

Figure 13.13c. 75th 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 $\Pr(Y \leq y) = 0.75$ (v_1 is the numerator, v_2 the denominator, degrees of freedom)

$\downarrow$ v_2/v_1	Each table entry is the value (y) of the random variable $Y \sim F_{v_1, v_2}$ such that $\Pr(Y \leq y) = 0.75$ (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	5.8284	7.5000	8.1999	8.5809	8.8198	8.9833	9.1021	9.1923	9.2631	9.3201	9.4064	9.4934	9.5813	9.6343	9.6698	9.7144	9.7412	9.7592	9.7771	9.7951	9.8182	9.8337	9.8438	1
	2	2.5714	3.0000	3.1534	3.2321	3.2799	3.3121	3.3352	3.3526	3.3661	3.3770	3.3934	3.4098	3.4263	3.4362	3.4428	3.4511	3.4561	3.4594	3.4627	3.4661	3.4703	3.4732	3.4751	
	3	2.0239	2.2798	2.3556	2.3901	2.4095	2.4218	2.4302	2.4364	2.4410	2.4447	2.4500	2.4552	2.4602	2.4631	2.4650	2.4674	2.4688	2.4697	2.4706	2.4715	2.4726	2.4734	2.4739	
	4	1.8074	2.0000	2.0467	2.0642	2.0723	2.0766	2.0790	2.0805	2.0814	2.0820	2.0826	2.0829	2.0828	2.0827	2.0825	2.0821	2.0819	2.0817	2.0815	2.0813	2.0810	2.0808	2.0806	
	5	1.6925	1.8528	1.8843	1.8927	1.8947	1.8945	1.8935	1.8923	1.8911	1.8899	1.8877	1.8851	1.8820	1.8799	1.8784	1.8763	1.8751	1.8742	1.8733	1.8724	1.8714	1.8703	1.8697	5
	6	1.6214	1.7622	1.7844	1.7872	1.7852	1.7821	1.7789	1.7760	1.7733	1.7708	1.7668	1.7621	1.7569	1.7534	1.7509	1.7477	1.7457	1.7443	1.7429	1.7414	1.7395	1.7382	1.7373	
	7	1.5732	1.7010	1.7169	1.7157	1.7111	1.7059	1.7011	1.6969	1.6931	1.6898	1.6843	1.6781	1.6712	1.6667	1.6635	1.6593	1.6567	1.6548	1.6530	1.6511	1.6486	1.6469	1.6458	
	8	1.5384	1.6569	1.6683	1.6642	1.6575	1.6508	1.6448	1.6396	1.6350	1.6310	1.6244	1.6170	1.6088	1.6034	1.5996	1.5945	1.5914	1.5893	1.5870	1.5848	1.5818	1.5798	1.5784	
	9	1.5121	1.6236	1.6315	1.6253	1.6170	1.6091	1.6022	1.5961	1.5909	1.5863	1.5788	1.5705	1.5611	1.5550	1.5506	1.5449	1.5414	1.5389	1.5364	1.5338	1.5304	1.5281	1.5266	
	10	1.4915	1.5975	1.6028	1.5949	1.5853	1.5765	1.5688	1.5621	1.5563	1.5513	1.5430	1.5338	1.5235	1.5167	1.5119	1.5056	1.5017	1.4990	1.4962	1.4933	1.4895	1.4869	1.4852	10
	11	1.4749	1.5767	1.5798	1.5704	1.5598	1.5502	1.5418	1.5346	1.5284	1.5229	1.5140	1.5041	1.4930	1.4857	1.4805	1.4737	1.4694	1.4664	1.4634	1.4603	1.4561	1.4533	1.4514	
	12	1.4613	1.5595	1.5609	1.5504	1.5389	1.5286	1.5197	1.5120	1.5054	1.4996	1.4902	1.4796	1.4678	1.4600	1.4544	1.4471	1.4425	1.4393	1.4361	1.4327	1.4283	1.4252	1.4232	
	13	1.4500	1.5452	1.5451	1.5336	1.5214	1.5105	1.5011	1.4931	1.4861	1.4801	1.4701	1.4590	1.4465	1.4383	1.4324	1.4247	1.4198	1.4164	1.4129	1.4094	1.4046	1.4013	1.3992	
