99.95*th* PERCENTILES FOR THE *F* DISTRIBUTION [F_{ν_1,ν_2}]

[Calculated with *qf* in **R** Version 3.2.2 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 $\Pr(Y \le y) = 0.9995$ (ν_1 is the numerator, ν_2 the denominator, degrees of freedom)

$Df \rightarrow$ $\downarrow \nu_2 / \nu_1$	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	1621138	2000000	2161518	2250000	2305619	2343750	2371494	2392578	2409137	2422485	2442672	2463056	2483632	2496068	2504397	2514849	2521143	2525347	2529559	2533778	2539214	2542844	2545206	1
2	1998.5	1999.0	1999.2	1999.2	1999.3	1999.3	1999.4	1999.4	1999.4	1999.4	1999.4	1999.4	1999.4	1999.5	1999.5	1999.5	1999.5	1999.5	1999.5	1999.5	1999.5	1999.5	1999.5	
3	266.55	236.61	224.70	218.25	214.20	211.41	209.38	207.83	206.61	205.63	204.13	202.62	201.08	200.15	199.53	198.74	198.27	197.95	197.63	197.31	196.90	196.62	196.44	
4	106.219	87.443	80.092	76.124	73.631	71.916	70.663	69.708	68.955	68.346	67.421	66.483	65.530	64.951	64.561	64.071	63.775	63.577	63.378	63.179	62.921	62.749	62.637	
5	63.611	49.782	44.422	41.534	39.719	38.470	37.557	36.859	36.309	35.864	35.187	34.499	33.799	33.372	33.086	32.724	32.506	32.359	32.212	32.065	31.874	31.746	31.663	5
6	46.082	34.798	30.453	28.115	26.645	25.633	24.892	24.325	23.878	23.516	22.964	22.403	21.831	21.482	21.247	20.950	20.771	20.650	20.529	20.408	20.251	20.145	20.077	
7	36.988	27.206	23.457	21.441	20.173	19.298	18.658	18.168	17.781	17.467	16.989	16.501	16.003	15.699	15.494	15.235	15.078	14.972	14.866	14.760	14.622	14.530	14.469	
8	31.555	22.750	19.387	17.578	16.440	15.655	15.080	14.639	14.291	14.008	13.577	13.136	12.686	12.410	12.224	11.989	11.846	11.750	11.654	11.557	11.431	11.346	11.291	
9	27.9910	19.8655	16.7700	15.1060	14.0583	13.3351	12.8044	12.3978	12.0759	11.8146	11.4159	11.0081	10.5903	10.3342	10.1611	9.9419	9.8086	9.7191	9.6290	9.5382	9.4206	9.3416	9.2900	
10	25.4291	17.8653	14.9655	13.4068	12.4251	11.7469	11.2489	10.8671	10.5646	10.3189	9.9436	9.5594	9.1651	8.9231	8.7592	8.5515	8.4251	8.3401	8.2545	8.1682	8.0563	7.9810	7.9318	10
11	23.6520	16.4053	13.6545	12.1759	11.2442	10.6002	10.1270	9.7639	9.4762	9.2423	8.8847	8.5182	8.1415	7.9100	7.7530	7.5538	7.4325	7.3508	7.2684	7.1854	7.0776	7.0051	6.9576	
12	22.2450	15.2972	12.6632	11.2474	10.3549	9.7377	9.2839	8.9355	8.6593	8.4346	8.0908	7.7381	7.3750	7.1515	6.9999	6.8071	6.6896	6.6104	6.5306	6.4500	6.3453	6.2747	6.2285	
