99.995*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 $\Pr(Y \le y) = 0.99995$ (ν_1 is the numerator, ν_2 the denominator, degrees of freedom)

F_{ν_1,ν_2} .99995

Df → ν_2 / ν_1	1	2	3	4	5	6	7	8	9	10
1	162113893	200000000	216151858	225000000	230561982	234375000	237149467	239257812	240913744	242248535
2	19998.5	19999.0	19999.2	19999.2	19999.3	19999.3	19999.4	19999.4	19999.4	19999.4
3	1245.94	1103.71	1047.34	1016.86	997.71	984.57	974.98	967.67	961.92	957.27
4	343.08	280.84	256.64	243.61	235.44	229.83	225.73	222.61	220.14	218.15
5	166.225	128.826	114.472	106.771	101.943	98.626	96.204	94.356	92.899	91.720
6	105.286	78.433	68.220	62.754	59.329	56.975	55.255	53.943	52.907	52.069
7	77.132	55.783	47.718	43.408	40.709	38.854	37.497	36.461	35.643	34.981
8	61.633	43.568	36.777	33.154	30.885	29.324	28.183	27.311	26.622	26.064
9	52.060	36.144	30.184	27.006	25.017	23.648	22.647	21.881	21.276	20.786
10	45.654	31.239	25.857	22.990	21.195	19.959	19.055	18.364	17.817	17.373
11	41.1083	27.7942	22.8353	20.1955	18.5423	17.4045	16.5713	15.9336	15.4293	15.0201
12	37.7348	25.2600	20.6231	18.1558	16.6105	15.5467	14.7674	14.1707	13.6986	13.3154
13	35.1426	23.3270	18.9425	16.6103	15.1496	14.1438	13.4066	12.8420	12.3951	12.0322
14	33.0943	21.8092	17.6274	15.4038	14.0109	13.0516	12.3483	11.8094	11.3827	11.0361
15	31.4383	20.5887	16.5732	14.4385	13.1013	12.1800	11.5044	10.9867	10.5765	10.2432
16	30.0738	19.5879	15.7110	13.6505	12.3596	11.4701	10.8176	10.3174	9.9210	9.5987
17	28.9315	18.7535	14.9939	12.9961	11.7444	10.8817	10.2487	9.7633	9.3785	9.0657
18	27.9619	18.0480	14.3889	12.4448	11.2266	10.3869	9.7706	9.2978	8.9230	8.6181
19	27.1293	17.4441	13.8720	11.9743	10.7852	9.9653	9.3635	8.9017	8.5354	8.2375
20	26.4069	16.9217	13.4256	11.5686	10.4048	9.6023	9.0130	8.5608	8.2020	7.9101
22	25.2165	16.0642	12.6945	10.9050	9.7833	9.0096	8.4413	8.0049	7.6586	7.3767
24	24.2770	15.3905	12.1216	10.3859	9.2979	8.5471	7.9954	7.5717	7.2353	6.9613
26	23.5173	14.8479	11.6612	9.9693	8.9087	8.1766	7.6386	7.2251	6.8968	6.6293
28	22.8907	14.4017	11.2834	9.6280	8.5900	7.8735	7.3467	6.9418	6.6202	6.3580
30	22.3653	14.0286	10.9679	9.3433	8.3245	7.6211	7.1038	6.7062	6.3901	6.1325
35	21.3612	13.3185	10.3689	8.8035	7.8217	7.1435	6.6445	6.2607	5.9555	5.7065
