

1092-01-41

Donald A. Sokol* (vsokol@sbcglobal.net), 11S047 Palisades Rd., Burr Ridge, IL 60527.

Plimpton 322: Triangular numbers in base 60 and N squared.

Since George Plimpton purchased in 1922 and donated what is now identified as Plimpton 322 to Columbia University in the mid 1930's; a lengthy dialogue has continued for almost a century. Early contributors included Neugebauer and Sachs. More recent participants have been A. Abdulaziz from Univ. of Balamand and E. Robson of All Souls College in Oxford, UK.

Earlier forensic work and mathematical analysis identified its contents as containing integer triples (a,b,c) associated with what is now known as the Pythagorean Theorem. The later work focused on what mathematical techniques were used by the Babylonians to construct these integer triples. Most of the early work suggested they knew Euclid's formulas before Euclid was able to formulate them. Newer work suggests variations in that theme, including reciprocal pairs. This presentation; however, suggests something quite different, i.e. using triangular numbers as multiples of base 60, n squared and $2(n$ squared) in their calculations of a, b, and c. (Received July 14, 2013)