Rademacher (Hans) papers

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Summary Information

Repository:	Rockefeller Archive Center
Creator - aut:	Rademacher, Hans
Creator:	Rockefeller Institute for Medical Research
Creator:	Rockefeller University
Title:	Hans Rademacher papers, Rockefeller University Faculty
ID:	FA128
Date [inclusive]:	circa 1910-1967, 1983
Physical Description:	14.55 Cubic Feet 16 document boxes
Language of the Material:	English

Preferred Citation

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Biographical/Historical note

Hans Rademacher (1892-1969), a mathematician, was a visiting professor (1964-1965) and affiliate (1966-1969) at the Rockefeller University. This German-born authority in number theory received his Ph.D. from the University of Göttingen (Germany) in 1917. The bulk of Rademacher's academic career in the U.S. was spent at the University of Pennsylvania where, upon his retirement in 1962, he was awarded the title of Professor Emeritus.

Rademacher's early work, 1910-1934, focused on the measurability of real variables, differentiability and integration. He developed systems of orthogonal functions known as the "Rademacher Functions". In 1923, Rademacher examined the theory of functions of complex variables, at which time he perfected the "sieve method" and applied it to algebraic numbers. Following his arrival to the U.S. in 1934, Rademacher studied as a visiting Rockefeller Fellow at the University of Pennsylvania. From the mid 1930's to the 1960's., he worked on Fourier coefficients of modular forms, formulated the partition number and coefficients of the modular invariant, and developed his renowned analytic number theory.

Scope and Contents

Types of records include: notes, correspondence, manuscripts, reprints, printed materials, galleys, and photographs.

Arrangement note

Arranged in chronological order by series.

File Plan note

Former Classification: I 450 R117

Administrative Information

Publication Statement

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Conditions Governing Access note

Access to this collection is restricted pending permission from Rockefeller University.

Processing Information

Series 10: Minimal processing, 2016.

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Related Materials

Related Materials

14 Additional record storage cartons of Rademacher materials have been received by RAC post 1996. (Boxes 1-12, including two Box 8's and Box 10A). All additional Rademacher materials are closed to scholarly research pending further processing.

See AC.2008.062 Hans Rademacher papers, Rockefeller University Faculty.

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Controlled Access Headings

- Number theory
- Calculus
- Geometry
- Mathematics
- Algebra

Collection Inventory

College Notes, 1910-1916

Physical Description: 0.8 Cubic Feet

Scope and Contents note

Notes from classes attended at Göttingen University in Germany. Professors include Hilbert, Katz, Klein, Landau and Wegl. The material includes algebra, analytical geometry, integral calculus, mechanics and theory of functions.

Arrangement note

Arranged in chronological order.

Title/Description	Instances	
Logic, Prof. E. Müller, Göttingen, 1910	box 1	folder 1
Einführung in die Differential und Integral Rechnung I. Prof. Klein, Summer Semester, 1911	box 1	folder 2
Analytische Geometrie, Dr. Wegl, Summer Semester, [Analytical Geometry], 1911	box 1	folder 3
Determinanten, Prof. Wegl, 1911-1912	box 1	folder 4
Einführung in die Differential und Integral Rechnung, Prof. Klein, 1911-1912	box 1	folder 5
Gewöhnliche Differential Gleichungen, Prof. Hilbert, 1912	box 1	folder 6
Kurven und Flächen, Prof Wegl, [Curves and Surface Area], 1912	box 1	folder 7
Courant Algebra, 1912	box 1	folder 8
Psychologie der Malerei, Prof. Katz, [Psychology of Art], 1912	box 1	folder 9
Über Sogenannte Mathematische Unterhaltungen und Spiele, [About so-called Mathematics Maintenance and play], 1912	box 1	folder 10
Funktionen Theorie, Göttingen, [Theory of Functions], 1912-1913	box 1	folder 11
Funktionalgleichung und der Funktion, [Functional Equations and their functions], 1912-1913	box 2	folder 1
Mechanik, Prof. Hilbert, [Mechanics], 1913-1914	box 2	folder 2
Cartheodory Conforme Abbildungen I, 1913-1914	box 2	folder 3
Ausgewählte Kapitel der Statistischen Mechanik, Prof. Hilbert, 1914	box 2	folder 4
January, 1914	box 2	folder 5
Eineindeutige Abbildungen und Messbarkeit, 1916	box 2	folder 6

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Course Notes, 1918-1963

Physical Description: 3.3 Cubic Feet

Scope and Contents note

Teaching notes from Rademacher's years at the University of Berlin, Swarthmore College and the University of Pennsylvania. Notes include algebra, analytical geometry, calculus, differential equations, elementary additive number theory, modular functions and number theory.

