

# Appendix F.01 (One Percent F Tables)

	1	2	3	4	5	6	7	8	9	10	15	30	100	1000
1	4052.18	4999.50	5403.35	5624.58	5763.65	5858.99	5928.36	5981.07	6022.47	6055.85	6157.28	6260.65	6334.11	6362.68
2	98.503	99.000	99.166	99.249	99.299	99.333	99.356	99.374	99.388	99.399	99.433	99.466	99.489	99.498
3	34.1162	30.8165	29.4567	28.7099	28.2371	27.9107	27.6717	27.4892	27.3452	27.2287	26.8722	26.5045	26.2402	26.1367
4	21.1977	18.0000	16.6944	15.9770	15.5219	15.2069	14.9758	14.7989	14.6591	14.5459	14.1982	13.8377	13.5770	13.4745
5	16.2582	13.2739	12.0600	11.3919	10.9670	10.6723	10.4555	10.2893	10.1578	10.0510	9.7222	9.3793	9.1299	9.0314
6	13.7450	10.9248	9.7795	9.1483	8.7459	8.4661	8.2600	8.1017	7.9761	7.8741	7.5590	7.2285	6.9867	6.8908
7	12.2464	9.5466	8.4513	7.8466	7.4604	7.1914	6.9928	6.8400	6.7188	6.6201	6.3143	5.9920	5.7547	5.6601
8	11.2586	8.6491	7.5910	7.0061	6.6318	6.3707	6.1776	6.0289	5.9106	5.8143	5.5151	5.1981	4.9633	4.8694
9	10.5614	8.0215	6.9919	6.4221	6.0569	5.8018	5.6129	5.4671	5.3511	5.2565	4.9621	4.6486	4.4150	4.3211
10	10.0443	7.5594	6.5523	5.9943	5.6363	5.3858	5.2001	5.0567	4.9424	4.8491	4.5581	4.2469	4.0137	3.9196
11	9.6460	7.2057	6.2167	5.6683	5.3160	5.0692	4.8861	4.7445	4.6315	4.5393	4.2509	3.9411	3.7077	3.6131
12	9.3302	6.9266	5.9525	5.4120	5.0643	4.8206	4.6395	4.4994	4.3875	4.2961	4.0096	3.7008	3.4668	3.3716
13	9.0738	6.7010	5.7394	5.2053	4.8616	4.6204	4.4410	4.3021	4.1911	4.1003	3.8154	3.5070	3.2723	3.1763
14	8.8616	6.5149	5.5639	5.0354	4.6950	4.4558	4.2779	4.1399	4.0297	3.9394	3.6557	3.3476	3.1118	3.0150
15	8.6831	6.3589	5.4170	4.8932	4.5556	4.3183	4.1415	4.0045	3.8948	3.8049	3.5222	3.2141	2.9772	2.8795
16	8.5310	6.2262	5.2922	4.7726	4.4374	4.2016	4.0259	3.8896	3.7804	3.6909	3.4089	3.1007	2.8627	2.7641
17	8.3997	6.1121	5.1850	4.6690	4.3359	4.1015	3.9267	3.7910	3.6822	3.5931	3.3117	3.0032	2.7639	2.6644
18	8.2854	6.0129	5.0919	4.5790	4.2479	4.0146	3.8406	3.7054	3.5971	3.5082	3.2273	2.9185	2.6779	2.5775
19	8.1849	5.9259	5.0103	4.5003	4.1708	3.9386	3.7653	3.6305	3.5225	3.4338	3.1533	2.8442	2.6023	2.5009
20	8.0960	5.8489	4.9382	4.4307	4.1027	3.8714	3.6987	3.5644	3.4567	3.3682	3.0880	2.7785	2.5353	2.4329
21	8.0166	5.7804	4.8740	4.3688	4.0421	3.8117	3.6396	3.5056	3.3981	3.3098	3.0300	2.7200	2.4755	2.3722
22	7.9454	5.7190	4.8166	4.3134	3.9880	3.7583	3.5867	3.4530	3.3458	3.2576	2.9779	2.6675	2.4217	2.3175
23	7.8811	5.6637	4.7649	4.2636	3.9392	3.7102	3.5390	3.4057	3.2986	3.2106	2.9311	2.6202	2.3732	2.2680
24	7.8229	5.6136	4.7181	4.2184	3.8951	3.6667	3.4959	3.3629	3.2560	3.1681	2.8887	2.5773	2.3291	2.2230
25	7.7698	5.5680	4.6755	4.1774	3.8550	3.6272	3.4568	3.3239	3.2172	3.1294	2.8502	2.5383	2.2888	2.1818
26	7.7213	5.5263	4.6366	4.1400	3.8183	3.5911	3.4210	3.2884	3.1818	3.0941	2.8150	2.5026	2.2519	2.1440
27	7.6767	5.4881	4.6009	4.1056	3.7848	3.5580	3.3882	3.2558	3.1494	3.0618	2.7827	2.4699	2.2180	2.1092
28	7.6356	5.4529	4.5681	4.0740	3.7539	3.5276	3.3581	3.2259	3.1195	3.0320	2.7530	2.4397	2.1867	2.0769
29	7.5977	5.4204	4.5378	4.0449	3.7254	3.4995	3.3303	3.1982	3.0920	3.0045	2.7256	2.4118	2.1577	2.0471
30	7.5625	5.3903	4.5097	4.0179	3.6990	3.4735	3.3045	3.1726	3.0665	2.9791	2.7002	2.3860	2.1307	2.0192
31	7.5298	5.3624	4.4837	3.9928	3.6745	3.4493	3.2806	3.1489	3.0428	2.9555	2.6766	2.3619	2.1056	1.9933
32	7.4993	5.3363	4.4594	3.9695	3.6517	3.4269	3.2583	3.1267	3.0208	2.9335	2.6546	2.3395	2.0821	1.9690
33	7.4708	5.3120	4.4368	3.9477	3.6305	3.4059	3.2376	3.1061	3.0003	2.9130	2.6341	2.3186	2.0602	1.9462
34	7.4441	5.2893	4.4156	3.9273	3.6106	3.3863	3.2182	3.0868	2.9810	2.8938	2.6150	2.2990	2.0396	1.9248
35	7.4191	5.2679	4.3957	3.9082	3.5919	3.3679	3.2000	3.0687	2.9630	2.8758	2.5970	2.2806	2.0202	1.9046
36	7.3956	5.2479	4.3771	3.8903	3.5744	3.3507	3.1829	3.0517	2.9461	2.8589	2.5801	2.2633	2.0019	1.8855
37	7.3734	5.2290	4.3595	3.8734	3.5579	3.3344	3.1668	3.0357	2.9302	2.8431	2.5642	2.2470	1.9847	1.8675
38	7.3525	5.2112	4.3430	3.8575	3.5424	3.3191	3.1516	3.0207	2.9151	2.8281	2.5492	2.2317	1.9684	1.8505
39	7.3328	5.1944	4.3274	3.8425	3.5277	3.3047	3.1373	3.0064	2.9010	2.8139	2.5350	2.2171	1.9530	1.8343
40	7.3141	5.1785	4.3126	3.8283	3.5138	3.2910	3.1238	2.9930	2.8876	2.8005	2.5216	2.2034	1.9383	1.8189
41	7.2964	5.1634	4.2986	3.8148	3.5007	3.2781	3.1109	2.9802	2.8749	2.7879	2.5089	2.1903	1.9244	1.8042
42	7.2796	5.1491	4.2853	3.8021	3.4882	3.2658	3.0988	2.9681	2.8628	2.7758	2.4969	2.1780	1.9112	1.7903
43	7.2636	5.1356	4.2726	3.7899	3.4764	3.2541	3.0872	2.9567	2.8514	2.7644	2.4854	2.1662	1.8986	1.7770
44	7.2484	5.1226	4.2606	3.7784	3.4651	3.2430	3.0762	2.9457	2.8405	2.7536	2.4746	2.1550	1.8866	1.7643
45	7.2339	5.1103	4.2492	3.7674	3.4544	3.2325	3.0658	2.9353	2.8301	2.7432	2.4642	2.1443	1.8751	1.7521

