

Fermat's conjecture _ simple answer to a simple question

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Abstract: Fermat, studying Book II of Diophantus' Arithmetica, in the pages dedicated to the problems and observations around the Pythagorean Theorem, in a marginal note of the book, reports: "It is impossible to write a cube as the sum of two cubes or a fourth power as the sum of two fourth powers or, in general, no number that is a power greater than two can be written as the sum of two powers of the same value". This conjecture, known for many years as Fermat's last theorem, became a theorem because Prof. Andrew Wiles demonstrated that $c^{n \geq 3} \neq a^{n \geq 3} + b^{n \geq 3}$

Addition is an arithmetic operation, which involves adding a number "a" to another number "b" obtaining as a result a third number "c" which is the sum of two addends. The equation is always satisfied if $a + b = c$.

Multiplication has the distributive property so that if I multiply the three terms of the equation, "c" and each of the two addends, "a" and "b", by a given number, the sum of the results of the multiplication of the two addends is always equal to the result of the multiplication of c; the equation $a * n + b * n = c * n$ is always satisfied with "n" equal for all three terms of the equation;

The power of the three terms of the equation $c = a + b$, with the same exponent " $n \geq 2$ " for all three terms of the equation, involves multiplying each of the three terms, with different numbers as are the numbers of the terms of the equation even if for n times the same. The initial satisfied equation $c^1 = a^1 + b^1$ raised to " $n \geq 2$ " becomes $c^{n \geq 2} \neq a^{n \geq 2} + b^{n \geq 2}$;

An equation with the three terms 2 is satisfied only if, a, b and c are three terms of a primary Pythagorean triple that raised to the square represent the areas built on the sides of a right-angled triangle from which the Pythagorean theorem: $c^2 = a^2 + b^2$;

Impossible to obtain equations $c^{n > 1} = a^{n > 1} + b^{n > 1}$; the infinite equations will be satisfied only if the binomial coefficients reported in the Tartaglia triangle are considered, and the result will be: $c^{n \geq 2} = a^{n \geq 2} + b^{n \geq 2} +$ the binomial coefficients.