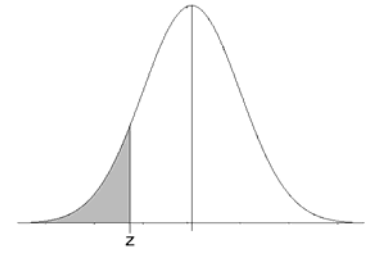


# Standard Normal Cumulative Probability Table



Cumulative probabilities for NEGATIVE z-values are shown in the following table:

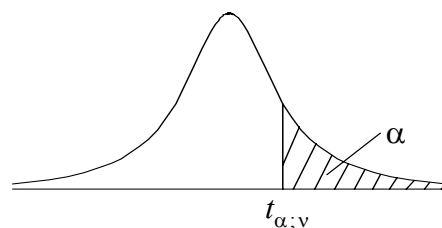
<b>z</b>	<b>0.00</b>	<b>0.01</b>	<b>0.02</b>	<b>0.03</b>	<b>0.04</b>	<b>0.05</b>	<b>0.06</b>	<b>0.07</b>	<b>0.08</b>	<b>0.09</b>
<b>-3.4</b>	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0002
<b>-3.3</b>	0.0005	0.0005	0.0005	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0003
<b>-3.2</b>	0.0007	0.0007	0.0006	0.0006	0.0006	0.0006	0.0006	0.0005	0.0005	0.0005
<b>-3.1</b>	0.0010	0.0009	0.0009	0.0009	0.0008	0.0008	0.0008	0.0008	0.0007	0.0007
<b>-3.0</b>	0.0013	0.0013	0.0013	0.0012	0.0012	0.0011	0.0011	0.0011	0.0010	0.0010
<b>-2.9</b>	0.0019	0.0018	0.0018	0.0017	0.0016	0.0016	0.0015	0.0015	0.0014	0.0014
<b>-2.8</b>	0.0026	0.0025	0.0024	0.0023	0.0023	0.0022	0.0021	0.0021	0.0020	0.0019
<b>-2.7</b>	0.0035	0.0034	0.0033	0.0032	0.0031	0.0030	0.0029	0.0028	0.0027	0.0026
<b>-2.6</b>	0.0047	0.0045	0.0044	0.0043	0.0041	0.0040	0.0039	0.0038	0.0037	0.0036
<b>-2.5</b>	0.0062	0.0060	0.0059	0.0057	0.0055	0.0054	0.0052	0.0051	0.0049	0.0048
<b>-2.4</b>	0.0082	0.0080	0.0078	0.0075	0.0073	0.0071	0.0069	0.0068	0.0066	0.0064
<b>-2.3</b>	0.0107	0.0104	0.0102	0.0099	0.0096	0.0094	0.0091	0.0089	0.0087	0.0084
<b>-2.2</b>	0.0139	0.0136	0.0132	0.0129	0.0125	0.0122	0.0119	0.0116	0.0113	0.0110
<b>-2.1</b>	0.0179	0.0174	0.0170	0.0166	0.0162	0.0158	0.0154	0.0150	0.0146	0.0143
<b>-2.0</b>	0.0228	0.0222	0.0217	0.0212	0.0207	0.0202	0.0197	0.0192	0.0188	0.0183
<b>-1.9</b>	0.0287	0.0281	0.0274	0.0268	0.0262	0.0256	0.0250	0.0244	0.0239	0.0233
<b>-1.8</b>	0.0359	0.0351	0.0344	0.0336	0.0329	0.0322	0.0314	0.0307	0.0301	0.0294
<b>-1.7</b>	0.0446	0.0436	0.0427	0.0418	0.0409	0.0401	0.0392	0.0384	0.0375	0.0367
<b>-1.6</b>	0.0548	0.0537	0.0526	0.0516	0.0505	0.0495	0.0485	0.0475	0.0465	0.0455
<b>-1.5</b>	0.0668	0.0655	0.0643	0.0630	0.0618	0.0606	0.0594	0.0582	0.0571	0.0559
<b>-1.4</b>	0.0808	0.0793	0.0778	0.0764	0.0749	0.0735	0.0721	0.0708	0.0694	0.0681
<b>-1.3</b>	0.0968	0.0951	0.0934	0.0918	0.0901	0.0885	0.0869	0.0853	0.0838	0.0823
<b>-1.2</b>	0.1151	0.1131	0.1112	0.1093	0.1075	0.1056	0.1038	0.1020	0.1003	0.0985
<b>-1.1</b>	0.1357	0.1335	0.1314	0.1292	0.1271	0.1251	0.1230	0.1210	0.1190	0.1170
<b>-1.0</b>	0.1587	0.1562	0.1539	0.1515	0.1492	0.1469	0.1446	0.1423	0.1401	0.1379
<b>-0.9</b>	0.1841	0.1814	0.1788	0.1762	0.1736	0.1711	0.1685	0.1660	0.1635	0.1611
<b>-0.8</b>	0.2119	0.2090	0.2061	0.2033	0.2005	0.1977	0.1949	0.1922	0.1894	0.1867
<b>-0.7</b>	0.2420	0.2389	0.2358	0.2327	0.2296	0.2266	0.2236	0.2206	0.2177	0.2148
<b>-0.6</b>	0.2743	0.2709	0.2676	0.2643	0.2611	0.2578	0.2546	0.2514	0.2483	0.2451
<b>-0.5</b>	0.3085	0.3050	0.3015	0.2981	0.2946	0.2912	0.2877	0.2843	0.2810	0.2776
<b>-0.4</b>	0.3446	0.3409	0.3372	0.3336	0.3300	0.3264	0.3228	0.3192	0.3156	0.3121
<b>-0.3</b>	0.3821	0.3783	0.3745	0.3707	0.3669	0.3632	0.3594	0.3557	0.3520	0.3483
<b>-0.2</b>	0.4207	0.4168	0.4129	0.4090	0.4052	0.4013	0.3974	0.3936	0.3897	0.3859
<b>-0.1</b>	0.4602	0.4562	0.4522	0.4483	0.4443	0.4404	0.4364	0.4325	0.4286	0.4247
<b>0.0</b>	0.5000	0.4960	0.4920	0.4880	0.4840	0.4801	0.4761	0.4721	0.4681	0.4641





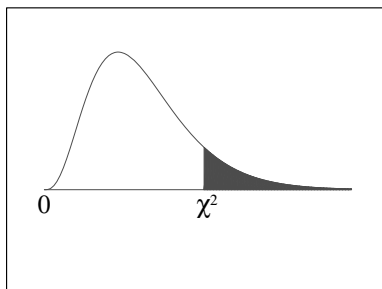
## Table of the Student's $t$ -distribution

The table gives the values of  $t_{\alpha;v}$  where  
 $\Pr(T_v > t_{\alpha;v}) = \alpha$ , with  $v$  degrees of freedom



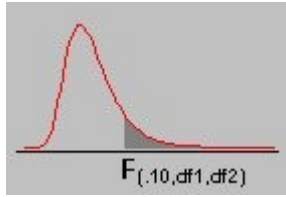
$\alpha \backslash v$	0.1	0.05	0.025	0.01	0.005	0.001	0.0005
1	3.078	6.314	12.076	31.821	63.657	318.310	636.620
2	1.886	2.920	4.303	6.965	9.925	22.326	31.598
3	1.638	2.353	3.182	4.541	5.841	10.213	12.924
4	1.533	2.132	2.776	3.747	4.604	7.173	8.610
5	1.476	2.015	2.571	3.365	4.032	5.893	6.869
6	1.440	1.943	2.447	3.143	3.707	5.208	5.959
7	1.415	1.895	2.365	2.998	3.499	4.785	5.408
8	1.397	1.860	2.306	2.896	3.355	4.501	5.041
9	1.383	1.833	2.262	2.821	3.250	4.297	4.781
10	1.372	1.812	2.228	2.764	3.169	4.144	4.587
11	1.363	1.796	2.201	2.718	3.106	4.025	4.437
12	1.356	1.782	2.179	2.681	3.055	3.930	4.318
13	1.350	1.771	2.160	2.650	3.012	3.852	4.221
14	1.345	1.761	2.145	2.624	2.977	3.787	4.140
15	1.341	1.753	2.131	2.602	2.947	3.733	4.073
16	1.337	1.746	2.120	2.583	2.921	3.686	4.015
17	1.333	1.740	2.110	2.567	2.898	3.646	3.965
18	1.330	1.734	2.101	2.552	2.878	3.610	3.922
19	1.328	1.729	2.093	2.539	2.861	3.579	3.883
20	1.325	1.725	2.086	2.528	2.845	3.552	3.850
21	1.323	1.721	2.080	2.518	2.831	3.527	3.819
22	1.321	1.717	2.074	2.508	2.819	3.505	3.792
23	1.319	1.714	2.069	2.500	2.807	3.485	3.767
24	1.318	1.711	2.064	2.492	2.797	3.467	3.745
25	1.316	1.708	2.060	2.485	2.787	3.450	3.725
26	1.315	1.706	2.056	2.479	2.779	3.435	3.707
27	1.314	1.703	2.052	2.473	2.771	3.421	3.690
28	1.313	1.701	2.048	2.467	2.763	3.408	3.674
29	1.311	1.699	2.045	2.462	2.756	3.396	3.659
30	1.310	1.697	2.042	2.457	2.750	3.385	3.646
40	1.303	1.684	2.021	2.423	2.704	3.307	3.551
60	1.296	1.671	2.000	2.390	2.660	3.232	3.460
120	1.289	1.658	1.980	2.358	2.617	3.160	3.373
$\infty$	1.282	1.645	1.960	2.326	2.576	3.090	3.291

# Chi-Square Distribution Table



The shaded area is equal to  $\alpha$  for  $\chi^2 = \chi^2_{\alpha}$ .

<i>df</i>	$\chi^2_{.995}$	$\chi^2_{.990}$	$\chi^2_{.975}$	$\chi^2_{.950}$	$\chi^2_{.900}$	$\chi^2_{.100}$	$\chi^2_{.050}$	$\chi^2_{.025}$	$\chi^2_{.010}$	$\chi^2_{.005}$
1	0.000	0.000	0.001	0.004	0.016	2.706	3.841	5.024	6.635	7.879
2	0.010	0.020	0.051	0.103	0.211	4.605	5.991	7.378	9.210	10.597
3	0.072	0.115	0.216	0.352	0.584	6.251	7.815	9.348	11.345	12.838
4	0.207	0.297	0.484	0.711	1.064	7.779	9.488	11.143	13.277	14.860
5	0.412	0.554	0.831	1.145	1.610	9.236	11.070	12.833	15.086	16.750
6	0.676	0.872	1.237	1.635	2.204	10.645	12.592	14.449	16.812	18.548
7	0.989	1.239	1.690	2.167	2.833	12.017	14.067	16.013	18.475	20.278
8	1.344	1.646	2.180	2.733	3.490	13.362	15.507	17.535	20.090	21.955
9	1.735	2.088	2.700	3.325	4.168	14.684	16.919	19.023	21.666	23.589
10	2.156	2.558	3.247	3.940	4.865	15.987	18.307	20.483	23.209	25.188
11	2.603	3.053	3.816	4.575	5.578	17.275	19.675	21.920	24.725	26.757
12	3.074	3.571	4.404	5.226	6.304	18.549	21.026	23.337	26.217	28.300
13	3.565	4.107	5.009	5.892	7.042	19.812	22.362	24.736	27.688	29.819
14	4.075	4.660	5.629	6.571	7.790	21.064	23.685	26.119	29.141	31.319
15	4.601	5.229	6.262	7.261	8.547	22.307	24.996	27.488	30.578	32.801
16	5.142	5.812	6.908	7.962	9.312	23.542	26.296	28.845	32.000	34.267
17	5.697	6.408	7.564	8.672	10.085	24.769	27.587	30.191	33.409	35.718
18	6.265	7.015	8.231	9.390	10.865	25.989	28.869	31.526	34.805	37.156
19	6.844	7.633	8.907	10.117	11.651	27.204	30.144	32.852	36.191	38.582
20	7.434	8.260	9.591	10.851	12.443	28.412	31.410	34.170	37.566	39.997
21	8.034	8.897	10.283	11.591	13.240	29.615	32.671	35.479	38.932	41.401
22	8.643	9.542	10.982	12.338	14.041	30.813	33.924	36.781	40.289	42.796
23	9.260	10.196	11.689	13.091	14.848	32.007	35.172	38.076	41.638	44.181
24	9.886	10.856	12.401	13.848	15.659	33.196	36.415	39.364	42.980	45.559
25	10.520	11.524	13.120	14.611	16.473	34.382	37.652	40.646	44.314	46.928
26	11.160	12.198	13.844	15.379	17.292	35.563	38.885	41.923	45.642	48.290
27	11.808	12.879	14.573	16.151	18.114	36.741	40.113	43.195	46.963	49.645
28	12.461	13.565	15.308	16.928	18.939	37.916	41.337	44.461	48.278	50.993
29	13.121	14.256	16.047	17.708	19.768	39.087	42.557	45.722	49.588	52.336
30	13.787	14.953	16.791	18.493	20.599	40.256	43.773	46.979	50.892	53.672
40	20.707	22.164	24.433	26.509	29.051	51.805	55.758	59.342	63.691	66.766
50	27.991	29.707	32.357	34.764	37.689	63.167	67.505	71.420	76.154	79.490
60	35.534	37.485	40.482	43.188	46.459	74.397	79.082	83.298	88.379	91.952
70	43.275	45.442	48.758	51.739	55.329	85.527	90.531	95.023	100.425	104.215
80	51.172	53.540	57.153	60.391	64.278	96.578	101.879	106.629	112.329	116.321
90	59.196	61.754	65.647	69.126	73.291	107.565	113.145	118.136	124.116	128.299
100	67.328	70.065	74.222	77.929	82.358	118.498	124.342	129.561	135.807	140.169



F Table for  $\alpha = 0.10$  (1/3)

df2/df1	1	2	3	4	5	6	7	8	9	10
1	39.86346	49.50000	53.59324	55.83296	57.24008	58.20442	58.90595	59.43898	59.85759	60.19498
2	8.52632	9.00000	9.16179	9.24342	9.29263	9.32553	9.34908	9.36677	9.38054	9.39157
3	5.53832	5.46238	5.39077	5.34264	5.30916	5.28473	5.26619	5.25167	5.24000	5.23041
4	4.54477	4.32456	4.19086	4.10725	4.05058	4.00975	3.97897	3.95494	3.93567	3.91988
5	4.06042	3.77972	3.61948	3.52020	3.45298	3.40451	3.36790	3.33928	3.31628	3.29740
6	3.77595	3.46330	3.28876	3.18076	3.10751	3.05455	3.01446	2.98304	2.95774	2.93693
7	3.58943	3.25744	3.07407	2.96053	2.88334	2.82739	2.78493	2.75158	2.72468	2.70251
8	3.45792	3.11312	2.92380	2.80643	2.72645	2.66833	2.62413	2.58935	2.56124	2.53804
9	3.36030	3.00645	2.81286	2.69268	2.61061	2.55086	2.50531	2.46941	2.44034	2.41632
10	3.28502	2.92447	2.72767	2.60534	2.52164	2.46058	2.41397	2.37715	2.34731	2.32260
11	3.22520	2.85951	2.66023	2.53619	2.45118	2.38907	2.34157	2.30400	2.27350	2.24823
12	3.17655	2.80680	2.60552	2.48010	2.39402	2.33102	2.28278	2.24457	2.21352	2.18776
13	3.13621	2.76317	2.56027	2.43371	2.34672	2.28298	2.23410	2.19535	2.16382	2.13763
14	3.10221	2.72647	2.52222	2.39469	2.30694	2.24256	2.19313	2.15390	2.12195	2.09540
15	3.07319	2.69517	2.48979	2.36143	2.27302	2.20808	2.15818	2.11853	2.08621	2.05932
16	3.04811	2.66817	2.46181	2.33274	2.24376	2.17833	2.12800	2.08798	2.05533	2.02815
17	3.02623	2.64464	2.43743	2.30775	2.21825	2.15239	2.10169	2.06134	2.02839	2.00094
18	3.00698	2.62395	2.41601	2.28577	2.19583	2.12958	2.07854	2.03789	2.00467	1.97698
19	2.98990	2.60561	2.39702	2.26630	2.17596	2.10936	2.05802	2.01710	1.98364	1.95573
20	2.97465	2.58925	2.38009	2.24893	2.15823	2.09132	2.03970	1.99853	1.96485	1.93674
21	2.96096	2.57457	2.36489	2.23334	2.14231	2.07512	2.02325	1.98186	1.94797	1.91967
22	2.94858	2.56131	2.35117	2.21927	2.12794	2.06050	2.00840	1.96680	1.93273	1.90425

