ตารางสถิติ

Al : Upper Percentage Points of Hotelling's T^2 Distribution ($T^2_{(p,\nu),\alpha}$)

p = 1(1) 20(2) 30(5) 55

ν = (p + 1) - 1000 , ∞

α = .01, .05

UPPER PERCENTAGE POINTS OF HOTELLING'S T^2-DISTRIBUTION, $\alpha = 0.010$

ν \ p	1	2	3	4	5
2	98.503				
3	34.116	297.000			
4	21.198	82.177	594.997		
5	16.258	45.000	147.283	992.494	
6	13.745	31.857	75.125	229.679	1489.489
7	12.246	25.491	50.652	111.839	329.433
8	11.259	21.821	39.118	72.908	155.219
9	10.561	19.460	32.598	54.890	98.703
10	10.044	17.826	28.466	44.838	72.882
11	9.646	16.631	25.637	38.533	58.618
12	9.330	15.722	23.588	34.251	49.739
13	9.074	15.008	22.041	31.171	43.745
14	8.862	14.433	20.834	28.857	39.454
15	8.683	13.960	19.867	27.060	36.246
16	8.531	13.566	19.076	25.626	33.762
17	8.400	13.231	18.418	24.458	31.788
18	8.285	12.943	17.861	23.487	30.182
19	8.185	12.694	17.385	22.670	28.852
20	8.096	12.476	16.973	21.972	27.734
21	8.017	12.283	16.613	21.369	26.781
22	7.945	12.111	16.296	20.843	25.959
23	7.881	11.958	16.015	20.381	25.244
24	7.823	11.820	15.763	19.972	24.616
25	7.770	11.695	15.538	19.606	24.060
26	7.721	11.581	15.334	19.279	23.565
27	7.677	11.478	15.149	18.983	23.121
28	7.636	11.383	14.980	18.715	22.721
29	7.598	11.295	14.825	18.471	22.359
30	7.562	11.215	14.683	18.247	22.029
35	7.419	10.890	14.117	17.366	20.743
40	7.314	10.655	13.715	16.750	19.858
45	7.234	10.478	13.414	16.295	19.211
50	7.171	10.340	13.181	15.945	18.718
55	7.119	10.228	12.995	15.667	18.331
60	7.077	10.137	12.843	15.442	18.018
70	7.011	9.996	12.611	15.098	17.543
80	6.963	9.892	12.440	14.849	17.201
90	6.925	9.813	12.310	14.660	16.942
100	6.895	9.750	12.208	14.511	16.746
110	6.871	9.699	12.125	14.391	16.587
120	6.851	9.657	12.057	14.292	16.454
150	6.807	9.565	11.909	14.079	16.156
200	6.763	9.474	11.764	13.871	15.877
400	6.699	9.341	11.551	13.569	15.473
1000	6.660	9.262	11.426	13.392	15.239
∞	6.635	9.210	11.345	13.277	15.086

A1.1 (ต่อ)

UPPER PERCENTAGE POINTS OF HOTELLING'S

T^2-DISTRIBUTION; $\alpha=0.010$

p ν	6	7	8	9	10
7	2085.984				
8	446.571	2781.978			
9	205.293	581.106	3577.472		
10	128.067	262.076	733.045	4472.464	
11	93.127	161.015	325.576	902.392	5466.956
12	73.969	115.640	197.555	395.797	1089.149
13	62.114	90.907	140.429	237.692	472.742
14	54.150	75.676	109.441	167.499	281.428
15	48.472	65.483	90.433	129.576	196.853
16	44.240	58.241	77.755	106.391	151.316
17	40.975	52.858	68.771	90.969	123.554
18	38.385	48.715	62.109	80.067	105.131
19	36.283	45.435	56.992	71.999	92.134
20	34.546	42.779	52.948	65.813	82.532
21	33.088	40.587	49.679	60.932	75.181
22	31.847	38.750	46.986	56.991	69.389
23	30.779	37.188	44.730	53.748	64.719
24	29.850	35.846	42.816	51.036	60.879
25	29.036	34.680	41.171	48.736	57.671
26	28.316	33.659	39.745	46.762	54.953
27	27.675	32.756	38.496	45.051	52.622
28	27.101	31.954	37.393	43.554	50.604
29	26.584	31.236	36.414	42.234	48.839
30	26.116	30.589	35.538	41.062	47.283
35	24.314	28.135	32.259	36.743	41.651
40	23.094	26.502	30.120	33.984	38.135
45	22.214	25.340	28.617	32.073	35.737
50	21.550	24.470	27.504	30.673	33.998
55	21.030	23.795	26.647	29.603	32.682
60	20.613	23.257	25.967	28.760	31.650
70	19.986	22.451	24.957	27.515	30.139
80	19.536	21.877	24.242	26.642	29.085
90	19.197	21.448	23.710	25.995	28.310
100	18.934	21.115	23.299	25.496	27.714
110	18.722	20.849	22.972	25.101	27.243
120	18.549	20.632	22.705	24.779	26.862
150	18.178	20.167	22.137	24.096	26.054
200	17.819	19.720	21.592	23.446	25.287
400	17.303	19.080	20.818	22.525	24.209
1000	17.006	18.713	20.376	22.003	23.600
∞	16.812	18.475	20.090	21.666	23.209

A 1.1 (ต่อ)

UPPER PERCENTAGE POINTS OF HOTELLING'S

T^2-DISTRIBUTION, $\alpha=0.010$

ν \ p	11	12	13	14	15
12	6560.947				
13	1293.319	7754.436			
14	556.413	1514.902	9047.426		
15	328.767	646.811	1753.899	10439.91	
16	228.494	379.710	743.938	2010.310	11931.90
17	174.662	262.423	434.257	847.794	2284.137
18	141.923	199.618	298.642	492.409	958.379
19	120.242	161.501	226.183	337.150	554.167
20	104.973	136.305	182.290	254.358	377.950
21	93.711	118.588	153.320	204.288	284.145
22	85.100	105.538	132.979	171.289	227.499
23	78.323	95.571	118.013	148.147	190.213
24	72.865	87.736	106.596	131.139	164.093
25	68.382	81.432	97.630	118.176	144.916
26	64.639	76.258	90.421	108.005	130.313
27	61.470	71.942	84.509	99.834	118.863
28	58.756	68.291	79.582	93.138	109.671
29	56.406	65.165	75.416	87.560	102.144
30	54.353	62.461	71.851	82.847	95.877
35	47.059	53.053	59.741	67.252	75.749
40	42.617	47.478	52.776	58.578	64.961
45	39.636	43.803	48.272	53.083	58.281
50	37.501	41.203	45.128	49.301	53.752
55	35.898	39.268	42.811	46.543	50.484
60	34.650	37.774	41.034	44.444	48.019
70	32.836	35.617	38.490	41.465	44.549
80	31.581	34.137	36.759	39.453	42.226
90	30.662	33.059	35.504	38.004	40.564
100	29.960	32.238	34.554	36.912	39.316
110	29.406	31.593	33.810	36.059	38.344
120	28.958	31.073	33.210	35.374	37.567
150	28.013	29.980	31.957	33.947	35.952
200	27.122	28.953	30.784	32.619	34.457
400	25.874	27.525	29.163	30.792	32.414
1000	25.174	26.727	28.262	29.782	31.289
∞	24.725	26.217	27.688	29.141	30.578

A 1.1 (ต่อ)

UPPER PERCENTAGE POINTS OF HOTELLING'S

T^2-DISTRIBUTION, α=0.010

ν \ p	16	17	18	19	20
17	13523.39				
18	2575.378	15214.37			
19	1075.693	2884.036	17004.86		
20	619.531	1199.738	3210.109	18894.84	
21	421.040	688.501	1330.513	3553.598	20884.33
22	315.543	466.422	761.078	1468.019	3914.503
23	251.921	348.554	514.096	837.263	1612.255
24	210.092	277.556	383.177	564.061	917.054
25	180.818	230.926	304.404	419.413	616.319
26	159.344	198.322	252.716	332.465	457.261
27	143.005	174.425	216.606	275.462	361.739
28	130.204	156.255	190.159	235.669	299.164
29	119.933	142.029	170.063	206.545	255.513
30	111.528	130.622	154.339	184.429	223.584
35	85.434	96.566	109.480	124.618	142.570
40	72.020	79.868	88.644	98.516	109.697
45	63.917	70.051	76.754	84.109	92.215
50	58.511	63.617	69.109	75.035	81.450
55	54.657	59.085	63.795	68.816	74.183
60	51.774	55.726	59.894	64.297	68.958
70	47.753	51.085	54.557	58.179	61.964
80	45.085	48.035	51.084	54.238	57.504
90	43.187	45.880	48.645	51.489	54.417
100	41.769	44.276	46.840	49.465	52.154
110	40.669	43.037	45.451	47.913	50.426
120	39.792	42.051	44.348	46.685	49.063
150	37.976	40.019	42.085	44.173	46.287
200	36.303	38.157	40.021	41.896	43.783
400	34.030	35.641	37.249	38.854	40.459
1000	32.785	34.271	35.749	37.216	38.677
∞	32.000	33.409	34.805	36.191	37.566

UPPER PERCENTAGE POINTS OF HOTELLING'S

T^2-DISTRIBUTION, $\alpha=0.010$

ν \ p	22	24	26	29	30
23	25161.79				
24	4688.561				
25	1920.920	29837.25			
26	1087.459	5532.285			
27	727.712	2256.508	34910.71		
28	537.797	1272.294	6445.674		
29	423.928	848.275	2619.021	40382.16	
30	349.439	624.787	1471.559	7428.729	
35	190.465	264.634	390.968	639.627	1264.993
40	137.128	174.127	226.272	304.124	429.942
45	111.180	134.941	165.471	205.923	261.624
50	96.008	113.433	134.633	160.926	194.282
55	86.107	99.943	116.184	135.500	158.820
60	79.158	90.728	103.970	119.272	137.145
70	70.070	78.992	88.868	99.865	112.188
80	64.405	71.854	79.929	88.717	98.325
90	60.542	67.065	74.034	81.504	89.536
100	57.741	63.632	69.860	76.462	83.478
110	55.619	61.052	66.751	72.742	79.054
120	53.955	59.044	64.347	69.887	75.682
150	50.596	55.023	59.579	64.275	69.123
200	47.599	51.475	55.419	59.438	63.536
400	43.667	46.877	50.085	53.325	56.569
1000	41.581	44.465	47.333	50.187	53.031
∞	40.289	42.980	45.642	48.278	50.892

A 1.1 (ต่อ)

UPPER PERCENTAGE POINTS OF HOTELLING'S

T^2-DISTRIBUTION $\alpha=0.010$

ν \ p	35	40	45	50	55
40	1675.315				
45	557.658	2142.966			
50	334.022	701.741	2667.947		
55	244.962	415.009	862.192	3250.258	
60	198.221	301.245	504.591	1039.014	3889.902
70	150.639	205.476	289.266	430.641	709.544
80	126.801	163.979	214.454	286.516	396.666
90	112.571	141.052	177.176	224.418	288.611
100	103.142	126.575	155.011	190.243	234.985
110	96.445	116.626	140.367	168.727	203.193
120	91.448	109.376	129.991	153.973	182.237
150	81.978	96.041	111.529	128.702	147.875
200	74.171	85.434	97.404	110.188	123.887
400	64.756	73.081	81.572	90.249	99.132
1000	60.109	67.161	74.207	81.261	88.332
∞	57.342	63.691	69.957	76.154	82.292

UPPER PERCENTAGE POINTS OF HOTELLING'S T^2-DISTRIBUTION, $\alpha=0.050$

ν \ p	1	2	3	4	5
2	18.513				
3	10.128	57.000			
4	7.709	25.472	114.986		
5	6.608	17.361	46.383	192.468	
6	5.987	13.887	29.661	72.937	289.446
7	5.591	12.001	22.720	44.718	105.157
8	5.318	10.828	19.028	33.230	62.561
9	5.117	10.033	16.766	27.202	45.453
10	4.965	9.459	15.248	23.545	36.561
11	4.844	9.026	14.163	21.108	31.205
12	4.747	8.689	13.350	19.376	27.656
13	4.667	8.418	12.719	18.086	25.145
14	4.600	8.197	12.216	17.089	23.281
15	4.543	8.012	11.806	16.296	21.845
16	4.494	7.856	11.465	15.651	20.706
17	4.451	7.722	11.177	15.117	19.782
18	4.414	7.606	10.931	14.667	19.017
19	4.381	7.504	10.719	14.283	18.375
20	4.351	7.415	10.533	13.952	17.828
21	4.325	7.335	10.370	13.663	17.356
22	4.301	7.264	10.225	13.409	16.945
23	4.279	7.200	10.095	13.184	16.585
24	4.260	7.142	9.979	12.983	16.265
25	4.242	7.089	9.874	12.803	15.981
26	4.225	7.041	9.779	12.641	15.726
27	4.210	6.997	9.692	12.493	15.496
28	4.196	6.957	9.612	12.359	15.287
29	4.183	6.919	9.539	12.236	15.097
30	4.171	6.885	9.471	12.123	14.924
35	4.121	6.744	9.200	11.674	14.240
40	4.085	6.642	9.005	11.356	13.762
45	4.057	6.564	8.859	11.118	13.409
50	4.034	6.503	8.744	10.934	13.1[illegible]8
55	4.016	6.454	8.652	10.787	12.[illegible]3
60	4.001	6.413	8.577	10.668	12.748
70	3.978	6.350	8.460	10.484	12.482
80	3.960	6.303	8.375	10.350	12.289
90	3.947	6.267	8.309	10.248	12.142
100	3.936	6.239	8.257	10.167	12.027
110	3.927	6.216	8.215	10.102	11.934
120	3.920	6.196	8.181	10.048	11.858
150	3.904	6.155	8.105	9.931	11.693
200	3.888	6.113	8.031	9.817	11.531
400	3.865	6.052	7.922	9.650	11.297
1000	3.851	6.015	7.857	9.552	11.160
∞	3.841	5.991	7.815	9.488	11.070

UPPER PERCENTAGE POINTS OF HOTELLING'S

T^2-DISTRIBUTION, $\alpha = 0.050$

ν \ p	6	7	8	9	10
7	405.920				
8	143.050	541.890			
9	83.202	186.622	697.356		
10	59.403	106.649	235.873	872.317	
11	47.123	75.088	132.903	290.806	1066.774
12	39.764	58.893	92.512	161.967	351.421
13	34.911	49.232	71.878	111.676	193.842
14	31.488	42.881	59.612	86.079	132.582
15	28.955	38.415	51.572	70.907	101.499
16	27.008	35.117	45.932	60.986	83.121
17	25.467	32.588	41.775	54.041	71.127
18	24.219	30.590	38.592	48.930	62.746
19	23.189	28.975	36.082	45.023	56.587
20	22.324	27.642	34.054	41.946	51.884
21	21.588	26.525	32.384	39.463	48.184
22	20.954	25.576	30.985	37.419	45.202
23	20.403	24.759	29.798	35.709	42.750
24	19.920	24.049	28.777	34.258	40.699
25	19.492	23.427	27.891	33.013	38.961
26	19.112	22.878	27.114	31.932	37.469
27	18.770	22.388	26.428	30.985	36.176
28	18.463	21.950	25.818	30.149	35.043
29	18.184	21.555	25.272	29.407	34.044
30	17.931	21.198	24.781	28.742	33.156
35	16.944	19.823	22.913	26.252	29.881
40	16.264	18.890	21.668	24.624	27.783
45	15.767	18.217	20.781	23.477	26.326
50	15.388	17.709	20.117	22.627	25.256
55	15.090	17.311	19.600	21.972	24.437
60	14.850	16.992	19.188	21.451	23.790
70	14.485	16.510	18.571	20.676	22.834
80	14.222	16.165	18.130	20.127	22.162
90	14.022	15.905	17.801	19.718	21.663
100	13.867	15.702	17.544	19.401	21.279
110	13.741	15.540	17.340	19.149	20.973
120	13.639	15.407	17.172	18.943	20.725
150	13.417	15.121	16.814	18.504	20.196
200	13.202	14.845	16.469	18.083	19.692
400	12.890	14.447	15.975	17.484	18.976
1000	12.710	14.217	15.692	17.141	18.570
∞	12.592	14.067	15.507	16.919	18.307

UPPER PERCENTAGE POINTS OF HOTELLING'S

T^2-DISTRIBUTION, α=0.050

ν \ p	11	12	13	14	15
12	1280.727				
13	417.719	1514.176			
14	228.529	489.700	1767.120		
15	155.231	266.028	567.364	2039.560	
16	118.138	179.624	306.339	650.712	2331.496
17	96.253	135.998	205.761	349.464	739.744
18	81.996	110.304	155.078	233.643	395.402
19	72.047	93.592	125.276	175.380	263.269
20	64.745	81.945	105.918	141.169	196.903
21	59.177	73.407	92.442	118.974	157.983
22	54.800	66.902	82.573	103.538	132.759
23	51.274	61.793	75.060	92.244	115.234
24	48.378	57.681	69.165	83.653	102.421
25	45.958	54.305	64.423	76.916	92.681
26	43.908	51.487	60.533	71.501	85.048
27	42.149	49.099	57.286	67.061	78.916
28	40.624	47.053	54.538	63.357	73.890
29	39.291	45.280	52.183	60.223	69.700
30	38.115	43.730	50.143	57.539	66.156
35	33.848	38.209	43.030	48.392	54.392
40	31.175	34.833	38.794	43.102	47.807
45	29.346	32.559	35.990	39.665	43.614
50	28.017	30.926	34.000	37.256	40.715
55	27.008	29.696	32.514	35.475	38.593
60	26.216	28.737	31.364	34.106	36.973
70	25.053	27.339	29.699	32.139	34.666
80	24.241	26.370	28.553	30.796	33.103
90	23.642	25.658	27.716	29.820	31.974
100	23.182	25.114	27.079	29.080	31.120
110	22.817	24.683	26.577	28.499	30.453
120	22.521	24.335	26.171	28.030	29.916
150	21.894	23.600	25.317	27.049	28.795
200	21.297	22.904	24.514	26.128	27.749
400	20.457	21.928	23.392	24.851	26.306
1000	19.981	21.379	22.764	24.139	25.505
∞	19.675	21.026	22.362	23.685	24.996

A 1.2 (ต่อ)

UPPER PERCENTAGE POINTS OF HOTELLING'S

T^2-DISTRIBUTION, α=0.050

ν \ p	16	17	18	19	20
17	2642.928				
18	834.459	2973.855			
19	444.153	934.859	3324.278		
20	294.641	495.717	1040.942	3694.197	
21	219.648	327.758	550.095	1152.710	4083.611
22	175.719	243.615	362.620	607.287	1270.161
23	147.275	194.376	268.804	399.227	667.292
24	127.529	162.522	213.955	295.215	437.581
25	113.103	140.425	178.499	234.456	322.849
26	102.144	124.291	153.920	195.207	255.879
27	93.560	112.042	135.985	168.016	212.647
28	86.668	102.453	122.376	148.186	182.713
29	81.021	94.757	111.727	133.146	160.893
30	76.316	88.455	103.184	121.382	144.352
35	61.152	68.824	77.602	87.737	99.556
40	52.969	58.658	64.961	71.982	79.849
45	47.871	52.476	57.475	62.921	68.879
50	44.398	48.330	52.540	57.058	61.921
55	41.882	45.361	49.047	52.961	57.126
60	39.978	43.131	46.447	49.939	53.624
70	37.287	40.009	42.840	45.787	48.859
80	35.479	37.929	40.457	43.069	45.771
90	34.180	36.444	38.767	41.155	43.610
100	33.203	35.331	37.507	39.733	42.013
110	32.441	34.466	36.530	38.636	40.784
120	31.830	33.775	35.752	37.764	39.811
150	30.559	32.342	34.144	35.968	37.815
200	29.378	31.017	32.665	34.325	35.997
400	27.758	29.209	30.658	32.108	33.558
1000	26.862	28.215	29.561	30.902	32.238
∞	26.296	27.587	28.869	30.144	31.410

A 1.2 (ต่อ)

UPPER PERCENTAGE POINTS OF HOTELLING'S

T^2-DISTRIBUTION, $\alpha = 0.050$

ν \ p	22	24	26	28	30
23	4920.928				
24	1522.116				
25	795.744	5836.227			
26	519.524	1796.808			
27	381.784	935.451	6829.509		
28	301.492	608.449	2094.237		
29	249.719	445.609	1086.413	7900.773	
30	213.908	350.794	704.358	2414.402	
35	130.166	175.384	247.780	378.491	666.429
40	98.797	123.657	157.540	206.067	280.417
45	82.644	99.572	120.860	148.362	185.105
50	72.859	85.775	101.254	120.123	143.589
55	66.316	76.873	89.125	103.514	120.641
60	61.642	70.667	80.905	92.623	106.162
70	55.417	62.599	70.504	79.253	88.990
80	51.467	57.594	64.210	71.381	79.185
90	48.739	54.190	59.997	66.204	72.857
100	46.744	51.725	56.983	62.544	68.440
110	45.221	49.860	54.719	59.820	65.184
120	44.022	48.399	52.958	57.715	62.685
150	41.581	45.451	49.435	53.540	57.777
200	39.381	42.822	46.327	49.900	53.545
400	36.462	39.375	42.300	45.239	48.195
1000	34.899	37.547	40.186	42.819	45.446
∞	33.924	36.415	38.885	41.337	43.773

