Figure 13.13a. 50*th* PERCENTILES FOR THE *F* DISTRIBUTION [F_{ν_1,ν_2}]

[Calculated with *qf* in **R** Version 3.3.2 using 17-digit arithmetic; the accuracy of all digits in the table entries has *not* been verified]

Each table entry is the value (y) of the random variable $Y \sim F_{\nu_1,\nu_2}$ such that $\Pr(Y \le y) = 0.5$ (ν_1 is the numerator, ν_2 the denominator, degrees of freedom)

F_{ν_1,ν_2} .50

$Df \rightarrow$ / ν_2 \ ν_1	1	2	3	4	5	6	7	8	9	10	12	15	20	25	30	40	50	60	75	100	175	350	1,000	
1	1.0000	1.5000	1.7092	1.8227	1.8937	1.9422	1.9774	2.0041	2.0250	2.0419	2.0674	2.0931	2.1191	2.1347	2.1452	2.1584	2.1663	2.1716	2.1769	2.1822	2.1890	2.1935	2.1965	1
2	.66667	1.0000	1.1349	1.2071	1.2519	1.2824	1.3046	1.3213	1.3344	1.3450	1.3610	1.3771	1.3933	1.4031	1.4096	1.4178	1.4228	1.4261	1.4294	1.4327	1.4370	1.4398	1.4417	
3	.58506	.88110	1.0000	1.0632	1.1024	1.1289	1.1482	1.1627	1.1741	1.1833	1.1972	1.2111	1.2252	1.2337	1.2393	1.2465	1.2507	1.2536	1.2565	1.2593	1.2630	1.2655	1.2671	
4	.54863	.82843	.94053	1.0000	1.0367	1.0617	1.0797	1.0933	1.1040	1.1126	1.1255	1.1386	1.1517	1.1596	1.1649	1.1716	1.1756	1.1782	1.1809	1.1836	1.1870	1.1893	1.1908	
5	.52807	.79877	.90715	.96456	1.0000	1.0240	1.0414	1.0545	1.0648	1.0730	1.0855	1.0980	1.1106	1.1183	1.1234	1.1297	1.1336	1.1361	1.1387	1.1413	1.1446	1.1468	1.1483	5
6	.51489	.77976	.88578	.94191	.97654	1.0000	1.0169	1.0298	1.0398	1.0478	1.0600	1.0722	1.0845	1.0919	1.0969	1.1031	1.1068	1.1093	1.1118	1.1143	1.1176	1.1197	1.1211	
7	.50572	.76655	.87094	.92619	.96026	.98334	1.0000	1.0126	1.0224	1.0304	1.0423	1.0543	1.0664	1.0737	1.0785	1.0846	1.0883	1.0908	1.0932	1.0957	1.0989	1.1010	1.1023	
8	.49898	.75683	.86004	.91465	.94831	.97111	.98757	1.0000	1.0097	1.0175	1.0293	1.0412	1.0531	1.0603	1.0651	1.0711	1.0747	1.0772	1.0796	1.0820	1.0851	1.0872	1.0886	
9	.49382	.74938	.85168	.90580	.93916	.96175	.97805	.99037	1.0000	1.0077	1.0194	1.0311	1.0429	1.0500	1.0548	1.0608	1.0643	1.0667	1.0691	1.0715	1.0746	1.0767	1.0780	
10	.48974	.74349	.84508	.89882	.93193	.95436	.97054	.98276	.99232	1.0000	1.0116	1.0232	1.0349	1.0420	1.0467	1.0526	1.0562	1.0585	1.0609	1.0633	1.0664	1.0684	1.0697	10
11	.48643	.73872	.83973	.89316	.92608	.94837	.96445	.97660	.98610	.99374	1.0052	1.0168	1.0284	1.0354	1.0401	1.0460	1.0495	1.0519	1.0542	1.0566	1.0597	1.0617	1.0630	
12	.48370	.73477	.83531	.88848	.92124	.94342	.95943	.97152	.98097	.98856	1.0000	1.0115	1.0231	1.0300	1.0347	1.0405	1.0440	1.0464	1.0487	1.0511	1.0541	1.0561	1.0575	
