

λt

x	3.10	3.20	3.30	3.40	3.50	3.60	3.70	3.80	3.90	4.00
0	0.0450	0.0408	0.0369	0.0334	0.0302	0.0273	0.0247	0.0224	0.0202	0.0183
1	0.1847	0.1712	0.1586	0.1468	0.1359	0.1257	0.1162	0.1074	0.0992	0.0916
2	0.4012	0.3799	0.3594	0.3397	0.3208	0.3027	0.2854	0.2689	0.2531	0.2381
3	0.6248	0.6025	0.5803	0.5584	0.5366	0.5152	0.4942	0.4735	0.4532	0.4335
4	0.7982	0.7806	0.7626	0.7442	0.7254	0.7064	0.6872	0.6678	0.6484	0.6288
5	0.9057	0.8946	0.8829	0.8705	0.8576	0.8441	0.8301	0.8156	0.8006	0.7851
6	0.9612	0.9554	0.9490	0.9421	0.9347	0.9267	0.9182	0.9091	0.8995	0.8893
7	0.9858	0.9832	0.9802	0.9769	0.9733	0.9692	0.9648	0.9599	0.9546	0.9489
8	0.9953	0.9943	0.9931	0.9917	0.9901	0.9883	0.9863	0.9840	0.9815	0.9786
9	0.9986	0.9982	0.9978	0.9973	0.9967	0.9960	0.9952	0.9942	0.9931	0.9919
10	0.9996	0.9995	0.9994	0.9992	0.9990	0.9987	0.9984	0.9981	0.9977	0.9972
11	0.9999	0.9999	0.9998	0.9998	0.9997	0.9996	0.9995	0.9994	0.9993	0.9991
12	1.0000	1.0000	1.0000	0.9999	0.9999	0.9999	0.9999	0.9998	0.9998	0.9997
13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999
14	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

 λt

x	4.10	4.20	4.30	4.40	4.50	4.60	4.70	4.80	4.90	5.00
0	0.0166	0.0150	0.0136	0.0123	0.0111	0.0101	0.0091	0.0082	0.0074	0.0067
1	0.0845	0.0780	0.0719	0.0663	0.0611	0.0563	0.0518	0.0477	0.0439	0.0404
2	0.2238	0.2102	0.1974	0.1851	0.1736	0.1626	0.1523	0.1425	0.1333	0.1247
3	0.4142	0.3954	0.3772	0.3594	0.3423	0.3257	0.3097	0.2942	0.2793	0.2650
4	0.6093	0.5898	0.5704	0.5512	0.5321	0.5132	0.4946	0.4763	0.4582	0.4405
5	0.7693	0.7531	0.7367	0.7199	0.7029	0.6858	0.6684	0.6510	0.6335	0.6160
6	0.8786	0.8675	0.8558	0.8436	0.8311	0.8180	0.8046	0.7908	0.7767	0.7622
7	0.9427	0.9361	0.9290	0.9214	0.9134	0.9049	0.8960	0.8867	0.8769	0.8666
8	0.9755	0.9721	0.9683	0.9642	0.9597	0.9549	0.9497	0.9442	0.9382	0.9319
9	0.9905	0.9889	0.9871	0.9851	0.9829	0.9805	0.9778	0.9749	0.9717	0.9682
10	0.9966	0.9959	0.9952	0.9943	0.9933	0.9922	0.9910	0.9896	0.9880	0.9863
11	0.9989	0.9986	0.9983	0.9980	0.9976	0.9971	0.9966	0.9960	0.9953	0.9945
12	0.9997	0.9996	0.9995	0.9993	0.9992	0.9990	0.9988	0.9986	0.9983	0.9980
13	0.9999	0.9999	0.9998	0.9998	0.9997	0.9997	0.9996	0.9995	0.9994	0.9993
14	1.0000	1.0000	1.0000	0.9999	0.9999	0.9999	0.9999	0.9999	0.9998	0.9998
15	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999
16	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

 λt

x	5.10	5.20	5.30	5.40	5.50	5.60	5.70	5.80	5.90	6.00
0	0.0061	0.0055	0.0050	0.0045	0.0041	0.0037	0.0033	0.0030	0.0027	0.0025
1	0.0372	0.0342	0.0314	0.0289	0.0266	0.0244	0.0224	0.0206	0.0189	0.0174
2	0.1165	0.1088	0.1016	0.0948	0.0884	0.0824	0.0768	0.0715	0.0666	0.0620
3	0.2513	0.2381	0.2254	0.2133	0.2017	0.1906	0.1800	0.1700	0.1604	0.1512
4	0.4231	0.4061	0.3895	0.3733	0.3575	0.3422	0.3272	0.3127	0.2987	0.2851
5	0.5984	0.5809	0.5635	0.5461	0.5289	0.5119	0.4950	0.4783	0.4619	0.4457
6	0.7474	0.7324	0.7171	0.7017	0.6860	0.6703	0.6544	0.6384	0.6224	0.6063
7	0.8560	0.8449	0.8335	0.8217	0.8095	0.7970	0.7841	0.7710	0.7576	0.7440
8	0.9252	0.9181	0.9106	0.9027	0.8944	0.8857	0.8766	0.8672	0.8574	0.8472
9	0.9644	0.9603	0.9559	0.9512	0.9462	0.9409	0.9352	0.9292	0.9228	0.9161
10	0.9844	0.9823	0.9800	0.9775	0.9747	0.9718	0.9686	0.9651	0.9614	0.9574
11	0.9937	0.9927	0.9916	0.9904	0.9890	0.9875	0.9859	0.9841	0.9821	0.9799
12	0.9976	0.9972	0.9967	0.9962	0.9955	0.9949	0.9941	0.9932	0.9922	0.9912
13	0.9992	0.9990	0.9988	0.9986	0.9983	0.9980	0.9977	0.9973	0.9969	0.9964
14	0.9997	0.9997	0.9996	0.9995	0.9994	0.9993	0.9991	0.9990	0.9988	0.9986
15	0.9999	0.9999	0.9999	0.9998	0.9998	0.9998	0.9997	0.9996	0.9996	0.9995
16	1.0000	1.0000	1.0000	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9998
17	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999
18	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

(continued)

λt

x	8.10	8.20	8.30	8.40	8.50	8.60	8.70	8.80	8.90	9.00
0	0.0003	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0001	0.0001
1	0.0028	0.0025	0.0023	0.0021	0.0019	0.0018	0.0016	0.0015	0.0014	0.0012
2	0.0127	0.0118	0.0109	0.0100	0.0093	0.0086	0.0079	0.0073	0.0068	0.0062
3	0.0396	0.0370	0.0346	0.0323	0.0301	0.0281	0.0262	0.0244	0.0228	0.0212
4	0.0940	0.0887	0.0837	0.0789	0.0744	0.0701	0.0660	0.0621	0.0584	0.0550
5	0.1822	0.1736	0.1653	0.1573	0.1496	0.1422	0.1352	0.1284	0.1219	0.1157
6	0.3013	0.2896	0.2781	0.2670	0.2562	0.2457	0.2355	0.2256	0.2160	0.2068
7	0.4391	0.4254	0.4119	0.3987	0.3856	0.3728	0.3602	0.3478	0.3357	0.3239
8	0.5786	0.5647	0.5507	0.5369	0.5231	0.5094	0.4958	0.4823	0.4689	0.4557
9	0.7041	0.6915	0.6788	0.6659	0.6530	0.6400	0.6269	0.6137	0.6006	0.5874
10	0.8058	0.7955	0.7850	0.7743	0.7634	0.7522	0.7409	0.7294	0.7178	0.7060
11	0.8807	0.8731	0.8652	0.8571	0.8487	0.8400	0.8311	0.8220	0.8126	0.8030
12	0.9313	0.9261	0.9207	0.9150	0.9091	0.9029	0.8965	0.8898	0.8829	0.8758
13	0.9628	0.9595	0.9561	0.9524	0.9486	0.9445	0.9403	0.9358	0.9311	0.9261
14	0.9810	0.9791	0.9771	0.9749	0.9726	0.9701	0.9675	0.9647	0.9617	0.9585
15	0.9908	0.9898	0.9887	0.9875	0.9862	0.9848	0.9832	0.9816	0.9798	0.9780
16	0.9958	0.9953	0.9947	0.9941	0.9934	0.9926	0.9918	0.9909	0.9899	0.9889
17	0.9982	0.9979	0.9977	0.9973	0.9970	0.9966	0.9962	0.9957	0.9952	0.9947
18	0.9992	0.9991	0.9990	0.9989	0.9987	0.9985	0.9983	0.9981	0.9978	0.9976
19	0.9997	0.9997	0.9996	0.9995	0.9995	0.9994	0.9993	0.9992	0.9991	0.9989
20	0.9999	0.9999	0.9998	0.9998	0.9998	0.9998	0.9997	0.9997	0.9996	0.9996
21	1.0000	1.0000	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9998	0.9998
22	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999
23	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

