SIX 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 $\Pr(Y \leq y) = p^*$ ($p^* = 0.9, \ldots, .9999$) (ν_1 is the numerator, ν_2 the denominator, degrees of freedom)

University of Waterloo

F_{ν_1,ν_2}

$Df \to \nu_1$ / ν_2	p^*	1	2	3	4	5	6	7	8	9	10	12	15	20	25	30	40	50	60	75	100	175	350	1,000	ν_2
21	.9	2.9610	2.5746	2.3649	2.2333	2.1423	2.0751	2.0233	1.9819	1.9480	1.9197	1.8750	1.8271	1.7756	1.7424	1.7193	1.6890	1.6700	1.6569	1.6435	1.6298	1.6116	1.5990	1.5907	21
	.95	4.3248	3.4668	3.0725	2.8401	2.6848	2.5727	2.4876	2.4205	2.3660	2.3210	2.2504	2.1757	2.0960	2.0454	2.0102	1.9645	1.9360	1.9165	1.8965	1.8761	1.8491	1.8306	1.8184	
	.975	5.8266	4.4199	3.8188	3.4754	3.2501	3.0895	2.9686	2.8740	2.7977	2.7348	2.6368	2.5338	2.4247	2.3558	2.3082	2.2465	2.2081	2.1819	2.1552	2.1280	2.0920	2.0674	2.0511	
	.99	8.0166	5.7804	4.8740	4.3688	4.0421	3.8117	3.6396	3.5056	3.3981	3.3098	3.1730	3.0300	2.8796	2.7850	2.7200	2.6359	2.5838	2.5484	2.5123	2.4755	2.4271	2.3940	2.3722	
	.999	14.5869	9.7723	7.9383	6.9467	6.3179	5.8805	5.5571	5.3076	5.1087	4.9462	4.6960	4.4369	4.1670	3.9988	3.8836	3.7357	3.6445	3.5827	3.5199	3.4560	3.3723	3.3154	3.2779	
	.9999	22.8855	14.7430	11.7267	10.1199	9.1107	8.4137	7.9012	7.5074	7.1947	6.9400	6.5493	6.1467	5.7295	5.4708	5.2942	5.0681	4.9292	4.8352	4.7399	4.6432	4.5166	4.4307	4.3742	
22	.9	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	1.6389	1.6253	1.6113	1.5927	1.5799	1.5714	22
	.95	4.3009	3.4434	3.0491	2.8167	2.6613	2.5491	2.4638	2.3965	2.3419	2.2967	2.2258	2.1508	2.0707	2.0196	1.9842	1.9380	1.9092	1.8894	1.8692	1.8486	1.8212	1.8024	1.7899	
	.975	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	
	.99	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	
	.999	14.3803	9.6120	7.7960	6.8142	6.1914	5.7580	5.4376	5.1901	4.9929	4.8317	4.5835	4.3262	4.0579	3.8906	3.7759	3.6285	3.5376	3.4759	3.4131	3.3493	3.2656	3.2086	3.1710	
	.9999	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	
23	.9	2.9374	2.5493	2.3387	2.2065	2.1149	2.0472	1.9949	1.9531	1.9189	1.8903	1.8450	1.7964	1.7439	1.7101	1.6864	1.6554	1.6358	1.6224	1.6086	1.5944	1.5755	1.5624	1.5538	23
	.95	4.2793	3.4221	3.0280	2.7955	2.6400	2.5277	2.4422	2.3748	2.3201	2.2747	2.2036	2.1282	2.0476	1.9963	1.9605	1.9139	1.8848	1.8648	1.8444	1.8234	1.7957	1.7766	1.7639	
	.975	5.7498	4.3492	3.7505	3.4083	3.1835	3.0232	2.9023	2.8077	2.7313	2.6682	2.5699	2.4665	2.3567	2.2871	2.2389	2.1763	2.1374	2.1107	2.0835	2.0557	2.0188	1.9936	1.9769	
	.99	7.8811	5.6637	4.7649	4.2636	3.9392	3.7102	3.5390	3.4057	3.2986	3.2106	3.0740	2.9311	2.7805	2.6856	2.6202	2.5355	2.4829	2.4471	2.4105	2.3732	2.3239	2.2903	2.2680	
	.999	14.1950	9.4685	7.6688	6.6957	6.0783	5.6486	5.3308	5.0853	4.8896	4.7296	4.4831	4.2274	3.9606	3.7940	3.6798	3.5328	3.4421	3.3804	3.3177	3.2539	3.1701	3.1130	3.0753	