## F Table for $\alpha=.10$ (2/3)

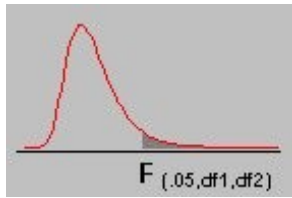
df2/df1	12	15	20	24	30	40	60	120	$\infty$
1	60.70521	61.22034	61.74029	62.00205	62.26497	62.52905	62.79428	63.06064	63.32812
2	9.40813	9.42471	9.44131	9.44962	9.45793	9.46624	9.47456	9.48289	9.49122
3	5.21562	5.20031	5.18448	5.17636	5.16811	5.15972	5.15119	5.14251	5.13370
4	3.89553	3.87036	3.84434	3.83099	3.81742	3.80361	3.78957	3.77527	3.76073
5	3.26824	3.23801	3.20665	3.19052	3.17408	3.15732	3.14023	3.12279	3.10500
6	2.90472	2.87122	2.83634	2.81834	2.79996	2.78117	2.76195	2.74229	2.72216
7	2.66811	2.63223	2.59473	2.57533	2.55546	2.53510	2.51422	2.49279	2.47079
8	2.50196	2.46422	2.42464	2.40410	2.38302	2.36136	2.33910	2.31618	2.29257
9	2.37888	2.33962	2.29832	2.27683	2.25472	2.23196	2.20849	2.18427	2.15923
10	2.28405	2.24351	2.20074	2.17843	2.15543	2.13169	2.10716	2.08176	2.05542
11	2.20873	2.16709	2.12305	2.10001	2.07621	2.05161	2.02612	1.99965	1.97211
12	2.14744	2.10485	2.05968	2.03599	2.01149	1.98610	1.95973	1.93228	1.90361
13	2.09659	2.05316	2.00698	1.98272	1.95757	1.93147	1.90429	1.87591	1.84620
14	2.05371	2.00953	1.96245	1.93766	1.91193	1.88516	1.85723	1.82800	1.79728
15	2.01707	1.97222	1.92431	1.89904	1.87277	1.84539	1.81676	1.78672	1.75505
16	1.98539	1.93992	1.89127	1.86556	1.83879	1.81084	1.78156	1.75075	1.71817
17	1.95772	1.91169	1.86236	1.83624	1.80901	1.78053	1.75063	1.71909	1.68564
18	1.93334	1.88681	1.83685	1.81035	1.78269	1.75371	1.72322	1.69099	1.65671
19	1.91170	1.86471	1.81416	1.78731	1.75924	1.72979	1.69876	1.66587	1.63077
20	1.89236	1.84494	1.79384	1.76667	1.73822	1.70833	1.67678	1.64326	1.60738
21	1.87497	1.82715	1.77555	1.74807	1.71927	1.68896	1.65691	1.62278	1.58615
22	1.85925	1.81106	1.75899	1.73122	1.70208	1.67138	1.63885	1.60415	1.56678

### F Table for $\alpha=.10$ (3/3)

df2/df1	1	2	3	4	5	6	7	8	9	10
23	2.93736	2.54929	2.33873	2.20651	2.11491	2.04723	1.99492	1.95312	1.91888	1.89025
24	2.92712	2.53833	2.32739	2.19488	2.10303	2.03513	1.98263	1.94066	1.90625	1.87748
25	2.91774	2.52831	2.31702	2.18424	2.09216	2.02406	1.97138	1.92925	1.89469	1.86578
26	2.90913	2.51910	2.30749	2.17447	2.08218	2.01389	1.96104	1.91876	1.88407	1.85503
27	2.90119	2.51061	2.29871	2.16546	2.07298	2.00452	1.95151	1.90909	1.87427	1.84511
28	2.89385	2.50276	2.29060	2.15714	2.06447	1.99585	1.94270	1.90014	1.86520	1.83593
29	2.88703	2.49548	2.28307	2.14941	2.05658	1.98781	1.93452	1.89184	1.85679	1.82741
30	2.88069	2.48872	2.27607	2.14223	2.04925	1.98033	1.92692	1.88412	1.84896	1.81949
40	2.83535	2.44037	2.22609	2.09095	1.99682	1.92688	1.87252	1.82886	1.79290	1.76269
60	2.79107	2.39325	2.17741	2.04099	1.94571	1.87472	1.81939	1.77483	1.73802	1.70701
120	2.74781	2.34734	2.12999	1.99230	1.89587	1.82381	1.76748	1.72196	1.68425	1.65238
$\infty$	2.70554	2.30259	2.08380	1.94486	1.84727	1.77411	1.71672	1.67020	1.63152	1.59872

df2/df1	12	15	20	24	30	40	60	120	$\infty$
23	1.84497	1.79643	1.74392	1.71588	1.68643	1.65535	1.62237	1.58711	1.54903
24	1.83194	1.78308	1.73015	1.70185	1.67210	1.64067	1.60726	1.57146	1.53270
25	1.82000	1.77083	1.71752	1.68898	1.65895	1.62718	1.59335	1.55703	1.51760
26	1.80902	1.75957	1.70589	1.67712	1.64682	1.61472	1.58050	1.54368	1.50360
27	1.79889	1.74917	1.69514	1.66616	1.63560	1.60320	1.56859	1.53129	1.49057
28	1.78951	1.73954	1.68519	1.65600	1.62519	1.59250	1.55753	1.51976	1.47841
29	1.78081	1.73060	1.67593	1.64655	1.61551	1.58253	1.54721	1.50899	1.46704
30	1.77270	1.72227	1.66731	1.63774	1.60648	1.57323	1.53757	1.49891	1.45636
40	1.71456	1.66241	1.60515	1.57411	1.54108	1.50562	1.46716	1.42476	1.37691
60	1.65743	1.60337	1.54349	1.51072	1.47554	1.43734	1.39520	1.34757	1.29146
120	1.60120	1.54500	1.48207	1.44723	1.40938	1.36760	1.32034	1.26457	1.19256
$\infty$	1.54578	1.48714	1.42060	1.38318	1.34187	1.29513	1.23995	1.16860	1.00000





F Table for  $\alpha = 0.05$  (1/3)

df2/df1	1	2	3	4	5	6	7	8	9	10
1	161.4476	199.5000	215.7073	224.5832	230.1619	233.9860	236.7684	238.8827	240.5433	241.8817
2	18.5128	19.0000	19.1643	19.2468	19.2964	19.3295	19.3532	19.3710	19.3848	19.3959
3	10.1280	9.5521	9.2766	9.1172	9.0135	8.9406	8.8867	8.8452	8.8123	8.7855
4	7.7086	6.9443	6.5914	6.3882	6.2561	6.1631	6.0942	6.0410	5.9988	5.9644
5	6.6079	5.7861	5.4095	5.1922	5.0503	4.9503	4.8759	4.8183	4.7725	4.7351
6	5.9874	5.1433	4.7571	4.5337	4.3874	4.2839	4.2067	4.1468	4.0990	4.0600
7	5.5914	4.7374	4.3468	4.1203	3.9715	3.8660	3.7870	3.7257	3.6767	3.6365
8	5.3177	4.4590	4.0662	3.8379	3.6875	3.5806	3.5005	3.4381	3.3881	3.3472
9	5.1174	4.2565	3.8625	3.6331	3.4817	3.3738	3.2927	3.2296	3.1789	3.1373
10	4.9646	4.1028	3.7083	3.4780	3.3258	3.2172	3.1355	3.0717	3.0204	2.9782
11	4.8443	3.9823	3.5874	3.3567	3.2039	3.0946	3.0123	2.9480	2.8962	2.8536
12	4.7472	3.8853	3.4903	3.2592	3.1059	2.9961	2.9134	2.8486	2.7964	2.7534
13	4.6672	3.8056	3.4105	3.1791	3.0254	2.9153	2.8321	2.7669	2.7144	2.6710
14	4.6001	3.7389	3.3439	3.1122	2.9582	2.8477	2.7642	2.6987	2.6458	2.6022
15	4.5431	3.6823	3.2874	3.0556	2.9013	2.7905	2.7066	2.6408	2.5876	2.5437
16	4.4940	3.6337	3.2389	3.0069	2.8524	2.7413	2.6572	2.5911	2.5377	2.4935
17	4.4513	3.5915	3.1968	2.9647	2.8100	2.6987	2.6143	2.5480	2.4943	2.4499
18	4.4139	3.5546	3.1599	2.9277	2.7729	2.6613	2.5767	2.5102	2.4563	2.4117
19	4.3807	3.5219	3.1274	2.8951	2.7401	2.6283	2.5435	2.4768	2.4227	2.3779
20	4.3512	3.4928	3.0984	2.8661	2.7109	2.5990	2.5140	2.4471	2.3928	2.3479
21	4.3248	3.4668	3.0725	2.8401	2.6848	2.5727	2.4876	2.4205	2.3660	2.3210
22	4.3009	3.4434	3.0491	2.8167	2.6613	2.5491	2.4638	2.3965	2.3419	2.2967

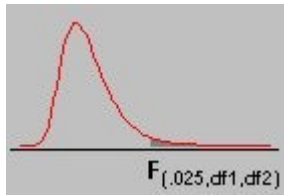
## F Table for $\alpha= 0.05$ (2/3)

<b>df2/df1</b>	<b>12</b>	<b>15</b>	<b>20</b>	<b>24</b>	<b>30</b>	<b>40</b>	<b>60</b>	<b>120</b>	<b><math>\infty</math></b>
<b>1</b>	243.9060	245.9499	248.0131	249.0518	250.0951	251.1432	252.1957	253.2529	254.3144
<b>2</b>	19.4125	19.4291	19.4458	19.4541	19.4624	19.4707	19.4791	19.4874	19.4957
<b>3</b>	8.7446	8.7029	8.6602	8.6385	8.6166	8.5944	8.5720	8.5494	8.5264
<b>4</b>	5.9117	5.8578	5.8025	5.7744	5.7459	5.7170	5.6877	5.6581	5.6281
<b>5</b>	4.6777	4.6188	4.5581	4.5272	4.4957	4.4638	4.4314	4.3985	4.3650
<b>6</b>	3.9999	3.9381	3.8742	3.8415	3.8082	3.7743	3.7398	3.7047	3.6689
<b>7</b>	3.5747	3.5107	3.4445	3.4105	3.3758	3.3404	3.3043	3.2674	3.2298
<b>8</b>	3.2839	3.2184	3.1503	3.1152	3.0794	3.0428	3.0053	2.9669	2.9276
<b>9</b>	3.0729	3.0061	2.9365	2.9005	2.8637	2.8259	2.7872	2.7475	2.7067
<b>10</b>	2.9130	2.8450	2.7740	2.7372	2.6996	2.6609	2.6211	2.5801	2.5379
<b>11</b>	2.7876	2.7186	2.6464	2.6090	2.5705	2.5309	2.4901	2.4480	2.4045
<b>12</b>	2.6866	2.6169	2.5436	2.5055	2.4663	2.4259	2.3842	2.3410	2.2962
<b>13</b>	2.6037	2.5331	2.4589	2.4202	2.3803	2.3392	2.2966	2.2524	2.2064
<b>14</b>	2.5342	2.4630	2.3879	2.3487	2.3082	2.2664	2.2229	2.1778	2.1307
<b>15</b>	2.4753	2.4034	2.3275	2.2878	2.2468	2.2043	2.1601	2.1141	2.0658
<b>16</b>	2.4247	2.3522	2.2756	2.2354	2.1938	2.1507	2.1058	2.0589	2.0096
<b>17</b>	2.3807	2.3077	2.2304	2.1898	2.1477	2.1040	2.0584	2.0107	1.9604
<b>18</b>	2.3421	2.2686	2.1906	2.1497	2.1071	2.0629	2.0166	1.9681	1.9168
<b>19</b>	2.3080	2.2341	2.1555	2.1141	2.0712	2.0264	1.9795	1.9302	1.8780
<b>20</b>	2.2776	2.2033	2.1242	2.0825	2.0391	1.9938	1.9464	1.8963	1.8432
<b>21</b>	2.2504	2.1757	2.0960	2.0540	2.0102	1.9645	1.9165	1.8657	1.8117
<b>22</b>	2.2258	2.1508	2.0707	2.0283	1.9842	1.9380	1.8894	1.8380	1.7831

### F Table for $\alpha= 0.05$ (3/3)

df2/df1	1	2	3	4	5	6	7	8	9
23	4.2793	3.4221	3.0280	2.7955	2.6400	2.5277	2.4422	2.3748	2.3201
24	4.2597	3.4028	3.0088	2.7763	2.6207	2.5082	2.4226	2.3551	2.3002
25	4.2417	3.3852	2.9912	2.7587	2.6030	2.4904	2.4047	2.3371	2.2821
26	4.2252	3.3690	2.9752	2.7426	2.5868	2.4741	2.3883	2.3205	2.2655
27	4.2100	3.3541	2.9604	2.7278	2.5719	2.4591	2.3732	2.3053	2.2501
28	4.1960	3.3404	2.9467	2.7141	2.5581	2.4453	2.3593	2.2913	2.2360
29	4.1830	3.3277	2.9340	2.7014	2.5454	2.4324	2.3463	2.2783	2.2229
30	4.1709	3.3158	2.9223	2.6896	2.5336	2.4205	2.3343	2.2662	2.2107
40	4.0847	3.2317	2.8387	2.6060	2.4495	2.3359	2.2490	2.1802	2.1240
60	4.0012	3.1504	2.7581	2.5252	2.3683	2.2541	2.1665	2.0970	2.0401
120	3.9201	3.0718	2.6802	2.4472	2.2899	2.1750	2.0868	2.0164	1.9588
$\infty$	3.8415	2.9957	2.6049	2.3719	2.2141	2.0986	2.0096	1.9384	1.8799

df2/df1	10	12	15	20	24	30	40	60	120	$\infty$
23	2.2747	2.2036	2.1282	2.0476	2.0050	1.9605	1.9139	1.8648	1.8128	1.7570
24	2.2547	2.1834	2.1077	2.0267	1.9838	1.9390	1.8920	1.8424	1.7896	1.7330
25	2.2365	2.1649	2.0889	2.0075	1.9643	1.9192	1.8718	1.8217	1.7684	1.7110
26	2.2197	2.1479	2.0716	1.9898	1.9464	1.9010	1.8533	1.8027	1.7488	1.6906
27	2.2043	2.1323	2.0558	1.9736	1.9299	1.8842	1.8361	1.7851	1.7306	1.6717
28	2.1900	2.1179	2.0411	1.9586	1.9147	1.8687	1.8203	1.7689	1.7138	1.6541
29	2.1768	2.1045	2.0275	1.9446	1.9005	1.8543	1.8055	1.7537	1.6981	1.6376
30	2.1646	2.0921	2.0148	1.9317	1.8874	1.8409	1.7918	1.7396	1.6835	1.6223
40	2.0772	2.0035	1.9245	1.8389	1.7929	1.7444	1.6928	1.6373	1.5766	1.5089
60	1.9926	1.9174	1.8364	1.7480	1.7001	1.6491	1.5943	1.5343	1.4673	1.3893
120	1.9105	1.8337	1.7505	1.6587	1.6084	1.5543	1.4952	1.4290	1.3519	1.2539
$\infty$	1.8307	1.7522	1.6664	1.5705	1.5173	1.4591	1.3940	1.3180	1.2214	1.0000



F Table for  $\alpha= 0.025$  (1/3)

df2/df1	1	2	3	4	5	6	7	8	9
1	647.7890	799.5000	864.1630	899.5833	921.8479	937.1111	948.2169	956.6562	963.2846
2	38.5063	39.0000	39.1655	39.2484	39.2982	39.3315	39.3552	39.3730	39.3869
3	17.4434	16.0441	15.4392	15.1010	14.8848	14.7347	14.6244	14.5399	14.4731
4	12.2179	10.6491	9.9792	9.6045	9.3645	9.1973	9.0741	8.9796	8.9047
5	10.0070	8.4336	7.7636	7.3879	7.1464	6.9777	6.8531	6.7572	6.6811
6	8.8131	7.2599	6.5988	6.2272	5.9876	5.8198	5.6955	5.5996	5.5234
7	8.0727	6.5415	5.8898	5.5226	5.2852	5.1186	4.9949	4.8993	4.8232
8	7.5709	6.0595	5.4160	5.0526	4.8173	4.6517	4.5286	4.4333	4.3572
9	7.2093	5.7147	5.0781	4.7181	4.4844	4.3197	4.1970	4.1020	4.0260
10	6.9367	5.4564	4.8256	4.4683	4.2361	4.0721	3.9498	3.8549	3.7790
11	6.7241	5.2559	4.6300	4.2751	4.0440	3.8807	3.7586	3.6638	3.5879
12	6.5538	5.0959	4.4742	4.1212	3.8911	3.7283	3.6065	3.5118	3.4358
13	6.4143	4.9653	4.3472	3.9959	3.7667	3.6043	3.4827	3.3880	3.3120
14	6.2979	4.8567	4.2417	3.8919	3.6634	3.5014	3.3799	3.2853	3.2093
15	6.1995	4.7650	4.1528	3.8043	3.5764	3.4147	3.2934	3.1987	3.1227
16	6.1151	4.6867	4.0768	3.7294	3.5021	3.3406	3.2194	3.1248	3.0488
17	6.0420	4.6189	4.0112	3.6648	3.4379	3.2767	3.1556	3.0610	2.9849
18	5.9781	4.5597	3.9539	3.6083	3.3820	3.2209	3.0999	3.0053	2.9291
19	5.9216	4.5075	3.9034	3.5587	3.3327	3.1718	3.0509	2.9563	2.8801
20	5.8715	4.4613	3.8587	3.5147	3.2891	3.1283	3.0074	2.9128	2.8365
21	5.8266	4.4199	3.8188	3.4754	3.2501	3.0895	2.9686	2.8740	2.7977
22	5.7863	4.3828	3.7829	3.4401	3.2151	3.0546	2.9338	2.8392	2.7628

