

Figure 13.13g. 97.5th PERCENTILES FOR THE F DISTRIBUTION $[F_{v_1, v_2}]$

[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 $Y \sim F_{v_1, v_2}$ such that $\Pr(Y \leq y) = 0.975$ (v_1 is the numerator, v_2 the denominator, degrees of freedom)

$\downarrow$ $v_2 \backslash v_1$	Each table entry is the value (y) of the random variable $Y \sim F_{v_1, v_2}$ such that $\Pr(Y \leq y) = 0.975$ (v_1 is the numerator, v_2 the denominator, degrees of freedom)																								
	1	2	3	4	5	6	7	8	9	10	12	15	20	25	30	40	50	60	75	100		175	350	1,000	
2007-02-20	1	64779	799.50	864.16	899.58	921.85	93711	948.22	956.66	963.28	968.63	976.71	984.87	99310	998.08	1001.41	1005.60	1008.12	1009.80	1011.49	101317	1015.35	1016.80	101775	1
	2	38.506	39.000	39.165	39.248	39.298	39.331	39.355	39.373	39.387	39.398	39.415	39.431	39.448	39.458	39.465	39.473	39.478	39.481	39.485	39.488	39.492	39.495	39.497	
	3	17.443	16.044	15.439	15.101	14.885	14.735	14.624	14.540	14.473	14.419	14.337	14.253	14.167	14.115	14.081	14.037	14.010	13.992	13.974	13.956	13.933	13.918	13.908	
	4	12.2179	10.6491	9.9792	9.6045	9.3645	9.1973	9.0741	8.9796	8.9047	8.8439	8.7512	8.6565	8.5599	8.5010	8.4613	8.4111	8.3808	8.3604	8.3400	8.3195	8.2929	8.2752	8.2636	
	5	10.0070	8.4336	7.7636	7.3879	7.1464	6.9777	6.8531	6.7572	6.6811	6.6192	6.5245	6.4277	6.3286	6.2679	6.2269	6.1750	6.1436	6.1225	6.1013	6.0800	6.0524	6.0339	6.0218	5
	6	8.8131	7.2599	6.5988	6.2272	5.9876	5.8198	5.6955	5.5996	5.5234	5.4613	5.3662	5.2687	5.1684	5.1069	5.0652	5.0125	4.9804	4.9589	4.9372	4.9154	4.8871	4.8682	4.8558	
	7	8.0727	6.5415	5.8898	5.5226	5.2852	5.1186	4.9949	4.8993	4.8232	4.7611	4.6658	4.5678	4.4667	4.4045	4.3624	4.3089	4.2763	4.2544	4.2323	4.2101	4.1812	4.1619	4.1492	
	8	7.5709	6.0595	5.4160	5.0526	4.8173	4.6517	4.5286	4.4333	4.3572	4.2951	4.1997	4.1012	3.9995	3.9367	3.8940	3.8398	3.8067	3.7844	3.7620	3.7393	3.7099	3.6901	3.6772	
	9	7.2093	5.7147	5.0781	4.7181	4.4844	4.3197	4.1970	4.1020	4.0260	3.9639	3.8682	3.7694	3.6669	3.6035	3.5604	3.5055	3.4719	3.4493	3.4265	3.4034	3.3734	3.3532	3.3400	
	10	6.9367	5.4564	4.8256	4.4683	4.2361	4.0721	3.9498	3.8549	3.7790	3.7168	3.6209	3.5217	3.4185	3.3546	3.3110	3.2554	3.2214	3.1984	3.1752	3.1517	3.1212	3.1006	3.0871	10
F _{v₁, v₂} .975	11	6.7241	5.2559	4.6300	4.2751	4.0440	3.8807	3.7586	3.6638	3.5879	3.5257	3.4296	3.3299	3.2261	3.1616	3.1176	3.0613	3.0268	3.0035	2.9800	2.9561	2.9250	2.9040	2.8902	
	12	6.5538	5.0959	4.4742	4.1212	3.8911	3.7283	3.6065	3.5181	3.4358	3.3736	3.2773	3.1772	3.0728	3.0077	2.9633	2.9063	2.8714	2.8478	2.8238	2.7996	2.7680	2.7466	2.7325	
