

# Great Solved Problems

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Having been involved in mathematical research for 50 years I have witnessed an impressive development of mathematical ideas over that period. Many outstanding problems from the past, some of which intrigued mathematicians for generations, have been solved. I will discuss a selection of these problems such as :

- (0) Axiom of Choice
- (1) Continuum Hypothesis
- (2) Basis Problem, Approximation Problem
- (3) Apèry Theorem
- (4) Four Color Problem
- (5) Bieberbach Conjecture
- (6) Mordell Conjecture
- (7) Invariant Subspace Problem
- (8) Fermat Great Theorem
- (9) Unconditional Basic Sequence
- (10) Maharam Problem
- (11) Poincaré Hypothesis
- (12) Primes in Arithmetic Progression .

and two partially solved important old problems

- ( $\alpha$ ) Twin Primes Conjecture
- ( $\beta$ ) Goldbach Hypothesis

There were, of course, many other important problems that were successfully solved in the recent past. And there are still many more important problems that emerged over that period, quite often in the areas of mathematics that did not even exist 50 years ago. The relentless progress of mathematical ideas is one of the most captivating stories of our civilization.