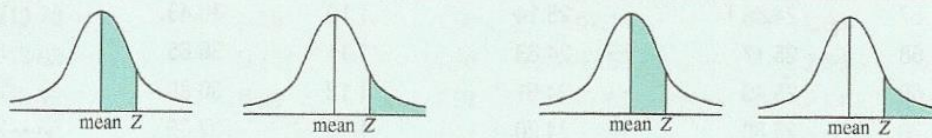


Appendix A from Textbook: Tables

Z Table (4 pages)

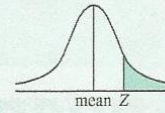
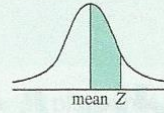
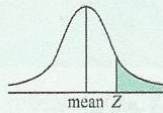
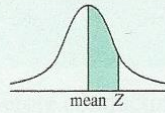
Table A-1 Normal Curve Areas: Percentage of the Normal Curve Between the Mean and the Z Scores Shown and Percentage of Scores in the Tail for the Z Scores Shown



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

(continued)

Table A-1 (cont.)



Z	% Mean to Z	% in Tail	Z	% Mean to Z	% in Tail
.60	22.57	27.43	1.03	34.85	15.15
.61	22.91	27.09	1.04	35.08	14.92
.62	23.24	26.76	1.05	35.31	14.69
.63	23.57	26.43	1.06	35.54	14.46
.64	23.89	26.11	1.07	35.77	14.23
.65	24.22	25.78	1.08	35.99	14.01
.66	24.54	25.46	1.09	36.21	13.79
.67	24.86	25.14	1.10	36.43	13.57
.68	25.17	24.83	1.11	36.65	13.35
.69	25.49	24.51	1.12	36.86	13.14
.70	25.80	24.20	1.13	37.08	12.92
.71	26.11	23.89	1.14	37.29	12.71
.72	26.42	23.58	1.15	37.49	12.51
.73	26.73	23.27	1.16	37.70	12.30
.74	27.04	22.96	1.17	37.90	12.10
.75	27.34	22.66	1.18	38.10	11.90
.76	27.64	22.36	1.19	38.30	11.70
.77	27.94	22.06	1.20	38.49	11.51
.78	28.23	21.77	1.21	38.69	11.31
.79	28.52	21.48	1.22	38.88	11.12
.80	28.81	21.19	1.23	39.07	10.93
.81	29.10	20.90	1.24	39.25	10.75
.82	29.39	20.61	1.25	39.44	10.56
.83	29.67	20.33	1.26	39.62	10.38
.84	29.95	20.05	1.27	39.80	10.20
.85	30.23	19.77	1.28	39.97	10.03
.86	30.51	19.49	1.29	40.15	9.85
.87	30.78	19.22	1.30	40.32	9.68
.88	31.06	18.94	1.31	40.49	9.51
.89	31.33	18.67	1.32	40.66	9.34
.90	31.59	18.41	1.33	40.82	9.18
.91	31.86	18.14	1.34	40.99	9.01
.92	32.12	17.88	1.35	41.15	8.85
.93	32.38	17.62	1.36	41.31	8.69
.94	32.64	17.36	1.37	41.47	8.53
.95	32.89	17.11	1.38	41.62	8.38
.96	33.15	16.85	1.39	41.77	8.23
.97	33.40	16.60	1.40	41.92	8.08
.98	33.65	16.35	1.41	42.07	7.93
.99	33.89	16.11	1.42	42.22	7.78
1.00	34.13	15.87	1.43	42.36	7.64
1.01	34.38	15.62	1.44	42.51	7.49
1.02	34.61	15.39	1.45	42.65	7.35

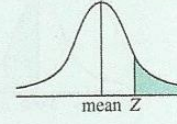
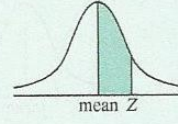
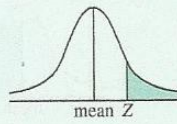
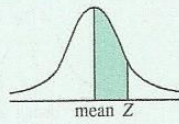
Table A-1 (cont.)



