



2024 HAWAII UNIVERSITY INTERNATIONAL CONFERENCES
SCIENCE, TECHNOLOGY & ENGINEERING, ARTS, MATHEMATICS & EDUCATION JUNE 6 - 8, 2024
PRINCE WAIKIKI RESORT, HONOLULU, HAWAII

THE MATHEMATICAL BEAUTY OF THE MULATU AND THE FIBONACCI NUMBERS (MF) IN PURE MATHEMATICS

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**The Mathematical Beauty of The Mulatu and The Fibonacci Numbers (MF)
in Pure Mathematics**

Synopsis:

Fibonacci numbers Mulatu numbers are built in the same method. The two numbers differ in the first term, while the second term is entirely the same. The next terms are the sum of two successive terms. In this article, the mathematical beauty of Mulatu, Fibonacci and Lucas (MF) numbers are studied. In this paper, we investigate the mathematical beauty of these two numbers.

The Mathematical Beauty of The Mulatu and The Fibonacci Numbers (MF) in pure mathematics

Abstract and Background

Fibonacci numbers Mulatu numbers are built in the same method. The two numbers differ in the first term, while the second term is entirely the same. The next terms are the sum of two successive terms. In this article, the mathematical beauty of Mulatu, Fibonacci and Lucas (MF) numbers are studied. In this paper, we investigate the mathematical beauty of these two numbers.

2022 Mathematical Subject Classifications: 11

Keywords: Mulatu numbers and Fibonacci Numbers. The Fibonacci numbers are sequences of numbers of the form: 0, 1, 1, 2, 3, 5, 8, 13, In mathematical terms, it is defined by the following recurrence relation:

$$F_n = F_{n-1} + F_{n-2} \text{ with } F_1 = F_2 = 1 \text{ and } F_0 = 0.$$

The Mulatu numbers was discovered by Mulatu Lemma, an Ethiopian Mathematician and Professor of Mathematics at Savannah State University, Savannah, Georgia, USA. The numbers are closely related to both Fibonacci in its properties and patterns. It is defined as:

$$M_n = \begin{cases} 4 & \text{if } n = 0; \\ 1 & \text{if } n = 1; \\ M_{n-1} + M_{n-2} & \text{if } n > 1. \end{cases}$$

References

1. Lemma, M. (2011) The Fascinating Mathematical Beauty of the Fibonacci Numbers, Proceeding HUIC-Hawaii University International Conferences on Technology and Mathematics, 1(1), 1 – 9.
2. Lemma, M., Lambright, J., and Atena, A. (2016). Some Fascinating Theorems of The Mulatu Numbers. *Advances and Applications in Mathematical Sciences*, 15(4), 133-138.
3. Lemma, M. (2019). A Note on Some Interesting Theorems of the Mulatu Numbers. *EPH-International Journal of Mathematics and Statistics*, 5(5), 01-08.
4. Mulatu, L., Agegnehu, A., and Tilahun, M. (2016) The Fascinating Double Angle Formulas of the Mulatu Numbers, *International Journal for Innovation Education and Research*, 4(1), 25-29.
5. Patel, D., and Lemma, M. (2017). Using the gun of Mathematical induction to conquer some theorems of The Mulatu Numbers. *Journal of Advance Research in Mathematics and Statistics*, 4(3), 09-15.
6. D. M. Burton, *Elementary Number Theory*, Sixth Edition, New York City, McGrawHill, New York,
7. Mulatu Lemma, Mustafa Mohammed and Jonathan Lambright, Some celebrity theorems of the Mulatu numbers, *IJRDO-J. Math.* 5(1) (2019), 1-5.
8. Mulatu Lemma, Tamara Gray, Keisha Brown and Latrice Tanksely, A note on some interesting theorems of the Mulatu numbers, *EPH-Internat. J. Math. Statist.* 5(5) (2019), 1-8.
9. Lemma, M. (2011) The Fascinating Mathematical Beauty of The Fibonacci Numbers, Proceeding HUIC-Hawaii University International Conferences on Technology and Mathematics, 1(1), 1 – 9.
10. Koshy, T. (2001) *Fibonacci and Lucas Numbers with Applications*, New York: John Wiley & Sons.