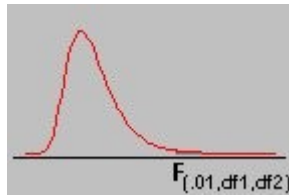
## F Table for $\alpha=0.025$ (2/3)

df2/df1	10	12	15	20	24	30	40	60	120	$\infty$
1	968.6274	976.7079	984.8668	993.1028	997.2492	1001.414	1005.598	1009.800	1014.020	1018.258
2	39.3980	39.4146	39.4313	39.4479	39.4562	39.465	39.473	39.481	39.490	39.498
3	14.4189	14.3366	14.2527	14.1674	14.1241	14.081	14.037	13.992	13.947	13.902
4	8.8439	8.7512	8.6565	8.5599	8.5109	8.461	8.411	8.360	8.309	8.257
5	6.6192	6.5245	6.4277	6.3286	6.2780	6.227	6.175	6.123	6.069	6.015
6	5.4613	5.3662	5.2687	5.1684	5.1172	5.065	5.012	4.959	4.904	4.849
7	4.7611	4.6658	4.5678	4.4667	4.4150	4.362	4.309	4.254	4.199	4.142
8	4.2951	4.1997	4.1012	3.9995	3.9472	3.894	3.840	3.784	3.728	3.670
9	3.9639	3.8682	3.7694	3.6669	3.6142	3.560	3.505	3.449	3.392	3.333
10	3.7168	3.6209	3.5217	3.4185	3.3654	3.311	3.255	3.198	3.140	3.080
11	3.5257	3.4296	3.3299	3.2261	3.1725	3.118	3.061	3.004	2.944	2.883
12	3.3736	3.2773	3.1772	3.0728	3.0187	2.963	2.906	2.848	2.787	2.725
13	3.2497	3.1532	3.0527	2.9477	2.8932	2.837	2.780	2.720	2.659	2.595
14	3.1469	3.0502	2.9493	2.8437	2.7888	2.732	2.674	2.614	2.552	2.487
15	3.0602	2.9633	2.8621	2.7559	2.7006	2.644	2.585	2.524	2.461	2.395
16	2.9862	2.8890	2.7875	2.6808	2.6252	2.568	2.509	2.447	2.383	2.316
17	2.9222	2.8249	2.7230	2.6158	2.5598	2.502	2.442	2.380	2.315	2.247
18	2.8664	2.7689	2.6667	2.5590	2.5027	2.445	2.384	2.321	2.256	2.187
19	2.8172	2.7196	2.6171	2.5089	2.4523	2.394	2.333	2.270	2.203	2.133
20	2.7737	2.6758	2.5731	2.4645	2.4076	2.349	2.287	2.223	2.156	2.085
21	2.7348	2.6368	2.5338	2.4247	2.3675	2.308	2.246	2.182	2.114	2.042
22	2.6998	2.6017	2.4984	2.3890	2.3315	2.272	2.210	2.145	2.076	2.003

## F Table for $\alpha= 0.025$ (3/3)

df2/df1	1	2	3	4	5	6	7	8	9
<b>23</b>	5.7498	4.3492	3.7505	3.4083	3.1835	3.0232	2.9023	2.8077	2.7313
<b>24</b>	5.7166	4.3187	3.7211	3.3794	3.1548	2.9946	2.8738	2.7791	2.7027
<b>25</b>	5.6864	4.2909	3.6943	3.3530	3.1287	2.9685	2.8478	2.7531	2.6766
<b>26</b>	5.6586	4.2655	3.6697	3.3289	3.1048	2.9447	2.8240	2.7293	2.6528
<b>27</b>	5.6331	4.2421	3.6472	3.3067	3.0828	2.9228	2.8021	2.7074	2.6309
<b>28</b>	5.6096	4.2205	3.6264	3.2863	3.0626	2.9027	2.7820	2.6872	2.6106
<b>29</b>	5.5878	4.2006	3.6072	3.2674	3.0438	2.8840	2.7633	2.6686	2.5919
<b>30</b>	5.5675	4.1821	3.5894	3.2499	3.0265	2.8667	2.7460	2.6513	2.5746
<b>40</b>	5.4239	4.0510	3.4633	3.1261	2.9037	2.7444	2.6238	2.5289	2.4519
<b>60</b>	5.2856	3.9253	3.3425	3.0077	2.7863	2.6274	2.5068	2.4117	2.3344
<b>120</b>	5.1523	3.8046	3.2269	2.8943	2.6740	2.5154	2.3948	2.2994	2.2217
$\infty$	5.0239	3.6889	3.1161	2.7858	2.5665	2.4082	2.2875	2.1918	2.1136

df2/df1	10	12	15	20	24	30	40	60	120	$\infty$
<b>23</b>	2.6682	2.5699	2.4665	2.3567	2.2989	2.239	2.176	2.111	2.041	1.968
<b>24</b>	2.6396	2.5411	2.4374	2.3273	2.2693	2.209	2.146	2.080	2.010	1.935
<b>25</b>	2.6135	2.5149	2.4110	2.3005	2.2422	2.182	2.118	2.052	1.981	1.906
<b>26</b>	2.5896	2.4908	2.3867	2.2759	2.2174	2.157	2.093	2.026	1.954	1.878
<b>27</b>	2.5676	2.4688	2.3644	2.2533	2.1946	2.133	2.069	2.002	1.930	1.853
<b>28</b>	2.5473	2.4484	2.3438	2.2324	2.1735	2.112	2.048	1.980	1.907	1.829
<b>29</b>	2.5286	2.4295	2.3248	2.2131	2.1540	2.092	2.028	1.959	1.886	1.807
<b>30</b>	2.5112	2.4120	2.3072	2.1952	2.1359	2.074	2.009	1.940	1.866	1.787
<b>40</b>	2.3882	2.2882	2.1819	2.0677	2.0069	1.943	1.875	1.803	1.724	1.637
<b>60</b>	2.2702	2.1692	2.0613	1.9445	1.8817	1.815	1.744	1.667	1.581	1.482
<b>120</b>	2.1570	2.0548	1.9450	1.8249	1.7597	1.690	1.614	1.530	1.433	1.310
$\infty$	2.0483	1.9447	1.8326	1.7085	1.6402	1.566	1.484	1.388	1.268	1.000



F Table for  $\alpha = 0.01_{(1/3)}$

df2/df1	1	2	3	4	5	6	7	8	9
1	4052.181	4999.500	5403.352	5624.583	5763.650	5858.986	5928.356	5981.070	6022.473
2	98.503	99.000	99.166	99.249	99.299	99.333	99.356	99.374	99.388
3	34.116	30.817	29.457	28.710	28.237	27.911	27.672	27.489	27.345
4	21.198	18.000	16.694	15.977	15.522	15.207	14.976	14.799	14.659
5	16.258	13.274	12.060	11.392	10.967	10.672	10.456	10.289	10.158
6	13.745	10.925	9.780	9.148	8.746	8.466	8.260	8.102	7.976
7	12.246	9.547	8.451	7.847	7.460	7.191	6.993	6.840	6.719
8	11.259	8.649	7.591	7.006	6.632	6.371	6.178	6.029	5.911
9	10.561	8.022	6.992	6.422	6.057	5.802	5.613	5.467	5.351
10	10.044	7.559	6.552	5.994	5.636	5.386	5.200	5.057	4.942
11	9.646	7.206	6.217	5.668	5.316	5.069	4.886	4.744	4.632
12	9.330	6.927	5.953	5.412	5.064	4.821	4.640	4.499	4.388
13	9.074	6.701	5.739	5.205	4.862	4.620	4.441	4.302	4.191
14	8.862	6.515	5.564	5.035	4.695	4.456	4.278	4.140	4.030
15	8.683	6.359	5.417	4.893	4.556	4.318	4.142	4.004	3.895
16	8.531	6.226	5.292	4.773	4.437	4.202	4.026	3.890	3.780
17	8.400	6.112	5.185	4.669	4.336	4.102	3.927	3.791	3.682
18	8.285	6.013	5.092	4.579	4.248	4.015	3.841	3.705	3.597
19	8.185	5.926	5.010	4.500	4.171	3.939	3.765	3.631	3.523
20	8.096	5.849	4.938	4.431	4.103	3.871	3.699	3.564	3.457
21	8.017	5.780	4.874	4.369	4.042	3.812	3.640	3.506	3.398
22	7.945	5.719	4.817	4.313	3.988	3.758	3.587	3.453	3.346

## F Table for $\alpha = 0.01$ <sup>(2/3)</sup>

df2/df1	10	12	15	20	24	30	40	60	120	$\infty$
1	6055.847	6106.321	6157.285	6208.730	6234.631	6260.649	6286.782	6313.030	6339.391	6365.864
2	99.399	99.416	99.433	99.449	99.458	99.466	99.474	99.482	99.491	99.499
3	27.229	27.052	26.872	26.690	26.598	26.505	26.411	26.316	26.221	26.125
4	14.546	14.374	14.198	14.020	13.929	13.838	13.745	13.652	13.558	13.463
5	10.051	9.888	9.722	9.553	9.466	9.379	9.291	9.202	9.112	9.020
6	7.874	7.718	7.559	7.396	7.313	7.229	7.143	7.057	6.969	6.880
7	6.620	6.469	6.314	6.155	6.074	5.992	5.908	5.824	5.737	5.650
8	5.814	5.667	5.515	5.359	5.279	5.198	5.116	5.032	4.946	4.859
9	5.257	5.111	4.962	4.808	4.729	4.649	4.567	4.483	4.398	4.311
10	4.849	4.706	4.558	4.405	4.327	4.247	4.165	4.082	3.996	3.909
11	4.539	4.397	4.251	4.099	4.021	3.941	3.860	3.776	3.690	3.602
12	4.296	4.155	4.010	3.858	3.780	3.701	3.619	3.535	3.449	3.361
13	4.100	3.960	3.815	3.665	3.587	3.507	3.425	3.341	3.255	3.165
14	3.939	3.800	3.656	3.505	3.427	3.348	3.266	3.181	3.094	3.004
15	3.805	3.666	3.522	3.372	3.294	3.214	3.132	3.047	2.959	2.868
16	3.691	3.553	3.409	3.259	3.181	3.101	3.018	2.933	2.845	2.753
17	3.593	3.455	3.312	3.162	3.084	3.003	2.920	2.835	2.746	2.653
18	3.508	3.371	3.227	3.077	2.999	2.919	2.835	2.749	2.660	2.566
19	3.434	3.297	3.153	3.003	2.925	2.844	2.761	2.674	2.584	2.489
20	3.368	3.231	3.088	2.938	2.859	2.778	2.695	2.608	2.517	2.421
21	3.310	3.173	3.030	2.880	2.801	2.720	2.636	2.548	2.457	2.360
22	3.258	3.121	2.978	2.827	2.749	2.667	2.583	2.495	2.403	2.305



## F Table for $\alpha = 0.01$ <sup>(3/3)</sup>

df2/df1	1	2	3	4	5	6	7	8	9
23	7.881	5.664	4.765	4.264	3.939	3.710	3.539	3.406	3.299
24	7.823	5.614	4.718	4.218	3.895	3.667	3.496	3.363	3.256
25	7.770	5.568	4.675	4.177	3.855	3.627	3.457	3.324	3.217
26	7.721	5.526	4.637	4.140	3.818	3.591	3.421	3.288	3.182
27	7.677	5.488	4.601	4.106	3.785	3.558	3.388	3.256	3.149
28	7.636	5.453	4.568	4.074	3.754	3.528	3.358	3.226	3.120
29	7.598	5.420	4.538	4.045	3.725	3.499	3.330	3.198	3.092
30	7.562	5.390	4.510	4.018	3.699	3.473	3.304	3.173	3.067
40	7.314	5.179	4.313	3.828	3.514	3.291	3.124	2.993	2.888
60	7.077	4.977	4.126	3.649	3.339	3.119	2.953	2.823	2.718
120	6.851	4.787	3.949	3.480	3.174	2.956	2.792	2.663	2.559
$\infty$	6.635	4.605	3.782	3.319	3.017	2.802	2.639	2.511	2.407

df2/df1	10	12	15	20	24	30	40	60	120	$\infty$
23	3.211	3.074	2.931	2.781	2.702	2.620	2.535	2.447	2.354	2.256
24	3.168	3.032	2.889	2.738	2.659	2.577	2.492	2.403	2.310	2.211
25	3.129	2.993	2.850	2.699	2.620	2.538	2.453	2.364	2.270	2.169
26	3.094	2.958	2.815	2.664	2.585	2.503	2.417	2.327	2.233	2.131
27	3.062	2.926	2.783	2.632	2.552	2.470	2.384	2.294	2.198	2.097
28	3.032	2.896	2.753	2.602	2.522	2.440	2.354	2.263	2.167	2.064
29	3.005	2.868	2.726	2.574	2.495	2.412	2.325	2.234	2.138	2.034
30	2.979	2.843	2.700	2.549	2.469	2.386	2.299	2.208	2.111	2.006
40	2.801	2.665	2.522	2.369	2.288	2.203	2.114	2.019	1.917	1.805
60	2.632	2.496	2.352	2.198	2.115	2.028	1.936	1.836	1.726	1.601
120	2.472	2.336	2.192	2.035	1.950	1.860	1.763	1.656	1.533	1.381
$\infty$	2.321	2.185	2.039	1.878	1.791	1.696	1.592	1.473	1.325	1.000

## Fisher's r to z Transformation

r	z	r	z	r	z	r	z	r	z
0.000	0.000	0.114	0.114	0.228	0.232	0.342	0.356	0.456	0.492
0.002	0.002	0.116	0.117	0.230	0.234	0.344	0.359	0.458	0.495
0.004	0.004	0.118	0.119	0.232	0.236	0.346	0.361	0.460	0.497
0.006	0.006	0.120	0.121	0.234	0.238	0.348	0.363	0.462	0.500
0.008	0.008	0.122	0.123	0.236	0.241	0.350	0.365	0.464	0.502
0.010	0.010	0.124	0.125	0.238	0.243	0.352	0.368	0.466	0.505
0.012	0.012	0.126	0.127	0.240	0.245	0.354	0.370	0.468	0.508
0.014	0.014	0.128	0.129	0.242	0.247	0.356	0.372	0.470	0.510
0.016	0.016	0.130	0.131	0.244	0.249	0.358	0.375	0.472	0.513
0.018	0.018	0.132	0.133	0.246	0.251	0.360	0.377	0.474	0.515
0.020	0.020	0.134	0.135	0.248	0.253	0.362	0.379	0.476	0.518
0.022	0.022	0.136	0.137	0.250	0.255	0.364	0.381	0.478	0.520
0.024	0.024	0.138	0.139	0.252	0.258	0.366	0.384	0.480	0.523
0.026	0.026	0.140	0.141	0.254	0.260	0.368	0.386	0.482	0.526
0.028	0.028	0.142	0.143	0.256	0.262	0.370	0.388	0.484	0.528
0.030	0.030	0.144	0.145	0.258	0.264	0.372	0.391	0.486	0.531
0.032	0.032	0.146	0.147	0.260	0.266	0.374	0.393	0.488	0.533
0.034	0.034	0.148	0.149	0.262	0.268	0.376	0.395	0.490	0.536
0.036	0.036	0.150	0.151	0.264	0.270	0.378	0.398	0.492	0.539
0.038	0.038	0.152	0.153	0.266	0.273	0.380	0.400	0.494	0.541
0.040	0.040	0.154	0.155	0.268	0.275	0.382	0.402	0.496	0.544
0.042	0.042	0.156	0.157	0.270	0.277	0.384	0.405	0.498	0.547
0.044	0.044	0.158	0.159	0.272	0.279	0.386	0.407	0.500	0.549
0.046	0.046	0.160	0.161	0.274	0.281	0.388	0.409	0.502	0.552
0.048	0.048	0.162	0.163	0.276	0.283	0.390	0.412	0.504	0.555
0.050	0.050	0.164	0.165	0.278	0.286	0.392	0.414	0.506	0.557
0.052	0.052	0.166	0.168	0.280	0.288	0.394	0.417	0.508	0.560
0.054	0.054	0.168	0.170	0.282	0.290	0.396	0.419	0.510	0.563
0.056	0.056	0.170	0.172	0.284	0.292	0.398	0.421	0.512	0.565
0.058	0.058	0.172	0.174	0.286	0.294	0.400	0.424	0.514	0.568
0.060	0.060	0.174	0.176	0.288	0.296	0.402	0.426	0.516	0.571
0.062	0.062	0.176	0.178	0.290	0.299	0.404	0.428	0.518	0.574
0.064	0.064	0.178	0.180	0.292	0.301	0.406	0.431	0.520	0.576
0.066	0.066	0.180	0.182	0.294	0.303	0.408	0.433	0.522	0.579
0.068	0.068	0.182	0.184	0.296	0.305	0.410	0.436	0.524	0.582
0.070	0.070	0.184	0.186	0.298	0.307	0.412	0.438	0.526	0.585
0.072	0.072	0.186	0.188	0.300	0.310	0.414	0.440	0.528	0.587
0.074	0.074	0.188	0.190	0.302	0.312	0.416	0.443	0.530	0.590
0.076	0.076	0.190	0.192	0.304	0.314	0.418	0.445	0.532	0.593
0.078	0.078	0.192	0.194	0.306	0.316	0.420	0.448	0.534	0.596
0.080	0.080	0.194	0.196	0.308	0.318	0.422	0.450	0.536	0.599
0.082	0.082	0.196	0.199	0.310	0.321	0.424	0.453	0.538	0.601
0.084	0.084	0.198	0.201	0.312	0.323	0.426	0.455	0.540	0.604
0.086	0.086	0.200	0.203	0.314	0.325	0.428	0.457	0.542	0.607
0.088	0.088	0.202	0.205	0.316	0.327	0.430	0.460	0.544	0.610
0.090	0.090	0.204	0.207	0.318	0.329	0.432	0.462	0.546	0.613
0.092	0.092	0.206	0.209	0.320	0.332	0.434	0.465	0.548	0.616
0.094	0.094	0.208	0.211	0.322	0.334	0.436	0.467	0.550	0.618
0.096	0.096	0.210	0.213	0.324	0.336	0.438	0.470	0.552	0.621
0.098	0.098	0.212	0.215	0.326	0.338	0.440	0.472	0.554	0.624
0.100	0.100	0.214	0.217	0.328	0.341	0.442	0.475	0.556	0.627
0.102	0.102	0.216	0.219	0.330	0.343	0.444	0.477	0.558	0.630
0.104	0.104	0.218	0.222	0.332	0.345	0.446	0.480	0.560	0.633
0.106	0.106	0.220	0.224	0.334	0.347	0.448	0.482	0.562	0.636
0.108	0.108	0.222	0.226	0.336	0.350	0.450	0.485	0.564	0.639
0.110	0.110	0.224	0.228	0.338	0.352	0.452	0.487	0.566	0.642
0.112	0.112	0.226	0.230	0.340	0.354	0.454	0.490	0.568	0.645