	1	2	3	4	5	6	7	8	9	10	15	30	100	1000
46	7.2200	5.0986	4.2383	3.7570	3.4442	3.2224	3.0558	2.9254	2.8203	2.7334	2.4543	2.1341	1.8642	1.7404
47	7.2068	5.0874	4.2279	3.7470	3.4344	3.2128	3.0463	2.9160	2.8108	2.7240	2.4449	2.1244	1.8537	1.7293
48	7.1942	5.0767	4.2180	3.7374	3.4251	3.2036	3.0372	2.9069	2.8018	2.7150	2.4358	2.1150	1.8436	1.7186
49	7.1821	5.0664	4.2084	3.7283	3.4162	3.1948	3.0285	2.8983	2.7932	2.7064	2.4272	2.1061	1.8340	1.7083
50	7.1706	5.0566	4.1993	3.7195	3.4077	3.1864	3.0202	2.8900	2.7850	2.6981	2.4190	2.0976	1.8248	1.6984
51	7.1595	5.0472	4.1906	3.7112	3.3995	3.1784	3.0122	2.8821	2.7771	2.6903	2.4110	2.0894	1.8159	1.6888
52	7.1489	5.0382	4.1823	3.7031	3.3917	3.1707	3.0045	2.8745	2.7695	2.6827	2.4035	2.0815	1.8073	1.6797
53	7.1386	5.0295	4.1742	3.6954	3.3841	3.1632	2.9972	2.8672	2.7622	2.6754	2.3962	2.0740	1.7991	1.6708
54	7.1288	5.0212	4.1665	3.6880	3.3769	3.1561	2.9901	2.8602	2.7552	2.6685	2.3892	2.0667	1.7912	1.6623
55	7.1194	5.0132	4.1591	3.6809	3.3700	3.1493	2.9834	2.8534	2.7485	2.6617	2.3824	2.0598	1.7836	1.6541
56	7.1103	5.0055	4.1519	3.6740	3.3633	3.1427	2.9768	2.8469	2.7420	2.6553	2.3759	2.0530	1.7763	1.6461
57	7.1015	4.9981	4.1451	3.6674	3.3568	3.1364	2.9706	2.8407	2.7358	2.6491	2.3697	2.0466	1.7692	1.6385
58	7.0931	4.9910	4.1384	3.6611	3.3506	3.1302	2.9645	2.8347	2.7298	2.6431	2.3637	2.0403	1.7623	1.6310
59	7.0850	4.9841	4.1321	3.6550	3.3447	3.1244	2.9587	2.8289	2.7240	2.6373	2.3579	2.0343	1.7557	1.6238
60	7.0771	4.9774	4.1259	3.6490	3.3389	3.1187	2.9530	2.8233	2.7185	2.6318	2.3523	2.0285	1.7493	1.6169
61	7.0695	4.9710	4.1199	3.6433	3.3333	3.1132	2.9476	2.8179	2.7131	2.6264	2.3469	2.0229	1.7431	1.6101
62	7.0622	4.9648	4.1142	3.6378	3.3279	3.1079	2.9424	2.8127	2.7079	2.6212	2.3417	2.0174	1.7372	1.6036
63	7.0551	4.9588	4.1086	3.6325	3.3227	3.1028	2.9373	2.8076	2.7028	2.6162	2.3366	2.0122	1.7314	1.5972
64	7.0483	4.9530	4.1033	3.6273	3.3177	3.0978	2.9324	2.8027	2.6980	2.6113	2.3317	2.0071	1.7257	1.5911
65	7.0416	4.9474	4.0981	3.6223	3.3128	3.0930	2.9276	2.7980	2.6933	2.6066	2.3270	2.0022	1.7203	1.5851
66	7.0352	4.9420	4.0930	3.6175	3.3081	3.0884	2.9230	2.7934	2.6887	2.6021	2.3224	1.9974	1.7150	1.5793
67	7.0290	4.9367	4.0882	3.6128	3.3036	3.0839	2.9186	2.7890	2.6843	2.5977	2.3180	1.9928	1.7099	1.5736
68	7.0229	4.9316	4.0834	3.6083	3.2991	3.0795	2.9143	2.7847	2.6800	2.5934	2.3137	1.9883	1.7049	1.5681
69	7.0171	4.9267	4.0788	3.6039	3.2948	3.0753	2.9101	2.7806	2.6759	2.5892	2.3096	1.9840	1.7001	1.5628
70	7.0114	4.9219	4.0744	3.5996	3.2907	3.0712	2.9060	2.7765	2.6719	2.5852	2.3055	1.9797	1.6954	1.5576
71	7.0059	4.9172	4.0701	3.5955	3.2867	3.0672	2.9021	2.7726	2.6680	2.5813	2.3016	1.9757	1.6908	1.5525
72	7.0005	4.9127	4.0659	3.5915	3.2827	3.0634	2.8983	2.7688	2.6642	2.5775	2.2978	1.9717	1.6864	1.5476
73	6.9953	4.9083	4.0618	3.5876	3.2789	3.0596	2.8946	2.7651	2.6605	2.5739	2.2941	1.9678	1.6821	1.5428
74	6.9903	4.9040	4.0579	3.5838	3.2752	3.0560	2.8909	2.7615	2.6569	2.5703	2.2905	1.9641	1.6779	1.5381
75	6.9854	4.8999	4.0540	3.5801	3.2716	3.0524	2.8874	2.7580	2.6534	2.5668	2.2870	1.9604	1.6738	1.5335
76	6.9806	4.8958	4.0503	3.5765	3.2681	3.0490	2.8840	2.7547	2.6500	2.5634	2.2836	1.9568	1.6698	1.5290
77	6.9759	4.8919	4.0466	3.5730	3.2647	3.0456	2.8807	2.7514	2.6468	2.5602	2.2803	1.9534	1.6659	1.5247
78	6.9714	4.8881	4.0431	3.5696	3.2614	3.0424	2.8775	2.7481	2.6436	2.5570	2.2771	1.9500	1.6621	1.5204
79	6.9670	4.8844	4.0397	3.5663	3.2582	3.0392	2.8743	2.7450	2.6404	2.5538	2.2739	1.9467	1.6584	1.5163
80	6.9627	4.8807	4.0363	3.5631	3.2550	3.0361	2.8713	2.7420	2.6374	2.5508	2.2709	1.9435	1.6548	1.5122
81	6.9585	4.8772	4.0330	3.5600	3.2520	3.0331	2.8683	2.7390	2.6344	2.5479	2.2679	1.9404	1.6513	1.5082
82	6.9544	4.8738	4.0298	3.5569	3.2490	3.0302	2.8654	2.7361	2.6316	2.5450	2.2650	1.9374	1.6479	1.5043
83	6.9504	4.8704	4.0267	3.5539	3.2461	3.0273	2.8625	2.7333	2.6287	2.5422	2.2622	1.9344	1.6445	1.5006
84	6.9466	4.8671	4.0237	3.5510	3.2433	3.0245	2.8598	2.7305	2.6260	2.5394	2.2594	1.9315	1.6413	1.4968
85	6.9428	4.8639	4.0207	3.5482	3.2405	3.0218	2.8571	2.7279	2.6233	2.5368	2.2567	1.9287	1.6381	1.4932
86	6.9391	4.8608	4.0179	3.5454	3.2378	3.0191	2.8544	2.7252	2.6207	2.5342	2.2541	1.9259	1.6349	1.4897
87	6.9355	4.8578	4.0150	3.5427	3.2352	3.0165	2.8519	2.7227	2.6182	2.5316	2.2515	1.9232	1.6319	1.4862
88	6.9319	4.8548	4.0123	3.5401	3.2326	3.0140	2.8494	2.7202	2.6157	2.5291	2.2490	1.9206	1.6289	1.4828
89	6.9285	4.8519	4.0096	3.5375	3.2301	3.0115	2.8469	2.7177	2.6133	2.5267	2.2466	1.9180	1.6260	1.4794
90	6.9251	4.8491	4.0070	3.5350	3.2276	3.0091	2.8445	2.7154	2.6109	2.5243	2.2442	1.9155	1.6231	1.4762
91	6.9218	4.8463	4.0044	3.5325	3.2252	3.0067	2.8422	2.7130	2.6086	2.5220	2.2419	1.9131	1.6203	1.4730
92	6.9186	4.8436	4.0019	3.5301	3.2229	3.0044	2.8399	2.7108	2.6063	2.5197	2.2396	1.9107	1.6176	1.4698
93	6.9155	4.8409	3.9994	3.5278	3.2206	3.0022	2.8377	2.7085	2.6041	2.5175	2.2373	1.9083	1.6149	1.4668
94	6.9124	4.8383	3.9970	3.5255	3.2183	3.0000	2.8355	2.7064	2.6019	2.5154	2.2352	1.9060	1.6123	1.4637
95	6.9094	4.8358	3.9947	3.5232	3.2162	2.9978	2.8333	2.7042	2.5998	2.5132	2.2330	1.9038	1.6097	1.4608
96	6.9065	4.8333	3.9924	3.5210	3.2140	2.9957	2.8312	2.7022	2.5977	2.5112	2.2309	1.9016	1.6072	1.4579
97	6.9036	4.8309	3.9902	3.5189	3.2119	2.9936	2.8292	2.7001	2.5957	2.5091	2.2289	1.8994	1.6048	1.4550
98	6.9008	4.8285	3.9880	3.5168	3.2099	2.9916	2.8272	2.6981	2.5937	2.5072	2.2269	1.8973	1.6024	1.4522
99	6.8980	4.8262	3.9858	3.5147	3.2078	2.9896	2.8252	2.6962	2.5917	2.5052	2.2249	1.8953	1.6000	1.4495
100	6.8953	4.8239	3.9837	3.5127	3.2059	2.9877	2.8233	2.6943	2.5898	2.5033	2.2230	1.8933	1.5977	1.4468
110	6.8710	4.8035	3.9648	3.4946	3.1882	2.9703	2.8061	2.6771	2.5727	2.4862	2.2058	1.8751	1.5767	1.4223
120	6.8509	4.7865	3.9491	3.4795	3.1735	2.9559	2.7918	2.6629	2.5586	2.4721	2.1915	1.8600	1.5592	1.4015
1000	6.6603	4.6264	3.8012	3.3380	3.0355	2.8200	2.6572	2.5290	2.4250	2.3386	2.0565	1.7158	1.3835	1.1586

# Appendix F.02 (Two Percent F Tables)

	1	2	3	4	5	6	7	8	9	10	15	30	100	1000
1	1012.55	1249.50	1350.50	1405.83	1440.61	1464.45	1481.80	1494.99	1505.34	1513.69	1539.05	1564.90	1583.27	1590.42
2	48.505	49.000	49.166	49.249	49.299	49.332	49.356	49.373	49.387	49.398	49.432	49.465	49.488	49.497
3	20.6180	18.8581	18.1097	17.6938	17.4288	17.2451	17.1103	17.0071	16.9256	16.8596	16.6571	16.4477	16.2968	16.2376
4	14.0396	12.1421	11.3435	10.8994	10.6157	10.4186	10.2735	10.1622	10.0742	10.0027	9.7828	9.5540	9.3880	9.3227
5	11.3228	9.4544	8.6702	8.2330	7.9529	7.7577	7.6137	7.5030	7.4152	7.3438	7.1234	6.8926	6.7241	6.6574
6	9.8764	8.0521	7.2870	6.8594	6.5847	6.3928	6.2508	6.1415	6.0546	5.9839	5.7648	5.5338	5.3641	5.2966
7	8.9877	7.2026	6.4539	6.0347	5.7647	5.5756	5.4355	5.3273	5.2413	5.1711	4.9531	4.7219	4.5509	4.4825
8	8.3895	6.6366	5.9014	5.4889	5.2227	5.0359	4.8972	4.7900	4.7046	4.6348	4.4174	4.1857	4.0131	3.9439
9	7.9605	6.2340	5.5097	5.1027	4.8395	4.6545	4.5169	4.4105	4.3255	4.2561	4.0390	3.8065	3.6322	3.5619
10	7.6384	5.9336	5.2182	4.8156	4.5550	4.3714	4.2348	4.1288	4.0442	3.9750	3.7581	3.5245	3.3484	3.2770
11	7.3880	5.7012	4.9932	4.5943	4.3357	4.1533	4.0174	3.9119	3.8275	3.7584	3.5415	3.3069	3.1289	3.0564
12	7.1878	5.5163	4.8145	4.4187	4.1617	3.9804	3.8450	3.7398	3.6557	3.5867	3.3696	3.1338	2.9539	2.8803
13	7.0241	5.3657	4.6692	4.2760	4.0205	3.8399	3.7050	3.6002	3.5161	3.4472	3.2299	2.9929	2.8112	2.7365
14	6.8880	5.2408	4.5488	4.1579	3.9036	3.7237	3.5892	3.4845	3.4006	3.3317	3.1142	2.8760	2.6924	2.6166
15	6.7729	5.1354	4.4474	4.0584	3.8052	3.6259	3.4918	3.3873	3.3035	3.2346	3.0168	2.7775	2.5920	2.5151
16	6.6744	5.0455	4.3609	3.9737	3.7214	3.5426	3.4087	3.3044	3.2206	3.1518	2.9336	2.6932	2.5059	2.4279
17	6.5892	4.9678	4.2863	3.9006	3.6491	3.4707	3.3371	3.2329	3.1492	3.0803	2.8619	2.6203	2.4313	2.3523
18	6.5146	4.9001	4.2213	3.8369	3.5861	3.4081	3.2747	3.1706	3.0869	3.0180	2.7993	2.5567	2.3660	2.2859
19	6.4490	4.8404	4.1641	3.7809	3.5307	3.3531	3.2199	3.1159	3.0322	2.9633	2.7443	2.5006	2.3083	2.2271
20	6.3907	4.7876	4.1134	3.7313	3.4817	3.3044	3.1713	3.0674	2.9837	2.9148	2.6955	2.4509	2.2569	2.1747
21	6.3386	4.7404	4.0682	3.6870	3.4379	3.2610	3.1280	3.0241	2.9405	2.8716	2.6519	2.4064	2.2109	2.1277
22	6.2917	4.6980	4.0276	3.6473	3.3987	3.2220	3.0892	2.9853	2.9017	2.8328	2.6128	2.3663	2.1693	2.0852
23	6.2493	4.6597	3.9910	3.6115	3.3633	3.1868	3.0541	2.9503	2.8667	2.7977	2.5775	2.3302	2.1317	2.0466
24	6.2109	4.6250	3.9578	3.5790	3.3312	3.1549	3.0223	2.9186	2.8350	2.7660	2.5455	2.2973	2.0974	2.0113
25	6.1758	4.5934	3.9275	3.5494	3.3020	3.1259	2.9934	2.8897	2.8060	2.7370	2.5163	2.2673	2.0660	1.9790
26	6.1436	4.5644	3.8998	3.5224	3.2752	3.0993	2.9669	2.8632	2.7796	2.7105	2.4895	2.2397	2.0372	1.9493
27	6.1140	4.5378	3.8744	3.4975	3.2507	3.0749	2.9426	2.8389	2.7553	2.6862	2.4650	2.2144	2.0106	1.9218
28	6.0868	4.5133	3.8510	3.4746	3.2281	3.0525	2.9202	2.8166	2.7329	2.6638	2.4423	2.1911	1.9859	1.8963
29	6.0615	4.4906	3.8293	3.4535	3.2072	3.0317	2.8995	2.7959	2.7122	2.6431	2.4214	2.1694	1.9631	1.8726
30	6.0381	4.4696	3.8092	3.4338	3.1878	3.0124	2.8803	2.7767	2.6930	2.6239	2.4020	2.1493	1.9418	1.8505
31	6.0163	4.4500	3.7906	3.4156	3.1698	2.9945	2.8624	2.7589	2.6752	2.6060	2.3839	2.1306	1.9220	1.8298
32	5.9960	4.4318	3.7732	3.3986	3.1530	2.9779	2.8458	2.7423	2.6586	2.5894	2.3670	2.1132	1.9034	1.8104
33	5.9770	4.4147	3.7569	3.3827	3.1373	2.9623	2.8303	2.7267	2.6430	2.5738	2.3513	2.0968	1.8860	1.7922
34	5.9592	4.3987	3.7417	3.3679	3.1226	2.9477	2.8157	2.7122	2.6285	2.5593	2.3365	2.0815	1.8696	1.7751
35	5.9425	4.3838	3.7274	3.3539	3.1089	2.9340	2.8021	2.6986	2.6149	2.5456	2.3227	2.0671	1.8542	1.7589
36	5.9268	4.3697	3.7140	3.3408	3.0959	2.9212	2.7893	2.6858	2.6020	2.5328	2.3097	2.0535	1.8396	1.7436
37	5.9119	4.3564	3.7013	3.3285	3.0837	2.9090	2.7772	2.6737	2.5900	2.5207	2.2974	2.0407	1.8259	1.7291
38	5.8979	4.3439	3.6894	3.3168	3.0722	2.8976	2.7658	2.6623	2.5786	2.5092	2.2858	2.0287	1.8128	1.7153
39	5.8847	4.3320	3.6781	3.3058	3.0614	2.8868	2.7550	2.6515	2.5678	2.4984	2.2749	2.0172	1.8005	1.7022
40	5.8722	4.3208	3.6674	3.2954	3.0511	2.8766	2.7448	2.6413	2.5576	2.4882	2.2645	2.0064	1.7888	1.6898
41	5.8603	4.3102	3.6573	3.2855	3.0413	2.8669	2.7352	2.6317	2.5479	2.4785	2.2547	1.9961	1.7776	1.6780
42	5.8490	4.3001	3.6477	3.2761	3.0321	2.8577	2.7260	2.6225	2.5387	2.4694	2.2453	1.9863	1.7670	1.6667
43	5.8383	4.2905	3.6386	3.2672	3.0233	2.8490	2.7173	2.6138	2.5300	2.4606	2.2365	1.9770	1.7569	1.6559
44	5.8280	4.2814	3.6299	3.2587	3.0149	2.8406	2.7090	2.6055	2.5217	2.4523	2.2280	1.9682	1.7472	1.6455
45	5.8183	4.2727	3.6216	3.2506	3.0069	2.8327	2.7011	2.5976	2.5138	2.4444	2.2199	1.9597	1.7380	1.6356

