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**Approximation theory and functional analysis.** — Proceedings of the international symposium on approximation theory, Universidade estadual de Campinas (UNICAMP), Brazil, August 1-5, 1977. — Edited by João B. Prolla. — North-Holland mathematics studies, vol. 35. — Notas de matematica, vol. 66. — Un vol. broché, 17 × 24, de viii, 449 p. — Prix: Dfl. 90.00. — North-Holland publishing company, Amsterdam/New York/Oxford, 1979.

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Autobiographical note. — Introduction. — Acknowledgments. — Bibliography of Mark Kac. — Commentary. — Reprints of 52 papers written by Mark Kac, some in collaboration with others, such as: H. Steinhaus, E. R. van Kampen, P. Erdős, A. Wintner, R. P. Agnew, H. Hurwitz Jr., R. P. Boas, Jr., A. J. F. Siegert, H. Pollard, M. Donsker, T. H. Berlin, J. C. Ward, D. A. Darling, G. E. Uhlenbeck, P. C. Hemmer, K. M. Case, P. van Moerbeke).

L. LOVÁSZ. — **Combinatorial problems and exercises.** — Un vol. broché, 17 × 24, de 551 p. — Prix: Dfl. 55.00. — North-Holland publishing company, Amsterdam/New York/Oxford, 1979.

*Basic enumeration*: Partitions of sets and numbers, recurrence relations and generating functions, combinatorial identities. — *The sieve*: Inclusion-exclusion, Selberg sieve,

second moment method, Moebius function. — *Permutations*: Cycle index polynomial, Hall-Renyi coding, Polya-Redfield method. — *Two classical enumeration problems in graph theory*: Labelled and unlabelled trees, spanning trees of a graph; 1-factors, the Ising problem, restricted permutations. — *Parity and duality*: Eulerian graphs, planar duality, Sperner's lemma, the linear space of cuts and cycles, planarity criteria. — *Connectivity*: Trees, ear-structures, Menger's theorem, a calculus of cutsets, flow theory. — *Factors of graphs*: König's theorem, Tutte's theorem, the structure of factors of graphs, realizability of degree sequences. — *Independent sets of points*: Kernel, games on graphs,  $\alpha$ -critical graphs. — *Chromatic number*: Degree conditions, potential, Hajos' construction,  $\chi$ -critical graphs, perfect graphs, chromatic polynomial, planar graphs. — *Extremal problems for graphs*: Girth, degree and disjoint circuits; existence of subdivisions, paths and Hamiltonian circuits; Turán's theorem. — *Spectra of graphs*: Relations to the structure and automorphism group, strongly regular graphs. — *Automorphisms of graphs*: Frucht's theorem, transitive groups, topological problems, endomorphisms. — *Hypergraphs*: Circuits, transversal theory, intersection properties and extremal problems, 2-colorability, integral and fractional packing and covering, normal hypergraphs and perfect graphs. — *Ramsey theory*: Ramsey's theorem, monochromatic paths and circuits in graphs, geometrical configurations, Van der Waerden's theorem, monotony and convexity. — *Reconstruction*: Line-graphs, the Reconstruction Conjecture, cancellation property of products. — Dictionary of the combinatorial phrases and concepts used.

Kurt Bernardo WOLF. — **Integral transforms in science and engineering.** — Mathematical concepts and methods in science and engineering, vol. 11. — Un vol. relié, 16 × 24, de XIII, 489 p. — Prix: \$35.40. — Plenum Press, New York/London, 1979.

*Finite-dimensional vector spaces and the Fourier transform*: Concepts from complex vector analysis and the Fourier transform. The application of Fourier analysis to the uncoupling of lattices. Further developments and applications of the finite Fourier transform. — *Fourier and Bessel series*: Function vector spaces and Fourier series. Fourier series in diffusion and wave phenomena. Normal mode expansion and Bessel series. — *Fourier and related integral transforms*: Fourier transforms. Integral transforms related to the Fourier transform. — *Canonical transforms*: Construction and properties of canonical transforms. Applications to the study of differential equations. — *Appendix A*: The gamma function. — *Appendix B*: The Bessel and related functions. — *Appendix C*: Some summation formulas.