40	20.6471	12.8157	9.9459	8.4231	7.4678	6.8077	6.3219	5.9480	5.6505	5.4077
45	20.1135	12.4413	9.6317	8.1408	7.2055	6.5590	6.0831	5.7167	5.4250	5.1869
50	19.6999	12.1519	9.3891	7.9232	7.0035	6.3676	5.8994	5.5387	5.2516	5.0171
60	19.1006	11.7339	9.0394	7.6099	6.7128	6.0925	5.6354	5.2833	5.0028	4.7735
70	18.6875	11.4467	8.7996	7.3954	6.5140	5.9044	5.4551	5.1088	4.8328	4.6072
80	18.3856	11.2372	8.6250	7.2393	6.3695	5.7677	5.3241	4.9821	4.7095	4.4866
90	18.1554	11.0778	8.4922	7.1207	6.2597	5.6640	5.2247	4.8860	4.6160	4.3951
100	17.9740	10.9524	8.3878	7.0275	6.1735	5.5825	5.1468	4.8106	4.5426	4.3233
125	17.6537	10.7313	8.2040	6.8636	6.0219	5.4394	5.0097	4.6782	4.4137	4.1973
150	17.4445	10.5871	8.0843	6.7569	5.9234	5.3464	4.9207	4.5922	4.3300	4.1154
175	17.2972	10.4857	8.0002	6.6819	5.8541	5.2810	4.8582	4.5318	4.2713	4.0580
200	17.1878	10.4105	7.9378	6.6264	5.8029	5.2327	4.8119	4.4871	4.2278	4.0155
250	17.0362	10.3064	7.8516	6.5496	5.7320	5.1658	4.7479	4.4253	4.1678	3.9568
300	16.9362	10.2377	7.7947	6.4990	5.6853	5.1218	4.7059	4.3847	4.1283	3.9182
350	16.8653	10.1891	7.7544	6.4632	5.6522	5.0906	4.6761	4.3559	4.1003	3.8909
400	16.8123	10.1528	7.7244	6.4365	5.6276	5.0674	4.6539	4.3345	4.0795	3.8705
450	16.7713	10.1247	7.7011	6.4158	5.6085	5.0494	4.6367	4.3179	4.0633	3.8547
500	16.7386	10.1023	7.6826	6.3993	5.5933	5.0351	4.6230	4.3047	4.0505	3.8422
600	16.6897	10.0688	7.6549	6.3747	5.5706	5.0137	4.6025	4.2849	4.0313	3.8234
700	16.6549	10.0449	7.6352	6.3572	5.5545	4.9985	4.5880	4.2709	4.0176	3.8101
800	16.6288	10.0271	7.6204	6.3441	5.5424	4.9871	4.5771	4.2604	4.0074	3.8001
900	16.6086	10.0133	7.6090	6.3339	5.5330	4.9783	4.5687	4.2523	3.9995	3.7924
1,000	16.5925	10.0022	7.5998	6.3258	5.5255	4.9712	4.5619	4.2457	3.9932	3.7862
2,000	16.5201	9.9527	7.5589	6.2894	5.4920	4.9396	4.5317	4.2166	3.9649	3.7585
3,000	16.4960	9.9363	7.5453	6.2774	5.4809	4.9292	4.5217	4.2070	3.9555	3.7493
4,000	16.4840	9.9280	7.5385	6.2714	5.4753	4.9239	4.5167	4.2021	3.9508	3.7448
5,000	16.4768	9.9231	7.5345	6.2677	5.4720	4.9208	4.5137	4.1992	3.9480	3.7420
7,500	16.4673	9.9166	7.5291	6.2629	5.4676	4.9166	4.5097	4.1954	3.9443	3.7384
10,000	16.4625	9.9133	7.5264	6.2605	5.4654	4.9145	4.5077	4.1935	3.9424	3.7365
	1	2	3	4	5	6	7	8	9	10