	1	2	3	4	5	6	7	8	9	10	15	30	100	1000
46	5.8090	4.2644	3.6137	3.2429	2.9993	2.8252	2.6936	2.5901	2.5063	2.4368	2.2123	1.9516	1.7291	1.6262
47	5.8001	4.2565	3.6061	3.2356	2.9920	2.8179	2.6864	2.5829	2.4991	2.4296	2.2049	1.9439	1.7207	1.6171
48	5.7916	4.2489	3.5989	3.2286	2.9851	2.8110	2.6795	2.5760	2.4922	2.4227	2.1979	1.9365	1.7126	1.6083
49	5.7835	4.2417	3.5920	3.2218	2.9785	2.8044	2.6729	2.5694	2.4856	2.4161	2.1912	1.9295	1.7048	1.5999
50	5.7757	4.2347	3.5854	3.2154	2.9721	2.7981	2.6666	2.5631	2.4793	2.4098	2.1847	1.9227	1.6973	1.5919
51	5.7682	4.2281	3.5791	3.2092	2.9660	2.7921	2.6605	2.5571	2.4732	2.4037	2.1786	1.9162	1.6901	1.5841
52	5.7611	4.2217	3.5730	3.2033	2.9601	2.7862	2.6547	2.5513	2.4674	2.3979	2.1726	1.9099	1.6832	1.5766
53	5.7542	4.2155	3.5672	3.1976	2.9545	2.7807	2.6492	2.5457	2.4618	2.3923	2.1670	1.9039	1.6765	1.5693
54	5.7476	4.2096	3.5616	3.1921	2.9491	2.7753	2.6438	2.5404	2.4565	2.3869	2.1615	1.8981	1.6701	1.5624
55	5.7412	4.2040	3.5562	3.1868	2.9439	2.7701	2.6387	2.5352	2.4513	2.3817	2.1562	1.8926	1.6639	1.5556
56	5.7351	4.1985	3.5510	3.1818	2.9389	2.7652	2.6337	2.5303	2.4464	2.3768	2.1512	1.8872	1.6580	1.5491
57	5.7292	4.1932	3.5460	3.1769	2.9341	2.7604	2.6289	2.5255	2.4416	2.3720	2.1463	1.8821	1.6522	1.5428
58	5.7235	4.1882	3.5411	3.1722	2.9295	2.7558	2.6243	2.5209	2.4370	2.3674	2.1416	1.8771	1.6466	1.5367
59	5.7180	4.1833	3.5365	3.1677	2.9250	2.7513	2.6199	2.5164	2.4325	2.3629	2.1370	1.8723	1.6413	1.5308
60	5.7127	4.1785	3.5320	3.1633	2.9207	2.7470	2.6156	2.5122	2.4283	2.3586	2.1326	1.8676	1.6361	1.5250
61	5.7075	4.1740	3.5277	3.1591	2.9165	2.7429	2.6115	2.5080	2.4241	2.3545	2.1284	1.8631	1.6310	1.5195
62	5.7026	4.1696	3.5235	3.1550	2.9125	2.7389	2.6075	2.5040	2.4201	2.3504	2.1243	1.8588	1.6261	1.5141
63	5.6978	4.1653	3.5194	3.1510	2.9086	2.7350	2.6036	2.5002	2.4162	2.3466	2.1204	1.8546	1.6214	1.5088
64	5.6932	4.1612	3.5155	3.1472	2.9048	2.7313	2.5999	2.4964	2.4125	2.3428	2.1165	1.8505	1.6168	1.5038
65	5.6887	4.1572	3.5117	3.1435	2.9012	2.7276	2.5963	2.4928	2.4089	2.3392	2.1128	1.8466	1.6124	1.4988
66	5.6843	4.1533	3.5081	3.1399	2.8976	2.7241	2.5928	2.4893	2.4054	2.3357	2.1092	1.8428	1.6081	1.4940
67	5.6801	4.1496	3.5045	3.1365	2.8942	2.7207	2.5894	2.4859	2.4020	2.3323	2.1058	1.8391	1.6039	1.4893
68	5.6760	4.1460	3.5010	3.1331	2.8909	2.7174	2.5861	2.4826	2.3987	2.3290	2.1024	1.8355	1.5998	1.4848
69	5.6721	4.1424	3.4977	3.1298	2.8877	2.7142	2.5829	2.4794	2.3955	2.3257	2.0991	1.8320	1.5959	1.4804
70	5.6682	4.1390	3.4944	3.1267	2.8845	2.7111	2.5798	2.4763	2.3924	2.3226	2.0959	1.8286	1.5920	1.4761
71	5.6645	4.1357	3.4913	3.1236	2.8815	2.7081	2.5768	2.4733	2.3894	2.3196	2.0929	1.8254	1.5883	1.4719
72	5.6609	4.1325	3.4882	3.1206	2.8786	2.7052	2.5739	2.4704	2.3864	2.3167	2.0899	1.8222	1.5847	1.4678
73	5.6574	4.1294	3.4853	3.1177	2.8757	2.7024	2.5711	2.4676	2.3836	2.3138	2.0869	1.8191	1.5811	1.4638
74	5.6539	4.1263	3.4824	3.1149	2.8729	2.6996	2.5683	2.4648	2.3808	2.3111	2.0841	1.8161	1.5777	1.4599
75	5.6506	4.1234	3.4796	3.1122	2.8702	2.6969	2.5656	2.4621	2.3782	2.3084	2.0814	1.8131	1.5743	1.4561
76	5.6474	4.1205	3.4768	3.1095	2.8676	2.6943	2.5630	2.4595	2.3755	2.3058	2.0787	1.8103	1.5711	1.4524
77	5.6442	4.1177	3.4742	3.1069	2.8650	2.6917	2.5605	2.4570	2.3730	2.3032	2.0761	1.8075	1.5679	1.4488
78	5.6412	4.1150	3.4716	3.1044	2.8625	2.6893	2.5580	2.4545	2.3705	2.3007	2.0736	1.8048	1.5648	1.4452
79	5.6382	4.1123	3.4691	3.1019	2.8601	2.6869	2.5556	2.4521	2.3681	2.2983	2.0711	1.8021	1.5617	1.4418
80	5.6353	4.1097	3.4666	3.0995	2.8578	2.6845	2.5533	2.4498	2.3658	2.2960	2.0687	1.7996	1.5588	1.4384
81	5.6324	4.1072	3.4642	3.0972	2.8555	2.6822	2.5510	2.4475	2.3635	2.2937	2.0663	1.7971	1.5559	1.4351
82	5.6296	4.1047	3.4619	3.0949	2.8532	2.6800	2.5488	2.4453	2.3613	2.2914	2.0640	1.7946	1.5531	1.4319
83	5.6269	4.1023	3.4596	3.0927	2.8510	2.6778	2.5466	2.4431	2.3591	2.2892	2.0618	1.7922	1.5503	1.4287
84	5.6243	4.1000	3.4574	3.0905	2.8489	2.6757	2.5445	2.4410	2.3570	2.2871	2.0596	1.7899	1.5476	1.4256
85	5.6217	4.0977	3.4552	3.0884	2.8468	2.6736	2.5424	2.4389	2.3549	2.2850	2.0575	1.7876	1.5450	1.4226
86	5.6192	4.0955	3.4531	3.0864	2.8448	2.6716	2.5404	2.4369	2.3529	2.2830	2.0554	1.7854	1.5424	1.4197
87	5.6168	4.0933	3.4510	3.0844	2.8428	2.6696	2.5384	2.4349	2.3509	2.2810	2.0534	1.7832	1.5399	1.4168
88	5.6144	4.0912	3.4490	3.0824	2.8409	2.6677	2.5365	2.4330	2.3490	2.2791	2.0515	1.7811	1.5375	1.4139
89	5.6121	4.0891	3.4471	3.0805	2.8390	2.6658	2.5346	2.4311	2.3471	2.2772	2.0495	1.7791	1.5350	1.4111
90	5.6098	4.0871	3.4451	3.0786	2.8371	2.6640	2.5328	2.4293	2.3453	2.2754	2.0476	1.7770	1.5327	1.4084
91	5.6075	4.0851	3.4433	3.0768	2.8353	2.6622	2.5310	2.4275	2.3435	2.2736	2.0458	1.7751	1.5304	1.4057
92	5.6054	4.0832	3.4414	3.0750	2.8335	2.6605	2.5292	2.4258	2.3417	2.2718	2.0440	1.7731	1.5281	1.4031
93	5.6032	4.0813	3.4396	3.0732	2.8318	2.6587	2.5275	2.4241	2.3400	2.2701	2.0422	1.7712	1.5259	1.4005
94	5.6011	4.0794	3.4379	3.0715	2.8301	2.6571	2.5259	2.4224	2.3383	2.2684	2.0405	1.7694	1.5238	1.3980
95	5.5991	4.0776	3.4361	3.0698	2.8285	2.6554	2.5242	2.4207	2.3367	2.2668	2.0388	1.7676	1.5217	1.3955
96	5.5971	4.0759	3.4345	3.0682	2.8269	2.6538	2.5226	2.4191	2.3351	2.2651	2.0372	1.7658	1.5196	1.3931
97	5.5952	4.0741	3.4328	3.0666	2.8253	2.6522	2.5210	2.4176	2.3335	2.2636	2.0355	1.7641	1.5176	1.3907
98	5.5932	4.0724	3.4312	3.0650	2.8237	2.6507	2.5195	2.4160	2.3319	2.2620	2.0340	1.7624	1.5156	1.3884
99	5.5914	4.0708	3.4296	3.0635	2.8222	2.6492	2.5180	2.4145	2.3304	2.2605	2.0324	1.7607	1.5136	1.3861
100	5.5895	4.0691	3.4281	3.0620	2.8207	2.6477	2.5165	2.4130	2.3290	2.2590	2.0309	1.7591	1.5117	1.3838
110	5.5730	4.0545	3.4142	3.0485	2.8074	2.6344	2.5033	2.3998	2.3157	2.2457	2.0173	1.7444	1.4944	1.3633
120	5.5593	4.0424	3.4027	3.0372	2.7963	2.6235	2.4923	2.3888	2.3047	2.2347	2.0059	1.7322	1.4799	1.3458
1000	5.4293	3.9274	3.2937	2.9311	2.6916	2.5194	2.3885	2.2849	2.2005	2.1300	1.8984	1.6147	1.3329	1.1388