A 1.2 (ต่อ)

UPPER PERCENTAGE POINTS OF HOTELLING'S

T^2-DISTRIBUTION, α=0.050

ν \ p	35	40	45	50	55
40	884.072				
45	364.829	1132.286			
50	237.278	460.165	1411.072		
55	181.901	295.723	566.426	1720.431	
60	151.364	224.516	360.442	683.615	2060.363
70	118.950	160.681	222.529	322.666	508.710
80	102.098	131.558	170.803	225.527	306.670
90	91.809	114.992	144.016	181.386	231.214
100	84.886	104.330	127.705	156.347	192.247
110	79.914	96.905	116.753	140.267	168.570
120	76.172	91.440	108.900	129.084	152.697
150	69.003	81.259	94.723	109.604	126.158
200	63.009	73.029	83.680	95.040	107.198
400	55.671	63.291	71.074	79.039	87.204
1000	52.002	58.556	65.121	71.707	78.323
∞	49.802	55.758	61.656	67.505	73.311

A2 : Percentage Points of U - statistic

(U_{p,ν_H,ν_E})

α = .01, .05

p = 1(1) 4

ν_H = 1(1)12

ν_E = 1(1)30, 40(20)140, 170, 200, 240, 320, 440, 600, 800, 1000, INF

A 2.1

U_{p,ν_H,ν_E}

p=1 α=0.01

ν_E	ν_H 1	2	3	4	5	6	7	8	9	10	11	12	ν_E
1	0.000247	0.000100	0.000062	0.000044	0.000035	0.000028	0.000024	0.000021	0.000018	0.000017	0.000015	0.000014	1
2	0.019900	0.010000	0.006678	0.005013	0.004012	0.003344	0.002867	0.002509	0.002231	0.002008	0.001826	0.001674	2
3	0.080827	0.046416	0.032834	0.025458	0.020806	0.017599	0.015251	0.013458	0.012043	0.010898	0.009951	0.009157	3
4	0.158742	0.100000	0.073959	0.058903	0.049014	0.041999	0.036755	0.032682	0.029427	0.026763	0.024544	0.022665	4
5	0.235203	0.158489	0.121418	0.098877	0.083563	0.072430	0.063947	0.057265	0.051854	0.047390	0.043634	0.040434	5
6	0.303867	0.215443	0.169784	0.140867	0.120651	0.105640	0.094010	0.084728	0.077134	0.070801	0.065439	0.060839	6
7	0.363705	0.268270	0.216358	0.182355	0.158006	0.139585	0.125112	0.113417	0.103749	0.095628	0.088696	0.082716	7
8	0.415397	0.316227	0.259967	0.222073	0.194363	0.173070	0.156116	0.142270	0.130724	0.120944	0.112552	0.105261	8
9	0.460089	0.359381	0.300242	0.259453	0.229097	0.205430	0.186374	0.170658	0.157452	0.146189	0.136452	0.127957	9
10	0.498896	0.398108	0.337189	0.294313	0.261901	0.236323	0.215512	0.198202	0.183548	0.170965	0.160030	0.150442	10
11	0.532793	0.432877	0.370993	0.326670	0.292708	0.265602	0.243349	0.224692	0.208793	0.195061	0.183068	0.172501	11
12	0.562582	0.464159	0.401904	0.356635	0.321526	0.293230	0.269804	0.250027	0.233063	0.218338	0.205413	0.193976	12
13	0.588936	0.492388	0.430204	0.384373	0.348450	0.319237	0.294872	0.274166	0.256310	0.240729	0.226996	0.214791	13
14	0.612381	0.517948	0.456147	0.410058	0.373579	0.343685	0.318575	0.297116	0.278506	0.262202	0.247764	0.234893	14
15	0.633365	0.541170	0.479986	0.433867	0.397056	0.366662	0.340981	0.318908	0.299682	0.282756	0.267119	0.254259	15
16	0.652233	0.562342	0.501931	0.455967	0.418982	0.388257	0.362133	0.339583	0.319844	0.302404	0.286850	0.272887	16
17	0.669300	0.581709	0.522195	0.476513	0.439507	0.408566	0.382133	0.359198	0.339049	0.321175	0.305186	0.290785	17
18	0.684789	0.599484	0.540936	0.495647	0.458725	0.427677	0.401023	0.377807	0.357322	0.339101	0.322737	0.307970	18
19	0.698917	0.615849	0.558319	0.513499	0.476742	0.445681	0.418900	0.395470	0.374735	0.356217	0.339555	0.324463	19
20	0.711843	0.630958	0.574471	0.530184	0.493661	0.462657	0.435811	0.412241	0.391308	0.372565	0.355644	0.340290	20
21	0.723730	0.644947	0.589523	0.545805	0.509577	0.478683	0.451836	0.428178	0.407108	0.388183	0.371060	0.355477	21
22	0.734669	0.657933	0.603568	0.560456	0.524563	0.493830	0.467022	0.443332	0.422166	0.403108	0.385819	0.370054	22
23	0.744795	0.670019	0.616713	0.574221	0.538693	0.508161	0.481441	0.457752	0.436534	0.417377	0.399965	0.384048	23
24	0.754176	0.681293	0.629026	0.587173	0.552034	0.521736	0.495132	0.471485	0.450247	0.431029	0.413515	0.397487	24
25	0.762902	0.691831	0.640594	0.599381	0.564657	0.534611	0.508160	0.484576	0.463349	0.444097	0.426523	0.410397	25
26	0.771028	0.701704	0.651468	0.610905	0.576603	0.546834	0.520546	0.497064	0.475866	0.456613	0.438989	0.422804	26
27	0.778625	0.710971	0.661723	0.621798	0.587931	0.558452	0.532362	0.508986	0.487854	0.468607	0.450974	0.434734	27
28	0.785730	0.719686	0.671391	0.632109	0.598682	0.569507	0.543615	0.520379	0.499314	0.480110	0.462471	0.446211	28
29	0.792406	0.727896	0.680539	0.641884	0.608900	0.580037	0.554370	0.531274	0.510313	0.491149	0.473532	0.457257	29
30	0.798670	0.735642	0.689191	0.651161	0.618619	0.590076	0.564636	0.541702	0.520842	0.501748	0.484160	0.467894	30
40	0.845412	0.794328	0.755603	0.723155	0.694813	0.669500	0.646550	0.625549	0.606163	0.588188	0.571417	0.555726	40
60	0.894480	0.857696	0.828970	0.804330	0.782305	0.762272	0.743738	0.726513	0.710318	0.695108	0.680672	0.667012	60
80	0.919918	0.891251	0.868522	0.848784	0.830928	0.814526	0.799185	0.784809	0.771162	0.758235	0.745861	0.734069	80
100	0.935478	0.912011	0.893219	0.876803	0.861820	0.847989	0.834952	0.822679	0.810943	0.799788	0.789035	0.778749	100
120	0.945976	0.926119	0.910119	0.896070	0.883183	0.871238	0.859925	0.849237	0.838971	0.829183	0.819700	0.810616	120
140	0.953532	0.936329	0.922402	0.910129	0.898828	0.888325	0.878338	0.868886	0.859771	0.851065	0.842600	0.834476	140
170	0.961595	0.947263	0.935601	0.925292	0.915755	0.906869	0.898385	0.890335	0.882539	0.875082	0.867790	0.860800	170
200	0.967270	0.954993	0.944964	0.936079	0.927834	0.920134	0.912760	0.905757	0.898951	0.892434	0.886056	0.879907	200
240	0.972661	0.962351	0.953904	0.946399	0.939414	0.932883	0.926606	0.920640	0.914819	0.909247	0.903766	0.898492	240
320	0.979433	0.971628	0.965202	0.959483	0.954136	0.949127	0.944294	0.939692	0.935191	0.930865	0.926597	0.922489	320
440	0.985001	0.979285	0.974556	0.970342	0.966383	0.962678	0.959082	0.955661	0.952291	0.949067	0.945865	0.942783	440
600	0.988980	0.984767	0.981267	0.978151	0.975211	0.972459	0.969781	0.967231	0.964708	0.962302	0.959899	0.957590	600
800	0.991723	0.988553	0.985913	0.983561	0.981337	0.979256	0.977220	0.975291	0.973377	0.971545	0.969713	0.967956	800
1000	0.993372	0.990832	0.988711	0.986824	0.985033	0.983362	0.981722	0.980169	0.978621	0.977148	0.975664	0.974250	1000
INF	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	INF

The probability that a sample U will be less than U_{p,ν_H,ν_E} is 0.01.

A 2.2

U_{p,ν_H,ν_E}

p=2 α=0.01

ν_E \ ν_H	1	2	3	4	5	6	7	8	9	10	11	12	ν_E
1	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1
2	0.000100	0.000025	0.000011	0.000006	0.000004	0.000003	0.000002	0.000002	0.000001	0.000001	0.000000	0.000000	2
3	0.010000	0.003470	0.001764	0.001068	0.000716	0.000514	0.000386	0.000301	0.000241	0.000198	0.000165	0.000140	3
4	0.046416	0.019844	0.011160	0.007179	0.005013	0.003701	0.002846	0.002257	0.001834	0.001520	0.001280	0.001093	4
5	0.099999	0.049316	0.029953	0.020241	0.014627	0.011080	0.008688	0.006999	0.005760	0.004824	0.004099	0.003527	5
6	0.158490	0.086620	0.055849	0.039284	0.029229	0.022633	0.018059	0.014752	0.012283	0.010389	0.008903	0.007715	6
7	0.215444	0.127189	0.085984	0.062513	0.047671	0.037627	0.030485	0.025222	0.021222	0.018110	0.015639	0.013643	7
8	0.268270	0.168148	0.118119	0.088278	0.068750	0.055175	0.045317	0.037913	0.032206	0.027708	0.024097	0.021153	8
9	0.316228	0.207906	0.150743	0.115317	0.091448	0.074467	0.061901	0.052316	0.044821	0.038849	0.034006	0.030024	9
10	0.359382	0.245666	0.182908	0.142738	0.114989	0.094846	0.079687	0.067961	0.058684	0.051208	0.045092	0.040019	10
11	0.398107	0.281095	0.214051	0.169943	0.138805	0.115797	0.098225	0.084458	0.073448	0.064492	0.057100	0.050924	11
12	0.432876	0.314111	0.243868	0.196543	0.162496	0.136940	0.117163	0.101490	0.088832	0.078445	0.069807	0.062537	12
13	0.464159	0.344773	0.272209	0.222298	0.185786	0.157996	0.136231	0.118805	0.104603	0.092857	0.083018	0.074689	13
14	0.492388	0.373205	0.299027	0.247072	0.208495	0.178764	0.155227	0.136206	0.120576	0.107553	0.096574	0.087224	14
15	0.517947	0.399561	0.324338	0.270794	0.230506	0.199104	0.174003	0.153543	0.136603	0.122393	0.110344	0.100021	15
16	0.541170	0.424011	0.348190	0.293441	0.251751	0.218924	0.192450	0.170701	0.152570	0.137265	0.124211	0.112976	16
17	0.562341	0.446714	0.370654	0.315019	0.272197	0.238163	0.210492	0.187598	0.168387	0.152079	0.138096	0.126003	17
18	0.581709	0.467823	0.391807	0.335555	0.291830	0.256785	0.228078	0.204169	0.183989	0.166764	0.151924	0.139032	18
19	0.599484	0.487482	0.411733	0.355085	0.310657	0.274771	0.245174	0.220372	0.199322	0.181766	0.165639	0.152037	19
20	0.615848	0.505819	0.430515	0.373654	0.328695	0.292119	0.261761	0.236178	0.214352	0.195544	0.179196	0.164879	20
21	0.630957	0.522953	0.448231	0.391312	0.345965	0.308831	0.277829	0.251565	0.229052	0.209566	0.192561	0.177614	21
22	0.644947	0.538990	0.464956	0.408104	0.362497	0.324920	0.293378	0.266524	0.243403	0.223308	0.205707	0.190182	22
23	0.657933	0.554026	0.480762	0.424082	0.378320	0.340403	0.308412	0.281051	0.257394	0.236756	0.218614	0.202560	23
24	0.670019	0.568146	0.495715	0.439293	0.393467	0.355296	0.322939	0.295146	0.271020	0.249897	0.231267	0.214731	24
25	0.681292	0.581428	0.509875	0.453782	0.407970	0.369622	0.336971	0.308812	0.284279	0.262726	0.243657	0.226681	25
26	0.691831	0.593939	0.523299	0.467592	0.421860	0.383403	0.350522	0.322057	0.297173	0.275239	0.255776	0.238402	26
27	0.701704	0.605746	0.536040	0.480765	0.435169	0.396661	0.363607	0.334890	0.309703	0.287436	0.267621	0.249886	27
28	0.710971	0.616902	0.548144	0.493339	0.447927	0.409418	0.376242	0.347322	0.321877	0.299318	0.279190	0.261129	28
29	0.719686	0.627457	0.559655	0.505352	0.460163	0.421696	0.388443	0.359363	0.333703	0.310890	0.290483	0.272130	29
30	0.727896	0.637459	0.570615	0.516835	0.471903	0.433519	0.400227	0.371026	0.345187	0.322156	0.301504	0.282889	30
40	0.789652	0.714476	0.656673	0.608581	0.567185	0.530850	0.498541	0.469542	0.443323	0.419481	0.397694	0.377702	40
60	0.855467	0.799984	0.755573	0.717315	0.683328	0.652617	0.624558	0.598723	0.574795	0.552535	0.531746	0.512271	60
80	0.889953	0.846188	0.810436	0.779081	0.750765	0.724783	0.700697	0.678213	0.657114	0.637235	0.618444	0.600635	80
100	0.911163	0.875081	0.845239	0.818780	0.794644	0.772286	0.751373	0.731681	0.713048	0.695352	0.678495	0.662399	100
120	0.925522	0.894844	0.869263	0.846415	0.825431	0.805865	0.787452	0.770011	0.753414	0.737564	0.722385	0.707815	120
140	0.935886	0.909213	0.886840	0.866750	0.848208	0.830840	0.814421	0.798803	0.783877	0.769567	0.755808	0.742551	140
170	0.946959	0.924659	0.905836	0.888839	0.873070	0.858224	0.844122	0.830646	0.817710	0.805252	0.793224	0.781586	170
200	0.954772	0.935614	0.919375	0.904652	0.890941	0.877988	0.865642	0.853805	0.842407	0.831395	0.820731	0.810382	200
240	0.962196	0.946071	0.932347	0.919856	0.908184	0.897119	0.886539	0.876363	0.866534	0.857011	0.847760	0.838758	240
320	0.971540	0.959297	0.948819	0.939239	0.930247	0.921688	0.913469	0.905533	0.897838	0.890354	0.883057	0.875930	320
440	0.979238	0.970243	0.962512	0.955416	0.948732	0.942346	0.936194	0.930234	0.924437	0.918780	0.913248	0.907828	440
600	0.984741	0.978097	0.972369	0.967098	0.962118	0.957350	0.952745	0.948273	0.943913	0.939649	0.935470	0.931366	600
800	0.988539	0.983531	0.979204	0.975215	0.971440	0.967819	0.964316	0.960909	0.957581	0.954322	0.951123	0.947977	800
1000	0.990823	0.986804	0.983329	0.980120	0.977081	0.974162	0.971336	0.968584	0.965894	0.963257	0.960665	0.958115	1000
INF	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	INF

The probability that a sample U will be less than U_{p,ν_H,ν_E} is 0.01.

A 2.3

$U_{p\nu_H,\nu_E}$

p=3 α=0.01

ν_E \ ν_H	1	2	3	5	6	7	8	9	10	11	12	ν_E
1	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1
2	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000001	0.000002	0.000003	0.000004	2
3	0.000020	0.000021	0.000016	0.000015	0.000015	0.000017	0.000019	0.000021	0.000023	0.000026	0.000029	3
4	0.006763	0.001829	0.000824	0.000484	0.000335	0.000258	0.000215	0.000188	0.000172	0.000161	0.000154	4
5	0.032882	0.011211	0.005326	0.003037	0.001959	0.001383	0.001047	0.000837	0.000698	0.000602	0.000533	5
6	0.073980	0.029581	0.015536	0.009229	0.006018	0.004211	0.003116	0.002414	0.001943	0.001614	0.001376	6
7	0.121426	0.055863	0.031196	0.019423	0.013027	0.009244	0.006864	0.005293	0.004214	0.003450	0.002892	7
8	0.169788	0.085991	0.051041	0.033146	0.022897	0.016575	0.012459	0.009664	0.007703	0.006286	0.005237	8
9	0.216359	0.118124	0.073700	0.049627	0.035223	0.026018	0.019845	0.015549	0.012468	0.010203	0.008501	9
10	0.259566	0.150746	0.098030	0.068087	0.049501	0.037260	0.028840	0.022851	0.018472	0.015200	0.012705	10
11	0.300240	0.182909	0.123161	0.087852	0.065237	0.049951	0.039203	0.031408	0.025614	0.021217	0.017821	11
12	0.337186	0.214052	0.148469	0.108380	0.081998	0.063758	0.050682	0.041037	0.033759	0.028161	0.023785	12
13	0.370989	0.243868	0.173524	0.129256	0.099424	0.078384	0.063039	0.051550	0.042762	0.035922	0.030516	13
14	0.401904	0.272209	0.198043	0.150167	0.117224	0.093576	0.076062	0.062771	0.052482	0.044385	0.037922	14
15	0.430202	0.299027	0.221841	0.170888	0.135171	0.109125	0.089567	0.074542	0.062783	0.053438	0.045911	15
16	0.456147	0.324338	0.244809	0.191257	0.153091	0.124859	0.103396	0.086724	0.073546	0.062978	0.054394	16
17	0.479984	0.348191	0.266888	0.211160	0.170848	0.140644	0.117419	0.099197	0.084662	0.072908	0.063289	17
18	0.501932	0.370654	0.288051	0.230524	0.188345	0.156371	0.131529	0.111859	0.096037	0.083144	0.072519	18
19	0.522191	0.391807	0.308300	0.249300	0.205509	0.171955	0.145640	0.124624	0.107589	0.093611	0.082016	19
20	0.540934	0.411734	0.327644	0.267462	0.222288	0.187334	0.159680	0.137421	0.119251	0.104243	0.091719	20
21	0.558316	0.430515	0.346122	0.284999	0.238647	0.202457	0.173594	0.150193	0.130962	0.114983	0.101574	21
22	0.574470	0.448231	0.363762	0.301910	0.254564	0.217287	0.187337	0.162890	0.142676	0.125784	0.111534	22
23	0.589519	0.464956	0.380593	0.318203	0.270024	0.231801	0.200875	0.175473	0.154348	0.136602	0.121558	23
24	0.603567	0.480761	0.396664	0.333888	0.285024	0.245977	0.214182	0.187912	0.165948	0.147403	0.131611	24
25	0.616709	0.495715	0.412006	0.348987	0.299564	0.259807	0.227238	0.200181	0.177443	0.158158	0.141663	25
26	0.629025	0.509875	0.426661	0.363513	0.313646	0.273282	0.240029	0.212260	0.188816	0.168840	0.151686	26
27	0.640592	0.523299	0.440664	0.377492	0.327281	0.286402	0.252545	0.224135	0.200042	0.179430	0.161661	27
28	0.651469	0.536040	0.454050	0.390942	0.340476	0.299164	0.264779	0.235795	0.211110	0.189910	0.171566	28
29	0.661719	0.548144	0.466858	0.403887	0.353244	0.311575	0.276730	0.247231	0.222009	0.200265	0.181387	29
30	0.671391	0.559656	0.479116	0.416348	0.365597	0.323637	0.288394	0.258438	0.232727	0.210485	0.191110	30
40	0.744674	0.649620	0.577483	0.518712	0.469272	0.426891	0.390088	0.357822	0.329317	0.303979	0.281338	40
60	0.823683	0.751990	0.694679	0.645816	0.602970	0.564801	0.530443	0.499282	0.470857	0.444810	0.420849	60
80	0.865422	0.808282	0.761397	0.720482	0.683828	0.650513	0.619945	0.591715	0.565509	0.541095	0.518272	80
100	0.891201	0.843804	0.804298	0.769332	0.737595	0.708389	0.681275	0.655947	0.632179	0.609801	0.588667	100
120	0.908698	0.868241	0.834163	0.803715	0.775833	0.749959	0.725744	0.702949	0.681398	0.660958	0.641519	120
140	0.921350	0.886074	0.856136	0.829206	0.804388	0.781216	0.759404	0.738756	0.719127	0.700413	0.682523	140
170	0.934886	0.905306	0.880001	0.857075	0.835802	0.815812	0.796876	0.778843	0.761600	0.745064	0.729169	170
200	0.944448	0.918986	0.897083	0.877137	0.858541	0.840986	0.824284	0.808309	0.792971	0.778202	0.763939	200
240	0.953545	0.932073	0.913505	0.896514	0.880601	0.865514	0.851099	0.837256	0.823911	0.811012	0.798488	240
320	0.965006	0.948662	0.934435	0.921337	0.909000	0.897239	0.885943	0.875039	0.864473	0.854210	0.844184	320
440	0.974459	0.962428	0.951897	0.942156	0.932937	0.924109	0.915592	0.907335	0.899302	0.891467	0.883774	440
600	0.981223	0.972324	0.964504	0.957246	0.950354	0.943732	0.937324	0.931093	0.925012	0.919063	0.913203	600
800	0.985892	0.979179	0.973264	0.967760	0.962522	0.957478	0.952586	0.947819	0.943158	0.938588	0.934077	800
1000	0.988702	0.983312	0.978556	0.974124	0.969900	0.965827	0.961872	0.958013	0.954234	0.950525	0.946859	1000
INF	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	INF

The probability that a sample U will be less than U_{p,ν_H,ν_E} is 0.01.

