

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

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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 1313 artifacts in 9888 assertions to confirm 775 as tautology and 9113 as *not* (92.16%) in 2459 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.

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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	Induction, abduction, deduction: Peirce	Inference	2	1
5	Abduction, induction, confirming deduction	Inference	2	1
6	Abelian groups, absoluteness, \aleph_1 -freeness	Conjecture	5	
7	Abortion	Conjecture	2	1
8	Abstract theory of segments using Prolog	Proofs	15	3
9	Ackermann's approach to quantifier reduction	System	20	2
10	Ackermann's function, recursion, proves AFL,Isab./HOL	Experiment	7	
11	Action logic, undecidability	Definition	2	
12	Adaptive algorithm for molecular simulation	Conjecture	5	
13	Additivity of measure implies additivity of category	Theorem	6	
14	Adequacy, sufficiency, formalization in predicat logic	Conjectures	14	
15	Adjunction rules (shunting) on Kripke monoids	Conjectures	13	
16	Affinoids, stably uniform as sheafy	Conjecture	9	
17	Agile development, theory, practice, novel resuscitation	Conjecures	24	2
18	AGM / Levi and Harper bridging principles	Postulates	7	3
19	Remainder sets, paraconsistent revisions	Operators	5	
20	Agnostic, atheist, fideist, skeptic vs theist, Historic Ch.	Definitions	15	
21	Agnostic hypothesis testing	Hexagon	9	2
22	Subset of atheism from no-belief	Conjecture	4	2
23	AI: divide the dollar competition	Experiment	1	
24	Reduction for scalable deep learning	Algorithm	3	
25	Alcoholics Anonymous (AA) BB: We agnostics, p 53	Conjecture	5	
26	Absolute purity, honesty, unselfishness, love (4)	Theory	1	1
27	Aphorism acceptance inverse expectation	Proportion	1	
28	Aphorism acceptance as answer	Conjecture	2	2
29	Contradictory sayings	Paradoxes	4	
30	Hydraulic Step 2	Conjecture	1	
31	"life being good to me" as "being stability / God"	Conjectures	10	
32	Mappings of 12 traditions	Conjectures	17	2
33	Prayer for God's will, Frank McKiven	Conjecture	4	
34	Spiritual axiom	Axiom	2	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
35	Three legacies	Theorems		4
36	Way to keep sobriety as giving away	Conjecture	1	
37	Alexandroff correspondence	Conditional	3	
38	Algebraic subgroups for fundamental sets	Conjecture	3	
39	Algebras of partial functions via axiom $a-(b-a)=a$	Conjectures	4	
40	Alligator prover for dependent type systems	Theorem	3	
41	Alternating Turing machines (ATMs)	Problem	3	
42	Alternative set theory (AST): axioms, definitions	Theory	12	
43	Real numbers, functions: natural numbers	Theorem	3	
44	Alvarex-Picallo/Lemsay Cartesian difference categories	Conjectures	3	
45	Analogy as inference	Rule	3	
46	Analysis as both correct and informative	Paradox	5	
47	Analytic principles of choice and dependent choice	Axioms	3	
48	Analytic theology, feminist political Marxist polemic	System	43	7
49	Analytical theology as declarative and deductive logic	Conjectures	8	
50	Analytical theology, scientific basis as GATRG	Definition	4	
51	Anderson anti-paradox, COB	Theorems	9	2
52	Anderson division by zero as nullity	Theorem	3	
53	Anselm's Proslogion	Conjectures	15	1
54	Answer set programming	Conjectures	18	
55	Approximations of theories	System	1	
56	Arch-homosexual assertion by feminist mantra/abortion	Assertion	10	
57	Armstrong's ontological argument	Conjecture	6	1
58	Arithmetical hierarchy in Heyting intuitionistic logic	Theorems	140	
59	Arrow's impossibility	Theorem	7	
60	Aseity, Descartes, contra-adornment	Theorem	4	
61	Assertion logic, verify quantum progs. w. prob. control	Conjecture	5	
62	Athanasian creed (Holy Trinity)	Credo	1	2
63	Atonement	Theorem		3
64	Automatic verification of $\forall\exists$ -hyper properties, RHLE	System	3	
65	Automorphisms	Group	10	
66	Awareness logic, relativized Boolean algebra	System	14	
67	Axiology of God	Claims	8	1
68	Axiom pinpointing	Method	3	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
69	Axiomatizing category theory in free logic	Axioms	5	5
70	Fuzzy logic with graded modalities	Conjecture	1	
71	Axioms, modal, non-bivalent, street provers	Axioms	18	3
72	Bachmann-Howard/derivatives (only one generic lattice)	Conjectures	11	5
73	Banach order space, generating positive cone	Definition	2	1
74	Banach-Tarski , shorter resuscitation attempt	Paradox	2	
75	Another student attempt claiming axiom of choice	Paradox	8	
76	Crucial claim in Step 3 of proof, shortest	Paradox	1	
77	Bar recursion	Mapping	2	
78	Barcan	Formula	37	32
79	Barwise compactness	Theorem	2	
80	Basic Logic (bL)	System	6	1
81	Bayes rule	Rule	11	11
82	Bayes rule, odds form, shortest refutation	Rule	4	
83	Bayesian entailment	Hypothesis	4	
84	Bayesian network for only conditional probabilities	Definition	9	
85	BCI- / BCK-algebra	System	5	3
86	Beal conjecture	Equation	5	2
87	Bell / CHSH / Spekken toy model	Inequalities	7	
88	A shorter refutation	Theorem	2	
89	A simpler refutation	Theorem	2	
90	Bell's inequality by axiom of empty set	Theorem	2	
91	Bogus Bellian logic (BBL)	Theorem	5	
92	Coercive proof	Theorem	2	
93	Coin toss proof	Conjectures	2	
94	Original inequality with assumption	Conjecture	4	
95	Original inequality with assumptions	Conjectures	5	
96	Original inequality and CHSH	Conjectures	6	
97	Positive reasons proof	Theorem	6	3
98	Temporal logic	Theorem	1	
99	Tropical sum	Method	1	
100	Bellman's Lost in the forest problem, solution	Theorem		4
101	Berkeley	Paradox	1	
102	Bernstein-Vazirani	Algorithm	4	1

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
103	No-cloning theorem	Theorem	2	
104	Bertrand-Chebyshev theorem / postulate	Theorem	2	
105	Betweenness theory	Axioms	9	7
106	Order-theoretic trees	Axioms	11	
107	Partial orders	Axioms	11	
108	BF calculus, Spencer-Brown Primitive arithmetic	System	8	
109	Bi-abductive inference in separation logic	System	11	2
110	Bianchi identity refutes decomposition of curvatures	Axiom	2	
111	Bijjective function basis, cardinals, Cantor set theory, fnd.	Assumption	16	
112	Biscuit conditionals	System	13	
113	Bisimulation as logical relation via separation axiom	Theory	7	
114	Bisimulation, coinduction, Howes' congruence	Proof method	5	
115	Bisimulation semantics, process algebra	Conjecture	3	
116	Bitstring and question-answer	Semantics	18	
117	Black box tests	Theory	5	
118	Blameworthiness degrees	Coalition	3	5
119	Block argumentation	Method	15	
120	Blok-Esakia	Theorems	5	
121	Bogdanov map, 2D conjugate of Hénon map	Formula	1	
122	Boolean algebra, necessary and sufficient isomorphism	Conjectures	3	
123	Boolean connectives, 2D isotopes	Conjectures	6	1
124	Boolean functional synthesis engine by Skolemization	Conjectures	7	
125	Boolean logic, quantifying literals to explain AI	Conjectures	66	
126	Boolean polynomials	Conjecture	3	
127	Boole's development thm./ universe class/ eigenlogic	Theorems	23	
128	Boone-Rogers, uniform word problem	Theorem	2	1
129	Borel base and hull	Conjectures	2	
130	Born rule	Theorem	6	
131	Exclusivity rule as basis	Theorem	5	
132	Borsuk-Ulam theorem (BUT)	Conjecture	1	
133	Bounded and Σ_1 formulas in PA	Conjecture	1	
134	Homorphism / fiber products of lattices	Conjectures	3	
135	Lattice-ordered groupoids, residuated	Theory	5	
136	Modal logics on transitive frames	Conjecture	6	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
137	Bourbaki-Moroianu-Tarski fixed point theorem	Theorems	10	
138	Boyer's question	Paradox	3	
139	Branching quantifier (Hintikka)	System	3	
140	Brouwer fixed point theorem (BFPT)	Conjecture	3	2
141	Dense linear orderings (DLO)	Axiom	4	
142	Browder's theorem	Conjecture	1	
143	Buddhist logic	Tetralemma	12	
144	Bunch theory with derivations	Theory	14	
145	Buridan's Ass	Paradox	11	
146	Schemata and Barcan formula	Conjecture	8	8
147	Business processes	Framework	7	
148	Buss's bounded arithmetics	Hierarchy	6	
149	Cabannas objectivity	Theory	1	1
150	Hypothesis recast in equational arithmetic	Conjecture	13	
151	Calvin's lesser magistrate, private citizen arguments	Doctrine	6	
152	Cancellation law, basic arithmetic (BA), MRDP thm	Conjecture	9	
153	Cantor's continuum conjecture, binary injection	Hypothesis	2	
154	Axiom of infinity, invalidating aleph-zero (\aleph_0)	Hypothesis	35	
155	Continuum conjecture, interpreted	Hypothesis	3	
156	Diagonal argument	Proof	3	
157	Disproof of one of Cantor's cardinals	Confirmation	2	
158	Pairing	Functor	1	1
159	Set definition	Theory	13	
160	Uncountable sets, existence of	Theory	5	
161	Cardinals, large: choiceless, extended	Definition	4	
162	Independence via interpretability hierarchy	Conjectures	19	
163	Ineffable	Conjecture	5	
164	Sets, duality and preservation theorems	Theory	3	
165	Carroll's tortoise and Achilles	Paradox	3	2
166	Caswell's significant curriculum issues (1952)	Theorem	5	1
167	Categoricity, set-theoretic reflection, extensionality	Definition	4	
168	Causality	Axiom	3	2
169	Causal criterion of event identity	Definition	2	
170	Category algebra and theory	System	21	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
171	Category composition of morphisms	Definition	1	
172	Tannakian via Iwasawa embedding	Axioms	1	
173	Category semantics, implication connectives	Conjecture	3	
174	Category theory by lattice identity / partitions	Conjectures	5	1
175	Non-extensionsal, partial ops/classifs, foundation	Theory	10	
176	Unrestricted by Feferman's partial app/classif	Theory	3	
177	Causal time loops and the immaculate conception	Conjectures	27	
178	CC conjecture of Lin Fan Mao	Conjecture	2	
179	Ceers: computably enumerable equivalence relations	Theorem	4	
180	To solve word problems	Definition	3	
181	Ceteris paribus semantics for deontic logic	Conjecture	5	
182	Chaitin incompleteness and L constant	Theorem	3	1
183	Chinese room argument: Brain Simulator Reply (BSR)	Conjecture		3
184	Chisholm paradox	Paradox	2	
185	CHSH inequality	Conjecture	1	
186	Dual reality	Conjecture	5	
187	Christianity, Judaism, Mohammanism	Theologies	3	3
188	Christology, fundamental, mutability	Problem	5	2
189	Invoking the Holy Trinity with man as is	Problem	5	
190	Religions with no answer to fundamental problem	Problem	10	2
191	Chromatic number of product of graphs as countable	Conjecture	2	
192	Church	Thesis	2	
193	Church's thesis	Theorem	4	
194	Arithmetical form	Thesis	2	
195	Consistency with Martin-Löf type theory	Theorem	3	
196	Church-Rosser	Theorem	2	
197	Cila, da Costa's C_1 , paraconsistent set theory	Logic	3	
198	Class of all sets; size limit; ax-groth; grothpw; Tarski	Axioms	6	
199	Class of models to represent fundamental physics	Conjectures	86	
200	Classical linear (CL-) algebra, residuation property	Conjecture	3	
201	Clausal language	System	5	
202	Clause set cycles, unprovability results, induction	Method	8	
203	Clausius-Clapeyron on spacial dimension	Equation	1	
204	Clifford tori 2D / Kanban cell neuron	Definition	2	3

