

About the Author

My name is Frank Augustine, and I am a retired nuclear engineer who has explored tetration concepts since 1978 as a hobby. I started my hobby as an undergraduate student. I took math courses in college to raise my grade point average, but I wanted a more practical field of study. However, as a nuclear engineer designing radiation shielding, I had extensive experience with exponential equations, which is a good foundation for tetration algebra. Once I understood the interesting properties of tetration, such as the asymptotic behavior of ${}^n x$ for x between 1 and $e^{(1/e)}$, the minima for $y = {}^n x$ between $x = 0$ and $x = 1$ for even integer values of n , and the oscillating behavior of ${}^n x$ for x between 0 and 1, I then began a long quest to try to determine ${}^r x$ for non-integer r . After several blind alleys, I came up with the concepts presented herein. Even without knowing ${}^r x$ for non-integer r , however, I find tetration fascinating and worthy of exploration.