D.A.S. FRASER. — **Inference and linear models.** — Un vol. relié, 17 × 25, de XII, 297 p. — Prix: DM 72.50. — McGraw-Hill International book company, New York/St. Louis/San Francisco/Düsseldorf/etc., 1979.

*Model and data: the inference base*: The system and the model. The model and the location-scale example. — *Location-scale analysis*: Core methods of analysis. Terminal methods of analysis. Analysis of an inference base. Lifetesting and the Weibull. Robustness and resistance. — *Necessary methods*: On the parameter space. On the sample space. Factorization. By reexpression. By reexpression; a parameter component. — *Density allocation methods*: Sufficiency reduction. Ancillarity reduction. Sufficiency-ancillarity reduction. Weak sufficiency and ancillarity. — *Terminal methods of inference*: Tests of significance. Confidence intervals. Likelihood. Inference and decisions. — *The regression model*: Core methods of analysis. Terminal methods of analysis. Regression with serial correlation. Regression with nonnormal variation. — *Coherent models*: The structural

model. Change of variable. Inference, tests and confidence regions. Multiple tests and confidence regions. — *Some multivariate models*: Location-scale multivariate model. Multivariate model: progression. Multivariate-model: normal progression. Multivariate model: linear. Multivariate model: normal linear. — *Distributions on the circle and sphere*: The circle. The sphere. Generalized distribution form. — *Bioassay and dilution series*: The model. The analysis: theory and examples. — *Extended likelihood methods*: Some likelihood components. Extended likelihood. Group-based likelihood and the transformed regression model. — *Multivariate regression models*: Multivariate regression model with progressive variation. Normal multivariate regression model with progressive variation. Multivariate regression model with linear variation. Normal multivariate regression model with linear variation.

B. L. RAKTOE and J. J. HUBERT. — **Basic applied statistics**. — Statistics, vol. 27. — Un vol. broché, 15 × 23, de x, 426 p. — Prix: SF 34.00. — Marcel Dekker, New York/Basel, 1979.

Introduction and some fundamental concepts. — Data presentation. — The summation sign. — Measures of central tendency and variability. — Basic probability theory. — Random variables and three popular probability distributions. — Normal approximation to the binomial and fitting the normal distribution. — Random sampling from normal populations. — Some important sampling distributions derived from the normal distribution. — Point estimation of parameters and confidence interval estimation of the mean and the difference of two means based on the standard normal distribution. — Small sample confidence interval estimation based on the  $t$ ,  $\chi^2$ , and  $F$  distributions and determination of sample size. — Hypothesis testing and tests of hypotheses based on the  $Z$  distribution. — Tests based on the  $t$ ,  $\chi^2$  and  $F$  distributions. — Regression and correlation. — Design and analysis of experiments. — Sample surveys.

André WEIL. — **Number theory for beginners**. — With the collaboration of Maxwell Rosenlicht. — Un vol. broché, 16 × 23, de vi, 70 p. — Prix: DM 11.00. — Springer Verlag, New York/Heidelberg/Berlin, 1979.

Notes d'un cours d'introduction sur la théorie des nombres donnés par A. Weil à l'Université de Chicago pendant le semestre d'été 1949.

**Équations différentielles et systèmes de Pfaff dans le champ complexe**. — Edité par R. Gérard et J.-P. Ramis. — Lecture notes in mathematics, vol. 712. — Un vol. broché, 17 × 25, de v, 364 p. — Prix: DM 35.50. — Springer Verlag, Berlin/Heidelberg/New York, 1979.