13	21.1367	14.4298	11.8897	10.5244	9.6635	9.0678	8.6296	8.2930	8.0259	7.8086	7.4758	7.1341	6.7818	6.5646	6.4171	6.2294	6.1149	6.0376	5.9597	5.8810	5.7785	5.7095	5.6642	
14	20.2424	13.7336	11.2707	9.9469	9.1118	8.5337	8.1083	7.7813	7.5217	7.3104	6.9867	6.6538	6.3103	6.0982	5.9541	5.7704	5.6582	5.5825	5.5060	5.4287	5.3280	5.2601	5.2156	
15	19.5065	13.1632	10.7649	9.4757	8.6622	8.0988	7.6840	7.3650	7.1117	6.9054	6.5892	6.2637	5.9273	5.7194	5.5780	5.3976	5.2872	5.2127	5.1374	5.0612	4.9619	4.8948	4.8508	15
16	18.8907	12.6880	10.3443	9.0844	8.2892	7.7383	7.3324	7.0203	6.7722	6.5701	6.2602	5.9409	5.6105	5.4061	5.2669	5.0891	4.9803	4.9067	4.8323	4.7570	4.6588	4.5924	4.5488	
17	18.3683	12.2862	9.9894	8.7547	7.9751	7.4348	7.0367	6.7303	6.4868	6.2883	5.9837	5.6697	5.3444	5.1429	5.0056	4.8300	4.7224	4.6496	4.5759	4.5013	4.4039	4.3380	4.2946	
18	17.9197	11.9423	9.6861	8.4732	7.7072	7.1761	6.7847	6.4833	6.2437	6.0483	5.7483	5.4388	5.1179	4.9189	4.7831	4.6094	4.5028	4.4306	4.3575	4.2835	4.1867	4.1211	4.0780	
19	17.5304	11.6446	9.4241	8.2302	7.4761	6.9531	6.5675	6.2705	6.0343	5.8416	5.5457	5.2401	4.9229	4.7260	4.5916	4.4194	4.3136	4.2420	4.1694	4.0957	3.9994	3.9341	3.8911	
20	17.1895	11.3847	9.1955	8.0185	7.2748	6.7590	6.3785	6.0853	5.8521	5.6618	5.3694	5.0673	4.7534	4.5583	4.4250	4.2541	4.1490	4.0778	4.0056	3.9323	3.8363	3.7712	3.7283	20
22	16.6211	10.9526	8.8163	7.6676	6.9416	6.4377	6.0658	5.7791	5.5509	5.3646	5.0781	4.7817	4.4732	4.2811	4.1496	3.9808	3.8768	3.8063	3.7346	3.6618	3.5662	3.5012	3.4584	
24	16.1663	10.6083	8.5147	7.3889	6.6771	6.1829	5.8180	5.5366	5.3124	5.1293	4.8475	4.5556	4.2514	4.0617	3.9316	3.7643	3.6611	3.5909	3.5196	3.4470	3.3516	3.2866	3.2437	
26	15.7944	10.3275	8.2693	7.1624	6.4623	5.9761	5.6169	5.3398	5.1189	4.9385	4.6606	4.3724	4.0716	3.8837	3.7547	3.5886	3.4859	3.4160	3.3448	3.2723	3.1769	3.1118	3.0687	
28	15.4847	10.0944	8.0658	6.9747	6.2845	5.8050	5.4506	5.1771	4.9590	4.7808	4.5061	4.2210	3.9230	3.7366	3.6084	3.4432	3.3408	3.2711	3.2001	3.1276	3.0320	2.9666	2.9233	
30	15.2228	9.8977	7.8944	6.8168	6.1350	5.6611	5.3108	5.0403	4.8246	4.6482	4.3763	4.0938	3.7982	3.6130	3.4855	3.3209	3.2188	3.1492	3.0781	3.0056	2.9097	2.8440	2.8004	30
35	14.7163	9.5189	7.5648	6.5135	5.8480	5.3852	5.0429	4.7783	4.5672	4.3944	4.1277	3.8502	3.5590	3.3760	3.2498	3.0862	2.9844	2.9147	2.8435	2.7706	2.6738	2.6071	2.5628	
40	14.3520	9.2470	7.3287	6.2966	5.6430	5.1882	4.8516	4.5914	4.3836	4.2134	3.9505	3.6765	3.3884	3.2069	3.0814	2.9183	2.8165	2.7467	2.6752	2.6016	2.5037	2.4360	2.3908	