Z	% Mean to Z	% in Tail	Z	% Mean to Z	% in Tail
1.46	42.79	7.21	1.88	46.99	3.01
1.47	42.92	7.08	1.89	47.06	2.94
1.48	43.06	6.94	1.90	47.13	2.87
1.49	43.19	6.81	1.91	47.19	2.81
1.50	43.32	6.68	1.92	47.26	2.74
1.51	43.45	6.55	1.93	47.32	2.68
1.52	43.57	6.43	1.94	47.38	2.62
1.53	43.70	6.30	1.95	47.44	2.56
1.54	43.82	6.18	1.96	47.50	2.50
1.55	43.94	6.06	1.97	47.56	2.44
1.56	44.06	5.94	1.98	47.61	2.39
1.57	44.18	5.82	1.99	47.67	2.33
1.58	44.29	5.71	2.00	47.72	2.28
1.59	44.41	5.59	2.01	47.78	2.22
1.60	44.52	5.48	2.02	47.83	2.17
1.61	44.63	5.37	2.03	47.88	2.12
1.62	44.74	5.26	2.04	47.93	2.07
1.63	44.84	5.16	2.05	47.98	2.02
1.64	44.95	5.05	2.06	48.03	1.97
1.65	45.05	4.95	2.07	48.08	1.92
1.66	45.15	4.85	2.08	48.12	1.88
1.67	45.25	4.75	2.09	48.17	1.83
1.68	45.35	4.65	2.10	48.21	1.79
1.69	45.45	4.55	2.11	48.26	1.74
1.70	45.54	4.46	2.12	48.30	1.70
1.71	45.64	4.36	2.13	48.34	1.66
1.72	45.73	4.27	2.14	48.38	1.62
1.73	45.82	4.18	2.15	48.42	1.58
1.74	45.91	4.09	2.16	48.46	1.54
1.75	45.99	4.01	2.17	48.50	1.50
1.76	46.08	3.92	2.18	48.54	1.46
1.77	46.16	3.84	2.19	48.57	1.43
1.78	46.25	3.75	2.20	48.61	1.39
1.79	46.33	3.67	2.21	48.64	1.36
1.80	46.41	3.59	2.22	48.68	1.32
1.81	46.49	3.51	2.23	48.71	1.29
1.82	46.56	3.44	2.24	48.75	1.25
1.83	46.64	3.36	2.25	48.78	1.22
1.84	46.71	3.29	2.26	48.81	1.19
1.85	46.78	3.22	2.27	48.84	1.16
1.86	46.86	3.14	2.28	48.87	1.13
1.87	46.93	3.07	2.29	48.90	1.10

(continued)

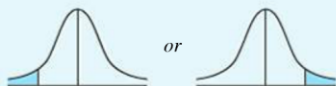
Table A-1 (cont.)



Z	% Mean to Z	% in Tail	Z	% Mean to Z	% in Tail
2.30	48.93	1.07	2.67	49.62	.38
2.31	48.96	1.04	2.68	49.63	.37
2.32	48.98	1.02	2.69	49.64	.36
2.33	49.01	.99	2.70	49.65	.35
2.34	49.04	.96	2.71	49.66	.34
2.35	49.06	.94	2.72	49.67	.33
2.36	49.09	.91	2.73	49.68	.32
2.37	49.11	.89	2.74	49.69	.31
2.38	49.13	.87	2.75	49.70	.30
2.39	49.16	.84	2.76	49.71	.29
2.40	49.18	.82	2.77	49.72	.28
2.41	49.20	.80	2.78	49.73	.27
2.42	49.22	.78	2.79	49.74	.26
2.43	49.25	.75	2.80	49.74	.26
2.44	49.27	.73	2.81	49.75	.25
2.45	49.29	.71	2.82	49.76	.24
2.46	49.31	.69	2.83	49.77	.23
2.47	49.32	.68	2.84	49.77	.23
2.48	49.34	.66	2.85	49.78	.22
2.49	49.36	.64	2.86	49.79	.21
2.50	49.38	.62	2.87	49.79	.21
2.51	49.40	.60	2.88	49.80	.20
2.52	49.41	.59	2.89	49.81	.19
2.53	49.43	.57	2.90	49.81	.19
2.54	49.45	.55	2.91	49.82	.18
2.55	49.46	.54	2.92	49.82	.18
2.56	49.48	.52	2.93	49.83	.17
2.57	49.49	.51	2.94	49.84	.16
2.58	49.51	.49	2.95	49.84	.16
2.59	49.52	.48	2.96	49.85	.15
2.60	49.53	.47	2.97	49.85	.15
2.61	49.55	.45	2.98	49.86	.14
2.62	49.56	.44	2.99	49.86	.14
2.63	49.57	.43	3.00	49.87	.13
2.64	49.59	.41	3.50	49.98	.02
2.65	49.60	.40	4.00	50.00	.00
2.66	49.61	.39	4.50	50.00	.00

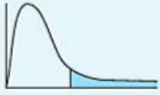
t Table (1 page)

