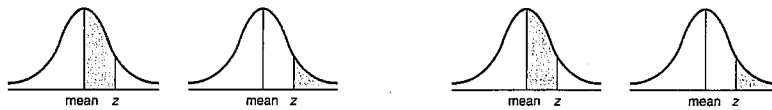


Statistical Tables

TABLE B.1 THE z DISTRIBUTION

Normal curve columns represent percentages between the mean and the z scores and percentages beyond the z scores in the tail.



z	% MEAN		z	% MEAN	
	TO z	% IN TAIL		TO z	% IN TAIL
.00	0.00	50.00	.34	13.31	36.69
.01	0.40	49.60	.35	13.68	36.32
.02	0.80	49.20	.36	14.06	35.94
.03	1.20	48.80	.37	14.43	35.57
.04	1.60	48.40	.38	14.80	35.20
.05	1.99	48.01	.39	15.17	34.83
.06	2.39	47.61	.40	15.54	34.46
.07	2.79	47.21	.41	15.91	34.09
.08	3.19	46.81	.42	16.28	33.72
.09	3.59	46.41	.43	16.64	33.36
.10	3.98	46.02	.44	17.00	33.00
.11	4.38	45.62	.45	17.36	32.64
.12	4.78	45.22	.46	17.72	32.28
.13	5.17	44.83	.47	18.08	31.92
.14	5.57	44.43	.48	18.44	31.56
.15	5.96	44.04	.49	18.79	31.21
.16	6.36	43.64	.50	19.15	30.85
.17	6.75	43.25	.51	19.50	30.50
.18	7.14	42.86	.52	19.85	30.15
.19	7.53	42.47	.53	20.19	29.81
.20	7.93	42.07	.54	20.54	29.46
.21	8.32	41.68	.55	20.88	29.12
.22	8.71	41.29	.56	21.23	28.77
.23	9.10	40.90	.57	21.57	28.43
.24	9.48	40.52	.58	21.90	28.10
.25	9.87	40.13	.59	22.24	27.76
.26	10.26	39.74	.60	22.57	27.43
.27	10.64	39.36	.61	22.91	27.09
.28	11.03	38.97	.62	23.24	26.76
.29	11.41	38.59	.63	23.57	26.43
.30	11.79	38.21	.64	23.89	26.11
.31	12.17	37.83	.65	24.22	25.78
.32	12.55	37.45	.66	24.54	25.46
.33	12.93	37.07	.67	24.86	25.14