45	14.0768	9.0424	7.1514	6.1338	5.4893	5.0406	4.7084	4.4515	4.2461	4.0779	3.8179	3.5465	3.2607	3.0802	2.9551	2.7922	2.6903	2.6203	2.5483	2.4742	2.3751	2.3062	2.2601	
50	13.8618	8.8829	7.0133	6.0072	5.3698	4.9259	4.5972	4.3428	4.1394	3.9727	3.7149	3.4456	3.1614	2.9817	2.8569	2.6941	2.5920	2.5216	2.4492	2.3745	2.2742	2.2042	2.1571	50
60	13.5476	8.6505	6.8124	5.8232	5.1962	4.7594	4.4357	4.1851	3.9846	3.8201	3.5655	3.2992	3.0174	2.8386	2.7142	2.5512	2.4485	2.3776	2.3043	2.2283	2.1257	2.0535	2.0046	
70	13.3292	8.4894	6.6734	5.6959	5.0762	4.6444	4.3242	4.0762	3.8777	3.7148	3.4624	3.1981	2.9179	2.7397	2.6154	2.4521	2.3489	2.2774	2.2033	2.1261	2.0213	1.9471	1.8965	
80	13.1685	8.3711	6.5714	5.6026	4.9884	4.5602	4.2426	3.9965	3.7995	3.6378	3.3870	3.1241	2.8451	2.6672	2.5430	2.3794	2.2757	2.2036	2.1287	2.0505	1.9438	1.8676	1.8153	
90	13.0454	8.2806	6.4934	5.5314	4.9213	4.4959	4.1803	3.9357	3.7398	3.5790	3.3295	3.0677	2.7895	2.6119	2.4876	2.3237	2.2195	2.1469	2.0714	1.9923	1.8837	1.8057	1.7519	
100	12.9480	8.2091	6.4319	5.4751	4.8683	4.4452	4.1312	3.8877	3.6928	3.5326	3.2841	3.0232	2.7456	2.5682	2.4439	2.2797	2.1750	2.1021	2.0259	1.9459	1.8357	1.7561	1.7008	100
125	12.7753	8.0824	6.3230	5.3757	4.7748	4.3556	4.0444	3.8030	3.6097	3.4507	3.2040	2.9446	2.6681	2.4909	2.3665	2.2016	2.0960	2.0222	1.9448	1.8630	1.7493	1.6661	1.6075	
150	12.6620	7.9994	6.2516	5.3106	4.7136	4.2970	3.9876	3.7477	3.5553	3.3972	3.1516	2.8932	2.6174	2.4403	2.3158	2.1503	2.0441	1.9695	1.8912	1.8080	1.6915	1.6052	1.5437	
175	12.5819	7.9408	6.2013	5.2647	4.6704	4.2556	3.9476	3.7086	3.5170	3.3595	3.1147	2.8570	2.5816	2.4046	2.2800	2.1140	2.0073	1.9322	1.8530	1.7688	1.6500	1.5611	1.4970	
200	12.5222	7.8972	6.1639	5.2306	4.6383	4.2250	3.9179	3.6797	3.4886	3.3315	3.0873	2.8301	2.5550	2.3781	2.2533	2.0870	1.9798	1.9043	1.8245	1.7394	1.6186	1.5275	1.4611	
250	12.4394	7.8368	6.1120	5.1833	4.5939	4.1824	3.8768	3.6395	3.4492	3.2927	3.0493	2.7928	2.5182	2.3413	2.2164	2.0495	1.9417	1.8654	1.7847	1.6982	1.5744	1.4797	1.4093	250
300	12.3846	7.7968	6.0778	5.1521	4.5645	4.1543	3.8496	3.6130	3.4232	3.2671	3.0242	2.7682	2.4939	2.3170	2.1919	2.0247	1.9163	1.8396	1.7582	1.6706	1.5446	1.4470	1.3733	
350	12.3457	7.7684	6.0534	5.1299	4.5437	4.1344	3.8303	3.5942	3.4048	3.2489	3.0064	2.7507	2.4766	2.2997	2.1746	2.0070	1.8983	1.8213	1.7393	1.6509	1.5232	1.4232	1.3468	
