1 Results of the analysis of complexity of problems

Notice that some results can be calculated. . .

Gamma with literalas is easier because it has the same formulas and connectives and some more formulas. . .

1.1 Γ formulas

size	file size (in bytes)	number of atomic formulas	number of composite formulas	number of connectives	formula factory complexity	number of signed formulas	signed formula factory complexity
20	690	42	61	2	305	42	248
40	1410	82	121	2	605	82	488
60	2130	122	181	2	905	122	728
80	2850	162	241	2	1205	162	968
100	3582	202	301	2	1505	202	1208
120	4422	242	361	2	1805	242	1448
140	5262	282	421	2	2105	282	1688
160	6102	322	481	2	2405	322	1928
180	6942	362	541	2	2705	362	2168
200	7782	402	601	2	3005	402	2408
220	8622	442	661	2	3305	442	2648
240	9462	482	721	2	3605	482	2888
260	10302	522	781	2	3905	522	3128
280	11142	562	841	2	4205	562	3368
300	11982	602	901	2	4505	602	3608
320	12822	642	961	2	4805	642	3848
340	13662	682	1021	2	5105	682	4088
360	14502	722	1081	2	5405	722	4328
380	15342	762	1141	2	5705	762	4568
400	16182	802	1201	2	6005	802	4808

1.2 Γ clausal formulas

size	file size (in bytes)	number of atomic formulas	number of composite formulas	number of connectives	formula factory complexity	number of signed formulas	signed formula factory complexity
20	770	42	101	2	425	42	288
40	1570	82	201	2	845	82	568
60	2370	122	301	2	1265	122	848
80	3170	162	401	2	1685	162	1128
100	3982	202	501	2	2105	202	1408
120	4902	242	601	2	2525	242	1688
140	5822	282	701	2	2945	282	1968
160	6742	322	801	2	3365	322	2248
180	7662	362	901	2	3785	362	2528
200	8582	402	1001	2	4205	402	2808
220	9502	442	1101	2	4625	442	3088
240	10422	482	1201	2	5045	482	3368
260	11342	522	1301	2	5465	522	3648
280	12262	562	1401	2	5885	562	3928
300	13182	602	1501	2	6305	602	4208
320	14102	642	1601	2	6725	642	4488
340	15022	682	1701	2	7145	682	4768
360	15942	722	1801	2	7565	722	5048
380	16862	762	1901	2	7985	762	5328
400	17782	802	2001	2	8405	802	5608

1.3 Γ formulas with 10 literals

size	file size (in bytes)	number of atomic formulas	number of composite formulas	number of connectives	formula factory complexity	number of signed formulas	signed formula factory complexity
20	783	43	66	4	322	47	269
40	1508	83	128	4	632	88	517
60	2228	123	188	4	929	129	758
80	2965	163	251	4	1243	171	1011
100	3666	203	306	4	1520	207	1227
120	4518	243	367	4	1827	247	1471
140	5360	283	428	4	2129	288	1714
160	6214	323	492	4	2445	331	1970
180	7046	363	550	4	2736	371	2207
200	7880	403	609	4	3032	409	2438
220	8721	443	667	4	3327	448	2675
240	9573	483	731	4	3642	492	2934
260	10401	523	788	4	3929	529	3158
280	11252	563	850	4	4237	570	3404
300	12086	603	911	4	4541	610	3645
320	12926	643	970	4	4838	649	3881
340	13768	683	1031	4	5140	691	4128
360	14612	723	1092	4	5446	731	4371
380	15457	763	1147	3	5730	768	4598
400	16275	803	1206	4	6021	807	4828

1.4 Γ clausal formulas with 10 literals

size	file size (in bytes)	number of atomic formulas	number of composite formulas	number of connectives	formula factory complexity	number of signed formulas	signed formula factory complexity
20	870	43	108	4	451	48	316
40	1666	83	208	4	869	89	598
60	2469	123	307	3	1285	128	873
80	3275	163	410	4	1716	170	1163
100	4068	203	506	4	2120	207	1427
120	5008	243	610	4	2558	250	1725
140	5923	283	708	3	2971	288	1996
160	6852	323	808	4	3390	329	2279
180	7768	363	908	4	3811	367	2552
200	8687	403	1008	4	4231	407	2832
220	9624	443	1113	4	4672	452	3138
240	10527	483	1210	4	5078	490	3405
260	11436	523	1308	4	5489	528	3674
280	12376	563	1410	4	5920	569	3963
300	13269	603	1506	4	6322	607	4229
320	14189	643	1607	4	6745	648	4513
340	15121	683	1707	3	7166	688	4794
360	16047	723	1807	4	7585	727	5070
380	16970	763	1910	3	8019	771	5370
400	17892	803	2011	4	8441	811	5650

1.5 H formulas

size	file size (in bytes)	number of atomic formulas	number of composite formulas	number of connectives	formula factory complexity	number of signed formulas	signed formula factory complexity
1	12	1	2	2	7	1	5
2	47	2	9	3	62	1	20
3	127	3	22	3	320	1	60
4	323	4	47	3	1501	1	160
5	787	5	96	3	6906	1	400
6	1859	6	193	3	31611	1	960
7	4291	7	386	3	143884	1	2240

1.6 H clausal formulas

size	file size (in bytes)	number of atomic formulas	number of composite formulas	number of connectives	formula factory complexity	number of signed formulas	signed formula factory complexity
1	18	1	3	2	12	1	7
2	59	2	13	2	95	1	24
3	151	3	30	2	440	1	68
4	371	4	63	2	1912	1	176
5	883	5	128	2	8324	1	432
6	2051	6	257	2	36660	1	1024
7	4675	7	514	2	162500	1	2368

1.7 PHP formulas

size	file size (in bytes)	number of atomic formulas	number of composite formulas	number of connectives	formula factory complexity	number of signed formulas	signed formula factory complexity
2	116	6	17	3	161	1	36
3	292	12	47	3	907	1	96
4	598	20	99	3	3759	1	200
5	1070	30	179	3	12275	1	360
6	1744	42	293	3	33445	1	588

1.8 PHP clausal formulas

size	file size (in bytes)	number of atomic formulas	number of composite formulas	number of connectives	formula factory complexity	number of signed formulas	signed formula factory complexity
2	184	6	34	2	352	1	59
3	471	12	83	2	1735	1	156
4	978	20	166	2	6848	1	327
5	1768	30	292	2	21928	1	593
6	2904	42	470	2	59218	1	975

1.9 Statman formulas

size	file size (in bytes)	number of atomic formulas	number of composite formulas	number of connectives	formula factory complexity	number of signed formulas	signed formula factory complexity
1	18	2	1	1	5	2	8
5	250	10	23	3	263	6	104
9	742	18	61	3	1081	10	328
13	1510	26	115	3	2715	14	680
17	2594	34	185	3	5421	18	1160
21	3998	42	271	3	9455	22	1768
25	5722	50	373	3	15073	26	2504
29	7766	58	491	3	22531	30	3368

1.10 Statman clausal formulas

size	file size (in bytes)	number of atomic formulas	number of composite formulas	number of connectives	formula factory complexity	number of signed formulas	signed formula factory complexity
1	18	2	1	1	5	2	8
5	350	10	35	2	471	6	140
9	1038	18	85	2	1801	10	432
13	2098	26	151	2	4315	14	884
17	3570	34	233	2	8333	18	1496
21	5458	42	331	2	14175	22	2268
25	7762	50	445	2	22161	26	3200
29	10482	58	575	2	32611	30	4292