TABLE B.1 continued

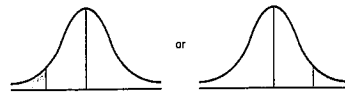
z	% MEAN TO z	% IN TAIL	z	% MEAN TO z	% IN TAIL	z
.68	25.17	24.83	1.28	39.97	10.03	
.69	25.49	24.51	1.29	40.15	9.85	1.88
.70	25.80	24.20	1.30	40.32	9.68	1.89
.71	26.11	23.89	1.31	40.49	9.51	1.90
.72	26.42	23.58	1.32	40.66	9.34	1.91
.73	26.73	23.27	1.33	40.82	9.18	1.92
.74	27.04	22.96	1.34	40.99	9.01	1.93
.75	27.34	22.66	1.35	41.15	8.85	1.94
.76	27.64	22.36	1.36	41.31	8.69	1.95
.77	27.94	22.06	1.37	41.47	8.53	1.96
.78	28.23	21.77	1.38	41.62	8.38	1.97
.79	28.52	21.48	1.39	41.77	8.23	1.98
.80	28.81	21.19	1.40	41.92	8.08	1.99
.81	29.10	20.90	1.41	42.07	7.93	2.00
.82	29.39	20.61	1.42	42.22	7.78	2.01
.83	29.67	20.33	1.43	42.36	7.64	2.02
.84	29.95	20.05	1.44	42.51	7.49	2.03
.85	30.23	19.77	1.45	42.65	7.35	2.04
.86	30.51	19.49	1.46	42.79	7.21	2.05
.87	30.78	19.22	1.47	42.92	7.08	2.06
.88	31.06	18.94	1.48	43.06	6.94	2.07
.89	31.33	18.67	1.49	43.19	6.81	2.08
.90	31.59	18.41	1.50	43.32	6.68	2.09
.91	31.86	18.14	1.51	43.45	6.55	2.10
.92	32.12	17.88	1.52	43.57	6.43	2.11
.93	32.38	17.62	1.53	43.70	6.30	2.12
.94	32.64	17.36	1.54	43.82	6.18	2.13
.95	32.89	17.11	1.55	43.94	6.06	2.14
.96	33.15	16.85	1.56	44.06	5.94	2.15
.97	33.40	16.60	1.57	44.18	5.82	2.16
.98	33.65	16.35	1.58	44.29	5.71	2.17
.99	33.89	16.11	1.59	44.41	5.59	2.18
1.00	34.13	15.87	1.60	44.52	5.48	2.19
1.01	34.38	15.62	1.61	44.63	5.37	2.20
1.02	34.61	15.39	1.62	44.74	5.26	2.21
1.03	34.85	15.15	1.63	44.84	5.16	2.22
1.04	35.08	14.92	1.64	44.95	5.05	2.23
1.05	35.31	14.69	1.65	45.05	4.95	2.24
1.06	35.54	14.46	1.66	45.15	4.85	2.25
1.07	35.77	14.23	1.67	45.25	4.75	2.26
1.08	35.99	14.01	1.68	45.35	4.65	2.27
1.09	36.21	13.79	1.69	45.45	4.55	2.28
1.10	36.43	13.57	1.70	45.54	4.46	2.29
1.11	36.65	13.35	1.71	45.64	4.36	2.30
1.12	36.86	13.14	1.72	45.73	4.27	2.31
1.13	37.08	12.92	1.73	45.82	4.18	2.32
1.14	37.29	12.71	1.74	45.91	4.09	2.33
1.15	37.49	12.51	1.75	45.99	4.01	2.34
1.16	37.70	12.30	1.76	46.08	3.92	2.35
1.17	37.90	12.10	1.77	46.16	3.84	2.36
1.18	38.10	11.90	1.78	46.25	3.75	2.37
1.19	38.30	11.70	1.79	46.33	3.67	2.38
1.20	38.49	11.51	1.80	46.41	3.59	2.39
1.21	38.69	11.31	1.81	46.49	3.51	2.40
1.22	38.88	11.12	1.82	46.56	3.44	2.41
1.23	39.07	10.93	1.83	46.64	3.36	2.42
1.24	39.25	10.75	1.84	46.71	3.29	2.43
1.25	39.44	10.56	1.85	46.78	3.22	2.44
1.26	39.62	10.38	1.86	46.86	3.14	2.45
1.27	39.80	10.20	1.87	46.93	3.07	

continued

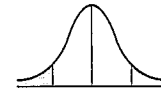
TABLE B.1 continued

IN TAIL	z	% MEAN TO z	% IN TAIL	z	% MEAN TO z	% IN TAIL
33	1.88	46.99	3.01	2.46	49.31	.69
35	1.89	47.06	2.94	2.47	49.32	.68
38	1.90	47.13	2.87	2.48	49.34	.66
31	1.91	47.19	2.81	2.49	49.36	.64
34	1.92	47.26	2.74	2.50	49.38	.62
18	1.93	47.32	2.68	2.51	49.40	.60
35	1.94	47.38	2.62	2.52	49.41	.59
39	1.95	47.44	2.56	2.53	49.43	.57
33	1.96	47.50	2.50	2.54	49.45	.55
38	1.97	47.56	2.44	2.55	49.46	.54
23	1.98	47.61	2.39	2.56	49.48	.52
38	1.99	47.67	2.33	2.57	49.49	.51
33	2.00	47.72	2.28	2.58	49.51	.49
'8	2.01	47.78	2.22	2.59	49.52	.48
'4	2.02	47.83	2.17	2.60	49.53	.47
19	2.03	47.88	2.12	2.61	49.55	.45
15	2.04	47.93	2.07	2.62	49.56	.44
11	2.05	47.98	2.02	2.63	49.57	.43
18	2.06	48.03	1.97	2.64	49.59	.41
14	2.07	48.08	1.92	2.65	49.60	.40
11	2.08	48.12	1.88	2.66	49.61	.39
'8	2.09	48.17	1.83	2.67	49.62	.38
15	2.10	48.21	1.79	2.68	49.63	.37
3	2.11	48.26	1.74	2.69	49.64	.36
10	2.12	48.30	1.70	2.70	49.65	.35
8	2.13	48.34	1.66	2.71	49.66	.34
16	2.14	48.38	1.62	2.72	49.67	.33
'4	2.15	48.42	1.58	2.73	49.68	.32
2	2.16	48.46	1.54	2.74	49.69	.31
1	2.17	48.50	1.50	2.75	49.70	.30
9	2.18	48.54	1.46	2.76	49.71	.29
8	2.19	48.57	1.43	2.77	49.72	.28
7	2.20	48.61	1.39	2.78	49.73	.27
6	2.21	48.64	1.36	2.79	49.74	.26
6	2.22	48.68	1.32	2.80	49.74	.26
5	2.23	48.71	1.29	2.81	49.75	.25
5	2.24	48.75	1.25	2.82	49.76	.24
5	2.25	48.78	1.22	2.83	49.77	.23
5	2.26	48.81	1.19	2.84	49.77	.23
5	2.27	48.84	1.16	2.85	49.78	.22
5	2.28	48.87	1.13	2.86	49.79	.21
6	2.29	48.90	1.10	2.87	49.79	.21
6	2.30	48.93	1.07	2.88	49.80	.20
7	2.31	48.96	1.04	2.89	49.81	.19
8	2.32	48.98	1.02	2.90	49.81	.19
9	2.33	49.01	.99	2.91	49.82	.18
1	2.34	49.04	.96	2.92	49.82	.18
2	2.35	49.06	.94	2.93	49.83	.17
4	2.36	49.09	.91	2.94	49.84	.16
5	2.37	49.11	.89	2.95	49.84	.16
7	2.38	49.13	.87	2.96	49.85	.15
9	2.39	49.16	.84	2.97	49.85	.15
1	2.40	49.18	.82	2.98	49.86	.14
4	2.41	49.20	.80	2.99	49.86	.14
6	2.42	49.22	.78	3.00	49.87	.13
9	2.43	49.25	.75	3.50	49.98	.02
2	2.44	49.27	.73	4.00	50.00	.00
4	2.45	49.29	.71	4.50	50.00	.00
7						