# Appendix F.03 (Three Percent F Tables)

	1	2	3	4	5	6	7	8	9	10	15	30	100	1000
1	449.65	555.06	599.98	624.58	640.05	650.65	658.37	664.23	668.83	672.55	683.83	695.32	703.49	706.67
2	31.841	32.333	32.499	32.581	32.631	32.664	32.688	32.706	32.720	32.731	32.764	32.797	32.821	32.830
3	15.1792	14.0362	13.5335	13.2507	13.0693	12.9432	12.8503	12.7791	12.7228	12.6771	12.5367	12.3911	12.2859	12.2446
4	10.8744	9.5470	8.9718	8.6483	8.4404	8.2954	8.1884	8.1061	8.0410	7.9880	7.8247	7.6542	7.5303	7.4814
5	9.0173	7.6646	7.0803	6.7508	6.5383	6.3896	6.2796	6.1948	6.1275	6.0727	5.9031	5.7249	5.5943	5.5426
6	8.0028	6.6549	6.0729	5.7439	5.5310	5.3816	5.2708	5.1853	5.1172	5.0617	4.8893	4.7068	4.5722	4.5186
7	7.3689	6.0318	5.4545	5.1272	4.9150	4.7656	4.6546	4.5687	4.5003	4.4444	4.2701	4.0846	3.9468	3.8916
8	6.9370	5.6112	5.0386	4.7133	4.5018	4.3527	4.2416	4.1556	4.0868	4.0306	3.8550	3.6668	3.5261	3.4695
9	6.6245	5.3091	4.7407	4.4172	4.2065	4.0576	3.9465	3.8603	3.7914	3.7350	3.5581	3.3676	3.2241	3.1661
10	6.3882	5.0820	4.5172	4.1953	3.9853	3.8367	3.7256	3.6393	3.5702	3.5135	3.3355	3.1429	2.9968	2.9375
11	6.2034	4.9052	4.3436	4.0231	3.8136	3.6652	3.5542	3.4678	3.3985	3.3417	3.1626	2.9679	2.8195	2.7588
12	6.0550	4.7638	4.2049	3.8856	3.6767	3.5285	3.4174	3.3309	3.2615	3.2045	3.0245	2.8279	2.6771	2.6152
13	5.9333	4.6481	4.0917	3.7735	3.5650	3.4169	3.3058	3.2192	3.1497	3.0925	2.9117	2.7133	2.5602	2.4971
14	5.8317	4.5519	3.9976	3.6802	3.4721	3.3242	3.2131	3.1264	3.0567	2.9994	2.8178	2.6177	2.4625	2.3982
15	5.7456	4.4705	3.9181	3.6015	3.3938	3.2459	3.1348	3.0480	2.9782	2.9208	2.7384	2.5367	2.3795	2.3140
16	5.6718	4.4008	3.8500	3.5342	3.3268	3.1790	3.0679	2.9810	2.9111	2.8535	2.6704	2.4673	2.3080	2.2415
17	5.6077	4.3405	3.7912	3.4760	3.2688	3.1211	3.0100	2.9231	2.8530	2.7953	2.6115	2.4070	2.2459	2.1782
18	5.5516	4.2877	3.7398	3.4252	3.2182	3.0706	2.9595	2.8724	2.8023	2.7445	2.5601	2.3542	2.1913	2.1226
19	5.5021	4.2413	3.6945	3.3804	3.1737	3.0261	2.9149	2.8278	2.7576	2.6997	2.5147	2.3076	2.1429	2.0731
20	5.4580	4.2000	3.6543	3.3407	3.1341	2.9866	2.8754	2.7883	2.7180	2.6599	2.4744	2.2661	2.0997	2.0290
21	5.4186	4.1631	3.6184	3.3052	3.0988	2.9514	2.8401	2.7529	2.6825	2.6244	2.4383	2.2289	2.0610	1.9892
22	5.3831	4.1299	3.5861	3.2733	3.0671	2.9197	2.8084	2.7211	2.6507	2.5924	2.4059	2.1954	2.0259	1.9532
23	5.3510	4.0999	3.5569	3.2445	3.0384	2.8910	2.7797	2.6924	2.6219	2.5635	2.3766	2.1650	1.9940	1.9204
24	5.3218	4.0727	3.5304	3.2183	3.0124	2.8650	2.7537	2.6663	2.5957	2.5373	2.3499	2.1374	1.9650	1.8904
25	5.2952	4.0478	3.5063	3.1945	2.9886	2.8413	2.7300	2.6426	2.5719	2.5134	2.3256	2.1121	1.9383	1.8628
26	5.2708	4.0250	3.4842	3.1726	2.9669	2.8196	2.7083	2.6208	2.5500	2.4915	2.3033	2.0889	1.9138	1.8374
27	5.2483	4.0041	3.4638	3.1525	2.9469	2.7997	2.6883	2.6008	2.5299	2.4713	2.2827	2.0676	1.8912	1.8139
28	5.2275	3.9848	3.4451	3.1340	2.9285	2.7813	2.6699	2.5823	2.5114	2.4527	2.2638	2.0478	1.8702	1.7921
29	5.2083	3.9669	3.4277	3.1169	2.9115	2.7642	2.6528	2.5652	2.4943	2.4355	2.2463	2.0295	1.8506	1.7718
30	5.1905	3.9503	3.4116	3.1010	2.8957	2.7485	2.6370	2.5494	2.4784	2.4196	2.2300	2.0125	1.8325	1.7528
31	5.1739	3.9349	3.3967	3.0862	2.8810	2.7338	2.6223	2.5346	2.4636	2.4047	2.2149	1.9967	1.8155	1.7350
32	5.1584	3.9205	3.3827	3.0724	2.8673	2.7201	2.6086	2.5209	2.4498	2.3909	2.2007	1.9819	1.7996	1.7183
33	5.1439	3.9070	3.3696	3.0596	2.8545	2.7073	2.5958	2.5080	2.4369	2.3779	2.1875	1.9680	1.7846	1.7026
34	5.1303	3.8944	3.3574	3.0475	2.8424	2.6953	2.5838	2.4960	2.4248	2.3658	2.1751	1.9549	1.7705	1.6878
35	5.1175	3.8826	3.3459	3.0362	2.8312	2.6840	2.5725	2.4847	2.4134	2.3544	2.1634	1.9427	1.7573	1.6738
36	5.1055	3.8714	3.3351	3.0255	2.8206	2.6734	2.5619	2.4740	2.4028	2.3437	2.1525	1.9312	1.7448	1.6606
37	5.0941	3.8609	3.3249	3.0155	2.8106	2.6634	2.5519	2.4640	2.3927	2.3336	2.1421	1.9203	1.7329	1.6480
38	5.0834	3.8510	3.3153	3.0060	2.8012	2.6540	2.5425	2.4545	2.3832	2.3240	2.1324	1.9100	1.7217	1.6361
39	5.0733	3.8416	3.3062	2.9970	2.7922	2.6451	2.5335	2.4456	2.3742	2.3150	2.1231	1.9002	1.7111	1.6248
40	5.0637	3.8327	3.2976	2.9885	2.7838	2.6367	2.5251	2.4371	2.3657	2.3065	2.1144	1.8910	1.7010	1.6140
41	5.0546	3.8243	3.2895	2.9805	2.7758	2.6287	2.5171	2.4291	2.3577	2.2984	2.1061	1.8822	1.6913	1.6037
42	5.0460	3.8163	3.2817	2.9729	2.7682	2.6211	2.5095	2.4214	2.3500	2.2907	2.0982	1.8738	1.6821	1.5939
43	5.0378	3.8087	3.2744	2.9656	2.7610	2.6139	2.5022	2.4142	2.3427	2.2833	2.0907	1.8659	1.6734	1.5845
44	5.0299	3.8015	3.2673	2.9587	2.7541	2.6070	2.4954	2.4073	2.3358	2.2764	2.0835	1.8583	1.6650	1.5755
45	5.0225	3.7946	3.2607	2.9521	2.7475	2.6004	2.4888	2.4007	2.3292	2.2697	2.0767	1.8511	1.6570	1.5669

