

Contents

Section I

A New Method of Deriving Asymptotic Expressions for Arithmetic Functions	3
On the Mean Value of the Number of Classes of Proper Primitive Forms of Negative Discriminant	28
On the Distribution of Power Residues and Non-Residues	53
An Elementary Proof of a General Theorem in Analytic Number Theory	57
On the Distribution of Indices	65
On a Bound for the Least n^{th} Power Non-Residue	69
On the Distribution of Fractional Parts of Values of a Function of One Variable	78
On the Distribution of Fractional Parts of Values of a Function of Two Variables	85
On Waring's Theorem	101
A New Estimate for $G(n)$ in Waring's Problem	107
On the Upper Bound for $G(n)$ in Waring's Problem	110
New Estimates for Weyl Sums	124
Representation of an Odd Number as the Sum of Three Primes	129
Estimates of Certain Simple Trigonometric Sums with Prime Numbers	133
Certain Problems in Analytic Number Theory	160
On the Distribution of the Fractional Parts of Values of a Polynomial	172

Section II

The Method of Trigonometric Sums in Number Theory	181
---	-----

Section III

Special Variants of the Method of Trigonometric Sums.	299
Ivan Matveevič Vinogradov: A Brief Outline of His Life and Works (by K. K. Mardzhanishvili)	385
A Chronological List of I. M. Vinogradov's Works	393