# Re: Lagrange Polynomial, Taylor's series, e^ix

***Source:*** http://sci.tech−archive.net/Archive/sci.math/2009−01/msg00752.html

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- *From*: Matt <matt271829−news@xxxxxxxxxxx>
- *Date*: Thu, 8 Jan 2009 06:14:34 −0800 (PST)

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On Jan 8, 1:53 pm, Matt <matt271829−n...@xxxxxxxxxxx> wrote:

> On Jan 8, 10:06 am, Nimo <azeez...@xxxxxxxxx> wrote:
>
> > On Jan 8, 1:06 pm, galathaea <galath...@xxxxxxxxx> wrote:
> >
> > > On Jan 7, 9:53 am, Nimo <azeez...@xxxxxxxxx> wrote:
> > >
> > > > 1Q) If the equation is like this
> > > > e^ix−100=0
> > > > how to find x value ?
> > > > Is it possible to do that ?
> > >
> > > e^(ix) = 100
> > >
> > > but also
> > >
> > > e^(i(x + 2 pi n)) = 100
> > > by periodicity
> > > (this is to reveal the multivalued inversion)
> > >
> > > take lns

i(x + 2 pi n) = 100

x = −100i − 2 pi n
for all integers n

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galathaea: prankster, fablist, magician, liar

thanks for the help

what about 3Q) ?
is it confusing
−=−=−=−==−=−=−=−=−=−=−=−=−=−=−=−=−=−=−=−=−=−=−=−=−=−=−
/*In a single line the problem would be like this*/
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Given Taylor's polynomials for a function f(x) in [a,n]
if taylor's polynomials at all points are given
T(a),T(b),T(c).......T(n)

how to construct the precise function.
what should I do ?

Ignoring for these purposes issues to do with convergence or non−convergence, the Taylor series (I assume that's what you mean by "Taylor's polynomial") at any point defines the *whole* function. So, you only need one of them, say T(a). Given T(a), constructing f(x) may be anything from trivial to extremely difficult, depending on whether the series has a finite or infinite number of terms, whether you have the coffecients of the series symbolically in terms of a or only numerically, and whether the series is in a plain or obfuscated form.

Oops, sorry, scratch that reply... I guess you mean you have the terms of the Taylor series up to a certain point, but no further.
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