EQUATIONS DIFFÉRENTIELLES ORDINAIRES DANS LE CHAMP COMPLEXE: *B. Braaksma*: Introduction to the asymptotic theory of linear homogeneous difference equations. *A. Dabèche*: Formes canoniques rationnelles d'un système différentiel à point singulier irrégulier. *W. Dekkers*: The matrix of a connection having regular singularities on a vector bundle of rank 2 on  $P^1(C)$ . *A. van den Essen*: Reduction of singularities of the differential equation  $A dy = B dx$ . *D. Liebermann*: A Poincaré-Bendixson theorem for compact Kähler manifolds. *D. A. Lutz*: Birkhoff invariants and meromorphic differential equations. *B. Malgrange*: Remarques sur les équations différentielles à poids singuliers irréguliers. — SYSTÈMES DE PFAFF DANS LE CHAMP COMPLEXE: *A. van den Essen*: Regular singularities

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**Computing methods in applied sciences and engineering, 1977, II.** — 3rd international symposium, December 5-9, 1977, IRIA LABORIA (Institut de recherche d'informatique et d'automatique). — Ed. by R. Glowinski and J. L. Lions. — Lecture notes in physics, vol. 91. — Un vol. broché, 17 × 25, de vi, 359 p. — Prix: DM 35.50. — Springer Verlag, Berlin/Heidelberg/New York, 1979.

*Foundations of numerical methods in fluid mechanics* : 5 exposés par P. D. Lax — P. Lesaint — P. A. Raviart — N. N. Yanenko, V. D. Lisseikin, V. M. Kovenia — T. B. Benjamin. — *Aeronautical fluid mechanics and transonic flows* : 4 exposés par M. Holt, W.-K. Chan — W. F. Ballhaus — M. O. Bristeau — A. Jameson. — *Multiphase flows* : 1 exposé par J. R. Travis. — *Meteorology and oceanography* : 4 exposés par J. Oliger — M. J. P. Cullen — C. Le Provost, A. Poncet — O. Talagrand. — *Numerical methods in plasma physics* : 7 exposés par A. A. Samarskii — J. Killeen — J.-P. Boujot — R. Gruber, F. Troyon — D. F. Düchs — K. V. Roberts — T. Takeda. — *Energy transportation* : 1 exposé par A. Bamberger, M. Sorine, J. P. Yvon.

**Séminaire de théorie du potentiel, Paris, n° 4** — Directeurs: M. Brelot, G. Choquet, J. Deny. — Rédacteurs: F. Hirsch et G. Mokobodzki. — Lecture notes in mathematics, vol. 713. — Un vol. broché, 17 × 25, de vii, 281 p. — Prix: DM 28.50. — Springer Verlag, Berlin/Heidelberg, New York, 1979.

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Michael HENLE. — **A combinatorial introduction to topology.** — Un vol. relié, 16 × 24, de xiv, 310 p. — Prix: £10.80. — W. H. Freeman and Co., San Francisco, 1979.

*Basic concepts* : The combinatorial method. Continuous transformations in the plane. Compactness and connectedness. Abstract point set topology. — *Vector fields* : A link between analysis and topology. Sperner's lemma and the Brouwer fixed point theorem. Phase portraits and the index lemma. Winding numbers. Isolated critical points. The

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**Fourier analysis and approximation theory, vol. 1.** — Ed. by G. Alexits and P. Turan. Colloquia mathematica societatis Janos Bolyai, vol. 19. — Un vol. relié, 17 × 25, de 458 p. — Prix: Dfl. 280.00 pour les volumes 1 et 2. — North-Holland publishing company, Amsterdam/Oxford/New York, 1978.

