

### Case: $h = 0 \pmod 3$

Baseline Riesel test numbers				Baseline No Jacobi cache							Baseline Jacobi cache							Baseline Cache advantage							
h * 2^n-1				Average Jacobi ops to find 1st v(1)							Average Jacobi ops to find 1st v(1)							Jacobi cache / No Jacobi cache							
[ n, n+1000 )		h = 3*base_n [ h, h+6000 )		search starting at 3		sorted by v(1)		reverse sort by freq			search starting at 3		sorted by v(1)		reverse sort by freq			search starting at 3		sorted by v(1)		reverse sort by freq			
base_n	n_beyond	hase_h	h_beyond	integer search 1st v(1)	odd search 1st v(1)	known 1st v(1)	odd known 1st v(1)	known 1st v(1)	odd known 1st v(1)	validated prime 1st v(1)	integer search 1st v(1)	odd search 1st v(1)	known 1st v(1)	odd known 1st v(1)	known 1st v(1)	odd known 1st v(1)	validated prime 1st v(1)	integer search 1st v(1)	odd search 1st v(1)	known 1st v(1)	odd known 1st v(1)	known 1st v(1)	odd known 1st v(1)	validated prime 1st v(1)	
4194304	4195304	12582913	12588913	7.395	4.697	3.999	3.999	3.999	3.999	3.999	5.948	3.848	3.669	3.669	3.669	3.669	3.669	1.2433	1.2206	1.0899	1.0899	1.0899	1.0899	1.0899	
4331116	4332116	12993349	12999349	7.361	4.681	3.990	3.990	3.990	3.990	3.990	5.931	3.841	3.663	3.663	3.663	3.663	3.663	1.2411	1.2187	1.0893	1.0893	1.0893	1.0893	1.0893	
4885002	4886002	14655007	14661007	7.401	4.701	4.003	4.003	4.003	4.003	4.003	5.954	3.851	3.673	3.673	3.673	3.673	3.673	1.2430	1.2207	1.0898	1.0898	1.0898	1.0898	1.0898	
5209020	5210020	15627061	15633061	7.397	4.698	4.000	4.000	4.000	4.000	4.000	5.947	3.849	3.672	3.672	3.672	3.672	3.672	1.2438	1.2206	1.0893	1.0893	1.0893	1.0893	1.0893	
6286862	6287862	18860587	18866587	7.411	4.705	4.004	4.004	4.004	4.004	4.004	5.952	3.851	3.673	3.673	3.673	3.673	3.673	1.2451	1.2218	1.0901	1.0901	1.0901	1.0901	1.0901	
7676777	7677777	23030331	23036331	7.407	4.704	4.002	4.002	4.002	4.002	4.002	5.953	3.852	3.672	3.672	3.672	3.672	3.672	1.2442	1.2212	1.0899	1.0899	1.0899	1.0899	1.0899	
8388608	8389608	25165825	25171825	7.388	4.694	3.997	3.997	3.997	3.997	3.997	5.941	3.846	3.668	3.668	3.668	3.668	3.668	1.2436	1.2205	1.0897	1.0897	1.0897	1.0897	1.0894	
Standard Deviation				0.017	0.008	0.005	0.005	0.005	0.005	0.005	0.008	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.0012	0.0009	0.0003	0.0003	0.0003	0.0003	0.0003
Average Jacobi ops to find 1st v(1)				7.394	4.697	3.999	3.999	3.999	3.999	3.999	5.947	3.848	3.670	3.670	3.670	3.670	3.670	3.670	1.2435	1.2206	1.0897	1.0897	1.0897	1.0897	1.0897

<b>Known 1st v(1) sorted by v(1)</b> - even in BOLD	3, 5, 9, 11, 15, 17, 21, 27, 29, 35, 39, 41, 45, 51, 57, 59, 65, 69, 71, 81
<b>Odd Known 1st v(1) sorted by v(1)</b>	3, 5, 9, 11, 15, 17, 21, 27, 29, 35, 39, 41, 45, 51, 57, 59, 65, 69, 71, 81
<b>Known 1st v(1) rev sorted by freq</b> - out of order in red	3, 5, 9, 11, 15, 17, 21, 27, 29, 35, 39, 41, 45, 51, 57, 59, 65, 69, 71, 81
<b>Odd Known 1st v(1) rev sorted by freq</b> - out of order in red	3, 5, 9, 11, 15, 17, 21, 27, 29, 35, 39, 41, 45, 51, 57, 59, 65, 69, 71, 81
<b>Validated primes 1st v(1) rev sorted by freq</b> - out of order in red	3, 5, 9, 11, 15, 17, 21, 27, 29, 35, 39, 41, 45, 51, 57, 59, 65, 69, 81
<b>Sample Jacobi line</b>	12582927 4194304 ++++++ +++++