	13	6.4143	4.9653	4.3472	3.9959	3.7667	3.6043	3.4827	3.3880	3.3120	3.2497	3.1532	3.0527	2.9472	2.8821	2.8372	2.7797	2.7443	2.7204	2.6961	2.6715	2.6393	2.6175	2.6032	
	14	6.2979	4.8567	4.2417	3.8919	3.6634	3.5014	3.3799	3.2853	3.2093	3.1469	3.0502	2.9493	2.8437	2.7777	2.7324	2.6742	2.6384	2.6142	2.5895	2.5646	2.5319	2.5097	2.4951	
	15	6.1995	4.7650	4.1528	3.8043	3.5764	3.4147	3.2934	3.1987	3.1227	3.0602	2.9633	2.8621	2.7559	2.6894	2.6437	2.5850	2.5488	2.5242	2.4993	2.4739	2.4408	2.4182	2.4034	15
	16	6.1151	4.6867	4.0768	3.7294	3.5021	3.3406	3.2194	3.1248	3.0488	2.9862	2.8890	2.7875	2.6808	2.6138	2.5678	2.5085	2.4719	2.4471	2.4218	2.3961	2.3624	2.3395	2.3245	
	17	6.0420	4.6189	4.0112	3.6648	3.4379	3.2767	3.1556	3.0610	2.9849	2.9222	2.8249	2.7230	2.6168	2.5494	2.5020	2.4422	2.4053	2.3801	2.3545	2.3285	2.2943	2.2711	2.2558	
	18	5.9781	4.5597	3.9539	3.6083	3.3820	3.2209	3.0999	3.0053	2.9291	2.8664	2.7689	2.6667	2.5590	2.4912	2.4445	2.3842	2.3468	2.3214	2.2956	2.2692	2.2346	2.2110	2.1954	
	19	5.9216	4.5075	3.9034	3.5587	3.3327	3.1718	3.0509	2.9563	2.8801	2.8172	2.7196	2.6171	2.5089	2.4408	2.3937	2.3329	2.2952	2.2696	2.2434	2.2167	2.1816	2.1577	2.1419	
	20	5.8715	4.4613	3.8587	3.5147	3.2891	3.1283	3.0074	2.9128	2.8365	2.7737	2.6758	2.5731	2.4645	2.3959	2.3486	2.2873	2.2493	2.2234	2.1969	2.1699	2.1344	2.1101	2.0941	20
F _{v₁, v₂} .975	22	5.7863	4.3828	3.7829	3.4401	3.2151	3.0546	2.9338	2.8392	2.7628	2.6998	2.6017	2.4984	2.3890	2.3198	2.2718	2.2097	2.1710	2.1446	2.1176	2.0901	2.0536	2.0287	2.0122	
	24	5.7166	4.3187	3.7211	3.3794	3.1548	2.9946	2.8738	2.7791	2.7027	2.6396	2.5411	2.4374	2.3273	2.2574	2.2090	2.1460	2.1077	2.0799	2.0524	2.0243	1.9870	1.9615	1.9445	
	26	5.6586	4.2655	3.6697	3.3289	3.1048	2.9447	2.8240	2.7293	2.6528	2.5896	2.4908	2.3867	2.2759	2.2054	2.1565	2.0928	2.0530	2.0257	1.9978	1.9691	1.9311	1.9049	1.8876	
	28	5.6096	4.2205	3.6264	3.2863	3.0626	2.9027	2.7820	2.6872	2.6106	2.5473	2.4484	2.3438	2.2324	2.1615	2.1121	2.0477	2.0073	1.9797	1.9513	1.9221	1.8834	1.8566	1.8389	
	30	5.5675	4.1821	3.5894	3.2499	3.0265	2.8667	2.7460	2.6513	2.5746	2.5112	2.4120	2.3072	2.1952	2.1237	2.0739	2.0089	1.9681	1.9400	1.9112	1.8816	1.8421	1.8148	1.7967	30
	35	5.4848	4.1065	3.5166	3.1785	2.9557	2.7961	2.6755	2.5807	2.5039	2.4403	2.3406	2.2350	2.1218	2.0493	1.9986	1.9321	1.8902	1.8613	1.8316	1.8009	1.7598	1.7312	1.7121	
	40	5.4239	4.0510	3.4633	3.1261	2.9037	2.7444	2.6238	2.5289	2.4519	2.3882	2.2882	2.1819	2.0677	1.9943	1.9429	1.8752	1.8324	1.8028	1.7722	1.7405	1.6979	1.6682	1.6481	