400	12.3166	7.7472	6.0353	5.1134	4.5282	4.1195	3.8159	3.5801	3.3910	3.2353	2.9931	2.7377	2.4637	2.2868	2.1616	1.9938	1.8848	1.8075	1.7252	1.6362	1.5069	1.4051	1.3262	
450	12.2940	7.7307	6.0212	5.1006	4.5161	4.1080	3.8048	3.5693	3.3803	3.2248	2.9829	2.7276	2.4537	2.2768	2.1515	1.9835	1.8744	1.7968	1.7141	1.6246	1.4943	1.3908	1.3099	
500	12.2760	7.7176	6.0099	5.0903	4.5065	4.0988	3.7959	3.5606	3.3718	3.2164	2.9747	2.7195	2.4458	2.2688	2.1435	1.9754	1.8660	1.7883	1.7053	1.6154	1.4841	1.3793	1.2965	500
600	12.2491	7.6980	5.9931	5.0750	4.4921	4.0851	3.7826	3.5476	3.3591	3.2039	2.9624	2.7075	2.4338	2.2569	2.1315	1.9631	1.8535	1.7754	1.6921	1.6015	1.4687	1.3617	1.2758	
700	12.2299	7.6840	5.9812	5.0641	4.4819	4.0753	3.7731	3.5384	3.3500	3.1950	2.9537	2.6989	2.4254	2.2484	2.1230	1.9544	1.8446	1.7663	1.6826	1.5916	1.4576	1.3489	1.2605	
800	12.2156	7.6736	5.9722	5.0560	4.4742	4.0680	3.7660	3.5315	3.3432	3.1883	2.9471	2.6925	2.4190	2.2421	2.1166	1.9479	1.8379	1.7595	1.6756	1.5842	1.4492	1.3392	1.2487	
900	12.2044	7.6655	5.9653	5.0496	4.4683	4.0623	3.7605	3.5261	3.3380	3.1831	2.9421	2.6875	2.4141	2.2371	2.1116	1.9428	1.8327	1.7541	1.6700	1.5784	1.4427	1.3316	1.2393	
1,000	12.1955	7.6590	5.9597	5.0446	4.4635	4.0577	3.7561	3.5218	3.3338	3.1790	2.9380	2.6835	2.4101	2.2332	2.1076	1.9387	1.8285	1.7499	1.6656	1.5737	1.4375	1.3255	1.2316	1,000
2,000	12.1555	7.6299	5.9348	5.0219	4.4422	4.0374	3.7364	3.5026	3.3149	3.1604	2.9198	2.6657	2.3925	2.2155	2.0898	1.9205	1.8098	1.7307	1.6458	1.5527	1.4137	1.2972	1.1951	
3,000	12.1422	7.6202	5.9265	5.0144	4.4352	4.0306	3.7299	3.4962	3.3087	3.1543	2.9138	2.6597	2.3866	2.2096	2.0839	1.9145	1.8036	1.7243	1.6391	1.5457	1.4057	1.2875	1.1820	
4,000	12.1356	7.6154	5.9224	5.0106	4.4316	4.0272	3.7266	3.4930	3.3056	3.1512	2.9108	2.6568	2.3837	2.2067	2.0809	1.9114	1.8005	1.7211	1.6358	1.5422	1.4017	1.2826	1.1752	
5,000	12.1316	7.6125	5.9199	5.0083	4.4295	4.0252	3.7246	3.4911	3.3037	3.1493	2.9090	2.6550	2.3819	2.2049	2.0791	1.9096	1.7987	1.7192	1.6338	1.5401	1.3993	1.2796	1.1711	
7,500	12.1263	7.6086	5.9166	5.0053	4.4267	4.0225	3.7220	3.4886	3.3012	3.1469	2.9066	2.6526	2.3796	2.2026	2.0768	1.9072	1.7962	1.7167	1.6312	1.5373	1.3961	1.2756	1.1654	
10,000	12.1236	7.6067	5.9149	5.0038	4.4253	4.0212	3.7207	3.4873	3.2999	3.1457	2.9054	2.6515	2.3784	2.2014	2.0756	1.9060	1.7949	1.7154	1.6299	1.5359	1.3944	1.2736	1.1626	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	

F_{ν_1,ν_2} .9995

F_{ν_1,ν_2} .9995