TABLE B.2 THE t DISTRIBUTIONS



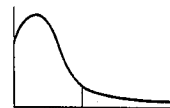
One-Tailed Tests
p level



Two-Tailed Tests
p level

df	One-Tailed Tests			Two-Tailed Tests		
	.10	.05	.01	.10	.05	.01
1	3.078	6.314	31.821	6.314	12.706	63.657
2	1.886	2.920	6.965	2.920	4.303	9.925
3	1.638	2.353	4.541	2.353	3.182	5.841
4	1.533	2.132	3.747	2.132	2.776	4.604
5	1.476	2.015	3.365	2.015	2.571	4.032
6	1.440	1.943	3.143	1.943	2.447	3.708
7	1.415	1.895	2.998	1.895	2.365	3.500
8	1.397	1.860	2.897	1.860	2.306	3.356
9	1.383	1.833	2.822	1.833	2.262	3.250
10	1.372	1.813	2.764	1.813	2.228	3.170
11	1.364	1.796	2.718	1.796	2.201	3.106
12	1.356	1.783	2.681	1.783	2.179	3.055
13	1.350	1.771	2.651	1.771	2.161	3.013
14	1.345	1.762	2.625	1.762	2.145	2.977
15	1.341	1.753	2.603	1.753	2.132	2.947
16	1.337	1.746	2.584	1.746	2.120	2.921
17	1.334	1.740	2.567	1.740	2.110	2.898
18	1.331	1.734	2.553	1.734	2.101	2.879
19	1.328	1.729	2.540	1.729	2.093	2.861
20	1.326	1.725	2.528	1.725	2.086	2.846
21	1.323	1.721	2.518	1.721	2.080	2.832
22	1.321	1.717	2.509	1.717	2.074	2.819
23	1.320	1.714	2.500	1.714	2.069	2.808
24	1.318	1.711	2.492	1.711	2.064	2.797
25	1.317	1.708	2.485	1.708	2.060	2.788
26	1.315	1.706	2.479	1.706	2.056	2.779
27	1.314	1.704	2.473	1.704	2.052	2.771
28	1.313	1.701	2.467	1.701	2.049	2.764
29	1.312	1.699	2.462	1.699	2.045	2.757
30	1.311	1.698	2.458	1.698	2.043	2.750
35	1.306	1.690	2.438	1.690	2.030	2.724
40	1.303	1.684	2.424	1.684	2.021	2.705
60	1.296	1.671	2.390	1.671	2.001	2.661
80	1.292	1.664	2.374	1.664	1.990	2.639
100	1.290	1.660	2.364	1.660	1.984	2.626
120	1.289	1.658	2.358	1.658	1.980	2.617
∞	1.282	1.645	2.327	1.645	1.960	2.576