Arrangement note

Arranged in chronological order.

Title/Description	Instances	
Übungen zur Algebra, Sept., [Exercises for Algebra], 1918	box 2	folder 7
Schur-Hohere Zahlen Theorie, [Schur-Hohere Number Theory], 1920	box 2	folder 8
Mathematische Methoden und Probleme, [Mathematical Methods and Problems], 1923-1924	box 2	folder 9
Waring's Problem (Neuere Analytische Methoden der Additen Zahl Theorie), [New Analytical Methods of the Addition Number Theory], 1926-1927	box 2	folder 10
Notes, 1927	box 2	folder 11
Elliptische Funktionen, [Elliptical Functions], 1927	box 3	folder 1
Notes, 1928 May 18	box 3	folder 2
Gruppentheorie, Breslau, [Group Theory], 1928	box 3	folder 3
Differential Rechnung, Breslau, [Differential Calculations], 1928	box 3	folder 4
Analytical Number Theory, 1929	box 3	folder 5
Integralrechnung II, [Integral Calculations], 1929	box 3	folder 6
Course Notes, 1930	box 3	folder 7
Funktionen Theorie, Breslau [Theory of Functions], 1930	box 3	folder 8
Aufgaben Dec, [Assignments], 1931	box 3	folder 9
Theorie der Algebrandern Zahlentheorie, Breslau,[Theory of Algebraic Number Theory], 1932-1933	box 3	folder 10
Analytische Geometrie I, [Analytical Geometry I], 1933	box 3	folder 11
Analytische Geometrie I, [Analytical Geometry I], 1933	box 3	folder 12
Analytische Geometrie I, [Analytical Geometry I], 1933	box 4	folder 1
Elementary Additive Number Theory, 1935-1936	box 4	folder 2
Elementary Additive Number Theory, 1935-1936	box 4	folder 3
Selected Topics in Higher Algebra, 1936	box 4	folder 4
Selected Topics in Higher Algebra, 1936	box 4	folder 5

On the Accumulation of Errors in Processes of Integration on High Speed Calculating Machines, 1937	box 5	folder 1
Analytic Number Theory, Philadelphia, 1937-1938	box 5	folder 2
Analytic Number Theory, Philadelphia, 1937-1938	box 5	folder 3
Analytic Additive Number Theory I, University of Pennsylvania, 1939-1940	box 5	folder 4
Modular Functions, 1941-1942	box 5	folder 5
Calculus of Variations, University of Pennsylvania, 1943-1944	box 6	folder 1
Calculus of Variations, University of Pennsylvania, 1943-1944	box 6	folder 2
Algebraic Theory of Numbers, Spring Term, 1947	box 6	folder 3
Modern Theory of Functions, 1948	box 6	folder 4
Analytic Additive Number Theory Chaps. 14 and 15, 1950	box 6	folder 5
Mordell, Geometry of Numbers, 1950	box 6	folder 6
A Survey of Higher Mathematics, NYU, 1950	box 7	folder 1
Analytic Prime Number Theory, Spring Term, 1951	box 7	folder 2
Dedekind Sums, Princeton, 1953 May	box 7	folder 3
Elliptic Functions, Fall Term, 1953-1954	box 7	folder 4
Theory of Partitions, 1954 December 24	box 7	folder 5
Theory of Functions of Real Variables, Philadelphia, 1955-1956	box 7	folder 6
Würges, Gerhard "Theory of Algebraic Numbers", notes from lectures held at the Mathematisches Institut, Göttingen, Germany in winter semester, 1956-1957	box 7	folder 7
Notes to Analytic Number Theory, 1956-1957	box 7	folder 8
Functions of Several Complex Variables	box 7	folder 9
Table of Periodic Continued Fractions released from the Research Computation Section at Lockhead, 1960	box 8	folder 1
Geometry, New York University, Fall Term, 1962	box 8	folder 2
Analytic Number Theory, 1962	box 8	folder 3
On Prime Numbers, Pennsylvania State University, 1963 May 24	box 8	folder 4
Notes from, 1963	box 8	folder 5
Primitive Root Modules	box 8	folder 6
Notes	box 8	folder 7
Eine Bemerkung über die Heckeschen Operation T (n) [An observation about the Heckeschen Operation T(n)]	box 8	folder 8

