A minor conundrum I noticed

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This will just be a very short post about a minor conundrum I noticed. Suppose we are working over the real numbers $\mathbb{R}$. The term $x_1 + 0x_2 + 1$ represents a two variable function. However, when you simplify it to get the term $x_1 + 1$, it now represents a one variable function. This is a bit puzzling for me. I guess, then, that you have to keep track of the arity of the function represented by a term when you simplify it.