## Fisher's r to z Transformation

r	z	r	z	r	z	r	z	r	z
0.570	0.648	0.684	0.837	0.798	1.093	0.912	1.539		
0.572	0.650	0.686	0.840	0.800	1.099	0.914	1.551		
0.574	0.653	0.688	0.844	0.802	1.104	0.916	1.564		
0.576	0.656	0.690	0.848	0.804	1.110	0.918	1.576		
0.578	0.659	0.692	0.852	0.806	1.116	0.920	1.589		
0.580	0.662	0.694	0.856	0.808	1.121	0.922	1.602		
0.582	0.665	0.696	0.860	0.810	1.127	0.924	1.616		
0.584	0.669	0.698	0.863	0.812	1.133	0.926	1.630		
0.586	0.672	0.700	0.867	0.814	1.139	0.928	1.644		
0.588	0.675	0.702	0.871	0.816	1.145	0.930	1.658		
0.590	0.678	0.704	0.875	0.818	1.151	0.932	1.673		
0.592	0.681	0.706	0.879	0.820	1.157	0.934	1.689		
0.594	0.684	0.708	0.883	0.822	1.163	0.936	1.705		
0.596	0.687	0.710	0.887	0.824	1.169	0.938	1.721		
0.598	0.690	0.712	0.891	0.826	1.175	0.940	1.738		
0.600	0.693	0.714	0.895	0.828	1.182	0.942	1.756		
0.602	0.696	0.716	0.899	0.830	1.188	0.944	1.774		
0.604	0.699	0.718	0.904	0.832	1.195	0.946	1.792		
0.606	0.703	0.720	0.908	0.834	1.201	0.948	1.812		
0.608	0.706	0.722	0.912	0.836	1.208	0.950	1.832		
0.610	0.709	0.724	0.916	0.838	1.214	0.952	1.853		
0.612	0.712	0.726	0.920	0.840	1.221	0.954	1.874		
0.614	0.715	0.728	0.924	0.842	1.228	0.956	1.897		
0.616	0.719	0.730	0.929	0.844	1.235	0.958	1.921		
0.618	0.722	0.732	0.933	0.846	1.242	0.960	1.946		
0.620	0.725	0.734	0.937	0.848	1.249	0.962	1.972		
0.622	0.728	0.736	0.942	0.850	1.256	0.964	2.000		
0.624	0.732	0.738	0.946	0.852	1.263	0.966	2.029		
0.626	0.735	0.740	0.950	0.854	1.271	0.968	2.060		
0.628	0.738	0.742	0.955	0.856	1.278	0.970	2.092		
0.630	0.741	0.744	0.959	0.858	1.286	0.972	2.127		
0.632	0.745	0.746	0.964	0.860	1.293	0.974	2.165		
0.634	0.748	0.748	0.968	0.862	1.301	0.976	2.205		
0.636	0.751	0.750	0.973	0.864	1.309	0.978	2.249		
0.638	0.755	0.752	0.978	0.866	1.317	0.980	2.298		
0.640	0.758	0.754	0.982	0.868	1.325	0.982	2.351		
0.642	0.762	0.756	0.987	0.870	1.333	0.984	2.410		
0.644	0.765	0.758	0.991	0.872	1.341	0.986	2.477		
0.646	0.768	0.760	0.996	0.874	1.350	0.988	2.555		
0.648	0.772	0.762	1.001	0.876	1.358	0.990	2.647		
0.650	0.775	0.764	1.006	0.878	1.367	0.992	2.759		
0.652	0.779	0.766	1.011	0.880	1.376	0.994	2.903		
0.654	0.782	0.768	1.015	0.882	1.385	0.996	3.106		
0.656	0.786	0.770	1.020	0.884	1.394	0.998	3.453		
0.658	0.789	0.772	1.025	0.886	1.403				
0.660	0.793	0.774	1.030	0.888	1.412				
0.662	0.796	0.776	1.035	0.890	1.422				
0.664	0.800	0.778	1.040	0.892	1.432				
0.666	0.804	0.780	1.045	0.894	1.442				
0.668	0.807	0.782	1.050	0.896	1.452				
0.670	0.811	0.784	1.056	0.898	1.462				
0.672	0.814	0.786	1.061	0.900	1.472				
0.674	0.818	0.788	1.066	0.902	1.483				
0.676	0.822	0.790	1.071	0.904	1.494				
0.678	0.825	0.792	1.077	0.906	1.505				
0.680	0.829	0.794	1.082	0.908	1.516				
0.682	0.833	0.796	1.088	0.910	1.528				

BOUNDS FOR CRITICAL VALUES OF THE  
DURBIN-WATSON STATISTIC

1% SIGNIFICANCE POINTS OF  $Q_L$  AND  $Q_U$

$N$	$\Lambda = 2$		$\Lambda = 3$		$\Lambda = 4$		$\Lambda = 5$		$\Lambda = 6$	
	$Q_L$	$Q_U$	$Q_L$	$Q_U$	$Q_L$	$Q_U$	$Q_L$	$Q_U$	$Q_L$	$Q_U$
15	0.811	1.069	0.700	1.252	0.591	1.465	0.487	1.705	0.390	1.967
16	0.844	1.087	0.738	1.253	0.633	1.447	0.532	1.664	0.437	1.901
17	0.873	1.102	0.773	1.255	0.672	1.432	0.574	1.631	0.481	1.847
18	0.902	1.118	0.805	1.259	0.708	1.422	0.614	1.604	0.522	1.803
19	0.928	1.133	0.835	1.264	0.742	1.416	0.650	1.583	0.561	1.767
20	0.952	1.147	0.862	1.270	0.774	1.410	0.684	1.567	0.598	1.736
21	0.975	1.161	0.889	1.276	0.803	1.408	0.718	1.554	0.634	1.712
22	0.997	1.174	0.915	1.284	0.832	1.407	0.748	1.543	0.666	1.691
23	1.017	1.186	0.938	1.290	0.858	1.407	0.777	1.535	0.699	1.674
24	1.037	1.199	0.959	1.298	0.881	1.407	0.805	1.527	0.728	1.659
25	1.055	1.210	0.981	1.305	0.906	1.408	0.832	1.521	0.756	1.645
26	1.072	1.222	1.000	1.311	0.928	1.410	0.855	1.517	0.782	1.635
27	1.088	1.232	1.019	1.318	0.948	1.413	0.878	1.514	0.808	1.625
28	1.104	1.244	1.036	1.325	0.969	1.414	0.901	1.512	0.832	1.618
29	1.119	1.254	1.053	1.332	0.988	1.418	0.921	1.511	0.855	1.611
30	1.134	1.264	1.070	1.339	1.006	1.421	0.941	1.510	0.877	1.606
31	1.147	1.274	1.085	1.345	1.022	1.425	0.960	1.509	0.897	1.601
32	1.160	1.283	1.100	1.351	1.039	1.428	0.978	1.509	0.917	1.597
33	1.171	1.291	1.114	1.358	1.055	1.432	0.995	1.510	0.935	1.594
34	1.184	1.298	1.128	1.364	1.070	1.436	1.012	1.511	0.954	1.591
35	1.195	1.307	1.141	1.370	1.085	1.439	1.028	1.512	0.971	1.589
36	1.205	1.315	1.153	1.376	1.098	1.442	1.043	1.513	0.987	1.587
37	1.217	1.322	1.164	1.383	1.112	1.446	1.058	1.514	1.004	1.585
38	1.227	1.330	1.176	1.388	1.124	1.449	1.072	1.515	1.019	1.584
39	1.237	1.337	1.187	1.392	1.137	1.452	1.085	1.517	1.033	1.583
40	1.246	1.344	1.197	1.398	1.149	1.456	1.098	1.518	1.047	1.583
45	1.288	1.376	1.245	1.424	1.201	1.474	1.156	1.528	1.111	1.583
50	1.324	1.403	1.285	1.445	1.245	1.491	1.206	1.537	1.164	1.587
55	1.356	1.428	1.320	1.466	1.284	1.505	1.246	1.548	1.209	1.592
60	1.382	1.449	1.351	1.484	1.317	1.520	1.283	1.559	1.248	1.598
65	1.407	1.467	1.377	1.500	1.346	1.534	1.314	1.568	1.283	1.604
70	1.429	1.485	1.400	1.514	1.372	1.546	1.343	1.577	1.313	1.611
75	1.448	1.501	1.422	1.529	1.395	1.557	1.368	1.586	1.340	1.617
80	1.465	1.514	1.440	1.541	1.416	1.568	1.390	1.595	1.364	1.624
85	1.481	1.529	1.458	1.553	1.434	1.577	1.411	1.603	1.386	1.630
90	1.496	1.541	1.474	1.563	1.452	1.587	1.429	1.611	1.406	1.636
95	1.510	1.552	1.489	1.573	1.468	1.596	1.446	1.618	1.425	1.641
100	1.522	1.562	1.502	1.582	1.482	1.604	1.461	1.625	1.441	1.647

BOUNDS FOR CRITICAL VALUES OF THE  
DURBIN-WATSON STATISTIC

2.5% SIGNIFICANCE POINTS OF  $Q_L$  AND  $Q_U$

$N$	$\Lambda = 2$		$\Lambda = 3$		$\Lambda = 4$		$\Lambda = 5$		$\Lambda = 6$	
	$Q_L$	$Q_U$	$Q_L$	$Q_U$	$Q_L$	$Q_U$	$Q_L$	$Q_U$	$Q_L$	$Q_U$
15	0.949	1.222	0.827	1.405	0.706	1.615	0.588	1.848	0.478	2.099
16	0.980	1.235	0.864	1.403	0.748	1.594	0.636	1.806	0.527	2.035
17	1.009	1.248	0.899	1.403	0.788	1.578	0.680	1.773	0.574	1.983
18	1.035	1.261	0.930	1.405	0.825	1.567	0.720	1.746	0.619	1.939
19	1.060	1.274	0.959	1.407	0.859	1.558	0.758	1.724	0.660	1.902
20	1.082	1.286	0.988	1.410	0.890	1.551	0.794	1.705	0.699	1.871
21	1.104	1.297	1.012	1.415	0.920	1.546	0.826	1.691	0.734	1.845
22	1.124	1.308	1.036	1.419	0.947	1.543	0.858	1.678	0.769	1.823
23	1.144	1.319	1.059	1.424	0.973	1.541	0.887	1.668	0.801	1.804
24	1.161	1.329	1.080	1.429	0.997	1.539	0.914	1.659	0.830	1.787
25	1.178	1.339	1.099	1.435	1.019	1.539	0.939	1.652	0.859	1.773
26	1.194	1.348	1.118	1.439	1.041	1.538	0.964	1.646	0.886	1.761
27	1.208	1.358	1.135	1.445	1.061	1.539	0.986	1.641	0.911	1.751
28	1.222	1.367	1.153	1.450	1.080	1.540	1.007	1.637	0.934	1.742
29	1.236	1.375	1.168	1.455	1.098	1.541	1.028	1.634	0.958	1.734
30	1.249	1.383	1.183	1.460	1.115	1.542	1.047	1.632	0.978	1.727
31	1.261	1.391	1.197	1.465	1.132	1.544	1.066	1.630	0.999	1.721
32	1.273	1.399	1.211	1.469	1.147	1.546	1.083	1.628	1.018	1.715
33	1.284	1.406	1.224	1.474	1.163	1.548	1.099	1.627	1.037	1.711
34	1.294	1.413	1.236	1.479	1.176	1.550	1.115	1.626	1.054	1.707
35	1.305	1.420	1.248	1.484	1.190	1.553	1.131	1.626	1.071	1.704
36	1.315	1.426	1.259	1.488	1.203	1.555	1.145	1.625	1.087	1.701
37	1.324	1.433	1.270	1.493	1.215	1.557	1.159	1.625	1.102	1.698
38	1.333	1.439	1.281	1.497	1.227	1.560	1.173	1.625	1.117	1.695
39	1.342	1.445	1.291	1.501	1.238	1.562	1.185	1.626	1.131	1.693
40	1.350	1.451	1.300	1.506	1.249	1.564	1.197	1.626	1.144	1.692
45	1.388	1.477	1.343	1.525	1.298	1.576	1.252	1.630	1.204	1.687
50	1.420	1.500	1.380	1.543	1.338	1.588	1.297	1.636	1.255	1.685
55	1.447	1.520	1.411	1.559	1.373	1.600	1.335	1.642	1.297	1.686
60	1.471	1.538	1.438	1.573	1.404	1.610	1.369	1.649	1.333	1.688
65	1.492	1.554	1.461	1.587	1.430	1.620	1.398	1.655	1.365	1.691
70	1.511	1.568	1.482	1.599	1.453	1.630	1.424	1.662	1.393	1.695
75	1.528	1.582	1.501	1.610	1.474	1.638	1.446	1.668	1.418	1.699
80	1.543	1.594	1.518	1.619	1.493	1.647	1.467	1.674	1.441	1.703
85	1.557	1.605	1.534	1.629	1.510	1.654	1.485	1.680	1.461	1.707
90	1.570	1.614	1.548	1.638	1.525	1.662	1.502	1.686	1.479	1.711
95	1.582	1.624	1.560	1.646	1.539	1.668	1.517	1.691	1.495	1.715
100	1.593	1.633	1.573	1.654	1.552	1.675	1.532	1.696	1.511	1.718

BOUNDS FOR CRITICAL VALUES OF THE  
DURBIN-WATSON STATISTIC

5% SIGNIFICANCE POINTS OF  $Q_L$  AND  $Q_U$

$N$	$\Lambda = 2$		$\Lambda = 3$		$\Lambda = 4$		$\Lambda = 5$		$\Lambda = 6$	
	$Q_L$	$Q_U$	$Q_L$	$Q_U$	$Q_L$	$Q_U$	$Q_L$	$Q_U$	$Q_L$	$Q_U$
15	1.077	1.361	0.945	1.543	0.814	1.750	0.685	1.977	0.562	2.220
16	1.106	1.371	0.982	1.539	0.857	1.728	0.734	1.935	0.615	2.157
17	1.133	1.381	1.015	1.536	0.897	1.710	0.779	1.900	0.664	2.104
18	1.158	1.392	1.046	1.535	0.933	1.696	0.820	1.872	0.710	2.060
19	1.180	1.401	1.075	1.535	0.967	1.685	0.859	1.848	0.752	2.022
20	1.201	1.411	1.100	1.537	0.998	1.676	0.894	1.828	0.792	1.991
21	1.221	1.420	1.125	1.538	1.026	1.669	0.927	1.812	0.828	1.964
22	1.240	1.429	1.147	1.541	1.053	1.664	0.958	1.797	0.863	1.940
23	1.257	1.437	1.168	1.543	1.078	1.660	0.986	1.786	0.895	1.919
24	1.273	1.446	1.188	1.546	1.101	1.657	1.013	1.775	0.925	1.902
25	1.288	1.454	1.206	1.550	1.123	1.654	1.038	1.767	0.953	1.886
26	1.302	1.461	1.224	1.553	1.143	1.652	1.062	1.759	0.979	1.873
27	1.316	1.468	1.240	1.556	1.162	1.651	1.083	1.753	1.004	1.861
28	1.328	1.476	1.255	1.560	1.181	1.650	1.104	1.747	1.028	1.850
29	1.341	1.483	1.270	1.563	1.198	1.650	1.124	1.743	1.050	1.841
30	1.352	1.489	1.284	1.567	1.214	1.650	1.143	1.739	1.070	1.833
31	1.363	1.496	1.297	1.570	1.229	1.650	1.160	1.735	1.090	1.825
32	1.373	1.502	1.309	1.573	1.244	1.650	1.177	1.732	1.109	1.819
33	1.383	1.508	1.321	1.577	1.258	1.651	1.193	1.730	1.127	1.813
34	1.393	1.514	1.332	1.580	1.271	1.652	1.208	1.728	1.144	1.807
35	1.402	1.519	1.343	1.584	1.283	1.653	1.222	1.726	1.160	1.803
36	1.411	1.524	1.354	1.587	1.295	1.654	1.236	1.725	1.175	1.799
37	1.419	1.530	1.364	1.590	1.307	1.655	1.249	1.723	1.190	1.795
38	1.427	1.535	1.373	1.594	1.317	1.656	1.261	1.723	1.204	1.792
39	1.435	1.540	1.382	1.597	1.328	1.658	1.273	1.722	1.218	1.789
40	1.442	1.544	1.391	1.600	1.338	1.659	1.285	1.721	1.231	1.786
45	1.475	1.566	1.430	1.615	1.383	1.666	1.336	1.720	1.287	1.776
50	1.503	1.585	1.462	1.628	1.421	1.674	1.378	1.721	1.334	1.771
55	1.527	1.601	1.490	1.640	1.452	1.681	1.414	1.724	1.374	1.768
60	1.549	1.616	1.514	1.652	1.480	1.689	1.444	1.727	1.408	1.767
65	1.567	1.629	1.536	1.662	1.503	1.696	1.471	1.731	1.438	1.767
70	1.583	1.641	1.554	1.671	1.524	1.703	1.494	1.735	1.464	1.768
75	1.598	1.652	1.571	1.680	1.543	1.709	1.515	1.739	1.486	1.770
80	1.611	1.662	1.586	1.688	1.560	1.715	1.534	1.743	1.507	1.772
85	1.624	1.671	1.600	1.696	1.575	1.721	1.551	1.747	1.525	1.774
90	1.635	1.679	1.612	1.703	1.589	1.726	1.566	1.751	1.542	1.776
95	1.645	1.687	1.623	1.709	1.602	1.732	1.579	1.755	1.557	1.778
100	1.654	1.694	1.634	1.715	1.613	1.736	1.592	1.758	1.571	1.780