ν_2 / ν_1	12	15	20	25	30	40	50	60	75	100	175	350	1,000	
1	244267273	246305607	248363209	249606871	250439721	251484949	252114288	252534758	252955952	253377868	253921385	254284386	254520617	1
2	19999.4	19999.4	19999.4	19999.5	19999.5	19999.5	19999.5	19999.5	19999.5	19999.5	19999.5	19999.5	19999.5	
3	950.23	943.09	935.86	931.47	928.52	924.82	922.59	921.09	919.59	918.09	916.15	914.86	914.01	
4	215.13	212.07	208.96	207.07	205.80	204.20	203.24	202.59	201.95	201.30	200.46	199.90	199.53	
5	89.930	88.111	86.262	85.138	84.381	83.428	82.852	82.466	82.079	81.690	81.188	80.852	80.632	5
6	50.794	49.498	48.179	47.375	46.834	46.151	45.738	45.462	45.183	44.904	44.543	44.302	44.144	
7	33.973	32.947	31.901	31.263	30.833	30.290	29.962	29.741	29.519	29.297	29.009	28.815	28.689	
8	25.214	24.348	23.463	22.923	22.559	22.098	21.819	21.632	21.443	21.254	21.008	20.844	20.736	
9	20.038	19.276	18.496	18.019	17.697	17.290	17.043	16.877	16.710	16.542	16.324	16.178	16.082	
10	16.697	16.006	15.299	14.867	14.574	14.203	13.978	13.827	13.674	13.521	13.322	13.188	13.101	10
11	14.3958	13.7575	13.1033	12.7021	12.4307	12.0866	11.8774	11.7367	11.5950	11.4521	11.2669	11.1423	11.0608	
12	12.7304	12.1318	11.5175	11.1404	10.8850	10.5609	10.3636	10.2308	10.0970	9.9621	9.7870	9.6691	9.5920	
13	11.4780	10.9103	10.3271	9.9686	9.7257	9.4170	9.2290	9.1024	8.9746	8.8458	8.6784	8.5656	8.4918	
14	10.5064	9.9635	9.4052	9.0616	8.8285	8.5322	8.3514	8.2296	8.1067	7.9826	7.8212	7.7124	7.6412	
15	9.7336	9.2109	8.6728	8.3413	8.1163	7.8298	7.6550	7.5370	7.4180	7.2977	7.1411	7.0355	6.9663	15
16	9.1059	8.6000	8.0786	7.7571	7.5387	7.2604	7.0903	6.9756	6.8597	6.7425	6.5898	6.4867	6.4191	
17	8.5869	8.0951	7.5879	7.2748	7.0619	6.7904	6.6243	6.5122	6.3989	6.2842	6.1347	6.0337	5.9674	
18	8.1514	7.6717	7.1764	6.8705	6.6622	6.3965	6.2338	6.1239	6.0127	5.9001	5.7533	5.6540	5.5887	
19	7.7811	7.3118	6.8269	6.5271	6.3228	6.0620	5.9022	5.7941	5.6847	5.5739	5.4293	5.3314	5.2670	
20	7.4628	7.0026	6.5267	6.2321	6.0313	5.7747	5.6173	5.5108	5.4030	5.2937	5.1509	5.0541	4.9905	20
22	6.9445	6.4992	6.0381	5.7522	5.5571	5.3073	5.1539	5.0499	4.9445	4.8376	4.6976	4.6026	4.5400	
24	6.5410	6.1077	5.6583	5.3792	5.1885	4.9440	4.7935	4.6915	4.5880	4.4827	4.3448	4.2510	4.1891	
26	6.2187	5.7949	5.3550	5.0814	4.8941	4.6538	4.5057	4.4052	4.3030	4.1991	4.0626	3.9696	3.9082	
28	5.9555	5.5397	5.1075	4.8383	4.6540	4.4170	4.2708	4.1714	4.0703	3.9673	3.8319	3.7394	3.6783	
30	5.7367	5.3276	4.9018	4.6364	4.4544	4.2202	4.0755	3.9770	3.8767	3.7745	3.6398	3.5477	3.4867	30
35	5.3237	4.9273	4.5140	4.2556	4.0779	3.8487	3.7066	3.6097	3.5107	3.4096	3.2758	3.1840	3.1230	
40	5.0341	4.6469	4.2422	3.9887	3.8141	3.5881	3.4477	3.3517	3.2535	3.1528	3.0192	2.9270	2.8656	
45	4.8202	4.4398	4.0415	3.7916	3.6191	3.3955	3.2561	3.1606	3.0628	2.9622	2.8283	2.7355	2.6735	
