

Figure 13.13e. 90th PERCENTILES FOR THE F DISTRIBUTION $[F_{v_1, v_2}]$

[Calculated with qf in R Version 2.0.1 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 $\Pr(Y \leq y) = 0.9$ (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 $\Pr(Y \leq y) = 0.9$ (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	
2017-02-20	1	39.863	49.500	53.593	55.833	57.240	58.204	58.906	59.439	59.858	60.195	60.705	61.220	61.740	62.055	62.265	62.529	62.688	62.794	62.901	63.007	63.145	63.236	63.296	1
	2	8.5263	9.0000	9.1618	9.2434	9.2926	9.3255	9.3491	9.3668	9.3805	9.3916	9.4081	9.4247	9.4413	9.4513	9.4579	9.4662	9.4712	9.4746	9.4779	9.4812	9.4855	9.4884	9.4902	
	3	5.5383	5.4624	5.3908	5.3426	5.3092	5.2847	5.2662	5.2517	5.2400	5.2304	5.2156	5.2003	5.1845	5.1747	5.1681	5.1597	5.1546	5.1512	5.1477	5.1443	5.1398	5.1367	5.1348	
	4	4.5448	4.3246	4.1909	4.1072	4.0506	4.0097	3.9790	3.9549	3.9357	3.9199	3.8955	3.8704	3.8443	3.8283	3.8174	3.8036	3.7952	3.7896	3.7839	3.7782	3.7707	3.7657	3.7625	
	5	4.0604	3.7797	3.6195	3.5202	3.4530	3.4045	3.3679	3.3393	3.3163	3.2974	3.2682	3.2380	3.2067	3.1873	3.1741	3.1573	3.1471	3.1402	3.1333	3.1263	3.1172	3.1111	3.1072	5
	6	3.7759	3.4633	3.2888	3.1808	3.1075	3.0546	3.0145	2.9830	2.9577	2.9369	2.9047	2.8712	2.8363	2.8147	2.8000	2.7812	2.7697	2.7620	2.7541	2.7463	2.7360	2.7291	2.7246	
	7	3.5894	3.2574	3.0741	2.9605	2.8833	2.8274	2.7849	2.7516	2.7247	2.7025	2.6681	2.6322	2.5947	2.5714	2.5555	2.5351	2.5226	2.5142	2.5057	2.4971	2.4859	2.4784	2.4735	
	8	3.4579	3.1131	2.9238	2.8064	2.7264	2.6683	2.6241	2.5893	2.5612	2.5380	2.5020	2.4642	2.4246	2.3999	2.3830	2.3614	2.3481	2.3391	2.3300	2.3208	2.3088	2.3007	2.2954	
	9	3.3603	3.0065	2.8129	2.6927	2.6106	2.5509	2.5053	2.4694	2.4403	2.4163	2.3789	2.3396	2.2983	2.2725	2.2547	2.2320	2.2180	2.2085	2.1989	2.1892	2.1765	2.1679	2.1623	
	10	3.2850	2.9245	2.7277	2.6053	2.5216	2.4606	2.4140	2.3772	2.3473	2.3226	2.2841	2.2435	2.2007	2.1739	2.1554	2.1317	2.1171	2.1072	2.0971	2.0869	2.0736	2.0646	2.0586	10
	11	3.2252	2.8595	2.6602	2.5362	2.4512	2.3891	2.3416	2.3040	2.2735	2.2482	2.2087	2.1671	2.1230	2.0953	2.0762	2.0516	2.0364	2.0261	2.0157	2.0050	1.9911	1.9817	1.9755	
	12	3.1765	2.8068	2.6055	2.4801	2.3940	2.3310	2.2828	2.2446	2.2135	2.1878	2.1474	2.1049	2.0597	2.0312	2.0115	1.9861	1.9704	1.9597	1.9489	1.9379	1.9234	1.9136	1.9071	
	13	3.1362	2.7632	2.5603	2.4337	2.3467	2.2830	2.2341	2.1953	2.1638	2.1376	2.0966	2.0532	2.0070	1.9778	1.9576	1.9315	1.9153	1.9043	1.8931	1.8817	1.8667	1.8565	1.8498	
	14	3.1022	2.7265	2.5222	2.3947	2.3069	2.2426	2.1931	2.1539	2.1220	2.0954	2.0537	2.0095	1.9625	1.9326	1.9119	1.8852	1.8686	1.8572	1.8457	1.8340	1.8185	1.8080	1.8011	
	15	3.0732	2.6952	2.4898	2.3614	2.2730	2.2081	2.1582	2.1185	2.0862	2.0593	2.0171	1.9722	1.9243	1.8939	1.8728	1.8454	1.8284	1.8168	1.8049	1.7929	1.7770	1.7661	1.7589	15
	16	3.0481	2.6682	2.4618	2.3327	2.2438	2.1783	2.1280	2.0880	2.0553	2.0281	1.9854	1.9399	1.8913	1.8603	1.8388	1.8108	1.7934	1.7816	1.7694	1.7570	1.7407	1.7296	1.7222	
	17	3.0262	2.6446	2.4374	2.3077	2.2183	2.1524	2.1017	2.0613	2.0284	2.0009	1.9577	1.9117	1.8624	1.8309	1.8090	1.7805	1.7628	1.7506	1.7382	1.7255	1.7088	1.6973	1.6898	