TABLE B.3 THE F DISTRIBUTIONS



WITHIN-GROUPS df	SIGNIFICANCE (p) LEVEL	BETWEEN-GROUPS DEGREES OF FREEDOM					
		1	2	3	4	5	6
1	.01	4,052	5,000	5,404	5,625	5,764	5,859
	.05	162	200	216	225	230	234
	.10	39.9	49.5	53.6	55.8	57.2	58.2
2	.01	98.50	99.00	99.17	99.25	99.30	99.33
	.05	18.51	19.00	19.17	19.25	19.30	19.33
	.10	8.53	9.00	9.16	9.24	9.29	9.33

WITHIN GROUP df

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TABLE B.3 continued

WITHIN-GROUPS df	SIGNIFICANCE (p) LEVEL	BETWEEN-GROUPS DEGREES OF FREEDOM					
		1	2	3	4	5	6
3	.01	34.12	30.82	29.46	28.71	28.24	27.91
	.05	10.13	9.55	9.28	9.12	9.01	8.94
	.10	5.54	5.46	5.39	5.34	5.31	5.28
4	.01	21.20	18.00	16.70	15.98	15.52	15.21
	.05	7.71	6.95	6.59	6.39	6.26	6.16
	.10	4.55	4.33	4.19	4.11	4.05	4.01
5	.01	16.26	13.27	12.06	11.39	10.97	10.67
	.05	6.61	5.79	5.41	5.19	5.05	4.95
	.10	4.06	3.78	3.62	3.52	3.45	3.41
6	.01	13.75	10.93	9.78	9.15	8.75	8.47
	.05	5.99	5.14	4.76	4.53	4.39	4.28
	.10	3.78	3.46	3.29	3.18	3.11	3.06
7	.01	12.25	9.55	8.45	7.85	7.46	7.19
	.05	5.59	4.74	4.35	4.12	3.97	3.87
	.10	3.59	3.26	3.08	2.96	2.88	2.83
8	.01	11.26	8.65	7.59	7.01	6.63	6.37
	.05	5.32	4.46	4.07	3.84	3.69	3.58
	.10	3.46	3.11	2.92	2.81	2.73	2.67
9	.01	10.56	8.02	6.99	6.42	6.06	5.80
	.05	5.12	4.26	3.86	3.63	3.48	3.37
	.10	3.36	3.01	2.81	2.69	2.61	2.55
10	.01	10.05	7.56	6.55	6.00	5.64	5.39
	.05	4.97	4.10	3.71	3.48	3.33	3.22
	.10	3.29	2.93	2.73	2.61	2.52	2.46
11	.01	9.65	7.21	6.22	5.67	5.32	5.07
	.05	4.85	3.98	3.59	3.36	3.20	3.10
	.10	3.23	2.86	2.66	2.54	2.45	2.39
12	.01	9.33	6.93	5.95	5.41	5.07	4.82
	.05	4.75	3.89	3.49	3.26	3.11	3.00
	.10	3.18	2.81	2.61	2.48	2.40	2.33
13	.01	9.07	6.70	5.74	5.21	4.86	4.62
	.05	4.67	3.81	3.41	3.18	3.03	2.92
	.10	3.14	2.76	2.56	2.43	2.35	2.28
14	.01	8.86	6.52	5.56	5.04	4.70	4.46
	.05	4.60	3.74	3.34	3.11	2.96	2.85
	.10	3.10	2.73	2.52	2.40	2.31	2.24
15	.01	8.68	6.36	5.42	4.89	4.56	4.32
	.05	4.54	3.68	3.29	3.06	2.90	2.79
	.10	3.07	2.70	2.49	2.36	2.27	2.21
16	.01	8.53	6.23	5.29	4.77	4.44	4.20
	.05	4.49	3.63	3.24	3.01	2.85	2.74
	.10	3.05	2.67	2.46	2.33	2.24	2.18
17	.01	8.40	6.11	5.19	4.67	4.34	4.10
	.05	4.45	3.59	3.20	2.97	2.81	2.70
	.10	3.03	2.65	2.44	2.31	2.22	2.15
18	.01	8.29	6.01	5.09	4.58	4.25	4.02
	.05	4.41	3.56	3.16	2.93	2.77	2.66
	.10	3.01	2.62	2.42	2.29	2.20	2.13
19	.01	8.19	5.93	5.01	4.50	4.17	3.94
	.05	4.38	3.52	3.13	2.90	2.74	2.63
	.10	2.99	2.61	2.40	2.27	2.18	2.11

sts
 .01
 63.657
 9.925
 5.841
 4.604
 4.032
 3.708
 3.500
 3.356
 3.250
 3.170
 3.106
 3.055
 3.013
 2.977
 2.947
 2.921
 2.898
 2.879
 2.861
 2.846
 2.832
 2.819
 2.808
 2.797
 2.788
 2.779
 2.771
 2.764
 2.757
 2.750
 2.724
 2.705
 2.661
 2.639
 2.626
 2.617
 2.576
 6
 5,859
 234
 58.2
 99.33
 19.33
 9.33

