

Recent advances in the modal model checker Meth8 and VŁ4 universal logic

© Copyright 2016-2021 by Colin James III All rights reserved.
 Updated abstract at ersatz-systems.com; email: info@cec-services dot com

In applied and theoretical mathematics, assertions are categorized in alphabetical order as: axiom; conjecture; definition, entry; equation; expression; formula; functor; hypothesis; inequality; metatheorem; paradox; problem; proof; schema; system; theorem; and thesis. We evaluate 1194 artifacts in 8328 assertions to confirm 726 as tautology and 7602 as *not* (91.28%) in 2219 draft pages by the Meth8/VŁ4 model checker. *Meth8* is the acronym for *mechanical theorem proof assistant* in 8-bits.

The semantic content or predicate basis of some expressions on their face does not disqualify them from evaluation by Meth8 in classical modal logic. However, the rules of classical logic, as based on the corrected Square of Opposition by Meth8, apply to virtually any logic system. Consequently some numerical equations are mapped to classical logic as Meth8 scripts.

The rationale for mapping quantifiers as modal operators is based on satisfiability and reproducibility of validation of the 24-syllogisms from the corrected Square of Opposition.

Test results are refuted as *not* tautologous, confirmed as tautologous, or neither. For a paradox, *not* tautologous means it is not a paradox, but not necessarily a contradiction either.

The experimental tests used variables for 4 propositions, 4 theorems, and 11 propositions. The size of truth tables are respectively for 16-, 256-, and 2048- truth values, using recent advances in look up table indexing.

The Meth8 modal theorem prover implements the logic system variant VŁ4 which corrects the quaternary Ł4 of Łukasiewicz. There are two sets of truth values on the 2-tuple {00, 10, 01, 11} as respectively {False for contradiction; Contingent for falsity; Non contingent for truthity; Tautology for proof} and {Unevaluated; Improper; Proper; Evaluated}. The designated *proof* value is T for tautology and E for evaluated. The model checker contains recent advances in parsing technology named sliding window.

The mapping of formulas in Meth8 script was performed by hand, checked, and tested for accuracy of intent. The Meth8 script uses literals and connectives in one-character. Propositions are p-z, and theorems are A-B. The connectives for {and, or, imply, equivalent} are {&, +, >, =}. The negated connectives for {nand; nor; not imply; exclusive-or} are {!, -, <, @}. The operators for {not; possibility $\diamond\exists$; necessity $\square\forall$ } are {~, %, #}. Expressions are adopted for clarity as: (p=p) for tautologous; (p@p) for contradiction; and (x<y) for $x \leq y$. The expression $x \leq y$ as "x less than or equal to y" is rendered in the negative as $\sim(y < x)$ or as $(\sim x > \sim y)$.

Definition	Axiom	Symbol	Name	Meaning	2-tuple	Binary ordinal
1	p=p	T	tautology	proof	11	3
2	p@p	F	contradiction	absurdum	00	0
3	%p>#p	N	non-contingency	truthity	01	1
4	%p<#p	C	contingency	falsity	10	2

Note the meaning of (%p>#p): a possibility of p implies the necessity of p; and some p implies all p. In other words, if a possibility of p then the necessity of p; and if some p then all p. This shows equivalence of respective modal operators and quantified operators as in Appendix.

Meth8 is the engine for mapping sentences of natural language into logical formulas.

References

- James, C. (2010). Proof of four valued bit code (4vbc) as a group, ring, and module. Third world congress and school on universal logic. Estoril, Portugal.
- James, C. (2015a). Theorem prover Meth8 applies four valued Boolean logic for modal interpretation. First World Conference: Analogy. Beneméita Universidad Autónoma de Puebla, Mexico, November 4-6, 2015, Handbook, ISBN 978-83-65273-01-1, 50-51.
- James, C. (2017). Meth8 on Karl Popper Ex(Gx). Second World Congress on Religion and Logic. University of Warsaw.
- Łukasiewicz, J. (1920). On Three-valued Logic, in L. Borkowski (ed.), Amsterdam, North-Holland, 1970, pp. 87-88.
- Łukasiewicz, J. (1953). A system of Modal Logic. The Journal of Computing Systems, 1, 111-149.
- Łukasiewicz, J. (1954). On a controversial problem of Aristotle's modal syllogistic. Dominican Studies. 7, 114-128.
- Łukasiewicz, J. (1957). Aristotle's Syllogistic Logic (Second Edition). Clarendon Press, Chapter VII.

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
1	ABC	Conjecture	1	
2	Shevenyonov's proof	Conjecture	6	
3	Abductive reasoning	System	1	
4	Identity of $(-1 \leq C \leq 1) = (C \leq 1)$ counter example	Definition	4	2
5	Induction, abduction, deduction: Peirce	Inference	2	1
6	Abduction, induction, confirming deduction	Inference	2	1
7	Abelian groups, absoluteness, \aleph_1 -freeness	Conjecture	5	
8	Abortion	Conjecture	2	1
9	Abstract theory of segments using Prolog	Proofs	15	3
10	Ackermann's approach to quantifier reduction	System	20	2
11	Ackermann's function, recursion, provers AFL, Isab./HOL	Experiment	7	
12	Action logic, undecidability	Definition	2	
13	Adaptive algorithm for molecular simulation	Conjecture	5	
14	Additivity of measure implies additivity of category	Theorem	6	
15	Adequacy, sufficiency, formalization in predicat logic	Conjectures	14	
16	Adjunction rules (shunting) on Kripke monoids	Conjectures	13	
17	Affinoids, stably uniform as sheafy	Conjecture	9	
18	AGM / Levi and Harper bridging principles	Postulates	7	3
19	Remainder sets, paraconsistent revisions	Operators	5	
20	Agnostic hypothesis testing	Hexagon	9	2
21	Subset of atheism from no-belief	Conjecture	4	2
22	AI: divide the dollar competition	Experiment	1	
23	Reduction for scalable deep learning	Algorithm	3	
24	Alcoholics Anonymous (AA) BB: We agnostics, p 53	Conjecture	5	
25	Absolute purity, honesty, unselfishness, love (4)	Theory	1	1
26	Aphorism acceptance inverse expectation	Proportion	1	
27	Aphorism acceptance as answer	Conjecture	2	2
28	Contradictory sayings	Paradoxes	4	
29	Hydraulic Step 2	Conjecture	1	
30	Mappings of 12 traditions	Conjectures	17	2
31	Prayer for God's will, Frank McKiven	Conjecture	4	
32	Spiritual axiom	Axiom	2	
33	Three legacies	Theorems		4
34	Way to keep sobriety as giving away	Conjecture	1	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
35	Alexandroff correspondence	Conditional	3	
36	Algebraic subgroups for fundamental sets	Conjecture	3	
37	Algebras of partial functions via axiom $a-(b-a)=a$	Conjectures	4	
38	Alternating Turing machines (ATMs)	Problem	3	
39	Alternative set theory (AST): axioms, definitions	Theory	12	
40	Real numbers, functions: natural numbers	Theorem	3	
41	Alvarex-Picallo / Lemsay cartesian difference categories	Conjectures	3	
42	Analogy as inference	Rule	3	
43	Analysis as both correct and informative	Paradox	5	
44	Analytic principles of choice and dependent choice	Axioms	3	
45	Analytic theology as declarative and deductive logic	Conjectures	8	
46	Analytic theology, scientific basis as GATRG	Definition	4	
47	Anderson anti-paradox, COB	Theorems	9	2
48	Anderson division by zero as nullity	Theorem	3	
49	Anselm's Proslogion	Conjectures	15	1
50	Answer set programming	Conjectures	18	
51	Approximations of theories	System	1	
52	Armstrong's ontological argument	Conjecture	6	1
53	Arithmetical hierarchy in Heyting intuitionistic logic	Theorems	140	
54	Arrow's impossibility	Theorem	7	
55	Aseity, Descartes, contra-adornment	Theorem	4	
56	Athanasian creed (Holy Trinity)	Credo	1	2
57	Atonement	Theorem		3
58	Automatic verification of $\forall\exists$ -hyper properties, RHLE	System	3	
59	Automorphisms	Group	10	
60	Awareness logic, relativized Boolean algebra	System	14	
61	Axiology of God	Claims	8	1
62	Axiom pinpointing	Method	3	
63	Axiomatizing category theory in free logic	Axioms	5	5
64	Fuzzy logic with graded modalities	Conjecture	1	
65	Axioms, modal, non-bivalent, street provers	Axioms	18	3
66	Banach order space, generating positive cone	Definition	2	1
67	Banach-Tarski, shorter resuscitation attempt	Paradox	2	
68	Crucial claim in Step 3 of proof, shortest	Paradox	1	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
69	Bar recursion	Mapping	2	
70	Barcan	Formula	37	32
71	Barwise compactness	Theorem	2	
72	Basic Logic (bL)	System	6	1
73	Bayes rule	Rule	11	11
74	Bayes rule, odds form, shortest refutation	Rule	4	
75	Bayesian entailment	Hypothesis	4	
76	Bayesian network for only conditional probabilities	Definition	9	
77	BCI- / BCK-algebra	System	5	3
78	Beal conjecture	Equation	5	2
79	Bell / CHSH / Spekken toy model	Inequalities	7	
80	A shorter refutation	Theorem	2	
81	A simpler refutation	Theorem	2	
82	Bell's inequality by axiom of empty set	Theorem	2	
83	Bogus Bellian logic (BBL)	Theorem	5	
84	Coercive proof	Theorem	2	
85	Coin toss proof	Conjectures	2	
86	Original inequality with assumption	Conjecture	4	
87	Original inequality with assumptions	Conjectures	5	
88	Original inequality and CHSH	Conjectures	6	
89	Positive reasons proof	Theorem	6	3
90	Temporal logic	Theorem	1	
91	Tropical sum	Method	1	
92	Bellman's Lost in the forest problem, solution	Theorem		4
93	Berkeley	Paradox	1	
94	Bernstein-Vazirani	Algorithm	4	1
95	No-cloning theorem	Theorem	2	
96	Bertrand-Chebyshev theorem / postulate	Theorem	2	
97	Betweenness theory	Axioms	9	7
98	Order-theoretic trees	Axioms	11	
99	Partial orders	Axioms	11	
100	BF calculus, Spencer-Brown Primitive arithmetic	System	8	
101	Bi-abductive inference in separation logic	System	11	2
102	Bianchi identity refutes decomposition of curvatures	Axiom	2	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
103	Biscuit conditionals	System	13	
104	Bisimulation as logical relation via separation axiom	Theory	7	
105	Bisimulation, coinduction, Howes' congruence	Proof method	5	
106	Bisimulation semantics, process algebra	Conjecture	3	
107	Bitstring and question-answer	Semantics	18	
108	Black box tests	Theory	5	
109	Blameworthiness degrees	Coalition	3	5
110	Block argumentation	Method	15	
111	Blok-Esakia	Theorems	5	
112	Bogdanov map, 2D conjugate of Hénon map	Formula	1	
113	Boolean connectives, 2D isotopes	Conjectures	6	1
114	Boolean polynomials	Conjecture	3	
115	Boole's development thm./ universe class/ eigenlogic	Theorems	23	
116	Boone-Rogers, uniform word problem	Theorem	2	1
117	Borel base and hull	Conjectures	2	
118	Born rule	Theorem	6	
119	Exclusivity rule as basis	Theorem	5	
120	Borsuk-Ulam theorem (BUT)	Conjecture	1	
121	Bounded and Σ_1 formulas in PA	Conjecture	1	
122	Homomorphism / fiber products of lattices	Conjectures	3	
123	Lattice-ordered groupoids, residuated	Theory	5	
124	Modal logics on transitive frames	Conjecture	6	
125	Bourbaki-Moroianu-Tarski fixed point theorem	Theorems	10	
126	Boyer's question	Paradox	3	
127	Branching quantifier (Hintikka)	System	3	
128	Brouwer fixed point theorem (BFPT)	Conjecture	3	2
129	Dense linear orderings (DLO)	Axiom	4	
130	Browder's theorem	Conjecture	1	
131	Buddhist logic	Tetralemma	12	
132	Bunch theory with derivations	Theory	14	
133	Buridan's Ass	Paradox	11	
134	Schemata and Barcan formula	Conjecture	8	8
135	Business processes	Framework	7	
136	Buss's bounded arithmetics	Hierarchy	6	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
137	Cabannas objectivity	Theory	1	1
138	Hypothesis recast in equational arithmetic	Conjecture	13	
139	Calvin's lesser magistrate, private citizen arguments	Doctrine	6	
140	Cancellation law, basic arithmetic (BA), MRDP thm	Conjecture	9	
141	Cantor's continuum conjecture, binary injection	Hypothesis	2	
142	Axiom of infinity, invalidating aleph-zero (\aleph_0)	Hypothesis	35	
143	Continuum conjecture, interpreted	Hypothesis	3	
144	Diagonal argument	Proof	3	
145	Disproof of one of Cantor's cardinals	Confirmation	2	
146	Pairing	Functor	1	1
147	Set definition	Theory	13	
148	Cardinals, large: choiceless, extended	Definition	4	
149	Independence via interpretability hierarchy	Conjectures	19	
150	Sets, duality and preservation theorems	Theory	3	
151	Carroll's tortoise and Achilles	Paradox	3	2
152	Caswell's significant curriculum issues (1952)	Theorem	5	1
153	Categoricity, set-theoretic reflection, extensionality	Definition	4	
154	Causality	Axiom	3	2
155	Causal criterion of event identity	Definition	2	
156	Category algebra and theory	System	21	
157	Category composition of morphisms	Definition	1	
158	Tannakian via Iwasawa embedding	Axioms	1	
159	Category semantics, implication connectives	Conjecture	3	
160	Category theory by lattice identity / partitions	Conjectures	5	1
161	Non-extensional, partial ops/classifs, foundation	Theory	10	
162	Unrestricted by Feferman's partial app/classif	Theory	3	
163	CC conjecture of Lin Fan Mao	Conjecture	2	
164	Ceers: computably enumerable equivalence relations	Theorem	4	
165	To solve word problems	Definition	3	
166	Ceteris paribus semantics for deontic logic	Conjecture	5	
167	Chaitin incompleteness and L constant	Theorem	3	1
168	Chinese room argument: Brain Simulator Reply (BSR)	Conjecture		3
169	Chisholm paradox	Paradox	2	
170	CHSH inequality	Conjecture	1	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
171	Dual reality	Conjecture	5	
172	Christianity, Judaism, Mohammadanism	Theologies	3	3
173	Christology, fundamental, mutability	Problem	5	2
174	Religions with no answer to fundamental problem	Problem	10	
175	Chromatic number of product of graphs as countable	Conjecture	2	
176	Church	Thesis	2	
177	Church's thesis	Theorem	4	
178	Arithmetical form	Thesis	2	
179	Consistency with Martin-Löf type theory	Theorem	3	
180	Church-Rosser	Theorem	2	
181	Cila, da Costa's C_1 , paraconsistent set theory	Logic	3	
182	Class of all sets; size limit; ax-groth; grothpw; Tarski	Axioms	6	
183	Class of models to represent fundamental physics	Conjectures	86	
184	Classical linear (CL-) algebra, residuation property	Conjecture	3	
185	Clausal language	System	5	
186	Clausius-Clapeyron on spacial dimension	Equation	1	
187	Clifford tori 2D / Kanban cell neuron	Definition	2	3
188	Cloward-Piven strategy of social chaos	Conjecture	2	
189	Coalgebraic cover modality, completeness, many valued	System	50	
190	Coherence in modal logic	Refutation	1	
191	Objection, and solution	Objection	18	2
192	Co-inductive computing with continuous objects	Rule	4	
193	Coinduction, regular	System	3	
194	Coinductively infinite streams of specified codata	Technique	5	
195	Collatz (briefest known confirmation)	Conjecture	4	1
196	Collection theory as set of all closure sentences	Schema	1	
197	Communications-based train control (CBTC)	Algorithm	13	
198	Commutative short circuit on propositional logic	System	1	
199	Comonad, pebbling in finite model theory	Conjectures	12	
200	Comonadic semantics, guarded fragments	Conjecture	7	
201	Comonadic semantics, relating structure and power	Conjectures	9	
202	Comorphism of sites for Grothendieck toposes	Theory	1	
203	Complementarity inequality	Refutation	2	1
204	Completeness: inclusion/equivalence of universality	Conjecture	1	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
205	Complex (C), imaginary number rendering	Method	1	1
206	Compliance checking based on semantic rules	Method	2	
207	Compositional truth	Model	3	
208	Computer simulation model theory (CSMT)	Method	2	
209	Conceivable statement of Perez confirmed	Definition	18	1
210	Conceptivistic / containment logic: proscription	Systems	3	
211	Concolic testing for logic programs in SMT	Method	8	
212	Conditional logic: improved Adams	Hypothesis	7	
213	Events in QL	Conjectures	8	1
214	Necessitarianism	Conjectures	6	
215	Confluence in rewrite systems	Property	3	
216	Connexive logic: Wansing's nightmare	System	2	
217	Aristotle, Boethius justifying connexive	Theses	4	
218	Aristotle, Boethius, Abelhard, Wansang	Conjectures	22	
219	De Finettian logic conditionals	Indicatives	10	
220	Conscience	Theorem	1	1
221	Consequence operators, general logic, ultralogics	Axioms	17	
222	Nonstandard ultra-logic-systems, GGU-model	System	16	
223	Ultralogic based on consequence operator	System	44	
224	Conservatism (phenomenal) = exclusivism (seemings)	Principles	8	
225	Constraint satisfaction problems (CSPs), temporal combo	System	5	
226	Constructive analysis with witnesses in Minlog	Assistant		3
227	Constructive math: Ishihara tricks on LPO/WLPO	Principles	3	
228	Logic	System	14	2
229	Contingent, necessitarian, and internal, external	Conjectures	5	
230	Continuum hypothesis (CH)	Conjecture	2	1
231	Independence of CH and claimed formal proof	Proof	56	0
232	CH: forcing; refugarity=choice; epsilon-set-induction	Conjecture	14	
233	Cook's PV logic redefined by refuted Dowd equations	Theory	14	
234	Cook-Reckhow	Definition	6	
235	Coq proof assistant	Prover	1	
236	Type theory	Axioms	4	
237	Correspondence of van Benthem	Theory	66	1
238	Correspondence theory of truth	Theorems	22	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
239	Corsi logic in one variable	System	6	
240	Countable groups, hyperfinite measuring actions	Model	6	
241	Counterfactual analysis of causation	Reversal	1	
242	Counterfactual conditional as modality of irreality	Definition	4	
243	Counterfactuals with vector logic	Proof	14	
244	Counterpart theory on intensionality logic	Theory	7	3
245	Craig's interpolation, shorter and derived conjectures	Theorem	10	
246	Constructive by Fefferman	Theorem	4	2
247	Constructive using Maehara's technique	Theorem	7	
248	Creative theories in degrees of unsolvability	Theorem	1	
249	Curry-Howard correspondence	Conjecture	4	
250	Curry-Howard correspondence, shortest	Conjecture	2	1
251	Curry's paradox	Paradox	2	
252	Cut elimination/normalization for generalized calculi	Conjecture	2	
253	D Ultrafilter contra continuum problem	Equation	1	
254	De Morgan algebras, existentially closed	System	2	
255	Decoherence (pre-measurement) quantum mechanics	Formula	1	
256	Dedekind lattice identity	Axiom		1
257	Deduction-detachment, universal deduction	Theorem	3	
258	Deduction, natural with new connective	Axioms	4	
259	Deduction, non-compact, for GL via Löb formula	System	3	
260	Deductive reasoning, noisy (NDR)	Conjectures	10	2
261	Defeasible reasoning, parallel stratified, Tweety case	Rules	8	
262	Deligne completeness link positive / coherence logics	Theory	8	
263	Dempster-Shafer belief and plausibility	Theory	3	
264	Density of all Turing and truth table degrees	Formula	2	
265	Deontic logic, alleged intuitive problems	Logic	5	
266	Dependent choices (DC) on supercompactness	Axiom	2	
267	DC with axiom of determinacy (AC) on mice	Axioms	2	
268	Description logic	System	2	
269	Cardinality constraint, logic ALCSC	System	7	
270	Power set POW on of any Ω -model	Operator	4	
271	Unions in descriptively near sets	Operator	6	2
272	Deutsch constructor theory	Conjectures	4	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
273	Dialetheism	System	4	
274	Dialetheism: inconsistent	System	2	
275	Paradox of dialetheia	Paradox	7	1
276	Dichotomy of selection	System	1	
277	Differential equations, singularities via logic	Approach	12	
278	Differential Hoare logics with Isabelle/HOL	Logic	6	
279	Reasoning	Logic	1	
280	Diproche system for mistake diagnosis	Prover	9	
281	Dimension order property (DOP), Borel reduts	Theory	6	
282	Disjunction in MMT format to access HOL content	Libraries	3	
283	Distributive bilattices	Variety	1	
284	Disturbance	Feature	4	
285	Diverse double-compiling	Schema	1	
286	Diversity, dependence, and independence	Axioms	4	
287	Divine authority	Theses	8	
288	Divine command (DCT), trilemma	Theory	17	1
289	Divine consistency of mathematics	Conjecture	10	
290	Divine foreknowledge, contra human freedom: Noperator	System	10	
291	Divine priority (DDP), pantheism = complex theism	Doctrine	12	
292	Divine universal causation (DUC): Grant's dual source	Conjecture	4	
293	DUC, deterrnism, metaphysical contradiction	Conjecture	9	
294	Domain theory of Dana Scott	System	6	
295	Poset: reflexive, antisymmetric, transitive	Definitions	2	1
296	Doxastic logic	System	8	13
297	Drinker's paradox	Paradox	1	
298	Dual world interactions as theory of everything (ToE)	Conjecture	3	
299	Duality corrected for weak by refuting strong	Theorem	7	2
300	Dyatic semantics on paraconsistent logic C_I	Approach	4	
301	Dynamic logic, multi-valued concurrent	Conjecture	4	
302	Propositional dynamic logic (PDL), finite-value	System	7	
303	$E=mc^2$	Theorem	3	1
304	EF-axiom: topology and near sets	Axiom	1	
305	Ehrenfeucht-Mostowski indiscernables	Theorem	1	
306	Einstein–Podolsky–Rosen (EPR)	Paradox	1	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
307	Elementary constructive set theory (ECST)/CZF	Definitions	6	
308	Elgot uniform iteration in foundations	Definition	4	
309	End of time, Kripke choice of sequence in IC	Axiom	19	
310	End without end	Paradox	4	
311	Entanglement vs untanglement: no-no go-go	Conjecture	28	
312	Enumeration reducibility, degrees, topology	Method	1	
313	Epicurus invoked by Epictetus	Paradox	1	
314	Epimenides the Cretan	Paradox	1	
315	Epistemic logic: coalition	Perfect recall	4	3
316	Duty to warn	Conjecture	4	
317	Dynamic public announcement logic (PAL)	System	4	
318	Dynamic reasoning	System	2	
319	Dynamic via axiomatic theory of $K\Box$	Axiom	4	
320	Hilbert substructure	System	5	
321	Knowledge and probability	System	2	
322	Navigation	System	8	
323	Quantifiers over agents	Conjecture	8	12
324	Equisatisfiability and method of forgetting	Theory	5	
325	Erdős-Strauss	Conjecture	1	
326	For $n \geq 2$ and $n \geq 3$	Conjecture	3	
327	Escapism from hell, Mormon afterlife	Conjecture	6	
328	Eternity of Hasker, Plantinga, eternal-temporal (ET)	Doctrine	8	1
329	Ethical reasoning and HOL proof assistant	System	1	
330	Euathlus paradox	Paradox	9	
331	Euclidean geometry embedded in non Euclidean	Conjecture	3	
332	'everything' means everything	Conjecture	3	
333	Excluded middle as a no-go theorem in reverse math	Conjecture	4	
334	Existential rules languages / model-theoretic forms	Conjectures	4	
335	Extrema order filter in finite-value Łukasiewicz logic	Theory	19	2
336	"Ex nihilo": some thing from nothing	Conjecture	4	4
337	Faith and works solution, denial of supererogation	Theorem	8	1
338	Family unit theorem contra refuting uni-gender union	Conjecture	3	1
339	Fan theorem, Brouwer's assumption, lawless seq. axiom	Conjectures	6	
340	Decidable	Conjecture	8	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
341	Detached subset DEFU, cont. function DECO	Definitions	3	
342	Fatalism, theological	Argument	13	
343	Beyond fatalism	Dilemma	5	
344	Feferman-Vaught via Morley homogeneous systems	Theorem	5	
345	Fermat sum of squares, Zagier one-sentence Coq proof	Theorem	7	
346	Fictional logic based on Levi-identity / AGM	System	5	4
347	Filioque as mis-attributed invoking Macedonianism	Conjectures	6	
348	Finitary, algebraizable logic undecidable in Hilbert	Conjectures	6	
349	Finite direct powers of ω for modal model	System	2	
350	Finite model theory via bisimulation of 3-colorability	Conjecture	3	
351	Finite model theory via Hamiltonicity	Conjecture	5	
352	Finite models in multisorted FOL / clause splitting	System	1	
353	First-order proofs without syntax	Conjecture	5	
354	First order (FO) checking of geometric graphs	Method	6	
355	First-order reasoning by manipulating term algebras	Method	7	
356	First- and second-order logic, shortest refutation	Theory	5	
357	Fitch's knowability	Theorem	2	
358	Fitting's operator in semantics for stream reasoning	Operator	7	
359	Fixed point operator mapping mu-calculus	Paradox	4	
360	Fixed point theorem (as Gödel second incompleteness)	Theorem	7	
361	Fixpoint by relational forward deductive/predictive ppp	Theory	10	
362	Fixpoint theory, least/greatest	Theory	15	
363	Flow: ZFU axioms independent of partition principle	Conjecture	15	1
364	Flow sets: choice axiom independ. of partition principle	Conjecture	23	
365	Flow theory	Conjecture	2	
366	FOL disjunctive normal forms (DNF): minimize	Conjecture	14	
367	Continuous induction on real closed fields	FOL Optimizer	2	1
368	FOT first order team logic	System	11	1
369	Fodor weaker/stronger, class	System	1	
370	Force speed greater than light speed	Principle	5	1
371	Forcing method	Conjecture		3
372	Forcing method via Cohen's model and derivations	Paradoxes	2	
373	Method to change large cardinal strength	Definition	3	
374	Shelah's fundamental proper forcing	Theorem	4	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
375	Forgetting theory, propositional	Theory	9	
376	Formal inconsistency enriched with replacement	Conjecture	7	
377	Formalization of AC as equivalents using Coq	Theorems	3	
378	Four color theorem via newly disclosed proposition	Claims	6	
379	Frauchiger-Renner conjunctives	Theorem	3	
380	Frauchiger-Renner thought experiment	Paradox	6	
381	Thought quantum model	Paradox	5	
382	Fredkin	Paradox	14	2
383	Free choice permission (FCP) in deontic logic	Paradox	1	
384	Free logic (presupposition) for FOP (implication)	Paradox	1	
385	Free will argument of Maimonides	Conjecture	12	
386	Non-existence	Paradox	1	
387	Free will theorem: Clifton-Kochen-Specker	Refutation	8	2
388	FIN axiom	Theorem	1	
389	MIN axiom	Hypothesis	2	2
390	Frege's inference rule of generalization	Hypothesis	1	
391	Frege's "not evident to me" God conjecture to Hilbert	Conjecture	2	
392	Frege quantified propositional proofs, bounded depth	Theorem	3	
393	Frege real numbers (Boccuni/Panza consistent rendering)	Theories	19	
394	Frempong conjecture	Rule	2	
395	Frequency dependence of mass	Conjecture	2	
396	Functional dependencies, incomplete data	Theorem	3	1
397	Functions of injection, surjection, bijection	Conjectures	3	3
398	Fusible numbers and Peano arithmetic	Conjecture	16	
399	Fuzzy logic	Systems	25	
400	Fuzzy sets of triangular bases in infinite-valued logic	Theorems	2	
401	Gentzen proof of sequent System G-M	Logic	7	2
402	Gettier (justified belief)	System	6	2
403	GHZ (Greenberger-Horne-Zeilinger)	Problem	6	
404	Gleason	Experiments	1	
405	Gobbay's separation	Theorem	1	
406	Gödel algebra: BL-, ML-, MG-	System	8	
407	Gödel class with identity un-solvable	Theorem	17	
408	Gödel compactness	Conjecture	10	1