13	.48140	.73145	.83159	.88455	.91718	.93927	.95520	.96724	.97665	.98421	.99560	1.0071	1.0186	1.0255	1.0301	1.0360	1.0395	1.0418	1.0441	1.0465	1.0495	1.0515	1.0528	
14	.47944	.72863	.82842	.88119	.91371	.93572	.95160	.96360	.97298	.98051	.99186	1.0033	1.0147	1.0216	1.0263	1.0321	1.0355	1.0379	1.0402	1.0425	1.0455	1.0475	1.0488	
15	.47775	.72619	.82568	.87830	.91072	.93267	.94850	.96046	.96981	.97732	.98863	1.0000	1.0114	1.0183	1.0229	1.0287	1.0322	1.0345	1.0368	1.0391	1.0421	1.0441	1.0454	15
16	.47628	.72406	.82330	.87579	.90812	.93001	.94580	.95772	.96705	.97454	.98582	.99716	1.0086	1.0154	1.0200	1.0258	1.0292	1.0315	1.0338	1.0362	1.0391	1.0411	1.0424	
17	.47499	.72219	.82121	.87357	.90583	.92767	.94342	.95532	.96462	.97209	.98335	.99466	1.0060	1.0129	1.0175	1.0232	1.0266	1.0289	1.0313	1.0336	1.0365	1.0385	1.0398	
18	.47384	.72054	.81935	.87161	.90381	.92560	.94132	.95319	.96247	.96993	.98116	.99244	1.0038	1.0106	1.0152	1.0209	1.0244	1.0267	1.0290	1.0313	1.0342	1.0362	1.0375	
19	.47282	.71906	.81770	.86986	.90200	.92375	.93944	.95129	.96056	.96800	.97920	.99047	1.0018	1.0086	1.0132	1.0189	1.0223	1.0246	1.0269	1.0292	1.0322	1.0341	1.0354	
20	.47191	.71773	.81621	.86829	.90038	.92209	.93776	.94959	.95884	.96626	.97745	.98870	1.0000	1.0068	1.0114	1.0171	1.0205	1.0228	1.0251	1.0274	1.0303	1.0323	1.0336	20
22	.47033	.71545	.81365	.86559	.89758	.91924	.93486	.94665	.95588	.96328	.97444	.98565	.99692	1.0037	1.0082	1.0139	1.0173	1.0196	1.0219	1.0242	1.0271	1.0291	1.0304	
24	.46902	.71356	.81153	.86335	.89526	.91687	.93245	.94422	.95342	.96081	.97194	.98312	.99436	1.0011	1.0057	1.0113	1.0147	1.0170	1.0193	1.0216	1.0245	1.0265	1.0277	
26	.46791	.71196	.80974	.86145	.89331	.91487	.93042	.94217	.95135	.95872	.96983	.98099	.99220	.99896	1.0035	1.0091	1.0125	1.0148	1.0171	1.0193	1.0223	1.0242	1.0255	
28	.46697	.71059	.80821	.85984	.89164	.91316	.92869	.94041	.94958	.95694	.96802	.97917	.99036	.99710	1.0016	1.0073	1.0106	1.0129	1.0152	1.0175	1.0204	1.0223	1.0236	
30	.46616	.70941	.80689	.85844	.89019	.91169	.92719	.93890	.94805	.95540	.96647	.97759	.98877	.99550	1.0000	1.0056	1.0090	1.0113	1.0135	1.0158	1.0187	1.0207	1.0220	30
35	.46453	.70706	.80425	.85565	.88731	.90874	.92420	.93587	.94500	.95232	.96336	.97445	.98560	.99231	.99679	1.0024	1.0058	1.0080	1.0103	1.0126	1.0155	1.0174	1.0187	
