

## Re: Is there a general solution for $x = A + \text{Not } A$ ???

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Date: Mon, 14 Feb 2005 15:03:49 GMT

"Zim Olson" <[zimmathematics@yahoo.com](mailto:zimmathematics@yahoo.com)> wrote in message  
news:200502141117.j1EBHi231491@proapp.mathforum.org...

> *Hello:*

>

> *According to my mathematics, there is always a solution for some  
> similiar expression to  $x = A + \text{Not } A$ .*

>

> *I do this my looking at the Universe as some sort of Computer Sytem  
> and us as some part of it's Information System(s).*

>

> *Note: Mathematics cannot deal well with  $\text{Apple} + \text{Orange} = x$ . Where in  
> my Mathematics  $x = 2 \text{ fruit}$ .*

>

> *But as an exercise in my theory, I am trying to find a solution to the  
> expression  $\text{Life} + \text{Not Life} = X$ . Does anybody have a solution for  
> this??*

>

Your terms here are a bit loose from a mathematical standpoint. Since you want to bring it into those terms, it would be useful to clarify a bit.

Your A, the way it is written, usually implies a set in mathematics, and viewing it this way will shed a lot of light on the subject. In other words, A is not equal to an apple, but A is equal to a basket holding an apple, {apple}.

Viewing it this way, your use of Not is a bit loose. With your apple and orange statement, you imply that Not {x} is equal to {some one particular thing which is not x}. This is not the usual usage and is in fact not what you're asking when you consider Life and Not Life, since neither of these represents a single element. After all, my life and your life are separate things, but both fall under the aegis of Life. And a corpse is Not Life under most any reasonable definition, as well as is a TV remote, so Life = {my life, your life, ...} and Not Life = {corpse, TV remote, ...}. If A = {apple}, for instance, it is usually the case that Not A = {orange, kiwi,

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dog, cat, Truth, beauty, ...}. In other words, Not A takes the universe and subtracts from it A, returning what's left.

What about +? This is just the union of sets. {apple} + {orange} = {apple, orange}. If there is a more succinct, yet still precise, way of describing this new set, that's great, but that is a question of representation, not substance. Your "two fruits" doesn't work, because {apple, orange} is not equal to {guava, orange}, though that second set satisfies your new definition. There is no force that implies that simplification is absolutely necessary, and to do so when it is not necessary or useful is to make a mistake. There is nothing wrong with a basket, a set, with two elements.

To repeat – A is not a single element but a set, sometimes with only one element. Not A returns the complement of a set, everything in the universe that is not contained in the set, and + is just adding up the elements of the two sets.

Where does that leave us?  $A + \text{Not } A = A$  union A's complement = everything in the universe we're considering. This is not, I should note, a deep answer to your question, as {Ice Cream} + Not {Ice Cream} too = everything. Reasonably defined, your terms leave us with a trivial exercise in set theory.

Where does the problem come in? There are two things I'd bring up. The first is that signifiers, the way you are using them, usually imply sets, not single elements, unless they are given much more precisely. The rest of your usage pretty easily drops into normal set theory.

Second, you are mixing the vagueries and biases of linguistics with math. Your concern with succinct categories is seen, I believe, as superficial in math, because if two descriptions of something suffice to pin down what we're talking about, they are functionally equivalent and there's no real use wrangling over that fact (though its initial discovery is often quite satisfying and simplifies a lot of work). Your drive to create new linguistic categories is often not only unnecessary but also not helpful. Take again the example of two fruits; there is nothing wrong with "apple and orange," but you obliterate the precision of that description by moving to "two fruits." This adds nothing, yet subtracts a lot from our understanding of what we've just done, for it pretends that any baskets containing two fruits are equivalent. Why? Because you fail to use the painfully more obvious and useful linguistic structure – the word "and" exists to be used and ought not be shunned because it creates compounds.

I won't say that this discussion is inappropriate for a mathematics group, because I don't believe it is, but I will say that it is far better dealt with by philosophers, particularly those working, if there are still any, for I do not know the state of it, in the theory of linguistic analysis; the interest you reveal in categories would be well served by the precision they have historically applied to language. I hesitate to recommend it, but perhaps you could look in addition at the idea of dialectics, whose central operation, I believe, is the merging of thesis and antithesis into synthesis; i.e. idea + an opposite of the idea = something new.

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> *I have a poem on this subject to get you thinking at :*

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> <http://www.zimmathematics.com/htm/LifeDeath.htm>

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> *We have been talking about this at a different forum at:*

>

> <http://www.createforum.com/phpbb/index.php?mforum=geproject> under the

> "Axiom" topic.

>

> *Zim Olson*

> <http://www.zimmathematics.com>

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