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
409	Gödel completeness, short	Theorem	6	2
410	Shorter	Theorem	2	
411	Theorem, for unrestricted first-order logic	Theorem	2	
412	Gödel first incompleteness	Theorem	4	
413	Gödel GL, GLS logics; first, second incompleteness	Theorems	5	
414	Gödel incompleteness	Theorem	4	
415	Briefest refutation of first and second theorems	Theorems	3	
416	FOL	Equations	14	1
417	I on logics of Q , Q^+ and PA^- , $L(PA^-)$	Limits	7	
418	Kripke frames on direct self-reference	Conjectures	4	
419	MATR machine-discovered proofs of I and II	Automation	5	
420	Theorem, computer assisted proofs	Contradictions	14	1
421	Shortest	Assistant tools	2	2
422	Via Löb counter-examples	Refutation	7	
423	Well-founded jump hierarchies	Refutation	9	2
424	With hidden answers	Refutation	4	
425	Gödel-justification logic	Refutation	7	
426	Subsets	Refutation	7	2
427	Gödel-Löb	Models	2	
428	Gödel-McKinsey-Tarski translation of IPC	Axiom	1	
429	Gödel modal theory with truth constants	System	7	
430	Gödel pairing function	Theorem	1	
431	Gödel recursion	Axiom	3	1
432	Gödel-Scott on God	Theorem		1
433	Godlike computer: Benzmüller's nightmare	Theorem schema	5	2
434	Gödel logic T, circular version CT	System	5	
435	God's ethics as norms of divine agency	Conjectures	10	2
436	Goldbach's conjectures	Proof	2	
437	Chinese remainder theorem	Conjectures	8	2
438	Inconsistency of arithmetic	Conjecture	2	
439	Strong conjecture	Conjecture	6	
440	Succession gaps (GSG) on twin primes	Conjecture	5	1
441	Goldblatt-Thomason with back/forth duality	Conjecture	6	
442	Goodstein (with Ackermannian)	Theorem	3	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
443	Goodstein	Theorem	8	
444	Graded modal logic	Theorem	3	
445	Graph neural reasoning	Frame classes	4	2
446	Graph programs in GP2 with Hoare first-order logic	Conjectures	71	
447	Grassmannian discovery	Conjecture	4	
448	Greach-Kaplan sentence for de rebus belief	Puzzle	2	
449	Grids, rectangular without extra non-unitary relations	Paradox	4	
450	Grills in topology	Axioms	3	
451	Grzegorzczuk's 1967 axiom	Axiom	1	1
452	Group theory, McCune single axiom: ZX-calculus	Theory	5	
453	Guarded negation fragment (GNFO) universal logic	Theory	13	
454	Guided neural synthesis, example / counterexample	Theory	4	
455	Gurevich's nightmare: inductive inference	Legend	7	
456	Hadamard gate	Algorithms	4	
457	Hahn-Banach	Theory	3	1
458	Hall	Theorem	5	
459	Hamiltonian quaternion	Effect	1	
460	Hamilton quaternion via Gauss, Rodrigues	Definition	3	
461	Hamilton's quaternion bivalent multiplication	Operation	2	
462	Hamilton's quaternion / triplet multiplication	Definition	1	
463	Hamkins' embeddings in sets	Conjecture	2	
464	Hamming distance encoding, binarized neural net (BNN)	Framework	9	
465	Hardy's generalized paradox	Theorem	1	
466	Healthcare, reforming America's by choice/competition	Conjectures	4	1
467	Hegel's dialectic	Conjecture	6	
468	Heider inspired international relations theory	Method	6	3
469	Heisenberg uncertainty principle	Theory	5	1
470	Conjecture	Axiom	2	
471	Replacement theorem	Principle	1	
472	Take a picture of an electron	Axiom	2	3
473	Hempel's raven	Principle	6	2
474	Henkin cyclic logic (HCL), axiom if $\vdash \phi$ then $\vdash \Box \phi$	Logic	15	
475	Henkin cylindric algebra and FOL applications	Paradox	6	
476	Permutation model nonrepresentable	Axioms	8	6

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
477	Herbrand functional interpretation, other disjunction	Assertion	1	
478	Semantics	Formulation	2	
479	Hereditarily irresolvable space by McKinsey's axiom	Conjecture	5	1
480	Heyting algebra	System	6	
481	Heyting-Brouwer varieties, Kuznetsov's problem	Conjecture	10	
482	Heyting-Brouwer intuitionistic logic	Algebra	21	
483	Heyting distributive lattices / binary operator	Systems	9	1
484	Heyting logic	Conjecture	1	
485	Hoop and pocrim with Prover9/Mace8	Idempotency	2	1
486	Hexagons of opposition for statistical modalities	Theorems	14	
487	Higher-order mathematical induction	Conjectures	9	1
488	Hilbert H10 undecidable: extended to Q in R	Principle	2	1
489	Generalization	Problem	6	4
490	Grand hotel	System	1	
491	Kolmogorov intuitionistic logic	Paradox	1	
492	Logic system HG	Systems	9	
493	Program collapse as variation on Gödelian theme	Conjecture	7	
494	Theorem, first epsilon, quantifier shift	System	7	
495	Hoare logic, rational (RHL), alignment, rule CONSEQ	System	7	
496	HOL rejection of Lowe's modal ontology	Logics	7	
497	HOL superposition on lambda-free logics	Logics	6	
498	Homomorphisms reduced from injective homomorphisms	Graphs	5	
499	Horty's puzzles in stit logic	Argument	16	4
500	How computers must think	Requirements	1	1
501	Hrushovski (<i>now</i> confirms Lachlan and Zil'ber)	Corollaries	3	3
502	Huemer's confirmation theory for induction	Construction	2	
503	Huge natural deduction proofs redundant in M_{\supset}	Conjecture	3	
504	Huhn 2-distributive lattice identity	Proposal	3	2
505	Hutzelmeyer-Kleene logics	System	13	
506	Hybrid systems via predicate transform semantics	Formula	1	
507	Hydraulic forgiveness (confirmed)	Assistant	5	
508	Hydraulic corollary of peace	Theorem	6	2
509	Hypercomplex number systems, anticommutative	Corollary		1
510	Hyperliveness verification	Conjecture	3	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
511	Hypersequent calculus for modal logic S5	System	2	
512	Ideals	System	2	
513	Identical events	Paradox	3	1
514	Ignorance of first choice	Definition	4	
515	Imaginary numbers	System	3	
516	Imperative logic	Definition	2	
517	Implication combination forms from $(p \rightarrow r) \rightarrow r$	System	3	4
518	Implicit logic (IL) to explicit logic (EL)	Theorems	3	16
519	Impossible worlds: none necessary; all possible	Translation	7	
520	Inclusion logic, dependence logic, independence logic	Definitions	4	4
521	Probabilistic with extensions on inclusion logic	System	4	
522	Incompletely predictable problems: zeta and seive	Theorem	1	
523	Incompleteness on decidable logics Q,PA,G,H, AS	Limit	11	
524	Inconsistency lemmas, algebraic logic	Conjectures	3	
525	Inconsistent theory	Formulas	3	
526	Contradiction implies not, classical fuzzy paradox	Conjecture	7	
527	Extending the monad to a triad	Theorem	6	2
528	Kunen inconsistency	Formulas	10	2
529	Independence-friendly logic (Kreiselization)	Theorem	1	1
530	In-determinism, religious, neutrality of God	Conjecture	4	
531	Indicative conditionals	System	2	
532	Indiscernibles in saturated free algebras	Encyclopedia	5	1
533	Individual-decision making conflict score on refugees	Theory	2	
534	Induction: Black raven (swan); Kripkenstein	Equation	2	
535	Intuitionistic logic Martin-Löf type theory	System	3	
536	New riddle	Axiom	4	
537	Induction, coinduction: standard and mutual	Paradox	2	
538	Transfinite	System	30	2
539	Induction in Elem. Arith. for reduction property	System	4	
540	Induction models, reduced/equivalent proof conversions	System	3	
541	Induction, pessimistic meta	Conjeture	2	
542	Induction on complexity of formula and Vietoris functor	System	3	
543	Inequality: “arbitrarily” vs “sufficiently” large	Formulas	2	
544	Inequalities, strict with and without probability	Conjecture	2	1

