

Provide a clear and organized presentation. Show all of your work and completely simplify your answer. Do the lines l_1 and l_2 intersect if l_1 is the line of intersection between the planes whose equations are $x + y + z = 1$ and $-3x + y + z = 1$ and l_2 is the line of intersection between the planes whose equations are $-5x - 2y + z = -2$ and $x - y - z = 6$