A 2.4

U_{p,ν_H,ν_E}

p=4 α=0.01

ν_E \ ν_H	1	2	3	4	5	6	7	8	9	10	11	12	ν_E
1	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1
2	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	2
3	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	3
4	0.000090	0.000026	0.000015	0.000011	0.000009	0.000008	0.000007	0.000007	0.000007	0.000007	0.000007	0.000007	4
5	0.005218	0.001224	0.000484	0.000250	0.000153	0.000106	0.000079	0.000063	0.000052	0.000045	0.000040	0.000037	5
6	0.025586	0.007345	0.003037	0.001538	0.000893	0.000574	0.000398	0.000293	0.000227	0.000183	0.000152	0.000130	6
7	0.058962	0.020352	0.009229	0.004891	0.002885	0.001846	0.001259	0.000906	0.000681	0.000531	0.000427	0.000353	7
8	0.098904	0.039349	0.019423	0.010860	0.006623	0.004315	0.002966	0.002131	0.001590	0.001225	0.000971	0.000789	8
9	0.140881	0.062551	0.033146	0.019474	0.012300	0.008211	0.005732	0.004155	0.003111	0.002396	0.001891	0.001527	9
10	0.182362	0.088300	0.049627	0.030445	0.019865	0.013591	0.009662	0.007095	0.005357	0.004145	0.003278	0.002644	10
11	0.222076	0.115330	0.068087	0.043357	0.029128	0.020392	0.014763	0.010993	0.008388	0.006539	0.005197	0.004202	11
12	0.259456	0.142746	0.087852	0.057777	0.039832	0.028478	0.020973	0.015836	0.012218	0.009607	0.007685	0.006242	12
13	0.294315	0.169948	0.108380	0.073308	0.051709	0.037679	0.028192	0.021570	0.016825	0.013349	0.010755	0.008785	13
14	0.326670	0.196547	0.129256	0.089607	0.064505	0.047814	0.036299	0.028118	0.022164	0.017742	0.014400	0.011834	14
15	0.356636	0.222301	0.150167	0.106392	0.077942	0.058712	0.045168	0.035392	0.028175	0.022747	0.018597	0.015378	15
16	0.384374	0.247074	0.170888	0.123435	0.091973	0.070212	0.054675	0.043297	0.034790	0.028315	0.023313	0.019396	16
17	0.410058	0.270796	0.191257	0.140556	0.106281	0.082172	0.064703	0.051742	0.041937	0.034394	0.028510	0.023860	17
18	0.433867	0.293442	0.211160	0.157615	0.120777	0.094469	0.075148	0.060641	0.049546	0.040928	0.034143	0.028739	18
19	0.455967	0.315021	0.230524	0.174505	0.135348	0.106995	0.085915	0.069912	0.057551	0.047861	0.040170	0.033996	19
20	0.476513	0.335555	0.249300	0.191144	0.149903	0.119660	0.096921	0.079482	0.065888	0.055142	0.046546	0.039596	20
21	0.495648	0.355086	0.267462	0.207474	0.164368	0.132389	0.108094	0.089287	0.074500	0.062720	0.053228	0.045503	21
22	0.513499	0.373655	0.284999	0.223450	0.178686	0.145118	0.119371	0.099266	0.083333	0.070548	0.060177	0.051683	22
23	0.530184	0.391312	0.301910	0.239044	0.192810	0.157797	0.130700	0.109371	0.092342	0.078585	0.067354	0.058103	23
24	0.545805	0.408104	0.318203	0.254237	0.206707	0.170381	0.142036	0.119555	0.101484	0.086790	0.074725	0.064730	24
25	0.560457	0.424083	0.333888	0.269015	0.220349	0.182837	0.153340	0.129781	0.110720	0.095129	0.082255	0.071537	25
26	0.574221	0.439293	0.348987	0.283374	0.233718	0.195137	0.164581	0.140015	0.120018	0.103570	0.089917	0.078495	26
27	0.587173	0.453781	0.363513	0.297314	0.246799	0.207259	0.175732	0.150228	0.129349	0.112085	0.097684	0.085579	27
28	0.599381	0.467592	0.377492	0.310838	0.259584	0.219187	0.186772	0.160396	0.138688	0.120648	0.105530	0.092768	28
29	0.610904	0.480765	0.390942	0.323953	0.272068	0.230906	0.197681	0.170499	0.148013	0.129238	0.113435	0.100038	29
30	0.621798	0.493340	0.403887	0.336665	0.284247	0.242408	0.208447	0.180518	0.157304	0.137834	0.121378	0.107372	30
40	0.704846	0.593044	0.510028	0.444079	0.390022	0.344862	0.306628	0.273929	0.245739	0.221270	0.199908	0.181164	40
60	0.795314	0.709205	0.641042	0.583746	0.534292	0.490946	0.452558	0.418305	0.387562	0.359837	0.334734	0.311927	60
80	0.843446	0.774138	0.717496	0.668503	0.625080	0.586056	0.550669	0.518371	0.488748	0.461472	0.436276	0.412939	80
100	0.873280	0.815461	0.767296	0.724909	0.686729	0.651890	0.619831	0.590158	0.562571	0.536836	0.512760	0.490184	100
120	0.893573	0.844036	0.802240	0.765030	0.731147	0.699908	0.670876	0.643745	0.618288	0.594325	0.571711	0.550325	120
140	0.908268	0.864962	0.828089	0.794989	0.764613	0.736396	0.709985	0.685132	0.661655	0.639410	0.618283	0.598178	140
170	0.924010	0.887597	0.856293	0.827944	0.801710	0.777147	0.753978	0.731988	0.711113	0.691172	0.672101	0.653829	170
200	0.935142	0.903739	0.876559	0.851792	0.828739	0.807033	0.786448	0.766791	0.748045	0.730070	0.712780	0.696132	200
240	0.945741	0.919212	0.896104	0.874924	0.855100	0.836335	0.818447	0.801269	0.784813	0.768957	0.753648	0.738836	240
320	0.959108	0.938870	0.921100	0.904693	0.889230	0.874495	0.860356	0.846684	0.833511	0.820740	0.808335	0.796267	320
440	0.970142	0.955217	0.942028	0.929777	0.918164	0.907036	0.896302	0.885863	0.875757	0.865908	0.856294	0.846895	440
600	0.978043	0.966989	0.957176	0.948021	0.939309	0.930927	0.922811	0.914887	0.907187	0.899657	0.892279	0.885041	600
800	0.983500	0.975154	0.967720	0.960765	0.954127	0.947724	0.941507	0.935422	0.929493	0.923681	0.917972	0.912357	800
1000	0.986785	0.980081	0.974098	0.968491	0.963130	0.957951	0.952914	0.947976	0.943158	0.938427	0.933773	0.929189	1000
INF	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	INF

The probability that a sample U will be less than U_{p,ν_H,ν_E} is 0.01.

A 2.5

U_{p,ν_H,ν_E}

p=1 α=0.05

ν_E	ν_H 1	2	3	4	5	6	7	8	9	10	11	12	ν_E
1	0.006157	0.002501	0.001543	0.001112	0.000868	0.000712	0.000603	0.000523	0.000462	0.000413	0.000374	0.000341	1
2	0.097504	0.050003	0.033615	0.025322	0.020309	0.016953	0.014549	0.012741	0.011333	0.010208	0.009281	0.008512	2
3	0.228516	0.135712	0.097321	0.076019	0.062408	0.052963	0.046005	0.040672	0.036446	0.033020	0.030182	0.027794	3
4	0.341614	0.223602	0.168243	0.135345	0.113373	0.097610	0.085724	0.076447	0.068985	0.062851	0.057724	0.053375	4
5	0.430725	0.301697	0.235535	0.194031	0.165283	0.144073	0.127777	0.114822	0.104279	0.095505	0.088120	0.081787	5
6	0.500549	0.368408	0.295990	0.248596	0.214783	0.189255	0.169266	0.153168	0.139893	0.128754	0.119278	0.111115	6
7	0.555908	0.424896	0.349304	0.298096	0.260620	0.231812	0.208493	0.190186	0.174606	0.161423	0.150116	0.140289	7
8	0.600708	0.472870	0.396057	0.342590	0.302612	0.271332	0.246124	0.225311	0.207825	0.192902	0.180008	0.168747	8
9	0.637512	0.513916	0.437164	0.382446	0.340790	0.307770	0.280823	0.258362	0.239288	0.222931	0.208679	0.196182	9
10	0.668243	0.549286	0.473389	0.418213	0.375519	0.341248	0.313019	0.289246	0.268936	0.251373	0.235992	0.222443	10
11	0.694275	0.580017	0.505463	0.450317	0.407104	0.372040	0.342834	0.318054	0.296768	0.278229	0.261932	0.247467	11
12	0.716553	0.606964	0.534027	0.479309	0.435913	0.400299	0.370453	0.344940	0.322876	0.303528	0.286469	0.271240	12
13	0.735840	0.630737	0.559570	0.505524	0.462189	0.426361	0.396057	0.369995	0.347321	0.327362	0.309662	0.293823	13
14	0.752686	0.651825	0.582581	0.529327	0.486267	0.450348	0.419800	0.393372	0.370239	0.349823	0.331589	0.315247	14
15	0.767548	0.670715	0.603333	0.551025	0.508362	0.472534	0.441864	0.415222	0.391754	0.370941	0.352325	0.335541	15
16	0.780701	0.687653	0.622162	0.570862	0.528717	0.493103	0.462433	0.435638	0.411957	0.390869	0.371918	0.354797	16
17	0.792480	0.702972	0.639343	0.589081	0.547516	0.512177	0.481598	0.454742	0.430939	0.409637	0.390472	0.373077	17
18	0.803070	0.716858	0.655029	0.605835	0.564911	0.529907	0.499481	0.472687	0.448807	0.427368	0.408020	0.390411	18
19	0.812622	0.729553	0.669434	0.621307	0.581024	0.546448	0.516235	0.489502	0.465637	0.444138	0.424652	0.406891	19
20	0.821320	0.741135	0.682709	0.635651	0.596039	0.561890	0.531952	0.505341	0.481506	0.459991	0.440430	0.422546	20
21	0.829224	0.751770	0.694977	0.648941	0.610046	0.576355	0.546692	0.520264	0.496521	0.475006	0.455414	0.437469	21
22	0.836472	0.761597	0.706329	0.661316	0.623108	0.589905	0.560562	0.534332	0.510712	0.489258	0.469635	0.451660	22
23	0.843140	0.770660	0.716858	0.672867	0.635361	0.602631	0.573639	0.547638	0.524139	0.502762	0.483185	0.465179	23
24	0.849274	0.779083	0.726685	0.683655	0.646851	0.614609	0.585968	0.560211	0.536896	0.515594	0.496078	0.478088	24
25	0.854950	0.786896	0.735870	0.693771	0.657639	0.625900	0.597626	0.572128	0.548981	0.527817	0.508362	0.490402	25
26	0.860199	0.794189	0.744446	0.703278	0.667786	0.636566	0.608643	0.583435	0.560486	0.539459	0.520081	0.502167	26
27	0.865112	0.800995	0.752487	0.712189	0.677383	0.646637	0.619080	0.594147	0.571411	0.550537	0.531281	0.513428	27
28	0.869675	0.807373	0.760040	0.720612	0.686432	0.656174	0.628998	0.604370	0.581833	0.561127	0.541962	0.524200	28
29	0.873947	0.813339	0.767151	0.728546	0.694992	0.665222	0.638428	0.614075	0.591766	0.571228	0.552200	0.534515	29
30	0.877945	0.818970	0.773865	0.736053	0.703110	0.673798	0.647385	0.623322	0.601242	0.580872	0.561996	0.544418	30
40	0.907349	0.860886	0.824463	0.793274	0.765594	0.740540	0.717575	0.696365	0.676636	0.658188	0.640884	0.624603	40
60	0.937485	0.904968	0.878807	0.855911	0.835175	0.816055	0.798233	0.781494	0.765686	0.750702	0.736420	0.722809	60
80	0.952827	0.927841	0.907471	0.889450	0.872940	0.857590	0.843124	0.829437	0.816391	0.803925	0.791962	0.780464	80
100	0.962128	0.941845	0.925179	0.910324	0.896637	0.883835	0.871696	0.860153	0.849083	0.838455	0.828201	0.818314	100
120	0.968363	0.951297	0.937200	0.924578	0.912894	0.901916	0.891475	0.881501	0.871901	0.862660	0.853706	0.845045	120
140	0.972836	0.958107	0.945890	0.934921	0.924731	0.915131	0.905971	0.897200	0.888734	0.880563	0.872625	0.864929	140
170	0.977588	0.965370	0.955195	0.946025	0.937478	0.929401	0.921669	0.914245	0.907057	0.900101	0.893324	0.886738	170
200	0.980926	0.970487	0.961768	0.953893	0.946532	0.939564	0.932877	0.926443	0.920200	0.914149	0.908239	0.902486	200
240	0.984086	0.975345	0.968024	0.961396	0.955187	0.949296	0.943631	0.938171	0.932861	0.927705	0.922660	0.917740	240
320	0.988046	0.981451	0.975907	0.970876	0.966145	0.961649	0.957311	0.953121	0.949035	0.945058	0.941155	0.937344	320
440	0.991295	0.986475	0.982411	0.978715	0.975232	0.971914	0.968704	0.965599	0.962561	0.959605	0.956692	0.953846	440
600	0.993610	0.990064	0.987067	0.984337	0.981759	0.979301	0.976917	0.974611	0.972349	0.970144	0.967969	0.965842	600
800	0.995204	0.992539	0.990282	0.988225	0.986279	0.984422	0.982619	0.980873	0.979158	0.977487	0.975834	0.974218	800
1000	0.996161	0.994026	0.992216	0.990566	0.989003	0.987512	0.986062	0.984658	0.983276	0.981931	0.980598	0.979296	1000
INF	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	INF

The probability that a sample U will be less than U_{p,ν_H,ν_E} is 0.05.

A 2.6

U_{p,ν_H,ν_E}

p=2 α=0.05

ν_E	ν_H 1	2	3	4	5	6	7	8	9	10	11	12	ν_E
1	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1
2	0.002500	0.000641	0.000287	0.000162	0.000104	0.000072	0.000053	0.000041	0.000032	0.000026	0.000022	0.000018	2
3	0.049998	0.018318	0.009528	0.005844	0.003950	0.002849	0.002152	0.001683	0.001352	0.001110	0.000928	0.000787	3
4	0.135725	0.061800	0.035817	0.023460	0.016578	0.012346	0.009555	0.007615	0.006212	0.005165	0.004362	0.003734	4
5	0.223606	0.117368	0.073621	0.050765	0.037211	0.028476	0.022507	0.018244	0.015092	0.012695	0.010826	0.009343	5
6	0.301715	0.174902	0.116450	0.083663	0.063188	0.049481	0.039834	0.032772	0.027440	0.023320	0.020068	0.017453	6
7	0.368405	0.229737	0.160239	0.118984	0.092129	0.073571	0.060172	0.050155	0.042465	0.036426	0.031600	0.027678	7
8	0.424876	0.280187	0.202813	0.154741	0.122376	0.099380	0.082397	0.069475	0.059404	0.051386	0.044908	0.039579	8
9	0.472866	0.325883	0.243151	0.189781	0.152779	0.125881	0.105643	0.089993	0.077615	0.067661	0.059515	0.052772	9
10	0.513885	0.367036	0.280802	0.223433	0.182644	0.152421	0.129282	0.111138	0.096610	0.084797	0.075044	0.066901	10
11	0.549281	0.404052	0.315720	0.255369	0.211592	0.178545	0.152898	0.132506	0.116013	0.102453	0.091178	0.081680	11
12	0.580029	0.437339	0.347988	0.285511	0.239373	0.203997	0.176155	0.153782	0.135511	0.120356	0.107656	0.096885	12
13	0.606971	0.467384	0.377744	0.313837	0.265838	0.228568	0.198874	0.174774	0.154909	0.138311	0.124284	0.112321	13
14	0.630737	0.494599	0.405216	0.340396	0.291016	0.252171	0.220930	0.195325	0.174061	0.156149	0.140923	0.127849	14
15	0.651851	0.519281	0.430564	0.365263	0.314863	0.274786	0.242249	0.215357	0.192837	0.173755	0.157442	0.143350	15
16	0.670711	0.541775	0.454003	0.388530	0.337412	0.296391	0.262763	0.234782	0.211185	0.191059	0.173755	0.158740	16
17	0.687662	0.562317	0.475724	0.410322	0.358763	0.316990	0.282502	0.253583	0.229036	0.208000	0.189807	0.173946	17
18	0.702982	0.581146	0.495888	0.430784	0.378964	0.336632	0.301430	0.271723	0.246366	0.224530	0.205530	0.188918	18
19	0.716866	0.598489	0.514629	0.449961	0.398041	0.355335	0.319573	0.289225	0.263169	0.240614	0.220915	0.203611	19
20	0.729531	0.614483	0.532092	0.467968	0.416109	0.373163	0.336951	0.306072	0.279429	0.256249	0.235937	0.218013	20
21	0.741124	0.629283	0.548399	0.484925	0.433211	0.390129	0.353609	0.322287	0.295147	0.271437	0.250565	0.232083	21
22	0.751776	0.643011	0.563622	0.500886	0.449429	0.406286	0.369555	0.337873	0.310325	0.286147	0.264800	0.245821	22
23	0.761598	0.655775	0.577893	0.515922	0.464800	0.421699	0.384810	0.352883	0.324978	0.300409	0.278639	0.259224	23
24	0.770680	0.667666	0.591286	0.530135	0.479373	0.436391	0.399429	0.367295	0.339116	0.314213	0.292087	0.272280	24
25	0.779088	0.678783	0.603884	0.543551	0.493227	0.450412	0.413436	0.381165	0.352775	0.327593	0.305127	0.285006	25
26	0.786893	0.689182	0.615752	0.556269	0.506409	0.463802	0.426867	0.394506	0.365946	0.340539	0.317798	0.297372	26
27	0.794192	0.698945	0.626937	0.568306	0.518951	0.476588	0.439744	0.407337	0.378645	0.353047	0.330095	0.309407	27
28	0.800992	0.708108	0.637517	0.579727	0.530891	0.488822	0.452093	0.419700	0.390911	0.365171	0.342019	0.321110	28
29	0.807354	0.716737	0.647497	0.590582	0.542291	0.500519	0.463948	0.431586	0.402753	0.376900	0.353591	0.332484	29
30	0.813343	0.724899	0.656962	0.600899	0.553155	0.511722	0.475325	0.443028	0.414182	0.388244	0.364802	0.343537	30
40	0.857594	0.786433	0.729818	0.681627	0.639419	0.601870	0.568076	0.537476	0.509476	0.483873	0.460296	0.438550	40
60	0.903437	0.852599	0.810662	0.773804	0.740586	0.710190	0.682157	0.656096	0.631804	0.609029	0.587643	0.567501	60
80	0.926967	0.887496	0.854347	0.824736	0.797636	0.772490	0.748974	0.726849	0.705927	0.686107	0.667279	0.649328	80
100	0.941272	0.909051	0.881684	0.856993	0.834186	0.812834	0.792697	0.773596	0.755405	0.738034	0.721395	0.705440	100
120	0.950898	0.923673	0.900382	0.879233	0.859569	0.841056	0.823491	0.806739	0.790700	0.775302	0.760485	0.746201	120
140	0.957812	0.934247	0.913983	0.895493	0.878224	0.861896	0.846339	0.831442	0.817125	0.803326	0.789999	0.777105	140
170	0.965169	0.945562	0.928606	0.913057	0.898465	0.884603	0.871338	0.858581	0.846267	0.834352	0.822797	0.811574	170
200	0.970341	0.953554	0.938982	0.925569	0.912940	0.900904	0.889349	0.878202	0.867412	0.856939	0.846755	0.836834	200
240	0.975243	0.961158	0.948887	0.937554	0.926848	0.916613	0.906758	0.897224	0.887968	0.878959	0.870174	0.861593	240
320	0.981393	0.970741	0.961415	0.952766	0.944563	0.936691	0.929082	0.921692	0.914493	0.907461	0.900579	0.893835	320
440	0.986445	0.978644	0.971788	0.965408	0.959337	0.953491	0.947824	0.942303	0.936908	0.931623	0.926435	0.921337	440
600	0.990047	0.984298	0.979233	0.974507	0.969998	0.965648	0.961420	0.957293	0.953251	0.949283	0.945380	0.941537	600
800	0.992529	0.988203	0.984384	0.980814	0.977404	0.974108	0.970900	0.967763	0.964687	0.961662	0.958683	0.955744	800
1000	0.994021	0.990552	0.987487	0.984620	0.981877	0.979224	0.976640	0.974110	0.971627	0.969184	0.966775	0.964397	1000
INF	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	INF

The probability that a sample U will be less than U_{p,ν_H,ν_E} is 0.05.