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
545	Infinite set theory	Definitions	3	1
546	Infinite-state system: directly reached; over-approximates	System	4	
547	Infinity, broad, generative principles, nat-inductive axiom	System	19	
548	Information theory: mutual information	Theorem	2	
549	Innovation contest in two sequential stages	Definition	4	
550	Inquisitive modal logic via flatness grade	Definition	2	
551	Insanity repeating mistake expecting different results	Conjecture	2	
552	Intensional logic, Bealer's substitutivity, axiom S5'	Theory	13	1
553	Intensional \downarrow -operator/ultra filters in Isabelle/IHOML	System	2	
554	Interaction combinators	Theory	6	
555	Internal logic of extensive restriction categories	Theorems	7	
556	Interpersonal interactions	Duality	3	
557	Interpolation, FO, from propositional by residuation	Extension	6	7
558	Interpretability logic	Method	7	
559	Logics (1 of 5)	Definitions	3	
560	Logics (2 of 5) modal IL	Definitions	5	
561	Logics (3 of 5) modal IL	Axioms	6	
562	Logics (4 of 5) modal IL equivalents	Lemma	4	1
563	Logics (5 of 5) conditions R, R*	Principles	7	
564	Logics ILM, TOL, Vaught and adjunctive set	System	3	
565	Modal completeness with persistence in ILP	Principle	5	
566	Modal for reasonable arithmetical theories	Relation	3	
567	Veltman semantics from ILM	System	17	
568	Weak systems of arithmetic	Principles	2	
569	Interval for model checking	Systems	10	
570	Intuitionism, continuity axiom, no excluded middle	Refutation	12	
571	Intuitionistic belief logic IEL ⁻ co-reflection, necessitation	System	4	
572	Extensional realizability	Theory***	27	
573	Temporal logics in topological dynamics	Theory***	2	
574	Intuitionistic fuzzy decisions in Dempster-Shafer	System	3	
575	Logic, cut via nested sequents (IF)	Comparison	2	
576	Intuitionistic logic from HYPE, KF, and PKF	Theory	5	
577	Modal as extended WZ logic	System	11	
578	Intuitionistic mathematics and logic (FIM)	System	15	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
579	Intuitionistic, modal monadic by linear logic: Casari	System	22	
580	Intuitionistic set theory, premise rule	System	9	
581	Zermelo-Fraenkel set theory (IZF), (CZF)	System	3	
582	Intuitionistic type theory division theorem	Theory	4	
583	Invertibility, inductive sequent sys, L-Framework, Maude	Approach	8	1
584	Irrelevant propositions, Burley's paradox	Rule	6	
585	Isabelle/HOL interactive tools	Axioms	10	
586	Metalogic, transivity, equivalence, lambda cal.	Prover	8	
587	Prover assistant	Prover	14	3
588	verifier SeCaV	Verifier	6	
589	Jaccard index	System	1	
590	Jensen polynomial partition roots for Riemann	Statistic	3	
591	Join-prime in lattice theory	Hypothesis	1	
592	Join-semilattices, quantifier-free logic	Conjectures	10	
593	Jonsson positive logic: retromorphism	Definition		1
594	Jordon curve	System	3	
595	Judaic argumenation theory, propositional axioms	Theory	32	11
596	Justification based reasoning for conflict resolution	Theorem	2	
597	K-categories, simple valuations	Conjecture	2	
598	k -triangular set function logic	Definition	3	
599	Kan fibrations, effective in simplicial sets	Conjectures	7	1
600	Kanban cell logic (KcL)	Logics	4	4
601	Kanban cell neuron maps whole brain	Definition		1
602	Kanban cell neuron model	Definition		1
603	Kant: falsity of syllogistic figures	Model	242	14
604	Karpenko, S.A.	Theorems	8	2
605	Keisler measure in NIP theory	System K-Ł4	6	8
606	Ultraproduct	Formula	1	
607	Kent algebras on rough set concept analysis	Construction	7	1
608	Kleene algebra, free with domain (binary relations)	Algebra	5	
609	Lattices, reversible	Conjecture	2	
610	Knowability logics and principle	Principle	15	
611	Paradox and anti-realism	Paradox	18	1
612	KPT interpolation via limitation	Form	3	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
613	Kramers-Kronig	Refutations	15	
614	Kripke frame definability in predicate modal logic	Relation	1	
615	homomorphism function as p-morphism of UVO	Definition	7	
616	Via BAOs with $\diamond\perp=\perp$	Definitions	10	
617	Kripke-Feferman (KF), partial (PKF), Reinhardt, Tait	Theory	8	
618	Kripke-Platek and CZF	Theory	10	
619	Kripke-Platek set theory on intuitionistic logic (IL)	System	18	
620	Kuratowski–Zorn lemma (Zorn's lemma), sets	Theory	1	
621	Kuznetsov, A.V., modal systems, structures	Theory	13	
622	Labelled calculi for QMLs with definite description	Lemma	2	
623	Lachlan problem solution	System	8	
624	Lagrange theorem, Hilbert 10th problem, prover Coq	Problem	12	
625	Lambda λ -calculus and LISP	Theorem	12	
626	Lambek calculus division	System	7	1
627	Lara: unified language for linear / relational algebra	Operations	9	
628	Lattice, directed quadrilateral by edges and vertices alone	Conjectures	1	1
629	Lattice effect algebra	Language	3	
630	Lattice recognizability with congruence preservation	Conjecture	5	
631	Lean theorem prover from Microsoft	Conjecture	1	
632	Learning, deep reinforcement in HOL4/Robinson	System	3	
633	Lebesgue spaces	Axioms	3	
634	Leibniz' indisceribility of identicals as equivalent	Conjecture	1	
635	Identity of indiscernibles	Laws	2	
636	Leibniz' ontological proof of God	Theorem	1	
637	Briefest known	Proof	1	1
638	Lemma flow diagram	Proof		2
639	Lemmon D	Proof	5	
640	Length contraction and theory of relativity	Axiom	1	
641	Leopardi's endless edge	Experiment	3	
642	Lésniewski's epsilon in modal logic KTB	Axioms	4	
643	van Leunen deformation field	Conjecture	4	
644	Lattice logic, weak modular	Conjecture	4	
645	Lexicographic logic for preference representation	System	7	1
646	Liar	Theorem	2	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
647	Liar paradox as the fault of classical logical	Conjectures	5	
648	Liar's antimony	Paradox	5	
649	New modal rendition	Paradox	13	
650	Prior rendition	Paradox	7	
651	Saul Kripke rendition	Paradox	4	
652	Lifting countable to uncountable arithmetic in RM	Paradox	1	
653	Lifting QBF resolution calculi to DQBF	Axiom	3	
654	Line through a circle	Conjectures	5	
655	Linear algebra	Conjecture		1
656	Programming: Kharun-Kush-Tucker	Theorems	4	
657	Temporal logic	Conditions	4	
658	Temporal logic, Hyper linear (Hyper TLL)	System	2	
659	Linear logic, first order, reduction	Principle	8	1
660	Linear temporal logic, robust (rLTL), da Costa algebra	Systgem	6	
661	Lindström theorems on fragments of FOL	System	6	
662	Liouville	Theorem	7	
663	Lipschitz horizontal vector fields	Theorem	2	1
664	Löb original, corrected	Conjecture	4	
665	Löb with Gödel incompleteness	Theorem	1	1
666	Lobachevskii non Euclidean geometry	Theorems	3	
667	Logic in primary education	Lesson		
668	Logical geometry, bit code, meet OG/IG, sensitivity	Conjectures	8	
669	Logical neural networks (LNNs), IBM weighted	Framework	18	
670	Logical syntax of IT architectures	Conditions	7	1
671	of Universal IT architecture	Ensemble	4	
672	LogiKEy, HOL, undecidability of Isabelle/HOL	Method	38	
673	Lonely runner	Consistency	1	1
674	Łoś-Tarski preservation theorem	Theorem	7	
675	LTL standard modal, reactive, unification, frames	Logics	6	
676	Löwenheim–Skolem as strong rendition	Conjecture	8	1
677	Löwenheim–Skolem, Hilbert style metatheorem	Theorem	4	
678	Löwenheim–Skolem, shortest refutation	Theorem	14	
679	Luce model (general)	Metatheorem	4	
680	Łukasiewicz nightmare: $(\diamond p \& \diamond q) \rightarrow \diamond(p \& q)$	Definition/axiom		5

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
681	Modal $\mathcal{L}4$	Allegation	6	1
682	Modal, non axiomatizability	Conjectures	6	
683	Three-valued logic over the chain $C_3=\{0,\frac{1}{2},1\}$	Conjectures	13	
684	$\mathcal{V}\mathcal{L}4$ fixes modal logic (Molle) to be bivalent	Theorems	7	
685	Lusin's separation	Objections	8	1
686	Lyndon interpolation and GL	Theorem	2	
687	Majorana's 'root'	Interpolation	8	1
688	Malice and Alice	Equations	9	
689	Mapping for theism(s) into universal logic of $\mathcal{V}\mathcal{L}4$	Definitions	14	
690	Markov chain: 2-variable vs linear temporal logic	Puzzle	7	
691	Simulation, direct numerical	Analysis	3	
692	Karl Marx's mechanization causing profit rate to fall	Conjecture	7	
693	Matita prover superposition	System	6	
694	MaxSAT prover with complexity approach	Algorithms	3	
695	Mealy machine guided-black box checking	Verifier	5	2
696	Meet implication logic, modal	System	42	
697	Meinongian theism, non-existent objects	Principles	13	
698	Mereology, behavioral	Prover	4	
699	Mereotopology, distributive	System	2	
700	Metamath only rule of inference as substitution	Relations	9	
701	Metaphysics: "Something rather than nothing"	Prover	3	
702	Meth8/ $\mathcal{V}\mathcal{L}4$ as proof reading tool for orthologics in cones	Checker	10	
703	Self-proof in one variable	Problem		2
704	Versus Prover9 via Lifshitz	Theorem		8
705	McKinney-Tarski third rule for $S4$ to $S5$, Baire algebra	Conjectures	18	0
706	Middle knowledge in predestination	Conjectures	9	
707	Minimal hierarchy	Problem		1
708	Minimalist foundation (MF) via Church's thesis	Disambiguation	13	
709	Minimization deduction system with MILP	Conjecture	4	
710	Minkowski plane, classical set of points/cycles	System	1	
711	Modal aleatoric calculus	Theorems	2	1
712	Coalgebraic geometric logic	System	6	
713	Collapse	Conjecture	7	
714	Modal algebra, Malgari, Heyting-, interior-, prov.-logics	Algebra	12	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
715	Modal and quantified operators as equivalent, bivalent	Confirmation	1	9
716	Modal logics: 2; 3; 4; B; D; E; K; M; T; and W	System	2	
717	Bi-intuitionistic	System	5	
718	Ecumenical	System	7	
719	GL ₂	Systems	2	8
720	Non-bivalent	Logic	9	
721	Residuated and non-distributive logic	Logic	8	1
722	Stepwise removal via stepwise update modality	System	28	
723	Supervised learning	Logic	7	
724	With intersection, completeness proof of N	System	3	
725	Without reflexivity and artificial Kripke worlds	Theory	5	
726	Modal operators on rings of continuous functions	System	11	
727	Modal paradox, parts, ctr-parts, points, ctr-points	Conjectures	21	2
728	Paradoxes, all, modal logic EQ-45	Systems	12	2
729	Modal tetravalent logic, natural deduct., cut-free sequent	System	20	
730	Model-companionship, generic-absoluteness, -invariance	Theory	9	
731	Model, incremental recast as mechanized overloading	Conjecture	6	
732	Model theory = univ. algebra + mathematical logic	Method	4	
733	Model theory, modal, maximality principle, actuality opr.	Theory	6	
734	Model theory, residual rings, Peano, prime power case	Theory	11	
735	Model theory, variable and guarded modal fragments	Language	1	
736	Modeloid, Wagner-Preston / Scott categorical axiom	Conjectures	6	
737	Modeloids, categorical axiomization	System	14	
738	Modern modal logic systems (2): JYB4 and AR4	Theorem	5	3
739	Modified divine command	Axioms	12	17
740	Modus inversus as a bi-valent connective	Theory	4	1
741	Modus ponens consequent as conditional	Theorem	1	1
742	Molinism: dependence response and explanatory loops	Conjectures	9	
743	Molyneux's problem	Rule	3	1
744	Monads	Definition	4	
745	Monoids, finite, as all Ramsey monoids	Conjecture	12	
746	Monotheism, one God	Theorem	3	1
747	Monolithic groups in nilpotent groups	Problem	1	
748	Moore's paradox	Conjecture	2	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
749	Moral absolutism impossible	Paradox	2	1
750	Relativity of moral absolutism	Conjecture	3	1
751	Moral luck, theological	Problem	5	
752	Most as quantifier	Conjecture	2	1
753	Murphy assumptions: distributive grace; abject greatness	Assumptions	4	
754	Multivariable (MV) algebra, definitions	Definitions	5	
755	Mundici derived operations	Conjectures	4	
756	Naive scale invariance for 't Hooft world hologram	Conjecture	2	
757	Natural logic: monotonocity	Conjecture	1	
758	Necessary existence proofs for existence of God	Approach	6	2
759	Necessitation: K,T,4,B,D,5; <i>D,M,S4,B,S5</i>	Conjecture	5	
760	Necessity causing contingency	Arguments	5	
761	Leonard Nelson's criticism of epistemology	Axiom	10	7
762	Negative mass	System	2	2
763	Neural networks: Barrier certification	Method	3	
764	Parallel fairness certification	Conjecture	6	
765	von Neuman-Bernays-Gödel [NBG]	Definition	2	
766	Neutrosophic logic	Theory	2	3
767	Dezert-Smarandache	Theorems	5	
768	Generalized Hegel's dialectics	Theory	2	
769	Generalized intuitionistic, fuzzy logic	Method	4	
770	Geometry of Smarandache / Lin Fan Mao	System	2	
771	MANET attack genetics	Definition	2	
772	Negated adjectival phrases	Algorithm	1	
773	Neutrosophic logic: theory of everything	Lattices	2	
774	Neutrosophic sets	Theorem	2	
775	Neutrosophic set containing another such set	Properties	3	
776	Neutrosophy with dependent probability	Definition	3	
777	Pseudo-trinitarian human consciousness	Definitions	3	2
778	Quinary	Model	2	
779	Retract crisp set topology	System	2	
780	Smarandache multi-space theory	Propositions	5	
781	Soft lattice theory	System	5	
782	Unification of other logics	Theorem	2	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
783	Values as 1, 0, between 0 and 1	Axioms / Rules	2	
784	Vector space on $\{-0, 0, 0 < p < 1, 1, 1+\}$	Designated logic	2	
785	Newcomb paradox	Paradox	3	
786	Langan adornment resolution	Paradox	8	
787	Nomological-explanatory solution (NES), induction	Logic	6	1
788	Noncontingency variants	Paradox	2	
789	Non-deterministic logic	Operator	5	
790	"Not all necess. truths are tauts" (all poss. truths are tauts)	Folklore	5	
791	Nothing does not imply a non existent null set	Completeness	8	
792	Nucleosynthesis	Definition	7	
793	ω -consistency and axiom of pre-linearity	Conjectures	5	
794	OMG-UML, obj mgmt grp, unified model language	Infrastructure	16	
795	One divine nature	Definition	6	
796	Ontology engineering for complete-debug problems	Definitions	4	
797	Ontology-mediated query (OMQ); Datalog (MDDLog)	Conjectures	8	
798	Ontotheological error	Conjecture	8	1
799	Open theism	Conjectures	25	
800	Open-universe causal reasoning	Conjecture	6	
801	Optimization for complex number programming	Conjecture	2	
802	Ordinal notation via simultaneous definition	Conjecture	1	
803	Ordinal Turing machine (OTM) on set theory	Conjecture	5	
804	Orthomodular law	Conjectures	10	
805	Paraortho posets for quantum structures	Conjectures	8	
806	Overlap algebra on constructive Boolean algebra	Theorem	1	
807	$P=NP$; 3-SAT	Conjecture	4	
808	Satisfiability via claimed Boolean rules	Conjectures	5	
809	3SAT for Karp's cnf into split clauses	Conjectures	4	
810	$P \neq NP$ in FOL PA via axiom of extensionability	Conjecture	4	
811	Panentheism as fragment of ontotheology	Conjecture	10	2
812	Paraconsistency, machine-assisted view	Conjecture	3	
813	Classical, first-order view as novelty	Axiom	3	
814	Paraconsistent contradiction	Axioms	2	3
815	Paraconsistent logic on one conjecture	Conext	4	
816	Paradox refutation reduced to one variable	Theorem	1	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
817	Parameterized-time action (PAL), intention to time	Logic	3	
818	Parikh's logic G and completeness of system Par	Method	3	9
819	Parikh theorem for infin. alphabets via sets with atoms	Theory	7	
820	Partial awareness	Axiomatization	3	
821	Partial order reduction (POR): stubborn/sleeping sets	Methods	7	
822	Partial ordering on dependencies	System	8	1
823	Partial quantifier elimination (PQE)	Conjecture	2	
824	Partition logic adjunction	Definition	3	
825	Pascal's wager thought experiment	Definition	4	
826	Pauli exclusion	Theorem	4	1
827	Peano arithmetic 9, 1-8	Principle	4	
828	Extended truth definitions	Axioms	1	8
829	Pearl model for cause-effect	Model	10	
830	Perfect being theology, greatest possible being (GPB)	Definition	2	
831	Perfectoid field, spaces, almost mathematics	System	4	
832	Petri net	Theorems	3	
833	Ping pong thought framework	Definitions	2	
834	PŁ4	Conjecture	4	1
835	Plancherel measure on Langland's conjecture	Conjecture	3	
836	Plantinga's modal ontological proof of existence of God	Argument	14	7
837	Playfair's axiom	System	10	
838	Łonka sums of Boolean algebras	Definition	5	
839	Łonka sums of inclusive consequence relations	Axiom		1
840	Poincaré recurrence theorem	Inclusion	1	
841	Poison modal logic (PML)	Theorem	2	
842	Politeness, finite witness, stable-infiniteness	Conjectures	13	
843	Pomset and Lambek logic	System	4	
844	Problem of evil, cause from free will, original sin	Origin	2	
845	Plantinga	Definitions	5	3
846	Karl Popper on God	System	3	
847	Poset products ar relational models	Models	20	
848	Positive logic with h-inductive universal sentences	Proof	4	14
849	Coalgebraic modal logic	Conjecture	6	
850	Modal logic	Conjecture	3	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
851	No strongest extension	Conjecture	16	
852	PowerEpsilon mathematical induction	Variety	4	
853	Pratt-Floyd-Hoare logic correctness	Axiom		1
854	Prayer, Historic Church, five types	Theorems		5
855	Predicative collapse, arithmetical comprehension	System	5	
856	Preference profiles	Conjectures	5	
857	Prenex normal format	Algorithm	6	
858	Shortest refutation based on implication	Rules	11	3
859	Pre-orderable groups	Rules	2	2
860	Presburger arithmetic	Conjecture	3	
861	Divisibility (PAD) for one-counter automata	Conjecture	4	
862	Visser's conjecture in multi-dimensional case	Conjecture	4	
863	Presupposition different from entailment	System	3	
864	Pretabular PM2 extension to S34 for unification	Logics	3	6
865	Prevarieties and quasivarieties of logic	Conjecture	3	
866	Priesthood, non-male or gendered	Conjectures	6	
867	Prisoner's paradox	Monoids	4	
868	Probabilistic approximate logic (PALO)	Paradox	3	
869	Probabilistic computation logic in AI	Conjecture	2	
870	Probabilistic reasoning across the causal hierarchy	System	1	
871	Probability logic and connexive logic	System	9	
872	Program verification	System	8	
873	Prolog answer set to legal problem of V.C. Valjean	Method	6	
874	Propositional proof systems (PPS), consistency proofs	Definitions	3	
875	Provability logic GL, Japaridze polymodal GLP	Reduction	1	
876	Reduced: Löb; complete; necessity	Logics	8	
877	Prover9 vs Meth8 differences	Logic	5	
878	Proving general theorems by inequality benchmark	Theorem	2	
879	Pure alethic modal logic	System	6	
880	Puzzle about indefinites	System	1	1
881	Quantified Boolean formulas (QBF), proof complexity	System	26	2
882	Query answering, finite open-world with num restrict	Conjecture	3	
883	Quantification elimination (QE) by examples	Method	6	
884	Quantified modal logic theorem proof (QMLTP)	Library	8	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
885	Quantified modifier rewrite rules	Connectives	5	
886	Quantified reflection calculus with one modality	Conjecture	9	
887	Quantifiers and operators	Method	3	
888	Quantifiers, bounded	Connectives	12	
889	Quantum arithmetic for repeat-until-success	Conjecture	43	
890	B-algebras with involutions	Circuits	12	
891	Block chain encoding	Conjecture	3	
892	Circuit optimizer, verified for CNOT in Coq	Cryptography	1	
893	Classical logic as completion of QL	Conjecture	3	
894	Control by observation	System	16	6
895	Entanglement	System	1	
896	Gates correspond to logical operators	Conjecture	5	
897	Gates refuted	Theorems	4	1
898	Gedanken experiment	Theorems	8	1
899	Group relations in categorification	System	7	
900	Hoare type theory and applications	System	109	
901	Honeywell computer C-NOT truth table	Conjectures	8	
902	Logic as tautologous	Claim	3	
903	Mechanics, contextuality, borders of paradox	Conjectures	24	
904	Mechanics, negative probabilities	Conjecture	18	2
905	Logic, orthomodular	System	17	2
906	Predicate logic with uniform quantization	Method	14	
907	Masking classical information	System	6	
908	Probability	System	4	
909	Probability	Axiom	1	
910	Set theory based on De Morgan laws	Rule	2	
911	Set theory of Takeuti to satisfy De Morgan's laws	Theory	5	
912	Set theory with different conditionals for reals	Theory	27	
913	Simulation of Hamiltonian spectra	Definition	3	
914	Spin-statistics	Operator	1	
915	Superposition as the red herring	Theorem	4	4
916	Superposition disproves Schrödinger cat	Conjecture	3	
917	Temporal logic based on Löwner order	Conjecture	5	2
918	Ternary probability of qutrit	System	4	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
919	Three lights experiment of qutrit	Hypothesis	3	
920	Quaternion implication truth table	Conjecture	1	
921	Questions and answers	Definition	4	1
922	Quine-McCluskey reduction of Boolean function	Algorithm	6	
923	Quotient in preordered theory of heap structures	Theorem	9	
924	Ramsey's theorem / Pythagorean triple of integers	Problem	4	1
925	Ranjan, A.	Theorem	8	
926	Ranked pentagon lattice	Problem		2
927	Rational emotive behavior therapy (REBT/LBT)	System	4	
928	Man in abstract argumentation	Systems	16	
929	Rauszer 'concrete' Boolean algebra by preorder	Conjecture	3	
930	Reachability as tower complete	Problem	2	
931	Real addition w/wo predicate integers	Systems	13	
932	Realizability models (r.m.): ZFC axioms	Conjectures	9	1
933	Realizability semantics for QML	Theory	3	
934	Reichenbach common cause / event-splitting	Theorems	3	
935	Related logics	System	5	
936	Relational logic ReLoC, invariant linking of states	System	6	
937	Relativization (structural induction) in weighting	Principle	6	3
938	Relevance logic	Method	1	
939	Definition in R	System	7	
940	Residuated lattice	Model	2	
941	Gentzen provability	Conjecture	2	
942	Multilattice as set of truth values, poset	Definition	4	
943	(Semi)lattice-ordered algebra	Conjecture	3	
944	Resolution-based decision procedure, 2-vars equality	Conjecture	3	
945	Reverse derivative categories	Method	9	
946	Reverse mathematics: recursive comprehension	Definition	4	
947	Measurability and computability	Principle	10	2
948	Nets	Theory	1	2
949	Uncountability of Reals by compreh, separat.	Theory	5	
950	Rewriting logic for compositional specification	Conjectures	4	
951	Riemann: as only zeroes at 0, 1/2	Conjectures	4	
952	Excluded middle	Hypothesis	1	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
953	Extended complex numbers on sphere	Conjecture	4	
954	Integrals for a cheating runner	Operators	3	2
955	Simple inequality	Theorem	2	
956	Zeta function, Caceres Proposition 6	Definition	7	
957	Zeta function, hypothesis	Conjecture	2	
958	Zeta function, properties	Proposition	4	
959	Robinson arithmetic	System	5	
960	Robotics, three laws and ethical machines	Laws	5	
961	Roman Catholic Church (RCC) Canon law	Axioms	7	
962	Erasmus contra Luther	Theorem	4	
963	Infallibility and the Historic Church	Controversy		1
964	Invalid epiclesis with silent Holy Ghost	Pius IX	2	
965	Magisterium	Canons	4	1
966	Primacy of the Roman See	Paul VI	1	
967	Sacred heart of Jesus	Pius XI	1	
968	Scourge of fundamentalists / Lambeth 1888	Pius XI	3	
969	Tradition above scripture	Francis	6	1
970	Twelfth promise of St Alacoque	Pius IX	4	
971	Roscelin's nightmare	Conjecture	13	8
972	Rosser's theorem on consistency	Conjecture	3	
973	Rosser theorem on essential undecidability, definition	Theory	3	
974	Rota lattice theory, distributive	Theorem	6	1
975	Ruitenburg	Theorem	2	
976	Ruitenburg theorem on lattices of intermediate theory	Conjecture	8	1
977	Russell	Axiom	1	
978	Russell-Prawitz embedding	Paradox	4	
979	S5Π+ propositional quantification	Conjectures	7	
980	Sabotage modal logic (revisited)	System	1	
981	Sacchetti's modal logics of provability	System	6	
982	Sahlqvist formulas and correspondence theory	Axioms	5	
983	Sahlqvist modal / quantified correspondence	Definition	1	
984	Non formulas as tautologous	Theory	7	
985	Sanchez-Rey fluctuations as threat to markets	Conjecture	2	
986	Satisficer as God with derived conjectures	Conjectures	10	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
987	Schaefer for graphs, P, NP, NPC, NPH, NPI	Theory	1	
988	Schellenberg's theodicy and proffered denial	Theorems	8	1
989	Schematic refutations of formula schemata	Theorem	10	
990	Schrödinger's cat thought experiment	Method	2	
991	Schröder–Bernstein theory: Cantor's statement C	Corollary	3	
992	Scott class set	Theory	3	
993	Existence axiom in sheaf theory	Paradox	2	
994	Sets and set problem	Conjecture	5	
995	Topology, temporal types, landscapes	Conjecture	5	
996	Search fund study	Theory	4	
997	Second-order arithmetic	Model	2	
998	Quantifier elimination / Craig interpolation	System	20	
999	Quantifier elimination into first-order logic	Products	9	
1000	Security barrier	Product	3	
1001	Self-equilibrium	Model	5	2
1002	Self-proving fixed-point predicate modal logic on GL	Law / Paradox	1	
1003	Self-referential families barely avoiding self-truth	Conjectures	6	
1004	Self-verifying axioms for grounding functions	Defin./Theorem	4	
1005	Semi-groups, demonic refinement, finite representability	Definition	3	
1006	Semisimplicity, Glivenko, Heyting, intuitionistic, LEM	Conjectures	40	1
1007	Separability for straight-line string constraints	Problem	3	
1008	Separation axiom in first- and second-order logic	Conjecture	4	
1009	Separation logic by inference frame and proof rule axiom	Axioms	8	
1010	Concurrent to extended concurrent modular forms	Theorems	24	
1011	Transforming antecedents, entailment systems	Conjectures	55	1
1012	Set theory condensable models by satisfaction classes	Conjecture	7	
1013	Textbook 1977 exercises as inadvertent denial	Axiom	4	
1014	Shallow embedding for rewriting equality in MLTL	Theorems	3	
1015	Shevenyonov extension nary antropic to PL	Rule	7	
1016	Shramko-Wansing nightmare in 4^n logic	System	16	2
1017	Simulation argument and incompleteness	System	21	
1018	Mistakes in rebuttal of refutation above	Conjecture	1	
1019	Imply operator injected for Bayes' pipe	Conjectures	6	2
1020	Single axioms for group theory and Abelian groups	Conjecture	1	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
1021	Skolem form	Conjecture	6	
1022	Skolemization relevance	Conjecture	3	
1023	Sliding scale in law	Axiom	1	
1024	Solovay arithmetical / semantical completeness	Theorem	3	
1025	Modal system GL	Theory	4	
1026	Sorites	Theorem	10	2
1027	Soul, denial of refutation of physicalistic proof	Paradox		1
1028	Special theory of relativity: Crothers refutation	Theorem	3	
1029	Splitting proofs for refutational theorem proving	Confirmation	1	4
1030	SQ ontologies as undecidable, tree structures as solution	Conjectures	6	
1031	Square (Łukasiewicz) and Cube (Seuren)	Interpolation	3	
1032	Square of Opposition Meth8 Corrected	Systems	27	15
1033	Modern Revised	System		6
1034	Proportions	System	2	
1035	St Petersburg paradox	Proportions	3	
1036	Stable set lattices	Paradox	7	
1037	Stage thoery, level theory, Boolean variations	Theory	35	
1038	Stit logic (see to it that)	Modal operators	2	
1039	Stone rendition of Boolean algebra	Hypothesis	11	
1040	Stone representation: conjunctive-join semi-lattices	Theorem	2	
1041	Stone space type lattice logic model	System	13	
1042	Stone-Wales rotation transform reversibility	Theory	2	
1043	Stratified comprehension	Axioms	5	
1044	Strong jump inversion, decided saturated model	Theorem	2	1
1045	Structure identity principle (SIP)	Principle	7	1
1046	Student quiz conjecture	Logic	1	
1047	Stump penal substitutionary atonement theory, objections	Theorem		1
1048	Sturmian words, decidability	Theorem	8	
1049	Subordination algebras on modal logic	Algebra	14	
1050	Subsumption demodulation in theorem proving	Paradox	2	
1051	Superposition of states	Method	10	1
1052	Superset, finite reconstruction game: ZFC set not ZFC set	Theory	3	
1053	Supervenience	Definition	3	
1054	Supply and demand	Principle	6	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
1055	Surveillance objectives	Conjecture	6	
1056	Suslin functional S, non-monotone induction	Theorem	4	
1057	Suzko's minimal truth values for universal logic	Subgames	2	
1058	Swinburne on Anselm wrongdoing	Conjectures	6	
1059	Symmetry breaking, skeleton, ensemble, SMT solver	Problem	3	
1060	Symplectic vector space	Method	3	
1061	Synthetic theorems, AI L.C.T. Lee's theorem	Theory	3	
1062	Tactic learning and proving for Coq proof assistant	Conjecture	4	
1063	Tarski's classical relevant logic	Theorem	2	
1064	Tarski's geometric axioms and betweenness	System	5	
1065	Tarski's undefinability of truth	System	8	5
1066	Tarski–Grothendieck set theory	Theorem	2	
1067	Tarski–Grothendieck Metamath ax-groth	Axiom	2	
1068	Tarski's planar Euclidean R-geometry	Axiom	7	
1069	Tarski's quantifier elimination (QE)	System	8	2
1070	Tautology problem and two dimensional formulas	Conjecture	9	
1071	Linear Temporal logic (LTL) as networks (RNNs)	Conjecture	4	
1072	Decidability, complexity	Conjecture	7	
1073	Over infinite intervals, completeness	System	7	
1074	Via instant- and interval-based models of time	Reduction	2	
1075	Tense logic, display labeled proof back to tense logic	Conjecture	6	
1076	Term rewriting for automated theorem proving	Logic	5	
1077	Ternary relations as width of first-order expansions	Conjecture	8	
1078	Theism, skeptical (ST): morally MST, empirically EST	Conjecture	11	
1079	Theist's necessary truths, Schellenberg	Propositions	3	
1080	Theory of logic for glutty, gappy relations	Method	2	
1081	Three-valued, bivalent logic VL3	System	16	
1082	Three variable sufficiency to real-time logic	System		10
1083	Three wise men in 55 steps (shortest confirmation)	Conjecture		
1084	Time algorithm	System	15	
1085	Time as God	Conjecture	3	
1086	Past, present, future coexisting states	Conjecture		2
1087	Time and space to define God by hack physicists	Hobby	2	2
1088	Time as tense via converse implication (EQT)	Conjecture	3	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
1089	Tm* non-normal modal logic, possible worlds, Barcan	System	44	1
1090	Topoi, elementary in logic	Conjecture		1
1091	Topological manifold transition	Definition	3	
1092	Semantics of paraconsistent/paracomplete logics	Conjecture	11	
1093	T ₀ -space	Function	1	
1094	Topology space, De Vries: Whitehead abstracting points	Method	16	
1095	Totherian sets	Defintion	3	
1096	Trace semantics in coalgebra	Theory	5	
1097	Translation invariance of superposition calculus	Theory	5	
1098	Traveling salesman complexity problem	Property	2	
1099	Triangle inequality	Conjecture	1	1
1100	Trichotomy	Conjecture		1
1101	Trinity, cause of heresy as defective theology	Theorem	8	1
1102	Logical problem	Problem	2	
1103	Triune God, philosophical challenge	Problem	8	1
1104	Trivial proofs for a troll	Law	11	
1105	Trolley ethical thought experiment	Conjectures		3
1106	Truth tables of 4-variables p-s as And, Or, Xor, Imply	Information		
1107	Turing halting problem	Problem	3	
1108	As logically unsolvable	Problem	2	1
1109	Infinite time machines by semi-decidable norms	Conjectures	10	
1110	Twin paradox	Problem	2	
1111	Two-sided page	Paradox	2	
1112	Two-variable logic, recursive calls, satisfiability	Theory	3	
1113	Type theory	Paradox	5	1
1114	Constructive on completeness theorems	Theorem	5	
1115	Groups, and relations	Method	27	
1116	Ultimate L and V	Theory	2	
1117	Ultrafilter extensions of binary relations	Conjecture	2	
1118	Ultrapower axiom: change of space = ultrafilter	Axiom	3	
1119	Ultrapower of universe, projective determinacy	Conjecture	5	
1120	Unanswered logic questions	Hypotheses	2	
1121	Undecidable theories, weak, mutual interpretability	Conjecture	6	
1122	Unfalsified conjectures, unfalsifiability	Conjectures	2	1