**TABLES OF THE BINOMIAL C.D.F.**

$n$	$x$	$p$	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
1	0		0.9900	0.9800	0.9700	0.9600	0.9500	0.9400	0.9300	0.9200	0.9100
	1		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	0		0.9801	0.9604	0.9409	0.9216	0.9025	0.8836	0.8649	0.8464	0.8281
	1		0.9999	0.9996	0.9991	0.9984	0.9975	0.9964	0.9951	0.9936	0.9919
	2		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	0		0.9703	0.9412	0.9127	0.8847	0.8574	0.8306	0.8044	0.7787	0.7536
	1		0.9997	0.9988	0.9974	0.9953	0.9928	0.9896	0.9860	0.9818	0.9772
	2		1.0000	1.0000	1.0000	0.9999	0.9999	0.9998	0.9997	0.9995	0.9993
	3		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	0		0.9606	0.9224	0.8853	0.8493	0.8145	0.7807	0.7481	0.7164	0.6857
	1		0.9994	0.9977	0.9948	0.9909	0.9860	0.9801	0.9733	0.9656	0.9570
	2		1.0000	1.0000	0.9999	0.9998	0.9995	0.9992	0.9987	0.9981	0.9973
	3		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999
	4		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5	0		0.9510	0.9039	0.8587	0.8154	0.7738	0.7339	0.6957	0.6591	0.6240
	1		0.9990	0.9962	0.9915	0.9852	0.9774	0.9681	0.9575	0.9456	0.9326
	2		1.0000	0.9999	0.9997	0.9994	0.9988	0.9980	0.9969	0.9955	0.9937
	3		1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9998	0.9997
	4		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

$n$	$x$	$p$	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
1	0		0.9000	0.8500	0.8000	0.7500	0.7000	0.6500	0.6000	0.5500	0.5000
	1		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	0		0.8100	0.7225	0.6400	0.5625	0.4900	0.4225	0.3600	0.3025	0.2500
	1		0.9900	0.9775	0.9600	0.9375	0.9100	0.8775	0.8400	0.7975	0.7500
	2		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	0		0.7290	0.6141	0.5120	0.4219	0.3430	0.2746	0.2160	0.1664	0.1250
	1		0.9720	0.9393	0.8960	0.8438	0.7840	0.7183	0.6480	0.5748	0.5000
	2		0.9990	0.9966	0.9920	0.9844	0.9730	0.9571	0.9360	0.9089	0.8750
	3		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	0		0.6561	0.5220	0.4096	0.3164	0.2401	0.1785	0.1296	0.0915	0.0625
	1		0.9477	0.8905	0.8192	0.7383	0.6517	0.5630	0.4752	0.3910	0.3125
	2		0.9963	0.9880	0.9728	0.9492	0.9163	0.8735	0.8208	0.7585	0.6875
	3		0.9999	0.9995	0.9984	0.9961	0.9919	0.9850	0.9744	0.9590	0.9375
	4		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5	0		0.5905	0.4437	0.3277	0.2373	0.1681	0.1160	0.0778	0.0503	0.0312
	1		0.9185	0.8352	0.7373	0.6328	0.5282	0.4284	0.3370	0.2562	0.1875
	2		0.9914	0.9734	0.9421	0.8965	0.8369	0.7648	0.6826	0.5931	0.5000
	3		0.9995	0.9978	0.9933	0.9844	0.9692	0.9460	0.9130	0.8688	0.8125
	4		1.0000	0.9999	0.9997	0.9990	0.9976	0.9947	0.9898	0.9815	0.9688
6	5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	0		0.5314	0.3771	0.2621	0.1780	0.1176	0.0754	0.0467	0.0277	0.0156
	1		0.8857	0.7765	0.6554	0.5339	0.4202	0.3191	0.2333	0.1636	0.1094
	2		0.9842	0.9527	0.9011	0.8306	0.7443	0.6471	0.5443	0.4415	0.3437
	3		0.9987	0.9941	0.9830	0.9624	0.9295	0.8826	0.8208	0.7447	0.6563
	4		0.9999	0.9996	0.9984	0.9954	0.9891	0.9777	0.9590	0.9308	0.8906
	5		1.0000	1.0000	0.9999	0.9998	0.9993	0.9982	0.9959	0.9917	0.9844
5		1.0000	1.0000	0.9999	0.9998	0.9993	0.9982	0.9959	0.9917	0.9844	
6		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	

$n$	$x$	$p$	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
6	0		0.9415	0.8858	0.8330	0.7828	0.7351	0.6899	0.6470	0.6064	0.5679
	1		0.9985	0.9943	0.9875	0.9784	0.9672	0.9541	0.9392	0.9227	0.9048
	2		1.0000	0.9998	0.9995	0.9988	0.9978	0.9962	0.9942	0.9915	0.9882
	3		1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9997	0.9995	0.9992
	4		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
7	0		0.9321	0.8681	0.8080	0.7514	0.6983	0.6485	0.6017	0.5578	0.5168
	1		0.9980	0.9921	0.9829	0.9706	0.9556	0.9382	0.9187	0.8974	0.8745
	2		1.0000	0.9997	0.9991	0.9980	0.9962	0.9937	0.9903	0.9860	0.9807
	3		1.0000	1.0000	1.0000	0.9999	0.9998	0.9996	0.9993	0.9988	0.9982
	4		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999
8	0		0.9227	0.8508	0.7837	0.7214	0.6634	0.6096	0.5596	0.5132	0.4703
	1		0.9973	0.9897	0.9777	0.9619	0.9428	0.9208	0.8965	0.8702	0.8423
	2		0.9999	0.9996	0.9987	0.9969	0.9942	0.9904	0.9853	0.9789	0.9711
	3		1.0000	1.0000	0.9999	0.9998	0.9996	0.9993	0.9987	0.9978	0.9966
	4		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9997
9	0		0.9135	0.8337	0.7602	0.6925	0.6302	0.5730	0.5204	0.4722	0.4279
	1		0.9966	0.9869	0.9718	0.9522	0.9288	0.9022	0.8729	0.8417	0.8088
	2		0.9999	0.9994	0.9980	0.9955	0.9916	0.9862	0.9791	0.9702	0.9595
	3		1.0000	1.0000	0.9999	0.9997	0.9994	0.9987	0.9977	0.9963	0.9943
	4		1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9997	0.9995
5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	

$n$	$x$	$p$	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
7	0		0.4783	0.3206	0.2097	0.1335	0.0824	0.0490	0.0280	0.0152	0.0078
	1		0.8503	0.7166	0.5767	0.4449	0.3294	0.2338	0.1586	0.1024	0.0625
	2		0.9743	0.9262	0.8520	0.7564	0.6471	0.5323	0.4199	0.3164	0.2266
	3		0.9973	0.9879	0.9667	0.9294	0.8740	0.8002	0.7102	0.6083	0.5000
	4		0.9998	0.9988	0.9953	0.9871	0.9712	0.9444	0.9037	0.8471	0.7734
	5		1.0000	0.9999	0.9996	0.9987	0.9962	0.9910	0.9812	0.9643	0.9375
	6		1.0000	1.0000	1.0000	0.9999	0.9998	0.9994	0.9984	0.9963	0.9922
8	0		0.4305	0.2725	0.1678	0.1001	0.0576	0.0319	0.0168	0.0084	0.0039
	1		0.8131	0.6572	0.5033	0.3671	0.2553	0.1691	0.1064	0.0632	0.0352
	2		0.9619	0.8948	0.7969	0.6785	0.5518	0.4278	0.3154	0.2201	0.1445
	3		0.9950	0.9786	0.9437	0.8862	0.8059	0.7064	0.5941	0.4770	0.3633
	4		0.9996	0.9971	0.9896	0.9727	0.9420	0.8939	0.8263	0.7396	0.6367
	5		1.0000	0.9998	0.9988	0.9958	0.9887	0.9747	0.9502	0.9115	0.8555
	6		1.0000	1.0000	0.9999	0.9996	0.9987	0.9964	0.9915	0.9819	0.9648
	7		1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9993	0.9983	0.9961
9	0		0.3874	0.2316	0.1342	0.0751	0.0404	0.0207	0.0101	0.0046	0.0020
	1		0.7748	0.5995	0.4362	0.3003	0.1960	0.1211	0.0705	0.0385	0.0195
	2		0.947	0.8591	0.7382	0.6007	0.4628	0.3373	0.2318	0.1495	0.08984
	3		0.9917	0.9661	0.9144	0.8343	0.7297	0.6089	0.4826	0.3614	0.2539
	4		0.9991	0.9944	0.9804	0.9511	0.9012	0.8283	0.7334	0.6214	0.5000
	5		0.9999	0.9994	0.9969	0.9900	0.9747	0.9464	0.9006	0.8342	0.7461
	6		1.0000	1.0000	0.9997	0.9987	0.9957	0.9888	0.9750	0.9502	0.9102
	7		1.0000	1.0000	1.0000	0.9999	0.9996	0.9986	0.9962	0.9909	0.9805
	8		1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9992	0.9980
9		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	



$n$	$x$	$p$	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
10	0		0.9044	0.8171	0.7374	0.6648	0.5987	0.5386	0.4840	0.4344	0.3894
	1		0.9957	0.9838	0.9655	0.9418	0.9139	0.8824	0.8483	0.8121	0.7746
	2		0.9999	0.9991	0.9972	0.9938	0.9885	0.9812	0.9717	0.9599	0.9460
	3		1.0000	1.0000	0.9999	0.9996	0.9990	0.9980	0.9964	0.9942	0.9912
	4		1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9997	0.9994	0.9990
	5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999
11	0		0.8953	0.8007	0.7153	0.6382	0.5688	0.5063	0.4501	0.3996	0.3544
	1		0.9948	0.9805	0.9587	0.9308	0.8981	0.8618	0.8228	0.7819	0.7399
	2		0.9998	0.9988	0.9963	0.9917	0.9848	0.9752	0.9630	0.9481	0.9305
	3		1.0000	1.0000	0.9998	0.9993	0.9984	0.9970	0.9947	0.9915	0.9871
	4		1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9995	0.9990	0.9983
	5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998
	6		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

$n$	$x$	$p$	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
10	0		0.3487	0.1969	0.1074	0.0563	0.0282	0.0135	0.0060	0.0025	0.0010
	1		0.7361	0.5443	0.3758	0.2440	0.1493	0.0860	0.0464	0.0233	0.0107
	2		0.9298	0.8202	0.6778	0.5256	0.3828	0.2616	0.1673	0.0996	0.0547
	3		0.9872	0.9500	0.8791	0.7759	0.6496	0.5138	0.3823	0.2660	0.1719
	4		0.9984	0.9901	0.9672	0.9219	0.8497	0.7515	0.6331	0.5044	0.3770
	5		0.9999	0.9986	0.9936	0.9803	0.9527	0.9051	0.8338	0.7384	0.6230
	6		1.0000	0.9999	0.9991	0.9965	0.9894	0.9740	0.9452	0.8980	0.8281
	7		1.0000	1.0000	0.9999	0.9996	0.9984	0.9952	0.9877	0.9726	0.9453
	8		1.0000	1.0000	1.0000	1.0000	0.9999	0.9995	0.9983	0.9955	0.9893
	9		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9990
11	10		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	0		0.3138	0.1673	0.0859	0.0422	0.0198	0.0088	0.0036	0.0014	0.0004
	1		0.6974	0.4922	0.3221	0.1971	0.1130	0.0606	0.0302	0.0139	0.0059
	2		0.9104	0.7788	0.6174	0.4552	0.3127	0.2001	0.1189	0.0652	0.0327
	3		0.9815	0.9306	0.8389	0.7133	0.5696	0.4256	0.2963	0.1911	0.1133
	4		0.9972	0.9841	0.9496	0.8854	0.7897	0.6683	0.5328	0.3971	0.2744
	5		0.9997	0.9973	0.9883	0.9657	0.9218	0.8513	0.7535	0.6331	0.5000
	6		1.0000	0.9997	0.9980	0.9924	0.9784	0.9499	0.9006	0.8262	0.7256
	7		1.0000	1.0000	0.9998	0.9988	0.9957	0.9878	0.9707	0.9390	0.8867
	8		1.0000	1.0000	1.0000	0.9999	0.9994	0.9980	0.9941	0.9852	0.9673
	9		1.0000	1.0000	1.0000	1.0000	1.0000	0.9998	0.9993	0.9978	0.9941
12	10		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9998	0.9995
	11		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	0		0.2824	0.1422	0.0687	0.0317	0.0138	0.0057	0.0022	0.0008	0.0002
	1		0.6590	0.4435	0.2749	0.1584	0.0850	0.0424	0.0196	0.0083	0.0032
	2		0.8891	0.7358	0.5583	0.3907	0.2528	0.1513	0.0834	0.0421	0.0193
	3		0.9744	0.9078	0.7946	0.6488	0.4925	0.3467	0.2253	0.1345	0.0730
	4		0.9957	0.9761	0.9274	0.8424	0.7237	0.5833	0.4382	0.3044	0.1938
	5		0.9995	0.9954	0.9806	0.9456	0.8822	0.7873	0.6652	0.5269	0.3872
	6		0.9999	0.9993	0.9961	0.9857	0.9614	0.9154	0.8418	0.7393	0.6128
	7		1.0000	0.9999	0.9994	0.9972	0.9905	0.9745	0.9427	0.8883	0.8062
	8		1.0000	1.0000	0.9999	0.9996	0.9983	0.9944	0.9847	0.9644	0.9270
	9		1.0000	1.0000	1.0000	1.0000	0.9998	0.9992	0.9972	0.9921	0.9807
10		1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9989	0.9968	
11		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	
12		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	

$n$	$x$	$p$	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
12	0		0.8864	0.7847	0.6938	0.6127	0.5404	0.4759	0.4186	0.3677	0.3225
	1		0.9938	0.9769	0.9514	0.9191	0.8816	0.8405	0.7967	0.7513	0.7052
	2		0.9998	0.9985	0.9952	0.9893	0.9804	0.9684	0.9532	0.9348	0.9134
	3		1.0000	0.9999	0.9997	0.9990	0.9978	0.9957	0.9925	0.9880	0.9820
	4		1.0000	1.0000	1.0000	0.9999	0.9998	0.9996	0.9991	0.9984	0.9973
	5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9997
13	0		0.8775	0.7690	0.6730	0.5882	0.5133	0.4474	0.3893	0.3383	0.2935
	1		0.9928	0.9730	0.9436	0.9068	0.8646	0.8186	0.7702	0.7206	0.6707
	2		0.9997	0.9980	0.9938	0.9865	0.9755	0.9608	0.9422	0.9201	0.8946
	3		1.0000	0.9999	0.9995	0.9986	0.9969	0.9940	0.9897	0.9837	0.9758
	4		1.0000	1.0000	1.0000	0.9999	0.9997	0.9993	0.9987	0.9976	0.9959
	5		1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9997	0.9995
14	0		0.8687	0.7536	0.6528	0.5647	0.4877	0.4205	0.3620	0.3112	0.2670
	1		0.9916	0.9690	0.9355	0.8941	0.8470	0.7963	0.7436	0.6900	0.6368
	2		0.9997	0.9975	0.9923	0.9833	0.9699	0.9522	0.9302	0.9042	0.8745
	3		1.0000	0.9999	0.9994	0.9981	0.9958	0.9920	0.9864	0.9786	0.9685
	4		1.0000	1.0000	1.0000	0.9998	0.9996	0.9990	0.9980	0.9965	0.9941
	5		1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9996	0.9992
	6		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999
7		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	

$n$	$x$	$p$	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
13	0		0.2542	0.1209	0.0550	0.0238	0.0097	0.0037	0.0013	0.0004	0.0001
	1		0.6213	0.3983	0.2336	0.1267	0.0637	0.0296	0.0126	0.0050	0.0017
	2		0.8661	0.6920	0.5017	0.3326	0.2025	0.1132	0.0579	0.0269	0.0112
	3		0.9658	0.8820	0.7473	0.5843	0.4206	0.2783	0.1686	0.0929	0.0461
	4		0.9935	0.9658	0.9009	0.7940	0.6543	0.5005	0.3530	0.2279	0.1334
	5		0.9991	0.9925	0.9700	0.9198	0.8346	0.7159	0.5744	0.4268	0.2905
	6		0.9999	0.9987	0.9930	0.9757	0.9376	0.8705	0.7712	0.6437	0.5000
	7		1.0000	0.9998	0.9988	0.9944	0.9818	0.9538	0.9023	0.8212	0.7095
	8		1.0000	1.0000	0.9998	0.9990	0.9960	0.9874	0.9679	0.9302	0.8666
	9		1.0000	1.0000	1.0000	0.9999	0.9993	0.9975	0.9922	0.9797	0.9539
	10		1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9987	0.9959	0.9888
	11		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9995	0.9983
	12		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999
14	0		0.2288	0.1028	0.0440	0.0178	0.0068	0.0024	0.0008	0.0002	0.0000
	1		0.5846	0.3567	0.1979	0.1010	0.0475	0.0205	0.0081	0.0029	0.0009
	2		0.8416	0.6479	0.4481	0.2811	0.1608	0.0839	0.0398	0.0170	0.0065
	3		0.9559	0.8535	0.6982	0.5213	0.3552	0.2205	0.1243	0.0632	0.0287
	4		0.9908	0.9533	0.8702	0.7415	0.5842	0.4227	0.2793	0.1672	0.0898
	5		0.9985	0.9885	0.9561	0.8883	0.7805	0.6405	0.4859	0.3373	0.2120
	6		0.9998	0.9978	0.9884	0.9617	0.9067	0.8164	0.6925	0.5461	0.3953
	7		1.0000	0.9997	0.9976	0.9897	0.9685	0.9247	0.8499	0.7414	0.6047
	8		1.0000	1.0000	0.9996	0.9978	0.9917	0.9757	0.9417	0.8811	0.7880
	9		1.0000	1.0000	1.0000	0.9997	0.9983	0.9940	0.9825	0.9574	0.9102
	10		1.0000	1.0000	1.0000	1.0000	0.9998	0.9989	0.9961	0.9886	0.9713
	11		1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9994	0.9978	0.9935
	12		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9991
	13		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999
14		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	

