

Re: Computability

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- *From:* quasi <quasi@xxxxxxxx>
 - *Date:* Mon, 14 Jan 2008 04:14:39 -0500
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On Sun, 13 Jan 2008 20:02:36 -0800 (PST), The Dougster 22044 <DGoncz@xxxxxxxxxxxx> wrote:

If $(x/y)^p \equiv -1$ then $(x/y)^{2p} \equiv 1$ and $o(x/y, z) = 2p$ But we lose information when we write $o(x/y, z) = 2p$. That doesn't specify that $(x/y)^p \equiv -1$. $(x/y)^p$ could be congruent to x for all we know! It just doesn't say.

Right.

Let me try to restate your conjecture ...

For greater simplicity, I won't bother with the order function. Instead, I'll just use the divisibility relation.

Dougster's conjecture:

There do not exist positive integers x, y, z such that

- (1) $x < y < z < x+y$
- (2) x, y, z , are pairwise coprime
- (3) $z - y$ is not a multiple of x
- (4) For some prime $p > 2$,

$$\begin{aligned} x &| z^p - y^p \\ y &| z^p - x^p \\ z &| x^p + y^p \end{aligned}$$

Remarks:

- (1) For $p = 3$, your conjecture holds for $z \leq 1000$.
- (2) As you've previously noted, if a proof of your conjecture could be had, that would yield an instant proof of FLT, however the known truth

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of FLT does not appear to yield a proof of your conjecture.

(3) As far as trying to prove your conjecture, I would start with a fixed prime, for example $p = 3$.

quasi

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