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
205	Cloward-Piven strategy of social chaos	Conjecture	2	
206	Coalgebraic cover modality, completeness, many valued	System	50	
207	Coherence in modal logic	Refutation	1	
208	Objection, and solution	Objection	18	2
209	Co-inductive computing with continuous objects	Rule	4	
210	Coinduction, regular	System	3	
211	Coinductively infinite streams of specified codata	Technique	5	
212	Collatz (briefest known confirmation)	Conjecture	4	1
213	Collection theory as set of all closure sentences	Schema	1	
214	Communications-based train control (CBTC)	Algorithm	13	
215	Communications, four sides model	Theory	3	
216	Commutative short circuit on propositional logic	System	1	
217	Comonad, pebbling in finite model theory	Conjectures	12	
218	Comonadic semantics, guarded fragments	Conjecture	7	
219	Comonadic semantics, relating structure and power	Conjectures	9	
220	Comorphism of sites for Grothendieck toposes	Theory	1	
221	Complementarity inequality	Refutation	2	1
222	Completeness: inclusion/equivalence of universality	Conjecture	1	
223	Complex (\mathbb{C}), imaginary number rendering	Method	1	1
224	Compliance checking based on semantic rules	Method	2	
225	Compositional truth	Model	3	
226	Computer simulation model theory (CSMT)	Method	2	
227	Conceivable statement of Perez confirmed	Definition	18	1
228	Conceptivistic / containment logic: proscription	Systems	3	
229	Concolic testing for logic programs in SMT	Method	8	
230	Conditional logic: improved Adams	Hypothesis	7	
231	Events in QL	Conjectures	8	1
232	Necessitarianism	Conjectures	6	
233	Confluence in rewrite systems	Property	3	
234	Connexive logic: Wansing's nightmare	System	2	
235	Aristotle, Boethius justifying connexive	Theses	4	
236	Aristotle, Boethius, Abelhard, Wansang	Conjectures	22	
237	De Finettian logic conditionals	Indicatives	10	
238	Conscience	Theorem	1	1

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239	Consequence operators, general logic, ultralogics	Axioms	17	
240	Nonstandard ultra-logic-systems, GGU-model	System	16	
241	Ultralogic based on consequence operator	System	44	
242	Conservatism (phenomenal) = exclusivism (seemings)	Principles	8	
243	Constraint satisfaction problems (CSPs), temporal combo	System	5	
244	Constructive analysis with witnesses in Minlog	Assistant		3
245	Constructive logic	System	14	2
246	Constructive-math: Ishihara's tricks on LPO/WLPO	Principles	3	
247	Constructive operations research, Berger-Svindland ruse	Conjecture	29	
248	Contingent, necessitarian, and internal, external	Conjectures	5	
249	Continuum hypothesis (CH)	Conjecture	2	1
250	Independence of CH and claimed formal proof	Proof	56	0
251	CH: forcing; refugarity=choice; epsilon-set-induction	Conjecture	14	
252	Chisolm modal paradox, Kripke QML, m.toleration MTP	Paradox	14	
253	Cook's PV logic redefined by refuted Dowd equations	Theory	14	
254	Contradictory Christology	Dilema	9	
255	Cook-Reckhow	Definition	6	
256	Coq proof assistant	Prover	1	
257	Type theory	Axioms	4	
258	Correspondence of van Benthem	Theory	66	1
259	Correspondence theory of truth	Theorems	22	
260	Corsi logic in one variable	System	6	
261	Countable groups, hyperfinite measuring actions	Model	6	
262	Counterfactual analysis of causation	Reversal	1	
263	Counterfactual conditional as modality of irreality	Definition	4	
264	Counterfactuals with vector logic	Proof	14	
265	Counterpart theory on intensionality logic	Theory	7	3
266	Craig's interpolation, shorter and derived conjectures	Theorem	10	
267	Constructive by Fefferman	Theorem	4	2
268	Constructive using Maehara's technique	Theorem	7	
269	Creative theories in degrees of unsolvability	Theorem	1	
270	Critical race theory (CRT), denial by racist white rage	Principle	8	
271	CTMC: continuous time Markov chains, life sciences	Theory	18	
272	Curry-Howard correspondence	Conjecture	4	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
273	Curry-Howard correspondence, shortest	Conjecture	2	1
274	Curry's paradox	Paradox	2	
275	Cut elimination/normalization for generalized calculi	Conjecture	2	
276	D Ultrafilter contra continuum problem	Equation	1	
277	De Morgan algebras, existentially closed	System	2	
278	Decidable logics, classical, extended with % quantifiers	System	3	
279	Decoherence (pre-measurement) quantum mechanics	Formula	1	
280	Decomposition theorems, combinatorial proofs for FOL	Theorems	12	
281	Dedekind lattice identity	Axiom		1
282	Deduction-detachment, universal deduction	Theorem	3	
283	Deduction, natural for first-order logic (FOL)	Calculus	7	
284	Deduction, natural with new connective	Axioms	4	
285	Deduction, non-compact, for GL via Löb formula	System	3	
286	Deductive reasoning, noisy (NDR)	Conjectures	10	2
287	Defeasible reasoning	Theory	28	
288	Defeasible reasoning, parallel stratified, Tweety case	Rules	8	
289	Deligne completeness link positive / coherence logics	Theory	8	
290	Dempster-Shafer belief and plausibility	Theory	3	
291	Density of all Turing and truth table degrees	Formula	2	
292	Deontic logic, alleged intuitive problems	Logic	5	
293	Dependence deciding in logic and algebra	System	16	
294	Dependent choices (DC) on supercompactness	Axiom	2	
295	DC with axiom of determinacy (AC) on mice	Axioms	2	
296	Description logic	System	2	
297	Cardinality constraint, logic ALCSC	System	7	
298	Free with definite descriptions	System	13	
299	Power set POW of any Ω -model	Operator	4	
300	Unions in descriptively near sets	Operator	6	2
301	Deutsch constructor theory	Conjectures	4	
302	Dialetheism	System	4	
303	Dialetheism: inconsistent	System	2	
304	Paraconsistent, relevance logic	System	25	
305	Paradox of dialetheia	Paradox	7	1
306	Dichotomy of selection	System	1	

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307	Differential equations, singularities via logic	Approach	12	
308	Differential Hoare logics with Isabelle/HOL	Logic	6	
309	Reasoning	Logic	1	
310	Diproche system for mistake diagnosis	Prover	9	
311	Dimension order property (DOP), Borel reduts	Theory	6	
312	Disjunction in MMT format to access HOL content	Libraries	3	
313	Disjunctive correctness (DC), two halves	Principle	10	
314	Distributive bilattices	Variety	1	
315	Disturbance	Feature	4	
316	Diverse double-compiling	Schema	1	
317	Diversity, dependence, and independence	Axioms	4	
318	Divine authority	Theses	8	
319	Divine command (DCT), trilemma	Theory	17	1
320	Divine consistency of mathematics	Conjecture	10	
321	Divine foreknowledge, contra human freedom: Noperator	System	10	
322	Divine priority (DDP), pantheism = complex theism	Doctrine	12	
323	Divine retribution vs. God's purpose of Isaac the Syrian	Conjectures	3	
324	Divine universal causation (DUC): Grant's dual source	Conjecture	4	
325	DUC, determinism, metaphysical contradiction	Conjecture	9	
326	Domain theory of Dana Scott	System	6	
327	Poset: reflexive, antisymmetric, transitive	Definitions	2	1
328	Doxastic logic	System	8	13
329	Drinker's paradox	Paradox	1	
330	Dual world interactions as theory of everything (ToE)	Conjecture	3	
331	Duality corrected for weak by refuting strong	Theorem	7	2
332	Dunn-Belnap semantics, BN4, E4, Routley-Meyer B	Theorems	34	
333	Dyatic semantics on paraconsistent logic C_I	Approach	4	
334	Dynamic logic, multi-valued concurrent	Conjecture	4	
335	Propositional dynamic logic (PDL), finite-value	System	7	
336	$E=mc^2$	Theorem	3	1
337	EF-axiom: topology and near sets	Axiom	1	
338	Ehrenfeucht-Mostowski indiscernables	Theorem	1	
339	Einstein-Podolsky-Rosen (EPR)	Paradox	1	
340	Electrical circuit theory, standard relational composition	Theory	10	