TABLE B.3 continued

WITHIN-GROUPS df	SIGNIFICANCE (p) LEVEL	BETWEEN-GROUPS DEGREES OF FREEDOM					
		1	2	3	4	5	6
20	.01	8.10	5.85	4.94	4.43	4.10	3.87
	.05	4.35	3.49	3.10	2.87	2.71	2.60
	.10	2.98	2.59	2.38	2.25	2.16	2.09
21	.01	8.02	5.78	4.88	4.37	4.04	3.81
	.05	4.33	3.47	3.07	2.84	2.69	2.57
	.10	2.96	2.58	2.37	2.23	2.14	2.08
22	.01	7.95	5.72	4.82	4.31	3.99	3.76
	.05	4.30	3.44	3.05	2.82	2.66	2.55
	.10	2.95	2.56	2.35	2.22	2.13	2.06
23	.01	7.88	5.66	4.77	4.26	3.94	3.71
	.05	4.28	3.42	3.03	2.80	2.64	2.53
	.10	2.94	2.55	2.34	2.21	2.12	2.05
24	.01	7.82	5.61	4.72	4.22	3.90	3.67
	.05	4.26	3.40	3.01	2.78	2.62	2.51
	.10	2.93	2.54	2.33	2.20	2.10	2.04
25	.01	7.77	5.57	4.68	4.18	3.86	3.63
	.05	4.24	3.39	2.99	2.76	2.60	2.49
	.10	2.92	2.53	2.32	2.19	2.09	2.03
26	.01	7.72	5.53	4.64	4.14	3.82	3.59
	.05	4.23	3.37	2.98	2.74	2.59	2.48
	.10	2.91	2.52	2.31	2.18	2.08	2.01
27	.01	7.68	5.49	4.60	4.11	3.79	3.56
	.05	4.21	3.36	2.96	2.73	2.57	2.46
	.10	2.90	2.51	2.30	2.17	2.07	2.01
28	.01	7.64	5.45	4.57	4.08	3.75	3.53
	.05	4.20	3.34	2.95	2.72	2.56	2.45
	.10	2.89	2.50	2.29	2.16	2.07	2.00
29	.01	7.60	5.42	4.54	4.05	3.73	3.50
	.05	4.18	3.33	2.94	2.70	2.55	2.43
	.10	2.89	2.50	2.28	2.15	2.06	1.99
30	.01	7.56	5.39	4.51	4.02	3.70	3.47
	.05	4.17	3.32	2.92	2.69	2.53	2.42
	.10	2.88	2.49	2.28	2.14	2.05	1.98
35	.01	7.42	5.27	4.40	3.91	3.59	3.37
	.05	4.12	3.27	2.88	2.64	2.49	2.37
	.10	2.86	2.46	2.25	2.11	2.02	1.95
40	.01	7.32	5.18	4.31	3.83	3.51	3.29
	.05	4.09	3.23	2.84	2.61	2.45	2.34
	.10	2.84	2.44	2.23	2.09	2.00	1.93
45	.01	7.23	5.11	4.25	3.77	3.46	3.23
	.05	4.06	3.21	2.81	2.58	2.42	2.31
	.10	2.82	2.43	2.21	2.08	1.98	1.91
50	.01	7.17	5.06	4.20	3.72	3.41	3.19
	.05	4.04	3.18	2.79	2.56	2.40	2.29
	.10	2.81	2.41	2.20	2.06	1.97	1.90
55	.01	7.12	5.01	4.16	3.68	3.37	3.15
	.05	4.02	3.17	2.77	2.54	2.38	2.27
	.10	2.80	2.40	2.19	2.05	1.96	1.89
60	.01	7.08	4.98	4.13	3.65	3.34	3.12
	.05	4.00	3.15	2.76	2.53	2.37	2.26
	.10	2.79	2.39	2.18	2.04	1.95	1.88