 λt

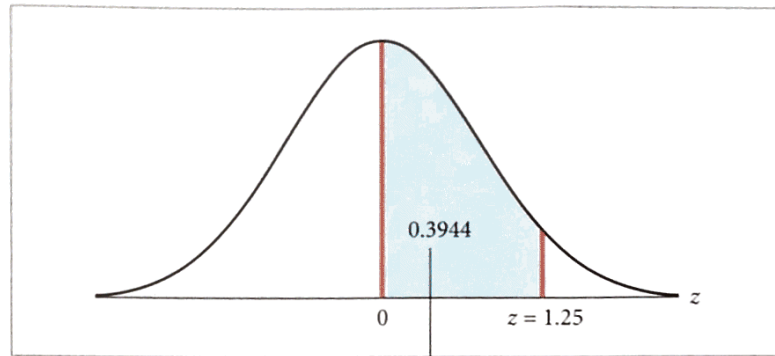
x	9.10	9.20	9.30	9.40	9.50	9.60	9.70	9.80	9.90	10.00
0	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000
1	0.0011	0.0010	0.0009	0.0009	0.0008	0.0007	0.0007	0.0006	0.0005	0.0005
2	0.0058	0.0053	0.0049	0.0045	0.0042	0.0038	0.0035	0.0033	0.0030	0.0028
3	0.0198	0.0184	0.0172	0.0160	0.0149	0.0138	0.0129	0.0120	0.0111	0.0103
4	0.0517	0.0486	0.0456	0.0429	0.0403	0.0378	0.0355	0.0333	0.0312	0.0293
5	0.1098	0.1041	0.0986	0.0935	0.0885	0.0838	0.0793	0.0750	0.0710	0.0671
6	0.1978	0.1892	0.1808	0.1727	0.1649	0.1574	0.1502	0.1433	0.1366	0.1301
7	0.3123	0.3010	0.2900	0.2792	0.2687	0.2584	0.2485	0.2388	0.2294	0.2202
8	0.4426	0.4296	0.4168	0.4042	0.3918	0.3796	0.3676	0.3558	0.3442	0.3328
9	0.5742	0.5611	0.5479	0.5349	0.5218	0.5089	0.4960	0.4832	0.4705	0.4579
10	0.6941	0.6820	0.6699	0.6576	0.6453	0.6329	0.6205	0.6080	0.5955	0.5830
11	0.7932	0.7832	0.7730	0.7626	0.7520	0.7412	0.7303	0.7193	0.7081	0.6968
12	0.8684	0.8607	0.8529	0.8448	0.8364	0.8279	0.8191	0.8101	0.8009	0.7916
13	0.9210	0.9156	0.9100	0.9042	0.8981	0.8919	0.8853	0.8786	0.8716	0.8645
14	0.9552	0.9517	0.9480	0.9441	0.9400	0.9357	0.9312	0.9265	0.9216	0.9165
15	0.9760	0.9738	0.9715	0.9691	0.9665	0.9638	0.9609	0.9579	0.9546	0.9513
16	0.9878	0.9865	0.9852	0.9838	0.9823	0.9806	0.9789	0.9770	0.9751	0.9730
17	0.9941	0.9934	0.9927	0.9919	0.9911	0.9902	0.9892	0.9881	0.9870	0.9857
18	0.9973	0.9969	0.9966	0.9962	0.9957	0.9952	0.9947	0.9941	0.9935	0.9928
19	0.9988	0.9986	0.9985	0.9983	0.9980	0.9978	0.9975	0.9972	0.9969	0.9965
20	0.9995	0.9994	0.9993	0.9992	0.9991	0.9990	0.9989	0.9987	0.9986	0.9984
21	0.9998	0.9998	0.9997	0.9997	0.9996	0.9996	0.9995	0.9995	0.9994	0.9993
22	0.9999	0.9999	0.9999	0.9999	0.9999	0.9998	0.9998	0.9998	0.9997	0.9997
23	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

(continued)

λt

x	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1	0.0002	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.0012	0.0005	0.0002	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	0.0049	0.0023	0.0011	0.0005	0.0002	0.0001	0.0000	0.0000	0.0000	0.0000
4	0.0151	0.0076	0.0037	0.0018	0.0009	0.0004	0.0002	0.0001	0.0000	0.0000
5	0.0375	0.0203	0.0107	0.0055	0.0028	0.0014	0.0007	0.0003	0.0002	0.0001
6	0.0786	0.0458	0.0259	0.0142	0.0076	0.0040	0.0021	0.0010	0.0005	0.0003
7	0.1432	0.0895	0.0540	0.0316	0.0180	0.0100	0.0054	0.0029	0.0015	0.0008
8	0.2320	0.1550	0.0998	0.0621	0.0374	0.0220	0.0126	0.0071	0.0039	0.0021
9	0.3405	0.2424	0.1658	0.1094	0.0699	0.0433	0.0261	0.0154	0.0089	0.0050
10	0.4599	0.3472	0.2517	0.1757	0.1185	0.0774	0.0491	0.0304	0.0183	0.0108
11	0.5793	0.4616	0.3532	0.2600	0.1848	0.1270	0.0847	0.0549	0.0347	0.0214
12	0.6887	0.5760	0.4631	0.3585	0.2676	0.1931	0.1350	0.0917	0.0606	0.0390
13	0.7813	0.6815	0.5730	0.4644	0.3632	0.2745	0.2009	0.1426	0.0984	0.0661
14	0.8540	0.7720	0.6751	0.5704	0.4657	0.3675	0.2808	0.2081	0.1497	0.1049
15	0.9074	0.8444	0.7636	0.6694	0.5681	0.4667	0.3715	0.2867	0.2148	0.1565
16	0.9441	0.8987	0.8355	0.7559	0.6641	0.5660	0.4677	0.3751	0.2920	0.2211
17	0.9678	0.9370	0.8905	0.8272	0.7489	0.6593	0.5640	0.4686	0.3784	0.2970
18	0.9823	0.9626	0.9302	0.8826	0.8195	0.7423	0.6550	0.5622	0.4695	0.3814
19	0.9907	0.9787	0.9573	0.9235	0.8752	0.8122	0.7363	0.6509	0.5606	0.4703
20	0.9953	0.9884	0.9750	0.9521	0.9170	0.8682	0.8055	0.7307	0.6472	0.5591
21	0.9977	0.9939	0.9859	0.9712	0.9469	0.9108	0.8615	0.7991	0.7255	0.6437
22	0.9990	0.9970	0.9924	0.9833	0.9673	0.9418	0.9047	0.8551	0.7931	0.7206
23	0.9995	0.9985	0.9960	0.9907	0.9805	0.9633	0.9367	0.8989	0.8490	0.7875
24	0.9998	0.9993	0.9980	0.9950	0.9888	0.9777	0.9594	0.9317	0.8933	0.8432
25	0.9999	0.9997	0.9990	0.9974	0.9938	0.9869	0.9748	0.9554	0.9269	0.8878
26	1.0000	0.9999	0.9995	0.9987	0.9967	0.9925	0.9848	0.9718	0.9514	0.9221
27	1.0000	0.9999	0.9998	0.9994	0.9983	0.9959	0.9912	0.9827	0.9687	0.9475
28	1.0000	1.0000	0.9999	0.9997	0.9991	0.9978	0.9950	0.9897	0.9805	0.9657
29	1.0000	1.0000	1.0000	0.9999	0.9996	0.9989	0.9973	0.9941	0.9882	0.9782
30	1.0000	1.0000	1.0000	0.9999	0.9998	0.9994	0.9986	0.9967	0.9930	0.9865
31	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9993	0.9982	0.9960	0.9919
32	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9996	0.9990	0.9978	0.9953
33	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9995	0.9988	0.9973
34	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9994	0.9985
35	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9992
36	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9996
37	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998
38	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999
39	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999
40	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

