

Solve the following system of 3 linear equations in 3 variables:

$$-2x + 5y + z = 8 \quad (1)$$

$$x - 2y - 3z = -13 \quad (2)$$

$$x + 3y - z = 5 \quad (3)$$

1. Choose a pair of equations, and eliminate one of the variables by using the addition method.
(Hint: You can eliminate z by adding equations (1) and (3)!)

2. Choose a *different* pair of equations, and eliminate the *same* variable:

3. Solve the resulting system of 2 equations in 2 variables:

4. Substitute the values of the 2 variables solved for above into any of the 3 original equations, and solve for the 3rd variable.

5. Check the solution by substituting into each of the original equations.