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
1123	Unification nets (canonical proof net quantifiers)	Conjecture	2	2
1124	Simple symmetrical modal logics	Conjecture	9	
1125	Unity of logic as sequential and unpolarized	Type	2	
1126	Universal finite set	Calculi	8	
1127	Network	Theorem	2	
1128	VŁ4 logic	Operator	5	
1129	Universalism	Logic		1
1130	Urysohn space	Group	3	
1131	Valatsos on cogito, ergo sum	Proof	4	
1132	Veblen (corrected)	Concept	6	
1133	Vector conjecture for two points implying a third	Axiom	1	1
1134	Verilog / VHDL hardware logic	Conjecture		1
1135	Veronoï regions (with "nonempty sets")	Connectives	36	
1136	Vickrey auction	Definition	3	
1137	Vietoris space modal operators	Theorem	10	2
1138	Viper, saturation-based theorem prover	Definitions	2	
1139	Visibility graph / Kanban cell resuscitation	Prover	5	
1140	VŁ4 completeness confirmed	Algorithm	1	1
1141	Soundness confirmed	Theorem	1	1
1142	Theorems for S5	Theorem	2	1
1143	Voevodsky: indiscernables, univalence, foundations	System	7	2
1144	Voluntarism, salvific luck in Mohammedan theology	Conjectures	11	
1145	Vongehr's shift rendering QM "natural"	Theorems	8	
1146	W (K4W)	Paradigm	2	3
1147	Wadge order (and on Scott domain)	Theorem	1	
1148	Wagner-Preston inverse semigroup as symmetric monoid	Theorem	1	1
1149	Weak set H to prove its own consistency	Theorem	4	
1150	Weisfeiler-Lehman: apply neural reasoning on graphs	Theory	3	
1151	Well ordering property	Theorem	2	
1152	Wellfoundedness of multiset order	Axiom	1	
1153	White's model for creation	Theorem	2	
1154	Williamson paradox via weak-necessity identity principle	Paradox	2	
1155	Wiccan analytic theology, vicarious incarnation	Claims	9	
1156	Wittgenstein's ab-notation	System	7	1

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
1157	Word concatenation of finite models	System	3	
1158	X-homology on manifolds in topology	Definition	5	
1159	Yablo's paradox (confirmed as tautology)	Conjecture	3	
1160	Yalcin logic	Axiom	1	
1161	Yinyang	Axioms	2	
1162	Zadeh first operators on fuzzy logic	System	1	3
1163	Historical assumptions	System	5	
1164	Perfect / strong functions, residuated operator	Axioms	4	1
1165	Resolution and symmetry in Z-numbers	Conjectures	3	
1166	Swedes and Italians logic challenge	Definitions	3	
1167	Zaionic paradox, most classical theorems as intuitionistic	Paradox	5	
1168	Zariski topology affine varieties, scheme theory	Problem	3	
1169	Zermelo-Fraenkel constructive (CZF)	Definitions	3	
1170	Zermelo-Fraenkel axiom of infinity, weaker version	Axiom	2	
1171	Zermelo-Fraenkel (ZF) shortest contra 9 axioms	Axioms	9	1
1172	ZFC Choice in 1 operator, 2 vars, 4 connects	Axiom	3	
1173	Consistency in Isabelle/ZF	Conjecture	8	
1174	Subsets	Conjecture	4	
1175	ZFC Empty set	Axioms	10	
1176	Shortest refutation	Axiom	2	
1177	ZF Law of excluded middle: infinite set	Axioms	10	1
1178	ZFC Extensionality	Axiom	3	
1179	ZFC Extensionality (another rendition)	Axiom	1	1
1180	ZFC Extensionality (Kuratowski pairs/barrier)	Axiom	3	
1181	ZF*-extensionality to interpret full ZF axioms	Axioms	13	
1182	Non-wellfounded sets / anti-foundation axiom	Axiom	1	
1183	Other refutations of ZFC axioms (10)	Axioms	21	
1184	Proper class of discernables: L(Sepr, Coll, Regu)	Formulas	3	1
1185	Supremum and infimum	Axiom	2	
1186	ZFC ⁰ : schemas of comprehension, replacement	Definitions	3	
1187	Zero and three in arithmetic	Axioms	2	
1188	Zero calculus: multiplication, addition, subtraction	Theorems		9
1189	Zero knowledge proof	Conjectures	4	
1190	Zeroth law of thermodynamics	Theorem	1	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
1191	Rendering quantifiers as modal operators	Theorem	3	2
1192	Meth8 on Modus Cesare and Modus Camestros	Appendix		
1193	Availability of Meth8/VŁ4	Appendix		
1194	Demo for 2-variables (p,q)	Marketing collat.		2
	Scalability of Meth8/VŁ4	Marketing collat.		
		1194 artifacts = 8328 assertions	7602	726

Table of Contents

Refutation of the ABC conjecture.....	63
Denial of A.V. Shevenyonov's proof for the ABC conjecture.....	64
Refutation of abductive reasoning.....	66
Refutation of induction by numerical identity of $(-1 \leq C \leq 1) = (C \leq 1)$	67
Refutation of Peirce's abduction and induction, and confirmation of deduction.....	69
Refuting Peirce's abduction and induction, and confirming deduction.....	71
Refutation of basic absoluteness for Abelian groups and \aleph_1 -freeness.....	72
Refutation of abortion in mathematical logic.....	73
On the computer proof of a result in the abstract theory of segments using Prolog.....	74
Refutation of Ackermann's approach for modal logic and second-order quantification reduction....	79
Refutation of Ackermann's function, recursions, and provers ALF and Isabelle/HOL.....	83
Refutation of action logic.....	84
Refutation of an adaptive algorithm for molecular simulation on quantum computers.....	86
Refutation that additivity of measure implies additivity of category.....	88
Refutation of adequacy, sufficiency, and formalization in predicate logic.....	90
Refutation of relations on monoidal Kripke pointfree style by adjunction rules (shunting).....	92
Refutation of stably uniform affinoids as sheafy.....	95
Refutation of AGM postulates and Levi and Harper bridging principles.....	97
Refutation of remainder sets for paraconsistent revisions.....	99
Refutation of logically-consistent hypothesis testing and the hexagon of oppositions.....	101
Proof of agnosticism as a subset of atheism because both lead to non-belief.....	103
Refutation of the AI experiment for a divide the dollar competition.....	105
Refutation of three phase, all reduce algorithm across processing units for scalable deep learning	106
Recent advances in AA: factual mistake in We agnostics, p 53, invalidates the traditions.....	108
Confirmation of absolute necessity of honesty implies truthity of purity, unselfishness, and love..	110
Refutation of AA aphorism that serenity is inversely proportional to expectation.....	111
Refutation of the AA aphorism "acceptance was the answer".....	112
Refutation of AA paradoxes.....	113
Refutation of the hydraulic step 2 in AA.....	114
Logical mapping of 12 traditions in AA: 4 and 7 are identical theorems.....	115
Refutation of Frank McKiven's conjecture from the grave to define prayer for God's will.....	119
Refutation of the spiritual axiom in AA.....	120
Confirmation of the three legacies of AA.....	121
Refutation of AA aphorism the "way to keep sobriety is to give it away".....	122
Topological semantics for conditionals and the Alexandroff correspondence.....	123
Refutation of fundamental sets for algebraic subgroups.....	124
Refutation of algebras of partial functions via relative complement and axiom $a - (b - a) = a$	126
Refutation of shared variables in cross axiom models of alternating Turing machines.....	128
Refutation of alternative set theory (AST) and axiom of induction.....	130
Refutation of real numbers and functions in alternative set theory (AST).....	133
Refutation of Alvarex-Picallo / Lemsay cartesian difference categories.....	135
Refutation of analogy as inference.....	136
Refutation of the paradox of the concept of an analysis as both correct and informative.....	137
Refutation of analytic choice principles: axioms of choice and dependent choice.....	139
Refutation of analytic theology as declarative or deductive theology.....	140
Refutation of "God and all things in relation to God" (GATRG) for scientific analytic theology...	143

