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H. Vic Dannon* (vick@adnc.com), CA. *Non-Cantorian Cardinal Numbers.*

Cantor's Continuum Hypothesis says that there is no set X with $\aleph_0 < \text{card}X < 2^{\aleph_0}$. In 1963, Cohen proved that if the commonly accepted postulates of set theory are consistent, then the addition of the negation of the hypothesis does not result in inconsistency.

Cohen's result was interpreted to mean that there is another set theory that utilizes the negation of the Continuum Hypothesis. However, sets with cardinality between the natural numbers and the real numbers were not found, and the alternative set theory was never developed. We develop the arithmetic of Non-Cantorian cardinal numbers. (Received September 20, 2005)