*G. Albinus* : On the existence of rapidly approximating sequences of finite-dimensional subspaces in spaces of measurable functions. — *J. Albrycht, Fr. Perz* : On uniform convergence of multiple Fourier series. — *G. Alexits* : On the absolute convergence of certain functional series. — *L. Alpar* : Tauberian theorems for power series of several variables I. — *A. Bacopoulos, G. Godini, I. Singer* : On best approximation in vector-valued norms. — *H. Bavinck, W. Trebels* : On  $M_q^p$  multipliers for Jacobi expansions. — *V. I. Belyi* : The application of conformal invariants to the approximation problems of functions of the complex variable. — *A. I. Berezovskij, V.V. Khlobystov* : On the interpolating parabolic splines. — *G. Bleimann, E. L. Stark* : The fine structure of periodic approximation identities. — *B. D. Bojanov* : Favard's interpolation problem for periodic functions. — *J. Boman* : On a problem concerning moduli of smoothness. — *B. Brosowski* : On simultaneous best approximation. — *P. L. Butzer, R. L. Stens* : Chebyshev transform methods in the solution of the fundamental theorem of best algebraic approximation in the fractional case. — *L. Carleson* : Some problems in harmonic analysis related to statistical mechanics. — *Z. A. Chanturia* : On the absolute convergence of Fourier series of classes  $V[n^\infty]$ . — *E. W. Cheney, C. Franchetti* : Minimal projections of finite rank in sequence spaces. — *V. Ch. Christov, P. P. Petrushev* : An improvement of Dini-Lipschitz condition. — *R. Coifman, Y. Meyer* : Commutators of singular integrals. — *L. Collatz* : Some applications of approximation theory to differential equations. — *Z. Ditzian* : Local saturation of modified Bernstein polynomials in  $k$  dimensions. — *F. J. Delves, W. Schäfer* : Boolean methods in surface interpolation. — *I. Dobro* : On optimal quadrature formulae in Lipschitz-classes. — *B. Dreseler* : Lebesgue constants for spherical partial sums of Fourier series on compact Lie groups. — *K. Endl* : On the involutory property of Laguerre polynomials. — *F. Fehér* : The  $K$ - and  $J$ -interpolation methods for rearrangement-invariant Banach spaces and their duality. — *O. Ferguson* : Approximation by integral Müntz polynomials. — *T. Ganelius* : Some extremal functions and approximation. — *M. v. Golitschek* : Approximation by imaginary exponential sums. — *A. Grundmann* : Inverse theorems for Kantorovič-polynomials. — *G. Halasz* : Statistical interpolation. — *W. Haussmann, H.-B. Knoop* : On two-dimensional interpolation. — *G. Iliev* : Parametric approximations of partial analytic functions. — *A. Jonsson, H. Wallin* : A trace theorem for generalized Besov spaces with three indexes. — *I. Joo* : Note to a theorem of Talaljan on universal series and to a problem of Nikišin.

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*N. P. Korneičuk* : Approximation of periodic functions by spline-functions. — *L. Leindler* : On inverse type theorems related to the strong approximation of Fourier series. — *L. Lempert* : Recursion for orthogonal polynomials on complex domains. — *M. I. Levin* : On approximation in  $L^2$  and optimal cubature formulae. — *W. Luh* : On universal functions. — *S. Lyttkens* : A Tauberian theorem with rapidly decreasing remainder. — *V. Maier* : The  $L_p$  norm of the approximation error for linear positive operators. — *M. Minkolas* : On an extension of Fourier's integral theorem. — *F. Móricz* : On the maximum of the partial sums for double orthogonal series. — *J. Musielak* : Approximation by singular modulars. — *M. W. Müller* : On the degree of  $L_p$ -approximation by integral Schoenberg splines. — *J. Nemeth* : On imbedding theorems. — *D. J. Newman* : Rational approximation to  $x^n$ . — *S. Nikol'skii* : Some inequalities for the functions of the weight classes. — *J. Pal* : On almost everywhere differentiability of dyadic integral functions on  $R_+$ . — *P. P. Petrushev* : The exact order of the best uniform rational approximation of some functional classes. — *P. P. Petrushev and Sp. Tashev* : Converse theorems in Hausdorff's metric. — *R. V. Polyakov* : Application of splines to the solution of systems of integral equations of Hammerstein type. — *V.A. Popov* : Uniform approximation of functions with derivatives of bounded variation and its applications. — *P. Pottinger* : On the  $C^k$  — approximation by Baskakov-operators. — *A. A. Privalov* : Approximation of functions by interpolation polynomials. — *W. Schempp* :  $G$ -stable spaces of solutions of linear partial differential equations. — *F. Schipp* : On Carleson's method. — *I. J. Schoenberg* : On Chebyshev and Markov-type problems for polynomials in a circular ring. — *I. J. Schoenberg* : The Landau problem for the differential operator  $D^2 - \alpha^2$  in a circular ring. — *Bl. Sendov* : Best Hausdorff approximation with spline functions. — *A. Sharma, J. Tzimbalario* : Classes of functions defined by differential inequalities. — *P. Simon* : On the concept of a conjugate function. — *P. Sjölin* : Equivalence of Haar and Franklin bases in  $L^p$ ,  $1 < p < \infty$ . — *G. Somorjai* : Müntz-type theorems. — *H. Stahl* : Orthogonal polynomials of complex-valued measures and the convergence of Padé approximants. — *B. Stöckert* : Remarks on anisotropic function spaces. — *G. Sunouchi* : Uniform summability of Fourier series at a point of continuity. — *J. Szabados* : On some convergent interpolatory polynomials. — *I. Szalay* : On the generalized absolute Cesaro summability of Fourier series. — *P. M. Tamrazov* : Finite-difference smoothnesses and approximation. — *K. Tandori* : On the Lebesgue functions. — *H. Triebel* : Multipliers for Besov spaces. — *P. Turan* : Remarks on the characters belonging to the irreducible representations of the symmetric group  $S_n$  of  $n$  letters. — *A.K. Varma* : An analogue of some inequalities of P. Erdős and P. Turan concerning algebraic polynomials satisfying certain conditions. — *P. Vertesi* : Hermite-Fejér and Lagrange interpolations. — *V. M. Veselinov* : Asymptotic distribution of points of maximal deviation in the polynomials of best Hausdorff approximation. — *V. K. Zadiraka* : Quadrature formulae with optimal accuracy for the calculation of the Fourier transform.