Confirmations of the Anderson COB theorem and the Anderson anti-paradox theorem.....	145
Anderson division by zero.....	147
Refutation of Anselm's Proslogion.....	148
Refutation of answer set programming.....	150
Refutation of approximations of theories.....	155
Denial of Armstrong's ontological method.....	156
Refutation of arithmetical hierarchy of classical principles in Heyting intuitionistic theory.....	159
Refutation Arrow's impossibility theorem.....	160
Confirmation of the aseity of Descartes without adornment.....	162
Logical confirmation of the Holy Trinity formula in the Athanasian creed.....	165
Theorem of atonement.....	168
Refutation of the automorphism group.....	169
Refutation of automatic verification of $\forall\exists$ -hyperproperties, RHLE.....	170
Refutation of the axiology of God, to reduce claims to one theorem.....	172
Refutation of relativized Boolean algebra as propositional awareness logic.....	174
Refutation of axiom pinpointing.....	176
Validation of "Axiomatizing category theory in free logic".....	178
Refutation of axiomatizing logics of fuzzy preferences using graded modalities.....	180
Refutation of non-bivalent modal axioms in street provers.....	181
Refutation of the generating positive cone in ordered Banach space.....	183
Refutation of the Banach-Tarski paradox.....	185
Resolution to the Banach-Tarski Paradox.....	186
Refutation of mapping definable functions as neighbourhood functions.....	187
Barcan formula in evaluation of "Can modalities save naive set theory?".....	188
Refutation of the Barwise compactness theorem via sublanguage L_A	194
Refutation of basic logic (bL).....	195
Meth8 evaluation of Bayes rule.....	198
Shorter refutation of the odds form of Bayes' rule.....	201
Refutation of the Bayesian entailment hypothesis.....	202
Refutation of Bayesian network for only conditional probabilities of dependent variables.....	203
BCK-algebra confirmed, but BCI-algebra refuted.....	205
Confirmation of the Beal conjecture.....	206
The Bell /CHSH inequalities and Spekken toy model.....	208
Shortest refutation of Bell's inequality.....	212
Simplest refutation of Bell's inequality.....	213
Refutation of Bell's inequality by the Zermelo-Fraenkel (ZF) axiom of the empty set.....	214
The Bell-CHSH inequality refuted as Bogus Bellian logic (BBL).....	215
Refutation of another conjecture to coerce Bell's inequality to be true.....	217
Refutation of the coin toss proof for conjectures of the Bell-CHSH inequalities.....	218
Refutation of Bell's original inequality using its assumption.....	219
Refutation of Bell's original inequality from 1964 with assumptions.....	220
Refutation of conjectures for Bell's original inequality and CHSH inequality.....	221
Another refutation of Bell's inequality by positive reasons.....	223
Refutation of Bell's theorem for temporal logic.....	225
Refutation of the tropical sum for Bell's theorem.....	227
Solution proof of Bellman's Lost in the forest problem for triangles.....	228
Berkeley's paradox.....	231
Refutation of tensor product and Bernstein-Vazirani algorithm.....	232
Refutation of the no-cloning theorem in statistical models.....	233
Refutation of the Bertrand postulate and Bertrand-Chebyshev theorem.....	234

Refutation of the axiomatic theory of betweenness.....	235
Refutation of axiomatizations of betweenness in order-theoretic trees.....	239
Refutation of betweenness of partial orders.....	241
Refutation of BF calculus (and square root of negation).....	243
Refutation of bi-abductive inference in computational reasoning for verification.....	246
Refutation of decomposition of the Riemann and Ricci curvatures.....	248
Biscuit conditionals.....	249
Refutation of bisimulation as a logical relation, via axiom of separation.....	251
Refutation of bisimulation.....	253
Refutation of axiomization to deny bisimulation semantics for process algebra.....	254
Refutation of bitstring and question-answer semantics.....	255
Refutation of definition of verifiability of requirements and theory of black-box tests.....	258
Refutation of a modal logic system for reasoning about the degree of blameworthiness.....	259
Refutation of block argumentation.....	261
Refutation of the Blok-Esakia theorem for universal classes.....	264
Bogdanov map as a 2D conjugate to the Hénon map.....	266
Unreproducible two-dimensional isotopes of Boolean connectives.....	267
Refutation of a formula for systems of Boolean polynomials to parameterized complexity.....	269
Refutation of Boole's development theorem.....	271
Refutation of the Boone-Rogers theorem.....	277
Refutation of the Borel base and hull.....	279
Refutation of the Born rule in EQM as the probability of the wave function squared.....	280
Refutation of the exclusivity rule (as extended basis of the Born rule and free will theorem).....	281
Refutation of the Borsuk-Ulam theorem (BUT).....	282
Refutation of bounded and Σ_1 formulas in PA.....	283
Refutation of bounded homomorphisms and finitely generated fiber products of lattices.....	284
Refutation of bounded residuated distributive lattice-ordered groupoids (brdg).....	286
Refutation of modal logics that bound the circumference of transitive frames.....	288
Refutation of Bourbaki's fixed point theorem and the axiom of choice.....	290
Refutation of Bob Boyer's paradox.....	291
Branching quantifier.....	292
Refutation of constructive Brouwer fixed point theorem.....	293
Refutation of Brouwer's dense linear orderings (DLO).....	294
Refutation of Browder's theorem.....	295
Refutation of the tetralemma and Buddhist logic.....	296
Refutation of bunch theory with derivations.....	298
Buridan's Ass paradox.....	301
Shortest refutation of Buridan schemata and contradictory Barcan formula.....	302
Refutation of a formal framework for partial compliance of business processes.....	305
Confirmation of the collapse of the Buss hierarchy of bounded arithmetics.....	307
Refutation of Cabannas theory of objectivity.....	309
Refutation of the Cabannas conjecture of objectivity.....	311
Refutation of Calvin's doctrine of lesser magistrate.....	313
Refutation of the cancellation law, Basic Arithmetic (BA), and the MRDP theorem.....	315
Refutation of Cantor's original continuum hypothesis via injection and binary trees.....	318
Refutation of Cantor's continuum by his own axiom of infinity, invalidating aleph-zero (\aleph_0).....	319
Refutation of Cantor's continuum hypothesis.....	321
Refutation of Cantor's diagonal argument.....	322
Refutation of disproof of one of Cantor's cardinals.....	323
Refutation of Cantor's pairing function:.....	325

Refutation of Cantor's definition of set theory.....	326
Refutation of large cardinals beyond choice and set-theoretic potentialism.....	328
Refutation of independence and large cardinals via the interpretability hierarchy.....	330
Refutation of duality theorem and preservation theorem in large cardinal set theory.....	332
Refutation of Carroll's tortoise and Achilles as a paradox.....	334
Confirmation of Caswell's 1952 "Significant curriculum issues" using mathematical logic.....	335
Refutation of extensionality to deny the conjecture of categoricity and set-theoretic reflection....	337
Refutation of Whewell's axiom of causality.....	338
Refutation of the causal criterion of event identity.....	339
Refutation of category algebra and theory.....	341
Category composition of morphisms.....	345
Refutation of execution properties of interaction combinators as a universal model.....	346
Refutation of Tannakian categories via profinite groups of Iwasawa embedding.....	348
Refutation of category theory by lattice identity, and graph-theoretic / set-of-blocks in partitions.	349
Refutation of ceers (computably enumerable equivalence relations).....	352
Refutation of computably enumerable equivalence relations (ceers) to solve word problems.....	354
Refutation of ceteris-paribus semantics for deontic logic.....	355
Refutation of non-extensional theory of partial operations/classifications, category foundation....	357
Refutation of unrestricted category theory via Feferman's partial application/classification.....	359
Refutation of the CC conjecture of Lin Fan Mao.....	360
Refutation of Chaitin's theorem of incompleteness.....	361
The Brain Simulator Reply (BSR) of the Chinese Room Argument (CRA) is confirmed.....	363
Refutation of the Chisholm paradox.....	364
Shorter refutation of CHSH inequality.....	365
Refutation of CHSH and a dual reality conjecture.....	366
Relation of Judaism, Mohammadanism, and Christianity to confirm the last.....	368
Refutation of the fundamental problem of Christology.....	370
Refutation of religions with no answer to the fundamental problem of Christology.....	372
Refutation of the chromatic number of product of two \aleph_1 -chromatic graphs as countable.....	374
Church's thesis (constructive mathematics).....	375
Refutation of the arithmetical form of Church's thesis.....	376
Refutation of Church's thesis, intuitionistic logic, and Heyting arithmetic.....	377
Refutation of Church's thesis and consistency with Martin-Löb type theory.....	379
Refutation of the Church-Rosser theorem.....	380
Logic Cila (da Costa's C_1) confirmed as algebraizable, refuting paraconsistent set theory.....	381
Refutation of more axioms: Tarski's; ax-groth; grothpw; limitation of size; and class of all sets....	383
Refutation of a class of models with potential to represent fundamental physics.....	385
Refutation of classical linear algebra (CL-algebra) by residuation property.....	387
Refutation of clausal language (CL).....	388
Refutation of the Clausius-Clapeyron equation for spatial dimension.....	390
Clifford tori in even-dimensions with complex coordinates for unit spheres is tautologous.....	391
Refutation of the Cloward-Piven strategy, confirming it as the Cloward-Piven enormity.....	393
Refutation of completeness for the coalgebraic cover modality and its many-valued logic.....	405
Denial of the refutation of coherence in modal logic.....	407
Refutation of an answer to the coherence objection, and the solution.....	408
Refutation of computing with continuous objects: a uniform co-inductive approach.....	412
Refutation of regular coinduction.....	413
Refutation of coinduction, plain and simple.....	414
Confirmation of the Collatz conjecture.....	416
Refutation of collection theory as the set of universal closure of sentences.....	418

Refutation of the algorithm model to avoid deadlock in a CBTC system for ten checkers.....	419
Refutation of short circuit evaluation for propositional logic by commutative variants.....	421
Refutation of the pebbling comonad in finite model theory.....	422
Refutation of guard formulae and comonadic semantics for guarded fragments.....	426
Refutation of relating structure and power in comonadic semantics.....	428
Refutation of comorphism of sites.....	430
Refutation of the complementarity inequality.....	431
Refutation of completeness for inclusion and equivalence of universality.....	432
Meth8/VL4 on complex numbers (C).....	433
Refutation of French smart building code compliance checking based on semantic rules.....	434
Refutation of the full collection scheme and end-extensions of models of compositional truth.....	436
Refutation of computer-simulation model theory.....	438
Confirmation of Perez' definition of the conceivable statement.....	440
Refutation of the proscriptive principle (conceptivistic logic) and containment logic.....	444
Refutation of an SMT-based concolic testing tool for logic programs.....	445
Refutation of the improved Adams hypothesis of conditional logic.....	448
Refutation of conditional events in quantum logic.....	450
Refutation of conditional necessitarianism.....	451
Refutation of confluence in rewrite systems.....	453
Refutation of connexive logic based on Wansing's nightmare.....	454
Refutation of Aristotle's and Boethius' theses in connexive logic.....	455
Refutation of theses of Aristotle, Boethius, and Abelard and connexive logics.....	456
Refutation of De Finettian logics of indicative conditionals.....	460
Confirming the theorem of conscience.....	462
Refutation of phenomenal conservatism and its equivalence of seemings exclusivism.....	463
Refutation of tractable combinations of temporal CSPs [constraint satisfaction problems].....	465
Confirmation of constructive analysis with witnesses and proof assistant Minlog.....	466
Refutation of the consequence operator and general logic system.....	467
Refutation nonstandard ultra-logic-systems and the GGU-model.....	471
Refutation the consequence operator and theory of ultralogics.....	474
Refutation of Ishihara's tricks and (seemingly) impossible theorems in constructive mathematics	475
Constructivistic logic.....	477
Refutation of templates for converting counterexamples to necessitarianism and into internalism.	478
Refutation of the continuum hypothesis.....	480
Refutation of independence of the continuum hypothesis and claimed formal proof.....	481
Refutation of the continuum hypothesis (CH) via a simple modal equation.....	484
Refutation of Cook's logic system PV as redefined by the refuted $\varepsilon_n A$, $\varepsilon_1 A$, $\Delta_0 \varepsilon A$	488
Refutation of Cook-Reckhow definition.....	491
Refutation of Coq proof assistant to map Euclidean geometry to Hilbert space.....	493
Refutation of proof assistant Coq type theory.....	495
Refutation of correspondence theory of van Benthem.....	497
Refutation of the correspondence theory of truth.....	509
Refutation of monadic Heyting algebras and complexity of one-variable Corsi logics.....	510
Refutation of hyperfinite measure-preserving of countable groups with model theory.....	512
Refutation of reversing the counterfactual analysis of causation.....	513
Refutation of the counterfactual conditional and the interventionist counterfactual.....	514
Refutation of vector logic and counterfactuals.....	516
Refutation of counterpart theory via modal logic.....	518
Shorter refutation of Craig's interpolation and derived conjectures.....	521
Refutation of the constructive Craig interpolation theorem by Fefferman.....	523

Refutation of constructive proof of Craig's interpolation theorem using Maehara's technique.....	525
Creative theories in degrees of unsolvability.....	527
Refutation of the Curry-Howard correspondence.....	528
Shortest refutation of the Curry-Howard correspondence.....	530
Refutation of Curry's paradox.....	532
Refutation of cut elimination and normalization for generalized calculi.....	533
Analysis of ultrafilter D equations by Meth8 logic model checker.....	535
Refutation of existentially closed De Morgan algebras.....	536
Refutation of pre-measurement, decoherence, and multiverse quantum mechanics.....	537
Dedekind lattice identity.....	539
Refutation of universal deduction theorem aka deduction-detachment theorem (DDT).....	540
Refutation of the new connective in natural deduction \odot	541
Refutation of non-compact deduction rule for GL based on Löb formula.....	545
Refutation of noisy deductive reasoning (NDR).....	546
Refutation of parallel stratified defeasible reasoning.....	548
Refutation of Deligne completeness theorem as link and positive / coherent logic.....	550
Refutation of Dempster-Shafer belief and plausibility theory.....	552
Refutation of intuitive problems with deontic logic.....	553
Density of a final segment of the truth-table degrees.....	555
Refutation of the axiom of dependent choices (DC) on supercompactness of ω_1	556
Refutation of the axiom of dependent choices in mice.....	557
Description logic.....	558
Refutation of description logics with cardinality constraint.....	559
Refutation of the power set in description logic.....	561
Refutation of descriptive unions in descriptively near sets.....	563
Refutation of Deutsch constructor theory of imperfect constructors in nature.....	566
Dialetheism.....	567
Where dialetheism is mistaken.....	568
Refutation of dialetheia and as a paradox.....	570
The dichotomy of selection argument as a contradiction.....	571
Refutation of a logic based approach to finding singularities of implicit differential equations.....	572
Refutation of differential Hoare logics with Isabelle/HOL.....	575
Refutation of differential reasoning.....	577
Refutation of the Diproche system for mistake diagnosis in the didactics of mathematics.....	578
Refutation of paradigmatic DOP theory as stable / categorical, denying Borel complete reducts.....	580
Refutation of disjunction in MMT format to deny accessibility of HOL content.....	581
Refutation of the variety of distributive bilattices.....	583
Refutation of disturbance as a feature.....	584
Diverse double-compiling (DDC).....	586
Refutation of diversity, dependence. and independence.....	587
Mistakes in "An essay on divine authority" and in its review.....	589
Refutation of the trilemma for divine command theory (DCT), and a pastoral solution.....	591
Refutation of divine consistency proof for mathematics.....	596
Refutation of incompatibility of divine foreknowledge to human freedom and N operator.....	599
Refutation of doctrine of divine priority (DDP) and of pantheism as equivalent to theism.....	601
Refutation of dual source of divine universal causation (DUC) of W. Matthews Grant.....	604
Refutation of divine universal causality (DUC), determinism, and metaphysical contradiction.....	606
Refutation of domain theory.....	608
Refutation of domain theory and the Scott model of language PCF in univalent type theory.....	611
Doxastic logic.....	612

Refutation of drinker's paradox.....	613
Refutation of interactions in the dual-world as theory of everything (ToE).....	614
Corrected weak duality theorem by way of refutation of the strong duality theorem.....	616
Refutation of dyadic semantics on paraconsistent logic C_1	619
Refutation of multi-valued concurrent dynamic logic.....	621
Refutation of finitely-valued propositional dynamic logic (PDL).....	623
Refutation of $E=mc^2$ using mathematical logic.....	625
Refutation of the EF-axiom.....	627
Ehrenfeucht–Mostowski theorem of discernables.....	628
Einstein–Podolsky–Rosen (EPR) as not a paradox but a weakened theorem.....	629
Refutation of finitary, non-deterministic, inductive definitions of ECST and denial of CZF.....	630
Refutation of uniform Elgot iteration in foundations.....	632
Refutation of the end of time axiom and Kripke's choice of sequence in IC.....	634
Refutation of paradox end without end.....	638
Entanglement versus untanglement: no-no go-go.....	640
Refutation of enumeration reducibility, enumeration degrees, and non-metrizable topology.....	643
Refutation of the paradox of Epicurus as invoked by Epictetus.....	644
Refutation of the paradox of Epimenides the Cretan.....	646
Epistemic coalition with perfect recall.....	647
Refutation of duty to warn in strategic games.....	648
Refutation of epistemic truthful public announcement logic (PAL).....	649
Dynamic epistemic reasoning.....	651
Refutation of dynamic epistemic logic via axiomatic theory of $K\Box$	652
Epistemic logics: Hilbert substructure.....	653
Refutation of an epistemic logic for knowledge and probability.....	654
Navigation in epistemic logic.....	655
Quantifiers over epistemic agents.....	657
Refutation of equisatisfiability and the method of forgetting.....	659
Erdős–Strauss Conjecture.....	661
Refutation of the Erdős–Strauss conjecture.....	662
Refutation of escapism from hell, as in Mormon (LDS) conjecture of afterlife.....	663
Refutation of eternal-temporal (ET) simultaneity and eternity of Hasker and Plantinga.....	665
Refutation of ethical reasoning and HOL as a universal meta-logic.....	668
Refutation of the Euathlus paradox: neither pay.....	669
Refutation of Euclidean geometry embedded in hyperbolic geometry for equal consistency.....	671
Refutation of "When does 'everything' mean everything".....	673
Refutation of the law of excluded middle as a no-go theorem.....	674
Refutation of extrema order filter in finite-valued Łukasiewicz logics.....	676
Refutation of "some thing" from "non thing".....	679
Refutation of model-theoretic characterizations of existential rule languages.....	681
Faith and works theorem denies the claimed problem and refutes supererogation.....	683
Confirmation of the family unit theorem to refute uni-gender union.....	685
Refutation of Brouwer's assumption to prove the fan theorem and axiom of lawless sequences....	686
Refutation of the fan theorem.....	688
Refutation of fan theorem via detachable subset DEFU, pointwise continuous function DECO....	690
Refutation of the argument of theological fatalism.....	692
Refutation of the dilemma of theological fatalism.....	696
Refutation of categoricity by Feferman–Vaught theorem via Morley homogeneous systems.....	697
Refutation of Zagier's one-sentence proof in Coq of Fermat's sum of two squares theorem.....	699
Refutation of Levi-identity and AGM postulates of fictional logic.....	701