	45	5.3773	4.0085	3.4224	3.0860	2.8640	2.7048	2.5842	2.4892	2.4122	2.3483	2.2480	2.1412	2.0262	1.9521	1.9000	1.8313	1.7876	1.7574	1.7261	1.6935	1.6496	1.6187	1.5979	
	50	5.3403	3.9749	3.3902	3.0544	2.8327	2.6736	2.5530	2.4579	2.3808	2.3168	2.2162	2.1090	1.9933	1.9186	1.8659	1.7963	1.7520	1.7211	1.6892	1.6558	1.6107	1.5788	1.5572	50
	STAT 221 – W.H. Cherry	60	5.2856	3.9253	3.3425	3.0077	2.7863	2.6274	2.5068	2.4117	2.3344	2.2702	2.1692	2.0613	1.9445	1.8687	1.8152	1.7440	1.6985	1.6668	1.6337	1.5990	1.5517	1.5180	1.4950
70		5.2470	3.8903	3.3090	2.9748	2.7537	2.5949	2.4743	2.3791	2.3017	2.2374	2.1361	2.0277	1.9100	1.8334	1.7792	1.7069	1.6604	1.6279	1.5939	1.5581	1.5089	1.4736	1.4493	
80		5.2184	3.8643	3.2841	2.9504	2.7295	2.5708	2.4502	2.3549	2.2775	2.2130	2.1115	2.0026	1.8843	1.8071	1.7523	1.6790	1.6318	1.5987	1.5639	1.5271	1.4763	1.4396	1.4141	
90		5.1962	3.8443	3.2649	2.9315	2.7109	2.5522	2.4316	2.3363	2.2588	2.1942	2.0925	1.9833	1.8644	1.7867	1.7315	1.6574	1.6095	1.5758	1.5404	1.5028	1.4506	1.4126	1.3860	
100		5.1786	3.8284	3.2496	2.9166	2.6961	2.5374	2.4168	2.3215	2.2439	2.1793	2.0773	1.9679	1.8486	1.7705	1.7148	1.6401	1.5917	1.5575	1.5215	1.4833	1.4298	1.3906	1.3630	100
125		5.1471	3.7999	3.2224	2.8899	2.6696	2.5110	2.3904	2.2950	2.2173	2.1526	2.0503	1.9404	1.8202	1.7413	1.6850	1.6090	1.5595	1.5244	1.4873	1.4476	1.3915	1.3498	1.3200</	

Figure 13.13h. 99th PERCENTILES FOR THE F DISTRIBUTION $[F_{v_1, v_2}]$

[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 $Y \sim F_{v_1, v_2}$ such that $\Pr(Y \leq y) = 0.99$ (v_1 is the numerator, v_2 the denominator, degrees of freedom)

$\downarrow v_2 \rightarrow$	Each table entry is the value (y) of the random variable $Y \sim F_{v_1, v_2}$ such that $\Pr(Y \leq y) = 0.99$ (v_1 is the numerator, v_2 the denominator, degrees of freedom)																									
	v_2/v_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		
2017-02-20	1	4052.2	4999.5	5403.4	5624.6	5763.6	5859.0	5928.4	5981.1	6022.5	6055.8	6106.3	6157.3	6208.7	6239.8	6260.6	6286.8	6302.5	6313.0	6323.6	6334.1	6347.7	6356.8	6362.7	1	
	2	98.503	99.000	99.166	99.249	99.299	99.333	99.356	99.374	99.388	99.399	99.416	99.433	99.449	99.459	99.466	99.474	99.479	99.482	99.486	99.489	99.493	99.496	99.498		
	3	34.116	30.817	29.457	28.710	28.237	27.911	27.672	27.489	27.345	27.229	27.052	26.872	26.690	26.579	26.505	26.411	26.354	26.316	26.278	26.240	26.191	26.158	26.137		
	4	21.198	18.000	16.694	15.977	15.522	15.207	14.976	14.799	14.659	14.546	14.374	14.198	14.020	13.911	13.838	13.745	13.690	13.652	13.615	13.577	13.528	13.496	13.475		
