Refutation of set theory by supremum and infimum

We assume the method and apparatus of Meth8/VŁ4 with Tautology as the designated *proof* value, **F** as contradiction, N as truthity (non-contingency), and C as falsity (contingency). Results are a 16-valued truth table in row-major and horizontal, or repeating fragments of 128-tables for more variables.

LET p, q, r, s, t: A, M or m, R, x, B
~ Not; + Or; & And; > Imply, greater than; < Not Imply, lesser than, ∈;
# necessity, for all or every, □, ∀; % possibility, for one or some, ◊, ∃;
y≤z ~(z<y); y≥z ~(z>y);

LET p, q, r, s, t: A, M or m, R, x, B

From: math.ucdavis.edu/~hunter/m125b/ch2.pdf

Definition(s) 2.1:

If for every x in A then x<=M implies M<R, then A<R, named sup(remum) M. (2.1.1.1)

(((#s<p)&~(s>q))>%(q>r))>(p<r) ; **F**T**F**T **FFFF** **F**TNT **FFFF** (2.1.1.2)

If for every x in A then x>=m implies m<R, then A<R, named inf(imum) m. (2.1.2.1)

(((#s<p)&~(s<q))>%(q>r))>(p<r) ; **F**T**F**T **FFFF** **F**T**F**T **FFFF** (2.1.2.2)

A is bounded if it is bounded by both a sup M and an inf m. (2.1.3.1)

(((#s<p)&~(s>q))>%(q>r)) & (((#s<p)&~(s<q))>%(q>r)) ;
TTTT TTTT TTCT TTTT (2.1.3.2)

Remark 2.1.3.2: Because Eq. 2.1.3.2 as rendered is *not* tautologous, diverging by one C contingency value, the supremum and infimum refute set theory.