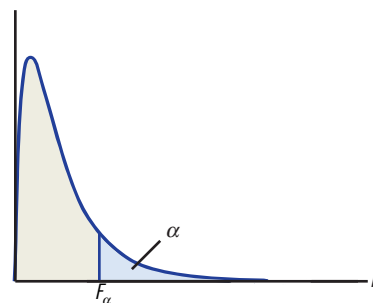


Critical Values of the F -Distribution ($\alpha = 0.010$)



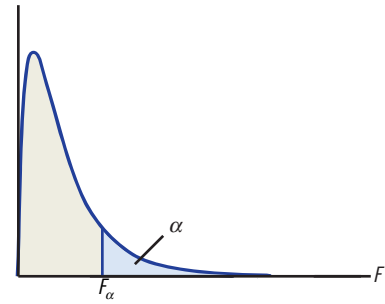
Numerator Degrees of Freedom

Denominator Degrees of Freedom

	1	2	3	4	5	6	7	8	9
1	4052.1807	4999.5000	5403.3520	5624.5833	5763.6496	5858.9861	5928.3557	5981.0703	6022.4732
2	98.5025	99.0000	99.1662	99.2494	99.2993	99.3326	99.3564	99.3742	99.3881
3	34.1162	30.8165	29.4567	28.7099	28.2371	27.9107	27.6717	27.4892	27.3452
4	21.1977	18.0000	16.6944	15.9770	15.5219	15.2069	14.9758	14.7989	14.6591
5	16.2582	13.2739	12.0600	11.3919	10.9670	10.6723	10.4555	10.2893	10.1578
6	13.7450	10.9248	9.7795	9.1483	8.7459	8.4661	8.2600	8.1017	7.9761
7	12.2464	9.5466	8.4513	7.8466	7.4604	7.1914	6.9928	6.8400	6.7188
8	11.2586	8.6491	7.5910	7.0061	6.6318	6.3707	6.1776	6.0289	5.9106
9	10.5614	8.0215	6.9919	6.4221	6.0569	5.8018	5.6129	5.4671	5.3511
10	10.0443	7.5594	6.5523	5.9943	5.6363	5.3858	5.2001	5.0567	4.9424
11	9.6460	7.2057	6.2167	5.6683	5.3160	5.0692	4.8861	4.7445	4.6315
12	9.3302	6.9266	5.9525	5.4120	5.0643	4.8206	4.6395	4.4994	4.3875
13	9.0738	6.7010	5.7394	5.2053	4.8616	4.6204	4.4410	4.3021	4.1911
14	8.8616	6.5149	5.5639	5.0354	4.6950	4.4558	4.2779	4.1399	4.0297
15	8.6831	6.3589	5.4170	4.8932	4.5556	4.3183	4.1415	4.0045	3.8948
16	8.5310	6.2262	5.2922	4.7726	4.4374	4.2016	4.0259	3.8896	3.7804
17	8.3997	6.1121	5.1850	4.6690	4.3359	4.1015	3.9267	3.7910	3.6822
18	8.2854	6.0129	5.0919	4.5790	4.2479	4.0146	3.8406	3.7054	3.5971
19	8.1849	5.9259	5.0103	4.5003	4.1708	3.9386	3.7653	3.6305	3.5225
20	8.0960	5.8489	4.9382	4.4307	4.1027	3.8714	3.6987	3.5644	3.4567
21	8.0166	5.7804	4.8740	4.3688	4.0421	3.8117	3.6396	3.5056	3.3981
22	7.9454	5.7190	4.8166	4.3134	3.9880	3.7583	3.5867	3.4530	3.3458
23	7.8811	5.6637	4.7649	4.2636	3.9392	3.7102	3.5390	3.4057	3.2986
24	7.8229	5.6136	4.7181	4.2184	3.8951	3.6667	3.4959	3.3629	3.2560
25	7.7698	5.5680	4.6755	4.1774	3.8550	3.6272	3.4568	3.3239	3.2172
26	7.7213	5.5263	4.6366	4.1400	3.8183	3.5911	3.4210	3.2884	3.1818
27	7.6767	5.4881	4.6009	4.1056	3.7848	3.5580	3.3882	3.2558	3.1494
28	7.6356	5.4529	4.5681	4.0740	3.7539	3.5276	3.3581	3.2259	3.1195
29	7.5977	5.4204	4.5378	4.0449	3.7254	3.4995	3.3303	3.1982	3.0920
30	7.5625	5.3903	4.5097	4.0179	3.6990	3.4735	3.3045	3.1726	3.0665
40	7.3141	5.1785	4.3126	3.8283	3.5138	3.2910	3.1238	2.9930	2.8876
60	7.0771	4.9774	4.1259	3.6490	3.3389	3.1187	2.9530	2.8233	2.7185
120	6.8509	4.7865	3.9491	3.4795	3.1735	2.9559	2.7918	2.6629	2.5586
∞	6.6349	4.6052	3.7816	3.3192	3.0173	2.8020	2.6393	2.5113	2.4073

