

## Index

- Absolute moment, 8
- A-forest, 226
- Aleksandrov, A.D., 49
- $AA$ -partition, 133
- asymptotically normal sequence, 22
- Bender, E., 32
- Bernoulli numbers, 29
- Bernoulli trials, 11
- Bessel function, 15
- binomial distribution, 11
- Bonferroni inequalities, 14
- Boole inequality, 2
- Cauchy integral formula, 10
- central limit theorem, 21, 22
  - for sums of independent random variables, 22
  - for triangular arrays, 23
- central moment, 8
- characteristic function, 18
  - of a lattice distribution, 20
  - of a normal distribution, 20
  - of a Poisson distribution, 19
  - of a uniform distribution, 18, 19
- Chebyshev inequality, 8
- complement of an event, 2
- complementary event, 2
- complete set of events, 2
- complexity of a matrix, 169
- conditional probability, 4
- configuration, 82
- connected component, 186
- continuous random variable, 5
- continuous random vector, 5
- continuity theorem, 21
  - for generating functions, 18
- Curtiss' theorem, 25
- cutting number of a vertex, 183
- cyclic elements, 175
- decrement of a permutation, 152
- degree of a vertex, 174
- density
  - of a distribution, 5, 6
  - of a normal distribution, 5
- discrete random variable, 3
- discrete space, 2
- disjoint permutations, 50
- distance between vertices, 180
- distribution, 4
  - binomial, 11
  - hypergeometric, 12
  - lattice, 19
  - limiting, 18
  - nondegenerate normal, 6
  - normal, 5
  - Pascal, 11
  - Poisson, 12
  - standard normal, 5
- distribution function, 4
- distribution law, 3
- dominant function of a polynomial, 38
- double generating function, 32
- Egorychev, G.P., 49
- GH-equivalence, 82
- Euler numbers, 30, 31
- event, 2
  - certain, 2
  - complementary, 2
  - elementary, 2
  - impossible, 2
  - opposite, 2

- events
  - difference of, 2
  - disjoint, 2
  - mutually exclusive, 2
  - mutually independent, 4
  - product of, 2
  - sum of, 2
- evolution of a random graph, 191
- expectation, *see mathematical expectation*
- factor of the first degree, 191
- Falikman, D.I., 49
- forest, 172
- Fréchet formulae, 16
- generating function, 10
  - of moments, 10
  - of binomial moments, 10
  - of factorial moments, 10
  - of Bernoulli numbers, 29
  - of Morgan numbers, 34
- global degree of a graph, 192
- graph
  - balanced, 192
  - connected, 186
  - Pólya, 191
  - of a mapping, 175
- Hall conditions, 48
- height of a mapping, 206
- height of a tree, 174
- hypergeometric distribution, 12
- incidence matrix, 48
- inclusion–exclusion principle, 13
- independent random variables, 6
- inequality
  - Bonferroni, 14
  - Boole, 3
  - Chebyshev, 8
- integral limit theorem, 22, 23, 24
- inverse image of an element, 204
- inversion in a random
  - permutation, 29
  - inversion formula
    - for characteristic functions, 19
    - for probability distributions, 13
- König–Frobenius theorem, 49
- labeled elements of a basis, 106
- $\Lambda$ -permutation, 147
- Laplace formula, 17
- lattice, 20
- length of a path, 174
- Lévy–Cramér theorem, 21
- limiting distribution, 18
- Lindeberg condition, 23
- local limit theorem, 24
- London, D., 49
- Lyapunov theorem, 23
- mass of a vertex, 182
- matching problem, 13, 108
- mathematical expectation, 7
- matrix
  - double stochastic, 165
  - incidence, 48
  - permutation, 49, 50
  - stochastic, 165
- mean, 7
- mean value, 7
- measurable space, 3
- moment generating function
  - of a discrete random variable, 10
  - of a normal distribution, 25
  - in the general case, 25
- moment of the  $k$ th order, 8
  - absolute, 8
  - binomial, 8
  - central, 8
  - factorial, 8
- Morgan numbers, 34
- ordered sample, 159
- Pascal distribution, 11
- permanent, 49

- permanents of random matrices, 55
- permutation, 50
  - cycles in, 152
  - disjoint, 50
  - even, 152
  - odd, 152
  - with congruent cycles, 150
  - with cycles of even length, 151
  - with cycles of odd length, 151
- Poisson distribution, 12
- Poisson sequence, 23
- primary specification, 82
- probability, 3
  - conditional, 4
  - of an event, 2
- probability distribution, *see* *distribution*
- probability space, 4
- problème des rencontres, *see* *matching problem*
- Prufer, H., 173
- random graph, 185
- random variable, 3, 4
  - continuous, 5
  - discrete, 3
  - integer-valued, 9
  - lattice, 19
  - $n$ -dimensional, 5
- random walk around a tree, 183
- regular threshold function of a
  - property, 192
- residue, 78
- rise in a permutation, 30
- root of a tree, 172
- rooted tree, 172
  - recursive, 172, 185
  - unlabelled, 172
- skeleton of a mapping, 206
- secondary specification, 82
- sequence,
  - asymptotically normal, 22
  - Poisson, 23
- set of images, 204
- $\sigma$ -algebra, 3
- space of elementary events, 2
- standard normal distribution, 5
- Stieltjes integral, 7
- Stirling expansion, 41
- Stirling numbers
  - of the first kind, 9
  - of the second kind, 9
- threshold distribution function, 192
- threshold function, 192
  - regular, 192
- total probability formula, 4
- transversal, 48
  - conditions of nonexistence, 62
  - limit theorems for, 60, 61
- tree, 172
  - labeled, 172
  - rooted, 172
- unlabeled tree, 172, 184
- unrooted labeled tree, 172
- valency of a vertex, 173
- variance, 8
- weak convergence, 21
- van der Waerden conjecture, 49