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341	Elementary constructive set theory (ECST)/CZF	Definitions	6	
342	Elgot uniform iteration in foundations	Definition	4	
343	End of time, Kripke choice of sequence in IC	Axiom	19	
344	End without end	Paradox	4	
345	Entanglement vs untanglement: no-no go-go	Conjecture	28	
346	Enumeration reducibility, degrees, topology	Method	1	
347	Epicurus invoked by Epictetus	Paradox	1	
348	Epimenides the Cretan	Paradox	1	
349	Epistemic logic: coalition	Perfect recall	4	3
350	Duty to warn	Conjecture	4	
351	Dynamic public announcement logic (PAL)	System	4	
352	Dynamic reasoning	System	2	
353	Dynamic via axiomatic theory of $K\Box$	Axiom	4	
354	Hilbert substructure	System	5	
355	Knowledge and probability	System	2	
356	Navigation	System	8	
357	Quantifiers over agents	Conjecture	8	12
358	Equational logics, fixed pts, transform extended metric d	System	3	
359	Equisatisfiability and method of forgetting	Theory	5	
360	Erdős-Strauss	Conjecture	1	
361	For $n \geq 2$ and $n \geq 3$	Conjecture	3	
362	Escapism from hell, Mormon afterlife	Conjecture	6	
363	Eternity of Hasker, Plantinga, eternal-temporal (ET)	Doctrine	8	1
364	Ethical reasoning and HOL proof assistant	System	1	
365	Euathlus, Protagoras, paradox of the court	Paradox	19	
366	Epistemic / normative justifications	System	7	
367	Euclidean geometry embedded in non Euclidean	Conjecture	3	
368	'everything' means everything	Conjecture	3	
369	Excluded middle as a no-go theorem in reverse math	Conjecture	4	
370	Excluded middle weak laws (WEML), algebraic non sig.	Conjectures	17	
371	Existential rules languages / model-theoretic forms	Conjectures	4	
372	Extrema order filter in finite-value Łukasiewicz logic	Theory	19	2
373	"Ex nihilo": some thing from nothing	Conjecture	4	4
374	Faith and works solution, denial of supererogation	Theorem	8	1

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
375	Falsification by satisfaction function: DeepOpt	Techniaue	13	4
376	Family unit theorem contra refuting uni-gender union	Conjecture	3	1
377	Fan theorem, Brouwer's assumption, lawless seq. axiom	Conjectures	6	
378	Decidable	Conjecture	8	
379	Detached subset DEFU, cont. function DECO	Definitions	3	
380	Fatalism, theological	Argument	13	
381	Beyond fatalism	Dilemma	5	
382	Feferman-Vaught via Morley homogeneous systems	Theorem	5	
383	Fermat sum of squares, Zagier one-sentence Coq proof	Theorem	7	
384	Fictional logic based on Levi-identity / AGM	System	5	4
385	Filioque as mis-attributed invoking Macedonianism	Conjectures	6	
386	Finitary, algebraizable logic undecidable in Hilbert	Conjectures	6	
387	Finite direct powers of ω for modal model	System	2	
388	Finite implicational BBP, basic process algebra Kleene *	System	13	
389	Finite model theory via bisimulation of 3-colorability	Conjecture	3	
390	Finite model theory via Hamiltonicity	Conjecture	5	
391	Finite models in multisorted FOL / clause splitting	System	1	
392	First-order proofs without syntax	Conjecture	5	
393	First order (FO) checking of geometric graphs	Method	6	
394	First order programming (FOP) and MILP	Prover	12	
395	First-order reasoning by manipulating term algebras	Method	7	
396	First- and second-order logic, shortest refutation	Theory	5	
397	Fitch's knowability	Theorem	2	
398	Fitting's operator in semantics for stream reasoning	Operator	7	
399	Fixed point operator mapping mu-calculus	Paradox	4	
400	Fixed point theorem (as Gödel second incompleteness)	Theorem	7	
401	Fixpoint by relational forward deductive/predictive ppp	Theory	10	
402	Fixpoint theory, least/greatest	Theory	15	
403	Flow: ZFU axioms independent of partition principle	Conjecture	15	1
404	Flow sets: choice axiom independ. of partition principle	Conjecture	23	
405	Flow theory	Conjecture	2	
406	FOL disjunctive normal forms (DNF): minimize	Conjecture	14	
407	Continuous induction on real closed fields	FOL Optimizer	2	1
408	FOT first order team logic	System	11	1

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409	Fodor weaker/stronger, class	System	1	
410	Force speed greater than light speed	Principle	5	1
411	Forcing method	Conjecture		3
412	Forcing method via Cohen's model and derivations	Paradoxes	2	
413	Method to change large cardinal strength	Definition	3	
414	Shelah's fundamental proper forcing	Theorem	4	
415	Forgetting theory, propositional	Theory	9	
416	Formal inconsistency enriched with replacement	Conjecture	7	
417	Formalization of AC as equivalents using Coq	Theorems	3	
418	Four color theorem via newly disclosed proposition	Claims	6	
419	Frauchiger-Renner conjunctives	Theorem	3	
420	Frauchiger-Renner thought experiment	Paradox	6	
421	Thought quantum model	Paradox	5	
422	Fredkin	Paradox	14	2
423	Free choice permission (FCP) in deontic logic	Paradox	1	
424	Free logic (presupposition) for FOP (implication)	Paradox	1	
425	Free logics with definite descriptions (DD)	Conjectures	26	
426	Free will argument of Maimonides	Conjecture	12	
427	Non-existence	Paradox	1	
428	Free will theorem: Clifton-Kochen-Specker	Refutation	8	2
429	FIN axiom	Theorem	1	
430	MIN axiom	Hypothesis	2	2
431	Frege's inference rule of generalization	Hypothesis	1	
432	Frege's "not evident to me" God conjecture to Hilbert	Conjecture	2	
433	Frege quantified propositional proofs, bounded depth	Theorem	3	
434	Frege real numbers (Boccuni/Panza consistent rendering)	Theories	19	
435	Frempong conjecture	Rule	2	
436	Frequency dependence of mass	Conjecture	2	
437	Functional dependencies, incomplete data	Theorem	3	1
438	Functions of injection, surjection, bijection	Conjectures	3	3
439	Fusible numbers and Peano arithmetic	Conjecture	16	
440	Fuzzy logic	Systems	25	
441	Fuzzy sets of triangular bases in infinite-valued logic	Theorems	2	
442	Galois theory formalization and Lean theorem prover	Method	9	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
443	Gentzen proof of sequent System G-M	Logic	7	2
444	Gettier (justified belief)	System	6	2
445	GHZ (Greenberger-Horne-Zeilinger)	Problem	6	
446	Gleason	Experiments	1	
447	Gobbay's separation	Theorem	1	
448	God is not a person, notion	Conjecture	3	
449	God is not a person, shortest	Conjecture	3	2
450	Gödel algebra: BL-, ML-, MG-	System	8	
451	Gödel class with identity un-solvable	Theorem	17	
452	Gödel compactness	Conjecture	10	1
453	Gödel completeness, short	Theorem	6	2
454	Shorter	Theorem	2	
455	Theorem, for unrestricted first-order logic	Theorem	2	
456	Gödel Dialectica logic	Principles	7	
457	Gödel first incompleteness	Theorem	4	
458	Gödel GL, GLS logics; first, second incompleteness	Theorems	5	
459	Gödel incompleteness	Theorem	4	
460	Briefest refutation of first and second theorems	Theorems	3	
461	FOL	Equations	14	1
462	I on logics of Q , Q^+ and PA^- , $L(PA^-)$	Limits	7	
463	Kripke frames on direct self-reference	Conjectures	4	
464	MATR machine-discovered proofs of I and II	Automation	5	
465	Theorem, computer assisted proofs	Contradictions	14	1
466	Shortest	Assistant tools	2	2
467	Via Löb counter-examples	Refutation	7	
468	Well-founded jump hierarchies	Refutation	9	2
469	With hidden answers	Refutation	4	
470	Gödel-justification logic	Refutation	7	
471	Subsets	Refutation	7	2
472	Gödel-Löb	Models	2	
473	Gödel-McKinsey-Tarski translation of IPC	Axiom	1	
474	/ Blok-Esakia for Heyting-Lewis implication	Axioms	33	
475	Gödel modal theory with truth constants	System	7	
476	Gödel pairing function	Theorem	1	

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477	Gödel recursion	Axiom	3	1
478	Gödel-Scott on God	Theorem		1
479	Godlike computer: Benz Müller's nightmare	Theorem schema	5	2
480	Gödel logic T, circular version CT	System	5	
481	God's ethics as norms of divine agency	Conjectures	10	2
482	Goldbach's conjectures	Proof	2	
483	Chinese remainder theorem	Conjectures	8	2
484	Inconsistency of arithmetic	Conjecture	2	
485	Strong conjecture	Conjecture	6	
486	Succession gaps (GSG) on twin primes	Conjecture	5	1
487	Goldblatt-Thomason with back/forth duality	Conjecture	6	
488	Goodstein (with Ackermannian)	Theorem	3	
489	Goodstein	Theorem	8	
490	Graded modal logic	Theorem	3	
491	Graph neural reasoning	Frame classes	4	2
492	Graph programs in GP2 with Hoare first-order logic	Conjectures	71	
493	Grassmannian discovery	Conjecture	4	
494	Greach-Kaplan sentence for de rebus belief	Puzzle	2	
495	Grids, rectangular without extra non-unitary relations	Paradox	4	
496	Grills in topology	Axioms	3	
497	Grzegorzczuk's 1967 axiom	Axiom	1	1
498	Group theory, McCune single axiom: ZX-calculus	Theory	5	
499	Guarded negation fragment (GNFO) universal logic	Theory	13	
500	Guided neural synthesis, example / counterexample	Theory	4	
501	Gurevich's nightmare: inductive inference	Legend	7	
502	Hadamard gate	Algorithms	4	
503	Hahn-Banach	Theory	3	1
504	Hall	Theorem	5	
505	Hamiltonian quaternion	Effect	1	
506	Hamilton quaternion via Gauss, Rodrigues	Definition	3	
507	Hamilton's quaternion bivalent multiplication	Operation	2	
508	Hamilton's quaternion / triplet multiplication	Definition	1	
509	Hamkins' embeddings in sets	Conjecture	2	
510	Hammer for supervisor conditions, BS(LRA)	Conjectures	7	