A 2.7

U_{p, ν_H, ν_E}

p=3 α=0.05

ν_E	ν_H 1	2	3	4	5	6	7	8	9	10	11	12	ν_E
1	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1
2	0.000000	0.000000	0.000000	0.000000	0.000000	0.000001	0.000002	0.000004	0.000005	0.000008	0.000010	0.000013	2
3	0.001698	0.000354	0.000179	0.000127	0.000105	0.000095	0.000091	0.000090	0.000091	0.000092	0.000095	0.000098	3
4	0.033740	0.009612	0.004205	0.002314	0.001479	0.001052	0.000809	0.000659	0.000562	0.000496	0.000449	0.000416	4
5	0.097355	0.035855	0.017521	0.010010	0.006357	0.004369	0.003195	0.002458	0.001971	0.001636	0.001397	0.001222	5
6	0.168271	0.073634	0.039672	0.024047	0.015792	0.011018	0.008067	0.006148	0.004849	0.003939	0.003281	0.002793	6
7	0.235525	0.116476	0.067711	0.043226	0.029433	0.021043	0.015642	0.012012	0.009485	0.007674	0.006345	0.005347	7
8	0.295976	0.160244	0.098932	0.065947	0.046378	0.033966	0.025706	0.019990	0.015911	0.012927	0.010697	0.008997	8
9	0.349277	0.202814	0.131378	0.090794	0.065660	0.049161	0.037855	0.029838	0.023995	0.019637	0.016323	0.013763	9
10	0.396084	0.243139	0.163846	0.116701	0.086448	0.066012	0.051643	0.041238	0.033514	0.027654	0.023135	0.019593	10
11	0.437147	0.280808	0.195556	0.142927	0.108110	0.083979	0.066659	0.053876	0.044225	0.036801	0.030993	0.026391	11
12	0.473377	0.315719	0.226090	0.168939	0.130131	0.102644	0.082534	0.067443	0.055894	0.046882	0.039757	0.034049	12
13	0.505452	0.347981	0.255220	0.194414	0.152160	0.121656	0.098973	0.081704	0.068298	0.057724	0.049278	0.042437	13
14	0.534018	0.377735	0.282849	0.219113	0.173959	0.140775	0.115736	0.096413	0.081246	0.069166	0.059407	0.051442	14
15	0.559570	0.405221	0.308951	0.242944	0.195322	0.159796	0.132619	0.111416	0.094593	0.081052	0.070029	0.060954	15
16	0.582577	0.430566	0.333588	0.265812	0.216138	0.178574	0.149493	0.126564	0.108178	0.093264	0.081026	0.070875	16
17	0.603338	0.454006	0.356777	0.287689	0.236338	0.197017	0.166236	0.141728	0.121917	0.105704	0.092299	0.081109	17
18	0.622168	0.475728	0.378631	0.308599	0.255858	0.215044	0.182762	0.156827	0.135694	0.118273	0.103768	0.091588	18
19	0.639337	0.495908	0.399223	0.328552	0.274710	0.232604	0.199009	0.171789	0.149446	0.130904	0.115361	0.102241	19
20	0.655028	0.514622	0.418629	0.347546	0.292843	0.249666	0.214918	0.186544	0.163097	0.143521	0.127018	0.113012	20
21	0.669437	0.532101	0.436898	0.365676	0.310304	0.266216	0.230467	0.201077	0.176620	0.156088	0.138689	0.123835	21
22	0.682712	0.548393	0.454182	0.382934	0.327083	0.282253	0.245626	0.215325	0.189969	0.168561	0.150321	0.134680	22
23	0.694960	0.563637	0.470473	0.399402	0.343191	0.297740	0.260397	0.229291	0.203123	0.180907	0.161896	0.145521	23
24	0.706310	0.577895	0.485889	0.415077	0.358665	0.312738	0.274743	0.242939	0.216044	0.193091	0.173370	0.156313	24
25	0.716875	0.591311	0.500491	0.430041	0.373523	0.327222	0.288709	0.256276	0.228718	0.205103	0.184720	0.167023	25
26	0.726681	0.603899	0.514336	0.444332	0.387790	0.341199	0.302238	0.269280	0.241137	0.216929	0.195944	0.177651	26
27	0.735837	0.615757	0.527453	0.457946	0.401488	0.354711	0.315386	0.281968	0.253300	0.228535	0.206998	0.188160	27
28	0.744404	0.626944	0.539914	0.470981	0.414658	0.367742	0.328131	0.294313	0.265188	0.239935	0.217899	0.198546	28
29	0.752437	0.637514	0.551741	0.483431	0.427307	0.380334	0.340477	0.306326	0.276805	0.251110	0.228615	0.208809	29
30	0.759984	0.647501	0.563023	0.495347	0.439475	0.392490	0.352461	0.318033	0.288158	0.262062	0.239155	0.218912	30
40	0.816139	0.723938	0.651356	0.590773	0.538846	0.493686	0.453976	0.418785	0.387401	0.359271	0.333940	0.311045	40
60	0.874843	0.807778	0.752424	0.704238	0.661334	0.622640	0.587440	0.555224	0.525598	0.498272	0.472957	0.449477	60
80	0.905160	0.852653	0.808266	0.768805	0.732964	0.700027	0.669520	0.641124	0.614572	0.589678	0.566281	0.544236	80
100	0.923660	0.880557	0.843610	0.810333	0.779746	0.751296	0.724666	0.699598	0.675935	0.653520	0.632235	0.611999	100
120	0.936178	0.899588	0.867973	0.839253	0.812632	0.787686	0.764150	0.741841	0.720623	0.700389	0.681054	0.662546	120
140	0.945137	0.913391	0.885776	0.860534	0.836998	0.814820	0.793780	0.773732	0.754565	0.736197	0.718557	0.701592	140
170	0.954680	0.928199	0.904999	0.883652	0.863624	0.844636	0.826518	0.809156	0.792465	0.776383	0.760857	0.745847	170
200	0.961395	0.938685	0.918687	0.900202	0.882782	0.866197	0.850307	0.835018	0.820262	0.805990	0.792160	0.778739	200
240	0.967765	0.948679	0.931793	0.916116	0.901281	0.887100	0.873459	0.860284	0.847521	0.835131	0.823081	0.811346	240
320	0.975762	0.961296	0.948422	0.936405	0.924972	0.913987	0.903369	0.893064	0.883033	0.873250	0.863692	0.854341	320
440	0.982336	0.971725	0.962235	0.953337	0.944835	0.936632	0.928671	0.920913	0.913333	0.905910	0.898630	0.891482	440
600	0.987028	0.979198	0.972173	0.965563	0.959229	0.953099	0.947133	0.941302	0.935589	0.929978	0.924461	0.919029	600
800	0.990261	0.984364	0.979060	0.974060	0.969257	0.964600	0.960057	0.955610	0.951243	0.946947	0.942713	0.938538	800
1000	0.992204	0.987475	0.983215	0.979193	0.975326	0.971571	0.967905	0.964310	0.960776	0.957296	0.953863	0.950473	1000
INF	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	INF

The probability that a sample U will be less than U_{p, ν_H, ν_E} is 0.05.

A 2.8

U_{p,ν_H,ν_E}

p=4 α=0.05

ν_E \ ν_H	1	2	3	4	5	6	7	8	9	10	11	12	ν_E
1	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1
2	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	2
3	0.000000	0.000000	0.000000	0.000000	0.000000	0.000001	0.000001	0.000001	0.000002	0.000002	0.000002	0.000003	3
4	0.001378	0.000292	0.000127	0.000075	0.000052	0.000040	0.000033	0.000029	0.000026	0.000025	0.000023	0.000022	4
5	0.025529	0.006091	0.002314	0.001128	0.000647	0.000416	0.000292	0.000218	0.000172	0.000141	0.000120	0.000105	5
6	0.076071	0.023604	0.010010	0.005073	0.002903	0.001818	0.001223	0.000872	0.000652	0.000508	0.000409	0.000338	6
7	0.135374	0.050839	0.024047	0.013014	0.007737	0.004938	0.003338	0.002365	0.001745	0.001333	0.001050	0.000848	7
8	0.194043	0.083695	0.043226	0.024857	0.015415	0.010129	0.006975	0.004994	0.003698	0.002819	0.002206	0.001766	8
9	0.248619	0.118995	0.065947	0.039919	0.025729	0.017408	0.012249	0.008907	0.006664	0.005112	0.004009	0.003208	9
10	0.298130	0.154758	0.090794	0.057378	0.038260	0.026586	0.019107	0.014130	0.010706	0.008288	0.006542	0.005254	10
11	0.342593	0.189778	0.116701	0.076502	0.052524	0.037385	0.027402	0.020589	0.015806	0.012365	0.009839	0.007948	11
12	0.382448	0.223411	0.142927	0.096664	0.068077	0.049495	0.036933	0.028170	0.021899	0.017314	0.013895	0.011302	12
13	0.418181	0.255376	0.168939	0.117377	0.084546	0.062632	0.047493	0.036731	0.028895	0.023075	0.018675	0.015303	13
14	0.450335	0.285511	0.194414	0.138286	0.101586	0.076537	0.058886	0.046115	0.036676	0.029572	0.024133	0.019917	14
15	0.479286	0.313829	0.219113	0.159131	0.118954	0.090983	0.070925	0.056188	0.045140	0.036722	0.030208	0.025101	15
16	0.505512	0.340400	0.242944	0.179688	0.136434	0.105779	0.083443	0.066806	0.054181	0.044440	0.036830	0.030804	16
17	0.529312	0.365253	0.265812	0.199832	0.153891	0.120780	0.096316	0.077856	0.063688	0.052645	0.043936	0.036980	17
18	0.551035	0.388530	0.287689	0.219490	0.171171	0.135856	0.109411	0.089236	0.073577	0.061263	0.051456	0.043568	18
19	0.570858	0.410325	0.308599	0.238570	0.188209	0.150905	0.122643	0.100843	0.083764	0.070213	0.059338	0.050514	19
20	0.589077	0.430766	0.328552	0.257052	0.204926	0.165853	0.135926	0.112607	0.094180	0.079441	0.067513	0.057782	20
21	0.605832	0.449947	0.347546	0.274909	0.221288	0.180626	0.149180	0.124462	0.104757	0.088877	0.075938	0.065315	21
22	0.621318	0.467988	0.365676	0.292142	0.237242	0.195197	0.162364	0.136342	0.115440	0.098474	0.084565	0.073068	22
23	0.635634	0.484922	0.382934	0.308765	0.252783	0.209511	0.175434	0.148204	0.126185	0.108191	0.093352	0.081008	23
24	0.648934	0.500883	0.399402	0.324767	0.267896	0.223535	0.188341	0.160009	0.136950	0.117977	0.102254	0.089100	24
25	0.661320	0.515918	0.415077	0.340175	0.282568	0.237277	0.201067	0.171726	0.147695	0.127818	0.111240	0.097305	25
26	0.672864	0.530124	0.430041	0.355004	0.296810	0.250710	0.213597	0.183333	0.158399	0.137656	0.120274	0.105608	26
27	0.683663	0.543561	0.444332	0.369254	0.310608	0.263809	0.225900	0.194794	0.169017	0.147483	0.129346	0.113968	27
28	0.693769	0.556262	0.457946	0.382979	0.323980	0.276602	0.237971	0.206105	0.179569	0.157274	0.138418	0.122368	28
29	0.703259	0.568303	0.470981	0.396197	0.336947	0.289051	0.249798	0.217241	0.189991	0.167006	0.147478	0.130785	29
30	0.712188	0.579734	0.483431	0.408914	0.349488	0.301188	0.261373	0.228198	0.200311	0.176673	0.156516	0.139205	30
40	0.778877	0.668158	0.582817	0.513297	0.455181	0.405867	0.363565	0.326959	0.295085	0.267163	0.242600	0.220888	40
60	0.849044	0.767047	0.700066	0.642556	0.592126	0.547349	0.507256	0.471148	0.438462	0.408771	0.381699	0.356960	60
80	0.885442	0.820705	0.766251	0.718260	0.675124	0.635912	0.600023	0.566986	0.536460	0.508176	0.481887	0.457414	80
100	0.907714	0.854312	0.808614	0.767700	0.730354	0.695928	0.663968	0.634166	0.606280	0.580112	0.555487	0.532298	100
120	0.922736	0.877325	0.838018	0.802443	0.769650	0.739118	0.710513	0.683595	0.658183	0.634132	0.611324	0.589657	120
140	0.933554	0.894066	0.859605	0.828176	0.798994	0.771635	0.745829	0.721386	0.698162	0.676045	0.654943	0.634778	140
170	0.945088	0.912072	0.883006	0.856283	0.831279	0.807662	0.785224	0.763821	0.743347	0.723717	0.704865	0.686733	170
200	0.953211	0.924848	0.899727	0.876499	0.854647	0.833900	0.814087	0.795095	0.776838	0.759251	0.742281	0.725885	200
240	0.960919	0.937047	0.915781	0.896012	0.877319	0.859482	0.842366	0.825881	0.809961	0.794554	0.779622	0.765130	240
320	0.970605	0.952477	0.936212	0.920990	0.906503	0.892593	0.879164	0.866153	0.853513	0.841211	0.829220	0.817517	320
440	0.978571	0.965253	0.953233	0.941922	0.931100	0.920655	0.910522	0.900654	0.891022	0.881602	0.872376	0.863331	440
600	0.984259	0.974422	0.965507	0.957084	0.948995	0.941160	0.933530	0.926075	0.918772	0.911606	0.904563	0.897634	600
800	0.988181	0.980767	0.974028	0.967644	0.961498	0.955529	0.949702	0.943994	0.938390	0.932877	0.927446	0.922092	800
1000	0.990538	0.984589	0.979173	0.974034	0.969078	0.964257	0.959545	0.954922	0.950376	0.945898	0.941481	0.937120	1000
INF	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	INF

The probability that a sample U will be less than U_{p,ν_H,ν_E} is 0.05.

A3 : Heck's charts

$s = 2(1)5$, $m = -\frac{1}{2}, 0(1)10$

$\alpha = .01, .05$

$s = 6, 7$

$\alpha = .01, .025, .05$

Chart A 3.1

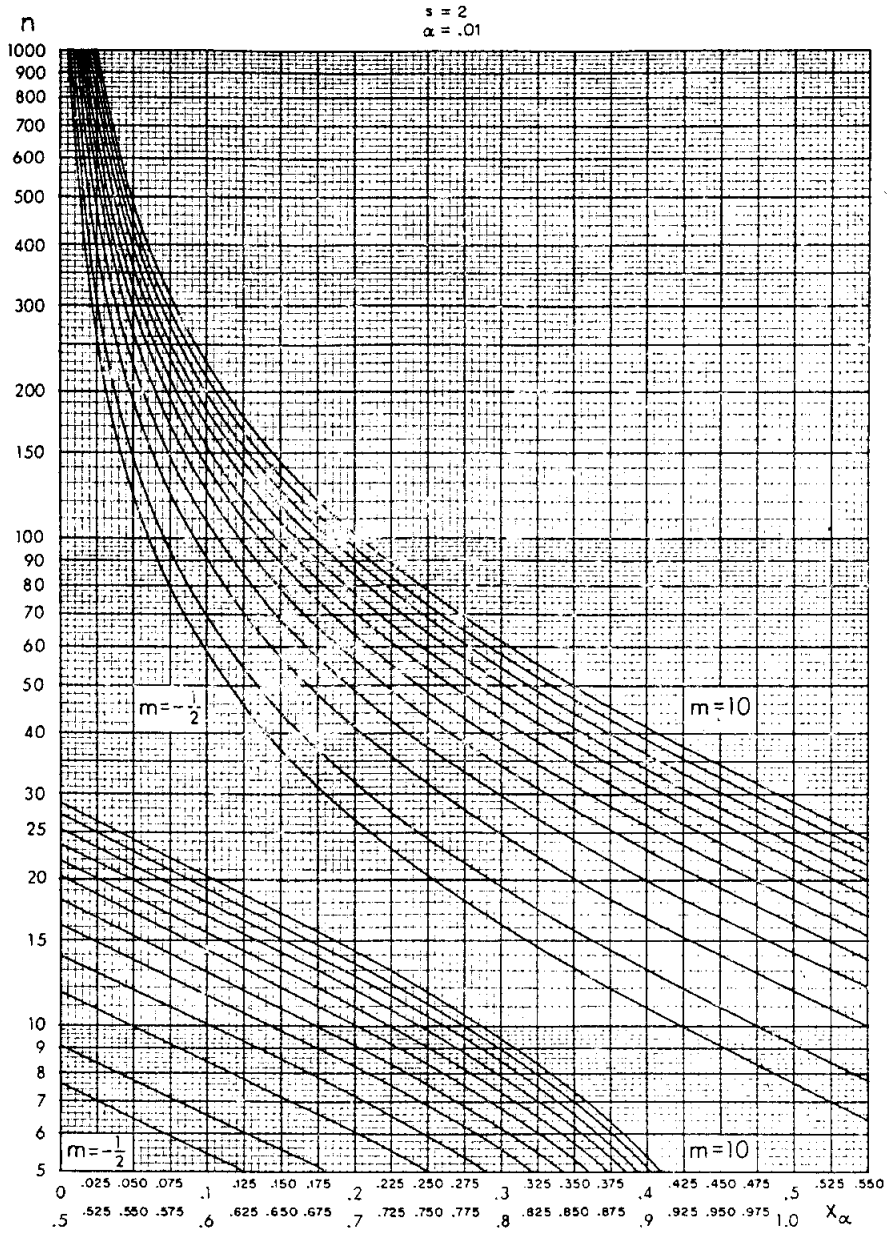

s = 2
α = .01
n
1000
900
800
700
600
500
400
300
200
150
100
90
80
70
60
50
40
30
25
20
15
10
9
8
7
6
5
m=-1/2
m=10
m=-1/2
m=10
0 .025 .050 .075 .1 .125 .150 .175 .2 .225 .250 .275 .3 .325 .350 .375 .4 .425 .450 .475 .5 .525 .550
.5 .525 .550 .575 .6 .625 .650 .675 .7 .725 .750 .775 .8 .825 .850 .875 .9 .925 .950 .975 1.0
Xα