Table A-2 Cutoff Scores for the *t* Distribution

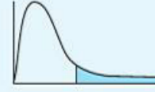
One-Tailed Tests				Two-Tailed Tests		
						
df	.10	.05	.01	.10	.05	.01
1	3.078	6.314	31.821	6.314	12.706	63.657
2	1.886	2.920	6.965	2.920	4.303	9.925
3	1.638	2.353	4.541	2.353	3.182	5.841
4	1.533	2.132	3.747	2.132	2.776	4.604
5	1.476	2.015	3.365	2.015	2.571	4.032
6	1.440	1.943	3.143	1.943	2.447	3.708
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
45	1.301	1.680	2.412	1.680	2.014	2.690
50	1.299	1.676	2.404	1.676	2.009	2.678
55	1.297	1.673	2.396	1.673	2.004	2.668
60	1.296	1.671	2.390	1.671	2.001	2.661
65	1.295	1.669	2.385	1.669	1.997	2.654
70	1.294	1.667	2.381	1.667	1.995	2.648
75	1.293	1.666	2.377	1.666	1.992	2.643
80	1.292	1.664	2.374	1.664	1.990	2.639
85	1.292	1.663	2.371	1.663	1.989	2.635
90	1.291	1.662	2.369	1.662	1.987	2.632
95	1.291	1.661	2.366	1.661	1.986	2.629
100	1.290	1.660	2.364	1.660	1.984	2.626
∞	1.282	1.645	2.327	1.645	1.960	2.576

F Table (3 pages)

Table A-3 Cutoff Scores for the *F* Distribution



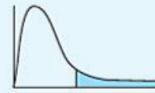
Denom- inator <i>df</i>	Signi- ficance Level	Numerator Degrees of Freedom					
		1	2	3	4	5	6
1	.01	4,052	5,000	5,404	5,625	5,764	5,859
	.05	162	200	216	225	230	234
	.10	39.9	49.5	53.6	55.8	57.2	58.2
2	.01	98.50	99.00	99.17	99.25	99.30	99.33
	.05	18.51	19.00	19.17	19.25	19.30	19.33
	.10	8.53	9.00	9.16	9.24	9.29	9.33
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

Table A-3 Critical Scores for the *F* Distribution

Denom- inator <i>df</i>	Signi- ficance Level	Numerator Degrees of Freedom					
		1	2	3	4	5	6
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
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

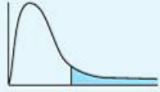
(continued)

Table A-3 (Cont'd) Scores for the *F* Distribution



Denom- inator <i>df</i>	Signi- ficance Level	Numerator Degrees of Freedom					
		1	2	3	4	5	6
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
65	.01	7.04	4.95	4.10	3.62	3.31	3.09
	.05	3.99	3.14	2.75	2.51	2.36	2.24
	.10	2.79	2.39	2.17	2.03	1.94	1.87
70	.01	7.01	4.92	4.08	3.60	3.29	3.07
	.05	3.98	3.13	2.74	2.50	2.35	2.23
	.10	2.78	2.38	2.16	2.03	1.93	1.86
75	.01	6.99	4.90	4.06	3.58	3.27	3.05
	.05	3.97	3.12	2.73	2.49	2.34	2.22
	.10	2.77	2.38	2.16	2.02	1.93	1.86
80	.01	6.96	4.88	4.04	3.56	3.26	3.04
	.05	3.96	3.11	2.72	2.49	2.33	2.22
	.10	2.77	2.37	2.15	2.02	1.92	1.85
85	.01	6.94	4.86	4.02	3.55	3.24	3.02
	.05	3.95	3.10	2.71	2.48	2.32	2.21
	.10	2.77	2.37	2.15	2.01	1.92	1.85
90	.01	6.93	4.85	4.01	3.54	3.23	3.01
	.05	3.95	3.10	2.71	2.47	2.32	2.20
	.10	2.76	2.36	2.15	2.01	1.91	1.84

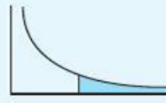
Table A-3 Critical Scores for the F Distribution



Denom- inator <i>df</i>	Signi- ficance Level	Numerator Degrees of Freedom					
		1	2	3	4	5	6
95	.01	6.91	4.84	4.00	3.52	3.22	3.00
	.05	3.94	3.09	2.70	2.47	2.31	2.20
	.10	2.76	2.36	2.14	2.01	1.91	1.84
100	.01	6.90	4.82	3.98	3.51	3.21	2.99
	.05	3.94	3.09	2.70	2.46	2.31	2.19
	.10	2.76	2.36	2.14	2.00	1.91	1.83
∞	.01	6.64	4.61	3.78	3.32	3.02	2.80
	.05	3.84	3.00	2.61	2.37	2.22	2.10
	.10	2.71	2.30	2.08	1.95	1.85	1.78

Chi-Square Table

Table A-4 Cutoff Scores for the Chi-Square Distribution



<i>df</i>	Significance 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

Page Numbers for Power Tables

Table A-5 Index to Power Tables and Tables Giving Number of Participants Needed for 80% Power

Hypothesis-Testing Procedure	Chapter	Power Table	Number of Participants Table
Correlation coefficient (<i>r</i>)	3	p. 117	p. 118
<i>t</i> test for dependent means	8	p. 260	p. 261
<i>t</i> test for independent means	9	p. 295	p. 296
One-way analysis of variance	10	p. 337	p. 337
Chi-square test for independence	11	p. 385	p. 386