Re: JSH: Two mysteries, quadratic residues still

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- *From*: Reader <reader@xxxxxxxxxx>

- *Date*: Sun, 30 Apr 2006 16:42:07 EDT

> Now for the truly fun stuff as the result has
> implications for Goldbach's conjecture as it gives a
> reason for why you will always find primes for any
> composite, as there are only so many quadratic residues
> for all the primes up to C, right?

i think all integers up to c quadratic residues modulo
some prime less than c if c more than 13...

if n=2 then 2 is quadratic residue mod 7. if n=3, then
mod 13. if n=4, then square, so mod every prime but
two; if n=5, then 11.

if n>5 and smaller c, look at n−1 and n−4; cannot
both be powers of 2, since opposite parity and
neither 1, so one is odd. if p is odd prime dividing
n−1, then n = 1 mod p so square mod p; if p odd prime
divide n−4, n=4 mod p so square mod p. either case
n and p relative prime so n quadratic residue mod p.
and p less than n, so p less than c.

so all integers up to c are squares mod some
odd prime less than c if c more than 13 no?

reader
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