$n$	$x$	$p$	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
15	0		0.8601	0.7386	0.6333	0.5421	0.4633	0.3953	0.3367	0.2863	0.2430
	1		0.9904	0.9647	0.9270	0.8809	0.8290	0.7738	0.7168	0.6597	0.6035
	2		0.9996	0.9970	0.9906	0.9797	0.9638	0.9429	0.9171	0.8870	0.8531
	3		1.0000	0.9998	0.9992	0.9976	0.9945	0.9896	0.9825	0.9727	0.9601
	4		1.0000	1.0000	0.9999	0.9998	0.9994	0.9986	0.9972	0.9950	0.9918
	5		1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9997	0.9993	0.9987
	6		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998
16	0		0.8515	0.7238	0.6143	0.5204	0.4401	0.3716	0.3131	0.2634	0.2211
	1		0.9891	0.9601	0.9182	0.8673	0.8108	0.7511	0.6902	0.6299	0.5711
	2		0.9995	0.9963	0.9887	0.9758	0.9571	0.9327	0.9031	0.8689	0.8306
	3		1.0000	0.9998	0.9989	0.9968	0.9930	0.9868	0.9779	0.9658	0.9504
	4		1.0000	1.0000	0.9999	0.9997	0.9991	0.9981	0.9962	0.9932	0.9889
	5		1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9995	0.9990	0.9981
	6		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9997
7		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	

$n$	$x$	$p$	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
15	0		0.2059	0.0874	0.0352	0.0134	0.0047	0.0016	0.0005	0.0001	0.0000
	1		0.5490	0.3186	0.1671	0.0802	0.0353	0.0142	0.0052	0.0017	0.0005
	2		0.8159	0.6042	0.3980	0.2361	0.1268	0.0617	0.0271	0.0107	0.0037
	3		0.9444	0.8227	0.6482	0.4613	0.2969	0.1727	0.0905	0.0424	0.0176
	4		0.9873	0.9383	0.8358	0.6865	0.5155	0.3519	0.2173	0.1204	0.0592
	5		0.9978	0.9832	0.9389	0.8516	0.7216	0.5643	0.4032	0.2608	0.1509
	6		0.9997	0.9964	0.9819	0.9434	0.8689	0.7548	0.6098	0.4522	0.3036
	7		1.0000	0.9994	0.9958	0.9827	0.9500	0.8868	0.7869	0.6535	0.5000
	8		1.0000	0.9999	0.9992	0.9958	0.9848	0.9578	0.9050	0.8182	0.6964
	9		1.0000	1.0000	0.9999	0.9992	0.9963	0.9876	0.9662	0.9231	0.8491
	10		1.0000	1.0000	1.0000	0.9999	0.9993	0.9972	0.9907	0.9745	0.9408
	11		1.0000	1.0000	1.0000	1.0000	0.9999	0.9995	0.9981	0.9937	0.9824
	12		1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9989	0.9963
	13		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9995
14		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
16	0		0.1853	0.0743	0.0281	0.0100	0.0033	0.0010	0.0003	0.0000	0.0000
	1		0.5147	0.2839	0.1407	0.0635	0.0261	0.0098	0.0033	0.0010	0.0003
	2		0.7892	0.5614	0.3518	0.1971	0.0994	0.0451	0.0183	0.0066	0.0021
	3		0.9316	0.7899	0.5981	0.4050	0.2459	0.1339	0.0651	0.0281	0.0106
	4		0.9830	0.9209	0.7982	0.6302	0.4499	0.2892	0.1666	0.0853	0.0384
	5		0.9967	0.9765	0.9183	0.8103	0.6598	0.4900	0.3288	0.1976	0.1051
	6		0.9995	0.9944	0.9733	0.9204	0.8247	0.6881	0.5272	0.3660	0.2272
	7		0.9999	0.9989	0.9930	0.9729	0.9256	0.8406	0.7161	0.5629	0.4018
	8		1.0000	0.9998	0.9985	0.9925	0.9743	0.9329	0.8577	0.7441	0.5982
	9		1.0000	1.0000	0.9998	0.9984	0.9929	0.9771	0.9417	0.8759	0.7728
	10		1.0000	1.0000	1.0000	0.9997	0.9984	0.9938	0.9809	0.9514	0.8949
	11		1.0000	1.0000	1.0000	1.0000	0.9997	0.9987	0.9951	0.9851	0.9616
	12		1.0000	1.0000	1.0000	1.0000	1.0000	0.9998	0.9991	0.9965	0.9894
	13		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9994	0.9979
	14		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997
15		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	

$n$	$x$	$p$	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
17	0		0.8429	0.7093	0.5958	0.4996	0.4181	0.3493	0.2912	0.2423	0.2012
	1		0.9877	0.9554	0.9091	0.8535	0.7922	0.7283	0.6638	0.6005	0.5396
	2		0.9994	0.9956	0.9866	0.9714	0.9497	0.9218	0.8882	0.8497	0.8073
	3		1.0000	0.9997	0.9986	0.9960	0.9912	0.9836	0.9727	0.9581	0.9397
	4		1.0000	1.0000	0.9999	0.9996	0.9988	0.9974	0.9949	0.9911	0.9855
	5		1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9993	0.9985	0.9973
	6		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9996
18	0		0.8345	0.6951	0.5780	0.4796	0.3972	0.3283	0.2708	0.2229	0.1831
	1		0.9862	0.9505	0.8997	0.8393	0.7735	0.7055	0.6378	0.5719	0.5091
	2		0.9993	0.9948	0.9843	0.9667	0.9419	0.9102	0.8725	0.8298	0.7832
	3		1.0000	0.9996	0.9982	0.9950	0.9891	0.9799	0.9667	0.9494	0.9277
	4		1.0000	1.0000	0.9998	0.9994	0.9985	0.9966	0.9933	0.9884	0.9814
	5		1.0000	1.0000	1.0000	0.9999	0.9998	0.9995	0.9990	0.9979	0.9962
	6		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9994
	7		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999
8		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	

$n$	$x$	$p$	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
17	0		0.1668	0.0631	0.0230	0.0075	0.0023	0.0007	0.0002	0.0000	0.0000
	1		0.4818	0.2525	0.1182	0.0501	0.0193	0.0067	0.0021	0.0006	0.0001
	2		0.7618	0.5198	0.3096	0.1637	0.0774	0.0327	0.0123	0.0041	0.0012
	3		0.9174	0.7556	0.5489	0.3530	0.2019	0.1028	0.0464	0.0184	0.0064
	4		0.9779	0.9013	0.7582	0.5739	0.3887	0.2348	0.126	0.05958	0.0245
	5		0.9953	0.9681	0.8943	0.7653	0.5968	0.4197	0.2639	0.1471	0.0717
	6		0.9992	0.9917	0.9623	0.8929	0.7752	0.6188	0.4478	0.2902	0.1662
	7		0.9999	0.9983	0.9891	0.9598	0.8954	0.7872	0.6405	0.4743	0.3145
	8		1.0000	0.9997	0.9974	0.9876	0.9597	0.9006	0.8011	0.6626	0.5000
	9		1.0000	1.0000	0.9995	0.9969	0.9873	0.9617	0.9081	0.8166	0.6855
	10		1.0000	1.0000	0.9999	0.9994	0.9968	0.988	0.9652	0.9174	0.8338
	11		1.0000	1.0000	1.0000	0.9999	0.9993	0.997	0.9894	0.9699	0.9283
	12		1.0000	1.0000	1.0000	1.0000	0.9999	0.9994	0.9975	0.9914	0.9755
	13		1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9995	0.9981	0.9936
	14		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9988
	15		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999
18	0		0.1501	0.0536	0.0180	0.0056	0.0016	0.0004	0.0001	0.0000	0.0000
	1		0.4503	0.2241	0.0991	0.0395	0.0142	0.0046	0.0013	0.0003	0.0000
	2		0.7338	0.4797	0.2713	0.1353	0.0600	0.0236	0.0082	0.0025	0.0007
	3		0.9018	0.7202	0.5010	0.3057	0.1646	0.0783	0.0328	0.0120	0.0038
	4		0.9718	0.8794	0.7164	0.5187	0.3327	0.1886	0.0942	0.0411	0.0154
	5		0.9936	0.9581	0.8671	0.7175	0.5344	0.355	0.2088	0.1077	0.04813
	6		0.9988	0.9882	0.9487	0.8610	0.7217	0.5491	0.3743	0.2258	0.1189
	7		0.9998	0.9973	0.9837	0.9431	0.8593	0.7283	0.5634	0.3915	0.2403
	8		1.0000	0.9995	0.9957	0.9807	0.9404	0.8609	0.7368	0.5778	0.4073
	9		1.0000	0.9999	0.9991	0.9946	0.9790	0.9403	0.8653	0.7473	0.5927
	10		1.0000	1.0000	0.9998	0.9988	0.9939	0.9788	0.9424	0.872	0.7597
	11		1.0000	1.0000	1.0000	0.9998	0.9986	0.9938	0.9797	0.9463	0.8811
12		1.0000	1.0000	1.0000	1.0000	0.9997	0.9986	0.9942	0.9817	0.9519	
13		1.0000	1.0000	1.0000	1.0000	1.0000	0.9997	0.9987	0.9951	0.9846	
14		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9998	0.9990	0.9962	
15		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9993	
16		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	
17		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	

$n$	$x$	$p$	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
19	0		0.8262	0.6812	0.5606	0.4604	0.3774	0.3086	0.2519	0.2051	0.1666
	1		0.9847	0.9454	0.8900	0.8249	0.7547	0.6829	0.6121	0.5440	0.4798
	2		0.9991	0.9939	0.9817	0.9616	0.9335	0.8979	0.8561	0.8092	0.7585
	3		1.0000	0.9995	0.9978	0.9939	0.9868	0.9757	0.9602	0.9398	0.9147
	4		1.0000	1.0000	0.9998	0.9993	0.9980	0.9956	0.9915	0.9853	0.9765
	5		1.0000	1.0000	1.0000	0.9999	0.9998	0.9994	0.9986	0.9971	0.9949
	6		1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9996	0.9991
	7		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999
20	0		0.8179	0.6676	0.5438	0.4420	0.3585	0.2901	0.2342	0.1887	0.1516
	1		0.9831	0.9401	0.8802	0.8103	0.7358	0.6605	0.5869	0.5169	0.4516
	2		0.9990	0.9929	0.9790	0.9561	0.9245	0.8850	0.8390	0.7879	0.7334
	3		1.0000	0.9994	0.9973	0.9926	0.9841	0.9710	0.9529	0.9294	0.9007
	4		1.0000	1.0000	0.9997	0.9990	0.9974	0.9944	0.9893	0.9817	0.9710
	5		1.0000	1.0000	1.0000	0.9999	0.9997	0.9991	0.9981	0.9962	0.9932
	6		1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9994	0.9987
	7		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998
8		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	

$n$	$x$	$p$	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
19	0		0.1351	0.0456	0.0144	0.0042	0.0011	0.0003	0.0000	0.0000	0.0000
	1		0.4203	0.1985	0.0829	0.0310	0.0104	0.0031	0.0008	0.0002	0.0000
	2		0.7054	0.4413	0.2369	0.1113	0.0462	0.0170	0.0055	0.0015	0.0004
	3		0.8850	0.6841	0.4551	0.2631	0.1332	0.0591	0.0230	0.0077	0.0022
	4		0.9648	0.8556	0.6733	0.4654	0.2822	0.1500	0.0696	0.0280	0.0096
	5		0.9914	0.9463	0.8369	0.6678	0.4739	0.2968	0.1629	0.0777	0.0318
	6		0.9983	0.9837	0.9324	0.8251	0.6655	0.4812	0.3081	0.1727	0.0835
	7		0.9997	0.9959	0.9767	0.9225	0.8180	0.6656	0.4878	0.3169	0.1796
	8		1.0000	0.9992	0.9933	0.9713	0.9161	0.8145	0.6675	0.4940	0.3238
	9		1.0000	0.9999	0.9984	0.9911	0.9674	0.9125	0.8139	0.6710	0.5000
	10		1.0000	1.0000	0.9997	0.9977	0.9895	0.9653	0.9115	0.8159	0.6762
	11		1.0000	1.0000	1.0000	0.9995	0.9972	0.9886	0.9648	0.9129	0.8204
	12		1.0000	1.0000	1.0000	0.9999	0.9994	0.9969	0.9884	0.9658	0.9165
	13		1.0000	1.0000	1.0000	1.0000	0.9999	0.9993	0.9969	0.9891	0.9682
	14		1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9994	0.9972	0.9904
	15		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9995	0.9978
	16		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9996
17		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
20	0		0.1216	0.0388	0.0115	0.0032	0.0008	0.0001	0.0000	0.0000	0.0000
	1		0.3917	0.1756	0.0692	0.0243	0.0076	0.0021	0.0005	0.0001	0.0000
	2		0.6769	0.4049	0.2061	0.0913	0.0355	0.0121	0.0036	0.0009	0.0002
	3		0.8670	0.6477	0.4114	0.2252	0.1071	0.0444	0.0160	0.0049	0.0013
	4		0.9568	0.8298	0.6296	0.4148	0.2375	0.1182	0.0510	0.0189	0.0059
	5		0.9887	0.9327	0.8042	0.6172	0.4164	0.2454	0.1256	0.0553	0.0207
	6		0.9976	0.9781	0.9133	0.7858	0.6080	0.4166	0.2500	0.1299	0.0577
	7		0.9996	0.9941	0.9679	0.8982	0.7723	0.6010	0.4159	0.2520	0.1316
	8		0.9999	0.9987	0.9900	0.9591	0.8867	0.7624	0.5956	0.4143	0.2517
	9		1.0000	0.9998	0.9974	0.9861	0.9520	0.8782	0.7553	0.5914	0.4119
	10		1.0000	1.0000	0.9994	0.9961	0.9829	0.9468	0.8725	0.7507	0.5881
	11		1.0000	1.0000	0.9999	0.9991	0.9949	0.9804	0.9435	0.8692	0.7483
	12		1.0000	1.0000	1.0000	0.9998	0.9987	0.9940	0.9790	0.9420	0.8684
	13		1.0000	1.0000	1.0000	1.0000	0.9997	0.9985	0.9935	0.9786	0.9423
	14		1.0000	1.0000	1.0000	1.0000	1.0000	0.9997	0.9984	0.9936	0.9793
	15		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9997	0.9985	0.9941
	16		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9997	0.9987
17		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9998	
18		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	

# THE POISSONDISTRIBUTION

## Cumulative Distribution Function

The columns correspond to different values for the mean ( $\lambda$ ) of a Poisson variable. The entries in the body of the table represent the probabilities that such a random variable does not exceed the integer  $x$  at the left of the row. For example, a Poisson variable of mean 0.8 is 2 or less with probability 0.953.

$x$	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0	0.905	0.819	0.741	0.670	0.607	0.549	0.497	0.449	0.407	0.368
1	0.995	0.982	0.963	0.938	0.910	0.878	0.844	0.809	0.772	0.736
2	1.000	0.999	0.996	0.992	0.986	0.977	0.966	0.953	0.937	0.920
3	1.000	1.000	1.000	0.999	0.998	0.997	0.994	0.991	0.987	0.981
4	1.000	1.000	1.000	1.000	1.000	1.000	0.999	0.999	0.998	0.996
5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.999
6	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
$x$	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
0	0.333	0.301	0.273	0.247	0.223	0.202	0.183	0.165	0.150	0.135
1	0.699	0.663	0.627	0.592	0.558	0.525	0.493	0.463	0.434	0.406
2	0.900	0.879	0.857	0.833	0.809	0.783	0.757	0.731	0.704	0.677
3	0.974	0.966	0.957	0.946	0.934	0.921	0.907	0.891	0.875	0.857
4	0.995	0.992	0.989	0.986	0.981	0.976	0.970	0.964	0.956	0.947
5	0.999	0.998	0.998	0.997	0.996	0.994	0.992	0.990	0.987	0.983
6	1.000	1.000	1.000	0.999	0.999	0.999	0.998	0.997	0.997	0.995
7	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.999	0.999	0.999
8	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
$x$	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8	4.0
0	0.111	0.091	0.074	0.061	0.050	0.041	0.033	0.027	0.022	0.018
1	0.355	0.308	0.267	0.231	0.199	0.171	0.147	0.126	0.107	0.092
2	0.623	0.570	0.518	0.469	0.423	0.380	0.340	0.303	0.269	0.238
3	0.819	0.779	0.736	0.692	0.647	0.603	0.558	0.515	0.473	0.433
4	0.928	0.904	0.877	0.848	0.815	0.781	0.744	0.706	0.668	0.629
5	0.975	0.964	0.951	0.935	0.916	0.895	0.871	0.844	0.816	0.785
6	0.993	0.988	0.983	0.976	0.966	0.955	0.942	0.927	0.909	0.889
7	0.998	0.997	0.995	0.992	0.988	0.983	0.977	0.969	0.960	0.949
8	1.000	0.999	0.999	0.998	0.996	0.994	0.992	0.988	0.984	0.979
9	1.000	1.000	1.000	0.999	0.999	0.998	0.997	0.996	0.994	0.992
10	1.000	1.000	1.000	1.000	1.000	1.000	0.999	0.999	0.998	0.997
11	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.999	0.999
12	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

$x$	4.2	4.4	4.6	4.8	5.0	5.2	5.4	5.6	5.8	6.0
0	0.015	0.012	0.010	0.008	0.007	0.006	0.005	0.004	0.003	0.002
1	0.078	0.066	0.056	0.048	0.040	0.034	0.029	0.024	0.021	0.017
2	0.210	0.185	0.163	0.143	0.125	0.109	0.095	0.082	0.072	0.062
3	0.395	0.359	0.326	0.294	0.265	0.238	0.213	0.191	0.170	0.151
4	0.590	0.551	0.513	0.476	0.440	0.406	0.373	0.342	0.313	0.285
5	0.753	0.720	0.686	0.651	0.616	0.581	0.546	0.512	0.478	0.446
6	0.867	0.844	0.818	0.791	0.762	0.732	0.702	0.670	0.638	0.606
7	0.936	0.921	0.905	0.887	0.867	0.845	0.822	0.797	0.771	0.744
8	0.972	0.964	0.955	0.944	0.932	0.918	0.903	0.886	0.867	0.847
9	0.989	0.985	0.980	0.975	0.968	0.960	0.951	0.941	0.929	0.916
10	0.996	0.994	0.992	0.990	0.986	0.982	0.977	0.972	0.965	0.957
11	0.999	0.998	0.997	0.996	0.995	0.993	0.990	0.988	0.984	0.980
12	1.000	0.999	0.999	0.999	0.998	0.997	0.996	0.995	0.993	0.991
13	1.000	1.000	1.000	1.000	0.999	0.999	0.999	0.998	0.997	0.996
14	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.999	0.999	0.999
15	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.999
16	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