APPENDIX D

Standard Normal
Distribution Table

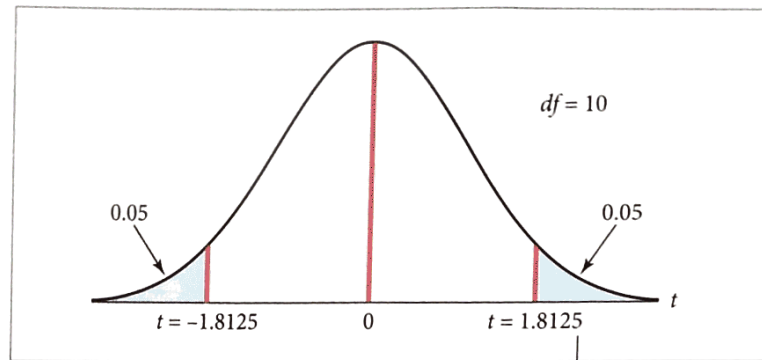
<i>z</i>	0	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.0000	0.0040	0.0080	0.0120	0.0160	0.0199	0.0239	0.0279	0.0319	0.0359
0.1	0.0398	0.0438	0.0478	0.0517	0.0557	0.0596	0.0636	0.0675	0.0714	0.0753
0.2	0.0793	0.0832	0.0871	0.0910	0.0948	0.0987	0.1026	0.1064	0.1103	0.1141
0.3	0.1179	0.1217	0.1255	0.1293	0.1331	0.1368	0.1406	0.1443	0.1480	0.1517
0.4	0.1554	0.1591	0.1628	0.1664	0.1700	0.1736	0.1772	0.1808	0.1844	0.1879
0.5	0.1915	0.1950	0.1985	0.2019	0.2054	0.2088	0.2123	0.2157	0.2190	0.2224
0.6	0.2257	0.2291	0.2324	0.2357	0.2389	0.2422	0.2454	0.2486	0.2517	0.2549
0.7	0.2580	0.2611	0.2642	0.2673	0.2704	0.2734	0.2764	0.2794	0.2823	0.2852
0.8	0.2881	0.2910	0.2939	0.2967	0.2995	0.3023	0.3051	0.3078	0.3106	0.3133
0.9	0.3159	0.3186	0.3212	0.3238	0.3264	0.3289	0.3315	0.3340	0.3365	0.3389
1.0	0.3413	0.3438	0.3461	0.3485	0.3508	0.3531	0.3554	0.3577	0.3599	0.3621
1.1	0.3643	0.3665	0.3686	0.3708	0.3729	0.3749	0.3770	0.3790	0.3810	0.3830
1.2	0.3849	0.3869	0.3888	0.3907	0.3925	0.3944	0.3962	0.3980	0.3997	0.4015
1.3	0.4032	0.4049	0.4066	0.4082	0.4099	0.4115	0.4131	0.4147	0.4162	0.4177
1.4	0.4192	0.4207	0.4222	0.4236	0.4251	0.4265	0.4279	0.4292	0.4306	0.4319
1.5	0.4332	0.4345	0.4357	0.4370	0.4382	0.4394	0.4406	0.4418	0.4429	0.4441
1.6	0.4452	0.4463	0.4474	0.4484	0.4495	0.4505	0.4515	0.4525	0.4535	0.4545
1.7	0.4554	0.4564	0.4573	0.4582	0.4591	0.4599	0.4608	0.4616	0.4625	0.4633
1.8	0.4641	0.4649	0.4656	0.4664	0.4671	0.4678	0.4686	0.4693	0.4699	0.4706
1.9	0.4713	0.4719	0.4726	0.4732	0.4738	0.4744	0.4750	0.4756	0.4761	0.4767
2.0	0.4772	0.4778	0.4783	0.4788	0.4793	0.4798	0.4803	0.4808	0.4812	0.4817
2.1	0.4821	0.4826	0.4830	0.4834	0.4838	0.4842	0.4846	0.4850	0.4854	0.4857
2.2	0.4861	0.4864	0.4868	0.4871	0.4875	0.4878	0.4881	0.4884	0.4887	0.4890
2.3	0.4893	0.4896	0.4898	0.4901	0.4904	0.4906	0.4909	0.4911	0.4913	0.4916
2.4	0.4918	0.4920	0.4922	0.4925	0.4927	0.4929	0.4931	0.4932	0.4934	0.4936
2.5	0.4938	0.4940	0.4941	0.4943	0.4945	0.4946	0.4948	0.4949	0.4951	0.4952
2.6	0.4953	0.4955	0.4956	0.4957	0.4959	0.4960	0.4961	0.4962	0.4963	0.4964
2.7	0.4965	0.4966	0.4967	0.4968	0.4969	0.4970	0.4971	0.4972	0.4973	0.4974
2.8	0.4974	0.4975	0.4976	0.4977	0.4977	0.4978	0.4979	0.4979	0.4980	0.4981
2.9	0.4981	0.4982	0.4982	0.4983	0.4984	0.4984	0.4985	0.4985	0.4986	0.4986
3.0	0.4987	0.4987	0.4987	0.4988	0.4988	0.4989	0.4989	0.4989	0.4990	0.4990