40	.46332	.70530	.80228	.85357	.88516	.90654	.92197	.93361	.94272	.95003	.96104	.97211	.98323	.98992	.99440	1.0000	1.0034	1.0056	1.0079	1.0101	1.0130	1.0150	1.0162	
45	.46237	.70393	.80075	.85195	.88349	.90484	.92024	.93186	.94095	.94825	.95924	.97029	.98139	.98807	.99254	.99813	1.0015	1.0037	1.0060	1.0082	1.0111	1.0131	1.0143	
50	.46162	.70285	.79953	.85066	.88216	.90348	.91885	.93047	.93954	.94683	.95781	.96884	.97992	.98660	.99106	.99664	1.0000	1.0022	1.0045	1.0067	1.0096	1.0115	1.0128	50
60	.46050	.70122	.79770	.84873	.88017	.90144	.91679	.92837	.93743	.94471	.95566	.96667	.97773	.98439	.98884	.99441	.99776	1.0000	1.0022	1.0045	1.0074	1.0093	1.0105	
70	.45970	.70006	.79640	.84736	.87875	.89999	.91531	.92689	.93593	.94319	.95413	.96512	.97617	.98282	.98726	.99283	.99617	.99840	1.0006	1.0029	1.0058	1.0077	1.0089	
80	.45910	.69919	.79543	.84633	.87768	.89891	.91421	.92577	.93480	.94206	.95299	.96397	.97500	.98164	.98608	.99164	.99498	.99721	.99944	1.0017	1.0046	1.0065	1.0077	
90	.45863	.69851	.79467	.84553	.87686	.89806	.91336	.92490	.93393	.94118	.95210	.96307	.97409	.98073	.98516	.99072	.99405	.99628	.99851	1.0007	1.0036	1.0055	1.0068	
100	.45826	.69797	.79407	.84489	.87620	.89739	.91267	.92421	.93323	.94048	.95139	.96235	.97337	.98000	.98443	.98998	.99332	.99554	.99777	1.0000	1.0029	1.0048	1.0060	100
125	.45759	.69701	.79298	.84374	.87501	.89618	.91144	.92297	.93198	.93921	.95011	.96106	.97206	.97869	.98311	.98866	.99199	.99421	.99644	.99866	1.0015	1.0034	1.0047	
150	.45715	.69636	.79226	.84298	.87422	.89537	.91062	.92214	.93114	.93837	.94926	.96020	.97119	.97781	.98224	.98777	.99110	.99332	.99555	.99777	1.0006	1.0025	1.0038	
175	.45683	.69590	.79174	.84243	.87366	.89480	.91004	.92155	.93055	.93777	.94865	.95959	.97058	.97719	.98161	.98715	.99047	.99269	.99491	.99714	1.0000	1.0019	1.0032	
200	.45660	.69556	.79136	.84203	.87324	.89436	.90960	.92111	.93010	.93732	.94820	.95913	.97011	.97672	.98114	.98667	.99000	.99222	.99444	.99666	.99952	1.0014	1.0027	
250	.45626	.69507	.79082	.84145	.87265	.89376	.90899	.92049	.92948	.93669	.94756	.95849	.96946	.97607	.98049	.98601	.98934	.99156	.99378	.99600	.99886	1.0008	1.0020	250
300	.45604	.69475	.79046	.84107	.87226	.89336	.90858	.92007	.92906	.93627	.94714	.95806	.96903	.97564	.98005	.98558	.98890	.99111	.99333	.99555	.99841	1.0003	1.0016	
350	.45588	.69452	.79020	.84080	.87197	.89307	.90829	.91978	.92876	.93597	.94684	.95775	.96872	.97532	.97974	.98526	.98858	.99080	.99302	.99524	.99809	1.0000	1.0012	