$x$	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0
0	0.002	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1	0.011	0.007	0.005	0.003	0.002	0.001	0.001	0.000	0.000	0.000
2	0.043	0.030	0.020	0.014	0.009	0.006	0.004	0.003	0.002	0.001
3	0.112	0.082	0.059	0.042	0.030	0.021	0.015	0.010	0.007	0.005
4	0.224	0.173	0.132	0.100	0.074	0.055	0.040	0.029	0.021	0.015
5	0.369	0.301	0.241	0.191	0.150	0.116	0.089	0.067	0.050	0.038
6	0.527	0.450	0.378	0.313	0.256	0.207	0.165	0.130	0.102	0.079
7	0.673	0.599	0.525	0.453	0.386	0.324	0.269	0.220	0.179	0.143
8	0.792	0.729	0.662	0.593	0.523	0.456	0.392	0.333	0.279	0.232
9	0.877	0.830	0.776	0.717	0.653	0.587	0.522	0.458	0.397	0.341
10	0.933	0.901	0.862	0.816	0.763	0.706	0.645	0.583	0.521	0.460
11	0.966	0.947	0.921	0.888	0.849	0.803	0.752	0.697	0.639	0.579
12	0.984	0.973	0.957	0.936	0.909	0.876	0.836	0.792	0.742	0.689
13	0.993	0.987	0.978	0.966	0.949	0.926	0.898	0.864	0.825	0.781
14	0.997	0.994	0.990	0.983	0.973	0.959	0.940	0.917	0.888	0.854
15	0.999	0.998	0.995	0.992	0.986	0.978	0.967	0.951	0.932	0.907
16	1.000	0.999	0.998	0.996	0.993	0.989	0.982	0.973	0.960	0.944
17	1.000	1.000	0.999	0.998	0.997	0.995	0.991	0.986	0.978	0.968
18	1.000	1.000	1.000	0.999	0.999	0.998	0.996	0.993	0.988	0.982
19	1.000	1.000	1.000	1.000	0.999	0.999	0.998	0.997	0.994	0.991
20	1.000	1.000	1.000	1.000	1.000	1.000	0.999	0.998	0.997	0.995
21	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.999	0.999	0.998
22	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.999	0.999
23	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

**Factors useful in the Construction of Control Charts**

	<i>Chart for Averages</i>			<i>Chart for standard deviations</i>					<i>Chart for Ranges</i>						
	<i>Factors for Control Limits</i>			<i>Factors for:</i>					<i>Factors for Central Line</i>		<i>Factors for Control Limits</i>				
				<i>Central Line</i>	<i>Control Limits</i>										
n	A	A <sub>2</sub>	A <sub>3</sub>	c <sub>4</sub>	B <sub>3</sub>	B <sub>4</sub>	B <sub>5</sub>	B <sub>6</sub>	d <sub>2</sub>	1/d <sub>2</sub>	d <sub>3</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>
2	2.121	1.880	2.659	0.7979	0	3.267	0	2.606	1.128	0.8862	0.852	0	3.686	0	3.266
3	1.732	1.023	1.954	0.8862	0	2.568	0	2.276	1.693	0.5908	0.888	0	4.357	0	2.574
4	1.500	0.729	1.628	0.9213	0	2.266	0	2.088	2.059	0.4857	0.879	0	4.697	0	2.281
5	1.342	0.577	1.427	0.9400	0	2.089	0	1.964	2.326	0.4299	0.864	0	4.918	0	2.114
6	1.225	0.483	1.287	0.9515	0.030	1.970	0.029	1.874	2.534	0.3946	0.848	0	5.078	0	2.003
7	1.134	0.419	1.182	0.9594	0.118	1.882	0.113	1.806	2.704	0.3698	0.833	0.206	5.203	0.076	1.924
8	1.061	0.373	1.099	0.9650	0.185	1.815	0.179	1.751	2.847	0.3512	0.819	0.389	5.306	0.137	1.863
9	1.000	0.337	1.032	0.9693	0.239	1.761	0.232	1.707	2.970	0.3367	0.807	0.548	5.392	0.184	1.816
10	0.949	0.308	0.975	0.9727	0.284	1.716	0.276	1.669	3.078	0.3249	0.797	0.688	5.467	0.223	1.777
11	0.905	0.285	0.927	0.9754	0.321	1.679	0.313	1.637	3.173	0.3152	0.787	0.813	5.533	0.256	1.744
12	0.866	0.266	0.886	0.9776	0.354	1.646	0.346	1.610	3.258	0.3069	0.778	0.924	5.593	0.284	1.716
13	0.832	0.249	0.850	0.9794	0.382	1.618	0.374	1.585	3.336	0.2998	0.770	1.026	5.646	0.307	1.693
14	0.802	0.235	0.817	0.9810	0.406	1.594	0.399	1.563	3.407	0.2935	0.763	1.119	5.695	0.328	1.672
15	0.775	0.223	0.789	0.9823	0.428	1.572	0.421	1.544	3.472	0.2880	0.756	1.204	5.739	0.347	1.653
16	0.750	0.212	0.763	0.9835	0.448	1.552	0.440	1.526	3.532	0.2831	0.750	1.283	5.781	0.363	1.637
17	0.728	0.203	0.739	0.9845	0.466	1.534	0.458	1.511	3.588	0.2787	0.744	1.357	5.819	0.378	1.622
18	0.707	0.194	0.718	0.9854	0.482	1.518	0.475	1.496	3.640	0.2747	0.738	1.425	5.855	0.392	1.608
19	0.688	0.187	0.698	0.9862	0.497	1.503	0.490	1.483	3.689	0.2711	0.733	1.490	5.888	0.404	1.596
20	0.671	0.180	0.680	0.9869	0.510	1.490	0.504	1.470	3.735	0.2677	0.728	1.550	5.920	0.415	1.585
21	0.655	0.173	0.663	0.9876	0.523	1.477	0.516	1.459	3.778	0.2647	0.724	1.607	5.950	0.425	1.575
22	0.640	0.167	0.647	0.9882	0.534	1.466	0.528	1.448	3.819	0.2618	0.719	1.661	5.978	0.435	1.565
23	0.626	0.162	0.633	0.9887	0.545	1.455	0.539	1.438	3.858	0.2592	0.715	1.712	6.004	0.444	1.556
24	0.612	0.157	0.619	0.9892	0.555	1.445	0.549	1.429	3.895	0.2567	0.712	1.761	6.030	0.452	1.548
25	0.600	0.153	0.606	0.9896	0.565	1.435	0.559	1.420	3.931	0.2544	0.708	1.807	6.055	0.460	1.540
Over 25	$3/\sqrt{n}$	$3/d_2\sqrt{n}$	...	...	*	**	...	...	...	...	...	...	...	...	...

\*  $1 - \frac{3}{\sqrt{2n}}$

\*\*  $1 + \frac{3}{\sqrt{2n}}$



## Appendix B. Random Number Tables

*Reproduced from Million Random Digits, used with permission of the Rand Corporation, Copyright, 1955, The Free Press. The publication is available for free on the Internet at <http://www.rand.org/publications/classics/randomdigits>.*

All of the sampling plans presented in this handbook are based on the assumption that the packages constituting the sample are chosen at random from the inspection lot. Randomness in this instance means that every package in the lot has an equal chance of being selected as part of the sample. It does not matter what other packages have already been chosen, what the package net contents are, or where the package is located in the lot.

To obtain a random sample, two steps are necessary. First it is necessary to identify each package in the lot of packages with a specific number whether on the shelf, in the warehouse, or coming off the packaging line. Then it is necessary to obtain a series of random numbers. These random numbers indicate exactly which packages in the lot shall be taken for the sample.

### The Random Number Table

The random number tables in Appendix B are composed of the digits from 0 through 9, with approximately equal frequency of occurrence. This appendix consists of 8 pages. On each page digits are printed in blocks of five columns and blocks of five rows. The printing of the table in blocks is intended only to make it easier to locate specific columns and rows.

### Random Starting Place

**Starting Page.** The Random Digit pages numbered B-2 through B-8. You can use the day of the week to determine the starting page or use the first page for the first lot you test in a location, the second page for the second lot and so on moving to the following page for each new lot.

**Starting Column and Row.** You may choose a starting page in the random number table and with eyes closed, drop a pencil anywhere on the page to indicate a starting place in the table.

For example, assume that testing takes place on the 3rd day of the week. Start with Table 3 of Appendix B. Assume you dropped your pencil on the page and it has indicated a starting place at column 22, row 45. That number is 1.

If 1-digit random numbers are needed, record them, going down the column to the bottom of the page and then to the top of the next column, and so on. Ignore duplicates and record zero (0) as ten (10). Following on from the last example, these numbers are 3, 2, 9, 8, etc. If two-digit random numbers are needed, rule off the pages, and further pages if necessary, in columns of two digits each. If there is a single column left on the page, ignore this column, and rule the next page in columns of two. Again, ignore duplicate numbers and record 00 as 100. For example, using the same starting place as in the last example (Table 3, column 22, row 45), the recorded two-digit recorded numbers would be 11, 34, 26, 95, etc.. When three-digit numbers are needed, rule the page in columns of three. Record 000 as 1000. Starting on Table 3, column 22, row 45, the recorded numbers would be 119, 346, 269, 959, etc..

**TABLE 1 - RANDOM DIGITS**

11164	36318	75061	37674	26320	75100	10431	20418	19228	91792
21215	91791	76831	58678	87054	31687	93205	43685	19732	08468
10438	44482	66558	37649	08882	90870	12462	41810	01806	02977
36792	26236	33266	66583	60881	97395	20461	36742	02852	50564
73944	04773	12032	51414	82384	38370	00249	80709	72605	67497
49563	12872	14063	93104	78483	72717	68714	18048	25005	04151
64208	48237	41701	73117	33242	42314	83049	21933	92813	04763
51486	72875	38605	29341	80749	80151	33835	52602	79147	08868
99756	26360	64516	17971	48478	09610	04638	17141	09227	10606
71325	55217	13015	72907	00431	45117	33827	92873	02953	85474
65285	97198	12138	53010	94601	15838	16805	61004	43516	17020
17264	57327	38224	29301	31381	38109	34976	65692	98566	29550
95639	99754	31199	92558	68368	04985	51092	37780	40261	14479
61555	76404	86210	11808	12841	45147	97438	60022	12645	62000
78137	98768	04689	87130	79225	08153	84967	64539	79493	74917
62490	99215	84987	28759	19177	14733	24550	28067	68894	38490
24216	63444	21283	07044	92729	37284	13211	37485	10415	36457
16975	95428	33226	55903	31605	43817	22250	03918	46999	98501
59138	39542	71168	57609	91510	77904	74244	50940	31553	62562
29478	59652	50414	31966	87912	87154	12944	49862	96566	48825
96155	95009	27429	72918	08457	78134	48407	26061	58754	05326
29621	66583	62966	12468	20245	14015	04014	35713	03980	03024
12639	75291	71020	17265	41598	64074	64629	63293	53307	48766
14544	37134	54714	02401	63228	26831	19386	15457	17999	18306
83403	88827	09834	11333	68431	31706	26652	04711	34593	22561
67642	05204	30697	44806	96989	68403	85621	45556	35434	09532
64041	99011	14610	40273	09482	62864	01573	82274	81446	32477
17048	94523	97444	59904	16936	39384	97551	09620	63932	03091
93039	89416	52795	10631	09728	68202	20963	02477	55494	39563
82244	34392	96607	17220	51984	10753	76272	50985	97593	34320
96990	55244	70693	25255	40029	23289	48819	07159	60172	81697
09119	74803	97303	88701	51380	73143	98251	78635	27556	20712
57666	41204	47589	78364	38266	94393	70713	53388	79865	92069
46492	61594	26729	58272	81754	14648	77210	12923	53712	87771
08433	19172	08320	20839	13715	10597	17234	39355	74816	03363
10011	75004	86054	41190	10061	19660	03500	68412	57812	57929
92420	65431	16530	05547	10683	88102	30176	84750	10115	69220
35542	55865	07304	47010	43233	57022	52161	82976	47981	46588
86595	26247	18552	29491	33712	32285	64844	69395	41387	87195
72115	34985	58036	99137	47482	06204	24138	24272	16196	04393
07428	58863	96023	88936	51343	70958	96768	74317	27176	29600
35379	27922	28906	55013	26937	48174	04197	36074	65315	12537
10982	22807	10920	26299	23593	64629	57801	10437	43965	15344
90127	33341	77806	12446	15444	49244	47277	11346	15884	28131
63002	12990	23510	68774	48983	20481	59815	67248	17076	78910
40779	86382	48454	65269	91239	45989	45389	54847	77919	41105
43216	12608	18167	84631	94058	82458	15139	76856	86019	47928
96167	64375	74108	93643	09204	98855	59051	56492	11933	64958
70975	62693	35684	72607	23026	37004	32989	24843	01128	74658
85812	61875	23570	75754	29090	40264	80399	47254	40135	69916

**TABLE 2 – RANDOM DIGITS**

40603	16152	83235	37361	98783	24838	39793	80954	76865	32713
40941	53585	69958	60916	71018	90561	84505	53980	64735	85140
73505	83472	55953	17957	11446	22618	34771	25777	27064	13526
39412	16013	11442	89320	11307	49396	39805	12249	57656	88686
57994	76748	54627	48511	78646	33287	35524	54522	08795	56273
61834	59199	15469	82285	84164	91333	90954	87186	31598	25942
91402	77227	79516	21007	58602	81418	87838	18443	76162	51146
58299	83880	20125	10794	37780	61705	18276	99041	78135	99661
40684	99948	33880	76413	63839	71371	32392	51812	48248	96419
75978	64298	08074	62055	73864	01926	78374	15741	74452	49954
34556	39861	88267	76068	62445	64361	78685	24246	27027	48239
65990	57048	25067	77571	77974	37634	81564	98608	37224	49848
16381	15069	25416	87875	90374	86203	29677	82543	37554	89179
52458	88880	78352	67913	09245	47773	51272	06976	99571	33365
33007	85607	92008	44897	24964	50559	79549	85658	96865	24186
38712	31512	08588	61490	72294	42862	87334	05866	66269	43158
58722	03678	19186	69602	34625	75958	56869	17907	81867	11535
26188	69497	51351	47799	20477	71786	52560	66827	79419	70886
12893	54048	07255	86149	99090	70958	50775	31768	52903	27645
33186	81346	85095	37282	85536	72661	32180	40229	19209	74939
79893	29448	88392	54211	61708	83452	61227	81690	42265	20310
48449	15102	44126	19438	23382	14985	37538	30120	82443	11152
94205	04259	68983	50561	06902	10269	22216	70210	60736	58772
38648	09278	81313	77400	41126	52614	93613	27263	99381	49500
04292	46028	75666	26954	34979	68381	45154	09314	81009	05114
17026	49737	85875	12139	59391	81830	30185	83095	78752	40899
48070	76848	02531	97737	10151	18169	31709	74842	85522	74092
30159	95450	83778	46115	99178	97718	98440	15076	21199	20492
12148	92231	31361	60650	54695	30035	22765	91386	70399	79270
73838	77067	24863	97576	01139	54219	02959	45696	98103	78867
73547	43759	95632	39555	74391	07579	69491	02647	17050	49869
07277	93217	79421	21769	83572	48019	17327	99638	87035	89300
65128	48334	07493	28098	52087	55519	83718	60904	48721	17522
38716	61380	60212	05099	21210	22052	01780	36813	19528	07727
31921	76458	73720	08657	74922	61335	41690	41967	50691	30508
57238	27464	61487	52329	26150	79991	64398	91273	26824	94827
24219	41090	08531	61578	08236	41140	76335	91189	66312	44000
31309	49387	02330	02476	96074	33256	48554	95401	02642	29119
20750	97024	72619	66628	66509	31206	55293	24249	02266	39010
28537	84395	26654	37851	80590	53446	34385	86893	87713	26842
97929	41220	86431	94485	28778	44997	38802	56594	61363	04206
40568	33222	40486	91122	43294	94541	40988	02929	83190	74247
41483	92935	17061	78252	40498	43164	68646	33023	64333	64083
93040	66476	24990	41099	65135	37641	97613	87282	63693	55299
76869	39300	84978	07504	36835	72748	47644	48542	25076	68626
02982	57991	50765	91930	21375	35604	29963	13738	03155	59914
94479	76500	39170	06629	10031	48724	49822	44021	44335	26474
52291	75822	95966	90947	65031	75913	52654	63377	70664	60082
03684	03600	52831	55381	97013	19993	41295	29118	18710	64851
58939	28366	86765	67465	45421	74228	01095	50987	83833	37216