APPENDIX E

Exponential
Distribution Table

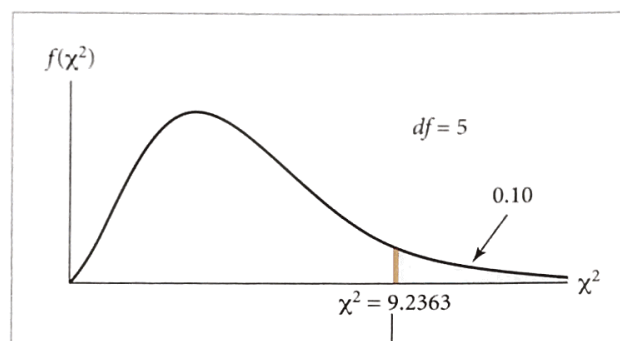
Values of $e^{-\lambda a}$									
λa	$e^{-\lambda a}$	λa	$e^{-\lambda a}$	λa	$e^{-\lambda a}$	λa	$e^{-\lambda a}$	λa	$e^{-\lambda a}$
0.00	1.0000	2.05	0.1287	4.05	0.0174	6.05	0.0024	8.05	0.0003
0.05	0.9512	2.10	0.1225	4.10	0.0166	6.10	0.0022	8.10	0.0003
0.10	0.9048	2.15	0.1165	4.15	0.0158	6.15	0.0021	8.15	0.0003
0.15	0.8607	2.20	0.1108	4.20	0.0150	6.20	0.0020	8.20	0.0003
0.20	0.8187	2.25	0.1054	4.25	0.0143	6.25	0.0019	8.25	0.0003
0.25	0.7788	2.30	0.1003	4.30	0.0136	6.30	0.0018	8.30	0.0002
0.30	0.7408	2.35	0.0954	4.35	0.0129	6.35	0.0017	8.35	0.0002
0.35	0.7047	2.40	0.0907	4.40	0.0123	6.40	0.0017	8.40	0.0002
0.40	0.6703	2.45	0.0863	4.45	0.0117	6.45	0.0016	8.45	0.0002
0.45	0.6376	2.50	0.0821	4.50	0.0111	6.50	0.0015	8.50	0.0002
0.50	0.6065	2.55	0.0781	4.55	0.0106	6.55	0.0014	8.55	0.0002
0.55	0.5769	2.60	0.0743	4.60	0.0101	6.60	0.0014	8.60	0.0002
0.60	0.5488	2.65	0.0707	4.65	0.0096	6.65	0.0013	8.65	0.0002
0.65	0.5220	2.70	0.0672	4.70	0.0091	6.70	0.0012	8.70	0.0002
0.70	0.4966	2.75	0.0639	4.75	0.0087	6.75	0.0012	8.75	0.0002
0.75	0.4724	2.80	0.0608	4.80	0.0082	6.80	0.0011	8.80	0.0002
0.80	0.4493	2.85	0.0578	4.85	0.0078	6.85	0.0011	8.85	0.0001
0.85	0.4274	2.90	0.0550	4.90	0.0074	6.90	0.0010	8.90	0.0001
0.90	0.4066	2.95	0.0523	4.95	0.0071	6.95	0.0010	8.95	0.0001
0.95	0.3867	3.00	0.0498	5.00	0.0067	7.00	0.0009	9.00	0.0001
1.00	0.3679	3.05	0.0474	5.05	0.0064	7.05	0.0009	9.05	0.0001
1.05	0.3499	3.10	0.0450	5.10	0.0061	7.10	0.0008	9.10	0.0001
1.10	0.3329	3.15	0.0429	5.15	0.0058	7.15	0.0008	9.15	0.0001
1.15	0.3166	3.20	0.0408	5.20	0.0055	7.20	0.0007	9.20	0.0001
1.20	0.3012	3.25	0.0388	5.25	0.0052	7.25	0.0007	9.25	0.0001
1.25	0.2865	3.30	0.0369	5.30	0.0050	7.30	0.0007	9.30	0.0001
1.30	0.2725	3.35	0.0351	5.35	0.0047	7.35	0.0006	9.35	0.0001
1.35	0.2592	3.40	0.0334	5.40	0.0045	7.40	0.0006	9.40	0.0001
1.40	0.2466	3.45	0.0317	5.45	0.0043	7.45	0.0006	9.45	0.0001
1.45	0.2346	3.50	0.0302	5.50	0.0041	7.50	0.0006	9.50	0.0001
1.50	0.2231	3.55	0.0287	5.55	0.0039	7.55	0.0005	9.55	0.0001
1.55	0.2122	3.60	0.0273	5.60	0.0037	7.60	0.0005	9.60	0.0001
1.60	0.2019	3.65	0.0260	5.65	0.0035	7.65	0.0005	9.65	0.0001
1.65	0.1920	3.70	0.0247	5.70	0.0033	7.70	0.0005	9.70	0.0001
1.70	0.1827	3.75	0.0235	5.75	0.0032	7.75	0.0004	9.75	0.0001
1.75	0.1738	3.80	0.0224	5.80	0.0030	7.80	0.0004	9.80	0.0001
1.80	0.1653	3.85	0.0213	5.85	0.0029	7.85	0.0004	9.85	0.0001
1.85	0.1572	3.90	0.0202	5.90	0.0027	7.90	0.0004	9.90	0.0001
1.90	0.1496	3.95	0.0193	5.95	0.0026	7.95	0.0004	9.95	0.0000
1.95	0.1423	4.00	0.0183	6.00	0.0025	8.00	0.0003	10.00	0.0000
2.00	0.1353								

APPENDIX F

Values of t for
Selected ProbabilitiesPROBABILITIES (OR AREAS UNDER t -DISTRIBUTION CURVE)

Conf. Level	0.1	0.3	0.5	0.7	0.8	0.9	0.95	0.98	0.99
One Tail	0.45	0.35	0.25	0.15	0.1	0.05	0.025	0.01	0.005
Two Tails	0.9	0.7	0.5	0.3	0.2	0.1	0.05	0.02	0.01
df	Values of t								
1	0.1584	0.5095	1.0000	1.9626	3.0777	6.3137	12.7062	31.8210	63.6559
2	0.1421	0.4447	0.8165	1.3862	1.8856	2.9200	4.3027	6.9645	9.9250
3	0.1366	0.4242	0.7649	1.2498	1.6377	2.3534	3.1824	4.5407	5.8408
4	0.1338	0.4142	0.7407	1.1896	1.5332	2.1318	2.7765	3.7469	4.6041
5	0.1322	0.4082	0.7267	1.1558	1.4759	2.0150	2.5706	3.3649	4.0321
6	0.1311	0.4043	0.7176	1.1342	1.4398	1.9432	2.4469	3.1427	3.7074
7	0.1303	0.4015	0.7111	1.1192	1.4149	1.8946	2.3646	2.9979	3.4995
8	0.1297	0.3995	0.7064	1.1081	1.3968	1.8595	2.3060	2.8965	3.3554
9	0.1293	0.3979	0.7027	1.0997	1.3830	1.8331	2.2622	2.8214	3.2498
10	0.1289	0.3966	0.6998	1.0931	1.3722	1.8125	2.2281	2.7638	3.1693
11	0.1286	0.3956	0.6974	1.0877	1.3634	1.7959	2.2010	2.7181	3.1058
12	0.1283	0.3947	0.6955	1.0832	1.3562	1.7823	2.1788	2.6810	3.0545
13	0.1281	0.3940	0.6938	1.0795	1.3502	1.7709	2.1604	2.6503	3.0123
14	0.1280	0.3933	0.6924	1.0763	1.3450	1.7613	2.1448	2.6245	2.9768
15	0.1278	0.3928	0.6912	1.0735	1.3406	1.7531	2.1315	2.6025	2.9467
16	0.1277	0.3923	0.6901	1.0711	1.3368	1.7459	2.1199	2.5835	2.9208
17	0.1276	0.3919	0.6892	1.0690	1.3334	1.7396	2.1098	2.5669	2.8982
18	0.1274	0.3915	0.6884	1.0672	1.3304	1.7341	2.1009	2.5524	2.8784
19	0.1274	0.3912	0.6876	1.0655	1.3277	1.7291	2.0930	2.5395	2.8609
20	0.1273	0.3909	0.6870	1.0640	1.3253	1.7247	2.0860	2.5280	2.8453
21	0.1272	0.3906	0.6864	1.0627	1.3232	1.7207	2.0796	2.5176	2.8314
22	0.1271	0.3904	0.6858	1.0614	1.3212	1.7171	2.0739	2.5083	2.8188
23	0.1271	0.3902	0.6853	1.0603	1.3195	1.7139	2.0687	2.4999	2.8073
24	0.1270	0.3900	0.6848	1.0593	1.3178	1.7109	2.0639	2.4922	2.7970
25	0.1269	0.3898	0.6844	1.0584	1.3163	1.7081	2.0595	2.4851	2.7874
26	0.1269	0.3896	0.6840	1.0575	1.3150	1.7056	2.0555	2.4786	2.7787
27	0.1268	0.3894	0.6837	1.0567	1.3137	1.7033	2.0518	2.4727	2.7707
28	0.1268	0.3893	0.6834	1.0560	1.3125	1.7011	2.0484	2.4671	2.7633
29	0.1268	0.3892	0.6830	1.0553	1.3114	1.6991	2.0452	2.4620	2.7564
30	0.1267	0.3890	0.6828	1.0547	1.3104	1.6973	2.0423	2.4573	2.7500
40	0.1265	0.3881	0.6807	1.0500	1.3031	1.6839	2.0211	2.4233	2.7045
50	0.1263	0.3875	0.6794	1.0473	1.2987	1.6759	2.0086	2.4033	2.6778
60	0.1262	0.3872	0.6786	1.0455	1.2958	1.6706	2.0003	2.3901	2.6603
70	0.1261	0.3869	0.6780	1.0442	1.2938	1.6669	1.9944	2.3808	2.6479
80	0.1261	0.3867	0.6776	1.0432	1.2922	1.6641	1.9901	2.3739	2.6387
90	0.1260	0.3866	0.6772	1.0424	1.2910	1.6620	1.9867	2.3685	2.6316
100	0.1260	0.3864	0.6770	1.0418	1.2901	1.6602	1.9840	2.3642	2.6259
250	0.1258	0.3858	0.6755	1.0386	1.2849	1.6510	1.9695	2.3414	2.5956
500	0.1257	0.3855	0.6750	1.0375	1.2832	1.6479	1.9647	2.3338	2.5857
∞	0.1257	0.3853	0.6745	1.0364	1.2816	1.6449	1.9600	2.3263	2.5758

