Refutation of Zermelo–Fraenkel (ZF), method of forcing, and continuum hypothesis (CH)

Abstract: From the fundamental axiom of ZF (or ZFC), ZF is proved contradictory. This means the method of forcing and the continuum hypothesis are also denied. Therefore these results are *non* tautologous fragments of the universal logic VŁ4.

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). The 16-valued truth table is row-major and horizontal, or repeating fragments of 128-tables, sometimes with table counts, for more variables.
(See ersatz-systems.com.)

LET ~ Not, ¬ ; + Or, ∨, ∪, ⊔ ; - Not Or; & And, ∧, ∩, ⊓, ·; \ Not And;
> Imply, greater than, →, ⇒, ↦, ≻, ⊃, ↠ ;
< Not Imply, less than, ∈, ≺, ⊂, ⊬, ⊭, ↞, ≲ ;
= Equivalent, ≡, :=, ⇐⇒, ↔, ≜, ≈, ≃ ; @ Not Equivalent, ≠;
% possibility, for one or some, ∃, ◊, M; # necessity, for every or all, ∀, □, L;
(z=z) T as tautology, ⊤, ordinal 3; (z@z) **F** as contradiction, Ø, Null, ⊥, zero;
(%z>#z) N as non-contingency, Δ, ordinal 1;
(%z<#z) C as contingency, ∇, ordinal 2;
~(y < x) (x ≤ y), (x ⊆ y); (A=B) (A~B); (B>A) (A⊢B); (B>A) (A⊨B).
Note for clarity, we usually distribute quantifiers onto each designated variable.

The axiomatic basis of ZF or ZFC reduces to this conjecture:

If Proof is greater than Contradiction, then:
If ZF is greater than Proof
or ZF is lesser than Contradiction, then
ZF is Proof and Contradiction as equivalent to Contradiction. (1.1)

LET p, q, r, s: p, q, r, ZF (or the usual ZFC).

((r=r)>(r@r))>(((s>(r=r))+(s<(r@r)))>(s= (((r=r)&(r@r))=(r@r)))) ;
TTTT TTTT TTTT TTTT (1.2)

Eq. 1.2 as rendered *proves* ZF (or ZFC) is equivalent to a contradiction.

Remark 1.1: Eq. 1.1 may also be rendered in arithmetic as:

If 3 is greater than 0, then:
If ZF is greater than 3
plus ZF is lesser than 0,
then ZF is 3*0 = 0. (2.1)

(3>0)>(((s>3)+(s<0))>(s=((3*0)=0)). (2.2) and as:

If T is greater than F, then:
    If ZF is greater than T
    plus ZF is lesser than F,
        then ZF is T&F=F. (3.1)

$$(T>F)>(((s>T)+(s<F))>(s=((T\&F)=F))). \tag{3.2}$$

Eqs. 1-3 mean if s = ZF, then there is no larger s-universe; it is as large as it gets because to make s-universe larger forces a contradiction of T&F=F, or by arithmetic 3*0=0.

Next, to assert the forcing of the s-universe to be larger is therefore not a valid approach, so Cohen's method of forcing is denied.

Furthermore to address the continuum hypothesis (CH), if s = ZFC is as large as s-universe can get, then there is no continuum, and hence CH is also denied.

To reward the opposite affirmation of CH, or neither the denial nor the affirmation of CH, is an enormity of the grossest historical proportions.