

Re: Delusions and occasional bleak truth

Source: <http://sci.tech-archive.net/Archive/sci.math/2007-11/msg05890.html>

- *From:* lwalke3@xxxxxxxxxx
 - *Date:* Wed, 28 Nov 2007 10:46:42 -0800 (PST)
-

On Nov 27, 9:47 pm, Denis Feldmann <denis.feldmann.asuppri...@club-internet.fr> wrote:

mike3 a écrit

You'd just blow it off? Even if it's 100% valid?

How would you know it is 100% valid?

I believe what mike3 is saying is, suppose someday, someone discovers a proof of " $1=0$ " in ZFC. As he emphasizes, he doesn't mean VR or, for that matter, anyone who regularly posts in this newsgroup. He means a *_real_* proof, a proof that all of the mainstream mathematicians agree is a valid proof of " $1=0$ " in ZFC. As Goedel once proved, it's impossible to prove that ZFC is consistent, so it is impossible to rule out that someday, someone will prove that ZFC is inconsistent.

Do you realize this stuff has been studied, checked and rechecked for hundreds (not to mention thousands) of years by some of the most brilliant minds of humanity ?

And here we reach the crux of the matter — time.

When Cantor first proposed his *_naive_* set theory, it was quickly proved inconsistent by Russell. But since then, no one has proved ZFC inconsistent. I disagree with Feldmann's reference to millennia, but certainly a century is long enough, especially when compared to the lifespan of naive set theory, to believe that if ZFC were inconsistent, one of the "brilliant minds" would have discovered it well before now.

Re: Delusions and occasional bleak truth

Suppose I were to ask mainstream mathematicians which of the following is the least likely to be discovered in his/her lifetime:

1. A proof/counterexample of Goldbach
2. A proof/counterexample of $P = NP$
3. A proof/counterexample of Riemann
4. A proof/counterexample of Twin Primes
5. A proof that ZFC is inconsistent

I bet most would choose 5. Indeed, the more time passes, the more likely we are to resolve 1–4, but the more time passes, the less likely we are to prove ZFC inconsistent.

One opponent of ZFC (not a sci.math poster) once said it best:

"ALL mathematicians believe that it is theoretically possible that set theory is inconsistent, but NO mathematicians believe it is actually possible that set theory is inconsistent."

.