	18	3.0070	2.6239	2.4160	2.2858	2.1958	2.1296	2.0785	2.0379	2.0040	1.9770	1.9333	1.8868	1.8368	1.8049	1.7827	1.7537	1.7356	1.7232	1.7106	1.6976	1.6805	1.6687	1.6609	
	19	2.9899	2.6056	2.3970	2.2663	2.1760	2.1094	2.0580	2.0171	1.9836	1.9557	1.9117	1.8647	1.8142	1.7818	1.7592	1.7298	1.7114	1.6988	1.6858	1.6726	1.6551	1.6431	1.6351	
20	2.9747	2.5893	2.3801	2.2489	2.1582	2.0913	2.0397	1.9985	1.9649	1.9367	1.8924	1.8449	1.7938	1.7611	1.7382	1.7083	1.6896	1.6768	1.6636	1.6501	1.6323	1.6200	1.6118	20	
22	2.9486	2.5613	2.3512	2.2193	2.1279	2.0605	2.0084	1.9668	1.9327	1.9043	1.8593	1.8111	1.7590	1.7255	1.7021	1.6714	1.6521	1.6393	1.6253	1.6113	1.5927	1.5799	1.5714		
24	2.9271	2.5383	2.3274	2.1949	2.1030	2.0351	1.9826	1.9407	1.9063	1.8775	1.8319	1.7831	1.7302	1.6960	1.6721	1.6407	1.6209	1.6073	1.5933	1.5788	1.5596	1.5464	1.5375		
26	2.9091	2.5191	2.3075	2.1745	2.0822	2.0139	1.9610	1.9188	1.8841	1.8550	1.8090	1.7596	1.7059	1.6712	1.6468	1.6147	1.5945	1.5805	1.5661	1.5513	1.5315	1.5178	1.5086		
28	2.8938	2.5028	2.2906	2.1571	2.0645	1.9959	1.9427	1.9001	1.8652	1.8359	1.7895	1.7395	1.6852	1.6500	1.6252	1.5925	1.5718	1.5575	1.5428	1.5276	1.5072	1.4931	1.4836		
30	2.8807	2.4887	2.2761	2.1422	2.0492	1.9803	1.9269	1.8841	1.8490	1.8195	1.7727	1.7223	1.6673	1.6316	1.6065	1.5732	1.5522	1.5376	1.5225	1.5069	1.4860	1.4715	1.4617		
35	2.8547	2.4609	2.2474	2.1128	2.0191	1.9496	1.8957	1.8524	1.8168	1.7869	1.7394	1.6880	1.6317	1.5950	1.5691	1.5346	1.5127	1.4975	1.4817	1.4653	1.4431	1.4277	1.4172		
40	2.8354	2.4404	2.2261	2.0909	1.9968	1.9269	1.8725	1.8289	1.7929	1.7627	1.7146	1.6624	1.6052	1.5677	1.5411	1.5056	1.4830	1.4672	1.4507	1.4336	1.4104	1.3941	1.3830		
45	2.8205	2.4245	2.2097	2.0742	1.9796	1.9094	1.8547	1.8107	1.7745	1.7440	1.6954	1.6426	1.5846	1.5464	1.5193	1.4830	1.4597	1.4434	1.4264	1.4087	1.3845	1.3674	1.3558		
50	2.8087	2.4120	2.1967	2.0608	1.9660	1.8954	1.8405	1.7963	1.7598	1.7291	1.6802	1.6269	1.5681	1.5294	1.5018	1.4648	1.4409	1.4242	1.4068	1.3885	1.3634	1.3456	1.3334	50	
60	2.7911	2.3933	2.1774	2.0410	1.9457	1.8747	1.8194	1.7748	1.7380	1.7070	1.6574	1.6034	1.5435	1.5039	1.4755	1.4373	1.4126	1.3952	1.3769	1.3576	1.3311	1.3120	1.2988		
70	2.7786	2.3800	2.1637	2.0269	1.9313	1.8600	1.8044	1.7596	1.7225	1.6913	1.6413	1.5866	1.5259	1.4857	1.4567	1.4176	1.3922	1.3742	1.3552	1.3352	1.3073	1.2871	1.2730		
80	2.7693	2.3701	2.1535	2.0165	1.9206	1.8491	1.7933	1.7483	1.7110	1.6796	1.6292	1.5741	1.5128	1.4720	1.4426	1.4027	1.3767	1.3583	1.3388	1.3180	1.2890	1.2678	1.2530		
90	2.7621	2.3625	2.1457	2.0084	1.9123	1.8406	1.7846	1.7395	1.7021	1.6705	1.6199	1.5644	1.5025	1.4613	1.4315	1.3911	1.3646	1.3457	1.3258	1.3044	1.2745	1.2524	1.2368		
100	2.7564	2.3564	2.1394	2.0019	1.9057	1.8339	1.7778	1.7324	1.6949	1.6632	1.6124	1.5566	1.4943	1.4528	1.4227	1.3817	1.3548	1.3356	1.3153	1.2934	1.2626	1.2397	1.2235	100	
125	2.7461	2.3455	2.1281	1.9904	1.8939	1.8218	1.7654	1.7199	1.6821	1.6502	1.5990	1.5427	1.4796	1.4374	1.4067	1.3648	1.3371	1.3173	1.2961	1.2732	1.2406	1.2160	1.1983		
150	2.7393	2.3383	2.1207	1.9827	1.8861																				