

# Some Interesting Properties of Fibonacci Numbers, Palindromes and Reciprocals of Primes

Subramani K, IIIT Bangalore

Abstract: A large number of properties of numbers are known. However, more interesting properties are yet to be discovered and proved. In this paper we have observed interesting properties of numbers. Some of them are proved and some are yet to be proven. First result is an interesting way of finding Fibonacci numbers for large  $n$ . Second result is about operations with Palindromes of length  $2n+1$  which always lead to a  $n$  digit number with 9 as the only digit in it. Third result is about properties of reciprocals of primes. It is known that a magic square can be constructed using decimal digits of  $1/19$ . It is a famous magic square. For other reciprocals of primes similar result is not known. We have shown that it is possible to obtain magic squares for  $1/17$ ,  $1/29$ ,  $1/61$  and  $1/97$  by a different approach.