Refutation of Archambault conjectures on the filioque, invoking Macedonianism.....	702
Refutation of classification of finitary, algebraizable logics as undecidable in Hilbert calculi.....	704
Denial that modal logics of finite direct powers of ω have the finite model property.....	706
Refutation of finite model theory via bisimulation of 3-colorability.....	707
Refutation of finite model theory via Hamiltonicity.....	709
Refutation of finding finite models in multisorted first-order logic.....	711
Refutation of first-order proofs without syntax.....	713
Refutation of first order (FO) checking of geometric graphs.....	715
Refutation of first-order reasoning by manipulating term algebras.....	716
Shortest known refutation of first- and second-order logic.....	718
Refutation of Fitch's paradox of knowability.....	719
Refutation of Fitting's operator to deny fixed point semantics for stream reasoning.....	721
Refutation of mapping mu-calculus onto second-order logic via fixed point operator.....	722
Shortest refutation of the three theorems: Gödel-Löb (GL); fixed point; second incompleteness...	723
Refutation of fixpoint theory by relational forward deductive/predictive positive proof principles	725
Refutation of least/greatest fixpoint theory.....	728
Refutation of Flow and ZFU axioms as independent of the partition principle.....	731
Refutation of Flow answering if the partition principle (PP) entails axiom of choice (AC).....	732
Refutation of flow theory.....	735
Disjunctive normal form (DNF) in first order logic, minimized by FOL Optimizer.....	738
Refutation of first-order continuous induction on real closed fields.....	740
Refutation of logic first order team (FOT).....	743
Refutation of Fodor's causality principle and extension to the class Fodor principle.....	744
Confirmation of the conjecture that any force speed is greater than a light speed.....	746
Refutation of the method of forcing.....	747
Refutation of Cohen's first model and derivations as the method of forcing.....	749
Refutation of forcing to change large cardinal strength.....	751
Refutation of proper iteration lemma and Shelah's fundamental theorem of proper forcing.....	753
Refutation of propositional forgetting theory.....	755
Refutation of logics of formal inconsistency enriched with replacement.....	757
Refutation of formalization of axiom of choice and equivalent theorems using the Coq tool.....	759
Refutation of four color theorem based on a newly disclosed proposition.....	762
Refutation of Frauchiger-Renner paradox.....	763
Refutation of the Frauchiger-Renner thought experiment with modal operators as a paradox.....	764
Refutation of the Frauchiger-Renner thought paradox as a quantum model.....	765
Refutation of Fredkin paradox in one variable.....	769
Refutation of free choice permission (FCP) in deontic logic.....	770
Refutation of replacing classical logic with free logic.....	772
Refutation of the paradox of Moses Maimonides for free will.....	775
Refutation of non-existence proof of free will.....	776
Refutation of Clifton's Kochen-Specker statistical argument (basis for free will theorem).....	778
Refutation of the Free Will hypothesis based on its defective FIN.....	779
Refutation of the Strong Free Will hypothesis based on its defective MIN.....	780
Refutation of Frege's inference rule of generalization.....	781
Confirmation of Frege's "not evident to me" God conjecture to Hilbert.....	782
Refutation of bounded depth Frege quantified propositional proof systems.....	784
Refutation of Frege's theory of real numbers and Boccuni/Panza consistent renderings.....	785
Refutation of the AAFrempong conjecture.....	787
Refutation of the frequency dependence of mass.....	788
Refutation of possible/certain functional dependencies for incomplete data.....	789

Injection, surjection, and bijection functions as bivalent mappings.....	791
Refutation of fusible numbers and Peano arithmetic due to defective FOL.....	792
Refutation of fuzzy logic.....	796
Refutation of triangular bases of fuzzy sets in Łukasiewicz infinite-valued logic.....	799
Gentzen proof of sequent System G-M.....	800
Refutation of Gettier problem of justified true/false belief.....	802
Refutation of GHZ experiments.....	804
Refutation of Gleason's theorem.....	805
Refutation of Göbby's separation theorem.....	806
Refutation of identities for monadic BL-, ML-, and MG-Gödel-algebras.....	809
Refutation of the Gödel class with identity as un-solvable.....	811
Gödel compactness theorem.....	814
Short refutation of Gödel's completeness theorem.....	815
Shorter refutation of Gödel's completeness theorem.....	816
Refutation of a completeness theorem for unrestricted first-order logic.....	817
Gödel's first incompleteness theorem.....	818
Refutation of Gödel's GL logic systems and first and second incompleteness theorems.....	820
Gödel incompleteness theorems.....	822
Refutation (briefest known) of Gödel's first and second incompleteness theorems.....	825
Gödel incompleteness theorem: contradictions in FOL.....	826
Refutation of logics Q , Q^+ and PA^- , $L(PA^-)$ via Gödel incompleteness theorem I.....	827
Refutation of Gödel's incompleteness theorems, yet again.....	828
Refutation of Gödel's two incompleteness theorems by MATR machine-discovered proof.....	829
Gödel incompleteness theorems: Evaluation of computer assisted proofs.....	831
The shortest refutation of Gödel's theorem of incompleteness.....	833
Contra-examples to Gödel incompleteness theorem as Löb axiom and sub-conjecture $\Box \perp > \perp$	835
Refutation of second incompleteness theorem and well-foundedness of jump hierarchies.....	836
Refutation of incompleteness theorems with hidden answers.....	838
Refutation of the second incompleteness theorem by Gödel logic.....	839
Refutation of subset models for justification logic.....	842
Gödel-Löb Axiom.....	843
Refutation of the Gödel-McKinsey-Tarski translation of intuitionistic logic (IPC).....	844
Refutation of truth constants and Gödel modal theory.....	845
Gödel pairing function (pairing axiom).....	847
Gödel Recursion.....	848
Gödel-Scott on God.....	849
Refutation of the godlike computer: Benzmüller's nightmare.....	851
Refutation of the circular version CT, Gödel system T, and type level.....	852
Refutation of God's ethics as norms of divine agency.....	853
Goldbach's conjectures.....	856
Denial of claimed proof of Goldbach's conjecture via Chinese remainder theorem.....	858
Refutation of inconsistency of arithmetic based on Goldbach conjecture.....	859
Refutation of the Goldbach strong conjecture.....	861
Refutation of Goldbach succession gaps to prove the strong conjecture and twin primes.....	863
Refutation of the Goldblatt-Thomason theorem.....	865
Refutation of the predicatively unprovable termination of the Ackermannian Goodstein process.....	867
Refutation of Goodstein's theorem to deny Ramsey's theorem and ZF set theory.....	868
Refutation of graded modal logic.....	870
Refutation of graph neural reasoning.....	872
Refutation of verifying graph programs in GP2 with Hoare first-order logic.....	874

The Grassmannian paradox.....	875
Refutation of the Greach-Kaplan sentence as a puzzle for de rebus belief.....	877
Refutation of axiomatizing rectangular grids with no extra non-unary relations.....	878
Refutation of grills in topology.....	880
Refutation of Grzegorzczuk's 1967 axiom as <i>not</i> a theorem.....	881
Refutation of McCune's theory of groups defined by single axiom and ZX-calculus.....	882
Refutation of the guarded negation fragment (GNFO) as a universal logic.....	883
Refutation of counterexample guided neural synthesis.....	886
Gurevich's nightmare.....	888
Refutation of the Hadamard gate.....	889
Refutation of the Hahn-Banach theorem.....	890
Refutation of the Hall effect.....	892
Why the imaginary Hamiltonian quaternion bears no nexus to reality.....	893
Hamilton's quaternion multiplication as a bivalent operation.....	894
Shortest refutation of the Gauss, Rodrigues, and Hamilton quaternion.....	898
Shortest known refutation of Hamilton's quaternion.....	899
Refutation of Hamkins' theorem.....	902
Refutation of Hamming distance encoding and binarized neural networks (BNN).....	904
Refutation of generalized Hardy's paradox.....	905
Refutation of reforming America's healthcare system through choice and competition.....	907
Refutation of Hegel's dialectical method.....	910
Refutation of Heider inspired international relation theory.....	912
Refutation of the Heisenberg principle of uncertainty by mathematical logic.....	914
Refutation of the conjecture for Heisenberg's principle.....	915
Refutation of the Heisenberg principle as a no-go axiom, and its trivial replacement theorem.....	916
Take a picture of an electron to refute the Heisenberg uncertainty principle.....	918
Refutation of the paradox of Hempel's raven.....	919
Refutation of cyclic Henkin logic (CHL) by the axiom if $\vdash \phi$, then $\vdash \Box \phi$	921
Henkin applications to logic.....	922
Henkin: Validation of permutation model in non-representable cylindric algebra.....	925
Refutation of disjunction as defined in alternative Herbrand functional interpretation.....	926
Herbrand semantics.....	927
Refutation of modal logics of hereditarily irresolvable space by McKinsey's axiom.....	929
Refutation of Heyting algebra.....	930
Refutation of Heyting-Brouwer calculus and negative solution of Kuznetsov's problem.....	934
Meth8 on Heyting-Brouwer logic.....	936
Refutation of Heyting algebra (part two).....	938
Refutation of Heyting logic.....	939
Refutation of the hoop and pocrim in Heyting algebras.....	940
Refutation of hexagons of opposition for statistical modalities.....	944
Mathematical induction as a higher-order logical principle based on permutations of $F > F = T$	947
Hilbert's problem ten (H10) is undecidable: shortest refutation.....	948
Hilbert system generalization.....	951
Refutation of the Hilbert Grand Hotel paradox.....	952
Refutation of intuitionistic logic on a "transfinite argument".....	953
Refutation of Hilbert logic system HG.....	955
Refutation of Hilbert program collapse as a variation on the Gödelian theme.....	956
Refutation of Hilbert's first epsilon theorem in intuitionistic and intermediate logics.....	958
Refutation of alignment completeness for relational Hoare logics by defective rule CONSEQ.....	960
Refutation of the HOL/Isabelle rejection of E.J. Lowe's modal ontological argument.....	961

Refutation of functional type in extensional clausal λ -free high order logic to deny superposition	966
Refutation of reducing injective homomorphisms.....	967
Solution of Horty's puzzles in stit logic.....	968
How computers must think.....	971
Refutation of the Hrushovski construction, to confirm Lachlan and Zil'ber.....	973
Refutation of Huemer's confirmation theory.....	974
Refutation of Hutzelmeyer-Kleene logics.....	976
Huge natural deduction proofs are redundant for logic M_{\supset}	978
Huhn 2-distributive lattice identity.....	979
Refutation of predicate transformer semantics for hybrid systems.....	980
Confirmation of hydraulic forgiveness.....	982
Corollary of peace to hydraulic forgiveness.....	984
Refutation of anticommutative hypercomplex number systems.....	985
Refutation of verification of hyperliveness.....	987
Refutation of rooted hypersequent calculus for modal logic $S5$	988
Refutation of ideals.....	989
Refutation of the paradox of identical events.....	990
Ignorance of first choice.....	991
Imaginary numbers are not tautologous.....	992
Imperative logic: potential mistakes in footnote 47.....	993
Implication combinations derived from $(p \supset q) \supset r$	995
Refutation of translation of implicit logic (IL) to explicit logic (EL).....	997
Confirmation that impossible worlds mean nothing is necessary there but everything is possible..	999
Refutation of inclusion logic.....	1001
Refutation of probabilistic inclusion logic and extensions.....	1002
Refutation of incompletely predictable problems: Riemann zeta and Eratosthenes sieve.....	1003
Refutation of finding limit of incompleteness on decidable logics Q, PA, G, H, and AS.....	1005
Refutation of inconsistency lemmas in algebraic logic.....	1009
Inconsistent theory.....	1011
Refutation of contradiction implies not inconsistent theory, classical analogue of fuzzy paradox	1012
Inconsistent theory: Extending the monad $\exists p \sim p = p$ to a triad.....	1016
Inconsistent theory: Kunen's inconsistency theorem.....	1018
Independence-friendly logic (Kreiselization).....	1019
Refutation of neutrality from God, so as to deny religious in-determinism.....	1020
From the article on Indicative Conditionals at plato.stanford.edu/entries/conditionals/ :.....	1022
Refutation of saturated free algebras (revisited) and almost indiscernible theories.....	1023
Refutation of Leibniz' indiscernibility of identicals and identity of indiscernibles as equivalent..	1024
Logical induction is not tautologous via the Black raven paradox and Kripkenstein.....	1025
Refutation of the induction axiom of the intuitionistic type-theory of Martin-Löf.....	1027
Refutation of the new riddle of induction.....	1028
Refutation of standard induction, coinduction and mutual induction, coinduction.....	1029
Refutation of transfinite induction, an updated revisionist view.....	1031
Refutation of induction formulas in elementary arithmetic EA.....	1035
Refutation of reduction and equivalence of induction models and proof conversions.....	1036
Refutation of the pessimistic meta induction conjecture.....	1037
Refutation of induction on the complexity of a formula and Vietoris functor.....	1038
Inequality of "arbitrarily large" versus "sufficiently large"	1039
Denial of strict inequalities with and without probability.....	1040
Infinite set theory.....	1041
Refutation of directed reachability for infinite-state systems by over-approximations.....	1042

Refutation of broad infinity and generation principles via nat-inductive definition.....	1044
Refutation of the definition of mutual information.....	1046
Refutation of the innovation contest in two sequential stages.....	1047
Refutation of inquisitive modal logic via flatness grade.....	1048
Refutation of "Insanity is repeating the same mistakes and expecting different results".....	1049
Refutation of Bealer's intensional logic via motivations, substitutivity, and axiom S5'.....	1050
Refutation of intensional \downarrow -operator and ultra-filters in Isabelle/IHOML.....	1053
Refutation of execution properties of interaction combinators as a universal model.....	1055
Refutation of condition/decision duality and internal logic of extensive restriction categories.....	1057
The mathematical logic extending a theory of interpersonal interactions.....	1059
Refutation of first-order interpolation derived from propositional interpolation.....	1063
Refutation of interpretability logics.....	1066
Refutation of interpretability logics (1 of 5).....	1068
Refutation of interpretability logics (2 of 5).....	1070
Refutation of interpretability logics (3 of 5).....	1071
Refutation of interpretability logics (4 of 5).....	1073
Refutation of interpretability logics (5 of 5).....	1074
Refutation of interpretability logic, and Vaught and adjunctive set theory.....	1076
Refutation of modal completeness of sublogics of interpretability logic IL.....	1079
Refutation of definition of modal interpretability (for all reasonable arithmetical theories).....	1081
Refutation of modal interpretability logics (IL) and generalized Veltman semantics.....	1082
Refutation of formalized interpretability principles for weak systems of arithmetic.....	1085
Refutation of the interval for model checking.....	1087
Refutation of intuitionism by continuity axiom, denying refutation of excluded middle (PEM)...	1088
Refutation of intuitionistic belief logic system IEL ⁻ , by way of co-reflection and necessitation...	1091
Refutation of extensional realizability for intuitionistic set theory.....	1093
Refutation of complete intuitionistic temporal logics in topological dynamics.....	1096
Refutation of intuitionistic fuzzy decision-making in the Dempster-Shafer structure.....	1097
Refutation of cut-elimination for intuitionistic fuzzy logic via nested sequents.....	1098
Refutation of intuitionistic logic from HYPE, KF, and PKF.....	1100
Refutation of extended WZ logic, Goldblatt-Thomason theorems, and modal intuitionistic logic	1101
Refutation of foundations of intuitionistic mathematics and logic (FIM).....	1102
Refutation of modal monadic intuitionistic logic by linear logics and Casari's formula.....	1105
Refutation of premise rule in intuitionistic set theories.....	1109
Refutation of intuitionistic Zermelo-Fraenkel set theory (IZF), de Jongh's theorem, and CZF....	1110
Shortest known refutation of intuitionistic type theory by its division theorem.....	1112
Refutation of Burley's paradox and rule for irrelevant propositions.....	1113
Refutation of Isabelle/HOL.....	1115
Refutation of transitivity and equivalence of Isabelle's metalogic to deny lambda calculus.....	1118
Refutation of Isabelle/HOL prover assistant.....	1120
Refutation of Isabelle/HOL as a meta-language for teaching logic and of verifier SeCaV.....	1121
Refutation of Jaccard index.....	1123
Refutation of the root in partition Jensen polynomials for hyperbolicity.....	1124
Confirmation of join-prime in lattice theory.....	1125
Refutation of join-semilattices, relational/topological representation, quantifier-free logic.....	1126
Retromorphisms of Jonsson theory in positive logic.....	1128
Refutation of the Jordan curve theorem.....	1129
Refutation of propositional axioms for Judaic argumentation theory.....	1130
Refutation of justification based reasoning for dynamic conflict resolution.....	1140
Refutation of simple valuations in K-categories.....	1142

