3 // Elimination B

N: **Key**

D:

P: 1 2 3 4 5 6

Standards: 2.0

Holt: 3-2 Solving Linear Systems p. 190

$$\begin{array}{l}
 1.) \quad \begin{array}{r} x - y = 4 \\ + x + y = 2 \\ \hline 2x = 6 \\ \frac{2x}{2} = \frac{6}{2} \\ x = 3 \end{array} \\
 \begin{array}{r} \rightarrow (3) + y = 2 \\ -3 \quad -3 \\ \hline y = -1 \end{array} \\
 \boxed{(3, -1)}
 \end{array}$$

$$\begin{array}{l}
 2.) \quad \begin{array}{r} -4x + 2y = 8 \\ 4x - 3y = -10 \\ \hline -y = -2 \\ \frac{-y}{-1} = \frac{-2}{-1} \\ y = 2 \end{array} \\
 \begin{array}{r} -4x + 2(2) = 8 \\ -4x + 4 = 8 \\ -4x = 4 \\ \frac{-4x}{-4} = \frac{4}{-4} \\ x = -1 \end{array} \\
 \boxed{(-1, 2)}
 \end{array}$$

$$\begin{array}{l}
 3.) \quad \begin{array}{r} 3x + y = 5 \\ 2x - y = 10 \\ \hline 5x = 15 \\ \frac{5x}{5} = \frac{15}{5} \\ x = 3 \end{array} \\
 \begin{array}{r} 3(3) + y = 5 \\ 9 + y = 5 \\ -9 \quad -9 \\ \hline y = -4 \end{array} \\
 \boxed{(3, -4)}
 \end{array}$$

$$\begin{array}{l}
 4.) \quad \begin{array}{r} 2x - 5y = -6 \\ -2x + 7y = 14 \\ \hline 2y = 8 \\ \frac{2y}{2} = \frac{8}{2} \\ y = 4 \end{array} \\
 \begin{array}{r} 2x - 5(4) = -6 \\ 2x - 20 = -6 \\ +20 \quad +20 \\ \hline 2x = 14 \\ \frac{2x}{2} = \frac{14}{2} \\ x = 7 \end{array} \\
 \boxed{(7, 4)}
 \end{array}$$

$$\begin{array}{l}
 5.) \quad \begin{array}{r} 3x - 5y = 16 \\ -3x + 2y = -10 \\ \hline -3y = 6 \\ \frac{-3y}{-3} = \frac{6}{-3} \\ y = -2 \end{array} \\
 \begin{array}{r} 3x - 5(-2) = 16 \\ 3x + 10 = 16 \\ -10 \quad -10 \\ \hline 3x = 6 \\ \frac{3x}{3} = \frac{6}{3} \\ x = 2 \end{array} \\
 \boxed{(2, -2)}
 \end{array}$$

$$\begin{array}{l}
 6.) \quad \begin{array}{r} 3x - 5y = 35 \\ -2x + 5y = 30 \\ \hline x = 65 \end{array} \\
 \begin{array}{r} 3(65) - 5y = 35 \\ 195 - 5y = 35 \\ -195 \quad -195 \\ \hline -5y = -160 \\ \frac{-5y}{-5} = \frac{-160}{-5} \\ y = 32 \end{array} \\
 \boxed{(65, 32)}
 \end{array}$$

$$\begin{array}{l}
 7.) \quad \begin{array}{r} 6x - 2y = 10 \\ -2x + 2y = 10 \\ \hline 4x = 20 \\ \frac{4x}{4} = \frac{20}{4} \\ x = 5 \end{array} \\
 \begin{array}{r} \rightarrow 6(5) - 2y = 10 \\ 30 - 2y = 10 \\ -30 \quad -30 \\ \hline -2y = -20 \\ \frac{-2y}{-2} = \frac{-20}{-2} \\ y = 10 \end{array} \\
 \boxed{(5, 10)}
 \end{array}$$

$$\begin{array}{l}
 8.) \quad \begin{array}{r} 4x + 2y = 28 \\ -4x + 3y = -18 \\ \hline 5y = 10 \\ \frac{5y}{5} = \frac{10}{5} \\ y = 2 \end{array} \\
 \begin{array}{r} 4x + 2(2) = 28 \\ 4x + 4 = 28 \\ -4 \quad -4 \\ \hline 4x = 24 \\ \frac{4x}{4} = \frac{24}{4} \\ x = 6 \end{array} \\
 \boxed{(6, 2)}
 \end{array}$$

$$\begin{array}{l}
 9.) \quad \begin{array}{r} 5x + 4y = 2 \\ 3x - 4y = 14 \\ \hline 8x = 16 \\ \frac{8x}{8} = \frac{16}{8} \\ x = 2 \end{array} \\
 \begin{array}{r} 5(2) + 4y = 2 \\ 10 + 4y = 2 \\ -10 \quad -10 \\ \hline 4y = -8 \\ \frac{4y}{4} = \frac{-8}{4} \\ y = -2 \end{array} \\
 \boxed{(2, -2)}
 \end{array}$$

$$\begin{array}{l}
 10.) \quad \begin{array}{r} 6x + 2y = 2 \\ -6x + y = 10 \\ \hline 3y = 12 \\ \frac{3y}{3} = \frac{12}{3} \\ y = 4 \end{array} \\
 \begin{array}{r} 6x + 2(4) = 2 \\ 6x + 8 = 2 \\ -8 \quad -8 \\ \hline 6x = -6 \\ \frac{6x}{6} = \frac{-6}{6} \\ x = -1 \end{array} \\
 \boxed{(-1, 4)}
 \end{array}$$