**Algebraic theory of semigroups.** — Edited by G. Pollak. — Colloquia mathematica societatis Janos Bolyai, vol. 20: — Un vol. relié, 17 × 25, de 753 p. — Prix: Dfl. 240.00. — North-Holland Publishing Company, Amsterdam/Oxford/New York, 1979.

*J. Adamek, V. Koubek* : On representations of ordered commutative semigroups. — *A. Ya. Aizenstat* : On varieties of semigroups having a finite number of subvarieties. — *L. Babai* : Endomorphisms of sub- and factorsemigroups. — *Y. Cochet* : Church-Rosser

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James M. HENLE, Eugene M. KLEINBERG. — **Infinitesimal calculus.** — Un vol. relié, 18 × 26, de ix, 135 p. — Prix: £8.75. — The MIT press, Cambridge, Mass./London, 1979.

Introduction. — Language and structure. — The hyperreal numbers. — The hyperreal line. — Continuous functions. — Integral calculus. — Differential calculus. — The fundamental theorem. — Infinite sequences and series. — Infinite polynomials. — The topology of the real line. — Standard calculus and sequences of functions. — *Appendix A* : Defining quasi-big sets. — *Appendix B* : The proof of theorem 3.1.

Alan J. WEIR. — **General integration and measure.** — “Integration and measure”, vol. 2. — Un vol. broché, 16 × 23, de xi, 298 p. — Prix: £5.25. — Cambridge university press, Cambridge, 1979.

*General integration* : The Daniell integral. The convergence theorems. The Comparison Theorem. Measurable functions and measure. Stone’s theorem. — *Lebesgue-Stieltjes integral and measures* : Integrals on  $\mathbf{R}$ . Integral on  $\mathbf{R}^k$ . Topological characterization. — *The Riesz representation theorem* : Positive linear functionals. Bounded linear functionals.

Complex linear functionals. — *General measures*: Rings of sets. Simple functions. Additive set functions. Measures. — *The classical approach*:  $\mathcal{A}$ -measurable functions. Integration with respect to  $\mu$ .  $\mu$ -measurable functions. — *Uniqueness and approximation theorems*: Monotone collections of sets. Uniqueness of measures. Approximation theorems. Uniqueness of measures and Daniell integrals. The Carathéodory extension. — *Products measures*: Products of  $\sigma$ -finite measures. Fubini's theorem. Products of general measures. — *Borel measures*: Borel measures. Translation invariance. Density functions. Measurable transformations. Baire functions. Baire measures. — *Real and complex measures*: Real measures. Complex measures. Real and complex linear functionals. — *The Radon-Nikodym theorem*: The spaces  $\mathcal{L}^p$ . The Radon-Nikodym theorem (measure theoretic). The Radon-Nikodym theorem for Daniell integrals. The dual spaces  $\mathcal{L}^p, \mathcal{L}^q$ .