WITHIN-GROUPS df
65
70
75
80
85
90
95
100
200
1000
∞
TABLE
df
1
2
3
4
5
6
7
8
9
10

TABLE B.3 continued

continued

6	WITHIN-GROUPS df	SIGNIFICANCE (p) LEVEL	BETWEEN-GROUPS DEGREES OF FREEDOM					
			1	2	3	4	5	6
3.87	65	.01	7.04	4.95	4.10	3.62	3.31	3.09
2.60		.05	3.99	3.14	2.75	2.51	2.36	2.24
2.09		.10	2.79	2.39	2.17	2.03	1.94	1.87
3.81	70	.01	7.01	4.92	4.08	3.60	3.29	3.07
2.57		.05	3.98	3.13	2.74	2.50	2.35	2.23
2.08		.10	2.78	2.38	2.16	2.03	1.93	1.86
3.76	75	.01	6.99	4.90	4.06	3.58	3.27	3.05
2.55		.05	3.97	3.12	2.73	2.49	2.34	2.22
2.06		.10	2.77	2.38	2.16	2.02	1.93	1.86
3.71	80	.01	6.96	4.88	4.04	3.56	3.26	3.04
2.53		.05	3.96	3.11	2.72	2.49	2.33	2.22
2.05		.10	2.77	2.37	2.15	2.02	1.92	1.85
3.67	85	.01	6.94	4.86	4.02	3.55	3.24	3.02
2.51		.05	3.95	3.10	2.71	2.48	2.32	2.21
2.04		.10	2.77	2.37	2.15	2.01	1.92	1.85
3.63	90	.01	6.93	4.85	4.01	3.54	3.23	3.01
2.49		.05	3.95	3.10	2.71	2.47	2.32	2.20
2.03		.10	2.76	2.36	2.15	2.01	1.91	1.84
3.59	95	.01	6.91	4.84	4.00	3.52	3.22	3.00
2.48		.05	3.94	3.09	2.70	2.47	2.31	2.20
2.01		.10	2.76	2.36	2.14	2.01	1.91	1.84
3.56	100	.01	6.90	4.82	3.98	3.51	3.21	2.99
2.46		.05	3.94	3.09	2.70	2.46	2.31	2.19
2.01		.10	2.76	2.36	2.14	2.00	1.91	1.83
3.53	200	.01	6.76	4.71	3.88	3.41	3.11	2.89
2.45		.05	3.89	3.04	2.65	2.42	2.26	2.14
2.00		.10	2.73	2.33	2.11	1.97	1.88	1.80
3.50	1000	.01	6.66	4.63	3.80	3.34	3.04	2.82
2.43		.05	3.85	3.00	2.61	2.38	2.22	2.11
1.99		.10	2.71	2.31	2.09	1.95	1.85	1.78
3.47	∞	.01	6.64	4.61	3.78	3.32	3.02	2.80
2.42		.05	3.84	3.00	2.61	2.37	2.22	2.10
1.98		.10	2.71	2.30	2.08	1.95	1.85	1.78

TABLE B.4 THE CHI-SQUARE DISTRIBUTIONS



3.29
2.34
1.93
3.23
2.31
1.91
3.19
2.29
1.90
3.15
2.27
1.89
3.12
2.26
1.88

df	SIGNIFICANCE (p) LEVEL		
	.10	.05	.01
1	2.706	3.841	6.635
2	4.605	5.992	9.211
3	6.252	7.815	11.345
4	7.780	9.488	13.277
5	9.237	11.071	15.087
6	10.645	12.592	16.812
7	12.017	14.067	18.475
8	13.362	15.507	20.090
9	14.684	16.919	21.666
10	15.987	18.307	23.209

TABLE B.5 THE q STATISTIC (TUKEY HSD TEST)