	14	1.4403	1.5331	1.5317	1.5194	1.5066	1.4952	1.4854	1.4770	1.4697	1.4634	1.4530	1.4414	1.4284	1.4197	1.4136	1.4055	1.4003	1.3967	1.3931	1.3893	1.3843	1.3808	1.3785	
	15	1.4321	1.5227	1.5202	1.5071	1.4938	1.4820	1.4718	1.4631	1.4556	1.4491	1.4383	1.4263	1.4127	1.4037	1.3973	1.3888	1.3834	1.3796	1.3758	1.3718	1.3665	1.3629	1.3604	15
	16	1.4249	1.5137	1.5103	1.4965	1.4827	1.4705	1.4601	1.4511	1.4433	1.4366	1.4255	1.4131	1.3990	1.3897	1.3830	1.3742	1.3685	1.3646	1.3606	1.3565	1.3509	1.3471	1.3446	
	17	1.4186	1.5057	1.5015	1.4872	1.4730	1.4605	1.4497	1.4405	1.4325	1.4256	1.4142	1.4014	1.3869	1.3773	1.3704	1.3613	1.3554	1.3514	1.3472	1.3429	1.3371	1.3331	1.3304	
	18	1.4130	1.4988	1.4938	1.4790	1.4644	1.4516	1.4406	1.4311	1.4230	1.4159	1.4042	1.3911	1.3762	1.3663	1.3592	1.3497	1.3437	1.3395	1.3352	1.3307	1.3247	1.3205	1.3178	
	19	1.4081	1.4925	1.4870	1.4717	1.4568	1.4437	1.4325	1.4228	1.4145	1.4073	1.3953	1.3819	1.3666	1.3565	1.3492	1.3394	1.3332	1.3289	1.3244	1.3198	1.3135	1.3092	1.3063	
20	1.4037	1.4870	1.4808	1.4652	1.4500	1.4366	1.4252	1.4153	1.4069	1.3995	1.3873	1.3736	1.3580	1.3476	1.3401	1.3301	1.3237	1.3193	1.3146	1.3099	1.3034	1.2990	1.2960	20	
22	1.3961	1.4774	1.4703	1.4540	1.4382	1.4244	1.4126	1.4025	1.3937	1.3861	1.3735	1.3593	1.3431	1.3323	1.3245	1.3140	1.3072	1.3026	1.2977	1.2926	1.2858	1.2811	1.2779		
24	1.3898	1.4695	1.4615	1.4447	1.4285	1.4143	1.4022	1.3918	1.3828	1.3750	1.3621	1.3474	1.3307	1.3194	1.3113	1.3004	1.2934	1.2885	1.2834	1.2781	1.2709	1.2659	1.2625		
26	1.3845	1.4629	1.4542	1.4369	1.4203	1.4058	1.3935	1.3828	1.3736	1.3656	1.3524	1.3374	1.3202	1.3086	1.3002	1.2889	1.2816	1.2765	1.2712	1.2657	1.2582	1.2529	1.2493		
28	1.3800	1.4573	1.4480	1.4302	1.4133	1.3986	1.3860	1.3752	1.3658	1.3576	1.3441	1.3288	1.3112	1.2992	1.2906	1.2790	1.2715	1.2662	1.2607	1.2549	1.2471	1.2416	1.2379		
30	1.3761	1.4524	1.4426	1.4244	1.4073	1.3923	1.3795	1.3685	1.3590	1.3507	1.3369	1.3213	1.3033	1.2911	1.2823	1.2703	1.2626	1.2571	1.2514	1.2455	1.2374	1.2316	1.2277	30	
F_{v_1, v_2} 75	35	1.3683	1.4427	1.4318	1.4130	1.3953	1.3799	1.3667	1.3553	1.3455	1.3369	1.3226	1.3064	1.2876	1.2748	1.2656	1.2529	1.2446	1.2388	1.2327	1.2263	1.2175	1.2113	1.2070	
	40	1.3626	1.4355	1.4239	1.4045	1.3863	1.3706	1.3571	1.3455	1.3354	1.3266	1.3119	1.2952	1.2758	1.2626	1.2529	1.2397	1.2310	1.2249	1.2184	1.2116	1.2022	1.1955	1.1909	
	45	1.3581	1.4299	1.4177	1.3979	1.3794	1.3634	1.3496	1.3378	1.3275	1.3186	1.3036	1.2865	1.2666	1.2530	1.2430	1.2292	1.2202	1.2138	1.2071	1.1999	1.1900	1.1828	1.1779	