More Riesel test numbers				More No Jacobi cache							More Jacobi cache							More Cache advantage							
h * 2^n-1				Average Jacobi ops to find 1st v(1)							Average Jacobi ops to find 1st v(1)							Jacobi cache / No Jacobi cache							
[ n, n+1000 )		h = 3*base_n [ h, h+6000 )		search starting at 3		sorted by v(1)		reverse sort by freq			search starting at 3		sorted by v(1)		reverse sort by freq			search starting at 3		sorted by v(1)		reverse sort by freq			
base_n	n_beyond	hase_h	h_beyond	integer search 1st v(1)	odd search 1st v(1)	known 1st v(1)	odd known 1st v(1)	known 1st v(1)	odd known 1st v(1)	validated prime 1st v(1)	integer search 1st v(1)	odd search 1st v(1)	known 1st v(1)	odd known 1st v(1)	known 1st v(1)	odd known 1st v(1)	validated prime 1st v(1)	integer search 1st v(1)	odd search 1st v(1)	known 1st v(1)	odd known 1st v(1)	known 1st v(1)	odd known 1st v(1)	validated prime 1st v(1)	
1391827	1392827	4175481	4181481	7.383	4.691	3.995	3.995	3.995	3.995	3.995	5.941	3.846	3.667	3.667	3.667	3.667	3.667	1.2427	1.2197	1.0894	1.0894	1.0894	1.0894	1.0894	
3727058	3728058	11181175	11187175	7.428	4.714	4.008	4.008	4.008	4.008	4.009	5.963	3.856	3.676	3.676	3.676	3.676	3.676	1.2457	1.2225	1.0903	1.0903	1.0903	1.0903	1.0906	
5718259	5719259	17154777	17160777	7.403	4.701	4.000	4.000	4.000	4.000	4.000	5.947	3.848	3.670	3.670	3.670	3.670	3.670	1.2448	1.2217	1.0899	1.0899	1.0899	1.0899	1.0899	
12776050	12777050	38328151	38334151	7.437	4.719	4.011	4.011	4.011	4.011	4.011	5.966	3.858	3.678	3.678	3.678	3.678	3.678	1.2466	1.2232	1.0905	1.0905	1.0905	1.0905	1.0905	
23059373	23060373	69178119	69184119	7.361	4.680	3.988	3.988	3.988	3.988	3.988	5.927	3.839	3.661	3.661	3.661	3.661	3.661	1.2419	1.2191	1.0893	1.0893	1.0893	1.0893	1.0893	
56126460	56127460	168379381	168385381	7.399	4.699	3.999	3.999	3.999	3.999	3.999	5.945	3.848	3.670	3.670	3.670	3.670	3.670	1.2446	1.2212	1.0896	1.0896	1.0896	1.0896	1.0896	
132174368	132175368	396523105	396529105	7.408	4.704	4.001	4.001	4.001	4.001	4.001	5.951	3.850	3.670	3.670	3.670	3.670	3.670	1.2448	1.2218	1.0902	1.0902	1.0902	1.0902	1.0902	
Standard Deviation				0.026	0.013	0.008	0.008	0.008	0.008	0.008	0.013	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.0016	0.0015	0.0005	0.0005	0.0005	0.0005	0.0005
Average Jacobi ops to find 1st v(1)				7.403	4.701	4.000	4.000	4.000	4.000	4.000	5.949	3.849	3.670	3.670	3.670	3.670	3.670	3.670	1.2444	1.2213	1.0899	1.0899	1.0899	1.0899	1.0899

Small Validated Riesel primes > 1001 and n < 1000	10.139	6.069	4.921	4.921	4.921	4.921	4.921	7.637	4.660	4.417	4.417	4.417	4.417	4.417	1.3276	1.3024	1.1141	1.1141	1.1141	1.1141	1.1141	1.1141
Large Validated Riesel primes n >= 1000	10.615	6.308	5.074	5.074	5.074	5.074	5.074	7.910	4.792	4.537	4.537	4.537	4.537	4.537	1.3420	1.3164	1.1184	1.1184	1.1184	1.1184	1.1184	1.1184
All Validated Riesel primes > 1001	10.404	6.202	5.006	5.006	5.006	5.006	5.006	7.789	4.733	4.484	4.484	4.484	4.484	4.484	1.3357	1.3104	1.1145	1.1207	1.1159	1.1174	1.1164	1.1164

Exceptions to the v(1) search tables		
h	n	first v(1)
4177635	1392575	77
11184255	3727349	99
17156565	5718540	77
396528345	132175294	99