Chart A 3.2

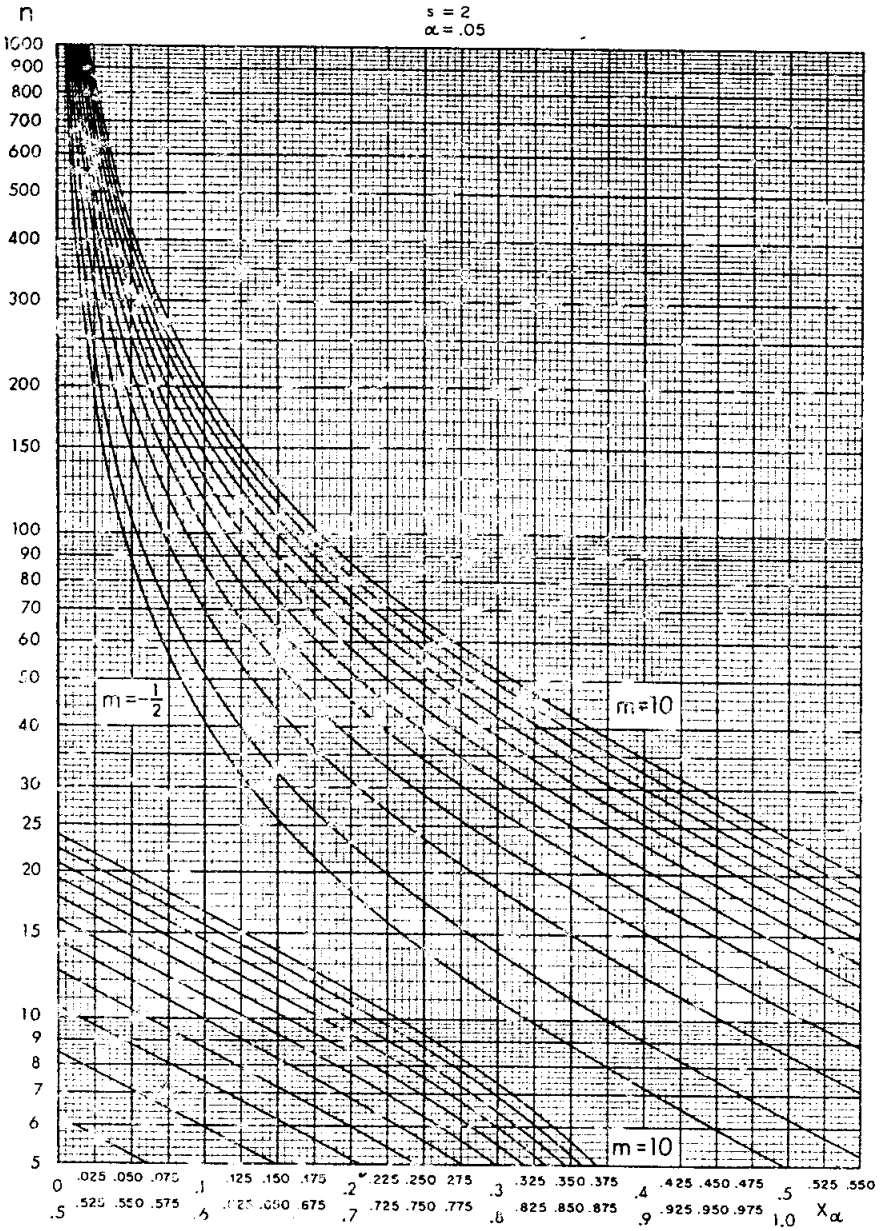

n
s = 2
α = .05
1000
900
800
700
600
500
400
300
200
150
100
90
80
70
60
50
40
30
25
20
15
10
9
8
7
6
5
m = -1/2
m = 10
m = 10
0 .025 .050 .075 .1 .125 .150 .175 .2 .225 .250 .275 .3 .325 .350 .375 .4 .425 .450 .475 .5 .525 .550
.5 .525 .550 .575 .6 .625 .650 .675 .7 .725 .750 .775 .8 .825 .850 .875 .9 .925 .950 .975 1.0
Xα

Chart A 3.3

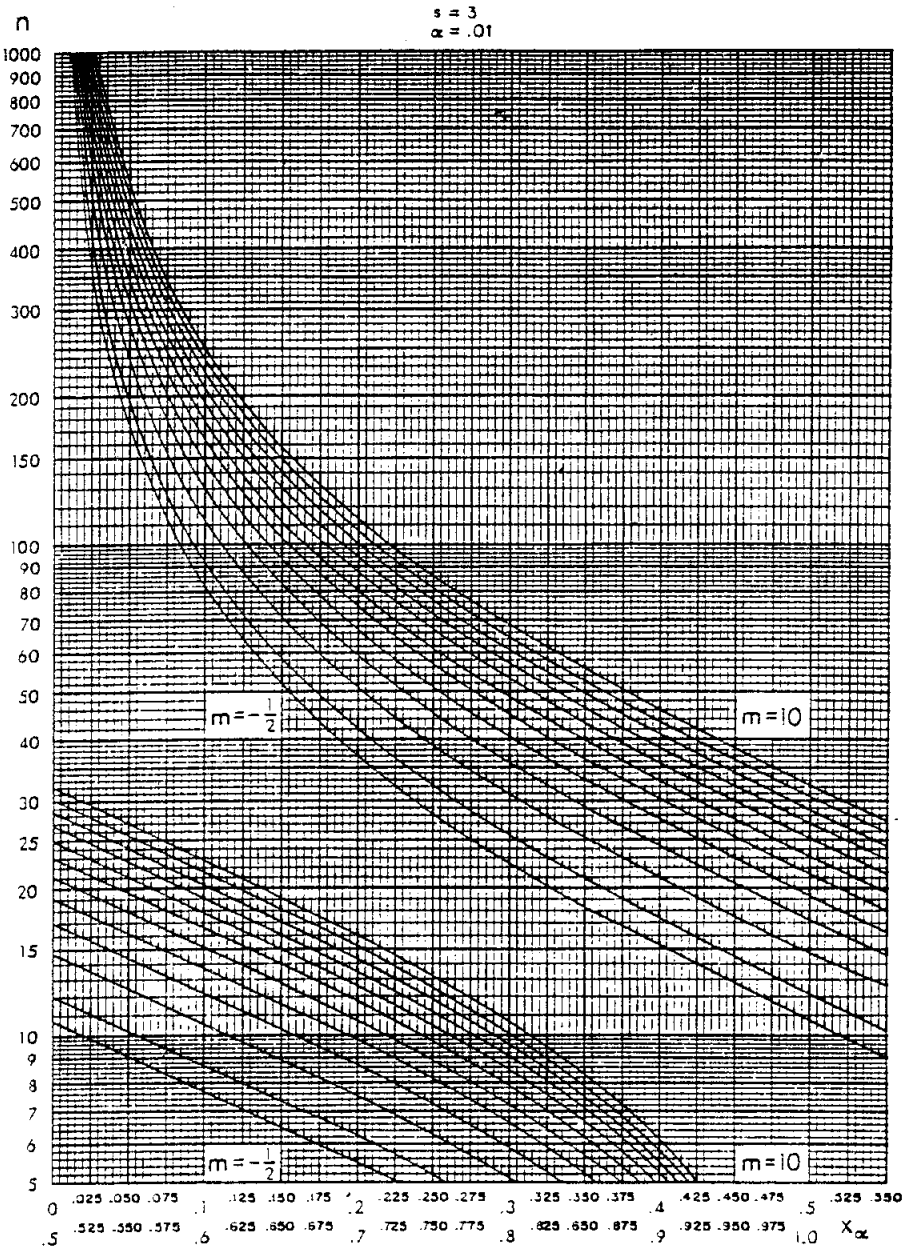

n
s = 3
α = .01
1000
900
800
700
600
500
400
300
200
150
100
90
80
70
60
50
40
30
25
20
15
10
9
8
7
6
5
m = -1/2
m = 10
m = -1/2
m = 10
0
.025 .050 .075
.1
.125 .150 .175
.2
.225 .250 .275
.3
.325 .350 .375
.4
.425 .450 .475
.5
.525 .550 .575
.6
.625 .650 .675
.7
.725 .750 .775
.8
.825 .850 .875
.9
.925 .950 .975
1.0
x_α

Chart A 3.4

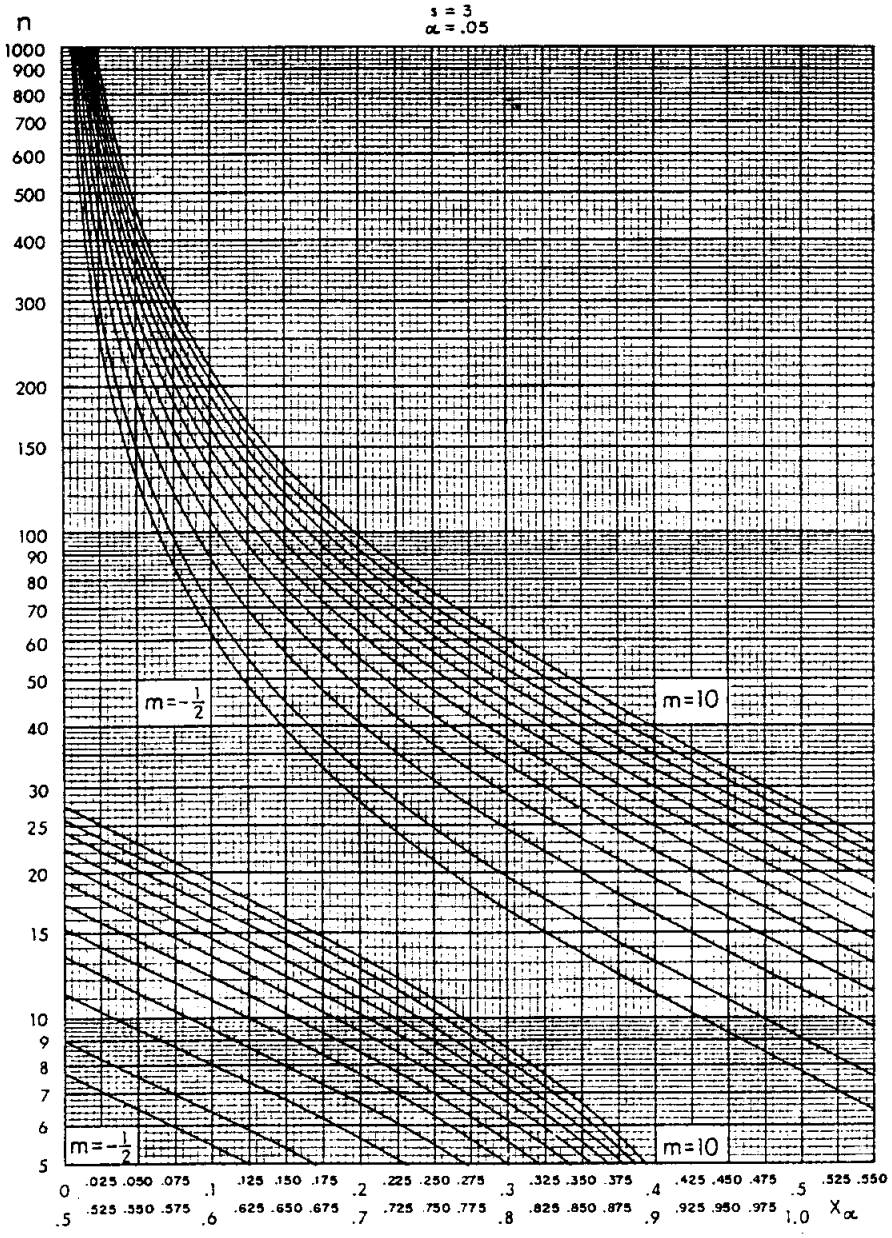

s = 3
α = .05
n
1000
900
800
700
600
500
400
300
200
150
100
90
80
70
60
50
40
30
25
20
15
10
9
8
7
6
5
m=-½
m=10
m=-½
m=10
0 .025 .050 .075 .1 .125 .150 .175 .2 .225 .250 .275 .3 .325 .350 .375 .4 .425 .450 .475 .5 .525 .550
.5 .525 .550 .575 .6 .625 .650 .675 .7 .725 .750 .775 .8 .825 .850 .875 .9 .925 .950 .975 1.0 Xα

Chart A 3.5

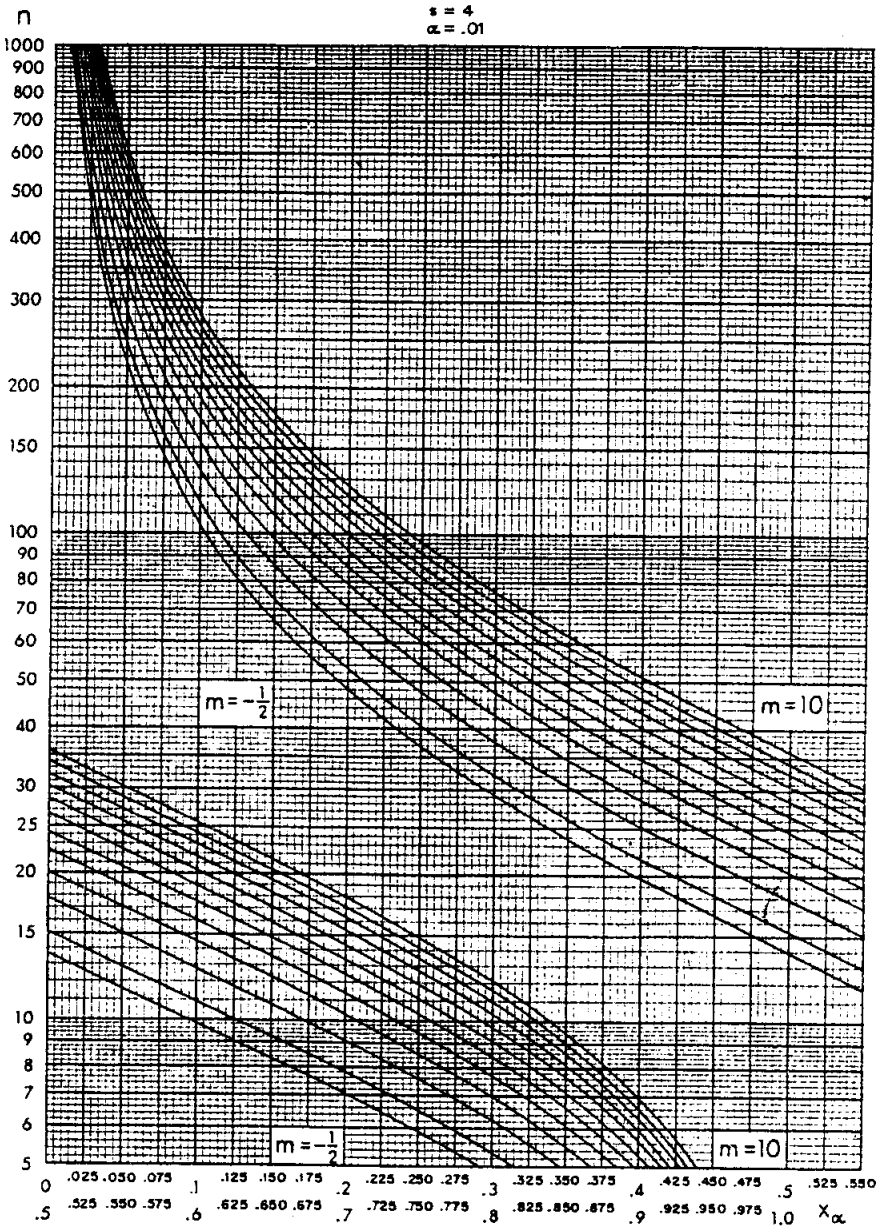

n
s = 4
α = .01
1000
900
800
700
600
500
400
300
200
150
100
90
80
70
60
50
40
30
25
20
15
10
9
8
7
6
5
m = -1/2
m = 10
m = -1/2
m = 10
0 .025 .050 .075 .1 .125 .150 .175 .2 .225 .250 .275 .3 .325 .350 .375 .4 .425 .450 .475 .5 .525 .550
.5 .525 .550 .575 .6 .625 .650 .675 .7 .725 .750 .775 .8 .825 .850 .875 .9 .925 .950 .975 1.0
Xα

Chart A 3.6

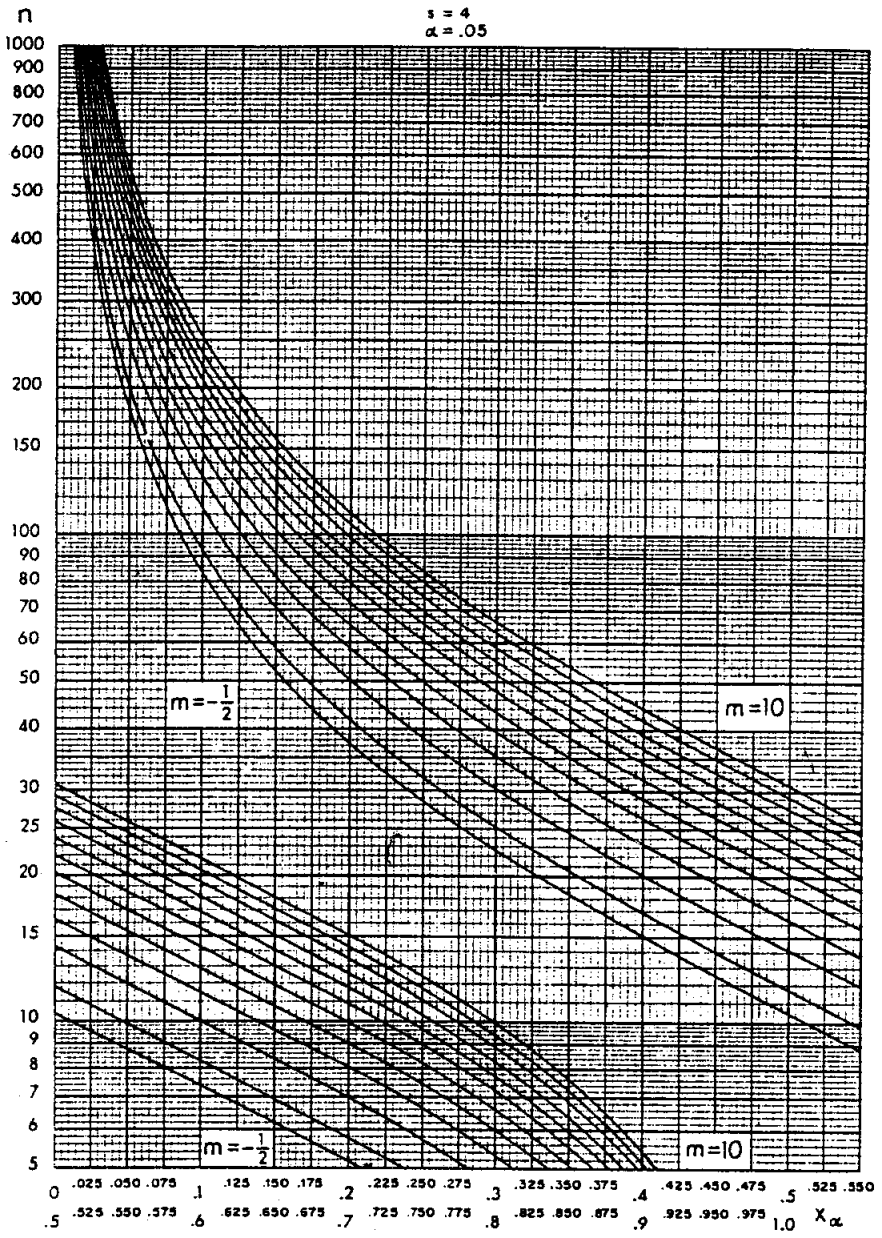

n
s = 4
α = .05
1000
900
800
700
600
500
400
300
200
150
100
90
80
70
60
50
40
30
25
20
15
10
9
8
7
6
5
m=-1/2
m=10
m=-1/2
m=10
0 .025 .050 .075 .1 .125 .150 .175 .2 .225 .250 .275 .3 .325 .350 .375 .4 .425 .450 .475 .5 .525 .550
.5 .525 .550 .575 .6 .625 .650 .675 .7 .725 .750 .775 .8 .825 .850 .875 .9 .925 .950 .975 1.0 Xα

