Re: Why is it so difficult?

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- *From*: "I.N. Galidakis" <morpheus@xxxxxxxxxxxx>
- *Date*: Thu, 16 Aug 2007 04:02:33 +0300

mike3 wrote:

> On Aug 15, 3:54 pm, "I.N. Galidakis" <morph...@xxxxxxxxxxxx> wrote:

[snip]

> > If y=x^^{1/n} and x is given, after one computes y, then indeed
> > y^^n=x.

> But how does that mean it makes sense to define ^(1/n) x to
> be the solution of ^n y = x? Why couldn't we define
> ^(1/(n^2)) x as the solution???

Because y=x^^{1/n^2} contrasts badly (at an operator level) with its inverse operation: The inverse operation is y^^n, not y^^{n^2}. In other words, you need to tetrate y, n−times. NOT n^2−times to get back x. Usually a consistent mathematical concensus requires "inverse" operators to be related in the simplest way possible, and in this case the "natural choice" is taken (as an analogue) from the corresponding relationship between the operators "n−th root" and "n−th power".

> What problems does one
> run into when attempting to use a definition like that
> that make it less "natural" and more "contrived"?

> But from what I've examined the definition of
> "tetraroot" simply only requires that a solution
> y to the equation ^n y = x exists, NOT that y =
> ^(1/n) x.

I am sorry, I don't understand your question. It seems that the notation x^^{1/n} bothers you for some obscure (to me) reason.

Yeah, I guess you could define y instead as:

x^^{Gobledygookery−biscuit+i^56135+gazeebo*superdooper/n!*1/Gamma(Ronald McDonald))},

to be that number, which if you tetrate it n−times you get back x. The notation for the 1/n is merely a symbol place holder similar to the symbol place holder x^{1/n} for a regular n−th root, reminiscent of the operation for which this is a solution. Such a number exists always when x,y > 1, is unique, and no matter how you want to call it, it can be calculated to any degree of accuracy.

[snip]
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I.N. Galidakis

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