400	.45576	.69435	.79001	.84060	.87176	.89286	.90807	.91956	.92854	.93575	.94661	.95753	.96849	.97509	.97950	.98503	.98835	.99056	.99278	.99500	.99786	.99976	1.0010	
450	.45567	.69422	.78986	.84044	.87160	.89269	.90790	.91939	.92837	.93558	.94644	.95735	.96831	.97491	.97932	.98484	.98816	.99038	.99260	.99482	.99767	.99958	1.0008	
500	.45560	.69411	.78974	.84031	.87147	.89256	.90777	.91925	.92823	.93544	.94629	.95720	.96817	.97477	.97918	.98470	.98802	.99023	.99245	.99467	.99752	.99943	1.0007	500
600	.45549	.69395	.78956	.84012	.87127	.89236	.90756	.91904	.92802	.93523	.94608	.95699	.96795	.97455	.97896	.98448	.98780	.99001	.99223	.99445	.99730	.99921	1.0004	
700	.45541	.69383	.78943	.83999	.87113	.89221	.90742	.91890	.92787	.93508	.94593	.95684	.96780	.97439	.97880	.98432	.98764	.98985	.99207	.99429	.99714	.99905	1.0003	
800	.45535	.69375	.78933	.83989	.87103	.89210	.90731	.91879	.92776	.93497	.94582	.95672	.96768	.97428	.97868	.98420	.98752	.98974	.99195	.99417	.99702	.99893	1.0002	
900	.45530	.69368	.78926	.83981	.87095	.89202	.90722	.91870	.92767	.93488	.94573	.95664	.96759	.97419	.97859	.98411	.98743	.98964	.99186	.99408	.99693	.99884	1.0001	
1,000	.45527	.69363	.78920	.83974	.87088	.89195	.90715	.91863	.92760	.93481	.94566	.95656	.96752	.97411	.97852	.98404	.98736	.98957	.99179	.99400	.99686	.99876	1.0000	1,000
2,000	.45510	.69339	.78893	.83946	.87059	.89165	.90685	.91832	.92729	.93450	.94534	.95624	.96719	.97379	.97819	.98371	.98703	.98924	.99146	.99367	.99653	.99843	.99967	
3,000	.45505	.69331	.78884	.83936	.87049	.89155	.90675	.91822	.92719	.93439	.94524	.95614	.96709	.97368	.97809	.98360	.98692	.98913	.99135	.99356	.99641	.99832	.99956	
4,000	.45502	.69327	.78879	.83932	.87044	.89150	.90670	.91817	.92714	.93434	.94519	.95608	.96703	.97363	.97803	.98355	.98686	.98908	.99129	.99351	.99636	.99826	.99950	
5,000	.45500	.69324	.78877	.83929	.87041	.89147	.90667	.91814	.92711	.93431	.94515	.95605	.96700	.97359	.97800	.98351	.98683	.98904	.99126	.99347	.99633	.99823	.99947	
7,500	.45498	.69321	.78873	.83925	.87037	.89143	.90663	.91810	.92706	.93427	.94511	.95601	.96696	.97355	.97795	.98347	.98679	.98900	.99121	.99343	.99628	.99818	.99942	
10,000	.45497	.69320	.78871	.83923	.87035	.89141	.90661	.91808	.92704	.93424	.94509	.95599	.96694	.97353	.97793	.98345	.98676	.98898	.99119	.99341	.99626	.99816	.99940	10,000
	1	2	3	4	5	6	7	8	9	10	12	15	20	25	30	40	50	60	75	100	175	350	1,000	

