

Why is it impossible to prove Goldbach Conjecture and any other theory related to Prime Numbers?

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Abstract

The concept of prime number as it is defined cannot be formulated in a general algebraic form and therefore cannot be used in a mathematical process of deductive reasoning.

Before trying to prove any theory one should reconsider whether the definitions of the concepts used in it are valid and well-defined in a way that make them fit to be used in the process of deductive reasoning or not. Prime number as it is defined is a natural number greater than 1 that is not a product of two smaller natural numbers. The problem with this definition is that the condition which is contained in it cannot be formulated in a general algebraic form that cover all the numbers because the definition itself changes when the number changes; For example: the primality of 5 means that it cannot be divided by 2, 3 and 4 while the primality of 7 means that it cannot be divided by 2, 3, 4, 5 and 6, so in spite of being good and clear linguistically, in mathematics it would be more correct to call it a way to define the primality of each number rather than a general definition of the prime number. This may explain the repeated failure of past and recent attempts made to form theories about the feature and sequence of prime numbers.