	5	16.2582	13.2739	12.0600	11.3919	10.9670	10.6723	10.4555	10.2893	10.1578	10.0510	9.8883	9.7222	9.5526	9.4491	9.3793	9.2912	9.2378	9.2020	9.1660	9.1299	9.0832	9.0519	9.0314	5	
	6	13.7450	10.9248	9.7795	9.1483	8.7459	8.4661	8.2600	8.1017	7.9761	7.8741	7.7183	7.5590	7.3958	7.2960	7.2285	7.1432	7.0915	7.0567	7.0218	6.9867	6.9412	6.9107	6.8908		
	7	12.2464	9.5466	8.4513	7.8466	7.4604	7.1914	6.9928	6.8400	6.7188	6.6201	6.4691	6.3143	6.1554	6.0580	5.9920	5.9084	5.8577	5.8236	5.7892	5.7547	5.7099	5.6798	5.6601		
	8	11.2586	8.6491	7.5910	7.0061	6.6318	6.3707	6.1776	6.0289	5.9106	5.8143	5.6667	5.5151	5.3591	5.2631	5.1981	5.1156	5.0654	5.0316	4.9976	4.9633	4.9188	4.8889	4.8694		
	9	10.5614	8.0215	6.9919	6.4221	6.0569	5.8018	5.6129	5.4671	5.3511	5.2565	5.1114	4.9621	4.8080	4.7130	4.6486	4.5666	4.5167	4.4831	4.4492	4.4150	4.3706	4.3407	4.3211		
	10	10.0443	7.5594	6.5523	5.9943	5.6363	5.3858	5.2001	5.0567	4.9424	4.8491	4.7059	4.5581	4.4054	4.3111	4.2469	4.1653	4.1155	4.0819	4.0479	4.0137	3.9692	3.9392	3.9196	10	
	11	9.6460	7.2057	6.2167	5.6683	5.3160	5.0692	4.8861	4.7445	4.6315	4.5393	4.3974	4.2509	4.0990	4.0051	3.9411	3.8596	3.8097	3.7761	3.7421	3.7077	3.6630	3.6329	3.6131		
	12	9.3302	6.9266	5.9525	5.4120	5.0643	4.8206	4.6395	4.4994	4.3875	4.2961	4.1553	4.0096	3.8584	3.7647	3.7008	3.6192	3.5692	3.5355	3.5014	3.4668	3.4219	3.3915	3.3716		
	13	9.0738	6.7010	5.7394	5.2053	4.8616	4.6204	4.4410	4.3021	4.1911	4.1003	3.9603	3.8154	3.6646	3.5710	3.5070	3.4253	3.3752	3.3413	3.3070	3.2723	3.2270	3.1964	3.1763		
	14	8.8616	6.5149	5.5639	5.0354	4.6950	4.4558	4.2779	4.1399	4.0297	3.9394	3.8001	3.6557	3.5052	3.4116	3.3476	3.2656	3.2153	3.1813	3.1468	3.1118	3.0662	3.0353	3.0150		
	15	8.6831	6.3589	5.4170	4.8932	4.5556	4.3183	4.1415	4.0045	3.8948	3.8049	3.6662	3.5222	3.3719	3.2782	3.2141	3.1319	3.0814	3.0471	3.0124	2.9772	2.9312	2.9000	2.8795	15	
	16	8.5310	6.2262	5.2922	4.7726	4.4374	4.2016	4.0259	3.8896	3.7804	3.6909	3.5527	3.4089	3.2587	3.1650	3.1007	3.0182	2.9675	2.9330	2.8981	2.8627	2.8163	2.7848	2.7641		
	17	8.3997	6.1121	5.1850	4.6690	4.3359	4.1015	3.9267	3.7910	3.6822	3.5931	3.4552	3.3117	3.1615	3.0676	3.0032	2.9205	2.8694	2.8348	2.7996	2.7639	2.7171	2.6853	2.6644		
	18	8.2854	6.0129	5.0919	4.5790	4.2479	4.0146	3.8406	3.7054	3.5971	3.5082	3.3706	3.2273	3.0771	2.9831	2.9185	2.8354	2.7841	2.7493	2.7139	2.6779	2.6307	2.5986	2.5775		
	19	8.1849	5.9259	5.0103	4.5003	4.1708	3.9386	3.7653	3.6305	3.5225	3.4338	3.2965	3.1533	3.0031	2.9089	2.8442	2.7608	2.7093	2.6742	2.6386	2.6023	2.5547	2.5223	2.5009		
	20	8.0960	5.8489	4.9382	4.4307	4.1027	3.8714	3.6987	3.5644	3.4567	3.3682	3.2311	3.0880	2.9377	2.8434	2.7785	2.6947	2.6430	2.6077	2.5718	2.5353	2.4873	2.4546	2.4329	20	