	1	2	3	4	5	6	7	8	9	10	15	30	100	1000
46	5.0153	3.7880	3.2543	2.9458	2.7413	2.5942	2.4825	2.3944	2.3228	2.2634	2.0702	1.8441	1.6494	1.5586
47	5.0085	3.7817	3.2482	2.9398	2.7353	2.5882	2.4766	2.3884	2.3168	2.2573	2.0640	1.8375	1.6420	1.5507
48	5.0020	3.7757	3.2424	2.9340	2.7296	2.5825	2.4708	2.3827	2.3111	2.2515	2.0581	1.8312	1.6350	1.5431
49	4.9958	3.7699	3.2368	2.9286	2.7241	2.5771	2.4654	2.3772	2.3055	2.2460	2.0524	1.8252	1.6283	1.5358
50	4.9898	3.7644	3.2315	2.9233	2.7189	2.5718	2.4601	2.3719	2.3003	2.2407	2.0469	1.8193	1.6218	1.5287
51	4.9841	3.7591	3.2263	2.9182	2.7139	2.5668	2.4551	2.3669	2.2952	2.2356	2.0417	1.8138	1.6155	1.5219
52	4.9786	3.7540	3.2214	2.9134	2.7091	2.5620	2.4503	2.3620	2.2903	2.2307	2.0367	1.8084	1.6095	1.5154
53	4.9733	3.7491	3.2167	2.9087	2.7044	2.5574	2.4456	2.3574	2.2856	2.2260	2.0318	1.8032	1.6037	1.5090
54	4.9682	3.7444	3.2122	2.9043	2.7000	2.5529	2.4412	2.3529	2.2812	2.2215	2.0272	1.7983	1.5982	1.5029
55	4.9633	3.7399	3.2078	2.9000	2.6957	2.5486	2.4369	2.3486	2.2768	2.2171	2.0227	1.7935	1.5928	1.4970
56	4.9586	3.7356	3.2036	2.8958	2.6916	2.5445	2.4328	2.3445	2.2727	2.2130	2.0184	1.7889	1.5876	1.4913
57	4.9541	3.7314	3.1995	2.8918	2.6876	2.5406	2.4288	2.3405	2.2687	2.2089	2.0143	1.7845	1.5826	1.4858
58	4.9497	3.7274	3.1956	2.8880	2.6838	2.5367	2.4249	2.3366	2.2648	2.2050	2.0103	1.7802	1.5777	1.4804
59	4.9455	3.7235	3.1919	2.8843	2.6801	2.5330	2.4213	2.3329	2.2611	2.2013	2.0064	1.7760	1.5731	1.4752
60	4.9414	3.7197	3.1882	2.8807	2.6765	2.5295	2.4177	2.3293	2.2575	2.1977	2.0027	1.7720	1.5685	1.4702
61	4.9375	3.7161	3.1847	2.8772	2.6731	2.5260	2.4142	2.3259	2.2540	2.1942	1.9991	1.7682	1.5641	1.4653
62	4.9336	3.7126	3.1813	2.8739	2.6698	2.5227	2.4109	2.3225	2.2506	2.1908	1.9956	1.7644	1.5599	1.4606
63	4.9300	3.7092	3.1780	2.8706	2.6665	2.5195	2.4077	2.3193	2.2474	2.1875	1.9923	1.7608	1.5558	1.4560
64	4.9264	3.7059	3.1749	2.8675	2.6634	2.5164	2.4046	2.3162	2.2442	2.1844	1.9890	1.7573	1.5518	1.4515
65	4.9229	3.7027	3.1718	2.8645	2.6604	2.5134	2.4015	2.3131	2.2412	2.1813	1.9859	1.7539	1.5479	1.4472
66	4.9196	3.6996	3.1688	2.8615	2.6575	2.5105	2.3986	2.3102	2.2382	2.1783	1.9828	1.7506	1.5441	1.4430
67	4.9164	3.6967	3.1659	2.8587	2.6547	2.5076	2.3958	2.3074	2.2354	2.1755	1.9798	1.7475	1.5405	1.4389
68	4.9132	3.6938	3.1631	2.8559	2.6519	2.5049	2.3930	2.3046	2.2326	2.1727	1.9770	1.7444	1.5369	1.4349
69	4.9102	3.6910	3.1604	2.8533	2.6493	2.5022	2.3904	2.3019	2.2299	2.1700	1.9742	1.7414	1.5334	1.4310
70	4.9072	3.6882	3.1578	2.8507	2.6467	2.4997	2.3878	2.2993	2.2273	2.1674	1.9715	1.7384	1.5301	1.4272
71	4.9044	3.6856	3.1552	2.8482	2.6442	2.4972	2.3853	2.2968	2.2248	2.1648	1.9688	1.7356	1.5268	1.4235
72	4.9016	3.6830	3.1528	2.8457	2.6417	2.4947	2.3828	2.2944	2.2223	2.1623	1.9663	1.7329	1.5236	1.4199
73	4.8989	3.6805	3.1503	2.8433	2.6394	2.4924	2.3805	2.2920	2.2199	2.1599	1.9638	1.7302	1.5206	1.4164
74	4.8962	3.6781	3.1480	2.8410	2.6371	2.4901	2.3782	2.2897	2.2176	2.1576	1.9614	1.7276	1.5175	1.4129
75	4.8937	3.6757	3.1457	2.8388	2.6348	2.4878	2.3759	2.2874	2.2154	2.1553	1.9591	1.7250	1.5146	1.4096
76	4.8912	3.6734	3.1435	2.8366	2.6327	2.4857	2.3738	2.2852	2.2132	2.1531	1.9568	1.7226	1.5117	1.4063
77	4.8887	3.6712	3.1413	2.8345	2.6306	2.4835	2.3716	2.2831	2.2110	2.1510	1.9546	1.7202	1.5089	1.4031
78	4.8864	3.6690	3.1392	2.8324	2.6285	2.4815	2.3696	2.2810	2.2089	2.1489	1.9524	1.7178	1.5062	1.4000
79	4.8841	3.6669	3.1372	2.8304	2.6265	2.4795	2.3676	2.2790	2.2069	2.1468	1.9503	1.7156	1.5036	1.3970
80	4.8818	3.6648	3.1352	2.8284	2.6245	2.4775	2.3656	2.2771	2.2049	2.1448	1.9482	1.7133	1.5010	1.3940
81	4.8796	3.6628	3.1332	2.8265	2.6226	2.4756	2.3637	2.2751	2.2030	2.1429	1.9462	1.7112	1.4985	1.3911
82	4.8775	3.6609	3.1314	2.8246	2.6208	2.4738	2.3618	2.2733	2.2011	2.1410	1.9443	1.7091	1.4960	1.3882
83	4.8754	3.6590	3.1295	2.8228	2.6190	2.4720	2.3600	2.2714	2.1993	2.1392	1.9424	1.7070	1.4936	1.3854
84	4.8734	3.6571	3.1277	2.8210	2.6172	2.4702	2.3583	2.2697	2.1975	2.1374	1.9405	1.7050	1.4912	1.3827
85	4.8714	3.6553	3.1259	2.8193	2.6155	2.4685	2.3565	2.2679	2.1958	2.1356	1.9387	1.7030	1.4889	1.3800
86	4.8695	3.6535	3.1242	2.8176	2.6138	2.4668	2.3548	2.2662	2.1941	2.1339	1.9370	1.7011	1.4867	1.3774
87	4.8676	3.6518	3.1226	2.8160	2.6122	2.4651	2.3532	2.2646	2.1924	2.1322	1.9352	1.6992	1.4844	1.3748
88	4.8658	3.6501	3.1209	2.8143	2.6105	2.4635	2.3516	2.2630	2.1908	2.1306	1.9335	1.6974	1.4823	1.3723
89	4.8640	3.6484	3.1193	2.8128	2.6090	2.4620	2.3500	2.2614	2.1892	2.1290	1.9319	1.6956	1.4802	1.3699
90	4.8622	3.6468	3.1178	2.8112	2.6074	2.4604	2.3485	2.2599	2.1876	2.1275	1.9303	1.6939	1.4781	1.3675
91	4.8605	3.6452	3.1162	2.8097	2.6060	2.4589	2.3470	2.2584	2.1861	2.1259	1.9287	1.6921	1.4761	1.3651
92	4.8588	3.6437	3.1147	2.8083	2.6045	2.4575	2.3455	2.2569	2.1846	2.1244	1.9272	1.6905	1.4741	1.3628
93	4.8572	3.6422	3.1133	2.8068	2.6031	2.4561	2.3441	2.2554	2.1832	2.1230	1.9257	1.6888	1.4722	1.3605
94	4.8556	3.6407	3.1118	2.8054	2.6017	2.4547	2.3427	2.2540	2.1818	2.1216	1.9242	1.6872	1.4703	1.3583
95	4.8540	3.6392	3.1104	2.8040	2.6003	2.4533	2.3413	2.2527	2.1804	2.1202	1.9228	1.6857	1.4684	1.3561
96	4.8524	3.6378	3.1091	2.8027	2.5989	2.4519	2.3400	2.2513	2.1790	2.1188	1.9213	1.6841	1.4666	1.3539
97	4.8509	3.6364	3.1077	2.8014	2.5976	2.4506	2.3387	2.2500	2.1777	2.1175	1.9200	1.6826	1.4648	1.3518
98	4.8495	3.6351	3.1064	2.8001	2.5964	2.4493	2.3374	2.2487	2.1764	2.1162	1.9186	1.6811	1.4631	1.3497
99	4.8480	3.6337	3.1051	2.7988	2.5951	2.4481	2.3361	2.2474	2.1751	2.1149	1.9173	1.6797	1.4614	1.3477
100	4.8466	3.6324	3.1039	2.7976	2.5939	2.4469	2.3349	2.2462	2.1739	2.1136	1.9160	1.6783	1.4597	1.3457
110	4.8339	3.6208	3.0926	2.7865	2.5828	2.4358	2.3238	2.2350	2.1627	2.1024	1.9043	1.6656	1.4445	1.3275
120	4.8233	3.6110	3.0832	2.7772	2.5736	2.4266	2.3146	2.2258	2.1534	2.0930	1.8946	1.6550	1.4317	1.3120
1000	4.7228	3.5189	2.9943	2.6897	2.4866	2.3396	2.2273	2.1380	2.0651	2.0041	1.8023	1.5526	1.3015	1.1264

