

Solving Systems of Linear Equations

November 15, 2023

Instructions: Solve each system of equations using substitution **AND** elimination method. Show all your work clearly.

Problem 1: Solve the system:

$$\begin{aligned}2x + y &= 12 \\ x - y &= 9\end{aligned}$$

Problem 2: Solve the system:

$$\begin{aligned}3x + 2y &= -11 \\ x + y &= -3\end{aligned}$$

Problem 3: Solve the system:

$$\begin{aligned}4x - 3y &= 17 \\ 2x + y &= 21\end{aligned}$$

Problem 4: Solve the system:

$$\begin{aligned}5x - 2y &= 1 \\ 3x + 2y &= 39\end{aligned}$$

Problem 5: A farm has cows and chickens. The total number of animals is 15, and the total number of legs is 44. How many cows and how many chickens are there?

Challenge: For Problem 5, explain how you know your answer makes sense in the context of the problem.