WITHIN-GROUPS df	SIGNIFICANCE (p) LEVEL	$k = \text{NUMBER OF TREATMENTS (LEVELS)}$										
		2	3	4	5	6	7	8	9	10	11	12
5	.05	3.64	4.60	5.22	5.67	6.03	6.33	6.58	6.80	6.99	7.17	7.32
	.01	5.70	6.98	7.80	8.42	8.91	9.32	9.67	9.97	10.24	10.48	10.70
6	.05	3.46	4.34	4.90	5.30	5.63	5.90	6.12	6.32	6.49	6.65	6.79
	.01	5.24	6.33	7.03	7.56	7.97	8.32	8.61	8.87	9.10	9.30	9.48
7	.05	3.34	4.16	4.68	5.06	5.36	5.61	5.82	6.00	6.16	6.30	6.43
	.01	4.95	5.92	6.54	7.01	7.37	7.68	7.94	8.17	8.37	8.55	8.71
8	.05	3.26	4.04	4.53	4.89	5.17	5.40	5.60	5.77	5.92	6.05	6.18
	.01	4.75	5.64	6.20	6.62	6.96	7.24	7.47	7.68	7.86	8.03	8.18
9	.05	3.20	3.95	4.41	4.76	5.02	5.24	5.43	5.59	5.74	5.87	5.98
	.01	4.60	5.43	5.96	6.35	6.66	6.91	7.13	7.33	7.49	7.65	7.78
10	.05	3.15	3.88	4.33	4.65	4.91	5.12	5.30	5.46	5.60	5.72	5.83
	.01	4.48	5.27	5.77	6.14	6.43	6.67	6.87	7.05	7.21	7.36	7.49
11	.05	3.11	3.82	4.26	4.57	4.82	5.03	5.20	5.35	5.49	5.61	5.71
	.01	4.39	5.15	5.62	5.97	6.25	6.48	6.67	6.84	6.99	7.13	7.25
12	.05	3.08	3.77	4.20	4.51	4.75	4.95	5.12	5.27	5.39	5.51	5.61
	.01	4.32	5.05	5.50	5.84	6.10	6.32	6.51	6.67	6.81	6.94	7.06
13	.05	3.06	3.73	4.15	4.45	4.69	4.88	5.05	5.19	5.32	5.43	5.53
	.01	4.26	4.96	5.40	5.73	5.98	6.19	6.37	6.53	6.67	6.79	6.90
14	.05	3.03	3.70	4.11	4.41	4.64	4.83	4.99	5.13	5.25	5.36	5.46
	.01	4.21	4.89	5.32	5.63	5.88	6.08	6.26	6.41	6.54	6.66	6.77
15	.05	3.01	3.67	4.08	4.37	4.59	4.78	4.94	5.08	5.20	5.31	5.40
	.01	4.17	4.84	5.25	5.56	5.80	5.99	6.16	6.31	6.44	6.55	6.66
16	.05	3.00	3.65	4.05	4.33	4.56	4.74	4.90	5.03	5.15	5.26	5.35
	.01	4.13	4.79	5.19	5.49	5.72	5.92	6.08	6.22	6.35	6.46	6.56
17	.05	2.98	3.63	4.02	4.30	4.52	4.70	4.86	4.99	5.11	5.21	5.31
	.01	4.10	4.74	5.14	5.43	5.66	5.85	6.01	6.15	6.27	6.38	6.48
18	.05	2.97	3.61	4.00	4.28	4.49	4.67	4.82	4.96	5.07	5.17	5.27
	.01	4.07	4.70	5.09	5.38	5.60	5.79	5.94	6.08	6.20	6.31	6.41
19	.05	2.96	3.59	3.98	4.25	4.47	4.65	4.79	4.92	5.04	5.14	5.23
	.01	4.05	4.67	5.05	5.33	5.55	5.73	5.89	6.02	6.14	6.25	6.34
20	.05	2.95	3.58	3.96	4.23	4.45	4.62	4.77	4.90	5.01	5.11	5.20
	.01	4.02	4.64	5.02	5.29	5.51	5.69	5.84	5.97	6.09	6.19	6.28
24	.05	2.92	3.53	3.90	4.17	4.37	4.54	4.68	4.81	4.92	5.01	5.10
	.01	3.96	4.55	4.91	5.17	5.37	5.54	5.69	5.81	5.92	6.02	6.11
30	.05	2.89	3.49	3.85	4.10	4.30	4.46	4.60	4.72	4.82	4.92	5.00
	.01	3.89	4.45	4.80	5.05	5.24	5.40	5.54	5.65	5.76	5.85	5.93

WITHIN-GROUPS
df

40

60

120

∞

TABLE I

To be sign

df

WITHIN-GROUPS df	SIGNIFICANCE (p) LEVEL	k = NUMBER OF TREATMENTS (LEVELS)										
		2	3	4	5	6	7	8	9	10	11	12
12	.05	2.86	3.44	3.79	4.04	4.23	4.39	4.52	4.63	4.73	4.82	4.90
7.32	.01	3.82	4.37	4.70	4.93	5.11	5.26	5.39	5.50	5.60	5.69	5.76
10.70												
60	.05	2.83	3.40	3.74	3.98	4.16	4.31	4.44	4.55	4.65	4.73	4.81
6.79	.01	3.76	4.28	4.59	4.82	4.99	5.13	5.25	5.36	5.45	5.53	5.60
9.48												
120	.05	2.80	3.36	3.68	3.92	4.10	4.24	4.36	4.47	4.56	4.64	4.71
6.43	.01	3.70	4.20	4.50	4.71	4.87	5.01	5.12	5.21	5.30	5.37	5.44
8.71												
∞	.05	2.77	3.31	3.63	3.86	4.03	4.17	4.28	4.39	4.47	4.55	4.62
6.18	.01	3.64	4.12	4.40	4.60	4.76	4.88	4.99	5.08	5.16	5.23	5.29
8.18												