# Appendix F.04 (Four Percent F Tables)

	1	2	3	4	5	6	7	8	9	10	15	30	100	1000
1	252.64	312.00	337.29	351.15	359.85	365.82	370.17	373.47	376.06	378.15	384.50	390.97	395.57	397.35
2	23.510	24.000	24.165	24.247	24.297	24.330	24.354	24.372	24.386	24.397	24.430	24.463	24.487	24.496
3	12.1237	11.3248	10.9598	10.7516	10.6173	10.5234	10.4541	10.4008	10.3587	10.3244	10.2190	10.1092	10.0297	9.9985
4	8.9912	8.0000	7.5573	7.3054	7.1426	7.0285	6.9442	6.8792	6.8277	6.7857	6.6562	6.5205	6.4216	6.3825
5	7.5983	6.5597	6.0979	5.8345	5.6637	5.5436	5.4546	5.3858	5.3311	5.2866	5.1483	5.0025	4.8954	4.8529
6	6.8238	5.7721	5.3048	5.0376	4.8637	4.7412	4.6500	4.5794	4.5232	4.4773	4.3344	4.1826	4.0703	4.0255
7	6.3340	5.2797	4.8113	4.5427	4.3674	4.2436	4.1512	4.0796	4.0224	3.9757	3.8296	3.6734	3.5570	3.5103
8	5.9975	4.9443	4.4762	4.2072	4.0311	3.9065	3.8133	3.7410	3.6831	3.6358	3.4872	3.3275	3.2076	3.1592
9	5.7525	4.7017	4.2344	3.9653	3.7889	3.6637	3.5700	3.4971	3.4387	3.3908	3.2403	3.0775	2.9544	2.9045
10	5.5664	4.5183	4.0520	3.7830	3.6063	3.4808	3.3866	3.3133	3.2544	3.2061	3.0539	2.8884	2.7624	2.7110
11	5.4202	4.3749	3.9096	3.6408	3.4640	3.3381	3.2436	3.1699	3.1107	3.0620	2.9083	2.7403	2.6116	2.5589
12	5.3025	4.2599	3.7955	3.5269	3.3500	3.2239	3.1291	3.0550	2.9955	2.9465	2.7914	2.6212	2.4900	2.4360
13	5.2057	4.1655	3.7020	3.4337	3.2567	3.1303	3.0353	2.9609	2.9011	2.8519	2.6956	2.5233	2.3897	2.3345
14	5.1247	4.0867	3.6241	3.3559	3.1789	3.0524	2.9571	2.8825	2.8224	2.7729	2.6156	2.4413	2.3055	2.2491
15	5.0559	4.0200	3.5581	3.2902	3.1131	2.9864	2.8909	2.8161	2.7558	2.7061	2.5477	2.3717	2.2338	2.1762
16	4.9968	3.9628	3.5016	3.2338	3.0567	2.9299	2.8342	2.7592	2.6987	2.6488	2.4895	2.3119	2.1719	2.1132
17	4.9455	3.9132	3.4526	3.1850	3.0078	2.8809	2.7851	2.7099	2.6492	2.5991	2.4390	2.2598	2.1179	2.0581
18	4.9005	3.8697	3.4097	3.1423	2.9651	2.8381	2.7421	2.6667	2.6058	2.5556	2.3947	2.2141	2.0703	2.0095
19	4.8607	3.8314	3.3719	3.1046	2.9274	2.8003	2.7041	2.6286	2.5676	2.5172	2.3556	2.1736	2.0281	1.9662
20	4.8253	3.7973	3.3383	3.0711	2.8939	2.7667	2.6704	2.5948	2.5336	2.4830	2.3208	2.1375	1.9904	1.9275
21	4.7936	3.7668	3.3082	3.0412	2.8640	2.7367	2.6403	2.5645	2.5032	2.4525	2.2896	2.1052	1.9564	1.8926
22	4.7650	3.7393	3.2812	3.0143	2.8370	2.7097	2.6132	2.5373	2.4759	2.4250	2.2616	2.0760	1.9256	1.8609
23	4.7391	3.7145	3.2567	2.9899	2.8127	2.6852	2.5887	2.5127	2.4511	2.4001	2.2361	2.0495	1.8977	1.8320
24	4.7156	3.6919	3.2345	2.9678	2.7905	2.6630	2.5664	2.4903	2.4286	2.3775	2.2130	2.0253	1.8721	1.8055
25	4.6941	3.6713	3.2142	2.9476	2.7703	2.6428	2.5460	2.4698	2.4081	2.3569	2.1919	2.0032	1.8486	1.7812
26	4.6744	3.6524	3.1956	2.9291	2.7518	2.6242	2.5274	2.4511	2.3892	2.3379	2.1725	1.9829	1.8270	1.7587
27	4.6562	3.6350	3.1785	2.9121	2.7348	2.6071	2.5102	2.4338	2.3719	2.3205	2.1546	1.9642	1.8070	1.7379
28	4.6394	3.6190	3.1627	2.8964	2.7191	2.5914	2.4944	2.4179	2.3559	2.3045	2.1382	1.9469	1.7884	1.7185
29	4.6239	3.6041	3.1481	2.8818	2.7045	2.5768	2.4797	2.4032	2.3411	2.2896	2.1229	1.9308	1.7712	1.7005
30	4.6095	3.5903	3.1345	2.8683	2.6910	2.5632	2.4661	2.3895	2.3273	2.2757	2.1087	1.9158	1.7551	1.6836
31	4.5960	3.5775	3.1219	2.8558	2.6785	2.5506	2.4535	2.3768	2.3146	2.2629	2.0955	1.9019	1.7400	1.6678
32	4.5835	3.5655	3.1101	2.8441	2.6667	2.5389	2.4417	2.3649	2.3026	2.2509	2.0831	1.8888	1.7259	1.6529
33	4.5717	3.5543	3.0991	2.8331	2.6558	2.5279	2.4306	2.3538	2.2914	2.2396	2.0716	1.8766	1.7126	1.6389
34	4.5607	3.5438	3.0888	2.8228	2.6455	2.5176	2.4203	2.3434	2.2810	2.2291	2.0607	1.8651	1.7002	1.6258
35	4.5504	3.5339	3.0791	2.8132	2.6359	2.5079	2.4105	2.3336	2.2711	2.2192	2.0506	1.8543	1.6884	1.6133
36	4.5406	3.5246	3.0700	2.8041	2.6268	2.4988	2.4014	2.3244	2.2619	2.2099	2.0410	1.8442	1.6773	1.6015
37	4.5314	3.5159	3.0614	2.7956	2.6182	2.4902	2.3928	2.3157	2.2531	2.2011	2.0319	1.8345	1.6667	1.5903
38	4.5227	3.5076	3.0533	2.7875	2.6102	2.4821	2.3846	2.3075	2.2449	2.1928	2.0234	1.8255	1.6567	1.5796
39	4.5145	3.4998	3.0456	2.7799	2.6025	2.4744	2.3769	2.2998	2.2371	2.1849	2.0153	1.8168	1.6473	1.5695
40	4.5067	3.4924	3.0383	2.7726	2.5953	2.4672	2.3696	2.2925	2.2297	2.1775	2.0076	1.8087	1.6382	1.5598
41	4.4994	3.4853	3.0314	2.7658	2.5884	2.4603	2.3627	2.2855	2.2227	2.1704	2.0003	1.8009	1.6296	1.5506
42	4.4923	3.4787	3.0249	2.7592	2.5819	2.4537	2.3561	2.2789	2.2160	2.1637	1.9934	1.7935	1.6215	1.5418
43	4.4857	3.4723	3.0186	2.7531	2.5757	2.4475	2.3498	2.2726	2.2097	2.1574	1.9868	1.7865	1.6137	1.5334
44	4.4793	3.4663	3.0127	2.7472	2.5698	2.4416	2.3439	2.2666	2.2037	2.1513	1.9806	1.7798	1.6062	1.5254
45	4.4732	3.4605	3.0070	2.7415	2.5642	2.4359	2.3382	2.2609	2.1979	2.1455	1.9746	1.7734	1.5990	1.5176

	1	2	3	4	5	6	7	8	9	10	15	30	100	1000
46	4.4675	3.4550	3.0016	2.7362	2.5588	2.4305	2.3328	2.2554	2.1924	2.1400	1.9689	1.7672	1.5922	1.5102
47	4.4619	3.4497	2.9965	2.7310	2.5537	2.4254	2.3276	2.2502	2.1872	2.1347	1.9634	1.7614	1.5856	1.5031
48	4.4566	3.4447	2.9915	2.7261	2.5487	2.4205	2.3227	2.2452	2.1822	2.1296	1.9582	1.7558	1.5794	1.4963
49	4.4516	3.4399	2.9868	2.7214	2.5440	2.4157	2.3179	2.2405	2.1773	2.1248	1.9532	1.7504	1.5733	1.4897
50	4.4467	3.4353	2.9823	2.7169	2.5395	2.4112	2.3134	2.2359	2.1727	2.1202	1.9484	1.7452	1.5675	1.4833
51	4.4420	3.4309	2.9779	2.7126	2.5352	2.4069	2.3090	2.2315	2.1683	2.1157	1.9438	1.7403	1.5619	1.4772
52	4.4376	3.4266	2.9738	2.7085	2.5311	2.4027	2.3048	2.2273	2.1641	2.1114	1.9394	1.7355	1.5565	1.4713
53	4.4333	3.4225	2.9698	2.7045	2.5271	2.3987	2.3008	2.2232	2.1600	2.1073	1.9351	1.7309	1.5514	1.4656
54	4.4291	3.4186	2.9659	2.7007	2.5233	2.3949	2.2970	2.2194	2.1561	2.1034	1.9311	1.7265	1.5464	1.4601
55	4.4252	3.4148	2.9622	2.6970	2.5196	2.3912	2.2932	2.2156	2.1523	2.0996	1.9271	1.7223	1.5415	1.4548
56	4.4213	3.4112	2.9587	2.6934	2.5161	2.3876	2.2897	2.2120	2.1487	2.0959	1.9233	1.7182	1.5369	1.4496
57	4.4176	3.4077	2.9552	2.6900	2.5126	2.3842	2.2862	2.2085	2.1452	2.0924	1.9197	1.7143	1.5324	1.4447
58	4.4141	3.4043	2.9519	2.6867	2.5093	2.3809	2.2829	2.2052	2.1418	2.0890	1.9162	1.7105	1.5281	1.4398
59	4.4106	3.4011	2.9487	2.6836	2.5062	2.3777	2.2797	2.2020	2.1386	2.0857	1.9128	1.7068	1.5238	1.4352
60	4.4073	3.3979	2.9456	2.6805	2.5031	2.3746	2.2766	2.1988	2.1354	2.0826	1.9095	1.7032	1.5198	1.4306
61	4.4041	3.3949	2.9427	2.6775	2.5001	2.3717	2.2736	2.1958	2.1324	2.0795	1.9063	1.6998	1.5158	1.4262
62	4.4010	3.3919	2.9398	2.6747	2.4973	2.3688	2.2707	2.1929	2.1295	2.0766	1.9033	1.6965	1.5120	1.4219
63	4.3980	3.3891	2.9370	2.6719	2.4945	2.3660	2.2679	2.1901	2.1266	2.0737	1.9003	1.6933	1.5083	1.4178
64	4.3951	3.3863	2.9343	2.6692	2.4918	2.3633	2.2652	2.1874	2.1239	2.0709	1.8974	1.6901	1.5047	1.4138
65	4.3923	3.3837	2.9317	2.6666	2.4892	2.3607	2.2626	2.1847	2.1212	2.0683	1.8946	1.6871	1.5012	1.4098
66	4.3896	3.3811	2.9292	2.6641	2.4867	2.3582	2.2600	2.1822	2.1187	2.0657	1.8920	1.6842	1.4979	1.4060
67	4.3870	3.3786	2.9267	2.6617	2.4843	2.3557	2.2576	2.1797	2.1162	2.0632	1.8893	1.6814	1.4946	1.4023
68	4.3844	3.3762	2.9243	2.6593	2.4819	2.3534	2.2552	2.1773	2.1137	2.0607	1.8868	1.6786	1.4914	1.3987
69	4.3819	3.3738	2.9220	2.6570	2.4796	2.3511	2.2529	2.1750	2.1114	2.0584	1.8844	1.6759	1.4883	1.3952
70	4.3795	3.3715	2.9198	2.6548	2.4774	2.3488	2.2506	2.1727	2.1091	2.0561	1.8820	1.6733	1.4852	1.3918
71	4.3772	3.3693	2.9176	2.6526	2.4752	2.3467	2.2484	2.1705	2.1069	2.0538	1.8797	1.6708	1.4823	1.3884
72	4.3749	3.3672	2.9155	2.6506	2.4731	2.3446	2.2463	2.1684	2.1048	2.0517	1.8774	1.6684	1.4794	1.3851
73	4.3727	3.3651	2.9135	2.6485	2.4711	2.3425	2.2443	2.1663	2.1027	2.0496	1.8752	1.6660	1.4767	1.3820
74	4.3705	3.3630	2.9115	2.6465	2.4691	2.3405	2.2423	2.1643	2.1006	2.0475	1.8731	1.6637	1.4740	1.3789
75	4.3685	3.3611	2.9095	2.6446	2.4672	2.3386	2.2403	2.1623	2.0987	2.0455	1.8710	1.6614	1.4713	1.3758
76	4.3664	3.3591	2.9076	2.6427	2.4653	2.3367	2.2384	2.1604	2.0967	2.0436	1.8690	1.6592	1.4687	1.3729
77	4.3644	3.3573	2.9058	2.6409	2.4635	2.3349	2.2366	2.1586	2.0949	2.0417	1.8670	1.6571	1.4662	1.3700
78	4.3625	3.3554	2.9040	2.6391	2.4617	2.3331	2.2348	2.1568	2.0930	2.0399	1.8651	1.6550	1.4638	1.3672
79	4.3606	3.3537	2.9023	2.6374	2.4600	2.3314	2.2330	2.1550	2.0913	2.0381	1.8633	1.6529	1.4614	1.3644
80	4.3588	3.3519	2.9006	2.6357	2.4583	2.3297	2.2313	2.1533	2.0895	2.0363	1.8615	1.6510	1.4590	1.3617
81	4.3570	3.3502	2.8989	2.6341	2.4567	2.3280	2.2297	2.1516	2.0879	2.0346	1.8597	1.6490	1.4568	1.3591
82	4.3553	3.3486	2.8973	2.6325	2.4551	2.3264	2.2281	2.1500	2.0862	2.0330	1.8580	1.6471	1.4545	1.3565
83	4.3536	3.3470	2.8958	2.6309	2.4535	2.3248	2.2265	2.1484	2.0846	2.0314	1.8563	1.6453	1.4524	1.3539
84	4.3519	3.3454	2.8942	2.6294	2.4520	2.3233	2.2249	2.1468	2.0830	2.0298	1.8547	1.6435	1.4502	1.3515
85	4.3503	3.3439	2.8927	2.6279	2.4505	2.3218	2.2234	2.1453	2.0815	2.0282	1.8531	1.6417	1.4482	1.3491
86	4.3488	3.3424	2.8913	2.6265	2.4490	2.3204	2.2220	2.1438	2.0800	2.0267	1.8515	1.6400	1.4461	1.3467
87	4.3472	3.3410	2.8898	2.6250	2.4476	2.3189	2.2205	2.1424	2.0786	2.0253	1.8500	1.6384	1.4441	1.3444
88	4.3457	3.3395	2.8884	2.6237	2.4462	2.3175	2.2191	2.1410	2.0772	2.0238	1.8485	1.6367	1.4422	1.3421
89	4.3442	3.3382	2.8871	2.6223	2.4449	2.3162	2.2178	2.1396	2.0758	2.0225	1.8470	1.6351	1.4403	1.3398
90	4.3428	3.3368	2.8858	2.6210	2.4436	2.3149	2.2164	2.1383	2.0744	2.0211	1.8456	1.6336	1.4384	1.3377
91	4.3414	3.3355	2.8845	2.6197	2.4423	2.3136	2.2151	2.1370	2.0731	2.0197	1.8442	1.6320	1.4366	1.3355
92	4.3400	3.3342	2.8832	2.6184	2.4410	2.3123	2.2138	2.1357	2.0718	2.0184	1.8429	1.6305	1.4348	1.3334
93	4.3387	3.3329	2.8819	2.6172	2.4398	2.3110	2.2126	2.1344	2.0705	2.0172	1.8415	1.6291	1.4331	1.3313
94	4.3374	3.3317	2.8807	2.6160	2.4386	2.3098	2.2114	2.1332	2.0693	2.0159	1.8402	1.6277	1.4314	1.3293
95	4.3361	3.3304	2.8795	2.6148	2.4374	2.3086	2.2102	2.1320	2.0681	2.0147	1.8389	1.6263	1.4297	1.3273
96	4.3348	3.3293	2.8784	2.6137	2.4362	2.3075	2.2090	2.1308	2.0669	2.0135	1.8377	1.6249	1.4280	1.3254
97	4.3336	3.3281	2.8772	2.6125	2.4351	2.3063	2.2079	2.1296	2.0657	2.0123	1.8365	1.6235	1.4264	1.3234
98	4.3324	3.3270	2.8761	2.6114	2.4340	2.3052	2.2068	2.1285	2.0646	2.0112	1.8353	1.6222	1.4249	1.3216
99	4.3312	3.3258	2.8750	2.6103	2.4329	2.3041	2.2057	2.1274	2.0635	2.0100	1.8341	1.6209	1.4233	1.3197
100	4.3301	3.3247	2.8740	2.6093	2.4318	2.3031	2.2046	2.1263	2.0624	2.0089	1.8330	1.6197	1.4218	1.3179
110	4.3197	3.3149	2.8644	2.5997	2.4223	2.2935	2.1949	2.1166	2.0526	1.9991	1.8227	1.6083	1.4080	1.3013
120	4.3111	3.3068	2.8564	2.5918	2.4143	2.2855	2.1869	2.1085	2.0444	1.9908	1.8141	1.5988	1.3965	1.2872
1000	4.2289	3.2293	2.7805	2.5165	2.3390	2.2098	2.1106	2.0316	1.9669	1.9126	1.7321	1.5070	1.2783	1.1171