Figure 13.13b. 65*th* PERCENTILES FOR THE *F* DISTRIBUTION [F_{ν_1,ν_2}]

[Calculated with *qf* in **R** Version 3.3.2 using 17-digit arithmetic; the accuracy of all digits in the table entries has *not* been verified]

Each table entry is the value (y) of the random variable $Y \sim F_{\nu_1,\nu_2}$ such that $\Pr(Y \le y) = 0.65$ (ν_1 is the numerator, ν_2 the denominator, degrees of freedom)

F_{ν_1,ν_2} .65

ν_2 \ ν_1	1	2	3	4	5	6	7	8	9	10	12	15	20	25	30	40	50	60	75	100	175	350	1,000	ν_2
1	2.6629	3.5816	3.9632	4.1703	4.2999	4.3885	4.4528	4.5017	4.5400	4.5709	4.6175	4.6646	4.7120	4.7407	4.7599	4.7839	4.7984	4.8081	4.8178	4.8275	4.8400	4.8484	4.8538	1
2	1.4632	1.8571	2.0040	2.0803	2.1271	2.1587	2.1814	2.1986	2.2120	2.2228	2.2390	2.2553	2.2717	2.2816	2.2882	2.2964	2.3014	2.3047	2.3080	2.3114	2.3156	2.3185	2.3204	
3	1.2200	1.5203	1.6243	1.6761	1.7070	1.7275	1.7420	1.7529	1.7613	1.7680	1.7780	1.7880	1.7980	1.8039	1.8079	1.8128	1.8157	1.8177	1.8197	1.8216	1.8242	1.8258	1.8269	
4	1.1179	1.3806	1.4671	1.5087	1.5328	1.5484	1.5594	1.5674	1.5736	1.5784	1.5856	1.5927	1.5996	1.6037	1.6063	1.6097	1.6116	1.6129	1.6142	1.6155	1.6172	1.6183	1.6190	
5	1.0620	1.3046	1.3817	1.4176	1.4378	1.4507	1.4595	1.4659	1.4707	1.4744	1.4799	1.4852	1.4902	1.4931	1.4950	1.4973	1.4986	1.4995	1.5004	1.5012	1.5023	1.5030	1.5035	5
6	1.0269	1.2570	1.3280	1.3603	1.3781	1.3891	1.3965	1.4017	1.4057	1.4087	1.4129	1.4169	1.4206	1.4227	1.4240	1.4255	1.4264	1.4269	1.4275	1.4280	1.4287	1.4291	1.4294	
7	1.0027	1.2243	1.2912	1.3210	1.3370	1.3467	1.3531	1.3575	1.3608	1.3632	1.3666	1.3696	1.3723	1.3737	1.3745	1.3755	1.3760	1.3763	1.3766	1.3768	1.3772	1.3773	1.3774	
8	.98514	1.2005	1.2645	1.2923	1.3070	1.3157	1.3213	1.3252	1.3279	1.3299	1.3326	1.3349	1.3367	1.3376	1.3380	1.3385	1.3387	1.3388	1.3388	1.3389	1.3389	1.3389	1.3389	
9	.97176	1.1824	1.2441	1.2705	1.2842	1.2921	1.2971	1.3004	1.3027	1.3044	1.3065	1.3082	1.3093	1.3097	1.3099	1.3099	1.3098	1.3098	1.3096	1.3095	1.3093	1.3091	1.3089	
10	.96123	1.1682	1.2281	1.2533	1.2662	1.2735	1.2780	1.2809	1.2829	1.2842	1.2859	1.2870	1.2876	1.2876	1.2875	1.2872	1.2869	1.2866	1.2863	1.2860	1.2855	1.2852	1.2849	10
11	.95274	1.1567	1.2151	1.2395	1.2517	1.2585	1.2626	1.2651	1.2668	1.2679	1.2692	1.2699	1.2699	1.2696	1.2692	1.2686	1.2681	1.2677	1.2672	1.2668	1.2661	1.2656	1.2653	
12	.94575	1.1473	1.2045	1.2280	1.2397	1.2460	1.2498	1.2521	1.2535	1.2544	1.2553	1.2556	1.2552	1.2546	1.2540	1.2531	1.2524	1.2519	1.2513	1.2507	1.2498	1.2492	1.2487	
