

Re: Why is it so difficult?

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- *From:* "I.N. Galidakis" <morpheus@xxxxxxxxxxxxx>
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beeworks@xxxxxxxxxxxxx wrote:

On Aug 10, 3:56 am, mike3 <mike4...@xxxxxxxxxx> wrote:

Hi.

Why is it so difficult, anyway, to extend tetration to real numbers?
For example, why is it easier to define 2 raised to the one half power, but hard to define 2 tetraded to the one half tower?

Given a , $a^{(1/2)} = b$ is defined as the (positive) b such that $b^2 = a$. Try doing the same with tetration.

It can be done (with some effort). The process introduces the notion of Hyperroot:

<http://ioannis.virtualcomposer2000.com/math/exponents3.html>

However this definition cannot be used in defining $x^{(m/n)}$, because m and n do not commute in tetration.

However, the notion of the hyperroot stands, by itself.

– MO

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