My interest in the Fermat Conjecture **(FC)** began as an interest in the **Pythagorean theorem**. I wasn't looking for integer solutions to the n>2 problem. I was more interested in the fact that odd integer values of 'a' , when used in a^2 + b^2 = c^2, resulted in 'b' being equal to (c-1.)

NOTE: Although I originally focused on odd 'a's, I soon found it true that for even values of 'a', that resulted in fractional values for 'b' and 'c', **'b' still equaled (c-1)**.

Then, I began looking at the **FC**, and his statement, in the margin, that he had a solution, but it was too big to fit in the margin. I realized that with the mathematical tools in existence at that time, it was probably an algebraic or geometric solution. The solution proposed in 1995 that exceeded 120 pages, and used mathematics undiscovered and therefore unavailable to Fermat at that time, was probably more complex that needed.

I began by using simple substitution to eliminate variables. I found that b= [(a^2)-1]/2, and c=[(a^2)+1]/2.

The **Pythagorean theorem** became:

a^n + { [(a^n)-1] /n }^n = { [(a^n)+1] /n }^n with n = 2

The **FC** problem then could be restated as:

"Is there an integer 'n' > 2, such that the equation:
[(a^n) -1]/ n and [(a^n) +]/ n are both integers for an 'a' that is an integer?"

Although there are 'a's and 'n's satisfying either of the equations:

ex:

a = 5, n = 4: [(5^4) -1 / 4 = 156, [(5^4) +1 /4 = 156.5

a = 5, n = 3: [(5^3) -1 / 3 = 41.333, [(5^3) +1 / 3 = 42

there could not be any integer values for 'a' and 'n' for the set of numbers where b = c – 1, as there is, for example, n = 2, when a = 7 and b = 24 and c = 25.

However, logically, is it not the case that if the difference between b & c is 2, there can be no number greater that 2 that will divide into both without leaving a fractional remainder for one or the other? Doesn't a simple modulo operation analysis reveal this to be the case?

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