Confirmation of the logic in the definition of the k -triangular set function.....	1143
Refutation of effective Kan fibrations in simplicial sets.....	1144
Kanban cell logic (KcL).....	1148
The Kanban cell neuron maps the whole brain on an umbilic torus.....	1151
Confirmation of the Kanban cell neuron model.....	1152
Kant's contradictory subtlety of four syllogistic figures.....	1153
Karpenko System K-Ł4.....	1155
Refutation of the Keisler measure in NIP theory.....	1156
Refutation of Keisler's ultraproduct construction.....	1157
Refutation of Kent algebras on rough set concept analysis.....	1160
Refutation of the algebra of binary relations as basis of free Kleene algebras with domain.....	1161
Refutation of a complete axiomatization of reversible Kleene lattices.....	1163
Refutation of the principle and paradox of knowability and its logics.....	1165
Refutation of the knowability paradox and denial of anti-realism.....	1167
Refutation of KPT interpolation via limitation.....	1171
Refutation of Kramers-Kronig relation.....	1172
Refutation of recursive enumerability / elementary frame definability in predicate modal logic. .	1173
Refutation of Kripke frames from incompleteness of BAO's with $\diamond\perp=\perp$	1177
Refutation of a Kripke-frame homomorphism function as p- or bounded morphism of UVO.....	1179
Refutation of Tait-style Kripke-Feferman, and denial of KF, PKF, and Reinhardt's program.....	1181
Confirmed refutation of Kripke-Platek (KP) / Constructive Zermelo-Fraenkel set theory (CZF).	1183
Refutation of intuitionistic logics of Kripke-Platek set theory.....	1184
Refutation of the Kuratowski-Zorn lemma.....	1188
Refutation of the theory of A.V. Kuznetsov to modal systems and structures.....	1190
Refutation of labelled calculi for quantified modal logics with definite description.....	1192
Lachlan problem solution.....	1195
Refutation of Lagrange's theorem, Hilbert's tenth problem, and prover Coq.....	1197
Refutation of lambda λ -calculus and LISP.....	1199
Refutation of division operations in Lambek calculus.....	1201
Refutation of the unified language for linear and relational algebra (Lara).....	1202
Refutation of mapping logic systems into a directed lattice quadrilateral by vertices alone.....	1204
Refutation of lattice effect algebra.....	1206
Refutation of congruence preservation, lattices and recognizability.....	1207
Refutation of Lean theorem prover from Microsoft.....	1209
Refutation of deep reinforcement learning in HOL4.....	1210
Refutation of index sets of computable presentations of Lebesgue spaces.....	1211
Refutation of Leibniz' indiscernibility of identicals and identity of indiscernibles as equivalent..	1212
Refutation of Leibniz' identity of indiscernibles and Leo-III theorem prover.....	1213
Lenzen's "Leibniz's Ontological Proof ... and the Problem of »Impossible Objects«".....	1214
Briefest known ontological proof of God.....	1215
Refutation of lemma flow diagram proof.....	1216
Lemmon D in Lemmon (1957).....	1218
Confirmation of thought experiment refuting length contraction and theory of relativity.....	1219
Refutation of Leopardi's endless edge conjecture.....	1221
Refutation of Łeśniewski's epsilon in modal logic KTB.....	1223
Refutation of deformation field of van Leunen.....	1224
van Leunen's symmetry flavor of fermions and weak modular lattice logic <i>not</i> confirmed.....	1226
Refutation of lexicographic logic for preference representation.....	1228
The liar's paradox is resolved as not a paradox.....	1230
Refutation of liar's paradox, it as a fault of classical logic, and to deny other explanations.....	1231

Refutation of self-referential sentences and provability: antimony of the liar.....	1232
Refutation of a new modal liar.....	1234
Liar paradox Arthur Prior.....	1236
Liar paradox Saul Kripke.....	1237
Refutation of lifting countable to uncountable arithmetic.....	1238
Refutation of lifting QBF resolution calculi to DQBF.....	1241
Confirmation that every straight line through a point inside a circle intersects the circumference.....	1243
Refutation of linear algebra as not bivalent.....	1244
Refutation of Karush-Kuhn-Tucker constraints for linear programming.....	1246
Refutation of linear temporal logic (LTL).....	1247
Refutation of information flow interface for hyper linear temporal logic (LTL).....	1248
Refutation of the principle of residuation in first-order linear logic.....	1250
Refutation of da Costa algebra (shortest) and robust linear temporal logic (rLTL).....	1252
Refutation of Lindström theorems for fragments of first-order logic.....	1254
Refutation of Liouville's theorem as not invertible.....	1257
Refutation of a class of Lipschitz horizontal vector fields in homogeneous groups.....	1258
Meth8 evaluation of Löb's Theorem.....	1259
Shorter refutation of Löb theorem and Gödel incompleteness by substitution of contradiction....	1260
Denial of consistency for the Lobachevskii non Euclidean geometry.....	1261
Logic for primary education.....	1263
Denial of bit code in logical geometry, meet definition of OG and IG, and logic-sensitivity.....	1264
Refutation of IBM's framework of weighted logical neural networks (LNNs).....	1271
Refutation of the logical syntax of IT architectures.....	1274
Recent advances in logical syntax of Universal IT Architecture (UITA).....	1277
Refutation of LogiKEY and HOL via the undecidability of Isabelle/HOL.....	1281
Refutation of the lonely runner conjecture with three runners.....	1283
Refutation of preservation under sub-structures and Łoś-Tarski preservation theorem.....	1285
Logic LTL, reactive systems, $\diamond\phi \rightarrow \square\phi$ and $\diamond\top$, unification types, deterministic frames.....	1286
Refutation of the modern, general, and strong Löwenheim–Skolem theorem.....	1287
Löwenheim–Skolem as a Hilbert style metatheorem.....	1289
Refutation (shortest) of the Löwenheim-Skolem theorem.....	1290
From Echenique, Saito (2015), "General Luce model".....	1292
Denial of the alleged Łukasiewicz nightmare in system \mathbb{L}_4	1293
Rejection of trivial objections to modal logic \mathbb{L}_4	1296
Refutation of non axiomatizability of modal Łukasiewicz logic.....	1298
Shortest refutation of Łukasiewicz three-valued logic over the chain $C_3 = \{0, \frac{1}{2}, 1\}$	1301
How universal logic $\forall\mathbb{L}_4$ fixes modal logic to be bivalent.....	1302
Refutation of Lusin's separation theorem.....	1304
Refutation of Lyndon interpolation.....	1305
Refutation of Majorana's 'root'.....	1307
Denial of Summers' Malice and Alice as a logical puzzle.....	1308
Mapping for theism(s) into the universal logic of $\forall\mathbb{L}_4$	1311
Refutation of the Markov chain.....	1313
Direct numeric analysis of Markov chain simulation.....	1314
Refutation of Karl Marx's mechanization causing profit rate to fall.....	1316
Refutation of superposition as glue in Matita theorem prover.....	1318
Refutation of a proof complexity approach to MaxSAT resolution-based systems.....	1320
Confirmation of guided black-box checking with Mealy machine.....	1322
Refutation of modal meet-implication logic.....	1325
Refutation of existential generalization and prediction of Meinongian theism.....	1326

Refutation of behavioral mereology.....	1328
Refutation of spatial relations and claims in distributive mereotopology.....	1329
Refutation of substitution as the only rule of inference for Metamath prover.....	1331
Metaphysical problem of why there is something instead of nothing.....	1332
Meth8/VŁ4 as proof reading tool.....	1333
Meth8/VŁ4 self-proves in one variable for validity, consistency, completeness, and soundness. .	1334
Meth8 versus Prover9.....	1336
Refutation of the legendary McKinney-Tarski third rule to extend logic systems S4 to S5.....	1337
Refutation of middle knowledge in predestination.....	1340
Refutation of automated structure inference of minimal hierarchy by disambiguation.....	1343
Refutation of Church’s thesis as a consistency property to fulfill the minimalist foundation.....	1345
Refutation of minimization deduction system and mixed-integer linear programming [MILP]....	1346
Refutation of set of cycles in classical real Minkowski plane.....	1348
Refutation of a modal aleatoric calculus for probabilistic reasoning: extended version.....	1349
Refutation of coalgebraic geometric modal logic.....	1351
Refutation of Benzmüller's modal collapse.....	1352
Refutation of Heyting logic, interior logic, Malgari algebra, modal algebra, provability logic....	1354
Confirmation by bivalent classical logic for modal and quantified operators as equivalent.....	1355
Modal logic systems confirmed by Meth8/VŁ4.....	1358
Refutation of bi-intuitionistic modal logic.....	1359
Refutation of ecumenical modal logic.....	1360
Refutation of the modal logic GL_2	1362
Refutation of non-bivalent modal logic.....	1364
Refutation of residuated modal logic and non-distributive logic.....	1365
Refutation of definition of stepwise update modality and modal logic of stepwise removal.....	1367
Refutation of a modal logic for supervised learning.....	1369
Refutation of simpler completeness proofs for modal logics with intersection.....	1372
Refutation of modal logic without reflexivity of artificial injection of Kripke worlds.....	1373
Refutation of modal operators on rings of continuous functions.....	1375
Refutation of modal paradox, parts, counterparts, points, and counterpoints.....	1377
Refutation of modal logic systems EQ-45 and <i>all</i> modal paradoxes.....	1381
Refutation of natural deduction for modal tetravalent logic and its cut-free sequent calculus.....	1383
Refutation of model-companionship set theory and generic-absoluteness and -invariance of V...1385	
Refutation of the incremental model in HOL4, recast as mechanized overloading.....	1387
Refutation of the language of sets for model theory = universal algebra + mathematical logic....	1389
Refutation of the maximality principle, actuality operator @, and modal model theory.....	1390
Shortest refutation of Copenhagen interpretation and its proof by induction.....	1392
Refutation of variable and guarded modal fragments in model theory.....	1393
Refutation of computerized categorical axiomatization of the modeloid.....	1395
Refutation of categorical axiomatization of modeloids.....	1396
Briefer refutation of two modern modal logic systems: JYB4 and subsequent AR4.....	1399
Counter example to "modified divine command theory".....	1401
Confirmation of modus inversus as a bi-valent connective (and denial of its refutation).....	1402
Confirmation of failure of modus ponens when the consequent is itself a conditional sentence...1403	
Refutation of the dependence response and explanatory loops for Molinism.....	1405
Refutation of the Molyneux problem.....	1408
Refutation of monads.....	1409
Refutation of all finite monoids as finite Ramsey monoids.....	1411
Confirmation of one God of monotheism.....	1413
Refutation of axiomatisability of the class of monolithic groups in nilpotent groups.....	1414

Resolution of Moore's paradox as a theorem.....	1416
Refutation that "it is impossible for humans to implement moral absolutism".....	1417
Refutation of relativity on absolute moralism.....	1419
Refutation of the theological problem of moral luck.....	1420
Refutation of the quantifier Most.....	1421
Refutation of the distributive assumption and absolute greatness assumption of Mark Murphy...	1422
Refutation of the claimed definition of multivariable (MV) algebra.....	1424
Refutation of least/greatest fixpoint theory.....	1425
Refutation of naive scale invariance and the world as a hologram of 't Hooft.....	1428
Refutation of examples of monotonicity in natural logic.....	1429
Refutation of the necessary existence approach for proofs of the existence of God.....	1431
Rule of necessitation: a non-contingent truthity, but not a tautology.....	1432
Refutation of necessity causing contingency.....	1436
Meth8 applied to Jan Woleński (2015) <i>On Leonard Nelson's Criticism of Epistemology</i>	1437
Refutation of negative mass.....	1439
Refutation of an automated formal synthesis of neural barrier certificates for dynamical models	1441
Refutation of perfectly parallel fairness certification of neural networks.....	1443
von Neuman-Bernays-Gödel [NBG].....	1444
Re: Deducibility theorems in Boolean logic on neutrosophic logic.....	1445
Refutation of Dezert-Smarandache theory.....	1446
Refutation of neutrosophy as generalized from Hegel's dialectic.....	1447
Refutation of neutrosophic logic of Florentin Smarandache as general intuitionistic, fuzzy logic	1449
Refutation of Smarandache geometry.....	1451
Refutation of another neutrosophic genetic algorithm.....	1452
Refutation of neutrosophic lattices for negated adjectival phrases.....	1453
Refutation of the multi-valued neutrosophic logic (and as a theory of everything in logics).....	1454
Logic not tautologous in neutrosophic sets.....	1455
Refutation of neutrosophic soft lattice theory.....	1456
Refutation of neutrosophy definitions using probability and (in)dependency.....	1458
Refutation of the definition of a neutrosophic set containing another such set.....	1460
Refutation of pseudo-trinitarian mapping of the two great commandments via neutrosophy.....	1461
Refutation of quinary logic in neutrosophy.....	1462
Refutation of the retract neutrosophic crisp set.....	1463
Refutation of Smarandache multi-space theory.....	1464
Unification by neutrosophic logic not tautologous.....	1466
A shorter refutation of neutrosophic logic.....	1468
Neutrosophic logic as a five-valued vector space.....	1469
Refutation of the Newcomb paradox.....	1470
Refutation of the Langan resolution to Newcomb's paradox.....	1471
Refutation of the nomological-explanatory solution (NES).....	1472
Refutation of two variants of noncontingency operator.....	1474
Refutation of completeness for non-deterministic logic.....	1476
Denial of "not all necessary truths are tautology" to confirm "all possible truths are tautology" .	1478
Definition of nothing in mathematical logic.....	1480
Refutation of six weak reactions in nucleosynthesis.....	1481
Refutation of ω -consistency and provability of the axiom of pre-linearity.....	1482
Falsification of OMG infrastructure version 2.4.1.....	1483
Rejection of the definition of the one divine nature.....	1493
Refutation of abductive repair in ontology engineering.....	1494
Refutation of ontology-mediated query (OMQ) and monadic disjunctive Datalog (MDDLg)....	1497

Refutation of the ontotheological error, and enormities therefrom.....	1499
Denial of logically equivalent groups of statements as paths to open theism.....	1501
Refutation of open-universe causal reasoning.....	1503
Refutation of optimization as complex programming.....	1505
Refutation of ordinal notation via simultaneous definition.....	1506
Refutation of the ordinal Turing machine (OTM) on set theory.....	1508
Refutation of the orthomodular law.....	1510
Refutation of algebraic properties of paraorthomodular posets, to deny quantum structures.....	1513
Refutation of overlap algebras constructively to prove complete Boolean algebras.....	1516
P=NP resolution, with 3-SAT not tautologous.....	1518
Refutation of algorithm for 3-SAT satisfiability via claimed Boolean rules.....	1521
Refutation of 3SAT for Karp's cnf into split clauses as NP-complete.....	1523
Refutation of $P \neq NP$ in first-order PA via axiom of extensionality.....	1524
Refutation of panentheism as fragment of ontotheology.....	1525
Refutation of first-order paraconsistent logic $LPQ^{\supset, F}$ and denial of novelty.....	1527
A machine-assisted view of paraconsistency.....	1528
Logical contradiction context: paraconsistent versus classical.....	1529
Refutation of paraconsistent logic on one conjecture.....	1530
Method of reducing paradox to not contradictory and in one variable.....	1531
Two axioms for parameterized-time action logic (PAL), intention as commitment toward time...	1533
Refutation of Parikh's axiomatization of game logic G and completeness of logic system Par. ...	1534
Refutation of Parikh's theory for infinite alphabets via sets with atoms.....	1536
Refutation of a modal logic for partial awareness from published example.....	1537
Refutation of stubborn and sleeping sets in partial order reduction (POR).....	1540
Refutation of the definition of partial ordering on dependencies.....	1543
Refutation of partial quantifier elimination (PQE).....	1545
Refutation of adjunction in partition logic.....	1546
Refutation of Pascal's wager.....	1547
Refutation of the Pauli exclusion principle.....	1549
The axiom of induction in Peano arithmetic.....	1550
Refutation of extended truth definitions to Peano arithmetic.....	1552
Refutation of the Pearl model for cause-effect.....	1554
Refutation of greatest possible being (GPB) and perfect being theology.....	1556
Refutation of the perfectoid field, perfectoid spaces, and almost mathematics.....	1557
Refutation of the Petri net definition.....	1558
Refutation of the ping pong thought framework.....	1559
Denial of logic system $PL4$	1561
Refutation of the definition of the Plancherel measure to denying Langland's conjecture.....	1563
Refutation of Plantinga's modal ontological proof for the existence of God.....	1564
Confirmation of Playfair's axiom.....	1567
Refutation of the definition of Płonka sums of Boolean algebras.....	1568
Denial of Płonka sums in logics of variable inclusion and the lattice of consequence relations...	1569
Refutation of Poincaré recurrence theorem.....	1570
Refutation of poison modal logic (PML).....	1572
Refutation of politeness, strong politeness, finite witnessability and hence stable-infiniteness...	1574
Refutation of pomset and Lambek logic.....	1576
Refutation of the problem of evil.....	1577
Refutation of Plantinga definitions for problem of evil.....	1578
Meth8 on Karl Popper proof $\exists x(Gx)$	1580
Refutation of poset products as relational models.....	1583

Refutation of h-inductive sentences and positive logic.....	1586
Refutation of positive, coalgebraic modal logic.....	1587
Refutation of varieties of positive modal logic (PML).....	1588
Refutation of the conjecture of no strongest extension along with positive logics.....	1590
PowerEpsilon mathematical induction.....	1592
Refutation of correctness from Pratt-Floyd-Hoare logic.....	1593
Confirmation of the five types of prayer in the Historic Church.....	1595
Refutation of predicative collapse and arithmetical comprehension.....	1596
Refutation of the algorithm to generate preference profiles.....	1597
Prenex normal form with prefix and matrix refuted as not bivalent.....	1599
Shortest refutation of prenex normal form.....	1602
Refutation of computability, orders, and solvable groups.....	1603
Refutation of Presburger arithmetic via Axiom 2.....	1604
Refutation of Presburger arithmetic divisibility (PAD) to deny one-counter automata.....	1605
Refutation of multi-dimensional interpretations of Presburger arithmetic in itself.....	1607
Refutation that Strawson’s presupposition is different from Russell’s entailment.....	1608
Refutation of pretabular PM2 extension to S4 to deny unification.....	1609
Refutation of prevarieties and quasivarieties of logic.....	1612
Refutation of non-male or gendered priesthood.....	1614
Refutation of the prisoner’s paradox.....	1615
Refutation of probabilistic approximate logic (PALO) and logical imagination engine.....	1616
Role of logic for probabilistic computation in artificial intelligence (AI).....	1617
Refutation of probabilistic reasoning across the causal hierarchy.....	1619
Refutation of probability logic and connexive logic.....	1622
Refutation of program verification by reduction.....	1625
Refutation of Prolog answer set to legal problem of V.C. Valjean.....	1626
Refutation of propositional proof systems (PPS) and fast consistency provers.....	1628
Refutation of an inequality benchmark for evaluating generalization in theorem proving.....	1629
Refutation of provability logic GL and Japaridze’s derived polymodal (GLP).....	1630
Refutation of reduction of provability logics.....	1633
Difference between ordinary logic (Prover9) and $\forall\mathcal{L}4$	1635
Refutation of pure alethic modal logic (PAM).....	1637
Note about example (2)a in “A puzzle about indefinites”.....	1638
Refutation of reasoning on quantified Boolean formulas (QBF) and proof complexity.....	1640
Refutation of finite open-world query answering with number restrictions.....	1644
Refutation of quantification elimination (QE) by examples.....	1645
Rejection of the quantified modal logic theorem proving (QMLTP) library.....	1647
Refutation of quantified rewrite rules.....	1650
Refutation of quantified reflection calculus with one modality.....	1651
Quantified modifiers as modal operators [†] on connectives in modal logic.....	1653
Refutation of bounded quantifiers.....	1654
Refutation of quantum arithmetic using repeat-until-success circuits.....	1656
Refutation of quantum B-algebras with involutions.....	1657
Refutation of quantum block chain encoding.....	1659
Refutation of voqc as a verified optimizer for quantum circuits in Coq as bivalent.....	1660
Refutation that classical logic is a completion of quantum logic.....	1661
Refutation of control by quantum observation.....	1664
Shortest refutation of independent and entangled states of the quantum hypothesis.....	1665
Refutation of the direct correspondence of quantum gates to reversible classical gates.....	1666
Refutation of quantum gates: Hadamard; Pauli-X, -Y, -Z; Toffoli; and Fredkin.....	1667