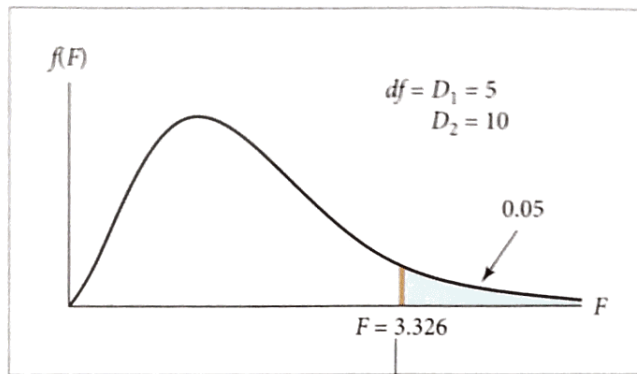
APPENDIX G

Values of χ^2 for
Selected ProbabilitiesPROBABILITIES (OR AREAS UNDER CHI-SQUARE DISTRIBUTION CURVE
ABOVE GIVEN CHI-SQUARE VALUES)

	0.995	0.99	0.975	0.95	0.90	0.10	0.05	0.025	0.01	0.005
<i>df</i>	<i>Values of Chi-Squared</i>									
1	0.0000	0.0002	0.0010	0.0039	0.0158	2.7055	3.8415	5.0239	6.6349	7.8794
2	0.0100	0.0201	0.0506	0.1026	0.2107	4.6052	5.9915	7.3778	9.2104	10.5965
3	0.0717	0.1148	0.2158	0.3518	0.5844	6.2514	7.8147	9.3484	11.3449	12.8381
4	0.2070	0.2971	0.4844	0.7107	1.0636	7.7794	9.4877	11.1433	13.2767	14.8602
5	0.4118	0.5543	0.8312	1.1455	1.6103	9.2363	11.0705	12.8325	15.0863	16.7496
6	0.6757	0.8721	1.2373	1.6354	2.2041	10.6446	12.5916	14.4494	16.8119	18.5475
7	0.9893	1.2390	1.6899	2.1673	2.8331	12.0170	14.0671	16.0128	18.4753	20.2777
8	1.3444	1.6465	2.1797	2.7326	3.4895	13.3616	15.5073	17.5345	20.0902	21.9549
9	1.7349	2.0879	2.7004	3.3251	4.1682	14.6837	16.9190	19.0228	21.6660	23.5893
10	2.1558	2.5582	3.2470	3.9403	4.8652	15.9872	18.3070	20.4832	23.2093	25.1881
11	2.6032	3.0535	3.8157	4.5748	5.5778	17.2750	19.6752	21.9200	24.7250	26.7569
12	3.0738	3.5706	4.4038	5.2260	6.3038	18.5493	21.0261	23.3367	26.2170	28.2997
13	3.5650	4.1069	5.0087	5.8919	7.0415	19.8119	22.3620	24.7356	27.6882	29.8193
14	4.0747	4.6604	5.6287	6.5706	7.7895	21.0641	23.6848	26.1189	29.1412	31.3194
15	4.6009	5.2294	6.2621	7.2609	8.5468	22.3071	24.9958	27.4884	30.5780	32.8015
16	5.1422	5.8122	6.9077	7.9616	9.3122	23.5418	26.2962	28.8453	31.9999	34.2671
17	5.6973	6.4077	7.5642	8.6718	10.0852	24.7690	27.5871	30.1910	33.4087	35.7184
18	6.2648	7.0149	8.2307	9.3904	10.8649	25.9894	28.8693	31.5264	34.8052	37.1564
19	6.8439	7.6327	8.9065	10.1170	11.6509	27.2036	30.1435	32.8523	36.1908	38.5821
20	7.4338	8.2604	9.5908	10.8508	12.4426	28.4120	31.4104	34.1696	37.5663	39.9969
21	8.0336	8.8972	10.2829	11.5913	13.2396	29.6151	32.6706	35.4789	38.9322	41.4009
22	8.6427	9.5425	10.9823	12.3380	14.0415	30.8133	33.9245	36.7807	40.2894	42.7957
23	9.2604	10.1957	11.6885	13.0905	14.8480	32.0069	35.1725	38.0756	41.6383	44.1814
24	9.8862	10.8563	12.4011	13.8484	15.6587	33.1962	36.4150	39.3641	42.9798	45.5584
25	10.5196	11.5240	13.1197	14.6114	16.4734	34.3816	37.6525	40.6465	44.3140	46.9280
26	11.1602	12.1982	13.8439	15.3792	17.2919	35.5632	38.8851	41.9231	45.6416	48.2898
27	11.8077	12.8785	14.5734	16.1514	18.1139	36.7412	40.1133	43.1945	46.9628	49.6450
28	12.4613	13.5647	15.3079	16.9279	18.9392	37.9159	41.3372	44.4608	48.2782	50.9936
29	13.1211	14.2564	16.0471	17.7084	19.7677	39.0875	42.5569	45.7223	49.5878	52.3355
30	13.7867	14.9535	16.7908	18.4927	20.5992	40.2560	43.7730	46.9792	50.8922	53.6719

APPENDIX H

F-Distribution
Table: Upper 5%
Probability (or 5%
Area) under
F-Distribution
Curve



DENOMINATOR

 $df = D_2$ NUMERATOR $df = D_1$

	1	2	3	4	5	6	7	8	9	10
1	161.446	199.499	215.707	224.583	230.160	233.988	236.767	238.884	240.543	241.882
2	18.513	19.000	19.164	19.247	19.296	19.329	19.353	19.371	19.385	19.396
3	10.128	9.552	9.277	9.117	9.013	8.941	8.887	8.845	8.812	8.785
4	7.709	6.944	6.591	6.388	6.256	6.163	6.094	6.041	5.999	5.964
5	6.608	5.786	5.409	5.192	5.050	4.950	4.876	4.818	4.772	4.735
6	5.987	5.143	4.757	4.534	4.387	4.284	4.207	4.147	4.099	4.060
7	5.591	4.737	4.347	4.120	3.972	3.866	3.787	3.726	3.677	3.637
8	5.318	4.459	4.066	3.838	3.688	3.581	3.500	3.438	3.388	3.347
9	5.117	4.256	3.863	3.633	3.482	3.374	3.293	3.230	3.179	3.137
10	4.965	4.103	3.708	3.478	3.326	3.217	3.135	3.072	3.020	2.978
11	4.844	3.982	3.587	3.357	3.204	3.095	3.012	2.948	2.896	2.854
12	4.747	3.885	3.490	3.259	3.106	2.996	2.913	2.849	2.796	2.753
13	4.667	3.806	3.411	3.179	3.025	2.915	2.832	2.767	2.714	2.671
14	4.600	3.739	3.344	3.112	2.958	2.848	2.764	2.699	2.646	2.602
15	4.543	3.682	3.287	3.056	2.901	2.790	2.707	2.641	2.588	2.544
16	4.494	3.634	3.239	3.007	2.852	2.741	2.657	2.591	2.538	2.494
17	4.451	3.592	3.197	2.965	2.810	2.699	2.614	2.548	2.494	2.450
18	4.414	3.555	3.160	2.928	2.773	2.661	2.577	2.510	2.456	2.412
19	4.381	3.522	3.127	2.895	2.740	2.628	2.544	2.477	2.423	2.378
20	4.351	3.493	3.098	2.866	2.711	2.599	2.514	2.447	2.393	2.348
24	4.260	3.403	3.009	2.776	2.621	2.508	2.423	2.355	2.300	2.255
30	4.171	3.316	2.922	2.690	2.534	2.421	2.334	2.266	2.211	2.165
40	4.085	3.232	2.839	2.606	2.449	2.336	2.249	2.180	2.124	2.077
50	4.034	3.183	2.790	2.557	2.400	2.286	2.199	2.130	2.073	2.026
100	3.936	3.087	2.696	2.463	2.305	2.191	2.103	2.032	1.975	1.927
200	3.888	3.041	2.650	2.417	2.259	2.144	2.056	1.985	1.927	1.878
300	3.873	3.026	2.635	2.402	2.244	2.129	2.040	1.969	1.911	1.862