# Appendix F.05 (Five Percent F Tables)

	1	2	3	4	5	6	7	8	9	10	15	30	100	1000
1	161.45	199.50	215.71	224.58	230.16	233.99	236.77	238.88	240.54	241.88	245.95	250.10	253.04	254.19
2	18.513	19.000	19.164	19.247	19.296	19.330	19.353	19.371	19.385	19.396	19.429	19.462	19.486	19.495
3	10.1280	9.5521	9.2766	9.1172	9.0135	8.9406	8.8867	8.8452	8.8123	8.7855	8.7029	8.6166	8.5539	8.5292
4	7.7086	6.9443	6.5914	6.3882	6.2561	6.1631	6.0942	6.0410	5.9988	5.9644	5.8578	5.7459	5.6641	5.6317
5	6.6079	5.7861	5.4095	5.1922	5.0503	4.9503	4.8759	4.8183	4.7725	4.7351	4.6188	4.4957	4.4051	4.3690
6	5.9874	5.1433	4.7571	4.5337	4.3874	4.2839	4.2067	4.1468	4.0990	4.0600	3.9381	3.8082	3.7117	3.6732
7	5.5914	4.7374	4.3468	4.1203	3.9715	3.8660	3.7870	3.7257	3.6767	3.6365	3.5107	3.3758	3.2749	3.2343
8	5.3177	4.4590	4.0662	3.8379	3.6875	3.5806	3.5005	3.4381	3.3881	3.3472	3.2184	3.0794	2.9747	2.9324
9	5.1174	4.2565	3.8625	3.6331	3.4817	3.3738	3.2927	3.2296	3.1789	3.1373	3.0061	2.8637	2.7556	2.7116
10	4.9646	4.1028	3.7083	3.4780	3.3258	3.2172	3.1355	3.0717	3.0204	2.9782	2.8450	2.6996	2.5884	2.5430
11	4.8443	3.9823	3.5874	3.3567	3.2039	3.0946	3.0123	2.9480	2.8962	2.8536	2.7186	2.5705	2.4566	2.4098
12	4.7472	3.8853	3.4903	3.2592	3.1059	2.9961	2.9134	2.8486	2.7964	2.7534	2.6169	2.4663	2.3498	2.3017
13	4.6672	3.8056	3.4105	3.1791	3.0254	2.9153	2.8321	2.7669	2.7144	2.6710	2.5331	2.3803	2.2614	2.2121
14	4.6001	3.7389	3.3439	3.1122	2.9582	2.8477	2.7642	2.6987	2.6458	2.6022	2.4630	2.3082	2.1870	2.1365
15	4.5431	3.6823	3.2874	3.0556	2.9013	2.7905	2.7066	2.6408	2.5876	2.5437	2.4034	2.2468	2.1234	2.0718
16	4.4940	3.6337	3.2389	3.0069	2.8524	2.7413	2.6572	2.5911	2.5377	2.4935	2.3522	2.1938	2.0685	2.0157
17	4.4513	3.5915	3.1968	2.9647	2.8100	2.6987	2.6143	2.5480	2.4943	2.4499	2.3077	2.1477	2.0204	1.9666
18	4.4139	3.5546	3.1599	2.9277	2.7729	2.6613	2.5767	2.5102	2.4563	2.4117	2.2686	2.1071	1.9780	1.9232
19	4.3807	3.5219	3.1274	2.8951	2.7401	2.6283	2.5435	2.4768	2.4227	2.3779	2.2341	2.0712	1.9403	1.8845
20	4.3512	3.4928	3.0984	2.8661	2.7109	2.5990	2.5140	2.4471	2.3928	2.3479	2.2033	2.0391	1.9066	1.8497
21	4.3248	3.4668	3.0725	2.8401	2.6848	2.5727	2.4876	2.4205	2.3660	2.3210	2.1757	2.0102	1.8761	1.8184
22	4.3009	3.4434	3.0491	2.8167	2.6613	2.5491	2.4638	2.3965	2.3419	2.2967	2.1508	1.9842	1.8486	1.7899
23	4.2793	3.4221	3.0280	2.7955	2.6400	2.5277	2.4422	2.3748	2.3201	2.2747	2.1282	1.9605	1.8234	1.7639
24	4.2597	3.4028	3.0088	2.7763	2.6207	2.5082	2.4226	2.3551	2.3002	2.2547	2.1077	1.9390	1.8005	1.7401
25	4.2417	3.3852	2.9912	2.7587	2.6030	2.4904	2.4047	2.3371	2.2821	2.2365	2.0889	1.9192	1.7794	1.7181
26	4.2252	3.3690	2.9752	2.7426	2.5868	2.4741	2.3883	2.3205	2.2655	2.2197	2.0716	1.9010	1.7599	1.6978
27	4.2100	3.3541	2.9604	2.7278	2.5719	2.4591	2.3732	2.3053	2.2501	2.2043	2.0558	1.8842	1.7419	1.6790
28	4.1960	3.3404	2.9467	2.7141	2.5581	2.4453	2.3593	2.2913	2.2360	2.1900	2.0411	1.8687	1.7251	1.6615
29	4.1830	3.3277	2.9340	2.7014	2.5454	2.4324	2.3463	2.2783	2.2229	2.1768	2.0275	1.8543	1.7096	1.6452
30	4.1709	3.3158	2.9223	2.6896	2.5336	2.4205	2.3343	2.2662	2.2107	2.1646	2.0148	1.8409	1.6950	1.6299
31	4.1596	3.3048	2.9113	2.6787	2.5225	2.4094	2.3232	2.2549	2.1994	2.1532	2.0030	1.8283	1.6814	1.6156
32	4.1491	3.2945	2.9011	2.6684	2.5123	2.3991	2.3127	2.2444	2.1888	2.1425	1.9920	1.8166	1.6687	1.6021
33	4.1393	3.2849	2.8916	2.6589	2.5026	2.3894	2.3030	2.2346	2.1789	2.1325	1.9817	1.8056	1.6567	1.5894
34	4.1300	3.2759	2.8826	2.6499	2.4936	2.3803	2.2938	2.2253	2.1696	2.1231	1.9720	1.7953	1.6454	1.5775
35	4.1213	3.2674	2.8742	2.6415	2.4851	2.3718	2.2852	2.2167	2.1608	2.1143	1.9629	1.7856	1.6347	1.5661
36	4.1132	3.2594	2.8663	2.6335	2.4772	2.3638	2.2771	2.2085	2.1526	2.1061	1.9543	1.7764	1.6246	1.5554
37	4.1055	3.2519	2.8588	2.6261	2.4696	2.3562	2.2695	2.2008	2.1449	2.0982	1.9462	1.7678	1.6151	1.5452
38	4.0982	3.2448	2.8517	2.6190	2.4625	2.3490	2.2623	2.1936	2.1375	2.0909	1.9386	1.7596	1.6060	1.5355
39	4.0913	3.2381	2.8451	2.6123	2.4558	2.3423	2.2555	2.1867	2.1306	2.0839	1.9313	1.7518	1.5974	1.5263
40	4.0847	3.2317	2.8387	2.6060	2.4495	2.3359	2.2490	2.1802	2.1240	2.0772	1.9245	1.7444	1.5892	1.5175
41	4.0785	3.2257	2.8327	2.6000	2.4434	2.3298	2.2429	2.1740	2.1178	2.0710	1.9179	1.7374	1.5814	1.5091
42	4.0727	3.2199	2.8270	2.5943	2.4377	2.3240	2.2371	2.1681	2.1119	2.0650	1.9118	1.7308	1.5740	1.5011
43	4.0670	3.2145	2.8216	2.5888	2.4322	2.3185	2.2315	2.1625	2.1062	2.0593	1.9059	1.7244	1.5669	1.4934
44	4.0617	3.2093	2.8165	2.5837	2.4270	2.3133	2.2263	2.1572	2.1009	2.0539	1.9002	1.7184	1.5601	1.4861
45	4.0566	3.2043	2.8115	2.5787	2.4221	2.3083	2.2212	2.1521	2.0958	2.0487	1.8949	1.7126	1.5536	1.4790