Refutation of gedanken experiment for quantum theory as not descriptive of itself, or not.....	1669
Refutation of quantum group relations in associative algebra and categorification.....	1671
Refutation of quantum Hoare type theory and applications.....	1672
Refutation of C-NOT truth table from Honeywell quantum computer claim.....	1676
Refutation of quantum logic as tautologous.....	1678
Refutation of contextuality of quantum mechanics and borders of paradox.....	1683
Refutation of negative probabilities on quantum mechanics.....	1685
Refutation of orthomodular quantum logic.....	1686
Refutation of quantum predicate logic with equality.....	1688
Refutation of hiding classical information by using quantum correlation of a two-party state.....	1691
Refutation of axiom of probability for quantum theory.....	1693
Refutation of the quantum probability rule.....	1694
Refutation of quantum set theory as based on De Morgan laws.....	1695
Refutation of Takeuti's quantum set theory to satisfy De Morgan's laws.....	1700
Refutation of quantum set theories with different conditionals.....	1701
Refutation of operator for quantum simulation of Hamiltonian spectra.....	1702
Refutation of the spin-statistics theorem in QFT.....	1703
Refutation of superposition in QFT as a red herring of Schrödinger's cat.....	1705
Superposition in QFT refutes Schrödinger's cat experiment.....	1706
Refutation of Löwner (Loewner) order and quantum temporal logic.....	1708
Refutation of the quantum qutrit ternary probability.....	1710
Refutation of the three lights experiment for qutrits.....	1711
Refutation of the quaternion based on its implication truth table.....	1712
Many questions and many answers.....	1714
Refutation of the Quine–McCluskey algorithm.....	1715
Refutation of preordered heap structure, to deny quotient in preorder theories.....	1717
Refutation of Ramsey's theorem via Pythagorean triple of integers.....	1718
Unsolved problem by A. Ranjan.....	1721
Refutation of the ranked pentagon lattice.....	1722
Refutation of rational emotive behavior therapy (REBT) and logic-based therapy (LBT).....	1723
Refutation of abstract argumentation and the rational man.....	1725
Refutation of a 'concrete' Rauszer Boolean algebra generated by a preorder.....	1727
Refutation of reachability as tower complete.....	1732
Refutation of theories of real addition with and without a predicate for integers.....	1733
Refutation of realizability models.....	1734
Refutation of realizability Semantics for QML.....	1736
Hans Reichenbach's event-splitting formula.....	1738
Denial of related logic.....	1739
Refutation of invariant linked states of mechanized relational logic ReLoC in Coq assistant.....	1741
Refutation of relativization by structural induction in weighted first order logic.....	1742
Refutation of relevance logic via Routely and Meyer.....	1743
Refutation of relevance logic R and models.....	1744
Refutation of residuated lattice.....	1745
Refutation of residuated lattice by Gentzen provability.....	1746
Refutation of residuated multilattice as set of truth values.....	1748
Refutation of residuated lattice by (semi)lattice-ordered algebra.....	1749
Refutation of resolution-based decision procedure for two variables with equality.....	1750
Refutation of reverse derivative categories.....	1753
Refutation of recursive comprehension in second-order arithmetic for reverse mathematics.....	1754
Refutation of reverse mathematics on measurability theory and computability theory.....	1757

Refutation of reverse mathematics and nets.....	1759
Refutation of uncountability of Real numbers in reverse mathematics (RM).....	1761
Refutation of rewriting logic for compositional specification.....	1763
Riemann hypothesis rendered as not provable.....	1765
Refutation of the Riemann hypothesis using the excluded middle.....	1766
Refutation of additive arithmetic operations in the Riemann sphere.....	1767
Refutation of Riemann's definition of integrals for a cheating runner.....	1769
Refutation of Riemann hypothesis using simple inequality.....	1771
Riemann zeta function, Caceres Proposition 6.....	1772
Refutation of Riemann zeta function and hypothesis.....	1773
Refutation of Riemann hypothesis by two zeta properties.....	1775
Refutation of Robinson arithmetic.....	1776
Refutation of the three laws of robotics and ethical machines.....	1777
Refutation of infallible canon law in the Roman Catholic Church (RCC).....	1779
Roman Catholic Church: Erasmus contra Luther controversy.....	1780
Roman Catholic Church: Infallibility and the Historic Church.....	1781
Refutation of Roman Catholic canon law and by silence of the Holy Ghost present at epiclesis. .	1784
Roman Catholic Church: Magisterium.....	1786
Refutation of the Primacy of the Roman See.....	1789
Refutation of the vision of the Sacred Heart of Jesus.....	1790
Refutation of RCC scourge of Christian fundamentalists by Lambeth Quadrilateral (1888).....	1791
Roman Catholic Church: Tradition above scripture.....	1793
Refutation of the 12th promise of St Alacoque.....	1795
Refutation of Roscelin's nightmare.....	1796
Refutation of provability of consistency with Rosser's theorem.....	1800
Refutation of seminal definition of Rosser's essential undecidability theorem.....	1802
Rota lattice theory distributive axiom.....	1803
Refutation of Ruitenburg theorem.....	1804
Refutation of lattices of intermediate theories via Ruitenburg's theorem.....	1805
Russell paradox.....	1807
Refutation of the Russell-Prawitz embedding.....	1808
S5II+ for propositional quantification.....	1809
Refutation of sabotage modal logic (revisited).....	1810
Refutation of the definition of Sacchetti's modal logics of provability.....	1812
Refutation of Sahlqvist formulas and correspondence theory.....	1813
Refutation of the correspondence theory of Sahlqvist.....	1816
Refutation of non Sahlqvist formulas by three counter examples.....	1818
Refutation of a Sanchez-Rey conjecture for anticipatory fluctuations as threat to markets.....	1819
Refutation of God as satisficer and derived conjectures.....	1820
Refutation of the Schaefer theorem for the P, NP problem (undecided).....	1821
Refutation of Schellenberg's theodicy conjecture and its proffered denial.....	1823
Denial of schematic refutations of formula schemata.....	1825
Erwin Schrödinger's cat thought experiment.....	1827
Refutation of Schröder–Bernstein theory as Cantor's $A \subseteq B \subseteq C$ and $ A = C $ implies $ A = B = C $...	1828
Refutation of the Scott class to invalidate satisfiability of two-variable, first-order logic FO^2	1829
Refutation of Scott's existence axiom in sheaf theory.....	1830
Refutation of Scott sets and denial of subsequent conjectures.....	1832
Refutation of temporal type theory (TTT), temporal landscapes, and Scott's topology.....	1834
Denial of the conjectured experimental model for search fund study.....	1836
Refutation of second-order arithmetic.....	1838

Refutation of second-order quantifier elimination and Craig interpolation in PIE.....	1841
Refutation of eliminating second-order quantifiers into first-order logic by SCAN.....	1843
Resolution in classical modal logic of a security barrier model.....	1844
Law of self-equilibrium: not law; not paradox.....	1847
Refutation of the fixed-point property of self-proving for predicate modal logics.....	1848
Refutation of self-referential families barely avoiding expression of self-truth.....	1850
Refutation of Π_1^- of self-verifying axioms for grounding functions and relation predicates.....	1852
Refutation of finite representability of semigroups with demonic refinement.....	1854
Refutation of semisimplicity, Glivenko theorems, Heyting algebra, and intuitionistic logic.....	1855
Refutation of separability for straight-line string constraints.....	1862
Refutation of Sider's crash course conjecture of separation in first- and second-order logic.....	1863
Refutation of concurrent separation logic to modular formalization.....	1864
Refutation of separation logic by inference frame rule and proof rule small axioms.....	1865
Refutation of transforming antecedents to deny entailment systems and separation logic.....	1867
Refutation of condensable models of set theory by satisfaction classes.....	1869
Two textbook exercises from 1977 inadvertently refute set theory.....	1870
Refutation of shallow embedding in Martin-Löf type theory.....	1871
Refutation of Shevenyonov extension nary antropic to propositional logic.....	1873
Refutation of Shramko-Wansing nightmare in 4^n logic, how computer networks should think..	1875
Refutation of the simulation argument and incompleteness of information.....	1878
Mistakes in rebuttal of refutation of simulation argument and incompleteness of information....	1879
Note on refutation of the simulation argument and incompleteness of information.....	1881
Refutation of single axioms for group theory and Abelian groups.....	1883
Refutation of Skolem axiom form.....	1885
Refutation of the relevance of Skolemization.....	1886
Refutation of the sliding scale theorem in law.....	1887
Refutation of the Solovay theorem.....	1889
Refutation of modal system GL and Solovay's arithmetical completeness theorem.....	1892
Resolution of Sorites Paradox.....	1894
Denial of claimed refutation of physicalistic proof of existence of the soul.....	1895
Confirmation of the Crothers refutation for the special theory of relativity.....	1897
Refutation of splitting proofs for interpolation.....	1898
Refutation of SQ ontologies as undecidable and tree structures as the solution.....	1900
Confirmation of the Łukasiewicz Square of Opposition via logic $V\mathbb{L}4$	1902
Square of Opposition as Meth8 corrected.....	1906
Square of Opposition Modern Revised: not validated as tautologous.....	1908
Proportions in the square of opposition.....	1909
Refutation of the St Petersburg paradox.....	1910
Refutation of definable operators on stable set lattices.....	1911
Refutation of stage theory, level theory, and the Boolean variations.....	1912
Refutation of Stit logic (see to it that).....	1915
Refutation of Stone's hypothesis of representation for Boolean algebras.....	1917
Refutation of conjunction join-semilattices for Stone's representation theorem.....	1919
Stone space type lattice logic model.....	1920
Stone-Wales rotation transforms on four proximal polygons only from complex to simple ring. .	1921
Refutation of short axiomatization of stratified comprehension.....	1922
Refutation of strong jump inversion and decidable copy of a saturated model of DCF_0	1924
Refutation of a higher structure identity principle.....	1925
Student quiz denied as a paradox and refuted as a conjecture.....	1927
Confirmation of Stump's theorem and denial of objections.....	1928

Refutation of decidability of Sturmian words.....	1930
Refutation of subordination algebras in modal logic.....	1932
Refutation of subsumption demodulation in first-order theorem proving.....	1934
Refutation of the principle of superposition of states.....	1936
Refutation of the finite superset reconstruction game: a ZFC set is not independent of ZFC.....	1939
Refutation of supervenience.....	1940
Refutation of the supply and demand conjecture.....	1941
Refutation of surveillance objectives.....	1942
Refutation of uncountability of Real numbers in reverse mathematics (RM).....	1943
Denial of Suzko's problem.....	1945
Refutation of Swinburne's account of Anselm on wrongdoing, and denial of being misquoted....	1947
Refutation of symmetry breaking, Boolean skeletons, ensemble technique, and SMT solver.....	1951
Refutation of symplectic vector space for physics of biology.....	1953
Refutation of L.C.T Lee's theorem for synthetic theorems in machine learning.....	1954
Refutation of tactic learning and proving for the Coq proof assistant.....	1955
Refutation of Tarski's classical relevant logic.....	1957
Refutation of Tarski's geometric axioms and betweenness.....	1959
Refutation of Tarski's undefinability of truth theorem.....	1963
Refutation of Tarski-Grothendieck set theory.....	1964
Refutation of Tarski-Grothendieck theorem by Metamath theorem prover.....	1965
Refutation of the planar Euclidean R-geometry of Tarski.....	1967
Refutation of Tarski's quantifier elimination (QE) as a formal method technique.....	1970
Refutation of tautology problem and two dimensional formulas.....	1973
Refutation of linear temporal logic (LTT) to explain recurrent neural networks (RNNs).....	1974
Refutation of linear temporal logic (LTL) decidability/complexity by Boole/Shannon expansion	1976
Refutation of temporal logic via instant- and interval/period-based models of time.....	1978
Refutation of completeness of temporal logics over infinite intervals.....	1980
Refutation of tense logic and display to labelled proofs back again for tense logics.....	1982
Refutation of the term rewriting approach to automated theorem proving.....	1984
Refutation of critical ternary relations as relational width of first-order expansions.....	1986
Refutation of empirically skeptical theism (EST).....	1988
Denial of the theist's necessary truths to deny a (revisited) logical problem of evil.....	1991
Refutation of logical theory based on compatible consequence in set theory.....	1992
The new bivalent, three-valued logic VL3.....	1995
Refutation that three variables suffice for real-time logic.....	1998
Confirmation of the three wise men theorem in 55 steps.....	2000
Evaluation of t_B , t_N , t_A in a new algorithm for time.....	2005
Time as God conjecture.....	2007
Refutation of time as the coexistence of past, present, future.....	2008
Refutation of time and space to define God.....	2009
The converse implication operator EQT as a tense connective.....	2010
Refutation in shortest proofs for possible worlds, Barcan formulas, levels of essentialism, T_m^* .	2014
Refutation of elementary topoi in logic.....	2021
Proof that transition function of a topological manifold is not tautologous (but close to it).....	2022
Refutation of topological semantics of paraconsistent/paracomplete logics in Isabelle/HOL.....	2023
Refutation of modal logic with the difference modality of topological T_0 -spaces.....	2024
Refutation of Whitehead's method of abstracting points in De Vries' topological space.....	2025
Refutation of the totherian set definition.....	2027
Refutation of determination of trace semantics in coalgebra.....	2028
Refutation of translation invariance in superposition calculus.....	2029

Solution to the traveling salesman problem as a theorem, unrelated to P, NP.....	2030
Confirmation of the triangle inequality.....	2031
Refutation of a common expression for law of trichotomy, replaced by shortest known proof....	2032
Confirmation of the cause of heresy as defective theology of the Holy Trinity.....	2033
Refutation of logical problem of the Trinity.....	2035
Refutation of the philosophical challenge of the Triune God.....	2036
Trivial proofs for a troll.....	2038
Resolution of the ethical trolley problem.....	2039
Truth tables of p, q, r, s with connectives And &, Or +, Xor @, Imply → for DoD.....	2041
Refutation of Turing's halting problem: not a problem.....	2043
Refutation of Turing's halting problem as logically unsolvable.....	2045
Refutation of infinite time Turing machines by semi-decidable norms.....	2046
The twin paradox is not a paradox by mathematical logic.....	2048
Refutation of the two-sided page paradox.....	2049
Refutation of a more efficient approach for the satisfiability of two-variable logic.....	2051
Refutation of type theory.....	2052
Refutation of type theory, groups, and relations.....	2053
Refutation of some combinatorial properties of ultimate L and V.....	2060
Refutation of completeness theorems for first-order logic analysed in constructive type theory. .	2061
Refutation of two types of ultrafilter extensions of binary relations.....	2063
Refutation of the change-of-space relation being an equivalence relation on ultrafilters.....	2065
Refutation of projective determinacy via the ultrapower.....	2067
No unanswered question.....	2069
Refutation of mutual interpretability of weak essentially undecidable theories.....	2070
Refutation of unfalsifiable conjectures in mathematics and science.....	2072
Refutation of unification nets (canonical proof net quantifiers).....	2074
Refutation of the unification type of simple symmetric modal logics.....	2076
Refutation of sequential, unpolarized unity of logic.....	2077
Refutation of the universal finite set.....	2080
Refutation of a universal operator for interpretable deep convolution networks.....	2081
Universal logic VŁ4 © Copyright 2010-2019 by Colin James III All rights reserved.....	2084
Refutation of the theological conjecture of universalism.....	2103
Refutation of Urysohn space.....	2105
Denial of the Valatsos proof for cogito, ergo sum.....	2107
Validation of Veblen's Axiom for Euclidean geometry.....	2108
Confirmation of a trivial vector conjecture.....	2109
Bivalent correction of IEEE Std 1800-2017 (Verilog) and Std 1164-1993 (VHDL).....	2110
On difficulties with definitions of the Veronoï region.....	2113
Confirmation of the Vickrey auction theorem.....	2115
Refutation of modal forms on Vietoris space.....	2118
Refutation of Viper, a saturation-based theorem prover.....	2119
Refutation of a fast algorithm for network forecasting time series by visibility graph definition..	2120
Confirmation of VŁ4 as complete.....	2121
Confirmation of VŁ4 as sound.....	2122
Two VŁ4 theorems not in S5.....	2123
Refutation of Voevodsky: indiscernibility of identicals, univalence principle, foundations.....	2125
Refutation of Ash'arite voluntarism, and subsequent salvific luck in Mohammedan theology.....	2127
Refutation of Vongehr's paradigm shift rendering QM "natural".....	2129
W in system K4W.....	2130
Refutation of Wadge order and application to the Scott domain.....	2131

Shortest confirmation of Wagner-Preston theorem, inverse semigroup as symmetric monoid.....	2132
Refutation of a weak set theory H that proves its own consistency.....	2134
Refutation of the Weisfeiler-Lehman theorem.....	2135
Well ordering property.....	2136
Refutation of the wellfoundedness of the multiset order.....	2137
Refutation of White's model for creation.....	2138
Refutation of the Williamson paradox via the weak-necessity identity principle (WN).....	2140
Refutation of Wiccan analytic theology as vicarious instantiation of incarnation.....	2141
Wittgenstein's <i>ab</i> -notation (and Quine-McCloskey algorithm).....	2144
Refutation of finite models based on word concatenation.....	2145
Refutation of X-homology over manifolds in topology.....	2146
Refutation of Yablo's paradox (confirmed as tautology).....	2147
Yalcin logic.....	2148
Correction to the yinyang logic schema.....	2149
Refutation of first Zadeh's logical operators on fuzzy logic.....	2150
Refutation in one variable of the historical basis for fuzzy logic.....	2152
Refutation of perfect and strong functions in fuzzy logic.....	2153
Refutation of measures for resolution and symmetry in fuzzy logic of Zadeh Z-numbers.....	2155
Refutation of Zadeh's Swedes and Italians challenge as a logic problem.....	2156
Refutation of Zaionc paradox that asymptotically most classical theorems are intuitionistic.....	2158
Refutation of affine varieties in Zariski topology and denial of Grothendieck's scheme theory....	2159
Refutation: constructive Zermelo-Fraenkel set theory (CZF), extended Church's thesis (ECT)....	2161
Refutation of an apparently weaker version of the axiom of infinity in ZF set theory.....	2164
Shortest refutations of the Zermelo-Fraenkel (ZF) axioms.....	2165
Refutation of axiom of choice in 1 operator or quantifier, 2 variables, and 4 connectives.....	2169
Refutation of the axiom of the choice of the subsets.....	2170
Refutation of formal treatment of terms in Isabelle/ZF and consistency of AC.....	2172
Axiom of empty set (null set).....	2174
Shorter refutation of the ZF axiom of the empty set.....	2175
ZF Law of Excluded Middle on Infinite sets (LEMI).....	2176
Axiom of extensionality.....	2177
Refutation of the axiom of extensionality.....	2178
Refutation of axiom of extensionality, Kuratowski pairs, and abstraction barrier to ZF.....	2179
Refutation of ZF*-extensionality to interpret full ZF.....	2181
Refutation of non-wellfounded sets and the anti-foundation axiom.....	2184
Other refutations of ZFC axioms.....	2189
Refutation of set theory with a proper class of indiscernibles.....	2193
Refutation of set theory by supremum and infimum.....	2195
Refutation of the parameter free ZFC ⁰	2196
Meth8/VŁ4 on zero and three in arithmetic.....	2197
Refutation of multiplication, addition, and subtraction by zero calculus.....	2199
Definition of the zero knowledge proof refuted.....	2200
Zeroth law of thermodynamics is an implication and not an equivalency.....	2201
Appendix: Rationale of rendering quantifiers as modal operators.....	2202
Meth8 on Modus Cesare and Modus Camestros.....	2214
Availability of Meth8/VŁ4.....	2217
Availability of Meth8/VŁ4 demo for 2-variables (p,q) with unlimited sequents.....	2218
Scalability of Meth8/VŁ4.....	2219