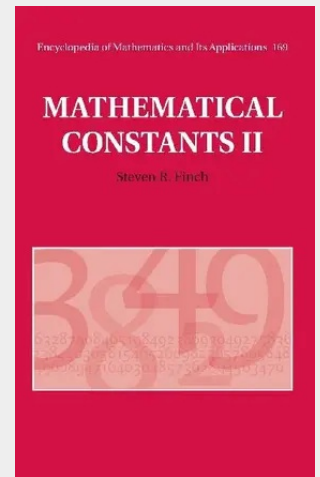


Mathematical Constants II

Famous mathematical constants include the ratio of circular circumference to diameter, $\pi = 3.14 \dots$, and the natural logarithm base, $e = 2.718 \dots$. Students and professionals can often name a few others, but there are many more buried in the literature and awaiting discovery. How do such constants arise, and why are they important? Here the author renews the search he began in his book *Mathematical Constants*, adding another 133 essays that broaden the landscape. Topics include the minimality of soap film surfaces, prime numbers, elliptic curves and modular forms, Poisson–Voronoi tessellations, random triangles, Brownian motion, uncertainty inequalities, Prandtl–Blasius flow (from fluid dynamics), Lyapunov exponents, knots and tangles, continued fractions, Galton–Watson trees, electrical capacitance (from potential theory), Zermelo's navigation problem, and the optimal control of a pendulum. Unsolved problems appear virtually everywhere as well. This volume continues an outstanding scholarly attempt to bring together all significant mathematical constants in one place.

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