Jeanne FERRANTE, Charles W. RACKOFF. — **The computational complexity of logical theories.** — Lecture notes in mathematics, vol. 718. — Un vol. broché, 17 × 25, de v, 243 p. — Prix: DM 28.50. — Springer Verlag, Berlin/Heidelberg/New York, 1979.

Introduction and background. — Ehrenfeucht games and decision procedures. — Integer addition — an example of an Ehrenfeucht game decision procedure. — Some additional upper bounds. — Direct products of theories. — Lower bound preliminaries. — A technique for writing short formulas defining complicated properties. — A lower bound on the theories of pairing functions. — Some additional lower bounds.

Michael GROSSER. — **Bidualräume und Vervollständigungen von Banachmoduln.** — Lecture notes in mathematics, vol. 717. — Un vol. broché, 17 × 25, de III, 209 p. — Prix: DM 25.00. — Springer Verlag, Berlin/Heidelberg/New York, 1979.

*Bezeichnungen, Grundbegriffe*: Allgemeines. Banachräume. Banachmoduln. — *Die Bidualräume*: Einleitung.  $V'$  und  $V''$  als Bimoduln.  $w^*$ -Stetigkeit und Regularitätskriterien. Approximierende Einheiten. — *Multiplierräume und Centralizer*: Die Multiplierräume. Einige lokalkonvexe Hausdorff-Topologien auf  $H(X, Y)$ . Die  $\beta$ -und  $\mu$ -Topologien.  $\beta$ -Vervollständigungen von  $V$ . Funktoreigenschaften der Multiplierräume. Iterierte Multiplierräume. — *Teilräume von  $H(X, X)$  als moduln*. — *Der Zusammenhang zwischen den Bidualräumen und den Multiplierräumen*: Bidualräume und Multiplierräume. Die Multiplierräume von  $V'$  und  $V''_x$ . Die  $\mu$ -Topologien auf  $V''$ . Der Spezialfall  $V = A = B$ .

M. SCHEUNERT. — **The theory of Lie superalgebras: an introduction.** — Lecture notes in mathematics, vol. 716. — Un vol. broché, 17 × 25, de x, 271 p. — Prix: DM 28.50. — Springer Verlag, Berlin/Heidelberg/New York, 1979.

*Preparatory remarks*: Conventions. Some general remarks on graded algebraic structures. — *Formal constructions*: Definition and elementary properties of Lie superalgebras. The enveloping algebra of a Lie superalgebra. Representations of Lie superalgebras. Induced and produced representations. — *Simple Lie superalgebras*: Miscellanies on  $Z$ -graded and filtered Lie superalgebras. Some general properties of simple Lie superalgebras. Lie superalgebras whose killing form is non-degenerate. The classical simple Lie superalgebras. Classification of the classical simple Lie superalgebras. The Cartan Lie superalgebras. Classification of a special type of transitive  $Z$ -graded Lie superalgebras. The main classification theorems. — *A survey of some further developments*: Superderivations of Clifford algebras and Lie superalgebras. A few remarks on nilpotent,

solvable, and semi-simple Lie superalgebras. Finite-dimensional representations of simple Lie superalgebras. — *Appendix* : Notational conventions for reductive Lie algebras. Remarks on semi-simple Lie algebras and their representations. Special remarks on simple Lie algebras. A technical lemma. The index of a representation.

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Résumé de la théorie générale des processus. — Martingales, semimartingales et intégrales stochastiques. — Mesures aléatoires et intégrales stochastiques. — Sous-espaces stables de martingales. — Compléments sur les semimartingales. — Formules exponentielles et décompositions multiplicatives. — Changements de probabilité. — Conditions pour l'absolue continuité. — Changements de filtration. — Changements de temps et changements d'espace. — Solutions extrémales d'un premier problème de martingales. — Un second problème de martingales. — Problèmes de martingales: quelques exemples. — Equations différentielles stochastiques et problèmes de martingales. — Représentation intégrale des solutions des problèmes de martingales.