	50	1.3546	1.4255	1.4128	1.3927	1.3739	1.3576	1.3437	1.3317	1.3213	1.3122	1.2970	1.2795	1.2592	1.2452	1.2350	1.2208	1.2115	1.2049	1.1979	1.1904	1.1800	1.1724	1.1673	50
	60	1.3493	1.4188	1.4055	1.3848	1.3657	1.3491	1.3348	1.3226	1.3119	1.3026	1.2870	1.2690	1.2481	1.2336	1.2229	1.2081	1.1983	1.1912	1.1838	1.1757	1.1645	1.1563	1.1506	
	70	1.3455	1.4141	1.4002	1.3793	1.3598	1.3430	1.3285	1.3161	1.3052	1.2958	1.2799	1.2616	1.2401	1.2252	1.2142	1.1989	1.1886	1.1813	1.1734	1.1650	1.1531	1.1442	1.1381	
	80	1.3427	1.4106	1.3964	1.3751	1.3554	1.3384	1.3238	1.3112	1.3002	1.2906	1.2745	1.2559	1.2341	1.2191	1.2076	1.1919	1.1813	1.1737	1.1656	1.1567	1.1442	1.1349	1.1282	
	90	1.3406	1.4079	1.3933	1.3719	1.3520	1.3349	1.3201	1.3074	1.2964	1.2866	1.2704	1.2516	1.2294	1.2139	1.2024	1.1864	1.1756	1.1677	1.1593	1.1502	1.1371	1.1273	1.1203	
	100	1.3388	1.4057	1.3909	1.3693	1.3493	1.3321	1.3172	1.3044	1.2933	1.2835	1.2670	1.2481	1.2256	1.2100	1.1983	1.1819	1.1709	1.1629	1.1543	1.1449	1.1313	1.1211	1.1137	100
	125	1.3357	1.4018	1.3866	1.3647	1.3445	1.3270	1.3120	1.2990	1.2877	1.2777	1.2611	1.2417	1.2189	1.2028	1.1908	1.1739	1.1624	1.1541	1.1450	1.1350	1.1205	1.1094	1.1012	
	150	1.3336	1.3992	1.3837	1.3616	1.3412																			

Figure 13.13d. 85th 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 $\Pr(Y \leq y) = 0.85$ (v_1 is the numerator, v_2 the denominator, degrees of freedom)

$\downarrow v_2 \nearrow$	Each table entry is the value (y) of the random variable $Y \sim F_{v_1, v_2}$ such that $\Pr(Y \leq y) = 0.85$ (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	17.350	21722	23.572	24.582	25.217	25.652	25.968	26.208	26.397	26.549	26.779	27.011	27.245	27.386	27.481	27.600	27.672	27719	27767	27815	27877	27918	27945	1
	2	5.2072	5.6667	5.8258	5.9065	5.9553	5.9880	6.0114	6.0290	6.0427	6.0537	6.0702	6.0867	6.1033	6.1132	6.1199	6.1282	6.1332	6.1365	6.1398	6.1431	6.1474	6.1503	6.1521	
	3	3.7030	3.8133	3.8209	3.8166	3.8109	3.8058	3.8013	3.7976	3.7945	3.7918	3.7874	3.7828	3.7778	3.7746	3.7724	3.7695	3.7678	3.7666	3.7654	3.7642	3.7626	3.7616	3.7609	
	4	3.1620	3.1640	3.1236	3.0916	3.0678	3.0497	3.0357	3.0245	3.0153	3.0078	2.9959	2.9835	2.9704	2.9623	2.9567	2.9496	2.9453	2.9423	2.9394	2.9364	2.9325	2.9299	2.9282	
	5	2.8878	2.8395	2.7764	2.7309	2.6980	2.6733	2.6543	2.6391	2.6268	2.6165	2.6006	2.5838	2.5662	2.5552	2.5477	2.5381	2.5322	2.5282	2.5242	2.5202	2.5149	2.5113	2.5090	5
	6	2.7231	2.6462	2.5699	2.5164	2.4780	2.4493	2.4270	2.4093	2.3949	2.3830	2.3643	2.3446	2.3239	2.3110	2.3021	2.2907	2.2837	2.2790	2.2742	2.2694	2.2631	2.2589	2.2561	