**TABLE 3 – RANDOM DIGITS**

37100	62492	63642	47638	13925	80113	88067	42575	44078	62703
53406	13855	38519	29500	62479	01036	87964	44498	07793	21599
55172	81556	18856	59043	64315	38270	25677	01965	21310	28115
40353	84807	47767	46890	16053	32415	60259	99788	55924	22077
18899	09612	77541	57675	70153	41179	97535	82889	27214	03482
68141	25340	92551	11326	60939	79355	41544	88926	09111	86431
51559	91159	81310	63251	91799	41215	87412	35317	74271	11603
92214	33386	73459	79359	65867	39269	57527	69551	17495	91456
15089	50557	33166	87094	52425	21211	41876	42525	36625	63964
96461	00604	11120	22254	16763	19206	67790	88362	01880	37911
28177	44111	15705	73835	69399	33602	13660	84342	97667	80847
66953	44737	81127	07493	07861	12666	85077	95972	96556	80108
19712	27263	84575	49820	19837	69985	34931	67935	71903	82560
68756	64757	19987	92222	11691	42502	00952	47981	97579	93408
75022	65332	98606	29451	57349	39219	08585	31502	96936	96356
11323	70069	90269	89266	46413	61615	66447	49751	15836	97343
55208	63470	18158	25283	19335	53893	87746	72531	16826	52605
11474	08786	05594	67045	13231	51186	71500	50498	59487	48677
81422	86842	60997	79669	43804	78690	58358	87639	24427	66799
21771	75963	23151	90274	08275	50677	99384	94022	84888	80139
42278	12160	32576	14278	34231	20724	27908	02657	19023	07190
17697	60114	63247	32096	32503	04923	17570	73243	76181	99343
05686	30243	34124	02936	71749	03031	72259	26351	77511	00850
52992	46650	89910	57395	39502	49738	87854	71066	84596	33115
94518	93984	81478	67750	89354	01080	25988	84359	31088	13655
00184	72186	78906	75480	71140	15199	69002	08374	22126	23555
87462	63165	79816	61630	50140	95319	79205	79202	67414	60805
88692	58716	12273	48176	86038	78474	76730	82931	51595	20747
20094	42962	41382	16768	13261	13510	04822	96354	72001	68642
60935	81504	50520	82153	27892	18029	79663	44146	72876	67843
51392	85936	43898	50596	81121	98122	69196	54271	12059	62539
54239	41918	79526	46274	24853	67165	12011	04923	20273	89405
57892	73394	07160	90262	48731	46648	70977	58262	78359	50436
02330	74736	53274	44468	53616	35794	54838	39114	68302	26855
76115	29247	55342	51299	79908	36613	68361	18864	13419	34950
63312	81886	29085	20101	38037	34742	78364	39356	40006	49800
27632	21570	34274	56426	00330	07117	86673	46455	66866	76374
06335	62111	44014	52567	79480	45886	92585	87828	17376	35254
64142	87676	21358	88773	10604	62834	63971	03989	21421	76086
28436	25468	75235	75370	63543	76266	27745	31714	04219	00699
09522	83855	85973	15888	29554	17995	37443	11461	42909	32634
93714	15414	93712	02742	34395	21929	38928	31205	01838	60000
15681	53599	58185	73840	88758	10618	98725	23146	13521	47905
77712	23914	08907	43768	10304	61405	53986	61116	76164	54958
78453	54844	61509	01245	91199	07482	02534	08189	62978	55516
24860	68284	19367	29073	93464	06714	45268	60678	58506	23700
37284	06844	78887	57276	42695	03682	83240	09744	63025	60997
35488	52473	37634	32569	39590	27379	23520	29714	03743	08444
51595	59909	35223	44991	29830	56614	59661	83397	38421	17503
90660	35171	30021	91120	78793	16827	89320	08260	09181	53616

**TABLE 4 – RANDOM DIGITS**

54723	56527	53076	38235	42780	22716	36400	48028	78196	92985
84828	81248	25548	34075	43459	44628	21866	90350	82264	20478
65799	01914	81363	05173	23674	41774	25154	73003	87031	94368
87917	38549	48213	71708	92035	92527	55484	32274	87918	22455
26907	88173	71189	28377	13785	87469	35647	19695	33401	51998
68052	65422	88460	06352	42379	55499	60469	76931	83430	24560
42587	68149	88147	99700	56124	53239	38726	63652	36644	50876
97176	55416	67642	05051	89931	19482	80720	48977	70004	03664
53295	87133	38264	94708	00703	35991	76404	82249	22942	49659
23011	94108	29196	65187	69974	01970	31667	54307	40032	30031
75768	49549	24543	63285	32803	18301	80851	89301	02398	99891
86668	70341	66460	75648	78678	27770	30245	44775	56120	44235
56727	72036	50347	33521	05068	47248	67832	30960	95465	32217
27936	78010	09617	04408	18954	61862	64547	52453	83213	47833
31994	69072	37354	93025	38934	90219	91148	62757	51703	84040
02985	95303	15182	50166	11755	56256	89546	31170	87221	63267
89965	10206	95830	95406	33845	87588	70237	84360	19629	72568
45587	29611	98579	42481	05359	36578	56047	68114	58583	16313
01071	08530	74305	77509	16270	20889	99753	88035	55643	18291
90209	68521	14293	39194	68803	32052	39413	26883	83119	69623
04982	68470	27875	15480	13206	44784	83601	03172	07817	01520
19740	24637	97377	32112	74283	69384	49768	64141	02024	85380
50197	79869	86497	68709	42073	28498	82750	43571	77075	07123
46954	67536	28968	81936	95999	04319	09932	66223	45491	69503
82549	62676	31123	49899	70512	95288	15517	85352	21987	08669
61798	81600	80018	84742	06103	60786	01408	75967	29948	21454
57666	29055	46518	01487	30136	14349	56159	47408	78311	25896
29805	64994	66872	62230	41385	58066	96600	99301	85976	84194
06711	34939	19599	76247	87879	97114	74314	39599	43544	36255
13934	46885	58315	88366	06138	37923	11192	90757	10831	01580
28549	98327	99943	25377	17628	65468	07875	16728	22602	33892
40871	61803	25767	55484	90997	86941	64027	01020	39518	34693
47704	38355	71708	80117	11361	88875	22315	38048	42891	87885
62611	19698	09304	29265	07636	08508	23773	56545	08015	28891
03047	83981	11916	09267	67316	87952	27045	62536	32180	60936
26460	50501	31731	18938	11025	18515	31747	96828	58258	97107
01764	25959	69293	89875	72710	49659	66632	25314	95260	22146
11762	54806	02651	52912	32770	64507	59090	01275	47624	16124
31736	31695	11523	64213	91190	10145	34231	36405	65860	48771
97155	48706	52239	21831	49043	18650	72246	43729	63368	53822
31181	49672	17237	04024	65324	32460	01566	67342	94986	36106
32115	82683	67182	89030	41370	50266	19505	57724	93358	49445
07068	75947	71743	69285	30395	81818	36125	52055	20289	16911
26622	74184	75166	96748	34729	61289	36908	73686	84641	45130
02805	52676	22519	47848	68210	23954	63085	87729	14176	45410
32301	58701	04193	30142	99779	21697	05059	26684	63516	75925
26339	56909	39331	42101	01031	01947	02257	47236	19913	90371
95274	09508	81012	42413	11278	19354	68661	04192	36878	84366
24275	39632	09777	98800	48027	96908	08177	15364	02317	89548
36116	42128	65401	94199	51058	10759	47244	99830	64255	40516

**TABLE 5 – RANDOM DIGITS**

47505	02008	20300	87188	42505	40294	04404	59286	95914	07191
13350	08414	64049	94377	91059	74531	56228	12307	87871	97064
33006	92690	69248	97443	38841	05051	33756	24736	43508	53566
55216	63886	06804	11861	30968	74515	40112	40432	18682	02845
21991	26228	14801	19192	45110	39937	81966	23258	99348	61219
71025	28212	10474	27522	16356	78456	46814	28975	01014	91458
65522	15242	84554	74560	26206	49520	65702	54193	25583	54745
27975	54923	90650	06170	99006	75651	77622	20491	53329	12452
07300	09704	36099	61577	34632	55176	87366	19968	33986	46445
54357	13689	19569	03814	47873	34086	28474	05131	46619	41499
00977	04481	42044	08649	83107	02423	46919	59586	58337	32280
13920	78761	12311	92808	71581	85251	11417	85252	61312	10266
08395	37043	37880	34172	80411	05181	58091	41269	22626	64799
46166	67206	01619	43769	91727	06149	17924	42628	57647	76936
87767	77607	03742	01613	83528	66251	75822	83058	97584	45401
29880	95288	21644	46587	11576	30568	56687	83239	76388	17857
36248	36666	14894	59273	04518	11307	67655	08566	51759	41795
12386	29656	30474	25964	10006	86382	46680	93060	52337	56034
52068	73801	52188	19491	76221	45685	95189	78577	36250	36082
41727	52171	56719	06054	34898	93990	89263	79180	39917	16122
49319	74580	57470	14600	22224	49028	93024	21414	90150	15686
88786	76963	12127	25014	91593	98208	27991	12539	14357	69512
84866	95202	43983	72655	89684	79005	85932	41627	87381	38832
11849	26482	20461	99450	21636	13337	55407	01897	75422	05205
54966	17594	57393	73267	87106	26849	68667	45791	87226	74412
10959	33349	80719	96751	25752	17133	32786	34368	77600	41809
22784	07783	35903	00091	73954	48706	83423	96286	90373	23372
86037	61791	33815	63968	70437	33124	50025	44367	98637	40870
80037	65089	85919	74391	36170	82988	52311	59180	37846	98028
72751	84359	15769	13615	70866	37007	74565	92781	37770	76451
18532	03874	66220	79050	66814	76341	42452	65365	07167	90134
22936	22058	49171	11027	07066	14606	11759	19942	21909	15031
66397	76510	81150	00704	94990	68204	07242	82922	65745	51503
89730	23272	65420	35091	16227	87024	56662	59110	11158	67508
81821	75323	96068	91724	94679	88062	13729	94152	59343	07352
94377	82554	53586	11432	08788	74053	98312	61732	91248	23673
68485	49991	53165	19865	30288	00467	98105	91483	89389	61991
07330	07184	86788	64577	47692	45031	36325	47029	27914	24905
10993	14930	35072	36429	26176	66205	07758	07982	33721	81319
20801	15178	64453	83357	21589	23153	60375	63305	37995	66275
79241	35347	66851	79247	57462	23893	16542	55775	06813	63512
43593	39555	97345	58494	52892	55080	19056	96192	61508	23165
29522	62713	33701	17186	15721	95018	76571	58615	35836	66260
88836	47290	67274	78362	84457	39181	17295	39626	82373	10883
65905	66253	91482	30689	81313	01343	37188	37756	04182	19376
44798	69371	07865	91756	42318	63601	53872	93610	44142	89830
35510	99139	32031	27925	03560	33806	85092	70436	94777	57963
50125	93223	64209	49714	73379	89975	38567	44316	60262	10777
25173	90038	63871	40418	23818	63250	05118	52700	92327	55449
68459	90094	44995	93718	83654	79311	18107	12557	09179	28416

**TABLE 6 – RANDOM DIGITS**

96195	07059	13266	31389	87612	88004	31843	83469	22793	14312
22408	94958	19095	58035	43831	32354	83946	57964	70404	32017
53896	23508	16227	56929	74329	12264	26047	66844	47383	42202
22565	02475	00258	79018	70090	37914	27755	00872	71553	56684
49438	20772	60846	69732	07612	70474	46483	21053	95475	53448
65620	34684	00210	04863	01373	19978	61682	69315	46766	83768
20246	26941	41298	04763	19769	25865	95937	03545	93561	73871
09433	09167	35166	32731	73299	41137	37328	28301	61629	05040
95552	73456	16578	88140	80059	50296	07656	01396	83099	09718
76053	05150	69125	69442	16509	03495	26427	58780	27576	31342
34822	35843	78468	82380	52313	71070	71273	10768	86101	51474
07753	04073	58520	80022	28185	16432	86909	82347	10548	83929
04204	94434	62798	81902	29977	57258	87826	35003	46449	76636
96770	19440	29700	42093	64369	69176	29732	37389	34054	28680
65989	62843	10917	34458	81936	84775	39415	10622	36102	16753
06644	94784	66995	61812	54215	01336	75887	57685	66114	76984
88950	46077	34651	12038	87914	20785	39705	73898	12318	78334
21482	95422	02002	33671	46764	50527	46276	77570	68457	62199
55137	61039	02006	69913	11291	87215	89991	26003	55271	08153
98441	81529	59607	65225	49051	28328	85535	37003	87211	10204
57168	30458	23892	07825	53447	53511	09315	42552	43135	57892
71886	65334	38013	09379	83976	42441	14086	33197	82671	05037
40418	59504	52383	07232	14179	59693	37668	26689	93865	78925
28833	76661	47277	92935	63193	94862	60560	72484	29755	40894
37883	62124	62199	49542	55083	20575	44636	92282	52105	77664
44882	33592	66234	13821	86342	00135	87938	57995	34157	99858
19082	13873	07184	21566	95320	28968	31911	06288	77271	76171
45316	29283	89318	55806	89338	79231	91545	55477	19552	03471
22788	55433	31188	74882	44858	69655	08096	70982	61300	23792
08293	86193	05026	21255	63082	92946	28748	25423	45282	57821
29223	70541	67115	84584	10100	33854	26466	77796	70698	99393
22681	80110	31595	09246	39147	11158	43298	36220	88841	11271
74580	90354	43744	22178	38084	60027	24201	71686	59767	33274
69093	71364	08107	96952	50005	30297	97417	89575	04676	35616
40456	91234	58090	65342	95002	28447	21700	43137	13746	85959
72927	67349	83962	58912	59734	76323	02913	46306	53956	38936
61869	33093	81129	06481	89281	83629	81960	63704	56329	10357
40048	16520	07638	10797	22270	57350	72214	36410	95526	87614
68773	97669	28656	89938	12917	25630	08068	19445	76250	24727
09774	30751	49740	11385	91468	28900	76804	52460	52320	70493
46139	36689	82587	13586	35061	76128	38568	62300	43439	53434
26566	95323	32993	89988	12152	01862	93113	33875	31730	62941
06765	57141	48617	18282	13086	76064	83334	70192	15972	80429
35384	90380	12317	89702	33091	68835	62960	38010	52710	87604
49333	78482	36199	11355	86044	88760	03724	22927	91716	92332
45595	14044	56806	99126	85584	87750	78149	22723	48245	78126
79819	15054	76174	12206	06886	06814	43285	20008	75345	19779
11971	62234	74857	46401	20817	57591	41189	49604	29604	30660
11452	89318	53084	21993	62471	74101	61217	76536	58393	63718
38746	81271	96260	98137	60275	22647	33103	50090	29395	10016

**TABLE 7 – RANDOM DIGITS**

93369	13044	69686	78162	29132	51544	17925	56738	32683	83153
19360	55049	94951	76341	38159	31008	41476	05278	03909	02299
47798	89890	06893	65483	97658	74884	38611	27264	26956	83504
69223	32007	03513	61149	66270	73087	16795	76845	44645	44552
34511	50721	84850	34159	38985	75384	22965	55366	81632	78872
54031	59329	58963	52220	76806	98715	67452	78741	58128	00077
66722	85515	04723	92411	03834	12109	85185	37350	93614	15351
71059	07496	38404	18126	37894	44991	45777	02070	38159	23930
45478	86066	31135	33243	01190	47277	55146	56130	70117	83203
97246	91121	89437	20393	76598	99458	76665	83793	37448	32664
22982	25936	96417	34845	28942	65569	38253	77182	12996	19505
48243	62993	47132	85248	79160	90981	71696	79609	33809	60839
93514	14915	67960	82203	22598	94802	75332	95585	69542	79924
69707	98303	93069	16216	01542	51771	16833	20922	94415	27617
87467	91794	70814	12743	17543	04057	71231	11309	32780	83270
81006	81498	59375	30502	44868	81279	23585	49678	70014	10523
15458	83481	50187	43375	56644	72076	59403	65469	74760	69509
33469	12510	23095	48016	22064	39774	07373	10555	33345	21787
67198	07176	65996	18317	83083	11921	06254	68437	59481	54778
58037	92261	85504	55690	63488	26451	43223	38009	50567	09191
84983	68312	25519	56158	22390	12823	92390	28947	36708	25393
35554	02935	72889	68772	79774	14336	50716	63003	86391	94074
04368	17632	50962	71908	13105	76285	31819	16884	11665	16594
81311	60479	69985	30952	93067	70056	55229	83226	22555	66447
03823	89887	55828	74452	21692	55847	15960	47521	27784	25728
80422	65437	38797	56261	88300	35980	56656	45662	29219	49257
61307	49468	43344	43700	14074	19739	03275	99444	62545	23720
83873	82557	10002	80093	74645	33109	15281	38759	09342	69408
38110	16855	28922	93758	22885	36706	92542	60270	99599	17983
43892	91189	87226	56935	99836	85489	89693	49475	31941	78065
93683	09664	53927	49885	94979	88848	42642	93218	80305	49428
32748	02121	11972	96914	83264	89016	45140	20362	63242	86255
49211	92963	38625	65312	52156	36400	67050	64058	45489	24165
63365	64224	69475	57512	85097	05054	88673	96593	00902	53320
63576	26373	44610	43748	90399	06770	71609	90916	69002	57180
41078	47036	65524	68466	77613	20076	71969	47706	22506	81053
70846	89558	64173	15381	67322	70097	82363	90767	17879	32697
68800	64492	20162	32707	69510	82465	26821	79917	34615	35820
44977	89525	51269	63747	30997	97213	53016	65909	05723	50168
79354	63847	24395	53679	07667	67993	24634	78867	78516	00448
14954	22299	40156	52685	19093	06090	23800	06739	76836	19050
01711	98439	09446	33937	98956	85676	89493	05132	45886	49379
62328	55328	45738	93940	15772	81975	91017	21387	57949	13992
73004	62109	81907	71077	50322	66093	79921	61412	18347	21115
34218	89445	03609	52336	19005	15179	94958	99448	11612	76981
99159	01968	45886	86875	05196	64297	59339	39878	61548	56442
92858	29949	15817	93372	34732	61584	72007	58597	43802	51066
27396	97477	65554	71601	01540	26509	19487	39684	18676	41219
37103	45309	30129	43380	66638	10841	77292	40288	25826	61431
57347	97012	48428	20606	54138	75716	23741	50462	13221	47216