

# Re: representing polynomial range values as sums of 2 squares

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- *From:* quasi <quasi@xxxxxxxx>
  - *Date:* Sat, 21 Jul 2007 09:14:22 -0400
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On Sat, 21 Jul 2007 06:05:08 -0700, jankrihau@xxxxxxxxxxxx wrote:

On 21 Jul, 14:55, quasi <qu...@xxxxxxxx> wrote:

A few more polynomial range conjectures ...

Let  $f$  be a polynomial in  $n$  variables,  $n \geq 1$ , with integer coefficients.  
Regard  $f$  as a function from  $\mathbb{Z}^n$  to  $\mathbb{Z}$ .

Conjecture 1:

If  $f$  is nonconstant, then  $\text{range}(f)$  contains infinitely many elements which can be represented as the sum of 2 squares of integers.

Wouldn't  $f(x) = 4x - 1$  be a counterexample?

Yes, sorry.

Here's the revision ...

Conjecture 1:

If  $f$  is nonconstant, then the set of elements of  $\text{range}(f)$  which can be represented as the sum of 2 squares of integers is either empty or infinite.

quasi

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