JSH: Pondering a shift

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Looks like I have a mathematical result which should have big physics implications in terms of usefulness as well, which will defy any and all attempts to discredit or demean it as not important, which presents me with the question of how to shift from angry discoverer fighting an unfair political war against mostly angry sci.math'ers and do−nothing academic mathematicians, to someone who needs to move towards positives.

And, in case you missed the result, I found that given a quadratic Diophantine equation in 2 variables:

c_1*x^2 + c_2*xy + c_3*y^2 = c_4 + c_5*x + c_6*y

I could prove that solutions to it required solutions to

(2A(x+y) − B)^2 − 4Az^2 = B^2 − 4AC

where A, B and C are given by

A =(c_2 − 2c_1)^2 + 4c_1*(c_2 − c_1 − c_3)

B = 2(c_2 − 2c_1)*(c_6 − c_5) + 4c_5*(c_2 − c_1 − c_3)

and

C = (c_6 − c_5)^2 − 4c_4*(c_2 − c_1 − c_3)

so you still have two variables to determine but now they are x+y and z, with a simpler equation, and if you find solutions for x+y, you can substitute out x or y in the original equation with the guarantee of solutions there.

But I didn't stop there as I then found that given any Diophantine equation of the form (this research is the latest from the last few days):

u^2 + Dv^2 = F

you have a connected equation, which you can verify with the result

above, of

w^2 + D*(u+v)^2 = F*(D+1)

which is a remarkable little result! And with it, you can go on to find a general method to solve all cases where solutions exist, except for D=−1, where factoring still is the answer.

To see a simple example of how this works, consider D=−2 and F=1, where I'll copy from a recent post tonight:

x^2 − 2y^2 = 1, is you'll note followed by

z^2 − 2(x+y)^2 = −1

and the next in the series is w^2 − 2(x+y+z)^2 = 1,

so you just get this flipping back and forth, and with one solution at the start you can get the solutions that follow, so with x=3, and y=2, you have next that

z^2 − 2(5)^2 = −1, so z^2 = 49, so z=7, and then you have

w^2 − 2(3+2+7)^2 = 1, so w^2 − 2(144) = 1, so w^2 = 289 and w=17.

So I got from knowing that 3,2 is a solution for x^2 − 2y^2 = 1, 17, 12 is also a solution and that 5,7 is a solution to x^2 − 2y^2 = −1.

And that is kind of to help you see that there is no doubt about the mathematics and if you want to make your own simple examples you might try

x^2 + y^2 = 25, or even x^2 + y^2 = 5, as you don't have to use a square.

As to why this result is important: well it discretizes in a complete theory all conic sections, except again for D=−1 which is just the factoring result, that is x^2 − y^2 = F.

Also there is 2000 years of other mathematical ways of doing what the little bit of mathematics I showed you can let you do, where I'll say that the general solution is about residues.

Also you can tell if there is an integer solution to

c_1*x^2 + c_2*xy + c_3*y^2 = c_4 + c_5*x + c_6*y

by checking if A is a quadratic residue modulo B^2 − 4AC, AND B^2 − 4AC is a quadratic residue modulo A.

If you boil all the mathematics and theory down to the nitty−gritty I

think it's not a lot of pages, while my paper covering it all, including an example is 10 pages, but I used 12 point type.

Obviously for me there is gratification with a result I THINK math people who argue with me cannot deny, or lie about, or do all that other annoying stuff, but I have to still be concerned that they will try and, gasp, might get away with it!

So why? Why might they?

Well mathematics is another world in terms of how its people see their discipline and I'm an upstart, upsetting a lot of applecarts who proved Fermat's Last Theorem. Found a result key to resolving the Riemann Hypothesis, and did other things besides including giving a rather good definition of mathematical proof. Google it. I know, I say that a lot, but it's rather wild! No other human being in the world can tell you to do the same. No one.

And I am from the physics world. Not the math world. And I've said nasty things about their world and how it operates.

But that was then. I'm looking to be a much nicer guy unless the political fighting keeps going, and then I take back being nice and go back to the other way. Maybe not productive but it made me feel better.

After all, all joking aside, I have had major mathematical results now for over 6 years, where my reward from the world has been the label of crackpot and watching mathematicians either deliberately do nothing when I knew I'd proven to them what I'd accomplished, or call me nasty names and work to convince other people that I am crazy.

How would YOU behave if you were in my situation?

Think you'd even still be here?

Imagine you had some incredible physics result, did everything right, had a tremendous amount of proof, including replicated experimental results and rather than give you your Nobel prize−−physics people mostly just ignored you or called you crazy, for year after year after year.

Think you'd survive it? Think carefully.

After all, what then would you believe in?

James Harris

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