22	7.9454	5.7190	4.8166	4.3134	3.9880	3.7583	3.5867	3.4530	3.3458	3.2576	3.1209	2.9779	2.8274	2.7328	2.6675	2.5831	2.5308	2.4951	2.4588	2.4217	2.3729	2.3395	2.3175			
24	7.8229	5.6136	4.7181	4.2184	3.8951	3.6667	3.4959	3.3629	3.2560	3.1681	3.0316	2.8887	2.7380	2.6430	2.5773	2.4923	2.4395	2.4035	2.3667	2.3291	2.2794	2.2455	2.2230			
26	7.7213	5.5263	4.6366	4.1400	3.8183	3.5911	3.4210	3.2884	3.1818	3.0941	2.9578	2.8150	2.6640	2.5686	2.5026	2.4170	2.3637	2.3273	2.2900	2.2519	2.2015	2.1669	2.1440			
28	7.6356	5.4529	4.5681	4.0740	3.7539	3.5276	3.3581	3.2259	3.1195	3.0320	2.8959	2.7530	2.6017	2.5060	2.4397	2.3535	2.2997	2.2629	2.2253	2.1867	2.1355	2.1003	2.0769			
30	7.5625	5.3903	4.5097	4.0179	3.6990	3.4735	3.3045	3.1726	3.0665	2.9791	2.8431	2.7002	2.5487	2.4526	2.3860	2.2992	2.2450	2.2079	2.1698	2.1307	2.0788	2.0430	2.0192	30		
35	7.4191	5.2679	4.3957	3.9082	3.5919	3.3679	3.2000	3.0687	2.9630	2.8758	2.7400	2.5970	2.4448	2.3480	2.2806	2.1926	2.1374	2.0994	2.0604	2.0202	1.9666	1.9294	1.9046			
40	7.3141	5.1785	4.3126	3.8283	3.5138	3.2910	3.1238	2.9930	2.8876	2.8005	2.6648	2.5216	2.3689	2.2714	2.2034	2.1142	2.0581	2.0194	1.9795	1.9383	1.8831	1.8447	1.8189			
45	7.2339	5.1103	4.2492	3.7674	3.4544	3.2325	3.0658	2.9353	2.8301	2.7432	2.6076	2.4642	2.3109	2.2129	2.1443	2.0542	1.9972	1.9579	1.9172	1.8751	1.8185	1.7788	1.7521			
50	7.1706	5.0566	4.1993	3.7195	3.4077	3.1864	3.0202	2.8900	2.7850	2.6981	2.5625	2.4190	2.2652	2.1667	2.0976	2.0066	1.9490	1.9090	1.8677	1.8248	1.7667	1.7260	1.6984	50		
60	7.0771	4.9774	4.1259	3.6490	3.3389	3.1187	2.9530	2.8233	2.7185	2.6318	2.4961	2.3523	2.1978	2.0984	2.0285	1.9360	1.8772	1.8363	1.7937	1.7493	1.6889	1.6461	1.6169			
70	7.0114	4.9219	4.0744	3.5996	3.2907	3.0712	2.9060	2.7765	2.6719	2.5852	2.4496	2.3055	2.1504	2.0503	1.9797	1.8861	1.8263	1.7846	1.7410	1.6954	1.6329	1.5882	1.5576			
80	6.9627	4.8807	4.0363	3.5631	3.2550	3.0361	2.8713	2.7420	2.6374	2.5508	2.4151	2.2709	2.1153	2.0146	1.9435	1.8489	1.7883	1.7459	1.7015	1.6548	1.5905	1.5442	1.5122			
90	6.9251	4.8491	4.0070	3.5350	3.2276	3.0091	2.8445	2.7154	2.6109	2.5243	2.3886	2.2442	2.0882	1.9871	1.9155	1.8201	1.7588	1.7158	1.6707	1.6231	1.5572	1.5094	1.4762			
100	6.8953	4.8239	3.9837	3.5127	3.2059	2.9877	2.8233	2.6943	2.5898	2.5033	2.3676	2.2230	2.0666	1.9652	1.8933	1.7972	1.7353	1.6918	1.6461	1.5977	1.5303	1.4812	1.4468	100		
125	6.8421	4.7791	3.9422	3.4729	3.1671	2.9495	2.7855	2.6567	2.5524	2.4659	2.3301	2.1852	2.0282	1.9260	1.8534	1.7560	1.6930	1.6485	1.6015	1.5515	1.4812	1				