

1077-01-2224      **Maxsimino Aviles Montes\*** (mam074@shsu.edu), 2209 Bobby K Marks, Apt 37, Huntsville, TX 77340, and **Katie Watkins** and **Tatiana Kovyreshina**. *The Magic Behind Franklin Magic Circles*.

Dr. Benjamin Franklin is popularly known for his creation of the lightning rod, bifocals, and many discoveries regarding electricity. He also participated in the fundamental foundations of the United States of America including cowriting the Declaration of Independence. To avoid weariness in congressional debates, Franklin used his intellect to create both magic squares and magic circles. Franklin Magic Circles are whole numbers arranged in concentric circles such that when added in specific patterns the sum will be the same. Franklin believed his discovery to be trivial and that "no one desired [him] to show [them his] method of disposing the numbers. It seems they wish rather to investigate it themselves." In our presentation, we will discuss the re-creation, enumeration, and symmetry operations of Franklins original magic circle, as well as a new, unique Franklin Magic Circle. We will use algebraic techniques to unravel the mysteries of Franklins creation while revealing the fascinating characteristics that define Franklin Magic Circles. (Received September 21, 2011)