	7	2.6134	2.5183	2.4334	2.3746	2.3324	2.3009	2.2764	2.2570	2.2411	2.2279	2.2072	2.1854	2.1623	2.1479	2.1379	2.1252	2.1173	2.1120	2.1066	2.1012	2.0941	2.0893	2.0861	
	8	2.5352	2.4274	2.3366	2.2740	2.2291	2.1955	2.1694	2.1486	2.1316	2.1174	2.0952	2.0717	2.0468	2.0310	2.0202	2.0063	1.9978	1.9920	1.9861	1.9801	1.9723	1.9670	1.9635	
	9	2.4766	2.3597	2.2644	2.1989	2.1520	2.1168	2.0894	2.0675	2.0496	2.0347	2.0112	1.9863	1.9598	1.9431	1.9316	1.9167	1.9075	1.9013	1.8949	1.8885	1.8801	1.8744	1.8706	
	10	2.4312	2.3072	2.2086	2.1408	2.0922	2.0557	2.0273	2.0046	1.9860	1.9704	1.9459	1.9198	1.8920	1.8744	1.8622	1.8465	1.8368	1.8301	1.8234	1.8166	1.8076	1.8015	1.7975	10
	11	2.3949	2.2654	2.1640	2.0945	2.0446	2.0071	1.9778	1.9543	1.9351	1.9190	1.8936	1.8666	1.8376	1.8192	1.8065	1.7900	1.7797	1.7728	1.7657	1.7585	1.7490	1.7425	1.7383	
	12	2.3653	2.2313	2.1278	2.0568	2.0058	1.9673	1.9374	1.9133	1.8935	1.8770	1.8508	1.8229	1.7929	1.7738	1.7606	1.7434	1.7327	1.7254	1.7180	1.7105	1.7005	1.6937	1.6893	
	13	2.3407	2.2030	2.0976	2.0254	1.9735	1.9343	1.9037	1.8791	1.8589	1.8419	1.8151	1.7864	1.7556	1.7358	1.7221	1.7043	1.6932	1.6857	1.6779	1.6701	1.6597	1.6526	1.6479	
	14	2.3198	2.1791	2.0722	1.9989	1.9462	1.9064	1.8752	1.8502	1.8296	1.8123	1.7849	1.7555	1.7238	1.7036	1.6894	1.6710	1.6596	1.6517	1.6437	1.6356	1.6248	1.6174	1.6125	
	15	2.3020	2.1586	2.0504	1.9763	1.9228	1.8825	1.8509	1.8254	1.8044	1.7868	1.7589	1.7289	1.6965	1.6757	1.6613	1.6423	1.6305	1.6224	1.6142	1.6057	1.5945	1.5869	1.5818	15
	16	2.2865	2.1409	2.0316	1.9567	1.9027	1.8618	1.8298	1.8040	1.7827	1.7648	1.7364	1.7059	1.6728	1.6515	1.6367	1.6173	1.6051	1.5968	1.5883	1.5796	1.5680	1.5601	1.5549	
	17	2.2730	2.1255	2.0152	1.9396	1.8850	1.8437	1.8113	1.7852	1.7636	1.7455	1.7167	1.6856	1.6520	1.6303	1.6151	1.5952	1.5828	1.5742	1.5655	1.5565	1.5446	1.5365	1.5311	
	18	2.2611	2.1119	2.0007	1.9245	1.8695	1.8278	1.7951	1.7686	1.7468	1.7285	1.6993	1.6678	1.6335	1.6114	1.5960	1.5757	1.5629	1.5542	1.5452	1.5360	1.5238	1.5154	1.5098	
	19	2.2506	2.0998	1.9878	1.9111	1.8556	1.8136	1.7806	1.7539	1.7319	1.7133	1.6838	1.6518	1.6171	1.5946	1.5789	1.5582	1.5451	1.5362	1.5270	1.5176	1.5050	1.4964	1.4907	
	20	2.2411	2.0890	1.9764	1.8992	1.8433	1.8010	1.7677	1.7408	1.7185	1.6997	1.6699	1.6376	1.6023	1.5795	1.5635	1.5424	1.5291	1.5200	1.5106	1.5010	1.4881	1.4793	1.4734	20
	22	2.2249	2.0705	1.9567	1.8787	1.8222	1.7793	1.7455	1.7182	1.6956	1.6765	1.6460	1.6130	1.5769	1.5535	1.5370	1.5152	1.5015	1.4920	1.4822	1.4722	1.4587	1.4495	1.4433	