Chart A 3.7

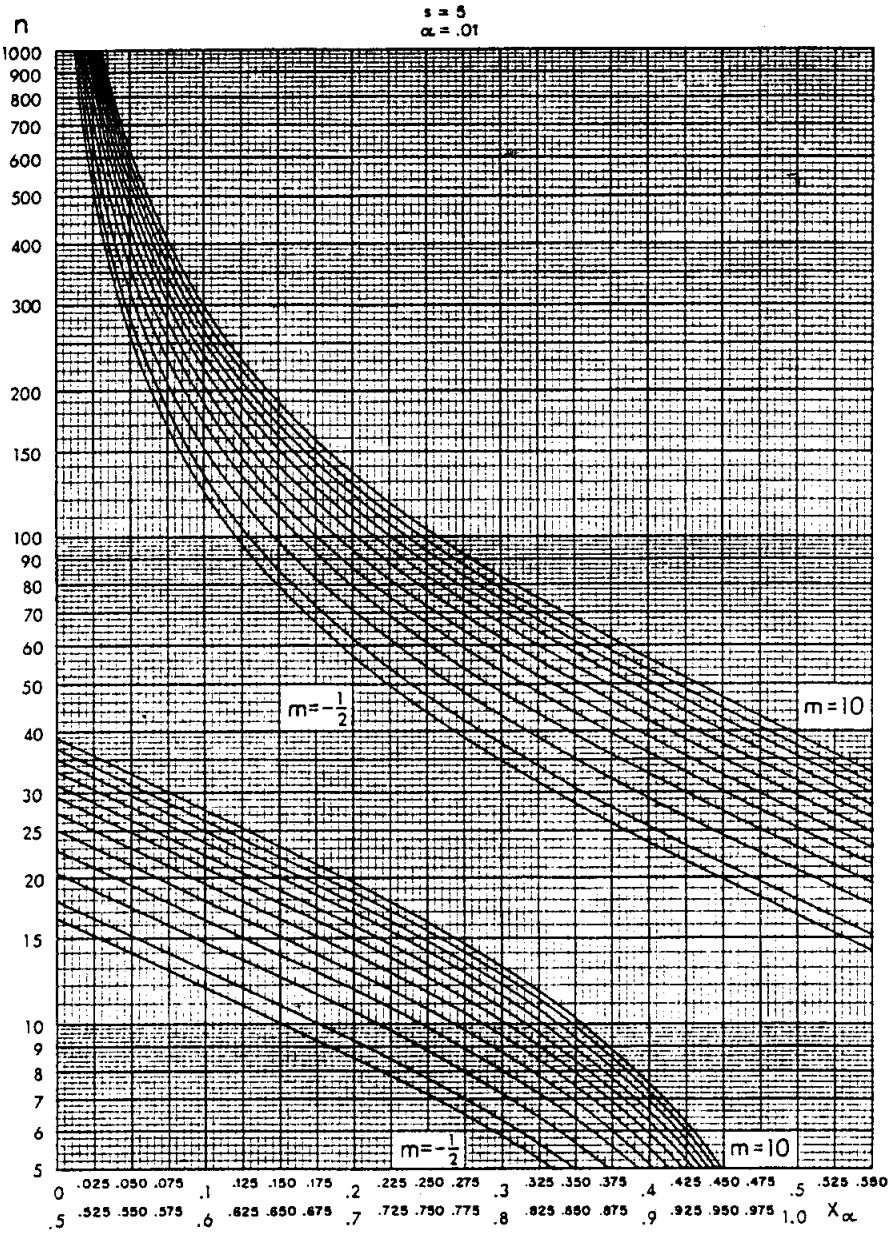

s = 5
α = .01
n
1000
900
800
700
600
500
400
300
200
150
100
90
80
70
60
50
40
30
25
20
15
10
9
8
7
6
5
m=-1/2
m=10
m=-1/2
m=10
0 .025 .050 .075 .1 .125 .150 .175 .2 .225 .250 .275 .3 .325 .350 .375 .4 .425 .450 .475 .5 .525 .550
.5 .525 .550 .575 .6 .625 .650 .675 .7 .725 .750 .775 .8 .825 .850 .875 .9 .925 .950 .975 1.0 Xα

Chart A 3.8

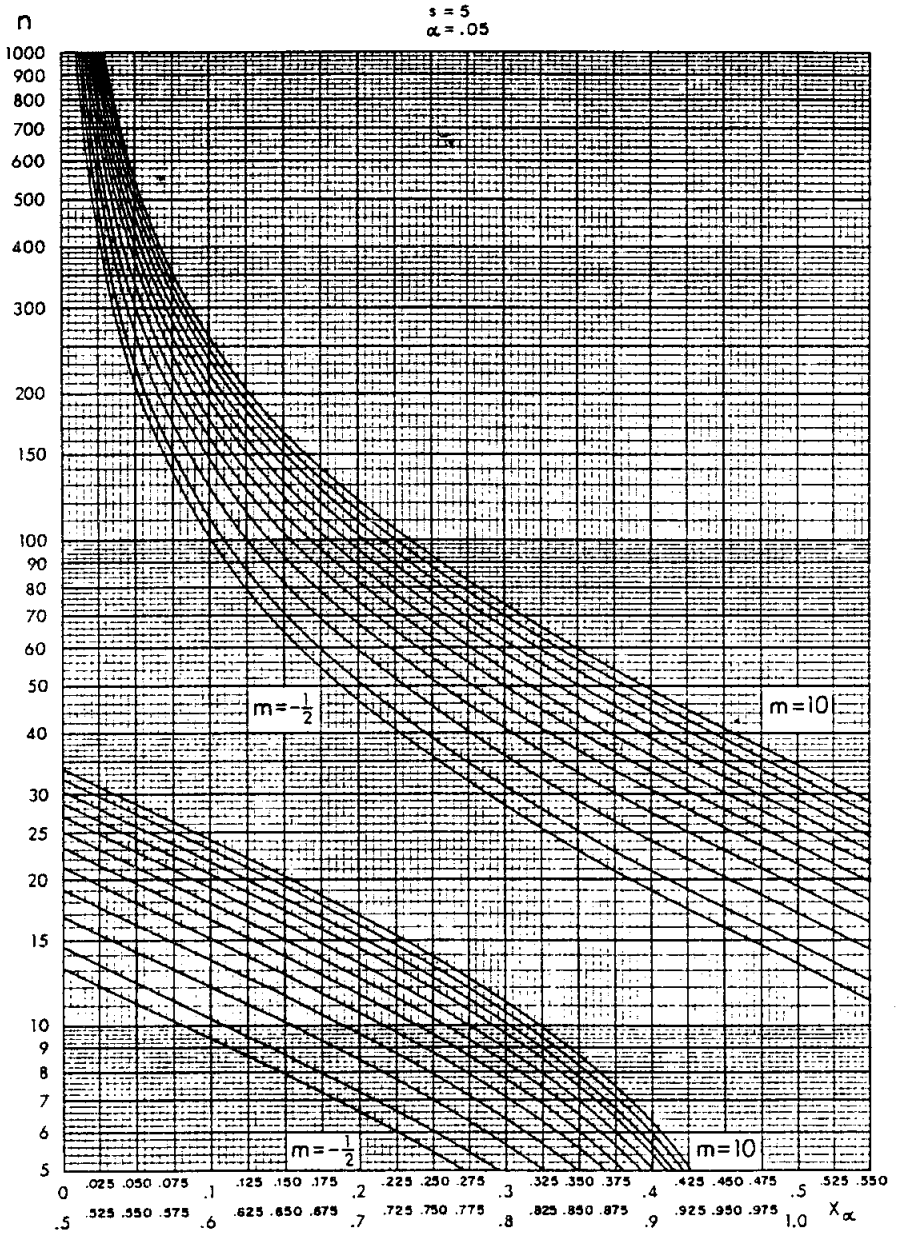

n
s = 5
α = .05
1000
900
800
700
600
500
400
300
200
150
100
90
80
70
60
50
40
30
25
20
15
10
9
8
7
6
5
m=-1/2
m=10
m=-1/2
m=10
0
.025 .050 .075
.1
.125 .150 .175
.2
.225 .250 .275
.3
.325 .350 .375
.4
.425 .450 .475
.5
.525 .550
.5
.525 .550 .575
.6
.625 .650 .675
.7
.725 .750 .775
.8
.825 .850 .875
.9
.925 .950 .975
1.0
Xα

Chart A. 3.9

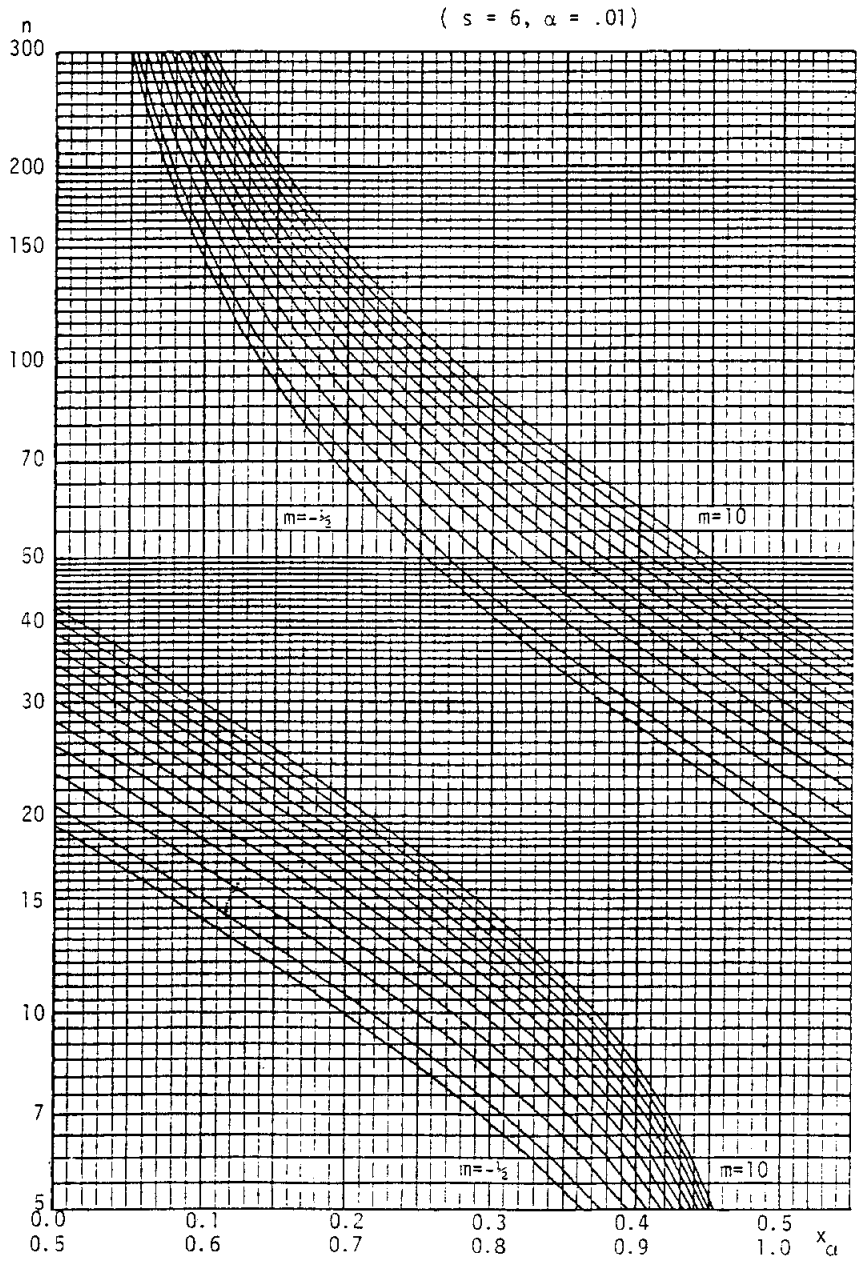

(s = 6, α = .01)
n
300
200
150
100
70
60
40
30
20
15
10
7
5
m=-½
m=10
m=-½
m=10
0.0
0.1
0.2
0.3
0.4
0.5
0.5
0.6
0.7
0.8
0.9
1.0
x_α

Chart A 3.10

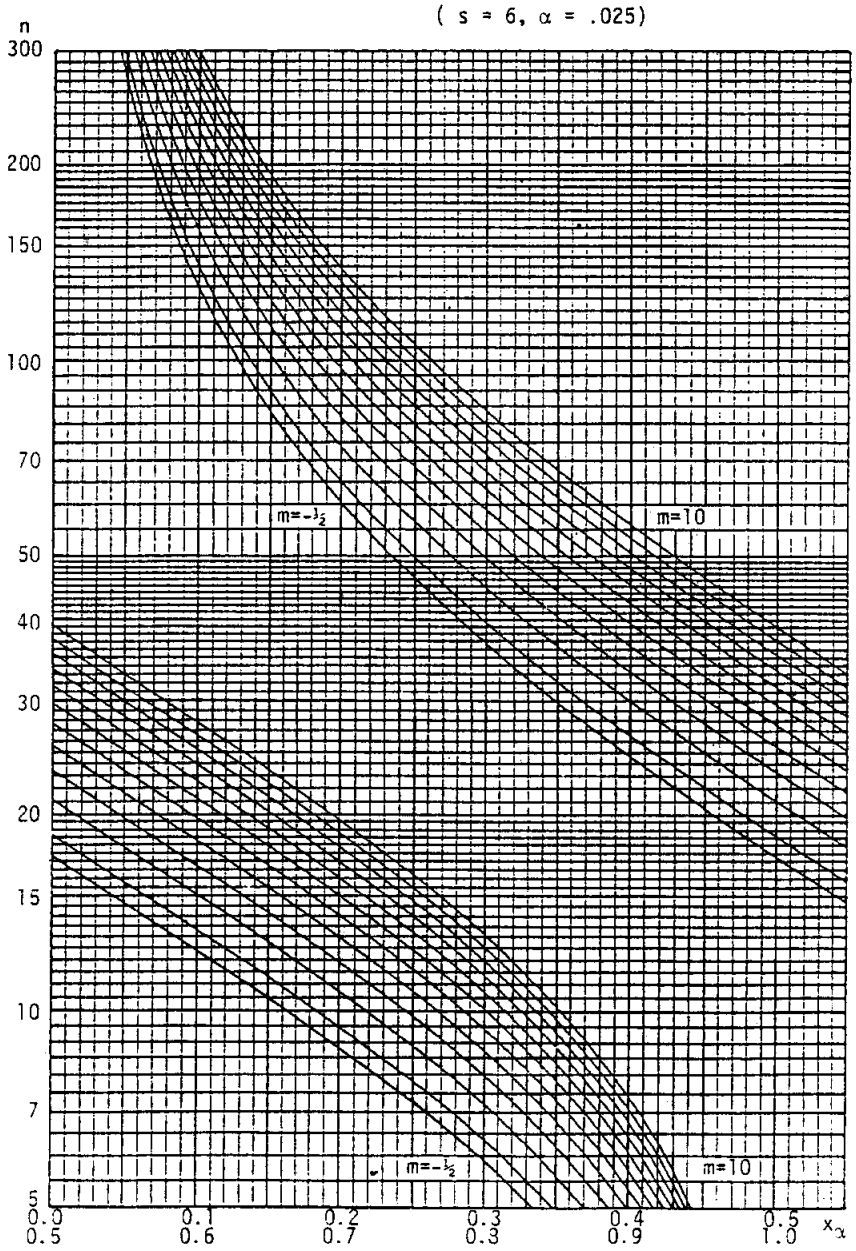

(s = 6, α = .025)
n
300
200
150
100
70
50
40
30
20
15
10
7
5
m=-½
m=10
m=-½
m=10
0.0
0.5
0.1
0.6
0.2
0.7
0.3
0.3
0.4
0.9
0.5
1.0
x_α

Chart A 3.11

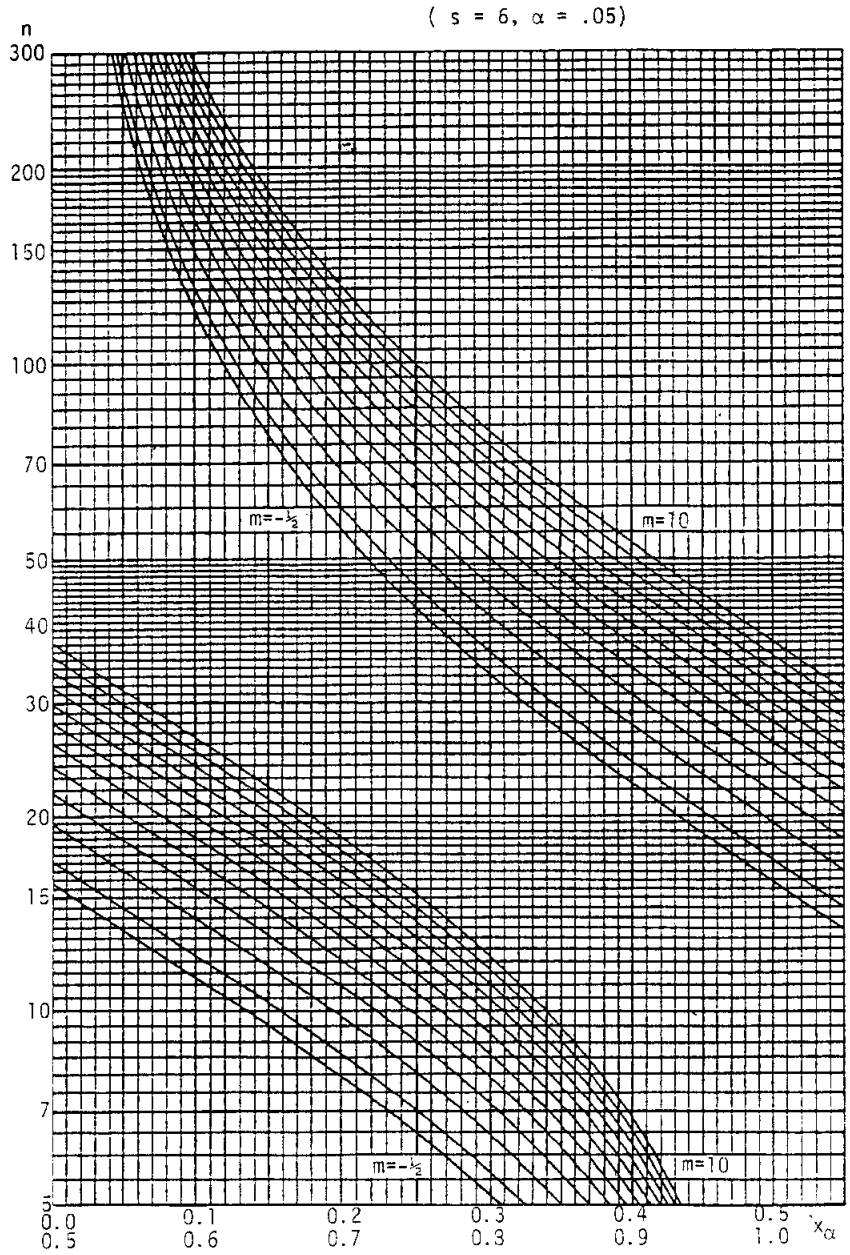

(s = 6, α = .05)
n
300
200
150
100
70
50
40
30
20
15
10
7
5
m=-½
m=10
m=-½
m=10
0.0
0.5
0.1
0.6
0.2
0.7
0.3
0.8
0.4
0.9
0.5
1.0
x_α

Chart A 3.12

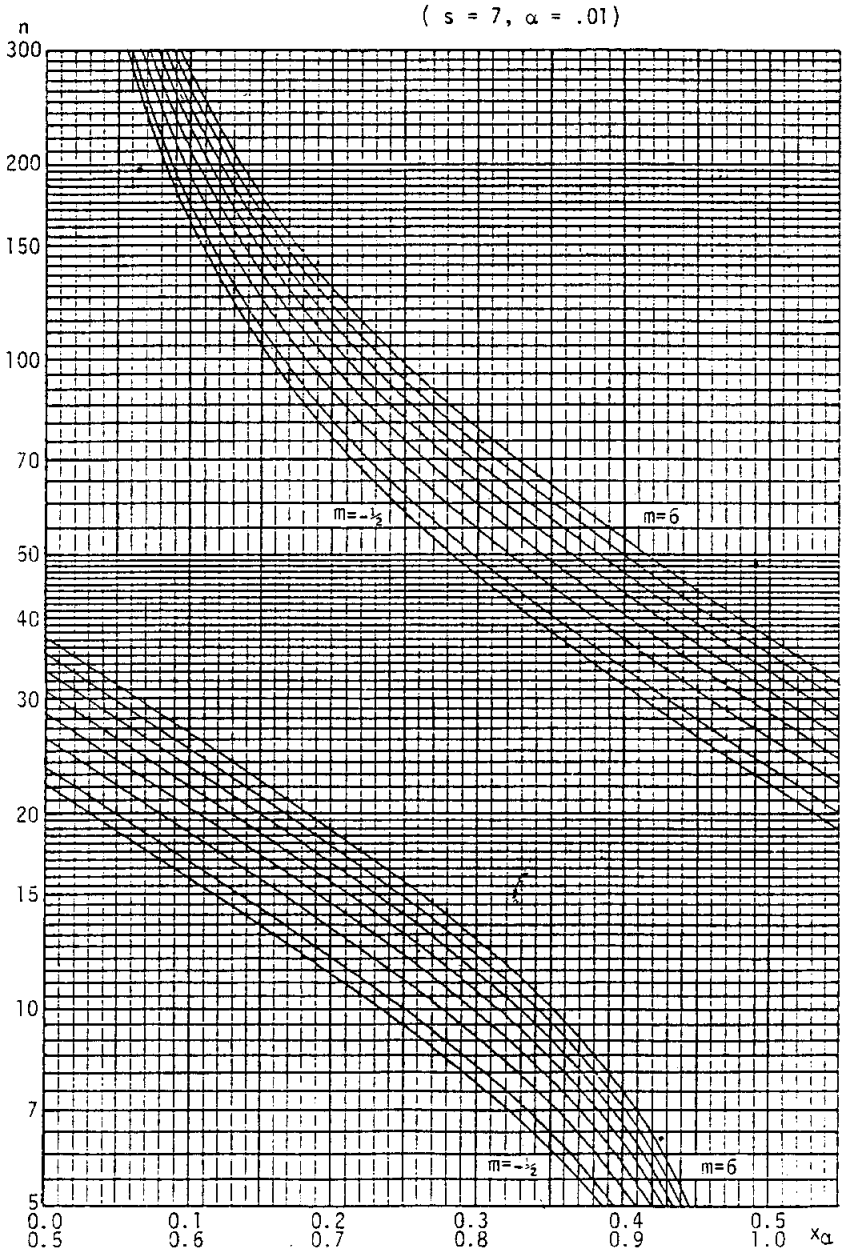

(s = 7, α = .01)
n
300
200
150
100
70
50
40
30
20
15
10
7
5
m=-½
m=6
m=-½
m=6
0.0
0.5
0.1
0.6
0.2
0.7
0.3
0.8
0.4
0.9
0.5
1.0
xα