50	4.6558	4.2806	3.8874	3.6401	3.4692	3.2473	3.1086	3.0134	2.9157	2.8151	2.6806	2.5871	2.5244	50
60	4.4200	4.0524	3.6663	3.4228	3.2541	3.0343	2.8964	2.8015	2.7037	2.6026	2.4666	2.3714	2.3071	
70	4.2591	3.8968	3.5155	3.2745	3.1072	2.8887	2.7512	2.6562	2.5582	2.4564	2.3188	2.2217	2.1557	
80	4.1424	3.7839	3.4061	3.1669	3.0006	2.7829	2.6455	2.5504	2.4520	2.3495	2.2102	2.1113	2.0437	
90	4.0540	3.6983	3.3231	3.0853	2.9197	2.7025	2.5651	2.4699	2.3710	2.2678	2.1269	2.0263	1.9570	
100	3.9846	3.6312	3.2580	3.0212	2.8562	2.6393	2.5019	2.4065	2.3072	2.2033	2.0609	1.9586	1.8878	100
125	3.8627	3.5133	3.1438	2.9088	2.7446	2.5282	2.3906	2.2946	2.1944	2.0890	1.9433	1.8372	1.7629	
150	3.7836	3.4368	3.0696	2.8357	2.6720	2.4558	2.3179	2.2215	2.1206	2.0140	1.8655	1.7561	1.6785	
175	3.7281	3.3832	3.0176	2.7844	2.6211	2.4050	2.2668	2.1701	2.0685	1.9608	1.8100	1.6978	1.6174	
200	3.6871	3.3435	2.9791	2.7465	2.5834	2.3673	2.2289	2.1318	2.0297	1.9212	1.7683	1.6538	1.5707	
250	3.6304	3.2887	2.9259	2.6940	2.5312	2.3151	2.1764	2.0788	1.9758	1.8660	1.7099	1.5914	1.5038	250
300	3.5930	3.2526	2.8909	2.6595	2.4969	2.2808	2.1417	2.0437	1.9402	1.8293	1.6709	1.5491	1.4578	
350	3.5666	3.2270	2.8661	2.6351	2.4726	2.2564	2.1171	2.0188	1.9148	1.8031	1.6428	1.5185	1.4240	
400	3.5470	3.2080	2.8477	2.6168	2.4544	2.2382	2.0987	2.0002	1.8958	1.7835	1.6217	1.4953	1.3980	
450	3.5317	3.1933	2.8334	2.6027	2.4404	2.2241	2.0845	1.9858	1.8811	1.7683	1.6052	1.4770	1.3773	
500	3.5196	3.1816	2.8220	2.5915	2.4292	2.2129	2.0732	1.9743	1.8693	1.7562	1.5920	1.4622	1.3604	500
600	3.5015	3.1641	2.8050	2.5747	2.4125	2.1961	2.0562	1.9571	1.8517	1.7379	1.5721	1.4399	1.3345	
700	3.4886	3.1516	2.7929	2.5628	2.4006	2.1842	2.0441	1.9448	1.8392	1.7249	1.5578	1.4237	1.3154	
800	3.4790	3.1423	2.7839	2.5539	2.3917	2.1752	2.0351	1.9356	1.8298	1.7151	1.5471	1.4114	1.3007	
900	3.4715	3.1351	2.7769	2.5469	2.3848	2.1683	2.0281	1.9285	1.8225	1.7075	1.5387	1.4018	1.2890	
1,000	3.4655	3.1293	2.7713	2.5414	2.3793	2.1628	2.0224	1.9228	1.8166	1.7014	1.5320	1.3940	1.2795	1,000
2,000	3.4388	3.1035	2.7462	2.5166	2.3546	2.1380	1.9973	1.8973	1.7904	1.6740	1.5015	1.3584	1.2343	
3,000	3.4299	3.0949	2.7379	2.5084	2.3465	2.1297	1.9889	1.8888	1.7817	1.6649	1.4913	1.3462	1.2181	
4,000	3.4255	3.0906	2.7337	2.5043	2.3424	2.1256	1.9848	1.8845	1.7773	1.6603	1.4862	1.3401	1.2098	
5,000	3.4229	3.0881	2.7312	2.5019	2.3399	2.1231	1.9823	1.8820	1.7747	1.6576	1.4831	1.3364	1.2047	
7,500	3.4193	3.0847	2.7279	2.4986	2.3367	2.1199	1.9789	1.8786	1.7712	1.6539	1.4790	1.3314	1.1978	
10,000	3.4176	3.0830	2.7263	2.4970	2.3350	2.1182	1.9773	1.8769	1.7694	1.6521	1.4769	1.3289	1.1943	10,000
	12	15	20	25	30	40	50	60	75	100	175	350	1,000	

F_{ν_1,ν_2} .99995

University of Waterloo

W.H. Cherry

2017-02-20