TABLE B.6 THE PEARSON CORRELATION COEFFICIENT

To be significant, the sample correlation coefficient, *r*, must be greater than or equal to the critical value in the table.

df = $\frac{n}{N} - 2$	LEVEL OF SIGNIFICANCE FOR ONE-TAILED TEST p level		LEVEL OF SIGNIFICANCE FOR TWO-TAILED TEST p level	
	.05	.01	.05	.01
1	.988	.9995	.997	.9999
2	.900	.980	.950	.990
3	.805	.934	.878	.959
4	.729	.882	.811	.917
5	.669	.833	.754	.874
6	.622	.789	.707	.834
7	.582	.750	.666	.798
8	.549	.716	.632	.765
9	.521	.685	.602	.735
10	.497	.658	.576	.708
11	.476	.634	.553	.684
12	.458	.612	.532	.661
13	.441	.592	.514	.641
14	.426	.574	.497	.623
15	.412	.558	.482	.606
16	.400	.542	.468	.590
17	.389	.528	.456	.575
18	.378	.516	.444	.561
19	.369	.503	.433	.549
20	.360	.492	.423	.537
21	.352	.482	.413	.526
22	.344	.472	.404	.515
23	.337	.462	.396	.505
24	.330	.453	.388	.496
25	.323	.445	.381	.487
26	.317	.437	.374	.479
27	.311	.430	.367	.471
28	.306	.423	.361	.463
29	.301	.416	.355	.456
30	.296	.409	.349	.449
35	.275	.381	.325	.418
40	.257	.358	.304	.393
45	.243	.338	.288	.372
50	.231	.322	.273	.354
60	.211	.295	.250	.325

TABLE B.6 continued

df = N - 2	LEVEL OF SIGNIFICANCE FOR ONE-TAILED TEST p level		df = N - 2	LEVEL OF SIGNIFICANCE FOR TWO-TAILED TEST p level	
	.05	.01		.05	.01
70	.195	.274	70	.232	.302
80	.183	.256	80	.217	.283
90	.173	.242	90	.205	.267
100	.164	.230	100	.195	.254

TABLE B.7 THE SPEARMAN CORRELATION COEFFICIENT

To be significant, the sample correlation coefficient, r_s , must be greater than or equal to the critical value in the table.

N	LEVEL OF SIGNIFICANCE FOR ONE-TAILED TEST p level		N	LEVEL OF SIGNIFICANCE FOR TWO-TAILED TEST p level	
	.05	.01		.05	.01
4	1.000	—	4	—	—
5	0.900	1.000	5	1.000	—
6	0.829	0.943	6	0.886	1.000
7	0.714	0.893	7	0.786	0.929
8	0.643	0.833	8	0.738	0.881
9	0.600	0.783	9	0.700	0.833
10	0.564	0.745	10	0.648	0.794
11	0.536	0.709	11	0.618	0.755
12	0.503	0.671	12	0.587	0.727
13	0.484	0.648	13	0.560	0.703
14	0.464	0.622	14	0.538	0.675
15	0.443	0.604	15	0.521	0.654
16	0.429	0.582	16	0.503	0.635
17	0.414	0.566	17	0.485	0.615
18	0.401	0.550	18	0.472	0.600
19	0.391	0.535	19	0.460	0.584
20	0.380	0.520	20	0.447	0.570
21	0.370	0.508	21	0.435	0.556
22	0.361	0.496	22	0.425	0.544
23	0.353	0.486	23	0.415	0.532
24	0.344	0.476	24	0.406	0.521
25	0.337	0.466	25	0.398	0.511
26	0.331	0.457	26	0.390	0.501
27	0.324	0.448	27	0.382	0.491
28	0.317	0.440	28	0.375	0.483
29	0.312	0.433	29	0.368	0.475
30	0.306	0.425	30	0.362	0.467
35	0.283	0.394	35	0.335	0.433
40	0.264	0.368	40	0.313	0.405
45	0.248	0.347	45	0.294	0.382
50	0.235	0.329	50	0.279	0.363
60	0.214	0.300	60	0.255	0.331
70	0.190	0.278	70	0.235	0.307
80	0.185	0.260	80	0.220	0.287
90	0.174	0.245	90	0.207	0.271
100	0.165	0.233	100	0.197	0.257

TABLE B.8A MANN-WHITNEY U FOR A p LEVEL OF .05 FOR A ONE-TAILED TEST

To be statistically significant, the smaller U must be equal to or less than the value in the table.