13	.93988	1.1394	1.1956	1.2185	1.2296	1.2356	1.2391	1.2411	1.2423	1.2430	1.2436	1.2436	1.2428	1.2419	1.2412	1.2399	1.2391	1.2384	1.2377	1.2370	1.2359	1.2352	1.2347	
14	.93490	1.1326	1.1880	1.2103	1.2211	1.2268	1.2299	1.2317	1.2328	1.2333	1.2337	1.2333	1.2322	1.2311	1.2301	1.2287	1.2276	1.2269	1.2261	1.2252	1.2240	1.2231	1.2225	
15	.93061	1.1268	1.1815	1.2033	1.2137	1.2191	1.2220	1.2237	1.2245	1.2250	1.2251	1.2244	1.2230	1.2217	1.2205	1.2189	1.2177	1.2168	1.2159	1.2149	1.2136	1.2126	1.2119	15
16	.92688	1.1218	1.1758	1.1972	1.2073	1.2124	1.2152	1.2166	1.2174	1.2176	1.2175	1.2167	1.2149	1.2134	1.2121	1.2103	1.2090	1.2080	1.2070	1.2059	1.2044	1.2033	1.2026	
17	.92361	1.1174	1.1708	1.1919	1.2017	1.2066	1.2092	1.2105	1.2110	1.2112	1.2109	1.2098	1.2078	1.2061	1.2047	1.2026	1.2012	1.2002	1.1991	1.1979	1.1962	1.1950	1.1942	
18	.92072	1.1135	1.1664	1.1871	1.1967	1.2014	1.2038	1.2050	1.2054	1.2055	1.2050	1.2038	1.2015	1.1996	1.1981	1.1959	1.1943	1.1932	1.1920	1.1907	1.1889	1.1876	1.1867	
19	.91814	1.1100	1.1625	1.1829	1.1922	1.1968	1.1990	1.2001	1.2004	1.2004	1.1998	1.1983	1.1959	1.1938	1.1922	1.1898	1.1881	1.1869	1.1856	1.1842	1.1823	1.1809	1.1800	
20	.91582	1.1069	1.1590	1.1791	1.1882	1.1926	1.1948	1.1957	1.1960	1.1958	1.1951	1.1934	1.1908	1.1886	1.1868	1.1842	1.1825	1.1812	1.1798	1.1784	1.1763	1.1749	1.1739	20
22	.91185	1.1016	1.1529	1.1726	1.1814	1.1855	1.1874	1.1881	1.1882	1.1880	1.1869	1.1850	1.1819	1.1795	1.1775	1.1747	1.1727	1.1713	1.1698	1.1682	1.1659	1.1643	1.1631	
24	.90856	1.0971	1.1479	1.1672	1.1757	1.1796	1.1813	1.1818	1.1818	1.1814	1.1801	1.1779	1.1746	1.1719	1.1698	1.1667	1.1645	1.1630	1.1613	1.1595	1.1571	1.1553	1.1541	
26	.90578	1.0934	1.1437	1.1626	1.1709	1.1746	1.1761	1.1765	1.1764	1.1759	1.1744	1.1720	1.1683	1.1654	1.1631	1.1598	1.1575	1.1559	1.1541	1.1522	1.1495	1.1476	1.1462	
28	.90342	1.0902	1.1401	1.1588	1.1668	1.1703	1.1717	1.1720	1.1717	1.1711	1.1695	1.1669	1.1630	1.1599	1.1575	1.1539	1.1515	1.1497	1.1478	1.1458	1.1429	1.1408	1.1394	
30	.90137	1.0874	1.1369	1.1554	1.1632	1.1666	1.1679	1.1681	1.1677	1.1670	1.1652	1.1624	1.1583	1.1551	1.1525	1.1488	1.1462	1.1443	1.1423	1.1402	1.1371	1.1349	1.1334	30
35	.89731	1.0820	1.1307	1.1487	1.1562	1.1593	1.1603	1.1602	1.1597	1.1588	1.1567	1.1536	1.1490	1.1454	1.1425	1.1384	1.1355	1.1334	1.1312	1.1288	1.1253	1.1228	1.1211	
