

The distribution of primes

Ihsan Raja Muda Nasution

September 22, 2017

Abstract

In this paper, we analyze the behavior of prime numbers.

MSC: 11A41

Keywords: prime numbers, distribution of primes

1 Introduction and results

In 1859, Riemann [Rie59] computed the distribution of primes. Our motivation is to axiomatize the structure of primes. We have the following postulate.

Postulate 1. Let p be a prime number. Then:

1. $2 \in \mathbf{Z}$.
2. $(-1)^p = \pm 1$.
3. $(-1) \mid -p$.
4. $4 \nmid p$.

References

[Rie59] B. Riemann. Ueber die Anzahl der Primzahlen unter einer gegebenen Grösse. *Monatsber. Akad. Berlin*, pages 671–680, 1859.