

Re: Four color theorem: why this is not a proof and pointer to simple explanations

Re: Four color theorem: why this is not a proof and pointer to simple explanations

Source: <http://sci.tech-archive.net/Archive/sci.math/2007-06/msg02797.html>

- *From:* Proginoskes <CHeckman@xxxxxxxx>
 - *Date:* Fri, 15 Jun 2007 06:08:46 -0000
-

On Jun 14, 7:10 pm, bill <b92...@xxxxxxxx> wrote:

On Jun 14, 4:10 pm, Gerry Myerson <g...@xxxxxxxxxxxxxxxxxxxxxxxx> wrote:

In article <f4sg45\$30n...@xxxxxxxxxxxxxxxxxxxxxxxx>, rich...@xxxxxxxxxxxxxxxx (Richard Tobin) wrote:

In article <1181860364.688539.71...@xxxxxxxxxxxxxxxxxxxxxxxx>, Andre <andre.robe...@xxxxxxxx> wrote:

Here's the "proof"; I suspect that the problem is right with the first step.

Even though there's a problem, it's still a good try. (Not all good ideas pan out.)

1. If there is a map where 5 colors are needed, it must be because 5 different countries are touching each other.

You're right. You need to prove this. How can you be sure there aren't other configurations that somehow force 5 colours?

Re: Four color theorem: why this is not a proof and pointer to simple explanations

And maybe the easiest way to see that the reasoning is fallacious is to draw yourself a map that needs 4 colors even though there are no 4 different countries each bordering the other 3.

The easiest example I can think of is a map of the USA; look at Nevada and the states surrounding it.

Just because the sqrt of 2 is rational is no reason to think that the sqrt of 5 is also rational.

I think Bill meant to say "irrational" here ---- if not, then HE is irrational 8-) ---- but the idea of "A map that requires K colors needs to have K regions all adjacent to each other" is easily seen to be false for $K = 3$ and 4, so it could easily be false for $K = 5$.

In any case, the burden is on the prover to establish something which is not immediately, obviously true.

--- Christopher Heckman

.