Chart A 3.13

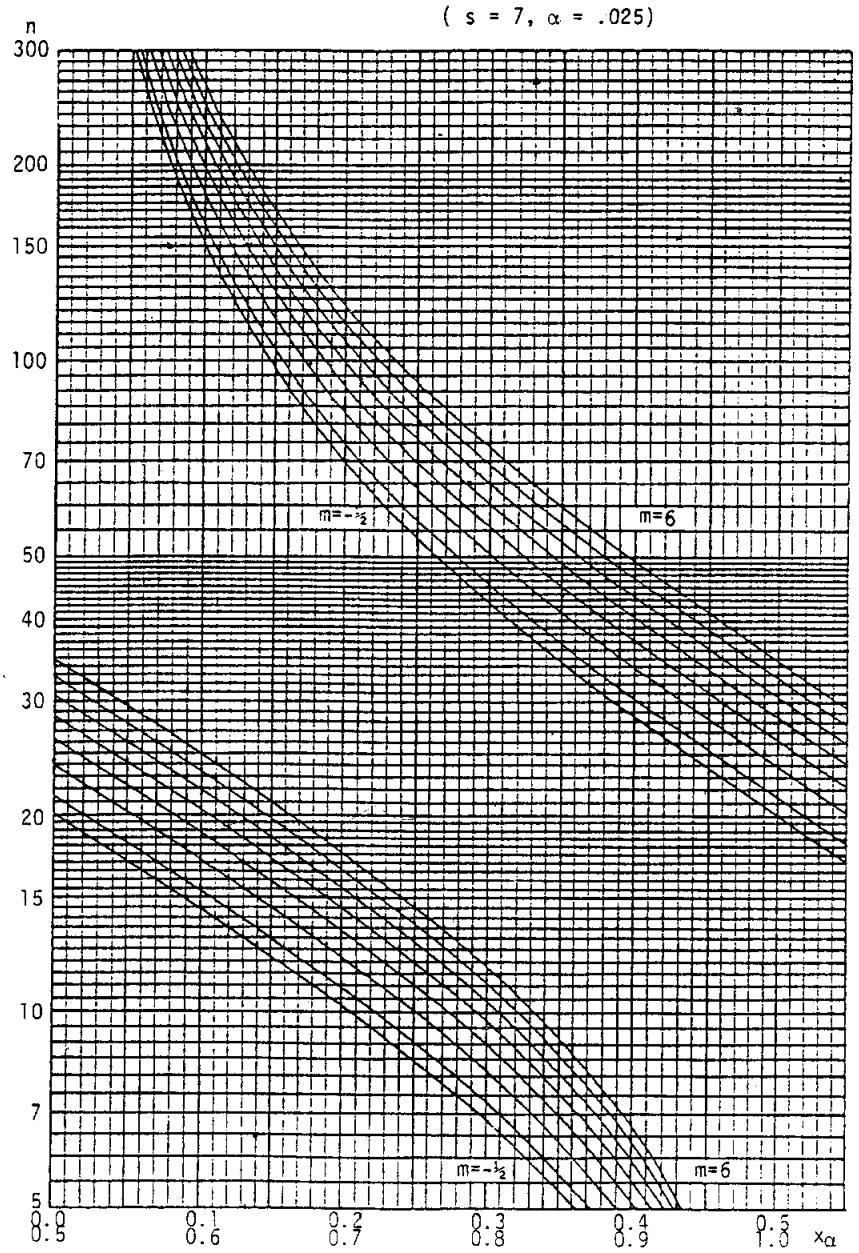
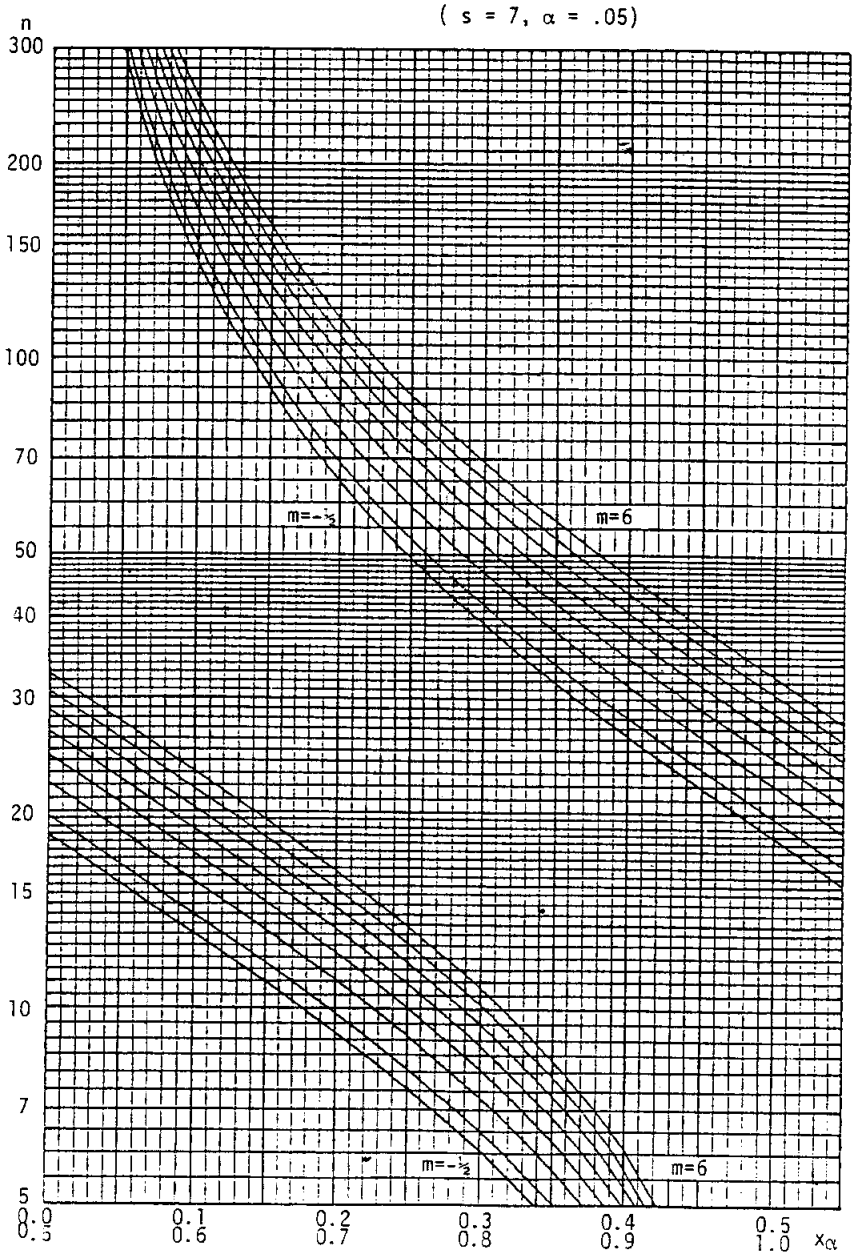

(s = 7, α = .025)
n
300
200
150
100
70
50
40
30
20
15
10
7
5
m=-½
m=6
m=-½
m=6
0.0
0.5
0.1
0.6
0.2
0.7
0.3
0.8
0.4
0.9
0.5
1.0
xα

Chart A. 3.14


(s = 7, α = .05)
n
300
200
150
100
70
50
40
30
20
15
10
7
5
m=-½
m=6
m=-½
m=6
0.0
0.5
0.6
0.7
0.8
0.9
1.0
xα

A4 : Upper Percentage Points of the Largest characteristic Roots

s = 6(1)10, 14(2)20

α = .01, .05

m = 0(1)5, 7, 10, 15

n = 5(5)30, 40(20)100(30)160, 200, 300, 500, 1000

Upper Percentage Points of the Largest Characteristic Root: $s = 6$*

$\alpha = 0.05$

n \ m	0	1	2	3	4
5	0.8246	0.8499	0.8685	0.8830	0.8945
10	0.6552	0.6917	0.7206	0.7442	0.7639
15	0.5371	0.5758	0.6077	0.6346	0.6577
20	0.4535	0.4912	0.5231	0.5505	0.5746
25	0.3918	0.4276	0.4583	0.4852	0.5091
30	0.3447	0.3782	0.4074	0.4332	0.4564
40	0.2775	0.3069	0.3329	0.3563	0.3776
60	0.1995	0.2225	0.2433	0.2624	0.2801
80	0.1556	0.1745	0.1916	0.2075	0.2224
100	0.1275	0.1434	0.1580	0.1716	0.1843
130	0.10036	0.11319	0.12504	0.13615	0.14666
160	0.08272	0.09348	0.10388	0.11284	0.12175
200	0.06702	0.07586	0.08409	0.09186	0.09926
300	0.04545	0.05156	0.05728	0.06281	0.06790
500	0.02765	0.03143	0.03498	0.03835	0.04160
1,000	0.01397	0.01590	0.01772	0.01946	0.02113

$\alpha = 0.01$

n \ m	0	1	2	3	4
5	0.8745	0.8929	0.9065	0.9169	0.9255
10	0.7173	0.7482	0.7724	0.7922	0.8086
15	0.5986	0.6334	0.6619	0.6858	0.7063
20	0.5111	0.5462	0.5757	0.6010	0.6231
25	0.4450	0.4790	0.5081	0.5335	0.5559
30	0.3936	0.4261	0.4542	0.4789	0.5011
40	0.3194	0.3484	0.3739	0.3969	0.4177
60	0.2315	0.2548	0.2757	0.2948	0.3125
80	0.1814	0.2006	0.2181	0.2342	0.2493
100	0.1491	0.1654	0.1803	0.1942	0.2072
130	0.11762	0.13091	0.14314	0.15457	0.16536
160	0.09713	0.10830	0.11901	0.12834	0.13754
200	0.07880	0.08803	0.09659	0.10466	0.11232
300	0.05355	0.05996	0.06594	0.07160	0.07701
500	0.03270	0.03661	0.04034	0.04388	0.04727
1,000	0.01651	0.01855	0.02046	0.02229	0.02405

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Upper Percentage Points of the Largest Characteristic Root: $s = 7$*

$\alpha = 0.05$

n \ m	0	1	2	3	4	5	7	10
5	0.85229	0.87214	0.88715	0.89893	0.90846	0.91632	0.9288	0.9445
10	0.69490	0.72561	0.75028	0.77064	0.78778	0.80243	0.8264	0.8540
15	0.57912	0.61295	0.64111	0.66505	0.68575	0.70387	0.7342	0.7695
20	0.49436	0.52818	0.55698	0.58197	0.60396	0.62353	0.6570	0.6970
25	0.43049	0.46310	0.49132	0.51617	0.53832	0.55827	0.5929	0.6352
30	0.38090	0.41189	0.43903	0.46319	0.48495	0.50472	0.5395	0.5825
40	0.30923	0.33684	0.36144	0.38367	0.40398	0.42267	0.4561	0.4987
60	0.22433	0.24644	0.26650	0.28496	0.30209	0.31811	0.3474	0.3858
80	0.17590	0.19414	0.21088	0.22642	0.24098	0.25471	0.2801	0.3141
100	0.14463	0.16011	0.17441	0.18776	0.20036	0.21230	0.2345	0.2647
130	0.11417	0.12676	0.13845	0.14945	0.15987	0.16981	0.1885	0.2141
160	0.094297	0.104892	0.114774	0.124101	0.132975	0.14147	0.15750	0.17965
200	0.076532	0.085273	0.093455	0.101205	0.108603	0.11570	0.12917	0.14792
300	0.052023	0.058098	0.063813	0.069251	0.074465	0.079493	0.08909	0.10258
500	0.031710	0.035480	0.039040	0.042442	0.045714	0.048883	0.05496	0.06357
1,000	0.016046	0.017979	0.019811	0.021566	0.023261	0.024905	0.02807	0.03259

$\alpha = 0.01$

n \ m	0	1	2	3	4	5	7	10
5	0.89470	0.90908	0.91991	0.92839	0.93522	0.9408	0.9498	0.9614
10	0.75082	0.77656	0.79714	0.81405	0.82824	0.8403	0.8600	0.8818
15	0.63628	0.66646	0.69144	0.71260	0.73083	0.7467	0.7732	0.8038
20	0.54905	0.58029	0.60677	0.62966	0.64973	0.6675	0.6978	0.7336
25	0.48171	0.51253	0.53909	0.56238	0.58308	0.6016	0.6338	0.6727
30	0.42859	0.45835	0.48430	0.50732	0.52798	0.5467	0.5795	0.6198
40	0.35059	0.37767	0.40170	0.42335	0.44306	0.4612	0.4934	0.5342
60	0.25649	0.27866	0.29872	0.31712	0.33415	0.3500	0.3789	0.4168
80	0.20204	0.22055	0.23748	0.25317	0.26783	0.2816	0.3071	0.3409
100	0.16660	0.18243	0.19700	0.21058	0.22336	0.2354	0.2579	0.2882
130	0.13187	0.14483	0.15684	0.16810	0.17875	0.1889	0.2079	0.2338
160	0.109113	0.120064	0.130255	0.139852	0.148966	0.15767	0.17406	0.19664
200	0.088695	0.097764	0.106235	0.114242	0.121870	0.12918	0.14300	0.16220
300	0.060419	0.066754	0.072702	0.078351	0.083759	0.08896	0.09888	0.11277
500	0.036892	0.040839	0.044561	0.048111	0.051521	0.05482	0.06113	0.07005
1,000	0.018692	0.020724	0.022645	0.024483	0.026254	0.02798	0.03127	0.03597

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Upper Percentage Points of the Largest Characteristic Root: $s = 8$*

$\alpha = 0.05$

n \ m	0	1	2	3	4	5	7	10	15
5	0.87386	0.88974	0.90198	0.91173	0.91968	0.92630	0.93670	0.94773	0.95948
10	0.72804	0.75412	0.77534	0.79300	0.80798	0.82085	0.84191	0.86546	0.89206
15	0.61550	0.64525	0.67024	0.69164	0.71022	0.72656	0.75402	0.78589	0.82359
20	0.53065	0.56108	0.58718	0.60997	0.63010	0.64806	0.67886	0.71565	0.76068
25	0.46544	0.49524	0.52122	0.54420	0.56475	0.58331	0.61561	0.65503	0.70464
30	0.41408	0.44274	0.46800	0.49059	0.51099	0.52957	0.56228	0.60290	0.65518
40	0.33876	0.36473	0.38799	0.40909	0.42841	0.44623	0.47816	0.51881	0.57296
60	0.24794	0.26912	0.28844	0.30627	0.32286	0.33838	0.36679	0.40411	0.45600
80	0.19537	0.21303	0.22931	0.24447	0.25871	0.27215	0.29703	0.33034	0.37787
100	0.16115	0.17623	0.19022	0.20334	0.21572	0.22748	0.24942	0.27915	0.32232
130	0.12759	0.13993	0.15145	0.16231	0.17263	0.18247	0.20099	0.22638	0.26392
160	0.10559	0.11602	0.12579	0.13504	0.14386	0.15230	0.16827	0.19034	0.22335
200	0.085849	0.094482	0.10260	0.11032	0.11769	0.12478	0.13824	0.15698	0.18531
300	0.058496	0.064526	0.070225	0.075663	0.080887	0.085929	0.095564	0.109119	0.12993
500	0.035726	0.039482	0.043047	0.046463	0.049755	0.052946	0.059074	0.067768	0.08119†
1,000	0.018105	0.020038	0.021878	0.023645	0.025355	0.027016	0.030219	0.03480†	0.04201†

† Value extrapolated.

$\alpha = 0.01$

n \ m	0	1	2	3	4	5	7	10	15
5	0.91031	0.92176	0.93055	0.93754	0.94323	0.94796	0.95537	0.96320	0.97152
10	0.77855	0.80027	0.81787	0.83248	0.84482	0.85541	0.87267	0.89189	0.91349
15	0.66867	0.69502	0.71708	0.73589	0.75218	0.76647	0.79039	0.81803	0.85053
20	0.58250	0.61043	0.63429	0.65505	0.67334	0.68961	0.71741	0.75045	0.79066
25	0.51467	0.54266	0.56696	0.58839	0.60751	0.62472	0.65456	0.69080	0.73614
30	0.46038	0.48773	0.51176	0.53317	0.55245	0.56997	0.60071	0.63869	0.68727
40	0.37948	0.40480	0.42741	0.44786	0.46653	0.48371	0.51438	0.55327	0.60475
60	0.28011	0.30123	0.32046	0.33814	0.35456	0.36990	0.39787	0.43447	0.48507
80	0.22175	0.23958	0.25597	0.27120	0.28547	0.29892	0.32375	0.35686	0.40386
100	0.18344	0.19878	0.21298	0.22626	0.23878	0.25064	0.27271	0.30251	0.34559
130	0.14565	0.15829	0.17007	0.18115	0.19165	0.20166	0.22043	0.24609	0.28386
160	0.12076	0.13149	0.14152	0.15100	0.16002	0.16865	0.18492	0.20734	0.24074
200	0.098336	0.10725	0.11562	0.12356	0.13114	0.13841	0.15219	0.17132	0.20013
300	0.067151	0.073412	0.079320	0.084948	0.090347	0.095551	0.105476	0.119400	0.14070
500	0.041086	0.045003	0.048715	0.052266	0.055685	0.058994	0.065337	0.074316	0.08822†
1,000	0.020850	0.022872	0.024794	0.026638	0.028420	0.030148	0.033477	0.03824†	0.04573†

† Value extrapolated.

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Upper Percentage Points of the Largest Characteristic Root: $s = 9$

$\alpha = 0.05$

n \ m	0	1	2	3	4	5	7	10	15
5	0.89098	0.90390	0.91402	0.92217	0.92889	0.93453	0.94348	0.95305	0.96347
10	0.75598	0.77833	0.79670	0.81213	0.82529	0.83666	0.85538	0.87647	0.90052
15	0.64727	0.67357	0.69584	0.71503	0.73178	0.74656	0.77150	0.80063	0.83527
20	0.56307	0.59053	0.61426	0.63508	0.65353	0.67006	0.69848	0.73257	0.77449
25	0.49716	0.52447	0.54841	0.56969	0.58878	0.60606	0.63622	0.67314	0.71978
30	0.44455	0.47111	0.49465	0.51577	0.53491	0.55237	0.58319	0.62156	0.67108
40	0.36633	0.39077	0.41278	0.43280	0.45118	0.46816	0.49864	0.53752	0.58940
60	0.27040	0.29069	0.30929	0.32650	0.34254	0.35757	0.38512	0.42136	0.47178
80	0.21408	0.23118	0.24699	0.26177	0.27567	0.28880	0.31315	0.34578	0.39237
100	0.17713	0.19182	0.20550	0.21836	0.23052	0.24208	0.26368	0.29297	0.33552
130	0.14066	0.15275	0.16408	0.17480	0.18499	0.19472	0.21305	0.23822	0.27542
160	0.11663	0.12689	0.13654	0.14570	0.15444	0.16283	0.17869	0.20065	0.23349
200	0.094986	0.10351	0.11156	0.11922	0.12656	0.13362	0.14704	0.16575	0.19404
300	0.064875	0.070856	0.076532	0.081961	0.087184	0.092232	0.10189	0.11548	0.13636
500	0.039699	0.043440	0.047005	0.050427	0.053733	0.056939	0.063104	0.071859	0.08542*
1,000	0.020149	0.022080	0.023925	0.025702	0.027423	0.029097	0.032330	0.036952	0.04416*

* Value extrapolated.