Notes

	box 8	folder 9
Notes	box 8	folder 10
Algebraic Numbers	box 8	folder 11
Experimental Function Logarithm	box 8	folder 12
Dedekind Sums and Binary Quadratic Forms	box 8	folder 13
Prime numbers and the zeroes of the........	box 8	folder 14
Modular Functions	box 8	folder 15
Complex Multiplication	box 9	folder 1
Oberfläche des Hegelstumpfes	box 9	folder 2
Abschritt II. Mechanik der Systeme von Masserysunkten	box 9	folder 3
Klein, Differential und Integralrechnung I (Forsetzung) [Diminutive, Differential and Integral Calculations I (?)]	box 9	folder 4
Toeplitz Funktion Theorie	box 9	folder 5
Japanese-notebook	box 9	folder 6
Part IV. The Circle Method. Chapter XIV. Analytic Theory of Partitions	box 9	folder 7
Zur Analysis Situs	box 9	folder 8
Introduction to the Theory of Functions of Complex Variables	box 9	folder 9
Periodic Functions of n Variables and zn Variables	box 9	folder 10
Special Relativity Theory	box 9	folder 11
On the Phragmen-Lindelöf Theorem and some applications	box 9	folder 12
Gamma Function and Mellin's Theory of Reciprocal Functions	box 9	folder 13
Analytic Number Theory	box 10	folder 1
Schwartz's Theory of Distributions	box 10	folder 2
Introduction to Hecke's Theory of Modular Forms	box 10	folder 3
Theory of Numbers	box 10	folder 4
Theory of Differential Equations	box 10	folder 5
Notes	box 10	folder 6
Schloss Bischofstein bei Leugenfeld	box 10	folder 7
Virevgradoffs Method	box 10	folder 8
The Transcendence of e and (Pi)	box 10	folder 9
Number Theory	box 10	folder 10
Dürer's Magic Square	box 10	folder 11

Number Theory	box 10	folder 12
Notes	box 11	folder 1
Number Theory in Certain Algebraic Fields	box 11	folder 2
Notes	box 11	folder 3

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Correspondence, 1936-1966

Physical Description: 0.1 Cubic Feet

Scope and Contents note

Included are correspondences with Joseph Diamond, Theodor Eastmann, Dr. Heisig and Morris Newman various correspondences between the years 1964 and 1965.

Arrangement note

Arranged in chronological order.

Title/Description	Instances	
Correspondence regarding der Neubearbeitung von Band I, 1936-1937	box 11	folder 4

Scope and Contents note

"Algebra und Zahlentheorie der Enzyklopädie der Mathematischen Wissenschaften", 1936-1937 [Algebra and the Number theory of the Encyclopedia of Mathematical Scholars].

Correspondence between Theodor Estermann and Hans Rademacher, 1937 July	box 11	folder 5
Correspondence between Dr. Heisig and Hans Rademacher, 1939 September	box 11	folder 6
Correspondences, 1964-1965	box 11	folder 7
Letter from Morris Newman, Chief Numerical Analysis, Section IBS to Hans Rademacher, 1966	box 11	folder 8
A Correspondence from H. Rademacher to Mr. Joseph Diamond on the Calculations for the shape of an axis symmetric oval	box 11	folder 9

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Manuscripts, 1929-1966

Physical Description: 1 Cubic Feet

Scope and Contents note

Included are manuscripts dealing with analytical number theory, the human brain in dream and waking states, integral truths, mathematical theories by other leading mathematicians, modular invariants and partition functions.

Arrangement note

Arranged in chronological order.