40	.89427	1.0779	1.1261	1.1437	1.1509	1.1538	1.1546	1.1544	1.1537	1.1527	1.1504	1.1469	1.1419	1.1380	1.1350	1.1305	1.1274	1.1251	1.1227	1.1200	1.1162	1.1135	1.1116	
45	.89192	1.0747	1.1225	1.1399	1.1468	1.1495	1.1502	1.1498	1.1490	1.1479	1.1454	1.1417	1.1364	1.1323	1.1290	1.1243	1.1210	1.1186	1.1159	1.1131	1.1090	1.1060	1.1039	
50	.89005	1.0722	1.1197	1.1368	1.1436	1.1461	1.1466	1.1462	1.1453	1.1441	1.1414	1.1375	1.1320	1.1277	1.1243	1.1193	1.1158	1.1132	1.1104	1.1074	1.1030	1.0998	1.0975	50
60	.88725	1.0684	1.1154	1.1322	1.1387	1.1410	1.1414	1.1408	1.1397	1.1383	1.1354	1.1313	1.1253	1.1207	1.1171	1.1117	1.1079	1.1051	1.1020	1.0987	1.0939	1.0902	1.0876	
70	.88526	1.0657	1.1124	1.1289	1.1352	1.1374	1.1376	1.1369	1.1357	1.1342	1.1312	1.1268	1.1206	1.1157	1.1118	1.1061	1.1021	1.0992	1.0959	1.0923	1.0871	1.0831	1.0802	
80	.88377	1.0637	1.1101	1.1265	1.1327	1.1347	1.1348	1.1340	1.1327	1.1312	1.1280	1.1234	1.1170	1.1119	1.1079	1.1020	1.0978	1.0946	1.0912	1.0874	1.0818	1.0775	1.0744	
90	.88262	1.0622	1.1084	1.1245	1.1306	1.1326	1.1326	1.1317	1.1304	1.1288	1.1255	1.1208	1.1142	1.1090	1.1048	1.0987	1.0943	1.0911	1.0875	1.0835	1.0776	1.0730	1.0697	
100	.88170	1.0609	1.1069	1.1230	1.1290	1.1309	1.1309	1.1299	1.1285	1.1269	1.1235	1.1187	1.1119	1.1066	1.1023	1.0960	1.0915	1.0882	1.0845	1.0803	1.0742	1.0694	1.0658	100
125	.88004	1.0587	1.1044	1.1203	1.1261	1.1279	1.1277	1.1266	1.1252	1.1235	1.1199	1.1149	1.1078	1.1023	1.0978	1.0912	1.0865	1.0829	1.0790	1.0745	1.0678	1.0624	1.0585	
150	.87894	1.0572	1.1027	1.1185	1.1242	1.1258	1.1256	1.1245	1.1229	1.1212	1.1175	1.1123	1.1051	1.0994	1.0948	1.0880	1.0831	1.0793	1.0752	1.0705	1.0633	1.0576	1.0532	
175	.87815	1.0561	1.1015	1.1172	1.1228	1.1244	1.1241	1.1229	1.1213	1.1195	1.1158	1.1105	1.1032	1.0973	1.0927	1.0856	1.0806	1.0768	1.0725	1.0676	1.0601	1.0540	1.0493	
200	.87756	1.0554	1.1006	1.1162	1.1218	1.1233	1.1230	1.1218	1.1201	1.1183	1.1145	1.1092	1.1017	1.0958	1.0910	1.0839	1.0787	1.0748	1.0704	1.0653	1.0576	1.0512	1.0462	
250	.87674	1.0542	1.0994	1.1148	1.1204	1.1218	1.1214	1.1202	1.1185	1.1166	1.1127	1.1073	1.0996	1.0936	1.0887	1.0814	1.0761	1.0720	1.0674	1.0622	1.0540	1.0471	1.0416	250
300	.87619	1.0535	1.0985	1.1139	1.1194	1.1208	1.1204	1.1191	1.1173	1.1154	1.1115	1.1060	1.0982	1.0921	1.0872	1.0797	1.0743	1.0701	1.0654	1.0600	1.0515	1.0442	1.0383	
350	.87580	1.0530	1.0979	1.1133	1.1187	1.1201	1.1196	1.1183	1.1166	1.1146	1.1107	1.1051	1.0973	1.0911	1.0861	1.0785	1.0730	1.0688	1.0640	1.0584	1.0497	1.0421	1.0358	