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511	Hamming distance encoding, binarized neural net (BNN)	Framework	9	
512	Hardy's generalized paradox	Theorem	1	
513	Healthcare, reforming America's by choice/competition	Conjectures	4	1
514	Hegel's dialectic	Conjecture	6	
515	Heider inspired international relations theory	Method	6	3
516	Heisenberg uncertainty principle	Theory	5	1
517	Conjecture	Axiom	2	
518	Replacement theorem	Principle	1	
519	Take a picture of an electron	Axiom	2	3
520	Hempel's raven	Principle	6	2
521	Henkin branching quantifier and five derivative quatifiers	Quantifiers	11	
522	Henkin cyclic logic (HCL), axiom if $\vdash \phi$ then $\vdash \Box \phi$	Logic	15	
523	Henkin cylindric algebra and FOL applications	Paradox	6	
524	Permutation model nonrepresentable	Axioms	8	6
525	Herbrand functional interpretation, other disjunction	Assertion	1	
526	Semantics	Formulation	2	
527	Hereditarily irresolvable space by McKinsey's axiom	Conjecture	5	1
528	Heyting algebra	System	6	
529	Heyting-Brouwer varieties, Kuznetsov's problem	Conjecture	10	
530	Heyting-Brouwer intuitionistic logic	Algebra	21	
531	Heyting distributive lattices / binary operator	Systems	9	1
532	Heyting logic	Conjecture	1	
533	Hoop and pocrim with Prover9/Mace8	Idempotency	2	1
534	Hexagons of opposition for statistical modalities	Theorems	14	
535	Higher-order mathematical induction	Conjectures	9	1
536	Hilbert H10 undecidable: extended to Q in R	Principle	2	1
537	Generalization	Problem	6	4
538	Grand hotel	System	1	
539	Kolmogorov intuitionistic logic	Paradox	1	
540	Logic system HG	Systems	9	
541	Program collapse as variation on Gödelian theme	Conjecture	7	
542	Theorem, first epsilon, quantifier shift	System	7	
543	Hoare logic, raltionaal (RHL), alignment, rule CONSEQ	System	7	
544	HOL rejection of Lowe's modal ontology	Logics	7	

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545	HOL superposition on λ -free logics	Logics	6	
546	Homogeneous σ -space, zero-dimensional	Theory	10	
547	Homomorphisms reduced from injective homomorphisms	Graphs	5	
548	Homosexuality by progeny	Evaluation	8	
549	Horty's puzzles in stit logic	Argument	16	4
550	How computers must think	Requirements	1	1
551	Hrushovski (<i>now</i> confirms Lachlan and Zil'ber)	Corollaries	3	3
552	Huemer's confirmation theory for induction	Construction	2	
553	Huge natural deduction proofs redundant in M_{\supset}	Conjecture	3	
554	Huhn 2-distributive lattice identity	Proposal	3	2
555	Hutzelmeyer-Kleene logics	System	13	
556	Hybrid systems via predicate transform semantics	Formula	1	
557	Hydraulic forgiveness (confirmed)	Assistant	5	
558	Hydraulic corollary of peace	Theorem	6	2
559	Hypercomplex number systems, anticommutative	Corollary		1
560	Hyperdoctrine (Lawverve, Seely, Beck), adjointness	Axioms	5	
561	Hyperliveness verification	Conjecture	3	
562	Hypersequent calculus for modal logic S5	System	2	
563	Ideals	System	2	
564	Identical events	Paradox	3	1
565	Ignorance of first choice	Definition	4	
566	Imaginary numbers	System	3	
567	Imperative logic	Definition	2	
568	Implication combination forms from $(p \supset r) \supset r$	System	3	4
569	Implicit logic (IL) to explicit logic (EL)	Theorems	3	16
570	Impossible worlds: none necessary; all possible	Translation	7	
571	Inclusion logic, dependence logic, independence logic	Definitions	4	4
572	Probabilistic with extensions on inclusion logic	System	4	
573	Incompletely predictable problems: zeta and seive	Theorem	1	
574	Incompleteness on decidable logics Q,PA,G,H, AS	Limit	11	
575	Inconsistency lemmas, algebraic logic	Conjectures	3	
576	Inconsistent theory	Formulas	3	
577	Contradiction implies not, classical fuzzy paradox	Conjecture	7	
578	Extending the monad to a triad	Theorem	6	2

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579	Kunen inconsistency	Formulas	10	2
580	Independence-friendly logic (Kreiselization)	Theorem	1	1
581	In-determinism, religious, neutrality of God	Conjecture	4	
582	Indicative conditionals	System	2	
583	Indiscernibles in saturated free algebras	Encyclopedia	5	1
584	Individual-decision making conflict score on refugees	Theory	2	
585	Induction: Black raven (swan); Kripkenstein	Equation	2	
586	Intuitionistic logic Martin-Löf type theory	System	3	
587	New riddle	Axiom	4	
588	Induction by numerical identity of $(-1 \leq C \leq 1) = (C \leq 1)$	Definition	4	2
589	Induction, coinduction: standard and mutual	Paradox	2	
590	Transfinite	System	30	2
591	Induction in Elem. Arith. for reduction property	System	4	
592	Induction models, reduced/equivalent proof conversions	System	3	
593	Induction, pessimistic meta	Conjeture	2	
594	Induction on complexity of formula and Vietoris functor	System	3	
595	Inequality: "arbitrarily" vs "sufficiently" large	Formulas	2	
596	Inequalities, strict with and without probability	Conjecture	2	1
597	Infinite set theory	Definitions	3	1
598	Infinite choice, prob. distr, open prob. "real" Hilbert hotel	Process	5	
599	Infinite-state system: directly reached; over-approximates	System	4	
600	Infinity, broad, generative principles, nat-inductive axiom	System	19	
601	Infinity unbounded without cardinal number set theoryr	Theory	11	
602	Information theory: mutual information	Theorem	2	
603	Innovation contest in two sequential stages	Definition	4	
604	Inquisitive modal logic via flatness grade	Definition	2	
605	Insanity repeating mistake expecting different results	Conjecture	2	
606	Intensional logic, Bealer's necessity, axiom S5'	Theory	5	
607	Intensional logic, Bealer's substitutivity, axiom S5'	Theory	13	1
608	Intensional \downarrow -operator/ultra filters in Isabelle/IHOML	System	2	
609	Interaction combinators	Theory	6	
610	Internal logic of extensive restriction categories	Theorems	7	
611	Interpersonal interactions	Duality	3	
612	Interpolation, FO, from propositional by residuation	Extension	6	7

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613	Interpretability logic	Method	7	
614	Logics (1 of 5)	Definitions	3	
615	Logics (2 of 5) modal IL	Definitions	5	
616	Logics (3 of 5) modal IL	Axioms	6	
617	Logics (4 of 5) modal IL equivalents	Lemma	4	1
618	Logics (5 of 5) conditions R, R*	Principles	7	
619	Logics ILM, TOL, Vaught and adjunctive set	System	3	
620	Modal completeness with persistence in ILP	Principle	5	
621	Modal for reasonable arithmetical theories	Relation	3	
622	Veltman semantics from ILM	System	17	
623	Weak systems of arithmetic	Principles	2	
624	Interval for model checking	Systems	10	
625	Intuitionism, continuity axiom, no excluded middle	Refutation	12	
626	Intuitionistic belief logic IEL ⁻ co-reflection, necessitation	System	4	
627	Extensional realizability	Theory***	27	
628	Temporal logics in topological dynamics	Theory***	2	
629	Intuitionistic fuzzy decisions in Dempster-Shafer	System	3	
630	Logic, cut via nested sequents (IF)	Comparison	2	
631	Intuitionistic claimed rules from predicate logic	Theorems	18	
632	Intuitionistic logic (IL) from double-negation (DNP)	Principle	24	
633	Intuitionistic logic from HYPE, KF, and PKF	Theory	5	
634	Modal as extended WZ logic	System	11	
635	Intuitionistic mathematics and logic (FIM)	System	15	
636	Intuitionistic, modal monadic by linear logic: Casari	System	22	
637	Intuitionistic set theory, premise rule	System	9	
638	Zermelo-Fraenkel set theory (IZF), (CZF)	System	3	
639	Intuitionistic type theory division theorem	Theory	4	
640	Identity type	Conjectures	11	
641	Invertibility, inductive sequent sys, L-Framework, Maude	Approach	8	1
642	Irrelevant propositions, Burley's paradox	Rule	6	
643	Isabelle/HOL interactive tools	Axioms	10	
644	Metalogic, transivity, equivalence, lambda cal.	Prover	8	
645	Prover assistant	Prover	14	3
646	verifier SeCaV	Verifier	6	