	.9999	22.0260	14.1167	11.1894	9.6301	8.6506	7.9738	7.4760	7.0933	6.7893	6.5416	6.1614	5.7691	5.3620	5.1091	4.9362	4.7146	4.5783	4.4858	4.3920	4.2967	4.1717	4.0868	4.0308	
24	.9	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	24
	.95	4.2597	3.4028	3.0088	2.7763	2.6207	2.5082	2.4226	2.3551	2.3002	2.2547	2.1834	2.1077	2.0267	1.9750	1.9390	1.8920	1.8625	1.8424	1.8217	1.8005	1.7723	1.7529	1.7401	
	.975	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	2.1067	2.0799	2.0524	2.0243	1.9870	1.9615	1.9445	
	.99	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	
	.999	14.0280	9.3394	7.5545	6.5892	5.9768	5.5504	5.2349	4.9912	4.7968	4.6379	4.3929	4.1387	3.8732	3.7073	3.5935	3.4468	3.3562	3.2946	3.2320	3.1681	3.0842	3.0269	2.9891	
	.9999	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	
25	.9	2.9177	2.5283	2.3170	2.1842	2.0922	2.0241	1.9714	1.9292	1.8947	1.8658	1.8200	1.7708	1.7175	1.6831	1.6589	1.6272	1.6072	1.5934	1.5792	1.5645	1.5450	1.5315	1.5225	25
	.95	4.2417	3.3852	2.9912	2.7587	2.6030	2.4904	2.4047	2.3371	2.2821	2.2365	2.1649	2.0889	2.0075	1.9554	1.9192	1.8718	1.8421	1.8217	1.8008	1.7794	1.7508	1.7312	1.7181	
	.975	5.6864	4.2909	3.6943	3.3530	3.1287	2.9685	2.8478	2.7531	2.6766	2.6135	2.5149	2.4110	2.3005	2.2303	2.1816	2.1183	2.0787	2.0516	2.0239	1.9955	1.9579	1.9321	1.9149	
	.99	7.7698	5.5680	4.6755	4.1774	3.8550	3.6272	3.4568	3.3239	3.2172	3.1294	2.9931	2.8502	2.6993	2.6041	2.5383	2.4530	2.3999	2.3637	2.3267	2.2888	2.2388	2.2045	2.1818	
	.999	13.8767	9.2225	7.4511	6.4931	5.8851	5.4617	5.1484	4.9063	4.7131	4.5551	4.3116	4.0587	3.7944	3.6291	3.5155	3.3692	3.2787	3.2171	3.1544	3.0905	3.0064	2.9490	2.9111	
	.9999	21.3364	13.6162	10.7609	9.2401	8.2847	7.6243	7.1384	6.7647	6.4677	6.2256	5.8538	5.4698	5.0708	4.8225	4.6526	4.4345	4.3001	4.2088	4.1161	4.0218	3.8979	3.8136	3.7579	
26	.9	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	26
	.95	4.2252	3.3690	2.9752	2.7426	2.5868	2.4741	2.3883	2.3205	2.2655	2.2197	2.1479	2.0716	1.9898	1.9375	1.9010	1.8533	1.8233	1.8027	1.7816	1.7599	1.7310	1.7111	1.6978	
	.975	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	
	.99	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	
	.999	13.7390	9.1163	7.3572	6.4057	5.8018	5.3812	5.0698	4.8292	4.6372	4.4801	4.2378	3.9861	3.7228	3.5580	3.4448	3.2987	3.2083	3.1467	3.0840	3.0200	2.9357	2.8782	2.8401	
	.9999	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	
27	.9	2.9012	2.5106	2.2987	2.1655	2.0730	2.0045	1.9515	1.9091	1.8743	1.8451	1.7989	1.7492	1.6951	1.6602	1.6356	1.6032	1.5827	1.5686	1.5540	1.5390	1.5189	1.5050	1.4957	27
	.95	4.2100	3.3541	2.9604	2.7278	2.5719	2.4591	2.3732	2.3053	2.2501	2.2043	2.1323	2.0558	1.9736	1.9210	1.8842	1.8361	1.8059	1.7851	1.7638	1.7419	1.7127	1.6925	1.6790	
	.975	5.6331	4.2421	3.6472	3.3067	3.0828	2.9228	2.8021	2.7074	2.6309	2.5676	2.4688	2.3644	2.2533	2.1826	2.1334	2.0693	2.0293	2.0018	1.9736	1.9447	1.9063	1.8799	1.8623	