400	.87551	1.0526	1.0975	1.1128	1.1182	1.1196	1.1191	1.1177	1.1160	1.1140	1.1100	1.1044	1.0965	1.0903	1.0852	1.0776	1.0720	1.0678	1.0629	1.0573	1.0483	1.0405	1.0339	
450	.87528	1.0523	1.0972	1.1124	1.1178	1.1191	1.1186	1.1173	1.1155	1.1135	1.1095	1.1039	1.0959	1.0897	1.0846	1.0769	1.0713	1.0670	1.0621	1.0563	1.0472	1.0392	1.0323	
500	.87510	1.0520	1.0969	1.1121	1.1175	1.1188	1.1183	1.1169	1.1151	1.1132	1.1091	1.1034	1.0955	1.0892	1.0841	1.0763	1.0707	1.0663	1.0614	1.0556	1.0463	1.0381	1.0310	500
600	.87482	1.0517	1.0965	1.1117	1.1170	1.1183	1.1178	1.1164	1.1146	1.1126	1.1085	1.1028	1.0948	1.0884	1.0833	1.0755	1.0698	1.0654	1.0603	1.0545	1.0450	1.0365	1.0290	
700	.87463	1.0514	1.0962	1.1114	1.1167	1.1179	1.1174	1.1160	1.1142	1.1122	1.1081	1.1023	1.0943	1.0879	1.0827	1.0749	1.0691	1.0647	1.0596	1.0536	1.0440	1.0353	1.0275	
800	.87448	1.0512	1.0959	1.1111	1.1164	1.1177	1.1171	1.1157	1.1139	1.1119	1.1078	1.1020	1.0939	1.0875	1.0823	1.0744	1.0686	1.0642	1.0590	1.0530	1.0432	1.0344	1.0264	
900	.87437	1.0510	1.0958	1.1109	1.1162	1.1175	1.1169	1.1155	1.1136	1.1116	1.1075	1.1017	1.0936	1.0872	1.0820	1.0741	1.0682	1.0637	1.0586	1.0525	1.0427	1.0337	1.0254	
1,000	.87428	1.0509	1.0956	1.1108	1.1160	1.1173	1.1167	1.1153	1.1134	1.1114	1.1073	1.1015	1.0934	1.0870	1.0817	1.0738	1.0679	1.0634	1.0582	1.0522	1.0422	1.0331	1.0247	1,000
2,000	.87387	1.0504	1.0950	1.1101	1.1153	1.1165	1.1159	1.1145	1.1126	1.1106	1.1064	1.1006	1.0924	1.0858	1.0806	1.0725	1.0665	1.0619	1.0567	1.0504	1.0401	1.0304	1.0210	
3,000	.87373	1.0502	1.0948	1.1099	1.1151	1.1163	1.1157	1.1142	1.1123	1.1103	1.1061	1.1002	1.0920	1.0855	1.0802	1.0721	1.0661	1.0615	1.0561	1.0498	1.0393	1.0294	1.0196	
4,000	.87366	1.0501	1.0947	1.1098	1.1150	1.1162	1.1156	1.1141	1.1122	1.1101	1.1060	1.1001	1.0918	1.0853	1.0800	1.0718	1.0659	1.0612	1.0559	1.0495	1.0390	1.0289	1.0189	
5,000	.87362	1.0500	1.0946	1.1097	1.1149	1.1161	1.1155	1.1140	1.1121	1.1101	1.1059	1.1000	1.0917	1.0852	1.0799	1.0717	1.0657	1.0611	1.0557	1.0493	1.0388	1.0287	1.0185	
7,500	.87357	1.0500	1.0945	1.1096	1.1148	1.1160	1.1154	1.1139	1.1120	1.1099	1.1057	1.0999	1.0916	1.0850	1.0797	1.0715	1.0655	1.0609	1.0555	1.0491	1.0385	1.0283	1.0179	
10,000	.87354	1.0499	1.0945	1.1096	1.1148	1.1159	1.1153	1.1138	1.1119	1.1099	1.1057	1.0998	1.0915	1.0850	1.0796	1.0715	1.0654	1.0608	1.0554	1.0490	1.0383	1.0281	1.0176	10,000
	1	2	3	4	5	6	7	8	9	10	12	15	20	25	30	40	50	60	75	100	175	350	1,000	