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647	Jaccard index	System	1	
648	Jensen polynomial partition roots for Riemann	Statistic	3	
649	Join-prime in lattice theory	Hypothesis	1	
650	Join-semilattices, quantifier-free logic	Conjectures	10	
651	Jonsson positive logic: retromorphism	Definition		1
652	Jordon curve	System	3	
653	Jordon decomposition via Feferman mu	Theorem	25	
654	Judaic argumenation theory, propositional axioms	Theory	32	11
655	Justification based reasoning for conflict resolution	Theorem	2	
656	Justification logics, logic of proofs (LP)	Theory	18	
657	K-categories, simple valuations	Conjecture	2	
658	k -triangular set function logic	Definition	3	
659	Kan fibrations, effective in simplicial sets	Conjectures	7	1
660	Kanban cell logic (KcL)	Logics	4	4
661	Kanban cell neuron maps whole brain	Definition		1
662	Kanban cell neuron model	Definition		1
663	Kant: falsity of syllogistic figures	Model	242	14
664	Karpenko, S.A.	Theorems	8	2
665	Keisler measure in NIP theory	System $K\text{-}\aleph_4$	6	8
666	Ultraproduct	Formula	1	
667	Kent algebras on rough set concept analysis	Construction	7	1
668	Kleene algebra, free with domain (binary relations)	Algebra	5	
669	Lattices, reversible	Conjecture	2	
670	Knowability logics and principle	Principle	15	
671	Paradox and anti-realism	Paradox	18	1
672	KPT interpolation via limitation	Form	3	
673	Kramers-Kronig	Refutations	15	
674	Kripke frame definability in predicate modal logic	Relation	1	
675	homomorphism function as p-morphism of UVO	Definition	7	
676	logics, FO modal linear in restricted languages	Definitions	9	
677	Via BAOs with $\diamond\perp=\perp$	Definitions	10	
678	Kripke-Feferman (KF), partial (PKF), Reinhardt, Tait	Theory	8	
679	Kripke-Platek and CZF	Theory	10	
680	Kripke-Platek power set theory	Theory	10	

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681	Kripke-Platek set theory and Caresian products proof	Theory	4	
682	Kripke-Platek set theory on intuitionistic logic (IL)	System	18	
683	Kuratowski–Zorn lemma (Zorn's lemma), sets	Theory	1	
684	Kuznetsov, A.V., modal systems, structures	Theory	13	
685	Labelled calculi for QMLs with definite description	Lemma	2	
686	Lachlan problem solution	System	8	
687	Lagrange theorem, Hilbert 10th problem, prover Coq	Problem	12	
688	Lambda λ -calculus and LISP	Theorem	12	
689	Lambek calculus division	System	7	1
690	Lara: unified language for linear / relational algebra	Operations	9	
691	Lattice, directed quadrilateral by edges and vertices alone	Conjectures	1	1
692	Lattice effect algebra	Language	3	
693	Lattice, orthomodular, residuated, negative translation	Conjectures	29	
694	Lattice recognizability with congruence preservation	Conjecture	5	
695	Lattice, residuated, strictly join irreducible varieties	Theorems	7	
696	Lean theorem prover from Microsoft	Conjecture	1	
697	Learning, deep reinforcement in HOL4/Robinson	System	3	
698	Lebesgue spaces	Axioms	3	
699	Leibniz' indiscernibility of identicals as equivalent	Conjecture	1	
700	Identity of indiscernibles	Laws	2	
701	Leibniz' ontological proof of God	Theorem	1	
702	Briefest known	Proof	1	1
703	Lemma flow diagram	Proof		2
704	Lemmon D	Proof	5	
705	Length contraction and theory of relativity	Axiom	1	
706	Leopardi's endless edge	Experiment	3	
707	Lésniewski's epsilon in modal logic KTB	Axioms	4	
708	van Leunen deformation field	Conjecture	4	
709	Lattice logic, weak modular	Conjecture	4	
710	Lexiographic logic for preference representation	System	7	1
711	Liar	Theorem	2	
712	Liar paradox as the fault of classical logical	Conjectures	5	
713	Liar's antimony	Paradox	5	
714	New modal rendition	Paradox	13	

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715	Prior rendition	Paradox	7	
716	Saul Kripke rendition	Paradox	4	
717	Lifting countable to uncountable arithmetic in RM	Paradox	1	
718	Lifting QBF resolution calculi to DQBF	Axiom	3	
719	Lindenbaum's lemma, completeness of metalogic AS1	Theorems	5	
720	Lindenbaum-Tarski theory, quotient consequence relation	Method	19	
721	Line through a circle	Conjectures	5	
722	Linear algebra	Conjecture		1
724	Programming: Kharun-Kush-Tucker	Theorems	4	
725	Temporal logic	Conditions	4	
726	Temporal logic, Hyper linear (Hyper TLL)	System	2	
727	Linear logic, first order, reduction	Principle	8	1
728	Linear logic, secd. ord., monadic, atomic Boolean algebra	Theory	3	
729	Linear temporal logic, robust (rLTL), da Costa algebra	Systgem	6	
730	Lindström theorems on fragments of FOL	System	6	
731	Liouville	Theorem	7	
732	Lipschitz horizontal vector fields	Theorem	2	1
733	Löb original, corrected	Conjecture	4	
734	Löb with Gödel incompleteness	Theorem	1	1
735	Lobachevskii non Euclidean geometry	Theorems	3	
736	Logic in primary education	Lesson		
737	Logic programming, relation based, spatial data Geolog	System	20	
738	Logical framework (LF), validity for reasoning	System	12	
739	Logical geometry, bit code, meet OG/IG, sensitivity	Conjectures	8	
740	Logical neural networks (LNNs), IBM weighted	Framework	18	
741	Logical syntax of IT architectures	Conditions	7	1
742	of Universal IT architecture	Ensemble	4	
743	LogiKEY, HOL, undecidability of Isabelle/HOL	Method	38	
744	Lonely runner	Consistency	1	1
745	Łoś-Tarski preservation theorem	Theorem	7	
746	LTL standard modal, reactive, unification, frames	Logics	6	
747	Löwenheim–Skolem as strong rendition	Conjecture	8	1
748	Löwenheim–Skolem, Hilbert style metatheorem	Theorem	4	
749	Löwenheim–Skolem, shortest refutation	Theorem	14	

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750	Luce model (general)	Metatheorem	4	
751	Łukasiewicz alleged objection to $(\diamond p \& \diamond q) \rightarrow \diamond(p \& q)$	Objection	15	
752	Infinite, mult-valued (MV), strict coherence	Conjectures	46	6
753	Modal Ł4	Allegation	6	1
754	Modal, non axiomatizability	Conjectures	6	
755	Three-valued logic over the chain $C_3 = \{0, \frac{1}{2}, 1\}$	Conjectures	13	
756	$\forall \text{Ł4}$ fixes modal logic (Molle) to be bivalent	Theorems	7	
757	Lusin's separation	Objections	8	1
758	Lyndon interpolation and GL	Theorem	2	
759	Majorana's 'root'	Interpolation	8	1
760	Malice and Alice	Equations	9	
761	Maoism antagonistic and non-antagonistic contradictions	Theory	13	
762	Mapping for theism(s) into universal logic of $\forall \text{Ł4}$	Definitions	14	
763	Markov chain: 2-variable vs linear temporal logic	Puzzle	7	
764	Simulation, direct numerical	Analysis	3	
765	Karl Marx's mechanization causing profit rate to fall	Conjecture	7	
766	Matita prover superposition	System	6	
767	MaxSAT prover with complexity approach	Algorithms	3	
768	McKinney-Tarski third rule for S4 to S5, Baire algebra	Conjectures	18	0
769	Mealy machine guided-black box checking	Verifier	5	2
770	Meet implication logic, modal	System	42	
771	Meinongian theism, non-existent objects	Principles	13	
772	Meredith's logic system	System	9	
773	Mereology, behavioral	Prover	4	
774	Mereotopology, distributive	System	2	
775	Metamath only rule of inference as substitution	Relations	9	
776	Metaphysics: "Something rather than nothing"	Prover	3	
777	Meth8/ $\forall \text{Ł4}$ as proof reading tool for orthologics in cones	Checker	10	
778	Self-proof in one variable	Problem		2
779	Versus Prover9 via Lifshitz	Theorem		8
780	Meyer-Scott axiom, lambda algebra, calculus, and logic	Axioms	38	
781	Middle knowledge in predestination	Conjectures	9	
782	Minimal hierarchy	Problem		1
783	Minimalist foundation (MF) via Church's thesis	Disambiguation	13	

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784	Minimization deduction system with MILP	Conjecture	4	
785	Minkowski plane, classical set of points/cycles	System	1	
786	Modal aleatoric calculus	Theorems	2	1
787	Coalgebraic geometric logic	System	6	
788	Collapse	Conjecture	7	
789	Modal algebra, Malgari, Heyting-, interior-, prov.-logics	Algebra	12	
790	Modal and quantified operators as equivalent, bivalent	Confirmation	1	9
791	Modal fallacy, future contingents, bivalency	Theory	26	
792	Modal logics: 2; 3; 4; B; D; E; K; M; T; and W	System	2	
793	Bi-intuitionistic	System	5	
794	Ecumenical	System	7	
795	Fallacy conjecture (prob. of future contingents)	Conjecture	9	
796	GL ₂	Systems	2	8
797	Non-bivalent	Logic	9	
798	Residuated and non-distributive logic	Logic	8	1
799	Stepwise removal via stepwise update modality	System	28	
800	Supervised learning	Logic	7	
801	With intersection, completeness proof of N	System	3	
802	Without reflexivity and artificial Kripke worlds	Theory	5	
803	Modal operators on rings of continuous functions	System	11	
804	Modal paradox, parts, ctr-parts, points, ctr-points	Conjectures	21	2
805	Paradoxes, all, modal logic EQ-45	Systems	12	2
806	Modal tetravalent logic, natural deduct., cut-free sequent	System	20	
807	Model classes, logicality	Conjectures	12	
808	Model-companionship, generic-absoluteness, -invariance	Theory	9	
809	Model, incremental recast as mechanized overloading	Conjecture	6	
810	Model theory = univ. algebra + mathematical logic	Method	4	
811	Model theory, modal, maximality principle, actuality opr.	Theory	6	
812	Model theory, residual rings, Peano, prime power case	Theory	11	
813	Model theory, variable and guarded modal fragments	Language	1	
814	Modeloid, Wagner-Preston / Scott categorical axiom	Conjectures	6	
815	Modeloids, categorical axiomization	System	14	
816	Modern modal logic systems (2): JYB4 and AR4	Theorem	5	3
817	Modified divine command	Axioms	12	17