2017-02-20 University of Waterloo W.H. Cherry

99.99*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 $\Pr(Y \le y) = 0.9999$ (ν_1 is the numerator, ν_2 the denominator, degrees of freedom)

$Df \rightarrow$ / 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	40528473	50000000	54037964	56250000	57640495	58593750	59287367	59814453	60228436	60562133	61066818	61576401	62090802	62401717	62609930	62871237	63028572	63133689	63238988	63344467	63480346	63571096	63630154	1
2	9998.5	9999.0	9999.2	9999.2	9999.3	9999.3	9999.4	9999.4	9999.4	9999.4	9999.4	9999.4	9999.4	9999.5	9999.5	9999.5	9999.5	9999.5	9999.5	9999.5	9999.5	9999.5	9999.5	
3	784.01	694.74	659.34	640.19	628.17	619.91	613.88	609.29	605.67	602.75	598.33	593.84	589.30	586.54	584.69	582.36	580.96	580.02	579.08	578.13	576.91	576.10	575.57	
4	241.62	198.00	181.02	171.87	166.13	162.19	159.31	157.11	155.38	153.98	151.86	149.71	147.52	146.19	145.30	144.18	143.50	143.05	142.59	142.13	141.54	141.15	140.89	
5	124.491	97.027	86.292	80.527	76.911	74.426	72.611	71.226	70.133	69.250	67.908	66.544	65.157	64.313	63.746	63.031	62.598	62.309	62.018	61.726	61.349	61.097	60.933	5
6	82.489	61.633	53.680	49.419	46.747	44.909	43.566	42.541	41.732	41.077	40.081	39.068	38.036	37.407	36.984	36.450	36.127	35.910	35.693	35.474	35.192	35.002	34.879	
7	62.167	45.132	38.676	35.222	33.056	31.567	30.477	29.644	28.987	28.455	27.644	26.819	25.977	25.464	25.118	24.680	24.416	24.238	24.059	23.880	23.648	23.492	23.391	
8	50.694	36.000	30.456	27.493	25.635	24.357	23.421	22.706	22.141	21.683	20.985	20.274	19.547	19.103	18.803	18.425	18.195	18.041	17.886	17.730	17.528	17.393	17.304	
9	43.477	30.342	25.404	22.766	21.112	19.974	19.140	18.503	17.999	17.590	16.967	16.331	15.680	15.282	15.013	14.672	14.466	14.327	14.187	14.047	13.865	13.743	13.663	
10	38.577	26.548	22.038	19.630	18.120	17.081	16.319	15.736	15.275	14.901	14.330	13.747	13.150	12.784	12.536	12.222	12.032	11.904	11.775	11.645	11.477	11.363	11.290	10
11	35.0605	23.8518	19.6585	17.4211	16.0178	15.0511	14.3425	13.7999	13.3706	13.0221	12.4901	11.9458	11.3877	11.0452	10.8134	10.5194	10.3406	10.2203	10.0991	9.9769	9.8185	9.7119	9.6422	
12	32.4269	21.8495	17.8995	15.7926	14.4710	13.5602	12.8924	12.3807	11.9757	11.6467	11.1443	10.6298	10.1015	9.7769	9.5570	9.2778	9.1078	8.9933	8.8780	8.7616	8.6106	8.5089	8.4423	
13	30.3878	20.3101	16.5523	14.5485	13.2913	12.4247	11.7889	11.3017	10.9158	10.6022	10.1231	9.6319	9.1270	8.8164	8.6058	8.3381	8.1750	8.0651	7.9542	7.8423	7.6969	7.5989	7.5348	
