The New Mersenne Prime Conjecture

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1 Acknowledgements

Bateman, P. T., J. L. Selfridge, and S. S. Wagstaff. "The Editor's Corner: The New Mersenne Conjecture." The American Mathematical Monthly 96, no. 2 (1989): 125–28. https://doi.org/10.2307/2323195.

The New Mersenne Prime Conjecture

Let p be any odd number. If two following conditions hold, then so does the third:

a) $p = 2^k \pm 1$ or $p = 4^k \pm 3$ for some natural number k.

b) $2^p - 1$ is prime (a Mersenne prime)

c) $(2^p + 1)/3$ is prime (a Wagstaff prime)

2 Introduction

This mathematical paper looks into proving The New Mersenne Prime Conjecture. Will it succeed? Nobody knows, but it might be some interesting findings along the way. And a lot of prime numbers are guaranteed.