Critical Values of the F -Distribution ($\alpha = 0.010$)

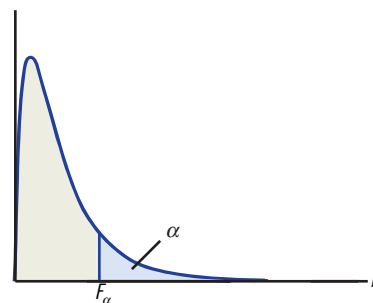
(continued)



Numerator Degrees of Freedom

		10	11	12	13	14	15	16	17	18
Denominator Degrees of Freedom	1	6055.8467	6083.3168	6106.3207	6125.8647	6142.6740	6157.2846	6170.1012	6181.4348	6191.5287
	2	99.3992	99.4083	99.4159	99.4223	99.4278	99.4325	99.4367	99.4404	99.4436
	3	27.2287	27.1326	27.0518	26.9831	26.9238	26.8722	26.8269	26.7867	26.7509
	4	14.5459	14.4523	14.3736	14.3065	14.2486	14.1982	14.1539	14.1146	14.0795
	5	10.0510	9.9626	9.8883	9.8248	9.7700	9.7222	9.6802	9.6429	9.6096
	6	7.8741	7.7896	7.7183	7.6575	7.6049	7.5590	7.5186	7.4827	7.4507
	7	6.6201	6.5382	6.4691	6.4100	6.3590	6.3143	6.2750	6.2401	6.2089
	8	5.8143	5.7343	5.6667	5.6089	5.5589	5.5151	5.4766	5.4423	5.4116
	9	5.2565	5.1779	5.1114	5.0545	5.0052	4.9621	4.9240	4.8902	4.8599
	10	4.8491	4.7715	4.7059	4.6496	4.6008	4.5581	4.5204	4.4869	4.4569
	11	4.5393	4.4624	4.3974	4.3416	4.2932	4.2509	4.2134	4.1801	4.1503
	12	4.2961	4.2198	4.1553	4.0999	4.0518	4.0096	3.9724	3.9392	3.9095
	13	4.1003	4.0245	3.9603	3.9052	3.8573	3.8154	3.7783	3.7452	3.7156
	14	3.9394	3.8640	3.8001	3.7452	3.6975	3.6557	3.6187	3.5857	3.5561
	15	3.8049	3.7299	3.6662	3.6115	3.5639	3.5222	3.4852	3.4523	3.4228
	16	3.6909	3.6162	3.5527	3.4981	3.4506	3.4089	3.3720	3.3391	3.3096
	17	3.5931	3.5185	3.4552	3.4007	3.3533	3.3117	3.2748	3.2419	3.2124
	18	3.5082	3.4338	3.3706	3.3162	3.2689	3.2273	3.1904	3.1575	3.1280
	19	3.4338	3.3596	3.2965	3.2422	3.1949	3.1533	3.1165	3.0836	3.0541
	20	3.3682	3.2941	3.2311	3.1769	3.1296	3.0880	3.0512	3.0183	2.9887
	21	3.3098	3.2359	3.1730	3.1187	3.0715	3.0300	2.9931	2.9602	2.9306
	22	3.2576	3.1837	3.1209	3.0667	3.0195	2.9779	2.9411	2.9082	2.8786
	23	3.2106	3.1368	3.0740	3.0199	2.9727	2.9311	2.8943	2.8613	2.8317
	24	3.1681	3.0944	3.0316	2.9775	2.9303	2.8887	2.8519	2.8189	2.7892
	25	3.1294	3.0558	2.9931	2.9389	2.8917	2.8502	2.8133	2.7803	2.7506
	26	3.0941	3.0205	2.9578	2.9038	2.8566	2.8150	2.7781	2.7451	2.7153
	27	3.0618	2.9882	2.9256	2.8715	2.8243	2.7827	2.7458	2.7127	2.6830
	28	3.0320	2.9585	2.8959	2.8418	2.7946	2.7530	2.7160	2.6830	2.6532
	29	3.0045	2.9311	2.8685	2.8144	2.7672	2.7256	2.6886	2.6555	2.6257
	30	2.9791	2.9057	2.8431	2.7890	2.7418	2.7002	2.6632	2.6301	2.6003
	40	2.8005	2.7274	2.6648	2.6107	2.5634	2.5216	2.4844	2.4511	2.4210
	60	2.6318	2.5587	2.4961	2.4419	2.3943	2.3523	2.3148	2.2811	2.2507
120	2.4721	2.3990	2.3363	2.2818	2.2339	2.1915	2.1536	2.1194	2.0885	
∞	2.3209	2.2477	2.1847	2.1299	2.0815	2.0385	2.0000	1.9652	1.9336	

