

Day 6: Practice

Solve each system by elimination.

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

$$\begin{array}{r} -4x - 2(-6) = -12 \\ -4x + 12 = -12 \\ -4x = -24 \\ \frac{-4x}{-4} = \frac{-24}{-4} \\ x = 6 \end{array}$$

$$\begin{array}{r} 2) \quad 4x + 8y = 20 \\ + \quad (-4x + 2y = -30) \\ \hline 10y = -10 \\ \frac{10y}{10} = \frac{-10}{10} \\ y = -1 \\ 4x + 8(-1) = 20 \\ 4x - 8 = 20 \rightarrow 4x = 28 \\ x = 7 \end{array}$$

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

$$\begin{array}{r} 4) \quad -6x + 5y = 1 \\ + \quad (6x + 4y = -10) \\ \hline 9y = -9 \\ \frac{9y}{9} = \frac{-9}{9} \\ y = -1 \\ 6x + 4(-1) = -10 \\ 6x - 4 = -10 \\ 6x = -6 \rightarrow x = -1 \end{array}$$

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

$$\begin{array}{r} 6) \quad 8x + y = -16 \\ - \quad (-3x + y = -5) \\ \hline 11x = -11 \\ \frac{11x}{11} = \frac{-11}{11} \\ x = -1 \\ 8(-1) + y = -16 \\ -8 + y = -16 \rightarrow y = -8 \end{array}$$

$$\begin{array}{r} 7) \quad -6x + 6y = 6 \\ - \quad (-6x + 3y = -12) \\ \hline 3y = 18 \\ \frac{3y}{3} = \frac{18}{3} \\ y = 6 \\ -6x + 6(6) = 6 \\ -6x + 36 = 6 \\ -6x = -30 \\ \frac{-6x}{-6} = \frac{-30}{-6} \\ x = 5 \end{array}$$

$$\begin{array}{r} 8) \quad 7x + 2y = 24 \\ - \quad (8x + 2y = 30) \\ \hline -x = -6 \\ x = 6 \\ 7(6) + 2y = 24 \\ 42 + 2y = 24 \\ -42 \quad -42 \\ 2y = -18 \\ \frac{2y}{2} = \frac{-18}{2} \\ y = -9 \end{array}$$