

LIST OF THEOREMS

- (1) \star^1 : The law of quadratic reciprocity; number theory, before 1900.
- (2) \star^1 : The finite field Kakeya Problem; combinatorics, after 1990.
- (3) \star^1 : Ramsey's Theorem; combinatorics, 1900 to 1940.
- (4) \star^1 : Szemerédi's Theorem; additive combinatorics, 1940 to 1990.
- (5) \star^1 : Helfgott–Venkatesh Theorem on ill-distributed sets; number theory, after 1990.
- (6) \star^1 : The “problème des rencontres”; combinatorics and probability, before 1900.
- (7) \star^1 : The Seven Shuffle Theorem; combinatorics and probability, after 1990.
- (8) \star^1 : Apéry's Theorem; number theory, 1940 to 1990.
- (9) \star^2 : Krull's Hauptidealsatz; commutative algebra, 1900 to 1940.
- (10) \star^2 : The Green–Tao Theorem; number theory, after 1990.
- (11) \star^2 : Poincaré–Koebe Uniformization Theorem; geometry, complex analysis, 1900 to 1940.
- (12) \star^2 : Pontryagin Duality; harmonic analysis and group theory, 1900 to 1940.
- (13) \star^2 : Darboux–Weinstein Theorem; symplectic geometry, before 1900 and 1940 to 1990.
- (14) \star^2 : The Peter–Weyl Theorem; harmonic analysis and group theory, 1900 to 1940.
- (15) \star^2 : Keating–Snaith Formula; random matrices and probability, after 1990.
- (16) \star^2 : The Cauchy–Kovalevskaya Theorem; analysis and PDEs, before 1900.
- (17) \star^2 : The Birkhoff–Khintchin Pointwise Ergodic Theorem; dynamical systems, ergodic theory, 1900 to 1940.
- (18) \star^2 : Existence of 27 lines on a cubic surface; algebraic geometry, before 1900.
- (19) \star^2 : Burnside's Irreducibility Criterion; algebra, 1900 to 1940.
- (20) \star^2 : Carleson's Theorem; Fourier analysis, 1940 to 1990.
- (21) \star^2 : Yoneda's Lemma; category theory, 1940 to 1990.
- (22) \star^2 : Picard's Great Theorem; complex analysis, before 1900.
- (23) \star^2 : The Brouwer Fixed Point Theorem; topology, 1900 to 1940.
- (24) \star^2 : The Hahn–Banach Theorem; functional analysis, 1900 to 1940.

- (25) \star^2 : The Banach–Tarski Paradox; geometry, 1900 to 1940.
- (26) \star^2 : The “Central Limit” Theorem; probability, 1900 to 1940.
- (27) \star^2 : The Hermite–Lindemann–Weierstrass Theorem; number theory, 1900 to 1940.
- (28) \star^2 : The John Ellipsoid Theorem; geometry and functional analysis, 1940 to 1990.
- (29) \star^2 : The existence of Brownian Motion; probability, 1900 to 1940.
- (30) \star^2 : Matijasevich’s Theorem (solution of Hilbert’s Tenth Problem); logic and number theory, 1940 to 1990.
- (31) \star^3 : Gelfand duality for compact spaces; functional analysis and topology, 1900 to 1940.
- (32) \star^3 : The Mostow rigidity theorem; geometry and topology, 1940 to 1990.
- (33) \star^3 : Cohen’s Theorem (independence of the Axiom of Choice); set theory and logic, 1940 to 1990.
- (34) \star^3 : Stone’s Theorem on one-parameter unitary groups; functional analysis, 1900 to 1940.
- (35) \star^3 : The Cartan–Killing classification of complex simple Lie algebras; algebra, 1900 to 1940.
- (36) \star^3 : The Weil Conjectures; number theory and algebraic geometry, 1940 to 1990.
- (37) \star^3 : Grothendieck’s Inequality; functional analysis, 1940 to 1990.
- (38) \star^3 : Hurewicz’s Theorem; algebraic topology, 1900 to 1940.
- (39) \star^3 : The Chebotarev density theorem; number theory, 1900 to 1940.
- (40) \star^3 : Gromov’s Polynomial Growth Theorem; geometric group theory, 1940 to 1990.
- (41) \star^3 : Douglas’s solution of the Plateau Problem; analysis and geometry, 1900 to 1940.
- (42) \star^3 : Wilf–Zeilberger theory; combinatorics, algorithms, 1940 to 1990.
- (43) \star^3 : The Four Colors Theorem; graph theory, 1940 to 1990.
- (44) \star^3 : Gauss–Bonnet Formula; geometry and topology, before 1900.
- (45) \star^4 : The Cartan–Serre Theorems A and B; complex analytic geometry, 1940 to 1990.
- (46) \star^4 : Serre’s GAGA Theorems; algebraic and analytic geometry, 1940 to 1990.
- (47) \star^4 : Ratner’s Theorems; dynamics and ergodic theory, 1940 to 1990.
- (48) \star^4 : The classification of finite simple groups; algebra, 1940 to 1990.
- (49) \star^4 : Choquet–Bruhat’s Theorem (well-posedness for the Cauchy problem for Einstein’s equation); general relativity, 1940 to 1990.