Re: Residue Classes

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- *From*: Virgil <virgil@xxxxxxxxxxx>
- *Date*: Sat, 19 May 2007 09:30:57 −0600

In article <GdE3i.30001$V75.249@edtnps89>,
"Larry Hammick" <larryhammick@xxxxxxxxx> wrote:

> "Hatto von Aquitanien"
>
>> me:
>>
>>> I can think of two reasons why he should be using the term
>>> "equivalence
>>> class" rather than "residue class".
>>
>> What would those be?
>
> One is that "residue class" is a long−established bit of jargon in number
> theory. "Residue" is just a synonym for "remainder", on division. But
> division is not involved in the current construction.
> The second reason is that this formal construction is analogous to various
> others around math, in which cases residues are irrelevant; examples are
> −− the definition of a rational number a/b as the equivalence class of the
> element (a,b) in ZxZ,

Minor nit: isn't it Zx(Z\{0}), for Z = the set of integers and 0 its
additive identity?

> for the equivalence relation
> wz = yx
> between two elements (w,x) and (y,z).
> −− the definition of a complex number as an equivalence class of polynomials
> over R, modulo the polynomial x^2+1.
> There are many others.
> Anyhow, a residue class is a special case of an equivalence class, so that
> author's jargon is not outright wrong.
> LH

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