DENOMINATOR

 $df = D_2$ NUMERATOR $df = D_1$

	11	12	13	14	15	16	17	18	19	20
1	242.981	243.905	244.690	245.363	245.949	246.466	246.917	247.324	247.688	248.016
2	19.405	19.412	19.419	19.424	19.429	19.433	19.437	19.440	19.443	19.446
3	8.763	8.745	8.729	8.715	8.703	8.692	8.683	8.675	8.667	8.660
4	5.936	5.912	5.891	5.873	5.858	5.844	5.832	5.821	5.811	5.803
5	4.704	4.678	4.655	4.636	4.619	4.604	4.590	4.579	4.568	4.558
6	4.027	4.000	3.976	3.956	3.938	3.922	3.908	3.896	3.884	3.874
7	3.603	3.575	3.550	3.529	3.511	3.494	3.480	3.467	3.455	3.445
8	3.313	3.284	3.259	3.237	3.218	3.202	3.187	3.173	3.161	3.150
9	3.102	3.073	3.048	3.025	3.006	2.989	2.974	2.960	2.948	2.936
10	2.943	2.913	2.887	2.865	2.845	2.828	2.812	2.798	2.785	2.774
11	2.818	2.788	2.761	2.739	2.719	2.701	2.685	2.671	2.658	2.646
12	2.717	2.687	2.660	2.637	2.617	2.599	2.583	2.568	2.555	2.544
13	2.635	2.604	2.577	2.554	2.533	2.515	2.499	2.484	2.471	2.459
14	2.565	2.534	2.507	2.484	2.463	2.445	2.428	2.413	2.400	2.388
15	2.507	2.475	2.448	2.424	2.403	2.385	2.368	2.353	2.340	2.328
16	2.456	2.425	2.397	2.373	2.352	2.333	2.317	2.302	2.288	2.276

(continued)

DENOMINATOR

 $df = D_2$ NUMERATOR $df = D_1$

	11	12	13	14	15	16	17	18	19	20
17	2.413	2.381	2.353	2.329	2.308	2.289	2.272	2.257	2.243	2.230
18	2.374	2.342	2.314	2.290	2.269	2.250	2.233	2.217	2.203	2.191
19	2.340	2.308	2.280	2.256	2.234	2.215	2.198	2.182	2.168	2.155
20	2.310	2.278	2.250	2.225	2.203	2.184	2.167	2.151	2.137	2.124
24	2.216	2.183	2.155	2.130	2.108	2.088	2.070	2.054	2.040	2.027
30	2.126	2.092	2.063	2.037	2.015	1.995	1.976	1.960	1.945	1.932
40	2.038	2.003	1.974	1.948	1.924	1.904	1.885	1.868	1.853	1.839
50	1.986	1.952	1.921	1.895	1.871	1.850	1.831	1.814	1.798	1.784
100	1.886	1.850	1.819	1.792	1.768	1.746	1.726	1.708	1.691	1.676
200	1.837	1.801	1.769	1.742	1.717	1.694	1.674	1.656	1.639	1.623
300	1.821	1.785	1.753	1.725	1.700	1.677	1.657	1.638	1.621	1.606

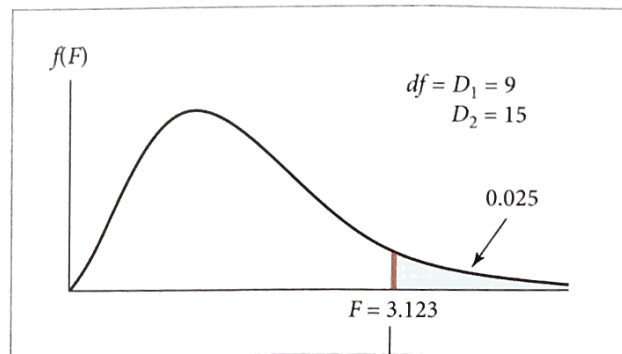
DENOMINATOR

 $df = D_2$ NUMERATOR $df = D_1$

	24	30	40	50	100	200	300
1	249.052	250.096	251.144	251.774	253.043	253.676	253.887
2	19.454	19.463	19.471	19.476	19.486	19.491	19.492
3	8.638	8.617	8.594	8.581	8.554	8.540	8.536
4	5.774	5.746	5.717	5.699	5.664	5.646	5.640
5	4.527	4.496	4.464	4.444	4.405	4.385	4.378
6	3.841	3.808	3.774	3.754	3.712	3.690	3.683
7	3.410	3.376	3.340	3.319	3.275	3.252	3.245
8	3.115	3.079	3.043	3.020	2.975	2.951	2.943
9	2.900	2.864	2.826	2.803	2.756	2.731	2.723
10	2.737	2.700	2.661	2.637	2.588	2.563	2.555
11	2.609	2.570	2.531	2.507	2.457	2.431	2.422
12	2.505	2.466	2.426	2.401	2.350	2.323	2.314
13	2.420	2.380	2.339	2.314	2.261	2.234	2.225
14	2.349	2.308	2.266	2.241	2.187	2.159	2.150
15	2.288	2.247	2.204	2.178	2.123	2.095	2.085
16	2.235	2.194	2.151	2.124	2.068	2.039	2.030
17	2.190	2.148	2.104	2.077	2.020	1.991	1.981
18	2.150	2.107	2.063	2.035	1.978	1.948	1.938
19	2.114	2.071	2.026	1.999	1.940	1.910	1.899
20	2.082	2.039	1.994	1.966	1.907	1.875	1.865
24	1.984	1.939	1.892	1.863	1.800	1.768	1.756
30	1.887	1.841	1.792	1.761	1.695	1.660	1.647
40	1.793	1.744	1.693	1.660	1.589	1.551	1.537
50	1.737	1.687	1.634	1.599	1.525	1.484	1.469
100	1.627	1.573	1.515	1.477	1.392	1.342	1.323
200	1.572	1.516	1.455	1.415	1.321	1.263	1.240
300	1.554	1.497	1.435	1.393	1.296	1.234	1.210

APPENDIX H (continued)

F-Distribution
Table: Upper 2.5%
Probability (or 2.5%
Area) under
F-Distribution
Curve