14	28.7662	19.0932	15.4908	13.5703	12.3653	11.5343	10.9245	10.4569	10.0865	9.7853	9.3249	8.8526	8.3664	8.0670	7.8638	7.6053	7.4476	7.3412	7.2339	7.1255	6.9845	6.8895	6.8272	
15	27.4480	18.1091	14.6350	12.7832	11.6211	10.8194	10.2310	9.7796	9.4218	9.1309	8.6859	8.2290	7.7582	7.4679	7.2707	7.0197	6.8663	6.7628	6.6583	6.5527	6.4153	6.3225	6.2617	15
16	26.3569	17.2982	13.9315	12.1372	11.0111	10.2340	9.6634	9.2256	8.8784	8.5961	8.1639	7.7198	7.2618	6.9791	6.7869	6.5419	6.3922	6.2911	6.1889	6.0855	5.9509	5.8599	5.8003	
17	25.4396	16.6193	13.3439	11.5984	10.5028	9.7466	9.1911	8.7648	8.4267	8.1515	7.7302	7.2970	6.8498	6.5735	6.3854	6.1455	5.9987	5.8996	5.7993	5.6978	5.5655	5.4760	5.4172	
18	24.6582	16.0430	12.8461	11.1426	10.0732	9.3349	8.7925	8.3760	8.0456	7.7767	7.3647	6.9408	6.5028	6.2318	6.0473	5.8117	5.6674	5.5699	5.4712	5.3712	5.2408	5.1525	5.0945	
19	23.9851	15.5482	12.4194	10.7524	9.7057	8.9830	8.4519	8.0440	7.7202	7.4567	7.0528	6.6369	6.2068	5.9405	5.7590	5.5271	5.3849	5.2887	5.1913	5.0927	4.9637	4.8764	4.8190	
20	23.3995	15.1189	12.0498	10.4147	9.3880	8.6789	8.1577	7.7573	7.4394	7.1805	6.7837	6.3748	5.9516	5.6894	5.5105	5.2817	5.1413	5.0463	4.9500	4.8524	4.7248	4.6382	4.5813	20
22	22.4309	14.4114	11.4421	9.8603	8.8668	8.1804	7.6757	7.2878	6.9797	6.7286	6.3435	5.9463	5.5345	5.2788	5.1042	4.8805	4.7430	4.6498	4.5553	4.4594	4.3337	4.2483	4.1921	
24	21.6633	13.8532	10.9637	9.4246	8.4578	7.7896	7.2980	6.9201	6.6197	6.3750	5.9992	5.6112	5.2084	4.9580	4.7867	4.5669	4.4316	4.3397	4.2465	4.1517	4.0274	3.9428	3.8870	
26	21.0404	13.4019	10.5778	9.0736	8.1286	7.4752	6.9945	6.6247	6.3307	6.0910	5.7228	5.3424	4.9468	4.7006	4.5319	4.3152	4.1816	4.0908	3.9985	3.9046	3.7812	3.6970	3.6414	
28	20.5252	13.0298	10.2601	8.7850	7.8581	7.2172	6.7454	6.3824	6.0937	5.8582	5.4964	5.1221	4.7326	4.4897	4.3232	4.1090	3.9767	3.8867	3.7951	3.7018	3.5789	3.4951	3.4396	
30	20.0921	12.7177	9.9942	8.5437	7.6322	7.0017	6.5375	6.1802	5.8960	5.6641	5.3075	4.9385	4.5540	4.3140	4.1492	3.9370	3.8057	3.7163	3.6253	3.5324	3.4099	3.3261	3.2706	30
35	19.2615	12.1217	9.4873	8.0844	7.2025	6.5923	6.1427	5.7964	5.5209	5.2959	4.9495	4.5906	4.2156	3.9808	3.8193	3.6106	3.4812	3.3928	3.3025	3.2102	3.0880	3.0040	2.9482	
40	18.6684	11.6979	9.1278	7.7592	6.8987	6.3031	5.8640	5.5257	5.2564	5.0363	4.6973	4.3455	3.9772	3.7461	3.5868	3.3804	3.2520	3.1642	3.0742	2.9820	2.8594	2.7749	2.7185	