Title/Description	Instances	
Theorie der algebraischen Fahlkoiper	box 11	folder 10
Die Zyklische Gruppe vom Grade A1...... Am [The cycle of Groups from Grade A1 and Am]	box 11	folder 11
Elements of T in the first four residue sequences of 7 (A mathematical table)	box 11	folder 12
Analytic Additive Number Theory	box 11	folder 13
Sylvester's formula	box 11	folder 14
On Modular Functions	box 11	folder 15
Schur's method	box 11	folder 16
On a theorem of Besicovitch	box 11	folder 17
Report of the Ad Hoc Committee on Faculty Structure, 1962 November 16	box 11	folder 18
An essay on the human brain in dream and waking states	box 11	folder 19
Integral Truth II, 1929	box 12	folder 1
Rademacher-Zuckerman, University of Pennsylvania, Graduate School, 1937	box 12	folder 2
On the Accumulation of Errors in Processes of Integration, University of Pennsylvania, 1950 June	box 12	folder 3
Plotkin's case, 1960	box 12	folder 4
Notes on Enjoyment of Mathematics, 1965	box 12	folder 5
Collected papers of G. H. Hardy, volume 1, notes, 1966	box 12	folder 6
A convergent series for the partition function p(n)	box 12	folder 7
On the Partition Function p(n)	box 12	folder 8
On the Partition Function p(n)	box 12	folder 9
On the expansion of the Partition Function p(n) in a series	box 12	folder 10
Theory of Partitions	box 12	folder 11
On the Partition Function	box 12	folder 12
"Über das Verhältnis der Analysis zur Zahlentheorie" [About the relation of Analysis to the Number theory]	box 12	folder 13

Title/Description	Instances	
"Helly's Theorems on Convex Domains and Tchebycheff's Approximation Problem" by Hans Rademacher & I.J. Schoenberg	box 12	folder 14
"The Fourier coefficients of the modular invariant"	box 12	folder 15
Part IV. The Circle Method and Chapter XIV. Analytic Theory of Partitions	box 12	folder 16
"Die Reziprozitaetsformel fuer Dedekindsche Summen" by Hans Rademacher [The Reciprocal Formula for Dedekind's Sums]	box 12	folder 17
"On the Precision of a Certain Procedure of Numerical Integration" Preliminary Report by Hans Rademacher	box 13	folder 1
Manuscript-notes	box 13	folder 2
Theorie der Reillers Funktion und der Lebesuesdium Tutegrele	box 13	folder 3
Nearly discovered unsolved problems	box 13	folder 4
Über Totale und Partielle Differengierbarkeit von Funktionen mehrerer Variabeln und über die Funktional Determinanten [About Total and Partial Differentiality for Functions of various variables and of the functional determinants]	box 13	folder 5
Die Bairerchen Klassur und die Analytische Darstellbarkeit reeller Funktionen	box 13	folder 6
Mathematics in the 19th century	box 13	folder 7
Factorization and Farey Fractions	box 13	folder 8
"Phragmen-Lindelof Theorem and Subharmonic Functions" by Hans Rademacher	box 13	folder 9
On Differential Quotients	box 13	folder 10
"An Iteration Method for Computation with Laurent Series" written by H.A. Rademacher with I.J. Schoenberg	box 13	folder 11

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Reprints, 1919-1969

Physical Description: 0.1 Cubic Feet

Scope and Contents note

Reprints are grouped in blocks of years.

Arrangement note

Arranged in chronological order.

Title/Description	Instances	
Reprints, 1919-1931	box 14	folder 1
Reprints, 1932-1948		

	box 14	folder 2
Kuhlenbeck, Hartwig "Schopenhauers Bedeutung für die Neurologie" in Der Nervenarzt, vol. 4, pp. 177-182, 1961 April	box 14	folder 3
Reprints, 1950-1969, undated	box 14	folder 4
The Phragmen-Lindelöf Theorem and some Applications	box 14	folder 5

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Journals and Brochures, undated

Physical Description: 0.1 Cubic Feet

Scope and Contents note

Includes the Phragmen-Lindelöf theorem and some of its applications, an issue of The Bulletin and a monument to Hans Rademacher.

