

When you eliminate variables for the first and second equations in the system, you should get a resulting statement of $0 = 0$. Likewise, when you eliminate variables for the second and third equations, you get the result of $0 = 0$. This indicates that there are an infinite number of solutions to this system. The correct answer is the system with $x + 2y - 3z = 4$, $-x - y + 4z = 6$, and $x + 6y + z = 2$.