A FURTHER DEFINITION OF PRIME NUMBERS

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Abstract: This article redefine the prime number in angle with irreducible.

We have the definition of prime numbers in *Number Theory* such as

1. A natural number p is called *prime* if the only natural numbers dividing p are 1 and p itself [1].
2. A *prime number* is an integer p greater than 1 whose only positive divisors are 1 and p [2].

These definitions are both in angle with divisibility. In here, we through another angle to redefine the prime number,

Definition. *Let n_0 be a positive integer, for every natural number n which less than n_0, if there always exist*

$$gcd\ (\ n,\ n_0) = 1$$

We call n_0 is a prime number.

That is too saying:

A prime number is a positive integer that irreducible to every natural number which less than itself.

[1] John. Stillwell, *Elements of Number Theory*, Beijing, Springer-Verlag, 2010. p2
[2] M.B. Nathanson, *Elementary Methods in Number Theory*, Beijing, Springer-Verlag, 2003. p25