Title/Description	Instances	
The Bulletin, vol. 14. No. 33. Bonn, 1966 September 6	box 14	folder 6
Monument to a Mathematician-The Hans Rademacher Instructorships-at the University of Pennsylvania	box 14	folder 7

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Galleys, undated

Physical Description: 0.1 Cubic Feet

Scope and Contents note

Includes the Greensche formula for linear differential gleichnungen zweiter ordnung and the partition function.

Title/Description	Instances	
Greensche Formula für Linear Differentialgleichnungen Zweiter Ordnung [Greensche Formula for Linear Differential]	box 14	folder 8
On the Partition Function p(n)	box 14	folder 9

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Lectures, Presentations and Reports

Physical Description: 0.9 Cubic Feet

Scope and Contents note

Includes lectures given at the meeting of the American Mathematical Society, Haverford College, Johns Hopkins, the University of Oregon, University of Pennsylvania and Tate Institute. Topics include additive number theory, analytical number theory, elementary mathematics, higher math and numerical analysis.

Arrangement note

Arranged in chronological order.

Title/Description	Instances	
Lecture, Johns Hopkins University, 1937 May 20	box 14	folder 10
"Abstract of a paper to be presented before the meeting of the American Mathematical Society, New York City, 1938 September 6-9	box 14	folder 11
"The Linkage of Genes", lecture before the Zoological Seminar, 1943 January 7	box 14	folder 12
Lectures on the Analytic Number Theory, NYU., 1949	box 15	folder 1
The Renaissance-A Symposium, 1952 February 8-10	box 15	folder 2
Lectures given by Hans Rademacher while a visitor at Haverford College, fall semester, 1952-1953	box 15	folder 3
Lecture notes on Elementary Mathematics from an advanced viewpoint from lectures given at the summer conference in collegiate mathematics at the University of Oregon, 1954 June 23-August 11	box 15	folder 4
Lecture notes on Analytic Additive Number Theory from lectures given at the summer conference in collegiate mathematics at the University of Oregon, 1954 June 21-August 13	box 15	folder 5
Lectures at Tate Institute, 1954-1955	box 15	folder 6
"The Universe of Mathematics" orientation lecture before the freshman class, 1958 October	box 15	folder 7
Lecture to the Academic Year Institute, 1960 December 14	box 15	folder 8
Lecture before the Research Club of the University of Pennsylvania, 1962 November 14	box 15	folder 9
Elementary Mathematics from a Higher Point of View, 1980 July 14	box 15	folder 10
Lecture 2. A New Approach to Numerical Analysis, II	box 16	folder 1
Lecture 3. On Euclidean sets having only two distances between points	box 16	folder 2
Lecture 4. The Kakeya Problem	box 16	folder 3
Additive Number Theory and Modular Functions	box 16	folder 4
Disposition der Neuauflage des Bandes Algebra und Zahlentheorie der Encyklopädie der Mathematischen Wissenschaften	box 16	folder 5

The Senate Committee on Faculty Procedures: Interim Report	box 16	folder 6
Lecture IV. The Explicit Formula for the Partition Function	box 16	folder 7

Rademacher Photos and Illustrations, undated

Scope and Contents note

An unlabeled group photo and illustrations of nudes.

Controlled Access Headings:

• Photographs

Title/Description	Instances	
Group Photo	box 16	folder 8
Nude Illustrations	box 16	folder 9

Accesson 2008.062 - Correspondence, 1928-1967

Arrangement

Series 10 is arranged chronologically by year. Within each year, the material is further arranged alphabetically by name of correspondent (personal or institutional name).

Scope and Contents

Correspondence includes documentation of memberships, activities, lecture and speaking engagements, personal and professional correspondence, general files and select bills and receipts.

The first file within each year often contains some miscellaneous files or correspondence, and followed by the beginning of the alphabetical correspondence.

Title/Description	Instances	
Correspondence - A - Z, 1928-1936	box 17	folder 1-14
Correspondence - A - Z, 1937-1944	box 18	folder 1-16
Correspondence - A - Z, 1945-1951	box 19	folder 1-15
Correspondence - A - Z, 1952-1957	box 20	folder 1-16
Correspondence - A - Z, 1958-1962	box 21	folder 1-16
Correspondence - A - Z, 1963-1967	box 22	folder 1-13
Notebook	box 22	folder 14