

1078-05-48

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In several letters written in the mid-1700s, Benjamin Franklin produced his version of magic squares and what he called his “magical circle of circles.” A magic square is an arrangement of numbers in a square grid with rows, columns and diagonals adding to a common number. Similarly, a magic circle is an arrangement of numbers in a circular grid with annuli and radii adding to a common number. In this talk, we will revisit Benjamin Franklin’s magic squares of order 8 and 16 and his magic circle of order 8. We will answer various questions on their construction and enumeration using modern techniques derived from computational commutative algebra. Then, we will discuss a method observed by my undergraduate research group who used it to create the only known Franklin magic circle of order 16. (Received November 11, 2011)