	24	2.2116	2.0553	1.9405	1.8618	1.8047	1.7614	1.7272	1.6995	1.6766	1.6572	1.6263	1.5927	1.5559	1.5319	1.5149	1.4925	1.4783	1.4685	1.4584	1.4480	1.4340	1.4244	1.4179	
	26	2.2004	2.0425	1.9269	1.8476	1.7901	1.7464	1.7119	1.6839	1.6607	1.6411	1.6097	1.5756	1.5381	1.5136	1.4962	1.4733	1.4587	1.4486	1.4382	1.4274	1.4130	1.4029	1.3962	
	28	2.1908	2.0317	1.9154	1.8356	1.7777	1.7336	1.6988	1.6705	1.6471	1.6273	1.5955	1.5610	1.5228	1.4979	1.4802	1.4568	1.4418	1.4315	1.4207	1.4096	1.3947	1.3843	1.3773	
	30	2.1826	2.0223	1.9054	1.8252	1.7669	1.7226	1.6875	1.6590	1.6354	1.6154	1.5833	1.5483	1.5097	1.4843	1.4663	1.4424	1.4271	1.4165	1.4055	1.3941	1.3787	1.3680	1.3608	30
	35	2.1663	2.0038	1.8857	1.8046	1.7457	1.7007	1.6651	1.6362	1.6121	1.5917	1.5590	1.5231	1.4834	1.4572	1.4385	1.4135	1.3975	1.3864	1.3748	1.3627	1.3463	1.3348	1.3270	
	40	2.1542	1.9900	1.8711	1.7894	1.7299	1.6845	1.6485	1.6192	1.5948	1.5741	1.5408	1.5043	1.4637	1.4368	1.4175	1.3917	1.3751	1.3635	1.3514	1.3387	1.3214	1.3092	1.3009	
	45	2.1449	1.9794	1.8598	1.7776	1.7177	1.6719	1.6357	1.6061	1.5814	1.5605	1.5268	1.4897	1.4483	1.4209	1.4012	1.3747	1.3575	1.3455	1.3329	1.3197	1.3016	1.2888	1.2800	
	50	2.1374	1.9710	1.8508	1.7682	1.7080	1.6620	1.6254	1.5956	1.5707	1.5496	1.5155	1.4780	1.4361	1.4081	1.3880	1.3609	1.3433	1.3309	1.3180	1.3043	1.2855	1.2721	1.2629	50
	60	2.1264	1.9584	1.8375	1.7543	1.6936	1.6471	1.6102	1.5800	1.5548	1.5334	1.4988	1.4606	1.4176	1.3889	1.3682	1.3401	1.3218	1.3088	1.2952	1.2807	1.2606	1.2462	1.2362	
70	2.1185	1.9495	1.8280	1.7444	1.6833	1.6365	1.5993	1.5689	1.5435	1.5218	1.4868	1.4481	1.4045	1.3752	1.3540	1.3251	1.3062	1.2928	1.2785	1.2634	1.2423	1.2269	1.2162		
80	2.1126	1.9428	1.8209	1.7370	1.6757	1.6287	1.5912	1.5606	1.5350	1.5132	1.4779	1.4388	1.3946	1.3652	1.3433	1.3138	1.2944	1.2805	1.2659	1.2502	1.2281	1.2119	1.2006		
90	2.1081	1.9377	1.8155	1.7313	1.6698	1.6226	1.5850	1.5542	1.5285	1.5065	1.4710	1.4315	1.3869	1.3568	1.3349	1.3049	1.2851	1.2709	1.2559	1.2397	1.2219	1.2050	1.1880		
100	2.1045	1.9336	1.8111	1.7267	1.6650	1.6177	1.5800	1.5491	1.5232	1.5012	1.4654	1.4257	1.3807	1.3503	1.3282	1.2977	1.2776	1.2632	1.2478	1.2312	1.2077	1.1901	1.1776	100	
	125	2.0980	1.9262	1.8033	1.7185	1.6566	1.6089	1.5710	1.5399	1.5138	1.4916	1.4555	1.4153	1.3696	1.3386	1.3160	1.2847	1.2640	1.2490	1.2329	1.2156	1.1905	1.1716	1.1579	
	150	2.0936	1.9213	1.7981	1.7131	1.6509	1.6031	1.5650	1.5338	1.5075	1.4852	1.4488	1.4083	1.3622	1.3308	1.3078	1.2760	1.2548	1.2394	1.2229	1.2048	1.1787	1.1586	1.1439	
	175	2.0906	1.9178	1.7944</																					