

Systems with Three Variables

10th Grade

Eliminating one variable twice to get back to familiar ground.

A three-variable system reduces to a two-variable one, then to a single equation.

1 PICK A VARIABLE TO ELIMINATE

Choose whichever has matching or opposite coefficients.

2 ELIMINATE IT FROM TWO PAIRS

Combine equations 1 and 2, then 2 and 3.

3 SOLVE THE 2-VARIABLE SYSTEM

You now have two equations in two unknowns.

4 BACK-SUBSTITUTE TWICE

Find the third variable, then check in all three originals.

You must eliminate the **SAME** variable from both pairs. Otherwise you still have three unknowns.