Find Line of intersection of:

$$x + y + z = 0$$

$$x - z = 0$$

The sol. we give is a line in $\mathbb{R}^3$, so we need to parameterize it: $r(t) = \langle x(t), y(t), z(t) \rangle$

Since $x - z = 0$, we get $x = z$, and we can write

$$x(t) = z(t) = t.$$

Then since the 1st eqn. tells us $y = -x - z$, we see $y(t) = -x(t) - z(t) = -2t$. So our line is of the form:

$$r(t) = \langle t, -2t, t \rangle$$