DENOMINATOR $df = D_2$	NUMERATOR $df = D_1$										
	1	2	3	4	5	6	7	8	9	10	11
1	647.793	799.482	864.151	899.599	921.835	937.114	948.203	956.643	963.279	968.634	973.028
2	38.506	39.000	39.166	39.248	39.298	39.331	39.356	39.373	39.387	39.398	39.407
3	17.443	16.044	15.439	15.101	14.885	14.735	14.624	14.540	14.473	14.419	14.374
4	12.218	10.649	9.979	9.604	9.364	9.197	9.074	8.980	8.905	8.844	8.794
5	10.007	8.434	7.764	7.388	7.146	6.978	6.853	6.757	6.681	6.619	6.568
6	8.813	7.260	6.599	6.227	5.988	5.820	5.695	5.600	5.523	5.461	5.410
7	8.073	6.542	5.890	5.523	5.285	5.119	4.995	4.899	4.823	4.761	4.709
8	7.571	6.059	5.416	5.053	4.817	4.652	4.529	4.433	4.357	4.295	4.243
9	7.209	5.715	5.078	4.718	4.484	4.320	4.197	4.102	4.026	3.964	3.912
10	6.937	5.456	4.826	4.468	4.236	4.072	3.950	3.855	3.779	3.717	3.665
11	6.724	5.256	4.630	4.275	4.044	3.881	3.759	3.664	3.588	3.526	3.474
12	6.554	5.096	4.474	4.121	3.891	3.728	3.607	3.512	3.436	3.374	3.321
13	6.414	4.965	4.347	3.996	3.767	3.604	3.483	3.388	3.312	3.250	3.197
14	6.298	4.857	4.242	3.892	3.663	3.501	3.380	3.285	3.209	3.147	3.095
15	6.200	4.765	4.153	3.804	3.576	3.415	3.293	3.199	3.123	3.060	3.008
16	6.115	4.687	4.077	3.729	3.502	3.341	3.219	3.125	3.049	2.986	2.934
17	6.042	4.619	4.011	3.665	3.438	3.277	3.156	3.061	2.985	2.922	2.870
18	5.978	4.560	3.954	3.608	3.382	3.221	3.100	3.005	2.929	2.866	2.814
19	5.922	4.508	3.903	3.559	3.333	3.172	3.051	2.956	2.880	2.817	2.765
20	5.871	4.461	3.859	3.515	3.289	3.128	3.007	2.913	2.837	2.774	2.721
24	5.717	4.319	3.721	3.379	3.155	2.995	2.874	2.779	2.703	2.640	2.586
30	5.568	4.182	3.589	3.250	3.026	2.867	2.746	2.651	2.575	2.511	2.458
40	5.424	4.051	3.463	3.126	2.904	2.744	2.624	2.529	2.452	2.388	2.334
50	5.340	3.975	3.390	3.054	2.833	2.674	2.553	2.458	2.381	2.317	2.263
100	5.179	3.828	3.250	2.917	2.696	2.537	2.417	2.321	2.244	2.179	2.124
200	5.100	3.758	3.182	2.850	2.630	2.472	2.351	2.256	2.178	2.113	2.058
300	5.075	3.735	3.160	2.829	2.609	2.451	2.330	2.234	2.156	2.091	2.036

DENOMINATOR $df = D_2$	NUMERATOR $df = D_1$										
	12	13	14	15	16	17	18	19	20	24	30
1	976.725	979.839	982.545	984.874	986.911	988.715	990.345	991.800	993.081	997.272	1001.405
2	39.415	39.421	39.427	39.431	39.436	39.439	39.442	39.446	39.448	39.457	39.465
3	14.337	14.305	14.277	14.253	14.232	14.213	14.196	14.181	14.167	14.124	14.081
4	8.751	8.715	8.684	8.657	8.633	8.611	8.592	8.575	8.560	8.511	8.461
5	6.525	6.488	6.456	6.428	6.403	6.381	6.362	6.344	6.329	6.278	6.227
6	5.366	5.329	5.297	5.269	5.244	5.222	5.202	5.184	5.168	5.117	5.065
7	4.666	4.628	4.596	4.568	4.543	4.521	4.501	4.483	4.467	4.415	4.362
8	4.200	4.162	4.130	4.101	4.076	4.054	4.034	4.016	3.999	3.947	3.894
9	3.868	3.831	3.798	3.769	3.744	3.722	3.701	3.683	3.667	3.614	3.560
10	3.621	3.583	3.550	3.522	3.496	3.474	3.453	3.435	3.419	3.365	3.311
11	3.430	3.392	3.359	3.330	3.304	3.282	3.261	3.243	3.226	3.173	3.118
12	3.277	3.239	3.206	3.177	3.152	3.129	3.108	3.090	3.073	3.019	2.963
13	3.153	3.115	3.082	3.053	3.027	3.004	2.983	2.965	2.948	2.893	2.837
14	3.050	3.012	2.979	2.949	2.923	2.900	2.879	2.861	2.844	2.789	2.732
15	2.963	2.925	2.891	2.862	2.836	2.813	2.792	2.773	2.756	2.701	2.644
16	2.889	2.851	2.817	2.788	2.761	2.738	2.717	2.698	2.681	2.625	2.568

(continued)

DENOMINATOR

 $df = D_2$ NUMERATOR $df = D_1$

	12	13	14	15	16	17	18	19	20	24	30
17	2.825	2.786	2.753	2.723	2.697	2.673	2.652	2.633	2.616	2.560	2.502
18	2.769	2.730	2.696	2.667	2.640	2.617	2.596	2.576	2.559	2.503	2.445
19	2.720	2.681	2.647	2.617	2.591	2.567	2.546	2.526	2.509	2.452	2.394
20	2.676	2.637	2.603	2.573	2.547	2.523	2.501	2.482	2.464	2.408	2.349
24	2.541	2.502	2.468	2.437	2.411	2.386	2.365	2.345	2.327	2.269	2.209
30	2.412	2.372	2.338	2.307	2.280	2.255	2.233	2.213	2.195	2.136	2.074
40	2.288	2.248	2.213	2.182	2.154	2.129	2.107	2.086	2.068	2.007	1.943
50	2.216	2.176	2.140	2.109	2.081	2.056	2.033	2.012	1.993	1.931	1.866
100	2.077	2.036	2.000	1.968	1.939	1.913	1.890	1.868	1.849	1.784	1.715
200	2.010	1.969	1.932	1.900	1.870	1.844	1.820	1.798	1.778	1.712	1.640
300	1.988	1.947	1.910	1.877	1.848	1.821	1.797	1.775	1.755	1.688	1.616

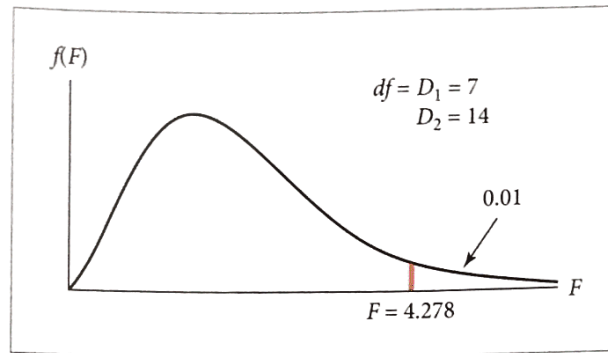
DENOMINATOR

 $df = D_2$ NUMERATOR $df = D_1$

	40	50	100	200	300
1	1005.596	1008.098	1013.163	1015.724	1016.539
2	39.473	39.478	39.488	39.493	39.495
3	14.036	14.010	13.956	13.929	13.920
4	8.411	8.381	8.319	8.288	8.278
5	6.175	6.144	6.080	6.048	6.037
6	5.012	4.980	4.915	4.882	4.871
7	4.309	4.276	4.210	4.176	4.165
8	3.840	3.807	3.739	3.705	3.693
9	3.505	3.472	3.403	3.368	3.357
10	3.255	3.221	3.152	3.116	3.104
11	3.061	3.027	2.956	2.920	2.908
12	2.906	2.871	2.800	2.763	2.750
13	2.780	2.744	2.671	2.634	2.621
14	2.674	2.638	2.565	2.526	2.513
15	2.585	2.549	2.474	2.435	2.422
16	2.509	2.472	2.396	2.357	2.343
17	2.442	2.405	2.329	2.289	2.275
18	2.384	2.347	2.269	2.229	2.215
19	2.333	2.295	2.217	2.176	2.162
20	2.287	2.249	2.170	2.128	2.114
24	2.146	2.107	2.024	1.981	1.966
30	2.009	1.968	1.882	1.835	1.819
40	1.875	1.832	1.741	1.691	1.673
50	1.796	1.752	1.656	1.603	1.584
100	1.640	1.592	1.483	1.420	1.397
200	1.562	1.511	1.393	1.320	1.293
300	1.536	1.484	1.361	1.285	1.255

APPENDIX H (continued)