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
818	Modus inversus as a bi-valent connective	Theory	4	1
819	Modus ponens consequent as conditional	Theorem	1	1
820	Molinism: dependence response and explanatory loops	Conjectures	9	
821	Molinism "suggestion" via responsibility and original sin	Conjecture		
822	Molyneux's problem	Rule	3	1
823	Monads	Definition	4	
824	Monoids, finite, as all Ramsey monoids	Conjecture	12	
825	Monotheism, one God	Theorem	3	1
826	Monolithic groups in nilpotent groups	Problem	1	
827	Montague's quantification in English	Conjecture	23	
828	Moore's paradox	Conjecture	2	
829	Moral absolutism impossible	Paradox	2	1
830	Relativity of moral absolutism	Conjecture	3	1
831	Moral luck, theological	Problem	5	
832	Most as quantifier	Conjecture	2	1
833	Murphy assumptions: distributive grace; abject greatness	Assumptions	4	
834	multiPProver in rule reasoning	Prover	18	
835	Multivariable (MV) algebra, definitions	Definitions	5	
836	Least-greatest fixed-point (Knaster-Tarski theory)	Conjectures	20	2
837	Mundici tutorial, MV-algebras, first properties	Definitions	13	
838	Naive scale invariance for 't Hooft world hologram	Conjecture	2	
839	Natural logic: monotonocity	Conjecture	1	
840	Necessary existence proofs for existence of God	Approach	6	2
841	Necessitation: K,T,4,B,D,5; $D,M,S4,B,S5$	Conjecture	5	
842	Necessitation rule $p \rightarrow \Box p$ into bivalent, modal $\Diamond(p \rightarrow \Box p)$	Recuscitation	12	
843	Necessity causing contingency	Arguments	5	
844	Nelson (David) algebras, alt. axiom. present. via Prover9	System	24	
845	Nelson (Leonard) criticism of epistemology	Axiom	10	7
846	Negative mass	System	2	2
847	Neural networks: Barrier certification	Method	3	
848	Parallel fairness certification	Conjecture	6	
849	von Neuman-Bernays-Gödel [NBG]	Definition	2	
850	Neutrosophic logic	Theory	2	3
851	Dezert-Smarandache	Theorems	5	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
852	Generalized Hegel's dialectics	Theory	2	
853	Generalized intuitionistic, fuzzy logic	Method	4	
854	Geometry of Smarandache / Lin Fan Mao	System	2	
855	MANET attack genetics	Definition	2	
856	Negated adjectival phrases	Algorithm	1	
857	Neutrosophic logic: theory of everything	Lattices	2	
858	Neutrosophic sets	Theorem	2	
859	Neutrosophic set containing another such set	Properties	3	
860	Neutrosophy with dependent probability	Definition	3	
861	Pseudo-trinitarian human consciousness	Definitions	3	2
862	Quinary	Model	2	
863	Retract crisp set topology	System	2	
864	Smarandache multi-space theory	Propositions	5	
865	Soft lattice theory	System	5	
866	Unification of other logics	Theorem	2	
867	Values as 1, 0, between 0 and 1	Axioms / Rules	2	
868	Vector space on $\{-0, 0, 0 < p < 1, 1, 1+\}$	Designated logic	2	
869	Newcomb paradox	Paradox	3	
870	Langan adornment resolution	Paradox	8	
871	Nomological-explanatory solution (NES), induction	Logic	6	1
872	Non-clausal classes, polynomial, in many-valued logic	Conjectures	13	
873	Noncontingency variants	Paradox	2	
874	Non-deterministic logic	Operator	5	
875	Non-male priests in Historic Church, shorter, not modal	Conjectures	7	4
876	Non-male priests in Historic Church, shortest	Theorem	7	4
877	"Not all necess. truths are tauts" (all poss. truths are tauts)	Folklore	5	
878	Nothing does not imply a non existent null set	Completeness	8	
879	Nucleosynthesis	Definition	7	
880	Old logic system (OLS) of Leon, self-reference	System	6	
881	ω -consistency and axiom of pre-linearity	Conjectures	5	
882	Omega rule (Ω -rule), ω -rule, automated infinite proofs	Rule	6	
883	OMG UML, obj mgmt grp, unified model language	Infrastructure	16	
884	One-dimensionl fragment over words and trees	System	9	
885	One divine nature	Definition	6	

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886	Ontological arguments and derived formalizations	Conjectures	7	
887	Ontology engineering for complete-debug problems	Definitions	4	
888	Ontology-mediated query (OMQ); Datalog (MDDLLog)	Conjectures	8	
889	Ontotheological error	Conjecture	8	1
890	Open theism	Conjectures	25	
891	Open-universe causal reasoning	Conjecture	6	
892	Optimization for complex number programming	Conjecture	2	
893	Ordinal notation via simultaneous definition	Conjecture	1	
894	Ordinal Turing machine (OTM) on set theory	Conjecture	5	
895	Orthomodular law	Conjectures	10	
896	Paraortho posets for quantum structures	Conjectures	8	
897	Overlap algebra on constructive Boolean algebra	Theorem	1	
898	$P=NP$; 3-SAT	Conjecture	4	
899	Satisfiability via claimed Boolean rules	Conjectures	5	
900	3SAT for Karp's cnf into split clauses	Conjectures	4	
901	$P \neq NP$ in FOL PA via axiom of extensionability	Conjecture	4	
902	Panentheism as fragment of ontotheology	Conjecture	10	2
903	Paraconsistency, machine-assisted view	Conjecture	3	
904	Classical, first-order view as novelty	Axiom	3	
905	Paraconsistent contradiction	Axioms	2	3
906	Paraconsistent logic on one conjecture	Conext	4	
907	Paradox refutation reduced to one variable	Theorem	1	
908	Parameterized-time action (PAL), intention to time	Logic	3	
909	Parikh's logic G and completeness of system Par	Method	3	9
910	Parikh theorem for infin. alphabets via sets with atoms	Theory	7	
911	Partial awareness	Axiomatization	3	
912	Partial information decomposition (PID) on variables	Method	24	
913	Partial order reduction (POR): stubborn/sleeping sets	Methods	7	
914	Partial ordering on dependencies	System	8	1
915	Partial quantifier elimination (PQE)	Conjecture	2	
916	Partition logic adjunction	Definition	3	
917	Pascal's wager thought experiment	Definition	4	
918	Pauli exclusion	Theorem	4	1
919	PCF (possible cofinality) algebras, Jech/Shelah proof	Theorem	4	

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920	Peano arithmetic 9, 1-8	Principle	4	
921	Extended truth definitions	Axioms	1	8
922	Pearl model for cause-effect	Model	10	
923	Perfect being theology, greatest possible being (GPB)	Definition	2	
924	Perfect being theology, perfect goodness	Definition	19	
925	Perfectoid field, spaces, almost mathematics	System	4	
926	Personal identity for Swinburne's inquiry of bodies/souls	Argument	5	
927	Petri net	Theorems	3	
928	Ping pong thought framework	Definitions	2	
929	PL4	Conjecture	4	1
930	Plancherel measure on Langland's conjecture	Conjecture	3	
931	Plantinga's modal ontological proof of existence of God	Argument	14	7
932	Playfair's axiom	System	10	
933	Łonka sums of Boolean algebras	Definition	5	
934	Łonka sums of inclusive consequence relations	Axiom		1
935	Poincaré recurrence theorem	Inclusion	1	
936	Poison modal logic (PML)	Theorem	2	
937	Politeness, finite witness, stable-infiniteness	Conjectures	13	
938	Potentialism, varieties of class-theoretic	Conjectures	19	
939	Pomset and Lambek logic	System	4	
940	Problem of evil, cause from free will, original sin	Origin	2	
941	Plantinga	Definitions	5	3
942	Karl Popper on God	System	3	
943	Poset products as relational models	Models	20	
944	Positive logic with h-inductive universal sentences	Proof	4	14
945	Coalgebraic modal logic	Conjecture	6	
946	Modal logic	Conjecture	3	
947	No strongest extension	Conjecture	16	
948	PowerEpsilon mathematical induction	Variety	4	
949	Pratt-Floyd-Hoare logic correctness	Axiom		1
950	Prayer, Historic Church, five types	Theorems		5
951	Predicative collapse, arithmetical comprehension	System	5	
952	Preference profiles	Conjectures	5	
953	Prenex normal format	Algorithm	6	

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954	Shortest refutation based on implication	Rules	11	3
955	Pre-orderable groups	Rules	2	2
956	Presburger arithmetic	Conjecture	3	
957	Divisibility (PAD) for one-counter automata	Conjecture	4	
958	Visser's conjecture in multi-dimensional case	Conjecture	4	
959	Presupposition different from entailment	System	3	
960	Pretabular PM2 extension to S34 for unification	Logics	3	6
961	Prevarieties and quasivarieties of logic	Conjecture	3	
962	Priesthood, non-male or gendered	Conjectures	6	
963	Prisoner's paradox	Monoids	4	
964	Probabilistic approximate logic (PALO)	Paradox	3	
965	Probabilistic computation logic in AI	Conjecture	2	
966	Probabilistic reasoning across the causal hierarchy	System	1	
967	Probability logic and connexive logic	System	9	
968	Probability logic, Löb deriv. condit., fixed point theorem	System	8	
969	Problem of evil, source as free will of man	Problem		
970	Program verification	System	8	
971	Prolog answer set to legal problem of V.C. Valjean	Method	6	
972	Propositional proof systems (PPS), consistency proofs	Definitions	3	
973	Provability logic GL, Japaridze polymodal GLP	Reduction	1	
974	Reduced: Löb; complete; necessity	Logics	8	
975	Prover9 vs Meth8 differences	Logic	5	
976	Proving general theorems by inequality benchmark	Theorem	2	
977	Pure alethic modal logic	System	6	
978	Puzzle about indefinites	System	1	1
979	Quantification hypothesis, external approach to set theory	Theory	5	
980	Quantified Boolean formulas (QBF), proof complexity	System	26	2
981	Quantified elimination (QE) by examples	Method	6	
982	Quantified modal logic theorem proof (QMLTP)	Library	8	
983	Quantified modifier rewrite rules	Connectives	5	
984	Quantified reflection calculus with one modality	Conjecture	9	
985	Quantified respective modal operators by word meanings	Theorem		4
986	Quantifiers and operators	Method	3	
987	Quantifiers, bounded	Connectives	12	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
988	Quantum arithmetic for repeat-until-success	Conjecture	43	
989	B-algebras with involutions	Circuits	12	
990	Blockchain encoding	Conjecture	3	
991	Circuit optimizer, verified for CNOT in Coq	Cryptography	1	
992	Classical logic as completion of QL	Conjecture	3	
993	Control by observation	System	16	6
994	Entanglement	System	1	
995	Gates correspond to logical operators	Conjecture	5	
996	Gates refuted	Theorems	4	1
997	Gedanken experiment	Theorems	8	1
998	Group relations in categorification	System	7	
999	Hoare type theory and applications	System	109	
1000	Honeywell computer C-NOT truth table	Conjectures	8	
1001	Logic as tautologous	Claim	3	
1002	Mechanics, contextuality, borders of paradox	Conjectures	24	
1003	Mechanics, negative probabilities	Conjecture	18	2
1004	Logic, orthomodular	System	17	2
1005	Predicate logic with uniform quantization	Method	14	
1006	Masking classical information	System	6	
1007	Probability	System	4	
1008	Probability	Axiom	1	
1009	Set theory based on De Morgan laws	Rule	2	
1010	Set theory of Takeuti to satisfy De Morgan's laws	Theory	5	
1011	Set theory with different conditionals for reals	Theory	27	
1012	Simulation of Hamiltonian spectra	Definition	3	
1013	Spin-statistics	Operator	1	
1014	Superposition as the red herring	Theorem	4	4
1015	Superposition disproves Schrödinger cat	Conjecture	3	
1016	Temporal logic based on Löwner order	Conjecture	5	2
1017	Ternary probability of qutrit	System	4	
1018	Three lights experiment of qutrit	Hypothesis	3	
1019	Quaternion implication truth table	Conjecture	1	
1020	Query answering, finite open-world with num restrict	Conjecture	3	
1021	Questions and answers	Definition	4	1