45	18.2240	11.3813	8.8598	7.5172	6.6728	6.0881	5.6571	5.3248	5.0601	4.8437	4.5102	4.1637	3.8004	3.5720	3.4142	3.2094	3.0817	2.9940	2.9042	2.8118	2.6886	2.6033	2.5462	
50	17.8786	11.1360	8.6524	7.3301	6.4983	5.9222	5.4974	5.1698	4.9087	4.6952	4.3660	4.0237	3.6642	3.4378	3.2811	3.0774	2.9500	2.8625	2.7726	2.6799	2.5559	2.4697	2.4118	50
60	17.3769	10.7807	8.3526	7.0599	6.2465	5.6830	5.2672	4.9465	4.6907	4.4815	4.1585	3.8221	3.4681	3.2445	3.0894	2.8870	2.7599	2.6723	2.5820	2.4886	2.3628	2.2746	2.2150	
70	17.0302	10.5859	8.1465	6.8743	6.0738	5.5190	5.1095	4.7935	4.5414	4.3351	4.0164	3.6841	3.3338	3.1121	2.9579	2.7563	2.6292	2.5414	2.4506	2.3563	2.2287	2.1385	2.0772	
80	16.7764	10.3570	7.9960	6.7390	5.9479	5.3996	4.9947	4.6822	4.4328	4.2286	3.9131	3.5838	3.2361	3.0157	2.8622	2.6609	2.5338	2.4457	2.3544	2.2593	2.1298	2.0378	1.9748	
90	16.5825	10.2206	7.8814	6.6360	5.8521	5.3087	4.9074	4.5976	4.3502	4.1477	3.8346	3.5076	3.1619	2.9424	2.7894	2.5884	2.4611	2.3727	2.2809	2.1849	2.0538	1.9600	1.8954	
100	16.4295	10.1132	7.7912	6.5550	5.7768	5.2373	4.8388	4.5311	4.2854	4.0841	3.7729	3.4477	3.1037	2.8849	2.7322	2.5313	2.4038	2.3151	2.2228	2.1261	1.9934	1.8979	1.8318	100
125	16.1591	9.9236	7.6322	6.4122	5.6442	5.1116	4.7181	4.4141	4.1713	3.9723	3.6645	3.3424	3.0011	2.7836	2.6314	2.4305	2.3026	2.2132	2.1199	2.0216	1.8855	1.7862	1.7166	
150	15.9822	9.7998	7.5284	6.3192	5.5578	5.0298	4.6395	4.3379	4.0970	3.8996	3.5939	3.2739	2.9344	2.7176	2.5657	2.3648	2.2364	2.1465	2.0524	1.9528	1.8138	1.7113	1.6385	
175	15.8575	9.7126	7.4554	6.2537	5.4971	4.9722	4.5843	4.2844	4.0449	3.8485	3.5444	3.2258	2.8875	2.6712	2.5195	2.3185	2.1897	2.0994	2.0046	1.9039	1.7626	1.6574	1.5818	
200	15.7648	9.6478	7.4012	6.2052	5.4521	4.9296	4.5433	4.2448	4.0062	3.8106	3.5077	3.1902	2.8527	2.6369	2.4853	2.2841	2.1551	2.0644	1.9690	1.8674	1.7241	1.6165	1.5384	
250	15.6364	9.5582	7.3262	6.1380	5.3898	4.8706	4.4867	4.1900	3.9528	3.7583	3.4569	3.1409	2.8047	2.5893	2.4379	2.2365	2.1070	2.0157	1.9194	1.8165	1.6700	1.5585	1.4760	250
300	15.5515	9.4990	7.2768	6.0937	5.3487	4.8317	4.4495	4.1539	3.9176	3.7238	3.4235	3.1085	2.7730	2.5580	2.4066	2.2051	2.0752	1.9835	1.8866	1.7826	1.6338	1.5191	1.4330	
350	15.4913	9.4570	7.2417	6.0623	5.3196	4.8042	4.4230	4.1283	3.8927	3.6994	3.3998	3.0855	2.7506	2.5358	2.3845	2.1828	2.0526	1.9607	1.8632	1.7584	1.6077	1.4906	1.4014	
400	15.4464	9.4257	7.2156	6.0389	5.2979	4.7836	4.4033	4.1092	3.8741	3.6812	3.3822	3.0683	2.7339	2.5192	2.3679	2.1661	2.0358	1.9435	1.8457	1.7403	1.5881	1.4689	1.3770	