Critical Values of the F -Distribution ($\alpha = 0.010$) (continued)



Numerator Degrees of Freedom

		19	20	24	30	40	60	120
Denominator Degrees of Freedom	1	6200.5756	6208.7302	6234.6309	6260.6486	6286.7821	6313.0301	6339.3913
	2	99.4465	99.4492	99.4575	99.4658	99.4742	99.4825	99.4908
	3	26.7188	26.6898	26.5975	26.5045	26.4108	26.3164	26.2211
	4	14.0480	14.0196	13.9291	13.8377	13.7454	13.6522	13.5581
	5	9.5797	9.5526	9.4665	9.3793	9.2912	9.2020	9.1118
	6	7.4219	7.3958	7.3127	7.2285	7.1432	7.0567	6.9690
	7	6.1808	6.1554	6.0743	5.9920	5.9084	5.8236	5.7373
	8	5.3840	5.3591	5.2793	5.1981	5.1156	5.0316	4.9461
	9	4.8327	4.8080	4.7290	4.6486	4.5666	4.4831	4.3978
	10	4.4299	4.4054	4.3269	4.2469	4.1653	4.0819	3.9965
	11	4.1234	4.0990	4.0209	3.9411	3.8596	3.7761	3.6904
	12	3.8827	3.8584	3.7805	3.7008	3.6192	3.5355	3.4494
	13	3.6888	3.6646	3.5868	3.5070	3.4253	3.3413	3.2548
	14	3.5294	3.5052	3.4274	3.3476	3.2656	3.1813	3.0942
	15	3.3961	3.3719	3.2940	3.2141	3.1319	3.0471	2.9595
	16	3.2829	3.2587	3.1808	3.1007	3.0182	2.9330	2.8447
	17	3.1857	3.1615	3.0835	3.0032	2.9205	2.8348	2.7459
	18	3.1013	3.0771	2.9990	2.9185	2.8354	2.7493	2.6597
	19	3.0274	3.0031	2.9249	2.8442	2.7608	2.6742	2.5839
	20	2.9620	2.9377	2.8594	2.7785	2.6947	2.6077	2.5168
	21	2.9039	2.8796	2.8010	2.7200	2.6359	2.5484	2.4568
	22	2.8518	2.8274	2.7488	2.6675	2.5831	2.4951	2.4029
	23	2.8049	2.7805	2.7017	2.6202	2.5355	2.4471	2.3542
	24	2.7624	2.7380	2.6591	2.5773	2.4923	2.4035	2.3100
	25	2.7238	2.6993	2.6203	2.5383	2.4530	2.3637	2.2696
	26	2.6885	2.6640	2.5848	2.5026	2.4170	2.3273	2.2325
	27	2.6561	2.6316	2.5522	2.4699	2.3840	2.2938	2.1985
	28	2.6263	2.6017	2.5223	2.4397	2.3535	2.2629	2.1670
	29	2.5987	2.5742	2.4946	2.4118	2.3253	2.2344	2.1379
	30	2.5732	2.5487	2.4689	2.3860	2.2992	2.2079	2.1108
40	2.3937	2.3689	2.2880	2.2034	2.1142	2.0194	1.9172	
60	2.2230	2.1978	2.1154	2.0285	1.9360	1.8363	1.7263	
120	2.0604	2.0346	1.9500	1.8600	1.7628	1.6557	1.5330	
∞	1.9048	1.8783	1.7908	1.6964	1.5923	1.4730	1.3246	