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1022	Quine-McCluskey reduction of Boolean function	Algorithm	6	
1023	Quotient in preordered theory of heap structures	Theorem	9	
1024	Ramsey's theorem / Pythagorean triple of integers	Problem	4	1
1025	Ranjan, A.	Theorem	8	
1026	Ranked pentagon lattice	Problem		2
1027	Rational emotive behavior therapy (REBT/LBT)	System	4	
1028	Man in abstract argumentation	Systems	16	
1029	Rauszer 'concrete' Boolean algebra by preorder	Conjecture	3	
1030	Reachability as tower complete	Problem	2	
1031	Real addition w/wo predicate integers	Systems	13	
1032	Realizability models (r.m.): ZFC axioms	Conjectures	9	1
1033	Realizability semantics for QML	Theory	3	
1034	Reichenbach common cause / event-splitting	Theorems	3	
1035	Related logics	System	5	
1036	Relational logic ReLoC, invariant linking of states	System	6	
1037	Relativization (structural induction) in weighting	Principle	6	3
1038	Relevance logic	Method	1	
1039	Definition in R	System	7	
1040	Residuated lattice	Model	2	
1041	Gentzen provability	Conjecture	2	
1042	Multilattice as set of truth values, poset	Definition	4	
1043	(Semi)lattice-ordered algebra	Conjecture	3	
1044	Resolution-based decision procedure, 2-vars equality	Conjecture	3	
1045	Reverse derivative categories	Method	9	
1046	Reverse mathematics: recursive comprehension	Definition	4	
1047	Measurability and computability	Principle	10	2
1048	Nets	Theory	1	2
1049	Rival-Sands theorem, sequence principle	Theory	11	
1050	Uncountability of Reals by compreh, separat.	Theory	5	
1051	Rewriting logic for compositional specification	Conjectures	4	
1052	Riemann: as only zeroes at 0, 1/2	Conjectures	4	
1053	Excluded middle	Hypothesis	1	
1054	Extended complex numbers on sphere	Conjecture	4	
1055	Integrals for a cheating runner	Operators	3	2

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1056	Simple inequality	Theorem	2	
1057	Zeta function, Caceres Proposition 6	Definition	7	
1058	Zeta function, hypothesis	Conjecture	2	
1059	Zeta function, properties	Proposition	4	
1060	Robinson arithmetic	System	5	
1061	Robotics, three laws and ethical machines	Laws	5	
1062	Roman Catholic Church (RCC) Canon law	Axioms	7	
1063	Erasmus contra Luther	Theorem	4	
1064	Infallibility and the Historic Church	Controversy		1
1065	Invalid epiclesis with silent Holy Ghost	Pius IX	2	
1066	Magisterium	Canons	4	1
1067	Primacy of the Roman See	Paul VI	1	
1068	Sacred heart of Jesus	Pius XI	1	
1069	Scourge of fundamentalists / Lambeth 1888	Pius XI	3	
1070	Tradition above scripture	Francis	6	1
1071	Twelfth promise of St Alacoque	Pius IX	4	
1072	Roscelin's nightmare	Conjecture	13	8
1073	Rosser's theorem on consistency	Conjecture	3	
1074	Rosser theorem on essential undecidability, definition	Theory	3	
1075	Rosy structures	Conjectures	8	
1076	Rota lattice theory, distributive	Theorem	6	1
1077	Ruitenburg	Theorem	2	
1078	Ruitenburg theorem on lattices of intermediate theory	Conjecture	8	1
1079	Russell	Axiom	1	
1080	Russell-Prawitz embedding	Paradox	4	
1081	S5II+ propositional quantification	Conjectures	7	
1082	Sabotage modal logic (revisited)	System	1	
1083	Sacchetti's modal logics of provability	System	6	
1084	Sahlqvist formulas and correspondence theory	Axioms	5	
1085	Sahlqvist modal / quantified correspondence	Definition	1	
1086	Non formulas as tautologous	Theory	7	
1087	Sanchez-Rey fluctuations as threat to markets	Conjecture	2	
1088	Satisficer as God with derived conjectures	Conjectures	10	
1089	Saturation theorem proving, open induction	Conjectures	18	

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1090	Schaefer for graphs, P, NP, NPC, NPH, NPI	Theory	1	
1091	Schellenberg's theodicy and proffered denial	Theorems	8	1
1092	Schematic refutations of formula schemata	Theorem	10	
1093	Schrödinger's cat thought experiment	Method	2	
1094	Schröder–Bernstein theory: Cantor's statement C	Corollary	3	
1095	Scott class set	Theory	3	
1096	Existence axiom in sheaf theory	Paradox	2	
1097	Sets and set problem	Conjecture	5	
1098	Topology, temporal types, landscapes	Conjecture	5	
1099	Search fund study	Theory	4	
1100	Second-order arithmetic	Model	2	
1101	Quantifier elimination / Craig interpolation	System	20	
1102	Quantifier elimination into first-order logic	Products	9	
1103	Second-order logic as fragment of set theory, foundation	Theory	17	2
1104	Security barrier	Product	3	
1105	Self-equilibrium	Model	5	2
1106	Self-proving fixed-point predicate modal logic on GL	Law / Paradox	1	
1107	Self-referential families barely avoiding self-truth	Conjectures	6	
1108	Self-verifying axioms for grounding functions	Defin./Theorem	4	
1109	Semi-groups, demonic refinement, finite representability	Definition	3	
1110	Semisiplicity, Glivenko, Heyting, intuitionistic, LEM	Conjectures	40	1
1111	Separability for straight-line string constraints	Problem	3	
1112	Separation axiom in first- and second-order logic	Conjecture	4	
1113	Separation logic by inference frame and proof rule axiom	Axioms	8	
1114	Concurrent to extended concurrent modular forms	Theorems	24	
1115	Transforming antecedents, entailment systems	Conjectures	55	1
1116	Set theory condensable models by satisfaction classes	Conjecture	7	
1117	Textbook 1977 exercises as inadvertent denial	Axiom	4	
1118	Shallow embedding for rewriting equality in MLTL	Theorems	3	
1119	Shevenyonov extension nary antropic to PL	Rule	7	
1120	Shramko-Wansing nightmare in 4^n logic	System	16	2
1121	Simplify theorem prover for program checking	Prover	8	
1122	Simulation argument and incompleteness	System	21	
1123	Mistakes in rebuttal of refutation above	Conjecture	1	

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1124	Imply operator injected for Bayes' pipe	Conjectures	6	2
1125	Single axioms for group theory and Abelian groups	Conjecture	1	
1126	Skolem axiom form	Conjecture	6	
1127	Skolem (Boolean) function synthesis, normal form	Conjecture	2	
1128	Skolemization relevance	Conjecture	3	
1129	Sliding scale theorem in law	Axiom	1	
1130	Software requirements and design	Draft		
1131	Solovay arithmetical / semantical completeness	Theorem	3	
1132	Modal system GL	Theory	4	
1133	Sorites	Theorem	10	2
1134	Soul, denial of refutation of physicalistic proof	Paradox		1
1135	Soul as unique identifier ala Swinburne	Conjectures	14	
1136	Special theory of relativity: Crothers refutation	Theorem	3	
1137	Splitting proofs for refutational theorem proving	Confirmation	1	4
1138	SQ ontologies as undecidable, tree structures as solution	Conjectures	6	
1139	Square (Łukasiewicz) and Cube (Seuren)	Interpolation	3	
1140	Square of Opposition Meth8 Corrected	Systems	27	15
1141	Modern Revised	System		6
1142	Proportions	System	2	
1143	St Petersburg paradox	Proportions	3	
1144	Stable set lattices	Paradox	7	
1145	Stage thoery, level theory, Boolean variations	Theory	35	
1146	Stit logic (see to it that)	Modal operators	2	
1147	Stone rendition of Boolean algebra	Hypothesis	11	
1148	Stone representation: conjunctive-join semi-lattices	Theorem	2	
1149	Stone space type lattice logic model	System	13	
1150	Stone-Wales rotation transform reversibility	Theory	2	
1151	Stratified comprehension	Axioms	5	
1152	Strict order property (SOP), Lachklan's problem	Conjecture	5	
1153	Strong jump inversion, decided saturated model	Theorem	2	1
1154	Structure identity principle (SIP)	Principle	7	1
1155	Student quiz conjecture	Logic	1	
1156	Stump penal substitutionary atonement theory, objections	Theorem		1
1157	Sturmian words, decidability	Theorem	8	

