

## Re: Galois Theory ok, weird lie from sci.math

**Source:** <http://sci.tech-archive.net/Archive/sci.math/2004-10/3777.html>

---

**From:** LarryLard ([larrylard\\_at\\_hotmail.com](mailto:larrylard_at_hotmail.com))

**Date:** 10/13/04

Date: 13 Oct 2004 02:41:38 -0700

jstevh@msn.com (James Harris) wrote in message  
news:<3c65f87.0410121353.3e7d24f5@posting.google.com>...  
> [poespam-trap@yahoo.com](mailto:poespam-trap@yahoo.com) (Randy Poe) wrote in message  
news:<df76407e.0410120655.4065dd4b@posting.google.com>...  
> > [jstevh@msn.com](mailto:jstevh@msn.com) (James Harris) wrote in message  
news:<3c65f87.0410111700.16fc6823@posting.google.com>...  
> > > > *Could one really become a mathematician without training in that area of  
> > > > algebra? I can see a mathematician \*forgetting\* the areas of algebra  
> > > > necessary to understand the depth of JSH's errors, but I don't see how one  
> > > > could avoid having been trained in them. This is all stuff from the  
> > > > beginning undergraduate "intro to abstract algebra" course (e.g., Herstein,  
> > > > "Topics in Algebra") that even a budding mathematician who intends to work  
> > > > as far away from algebra as possible would be unable to avoid. :-)*  
> > >  
> > > *I have a B.Sc. in physics. I do know a little algebra.*  
> >  
> > *I went to grad school in physics. With the exception of a seminar  
> > in group theory I sat in on, I never learned any "algebra" in  
> > the sense that the mathematicians are using it.*  
> >  
> > *Note that phrase "abstract algebra". This "algebra" is not  
> > what you learned in high school. It's not required for  
> > a degree in physics. It's not a prerequisite to calculus,  
> > which you probably also had.*  
> >

JSH's text that follows is such a morass of confusion, such a knot of incomprehensibility and inconsistency, that it's just about worth having a bit of a closer look...

>  
> *So now abstract algebra is supposedly different from algebra?*

Yes. What you seem to understand by 'algebra' is the symbolic manipulation learned typically fairly early on, where letters and other symbols are used to stand for –numbers–, and... oh, that's it. Mathworld offers:

>>

The word "algebra" can also refer to the "school algebra" generally taught in American middle and high schools. This includes the solution of polynomial equations in one or more variables, and basic properties of functions and graphs.

>>

'Abstract algebra', on the other hand, deals with the properties of structures of, well, –things– that quite often don't seem to have anything to do with –numbers– at all – indeed, it's entirely unsurprising to find a theorem or even just a discussion in abstract algebra that doesn't have any numerals in it at all. And yet this is part of mathematics! Isn't it wonderful? Mathworld again:

>>

One use of the word "algebra" is the abstract study of number systems and operations within them, including such advanced topics as groups, rings, invariant theory, and cohomology. This is the meaning mathematicians associate with the word "algebra." When there is the possibility of confusion, this field of mathematics is often referred to as abstract algebra.

>>

Hopefully this will help you see the difference. Also, you might want to make a note to watch out in future for what I call the nominative fallacy (although I don't believe this is the 'canonical' name) – assuming that just because the phrase 'abstract algebra' contains the word 'algebra', that the former is the same as the latter, or even has any particularly strong connection.

>

> *I'm not going further into my background. Usually what happens then*  
> *is some people start whining about it doesn't matter about this or*  
> *that as they know lots of supposedly smart people who can't hack it in*  
> *the real world.*

>

Sounds like it'd be you doing that particular whining...

> *Let's just say, I have a fairly intense background in many subjects.*

>

Let's just make a glib content-free statement. Oh wait, you just did.

> *With that said, I did have to learn quite a bit of extra like I didn't*  
> *know about algebraic integers until I started arguing with people on*  
> *Usenet.*

>

Point of evidence (1) – "didn't know about algebraic integers" before what, 1996 at the earliest?

sci.math: Re: Galois Theory ok, weird lie from sci.math

- > *That doesn't mean I hadn't learned about them before, though I don't*
- > *think I did, as I \*have\* looked over at least one abstract algebra*
- > *text as a kid, as part of a class that bored me immensely.*

"Not knowing about them doesn't mean you haven't learned about them".  
Sadly, that's beyond my wit to parse. I suspect \*you\* don't actually  
know what you mean here.

- >
- > *I covered more mathematics before getting out of my teen years than*
- > *most people ever hear about in a lifetime, and I promptly forgot a lot*
- > *of it. Thank God!*

This suggests to me that you showed some early talent for basic  
mathematics, went on one of those 'clever kids' programmes, but lacked  
with the talent or the application to make use of what you were  
given. But we're not talking about background, are we. Do tell me if I  
touched a nerve, though.

- >
- > *That's one reason I'm not that impressed by those of you who think you*
- > *know so much, when you don't \*understand\* mathematics.*
- >
- > *You have to learn much so that you can forget it, to really understand*
- > *what it all means.*
- >
- > *It's like in art, you know, like with Picasso.*

One for the sig files!

- >
- >
- > *James Harris*

--  
Larry Lard  
Replies to group please