450	15.4115	9.4015	7.1953	6.0208	5.2811	4.7677	4.3881	4.0945	3.8597	3.6671	3.3685	3.0551	2.7210	2.5064	2.3551	2.1533	2.0227	1.9303	1.8321	1.7262	1.5728	1.4518	1.3576	
500	15.3837	9.3821	7.1792	6.0064	5.2677	4.7550	4.3759	4.0827	3.8482	3.6559	3.3576	3.0445	2.7107	2.4962	2.3449	2.1430	2.0123	1.9197	1.8212	1.7149	1.5605	1.4380	1.3418	500
600	15.3422	9.3532	7.1550	5.9848	5.2477	4.7361	4.3578	4.0651	3.8311	3.6391	3.3414	3.0287	2.6953	2.4809	2.3297	2.1276	1.9967	1.9038	1.8050	1.6980	1.5419	1.4171	1.3174	
700	15.3126	9.3326	7.1378	5.9694	5.2334	4.7226	4.3448	4.0526	3.8189	3.6272	3.3298	3.0175	2.6843	2.4701	2.3188	2.1166	1.9856	1.8925	1.7934	1.6859	1.5286	1.4019	1.2994	
800	15.2904	9.3172	7.1250	5.9579	5.2228	4.7126	4.3352	4.0433	3.8098	3.6182	3.3211	3.0091	2.6761	2.4619	2.3107	2.1084	1.9772	1.8840	1.7847	1.6768	1.5186	1.3904	1.2856	
900	15.2733	9.3052	7.1150	5.9490	5.2145	4.7047	4.3277	4.0360	3.8027	3.6113	3.3144	3.0026	2.6697	2.4556	2.3044	2.1021	1.9708	1.8775	1.7779	1.6698	1.5108	1.3814	1.2746	
1,000	15.2595	9.2957	7.1070	5.9418	5.2079	4.6985	4.3217	4.0302	3.7971	3.6058	3.3091	2.9973	2.6647	2.4506	2.2994	2.0970	1.9656	1.8722	1.7725	1.6641	1.5045	1.3741	1.2656	1,000
2,000	15.1979	9.2529	7.0713	5.9099	5.1783	4.6705	4.2949	4.0042	3.7718	3.5810	3.2850	2.9740	2.6419	2.4280	2.2768	2.0742	1.9424	1.8486	1.7482	1.6387	1.4760	1.3406	1.2230	
3,000	15.1775	9.2387	7.0595	5.8993	5.1685	4.6612	4.2860	3.9956	3.7634	3.5728	3.2771	2.9663	2.6343	2.4205	2.2693	2.0667	1.9347	1.8407	1.7401	1.6302	1.4665	1.3292	1.2077	
4,000	15.1673	9.2316	7.0536	5.8940	5.1636	4.6566	4.2815	3.9913	3.7592	3.5687	3.2731	2.9624	2.6306	2.4168	2.2656	2.0629	1.9309	1.8368	1.7360	1.6259	1.4617	1.3234	1.1998	
5,000	15.1612	9.2273	7.0500	5.8908	5.1607	4.6538	4.2788	3.9887	3.7567	3.5662	3.2707	2.9601	2.6283	2.4146	2.2634	2.0606	1.9286	1.8345	1.7336	1.6234	1.4588	1.3200	1.1950	
7,500	15.1530	9.2217	7.0453	5.8866	5.1568	4.6501	4.2753	3.9853	3.7533	3.5629	3.2675	2.9570	2.6253	2.4116	2.2604	2.0576	1.9255	1.8313	1.7304	1.6200	1.4550	1.3153	1.1885	
10,000	15.1489	9.2188	7.0429	5.8845	5.1548	4.6483	4.2735	3.9836	3.7517	3.5613	3.2660	2.9555	2.6238	2.4101	2.2589	2.0561	1.9240	1.8298	1.7288	1.6183	1.4530	1.3129	1.1851	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	

F_{ν_1,ν_2} .9999

F_{ν_1,ν_2} .9999

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W.H. Cherry