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*Limiting absorption principle* : Preliminaries. Main theorem. Uniqueness of the radiative function. Proof of the lemmas. — *Asymptotic behavior of the radiative functions* : Construction of a stationary modifier. An estimate for the radiative function. Proof of the main theorem. Some properties of  $\lim_{r \rightarrow \infty} e^{-1/\mu}$ . — *Spectral representation* : The green kernel. The eigenoperators. Expansion theorem. The general short-range case.

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**Selecta mathematica V.** — Hrsg. von Konrad Jacobs. — Heidelberger Taschenbücher, Bd. 201. — Un vol. broché, 14 × 21, de xii, 260 p. — Prix: DM 29.80. — Springer Verlag, Berlin/Heidelberg/New York, 1979.

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*Introduction*: Past attempts in the study of Islamic arithmetic. The present work. Transliteration. Outline of Islamic contact with Indian science. Arithmetic systems in Arabic texts; general remarks. The sexagesimal scale. Finger-reckoning. Indian arithmetic. Greek arithmetica. Types of texts. Hindi and Hindu. “Kitáb al Fusúl fí al-Hisáb al-Hindí, by Abú al-Hasan, Ahmad ibn Ibráhim, al-Uqlidisi. The subsidiary texts: A-type. Subsidiary texts: H-type. Subsidiary texts HA-type. Subsidiary texts: Islamic type. Subsidiary texts to Hindu sources. — *The text : The arithmetic of al-Uqlidisi*: Traduction des livres I, II, III, et IV de al-Uqlidisi. — *Remarks and comparative studies*: Aims and contents of the four books (The introductions to the four books). The numerals. Duplation and mediation. Addition and subtraction. Multiplication. Division. Fractions. Square roots. Cube roots. Checking. Profit and loss. Remarks on decimal fractions. A recapitulation.

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rithme des puissances (matrices quelconques). La méthode de Jacobi pour les matrices symétriques. Réduction à la forme tridiagonale (matrices symétriques). Matrices symétriques: transformation  $LR$ . La méthode  $QR$ . — MÉTHODES DE RÉSOLUTION DE PROBLÈMES D'ÉLÉMENTS FINIS: *Introduction*. — *Assemblage de la matrice de rigidité*: Le problème à résoudre. Sous-matrice de rigidité. — *Problèmes de renumérotation*. — *Algorithmes de Cholesky et de Gauss pour les matrices-bande*: Méthode de Cholesky-bande. Méthode de Gauss-bznde et méthode frontale. — *Méthode de sous-assemblage*: Exemple élémentaire. Généralisation.

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*General information* : Certain spaces of functions, integral operators. Quasiconformal mappings of plane regions. Riemann surfaces and their fundamental groups. Discontinuous groups of fractional linear transformations. Quasiconformal mappings of Riemann surfaces. Marked Riemann surfaces and Teichmüller spaces. Holomorphic and meromorphic differentials on Riemann surfaces. Some Banach spaces of holomorphic quadratic differentials, the Schwarzian derivative. — *Basic extremal problems in the theory of quasiconformal mappings of Riemann surfaces of finite type* : Variational formulas for quasiconformal mappings. Teichmüller's problem, formulation of the theorem. Variations of a marked Riemann surface. Proof of theorem 2. A uniqueness theorem, homeomorphic embedding of the space  $T_{g,n,1}$  into the Euclidean space  $R^m$ . The problem *B1*. Mappings of a torus and an annulus, other extremal problems. — *Quasiconformal mappings with a given boundary correspondence and mappings of open Riemann surfaces of infinite genus* :

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T. V. LOUDON. — **Computer methods in geology.** — Un vol. relié, 16 × 24, de x, 269 p. — Prix: £15.80. — Academic press, London/New York/San Francisco, 1979.

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