	.99	7.6767	5.4881	4.6009	4.1056	3.7848	3.5580	3.3882	3.2558	3.1494	3.0618	2.9256	2.7827	2.6316	2.5360	2.4699	2.3840	2.3304	2.2938	2.2564	2.2180	2.1672	2.1323	2.1092	
	.999	13.6131	9.0194	7.2715	6.3261	5.7259	5.3078	4.9983	4.7590	4.5680	4.4117	4.1706	3.9200	3.6576	3.4933	3.3803	3.2344	3.1440	3.0825	3.0197	2.9557	2.8712	2.8134	2.7752	
	.9999	20.7712	13.2073	10.4116	8.9226	7.9870	7.3402	6.8641	6.4978	6.2066	5.9691	5.6042	5.2270	4.8346	4.5901	4.4226	4.2072	4.0743	3.9839	3.8920	3.7984	3.6753	3.5913	3.5358	
28	.9	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	28
	.95	4.1960	3.3404	2.9467	2.7141	2.5581	2.4453	2.3593	2.2913	2.2360	2.1900	2.1179	2.0411	1.9586	1.9057	1.8687	1.8203	1.7898	1.7689	1.7473	1.7251	1.6956	1.6752	1.6615	
	.975	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	
	.99	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	
	.999	13.4976	8.9305	7.1931	6.2532	5.6565	5.2407	4.9328	4.6947	4.5047	4.3491	4.1091	3.8595	3.5980	3.4341	3.3213	3.1755	3.0852	3.0236	2.9608	2.8967	2.8120	2.7540	2.7156	
	.9999	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	
29	.9	2.8870	2.4955	2.2831	2.1494	2.0566	1.9878	1.9345	1.8918	1.8568	1.8274	1.7808	1.7306	1.6759	1.6405	1.6155	1.5825	1.5617	1.5472	1.5323	1.5169	1.4963	1.4819	1.4723	29
	.95	4.1830	3.3277	2.9340	2.7014	2.5454	2.4324	2.3463	2.2783	2.2229	2.1768	2.1045	2.0275	1.9446	1.8915	1.8543	1.8055	1.7748	1.7537	1.7320	1.7096	1.6797	1.6590	1.6452	
	.975	5.5878	4.2006	3.6072	3.2674	3.0438	2.8840	2.7633	2.6686	2.5919	2.5286	2.4295	2.3248	2.2131	2.1419	2.0923	2.0276	1.9870	1.9591	1.9305	1.9011	1.8620	1.8350	1.8170	
	.99	7.5977	5.4204	4.5378	4.0449	3.7254	3.4995	3.3303	3.1982	3.0920	3.0045	2.8685	2.7256	2.5742	2.4783	2.4118	2.3253	2.2714	2.2344	2.1965	2.1577	2.1061	2.0707	2.0471	
	.999	13.3912	8.8488	7.1210	6.1863	5.5927	5.1791	4.8727	4.6358	4.4466	4.2917	4.0526	3.8039	3.5432	3.3797	3.2671	3.1215	3.0311	2.9695	2.9066	2.8424	2.7575	2.6993	2.6607	
	.9999	20.2996	12.8672	10.1215	8.6592	7.7403	7.1048	6.6369	6.2769	5.9906	5.7570	5.3979	5.0264	4.6394	4.3980	4.2324	4.0192	3.8875	3.7978	3.7065	3.6134	3.4908	3.4070	3.3515	
30	.9	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	30
	.95	4.1709	3.3158	2.9223	2.6896	2.5336	2.4205	2.3343	2.2662	2.2107	2.1646	2.0921	2.0148	1.9317	1.8782	1.8409	1.7918	1.7609	1.7396	1.7176	1.6950	1.6648	1.6439	1.6299	
	.975	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	
	.99	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	
	.999	13.2930	8.7734	7.0545	6.1245	5.5339	5.1223	4.8173	4.5814	4.3930	4.2388	4.0006	3.7527	3.4928	3.3296	3.2171	3.0716	2.9813	2.9196	2.8567	2.7923	2.7072	2.6488	2.6100	
	.9999	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	

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}

W.H. Cherry