	1	2	3	4	5	6	7	8	9	10	15	30	100	1000
46	4.0517	3.1996	2.8068	2.5740	2.4174	2.3035	2.2164	2.1473	2.0909	2.0438	1.8898	1.7070	1.5474	1.4722
47	4.0471	3.1951	2.8024	2.5695	2.4128	2.2990	2.2118	2.1427	2.0862	2.0391	1.8849	1.7017	1.5414	1.4657
48	4.0427	3.1907	2.7981	2.5652	2.4085	2.2946	2.2074	2.1382	2.0817	2.0346	1.8802	1.6967	1.5357	1.4595
49	4.0384	3.1866	2.7939	2.5611	2.4044	2.2904	2.2032	2.1340	2.0775	2.0303	1.8757	1.6918	1.5302	1.4535
50	4.0343	3.1826	2.7900	2.5572	2.4004	2.2864	2.1992	2.1299	2.0734	2.0261	1.8714	1.6872	1.5249	1.4477
51	4.0304	3.1788	2.7862	2.5534	2.3966	2.2826	2.1953	2.1260	2.0694	2.0222	1.8673	1.6827	1.5198	1.4421
52	4.0266	3.1751	2.7826	2.5498	2.3930	2.2789	2.1916	2.1223	2.0656	2.0184	1.8633	1.6784	1.5149	1.4367
53	4.0230	3.1716	2.7791	2.5463	2.3894	2.2754	2.1881	2.1187	2.0620	2.0147	1.8595	1.6742	1.5102	1.4315
54	4.0195	3.1682	2.7758	2.5429	2.3861	2.2720	2.1846	2.1152	2.0585	2.0112	1.8558	1.6702	1.5056	1.4264
55	4.0162	3.1650	2.7725	2.5397	2.3828	2.2687	2.1813	2.1119	2.0552	2.0078	1.8523	1.6664	1.5013	1.4216
56	4.0130	3.1619	2.7694	2.5366	2.3797	2.2656	2.1782	2.1087	2.0519	2.0045	1.8489	1.6627	1.4970	1.4169
57	4.0099	3.1588	2.7664	2.5336	2.3767	2.2625	2.1751	2.1056	2.0488	2.0014	1.8456	1.6591	1.4929	1.4123
58	4.0069	3.1559	2.7636	2.5307	2.3738	2.2596	2.1721	2.1026	2.0458	1.9983	1.8424	1.6557	1.4889	1.4079
59	4.0040	3.1531	2.7608	2.5279	2.3710	2.2568	2.1693	2.0997	2.0429	1.9954	1.8394	1.6524	1.4851	1.4036
60	4.0012	3.1504	2.7581	2.5252	2.3683	2.2541	2.1665	2.0970	2.0401	1.9926	1.8364	1.6491	1.4814	1.3994
61	3.9985	3.1478	2.7555	2.5226	2.3657	2.2514	2.1639	2.0943	2.0374	1.9899	1.8336	1.6460	1.4778	1.3954
62	3.9959	3.1453	2.7530	2.5201	2.3631	2.2489	2.1613	2.0917	2.0348	1.9872	1.8308	1.6430	1.4743	1.3915
63	3.9934	3.1428	2.7505	2.5177	2.3607	2.2464	2.1588	2.0892	2.0322	1.9847	1.8282	1.6401	1.4709	1.3877
64	3.9909	3.1404	2.7482	2.5153	2.3583	2.2440	2.1564	2.0868	2.0298	1.9822	1.8256	1.6373	1.4676	1.3840
65	3.9886	3.1381	2.7459	2.5130	2.3560	2.2417	2.1541	2.0844	2.0274	1.9798	1.8231	1.6345	1.4645	1.3804
66	3.9863	3.1359	2.7437	2.5108	2.3538	2.2395	2.1518	2.0821	2.0251	1.9775	1.8207	1.6319	1.4614	1.3769
67	3.9840	3.1338	2.7416	2.5087	2.3517	2.2373	2.1497	2.0799	2.0229	1.9752	1.8183	1.6293	1.4584	1.3735
68	3.9819	3.1317	2.7395	2.5066	2.3496	2.2352	2.1475	2.0778	2.0207	1.9730	1.8160	1.6268	1.4554	1.3702
69	3.9798	3.1296	2.7375	2.5046	2.3475	2.2332	2.1455	2.0757	2.0186	1.9709	1.8138	1.6244	1.4526	1.3669
70	3.9778	3.1277	2.7355	2.5027	2.3456	2.2312	2.1435	2.0737	2.0166	1.9689	1.8117	1.6220	1.4498	1.3638
71	3.9758	3.1258	2.7336	2.5008	2.3437	2.2293	2.1415	2.0717	2.0146	1.9669	1.8096	1.6198	1.4472	1.3607
72	3.9739	3.1239	2.7318	2.4989	2.3418	2.2274	2.1397	2.0698	2.0127	1.9649	1.8076	1.6175	1.4445	1.3577
73	3.9720	3.1221	2.7300	2.4971	2.3400	2.2256	2.1378	2.0680	2.0108	1.9631	1.8056	1.6154	1.4420	1.3548
74	3.9702	3.1203	2.7283	2.4954	2.3383	2.2238	2.1360	2.0662	2.0090	1.9612	1.8037	1.6133	1.4395	1.3519
75	3.9685	3.1186	2.7266	2.4937	2.3366	2.2221	2.1343	2.0644	2.0073	1.9594	1.8018	1.6112	1.4371	1.3491
76	3.9668	3.1170	2.7249	2.4920	2.3349	2.2204	2.1326	2.0627	2.0055	1.9577	1.8000	1.6092	1.4347	1.3464
77	3.9651	3.1154	2.7233	2.4904	2.3333	2.2188	2.1310	2.0611	2.0039	1.9560	1.7982	1.6073	1.4324	1.3438
78	3.9635	3.1138	2.7218	2.4889	2.3317	2.2172	2.1294	2.0595	2.0022	1.9544	1.7965	1.6054	1.4302	1.3412
79	3.9619	3.1123	2.7203	2.4874	2.3302	2.2157	2.1278	2.0579	2.0007	1.9528	1.7949	1.6035	1.4280	1.3386
80	3.9604	3.1108	2.7188	2.4859	2.3287	2.2142	2.1263	2.0564	1.9991	1.9512	1.7932	1.6017	1.4259	1.3362
81	3.9589	3.1093	2.7173	2.4844	2.3273	2.2127	2.1248	2.0549	1.9976	1.9497	1.7916	1.6000	1.4238	1.3337
82	3.9574	3.1079	2.7159	2.4830	2.3259	2.2113	2.1234	2.0534	1.9961	1.9482	1.7901	1.5983	1.4217	1.3313
83	3.9560	3.1065	2.7146	2.4817	2.3245	2.2099	2.1220	2.0520	1.9947	1.9468	1.7886	1.5966	1.4197	1.3290
84	3.9546	3.1052	2.7132	2.4803	2.3231	2.2086	2.1206	2.0506	1.9933	1.9454	1.7871	1.5950	1.4178	1.3267
85	3.9532	3.1038	2.7119	2.4790	2.3218	2.2072	2.1193	2.0493	1.9919	1.9440	1.7856	1.5934	1.4159	1.3245
86	3.9519	3.1026	2.7106	2.4777	2.3205	2.2059	2.1180	2.0480	1.9906	1.9426	1.7842	1.5918	1.4140	1.3223
87	3.9506	3.1013	2.7094	2.4765	2.3193	2.2047	2.1167	2.0467	1.9893	1.9413	1.7829	1.5903	1.4122	1.3202
88	3.9493	3.1001	2.7082	2.4753	2.3181	2.2034	2.1155	2.0454	1.9880	1.9400	1.7815	1.5888	1.4104	1.3181
89	3.9481	3.0989	2.7070	2.4741	2.3169	2.2022	2.1143	2.0442	1.9868	1.9388	1.7802	1.5874	1.4087	1.3160
90	3.9469	3.0977	2.7058	2.4729	2.3157	2.2011	2.1131	2.0430	1.9856	1.9376	1.7789	1.5859	1.4070	1.3140
91	3.9457	3.0966	2.7047	2.4718	2.3145	2.1999	2.1119	2.0418	1.9844	1.9364	1.7777	1.5845	1.4053	1.3120
92	3.9445	3.0954	2.7036	2.4707	2.3134	2.1988	2.1108	2.0407	1.9833	1.9352	1.7764	1.5832	1.4037	1.3101
93	3.9434	3.0943	2.7025	2.4696	2.3123	2.1977	2.1097	2.0395	1.9821	1.9341	1.7752	1.5819	1.4021	1.3082
94	3.9423	3.0933	2.7014	2.4685	2.3113	2.1966	2.1086	2.0384	1.9810	1.9329	1.7741	1.5806	1.4005	1.3063
95	3.9412	3.0922	2.7004	2.4675	2.3102	2.1955	2.1075	2.0374	1.9799	1.9318	1.7729	1.5793	1.3990	1.3045
96	3.9402	3.0912	2.6994	2.4665	2.3092	2.1945	2.1065	2.0363	1.9789	1.9308	1.7718	1.5780	1.3975	1.3027
97	3.9391	3.0902	2.6984	2.4655	2.3082	2.1935	2.1054	2.0353	1.9778	1.9297	1.7707	1.5768	1.3960	1.3009
98	3.9381	3.0892	2.6974	2.4645	2.3072	2.1925	2.1044	2.0343	1.9768	1.9287	1.7696	1.5756	1.3945	1.2992
99	3.9371	3.0882	2.6965	2.4636	2.3063	2.1915	2.1035	2.0333	1.9758	1.9277	1.7686	1.5745	1.3931	1.2975
100	3.9361	3.0873	2.6955	2.4626	2.3053	2.1906	2.1025	2.0323	1.9748	1.9267	1.7675	1.5733	1.3917	1.2958
110	3.9274	3.0788	2.6871	2.4542	2.2969	2.1821	2.0939	2.0236	1.9661	1.9178	1.7582	1.5630	1.3791	1.2805
120	3.9201	3.0718	2.6802	2.4472	2.2899	2.1750	2.0868	2.0164	1.9588	1.9105	1.7505	1.5543	1.3685	1.2675
1000	3.8508	3.0047	2.6138	2.3808	2.2231	2.1076	2.0187	1.9476	1.8892	1.8402	1.6764	1.4706	1.2596	1.1097