$\alpha = 0.01$

n \ m	0	1	2	3	4	5	7	10	15
5	0.92264	0.93192	0.93917	0.94499	0.94979	0.95381	0.96017	0.96696	0.97430
10	0.80179	0.82030	0.83548	0.84818	0.85899	0.86832	0.88362	0.90079	0.92029
15	0.69676	0.71994	0.73951	0.75631	0.77093	0.78381	0.80548	0.83067	0.86048
20	0.61221	0.63727	0.65886	0.67774	0.69444	0.70936	0.73493	0.76547	0.80282
25	0.54440	0.56992	0.59221	0.61197	0.62965	0.64561	0.67339	0.70724	0.74977
30	0.48940	0.51462	0.53691	0.55685	0.57486	0.59126	0.62013	0.65591	0.70182
40	0.40632	0.43003	0.45131	0.47064	0.48833	0.50464	0.53383	0.57092	0.62013
60	0.30247	0.32262	0.34104	0.35804	0.37386	0.38866	0.41570	0.45114	0.50020
80	0.24060	0.25778	0.27365	0.28844	0.30232	0.31542	0.33965	0.37199	0.41796
100	0.19966	0.21454	0.22837	0.24134	0.25359	0.26521	0.28688	0.31617	0.35853
130	0.15901	0.17134	0.18288	0.19377	0.20411	0.21398	0.23252	0.25789	0.29524
160	0.13209	0.14260	0.15248	0.16183	0.17075	0.17929	0.19541	0.21766	0.25082
200	0.10775	0.11652	0.12479	0.13265	0.14017	0.14739	0.16110	0.18015	0.20885
300	0.073760	0.079948	0.085812	0.091413	0.096795	0.10199	0.11191	0.12584	0.14716
500	0.045220	0.049108	0.052807	0.056355	0.059777	0.063093	0.069460	0.078480	0.09243*
1,000	0.022983	0.024997	0.026918	0.028767	0.030555	0.032293	0.035644	0.040426	0.04788*

* Value extrapolated.

Upper Percentage Points of the Largest Characteristic Root: $s = 10$

$\alpha = 0.05$

n \ m	0	1	2	3	4	5	7	10	15
5	0.90483	0.91547	0.92393	0.93083	0.93656	0.94141	0.94916	0.95759	0.96720
10	0.77978	0.79907	0.81509	0.82864	0.84026	0.85037	0.86708	0.88605	0.90789
15	0.67519	0.69855	0.71848	0.73575	0.75090	0.76431	0.78704	0.81372	0.84561
20	0.59217	0.61704	0.63867	0.65772	0.67468	0.68990	0.71619	0.74784	0.78695
25	0.52606	0.55114	0.57325	0.59297	0.61073	0.62684	0.65503	0.68966	0.73355
30	0.47263	0.49728	0.51923	0.53901	0.55697	0.57339	0.60245	0.63872	0.68566
40	0.39214	0.41517	0.43599	0.45499	0.47248	0.48865	0.51774	0.55494	0.60465
60	0.29180	0.31125	0.32914	0.34574	0.36124	0.37580	0.40248	0.43765	0.48664
80	0.23209	0.24864	0.26400	0.27839	0.29194	0.30477	0.32857	0.36050	0.40613
100	0.19260	0.20690	0.22028	0.23287	0.24480	0.25616	0.27739	0.30622	0.34812
130	0.15339	0.16524	0.17638	0.18693	0.19699	0.20660	0.22473	0.24963	0.28647
160	0.12743	0.13752	0.14704	0.15610	0.16476	0.17307	0.18882	0.21063	0.24327
200	0.10396	0.11237	0.12034	0.12794	0.13523	0.14226	0.15562	0.17427	0.2025*
300	0.071167	0.077098	0.082744	0.088157	0.093372	0.098418	0.10808	0.12169	0.1426*
500	0.043634	0.047358	0.050918	0.054344	0.057657	0.060875	0.067067	0.07585*	0.08948*
1,000	0.022179	0.024107	0.025955	0.027739	0.029470	0.031155	0.03441*	0.03905*	0.04632*

* Value extrapolated.

$\alpha = 0.01$

n \ m	0	1	2	3	4	5	7	10	15
5	0.93258	0.94020	0.94624	0.95116	0.95524	0.95869	0.96419	0.97016	0.97680
10	0.82149	0.83740	0.85058	0.86170	0.87122	0.87948	0.89311	0.90854	0.92620
15	0.72134	0.74183	0.75927	0.77433	0.78751	0.79916	0.81886	0.84189	0.86931
20	0.63873	0.66133	0.68093	0.69814	0.71344	0.72714	0.75072	0.77900	0.81378
25	0.57137	0.59468	0.61519	0.63344	0.64982	0.66465	0.69054	0.72222	0.76217
30	0.51602	0.53932	0.56002	0.57862	0.59547	0.61085	0.63798	0.67172	0.71517
40	0.43131	0.45356	0.47362	0.49189	0.50867	0.52416	0.55195	0.58733	0.63440
60	0.32368	0.34292	0.36058	0.37692	0.39216	0.40644	0.43257	0.46688	0.51445
80	0.25867	0.27524	0.29059	0.30495	0.31844	0.33120	0.35482	0.38640	0.43132
100	0.21530	0.22974	0.24321	0.25588	0.26786	0.27924	0.30049	0.32925	0.37088
130	0.17197	0.18401	0.19532	0.20602	0.21619	0.22592	0.24420	0.26925	0.30617
160	0.14313	0.15344	0.16315	0.17238	0.18119	0.18963	0.20560	0.22765	0.26054
200	0.11696	0.12559	0.13375	0.14153	0.14898	0.15615	0.16977	0.18871	0.2173*
300	0.080258	0.086375	0.092191	0.097760	0.10312	0.10830	0.11820	0.13213	0.1534*
500	0.049301	0.053160	0.056844	0.060386	0.063808	0.067128	0.073509	0.08258*	0.09661*
1,000	0.025096	0.027100	0.029020	0.030871	0.032666	0.034411	0.03778*	0.04260*	0.05013*

* Value extrapolated.

Upper Percentage Points of the Largest Characteristic Root: $s = 14$*

$\alpha = 0.05$

n \ m	0	1	2	3	4	5	7	10	15
5	0.9403	0.9457	0.9503	0.9541	0.9574	0.9602	0.9649	0.9701	0.9761
10	0.8470	0.8584	0.8681	0.8766	0.8840	0.8906	0.9017	0.9146	0.9299
15	0.7590	0.7742	0.7875	0.7992	0.8096	0.8189	0.8350	0.8543	0.8779
20	0.6834	0.7006	0.7159	0.7296	0.7419	0.7531	0.7726	0.7966	0.8267
25	0.6196	0.6378	0.6542	0.6689	0.6824	0.6947	0.7165	0.7436	0.7784
30	0.5657	0.5843	0.6011	0.6165	0.6305	0.6435	0.6666	0.6958	0.7340
40	0.4807	0.4990	0.5158	0.5313	0.5457	0.5590	0.5832	0.6144	0.6565
60	0.3683	0.3848	0.4001	0.4145	0.4279	0.4407	0.4641	0.4952	0.5387
80	0.2980	0.3125	0.3261	0.3390	0.3512	0.3628	0.3844	0.4136	0.4554
100	0.2500	0.2629	0.2751	0.2866	0.2976	0.3081	0.3278	0.3546	0.3938
130	0.2013	0.2122	0.2226	0.2325	0.2419	0.2510	0.2682	0.2919	0.3271
160	0.1685	0.1779	0.1869	0.1955	0.2038	0.2117	0.2269	0.2479	0.2795
200	0.1383	0.1463	0.1539	0.1612	0.1683	0.1751	0.1881	0.2064	0.2340
300	0.09556	0.1013	0.1068	0.1121	0.1172	0.1222	0.1318	0.1454	0.1662
500	0.05904	0.06269	0.06621	0.06962	0.07293	0.07616	0.08240	0.09130	0.1052
1,000	0.03019	0.03210	0.03395	0.03575	0.03750	0.03921	0.04253	0.04730	0.05482

$\alpha = 0.01$

n \ m	0	1	2	3	4	5	7	10	15
5	0.95784	0.96171	0.96493	0.96764	0.96996	0.97197	0.97527	0.97897	0.98317
10	0.87660	0.88590	0.89386	0.90075	0.90678	0.91210	0.92107	0.93152	0.94385
15	0.79444	0.80757	0.81903	0.82914	0.83812	0.84617	0.86001	0.87655	0.89674
20	0.72109	0.73655	0.75023	0.76245	0.77346	0.78342	0.80082	0.82205	0.84866
25	0.65775	0.67449	0.68948	0.70300	0.71529	0.72651	0.74634	0.77095	0.80248
30	0.60342	0.62078	0.63645	0.65071	0.66376	0.67577	0.69718	0.72412	0.75929
40	0.51631	0.53380	0.54979	0.56452	0.57815	0.59082	0.61373	0.64320	0.68278
60	0.39883	0.41495	0.42993	0.44392	0.45705	0.46941	0.49218	0.52229	0.56430
80	0.32422	0.33862	0.35212	0.36484	0.37687	0.38830	0.40957	0.43817	0.47908
100	0.27291	0.28576	0.29788	0.30937	0.32030	0.33073	0.35028	0.37689	0.41558
130	0.22042	0.23140	0.24181	0.25173	0.26122	0.27033	0.28753	0.31121	0.34623
160	0.18481	0.19435	0.20343	0.21212	0.22045	0.22848	0.24372	0.26486	0.29651
200	0.15203	0.16012	0.16786	0.17528	0.18243	0.18933	0.20250	0.22090	0.24874
300	0.10529	0.11114	0.11675	0.12217	0.12741	0.13249	0.14224	0.15602	0.17718
500	0.065179	0.068928	0.072541	0.076040	0.079437	0.082746	0.089131	0.098227	0.11239
1,000	0.033379	0.035350	0.037256	0.039107	0.040910	0.042671	0.046084	0.050981	0.058685

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Upper Percentage Points of the Largest Characteristic Root: $s = 16$

$\alpha = 0.05$

n \ m	0	1	2	3	4	5	7	10	15
5	0.9510	0.9551	0.9586	0.9615	0.9641	0.9663	0.9701	0.9743	0.9793
10	0.8695	0.8786	0.8864	0.8933	0.8993	0.9047	0.9139	0.9248	0.9378
15	0.7892	0.8017	0.8127	0.8225	0.8313	0.8392	0.8529	0.8695	0.8901
20	0.7178	0.7324	0.7454	0.7571	0.7677	0.7774	0.7945	0.8154	0.8421
25	0.6561	0.6719	0.6861	0.6990	0.7108	0.7216	0.7409	0.7650	0.7963
30	0.6031	0.6194	0.6342	0.6478	0.6603	0.6719	0.6926	0.7189	0.7536
40	0.5177	0.5342	0.5493	0.5633	0.5764	0.5886	0.6107	0.6393	0.6781
60	0.4018	0.4170	0.4312	0.4446	0.4572	0.4691	0.4910	0.5202	0.5613
80	0.3276	0.3413	0.3541	0.3663	0.3778	0.3889	0.4094	0.4372	0.4771
100	0.2763	0.2886	0.3001	0.3111	0.3217	0.3317	0.3506	0.3765	0.4143
130	0.2237	0.2341	0.2441	0.2537	0.2628	0.2716	0.2883	0.3113	0.3456
160	0.1878	0.1969	0.2056	0.2140	0.2221	0.2298	0.2446	0.2652	0.2962
200	0.1547	0.1625	0.1699	0.1771	0.1840	0.1907	0.2035	0.2214	0.2487
300	0.1074	0.1130	0.1184	0.1236	0.1287	0.1337	0.1432	0.1566	0.1774
500	0.06656	0.07017	0.07366	0.07705	0.08035	0.08357	0.08981	0.09872	0.1127
1,000	0.03413	0.03603	0.03788	0.03968	0.04143	0.04315	0.04649	0.05129	0.05887

$\alpha = 0.01$

n \ m	0	1	2	3	4	5	7	10	15
5	0.96542	0.96833	0.97078	0.97288	0.97469	0.97628	0.97892	0.98193	0.98540
10	0.89495	0.90231	0.90868	0.91425	0.91916	0.92353	0.93097	0.93973	0.95022
15	0.82050	0.83127	0.84075	0.84918	0.85672	0.86352	0.87530	0.88951	0.90705
20	0.75190	0.76491	0.77652	0.78696	0.79641	0.80501	0.82011	0.83869	0.86220
25	0.69124	0.70562	0.71858	0.73034	0.74108	0.75094	0.76842	0.79028	0.81850
30	0.63825	0.65340	0.66716	0.67975	0.69132	0.70200	0.72113	0.74534	0.77716
40	0.55156	0.56719	0.58155	0.59484	0.60718	0.61868	0.63956	0.66653	0.70294
60	0.43151	0.44634	0.46017	0.47314	0.48534	0.49686	0.51813	0.54634	0.58585
80	0.35351	0.36698	0.37966	0.39164	0.40301	0.41382	0.43398	0.46118	0.50018
100	0.29912	0.31128	0.32278	0.33372	0.34415	0.35412	0.37285	0.39840	0.43564
130	0.24286	0.25335	0.26335	0.27289	0.28204	0.29084	0.30749	0.33045	0.36449
160	0.20433	0.21352	0.22230	0.23071	0.23881	0.24662	0.26147	0.28212	0.31308
200	0.16862	0.17647	0.18399	0.19123	0.19822	0.20498	0.21789	0.23597	0.26338
300	0.11730	0.12302	0.12854	0.13387	0.13903	0.14405	0.15371	0.16736	0.18838
500	0.072890	0.076586	0.080162	0.083631	0.087008	0.090300	0.096667	0.10575	0.11992
1,000	0.037439	0.039394	0.041291	0.043138	0.044941	0.046704	0.050127	0.055047	0.062803

Upper Percentage Points of the Largest Characteristic Root: $s = 18$

$\alpha = 0.05$

n \ m	0	1	2	3	4	5	7	10	15
5	0.9590	0.9622	0.9649	0.9673	0.9693	0.9711	0.9741	0.9777	0.9819
10	0.8874	0.8947	0.9011	0.9067	0.9118	0.9163	0.9240	0.9332	0.9444
15	0.8140	0.8244	0.8336	0.8419	0.8494	0.8561	0.8679	0.8824	0.9004
20	0.7469	0.7593	0.7705	0.7806	0.7898	0.7982	0.8132	0.8317	0.8554
25	0.6876	0.7013	0.7137	0.7250	0.7354	0.7450	0.7622	0.7837	0.8119
30	0.6358	0.6502	0.6633	0.6754	0.6866	0.6969	0.7156	0.7394	0.7709
40	0.5509	0.5657	0.5794	0.5921	0.6040	0.6151	0.6354	0.6617	0.6976
60	0.4326	0.4467	0.4599	0.4724	0.4841	0.4952	0.5158	0.5433	0.5820
80	0.3553	0.3682	0.3803	0.3918	0.4028	0.4132	0.4328	0.4592	0.4974
100	0.3012	0.3128	0.3239	0.3344	0.3444	0.3541	0.3723	0.3972	0.4336
130	0.2450	0.2551	0.2647	0.2739	0.2827	0.2912	0.3074	0.3298	0.3631
160	0.2064	0.2152	0.2237	0.2318	0.2397	0.2472	0.2617	0.2818	0.3121
200	0.1706	0.1781	0.1854	0.1924	0.1991	0.2057	0.2183	0.2359	0.2628
300	0.1189	0.1244	0.1297	0.1349	0.1399	0.1448	0.1542	0.1675	0.1882
500	0.07397	0.07753	0.08100	0.08437	0.08765	0.09086	0.09708	0.1060	0.1199
1,000	0.03804	0.03993	0.04177	0.04357	0.04533	0.04705	0.05040	0.05522	0.06285

$\alpha = 0.01$

n \ m	0	1	2	3	4	5	7	10	15
5	0.97112	0.97336	0.97528	0.97693	0.97838	0.97965	0.98180	0.98428	0.98723
10	0.90947	0.91539	0.92057	0.92513	0.92919	0.93283	0.93906	0.94649	0.95550
15	0.84185	0.85079	0.85873	0.86584	0.87223	0.87803	0.88814	0.90045	0.91580
20	0.77780	0.78886	0.79880	0.80778	0.81596	0.82344	0.83663	0.85299	0.87387
25	0.71996	0.73240	0.74369	0.75399	0.76343	0.77212	0.78762	0.80712	0.83249
30	0.66859	0.68189	0.69405	0.70521	0.71551	0.72505	0.74221	0.76405	0.79293
40	0.58298	0.59701	0.60996	0.62198	0.63318	0.64366	0.66272	0.68746	0.72103
60	0.46148	0.47515	0.48796	0.49999	0.51135	0.52209	0.54196	0.56842	0.60560
80	0.38083	0.39345	0.40537	0.41666	0.42740	0.43763	0.45675	0.48261	0.51979
100	0.32383	0.33534	0.34628	0.35669	0.36664	0.37617	0.39411	0.41863	0.45446
130	0.26424	0.27429	0.28388	0.29306	0.30188	0.31038	0.32647	0.34873	0.38179
160	0.22307	0.23193	0.24041	0.24857	0.25643	0.26401	0.27847	0.29862	0.32887
200	0.18465	0.19226	0.19959	0.20664	0.21347	0.22008	0.23273	0.25047	0.27741
300	0.12901	0.13462	0.14003	0.14527	0.15036	0.15531	0.16485	0.17837	0.19921
500	0.080467	0.084114	0.087650	0.091089	0.094440	0.097713	0.10405	0.11311	0.12727
1,000	0.041452	0.043392	0.045280	0.047121	0.048921	0.050684	0.054112	0.059048	0.066841

Upper Percentage Points of the Largest Characteristic Root: $s = 20$

$\alpha = 0.05$

n \ m	0	1	2	3	4	5	7	10	15
5	0.9653	0.9677	0.9699	0.9718	0.9735	0.9749	0.9774	0.9804	0.9840
10	0.9018	0.9078	0.9131	0.9178	0.9220	0.9258	0.9323	0.9402	0.9499
15	0.8346	0.8434	0.8512	0.8583	0.8647	0.8705	0.8807	0.8933	0.9092
20	0.7716	0.7823	0.7920	0.8008	0.8088	0.8162	0.8294	0.8458	0.8670
25	0.7149	0.7269	0.7378	0.7478	0.7570	0.7655	0.7808	0.8002	0.8256
30	0.6646	0.6773	0.6890	0.6998	0.7098	0.7192	0.7360	0.7575	0.7863
40	0.5806	0.5940	0.6065	0.6181	0.6289	0.6391	0.6577	0.6819	0.7151
60	0.4611	0.4742	0.4864	0.4980	0.5090	0.5194	0.5387	0.5646	0.6011
80	0.3814	0.3934	0.4049	0.4158	0.4261	0.4360	0.4546	0.4799	0.5163
100	0.3248	0.3358	0.3464	0.3564	0.3660	0.3753	0.3927	0.4166	0.4517
130	0.2655	0.2751	0.2844	0.2933	0.3018	0.3100	0.3257	0.3474	0.3798
160	0.2244	0.2329	0.2411	0.2490	0.2566	0.2640	0.2781	0.2977	0.3274
200	0.1859	0.1933	0.2004	0.2072	0.2138	0.2202	0.2326	0.2499	0.2763
300	0.1301	0.1355	0.1408	0.1459	0.1509	0.1557	0.1650	0.1782	0.1987
500	0.08127	0.08480	0.08823	0.09158	0.09484	0.09804	0.1042	0.1131	0.1271
1,000	0.04192	0.04380	0.04563	0.04742	0.04918	0.05090	0.05426	0.05910	0.06678

$\alpha = 0.01$

n \ m	0	1	2	3	4	5	7	10	15
5	0.97552	0.97728	0.97880	0.98013	0.98130	0.98234	0.98411	0.98618	0.98870
10	0.92115	0.92599	0.93026	0.93405	0.93744	0.94050	0.94578	0.95214	0.95995
15	0.85957	0.86708	0.87379	0.87984	0.88531	0.89030	0.89904	0.90977	0.92329
20	0.79980	0.80928	0.81785	0.82565	0.83277	0.83931	0.85090	0.86538	0.88402
25	0.74479	0.75564	0.76553	0.77459	0.78293	0.79064	0.80444	0.82191	0.84480
30	0.69519	0.70694	0.71773	0.72768	0.73689	0.74544	0.76089	0.78065	0.80695
40	0.61113	0.62377	0.63549	0.64640	0.65660	0.66616	0.68361	0.70635	0.73736
60	0.48906	0.50169	0.51356	0.52475	0.53533	0.54536	0.56396	0.58878	0.62380
80	0.40637	0.41821	0.42943	0.44008	0.45023	0.45991	0.47805	0.50264	0.53810
100	0.34717	0.35809	0.36848	0.37840	0.38790	0.39701	0.41418	0.43771	0.47217
130	0.28465	0.29428	0.30349	0.31233	0.32083	0.32902	0.34459	0.36614	0.39822
160	0.24109	0.24963	0.25783	0.26573	0.27336	0.28073	0.29480	0.31443	0.34398
200	0.20016	0.20755	0.21468	0.22156	0.22822	0.23468	0.24706	0.26446	0.29092
300	0.14045	0.14594	0.15125	0.15640	0.16142	0.16630	0.17571	0.18908	0.20972
500	0.087921	0.091519	0.095016	0.098422	0.10175	0.10500	0.11130	0.12033	0.13446
1,000	0.045423	0.047349	0.049227	0.051061	0.052857	0.054618	0.058048	0.062993	0.070818