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1158	Subordination algebras on modal logic	Algebra	14	
1159	Subsumption demodulation in theorem proving	Paradox	2	
1160	Superposition of states	Method	10	1
1161	Superset, finite reconstruction game: ZFC set not ZFC set	Theory	3	
1162	Supervenience	Definition	3	
1163	Supply and demand	Principle	6	
1164	Surveillance objectives	Conjecture	6	
1165	Suslin functional S, non-monotone induction	Theorem	4	
1166	Suzko's minimal truth values for universal logic	Subgames	2	
1167	Świerczkowski hereditary incompleteness theorems	Conjectures	8	2
1168	Swinburne on Anselm wrongdoing	Conjectures	6	
1169	Swinburne's bodies and souls	Conjectures	9	
1170	Symmetry breaking, skeleton, ensemble, SMT solver	Problem	3	
1171	Symplectic vector space	Method	3	
1172	Synthetic theorems, AI L.C.T. Lee's theorem	Theory	3	
1173	Tactic learning and proving for Coq proof assistant	Conjecture	4	
1174	Tarski's classical relevant logic	Theorem	2	
1175	Tarski's fallacy	Theorem	9	
1176	Tarski's geometric axioms and betweenness	System	5	
1177	Tarski's undefinability of truth	System	8	5
1178	Tarski–Grothendieck set theory	Theorem	2	
1179	Tarski–Grothendieck Metamath ax-groth	Axiom	2	
1180	Tarski's planar Euclidean R-geometry	Axiom	7	
1181	Tarski's quantifier elimination (QE)	System	8	2
1182	Tautology problem and two dimensional formulas	Conjecture	9	
1183	Linear Temporal logic (LTL) as networks (RNNs)	Conjecture	4	
1184	Decidability, complexity	Conjecture	7	
1185	Over infinite intervals, completeness	System	7	
1186	Via instant- and interval-based models of time	Reduction	2	
1187	Tense logic, display labeled proof back to tense logic	Conjecture	6	
1188	Term rewriting for automated theorem proving	Logic	5	
1189	Ternary relations as width of first-order expansions	Conjecture	8	
1190	Theism, sketpical (ST): morally MST, empirically EST	Conjecture	11	
1191	Theist's necessary truths, Schellenberg	Propositions	3	

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1192	Theory of logic for glutty, gappy relations	Method	2	
1193	Three-valued, bivalent logic VL3	System	16	
1194	Three variable sufficiency to real-time logic	System		10
1195	Three wise men in 55 steps (shortest confirmation)	Conjecture		
1196	Time algorithm	System	15	
1197	Time as God	Conjecture	3	
1198	Time as past/present/future in Cartesian dimension	Definition	4	
1199	Time and space to define God by hack physicists	Hobby	2	2
1200	Time as tense via converse implication (EQT)	Conjecture	3	
1201	Time warps, normal form with binary operators	Conjecture	29	
1202	Tm* non-normal modal logic, possible worlds, Barcan	System	44	1
1203	Topoi, elementary in logic	Conjecture		1
1204	Topological manifold transition	Definition	3	
1205	Semantics of paraconsistent/paracomplete logics	Conjecture	11	
1206	T ₀ -space	Function	1	
1207	Topology space, De Vries: Whitehead abstracting points	Method	16	
1208	Totherian sets	Defintion	3	
1209	Trace semantics in coalgebra	Theory	5	
1210	Translation invariance of superposition calculus	Theory	5	
1211	Traveling salesman complexity problem	Property	2	
1212	Triangle inequality	Conjecture	1	1
1213	Trichotomy	Conjecture		1
1214	Trinitarian number, antiunitarian, wo divine perfection	Confirmation	20	5
1215	Trinity, cause of heresy as defective theology	Theorem	8	1
1216	Logical problem	Problem	2	
1217	Triune God, philosophical challenge	Problem	8	1
1218	Triune Godhead, three Persons of Orthodox Christianity	Theorems		2
1219	Trivial proofs for a troll	Law	11	
1220	Trolley ethical thought experiment	Conjectures		3
1221	Truth tables of 4-variables p-s as And, Or, Xor, Imply	Information		
1222	Turing halting problem	Problem	3	
1223	As logically unsolvable	Problem	2	1
1224	Infinite time machines by semi-decidable norms	Conjectures	10	
1225	Twin paradox	Problem	2	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
1226	Two-sided page	Paradox	2	
1227	Two-variable logic, recursive calls, satisfiability	Theory	3	
1228	Type theory	Paradox	5	1
1229	Constructive on completeness theorems	Theorem	5	
1230	Groups, and relations	Method	27	
1231	Ultimate L and V	Theory	2	
1232	Ultrafilter extensions of binary relations	Conjecture	2	
1233	Ultrapower axiom: change of space = ultrafilter	Axiom	3	
1234	Ultrapower of universe, projective determinacy	Conjecture	5	
1235	Unanswered logic questions	Hypotheses	2	
1236	Undecidable theories, weak, mutual interpretability	Conjecture	6	
1237	Unfalsified conjectures, unfalsifiability	Conjectures	2	1
1238	Unification nets (canonical proof net quantifiers)	Conjecture	2	2
1239	Simple symmetrical modal logics	Conjecture	9	
1240	Unity of logic as sequential and unpolarized	Type	2	
1241	Universal finite set	Calculi	8	
1242	Network	Theorem	2	
1243	VŁ4 logic	Operator	5	
1244	Universalism	Logic		1
1245	Urysohn space	Group	3	
1246	Valatsos on cogito, ergo sum	Proof	4	
1247	Veblen (corrected)	Concept	6	
1248	Vector conjecture for two points implying a third	Axiom	1	1
1249	Verilog / VHDL hardware logic	Conjecture		1
1250	Veronoï regions (with "nonempty sets")	Connectives	36	
1251	Vickrey auction	Definition	3	
1252	Vietoris space modal operators	Theorem	10	2
1253	Viper, saturation-based theorem prover	Definitions	2	
1254	Visibility graph / Kanban cell resuscitation	Prover	5	
1255	VŁ4 completeness confirmed	Algorithm	1	1
1256	Soundness confirmed	Theorem	1	1
1257	Theorems for S5	Theorem	2	1
1258	Voevodsky: indiscernables, univalence, foundations	System	7	2
1259	Voevodsky: Univalence axiom $(A=B) \simeq (A \simeq B)$	Axiom	8	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
1260	Voluntarism, salvific luck in Mohammedan theology	Conjectures	11	
1261	Voluntarism, theological, partial defense	Conjectures	3	
1262	Vongehr's shift rendering QM "natural"	Theorems	8	
1263	W (K4W)	Paradigm	2	3
1264	Wadge order (and on Scott domain)	Theorem	1	
1265	Wagner-Preston inverse semigroup as symmetric monoid	Theorm	1	1
1266	Weak set H to prove its own consistency	Theorem	4	
1267	Weingartner logic (WL), axiom of non-contingent good	System	5	
1268	Weisfeiler-Lehman: apply neural reasoning on graphs	Theory	3	
1269	Well ordering property	Theorey	2	
1270	Wellfoundedness, incompleteness by ordinal analysis	Axiokm		
1271	Wellfoundedness of multiset order	Axiom	1	
1272	White's model for creation	Theorem	2	
1273	Williamson paradox via weak-necessity identity principle	Paradox	2	
1274	Wiccan analytical theology, vicarious incarnation	Claims	9	
1275	Wittgenstein's ab-notation	System	7	1
1276	Word concatenation of finite models	System	3	
1277	X-homology on manifolds in topology	Definition	5	
1278	Yablo's paradox (confirmed as tautology)	Conjecture	3	
1279	Yalcin logic	Axiom	1	
1280	Yinyang	Axioms	2	
1281	Zadeh first operators on fuzzy logic	System	1	3
1282	Historical assumptions	System	5	
1283	Perfect / strong functions, residuated operator	Axioms	4	1
1284	Resolution and symmetry in Z-numbers	Conjectures	3	
1285	Swedes and Italians logic challenge	Definitions	3	
1286	Zaionic paradox, most classical theorems as intuitionistic	Paradox	5	
1287	Zariski topology affine varieties, scheme theory	Problem	3	
1288	Zermelo-Fraenkel constructive (CZF)	Definitions	3	
1289	Zermelo-Fraenkel axiom of infinity, weaker version	Axiom	2	
1290	Zermelo-Fraenkel (ZF) shortest contra 9 axioms	Axioms	9	1
1291	ZFC Choice in 1 operator, 2 vars, 4 connects	Axiom	3	
1292	Consistency in Isabelle/ZF	Conjecture	8	
1293	Subsets	Conjecture	4	

No.	Name of artifact	Type of artifact	Non Taut.	Tautology
1294	ZFC Empty set	Axioms	10	
1295	Shortest refutation	Axiom	2	
1296	ZF Law of excluded middle: infinite set	Axioms	10	1
1297	ZFC Extensionality	Axiom	3	
1298	ZFC Extensionality (another rendition)	Axiom	1	1
1299	ZFC Extensionality (Kuratowski pairs/barrier)	Axiom	3	
1300	ZF*-extensionality to interpret full ZF axioms	Axioms	13	
1301	Non-wellfounded sets / anti-foundation axiom	Axiom	1	
1302	Other refutations of ZFC axioms (10)	Axioms	21	
1303	Proper class of discernables: L(Sepr, Coll, Regu)	Formulas	3	1
1304	Supremum and infimum	Axiom	2	
1305	ZFC ⁰ : schemas of comprehension, replacement	Definitions	3	
1306	Zero and three in arithmetic	Axioms	2	
1307	Zero calculus: multiplication, addition, subtraction	Theorems		9
1308	Zero knowledge proof	Conjectures	4	
1309	Zeroth law of thermodynamics	Theorem	1	
1310	Rendering quantifiers as modal operators	Theorem	3	2
1311	Meth8 on Modus Cesare and Modus Camestros	Appendix		12
1312	Availability of Meth8/VŁ4	Appendix		
1313	Demo for 2-variables (p,q)	Marketing collat.		2
	Scalability of Meth8/VŁ4	Marketing collat.		
		1313 artifacts = 9888 assertions	9113	775

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