**F-Distribution
Table: Upper 1%
Probability (or 1%
Area) under
F-Distribution
Curve**



DENOMINATOR $df = D_2$											
	NUMERATOR $df = D_1$										
	1	2	3	4	5	6	7	8	9	10	11
1	4052.185	4999.340	5403.534	5624.257	5763.955	5858.950	5928.334	5980.954	6022.397	6055.925	6083.399
2	98.502	99.000	99.164	99.251	99.302	99.331	99.357	99.375	99.390	99.397	99.408
3	34.116	30.816	29.457	28.710	28.237	27.911	27.671	27.489	27.345	27.228	27.132
4	21.198	18.000	16.694	15.977	15.522	15.207	14.976	14.799	14.659	14.546	14.452
5	16.258	13.274	12.060	11.392	10.967	10.672	10.456	10.289	10.158	10.051	9.963
6	13.745	10.925	9.780	9.148	8.746	8.466	8.260	8.102	7.976	7.874	7.790
7	12.246	9.547	8.451	7.847	7.460	7.191	6.993	6.840	6.719	6.620	6.538
8	11.259	8.649	7.591	7.006	6.632	6.371	6.178	6.029	5.911	5.814	5.734
9	10.562	8.022	6.992	6.422	6.057	5.802	5.613	5.467	5.351	5.257	5.178
10	10.044	7.559	6.552	5.994	5.636	5.386	5.200	5.057	4.942	4.849	4.772
11	9.646	7.206	6.217	5.668	5.316	5.069	4.886	4.744	4.632	4.539	4.462
12	9.330	6.927	5.953	5.412	5.064	4.821	4.640	4.499	4.388	4.296	4.220
13	9.074	6.701	5.739	5.205	4.862	4.620	4.441	4.302	4.191	4.100	4.025
14	8.862	6.515	5.564	5.035	4.695	4.456	4.278	4.140	4.030	3.939	3.864
15	8.683	6.359	5.417	4.893	4.556	4.318	4.142	4.004	3.895	3.805	3.730
16	8.531	6.226	5.292	4.773	4.437	4.202	4.026	3.890	3.780	3.691	3.616
17	8.400	6.112	5.185	4.669	4.336	4.101	3.927	3.791	3.682	3.593	3.518
18	8.285	6.013	5.092	4.579	4.248	4.015	3.841	3.705	3.597	3.508	3.434
19	8.185	5.926	5.010	4.500	4.171	3.939	3.765	3.631	3.523	3.434	3.360
20	8.096	5.849	4.938	4.431	4.103	3.871	3.699	3.564	3.457	3.368	3.294
24	7.823	5.614	4.718	4.218	3.895	3.667	3.496	3.363	3.256	3.168	3.094
30	7.562	5.390	4.510	4.018	3.699	3.473	3.305	3.173	3.067	2.979	2.906
40	7.314	5.178	4.313	3.828	3.514	3.291	3.124	2.993	2.888	2.801	2.727
50	7.171	5.057	4.199	3.720	3.408	3.186	3.020	2.890	2.785	2.698	2.625
100	6.895	4.824	3.984	3.513	3.206	2.988	2.823	2.694	2.590	2.503	2.430
200	6.763	4.713	3.881	3.414	3.110	2.893	2.730	2.601	2.497	2.411	2.338
300	6.720	4.677	3.848	3.382	3.079	2.862	2.699	2.571	2.467	2.380	2.307

DENOMINATOR $df = D_2$											
	NUMERATOR $df = D_1$										
	12	13	14	15	16	17	18	19	20	24	30
1	6106.682	6125.774	6143.004	6156.974	6170.012	6181.188	6191.432	6200.746	6208.662	6234.273	6260.350
2	99.419	99.422	99.426	99.433	99.437	99.441	99.444	99.448	99.448	99.455	99.466
3	27.052	26.983	26.924	26.872	26.826	26.786	26.751	26.719	26.690	26.597	26.504
4	14.374	14.306	14.249	14.198	14.154	14.114	14.079	14.048	14.019	13.929	13.838
5	9.888	9.825	9.770	9.722	9.680	9.643	9.609	9.580	9.553	9.466	9.379
6	7.718	7.657	7.605	7.559	7.519	7.483	7.451	7.422	7.396	7.313	7.229
7	6.469	6.410	6.359	6.314	6.275	6.240	6.209	6.181	6.155	6.074	5.992
8	5.667	5.609	5.559	5.515	5.477	5.442	5.412	5.384	5.359	5.279	5.198
9	5.111	5.055	5.005	4.962	4.924	4.890	4.860	4.833	4.808	4.729	4.649
10	4.706	4.650	4.601	4.558	4.520	4.487	4.457	4.430	4.405	4.327	4.247
11	4.397	4.342	4.293	4.251	4.213	4.180	4.150	4.123	4.099	4.021	3.941
12	4.155	4.100	4.052	4.010	3.972	3.939	3.910	3.883	3.858	3.780	3.701
13	3.960	3.905	3.857	3.815	3.778	3.745	3.716	3.689	3.665	3.587	3.507
14	3.800	3.745	3.698	3.656	3.619	3.586	3.556	3.529	3.505	3.427	3.348
15	3.666	3.612	3.564	3.522	3.485	3.452	3.423	3.396	3.372	3.294	3.214
16	3.553	3.498	3.451	3.409	3.372	3.339	3.310	3.283	3.259	3.181	3.101

(continued)

DENOMINATOR		NUMERATOR $df = D_1$									
$df = D_2$	12	13	14	15	16	17	18	19	20	24	30
17	3.455	3.401	3.353	3.312	3.275	3.242	3.212	3.186	3.162	3.083	3.003
18	3.371	3.316	3.269	3.227	3.190	3.158	3.128	3.101	3.077	2.999	2.919
19	3.297	3.242	3.195	3.153	3.116	3.084	3.054	3.027	3.003	2.925	2.844
20	3.231	3.177	3.130	3.088	3.051	3.018	2.989	2.962	2.938	2.859	2.778
24	3.032	2.977	2.930	2.889	2.852	2.819	2.789	2.762	2.738	2.659	2.577
30	2.843	2.789	2.742	2.700	2.663	2.630	2.600	2.573	2.549	2.469	2.386
40	2.665	2.611	2.563	2.522	2.484	2.451	2.421	2.394	2.369	2.288	2.203
50	2.563	2.508	2.461	2.419	2.382	2.348	2.318	2.290	2.265	2.183	2.098
100	2.368	2.313	2.265	2.223	2.185	2.151	2.120	2.092	2.067	1.983	1.893
200	2.275	2.220	2.172	2.129	2.091	2.057	2.026	1.997	1.971	1.886	1.794
300	2.244	2.190	2.142	2.099	2.061	2.026	1.995	1.966	1.940	1.854	1.761

DENOMINATOR		NUMERATOR $df = D_1$				
$df = D_2$	40	50	100	200	300	
1	6286.427	6302.260	6333.925	6349.757	6355.345	
2	99.477	99.477	99.491	99.491	99.499	
3	26.411	26.354	26.241	26.183	26.163	
4	13.745	13.690	13.577	13.520	13.501	
5	9.291	9.238	9.130	9.075	9.057	
6	7.143	7.091	6.987	6.934	6.916	
7	5.908	5.858	5.755	5.702	5.685	
8	5.116	5.065	4.963	4.911	4.894	
9	4.567	4.517	4.415	4.363	4.346	
10	4.165	4.115	4.014	3.962	3.944	
11	3.860	3.810	3.708	3.656	3.638	
12	3.619	3.569	3.467	3.414	3.397	
13	3.425	3.375	3.272	3.219	3.202	
14	3.266	3.215	3.112	3.059	3.040	
15	3.132	3.081	2.977	2.923	2.905	
16	3.018	2.967	2.863	2.808	2.790	
17	2.920	2.869	2.764	2.709	2.691	
18	2.835	2.784	2.678	2.623	2.604	
19	2.761	2.709	2.602	2.547	2.528	
20	2.695	2.643	2.535	2.479	2.460	
24	2.492	2.440	2.329	2.271	2.251	
30	2.299	2.245	2.131	2.070	2.049	
40	2.114	2.058	1.938	1.874	1.851	
50	2.007	1.949	1.825	1.757	1.733	
100	1.797	1.735	1.598	1.518	1.490	
200	1.694	1.629	1.481	1.391	1.357	
300	1.660	1.594	1.441	1.346	1.309	