



GUJARAT TECHNOLOGICAL UNIVERSITY

STATISTICS TABLES

for

- MBA
- MBA (Part Time)
- MBA (Integrated)
- MBA (International Business)



TABLE 1

Binomial Probability
Distribution

<i>n</i> 1									
<i>x</i>	Probability								
	.1	.2	.3	.4	.5	.6	.7	.8	.9
0	.900	.800	.700	.600	.500	.400	.300	.200	.100
1	.100	.200	.300	.400	.500	.600	.700	.800	.900

<i>n</i> 2									
<i>x</i>	Probability								
	.1	.2	.3	.4	.5	.6	.7	.8	.9
0	.810	.640	.490	.360	.250	.160	.090	.040	.010
1	.180	.320	.420	.480	.500	.480	.420	.320	.180
2	.010	.040	.090	.160	.250	.360	.490	.640	.810

<i>n</i> 3									
<i>x</i>	Probability								
	.1	.2	.3	.4	.5	.6	.7	.8	.9
0	.729	.512	.343	.216	.125	.064	.027	.008	.001
1	.243	.384	.441	.432	.375	.288	.189	.096	.027
2	.027	.096	.189	.288	.375	.432	.441	.384	.243
3	.001	.008	.027	.064	.125	.216	.343	.512	.729

<i>n</i> 4									
<i>x</i>	Probability								
	.1	.2	.3	.4	.5	.6	.7	.8	.9
0	.656	.410	.240	.130	.063	.026	.008	.002	.000
1	.292	.410	.412	.346	.250	.154	.076	.026	.004
2	.049	.154	.265	.346	.375	.346	.265	.154	.049
3	.004	.026	.076	.154	.250	.346	.412	.410	.292
4	.000	.002	.008	.026	.063	.130	.240	.410	.656

<i>n</i> 5									
<i>x</i>	Probability								
	.1	.2	.3	.4	.5	.6	.7	.8	.9
0	.590	.328	.168	.078	.031	.010	.002	.000	.000
1	.328	.410	.360	.259	.156	.077	.028	.006	.000
2	.073	.205	.309	.346	.313	.230	.132	.051	.008
3	.008	.051	.132	.230	.313	.346	.309	.205	.073
4	.000	.006	.028	.077	.156	.259	.360	.410	.328
5	.000	.000	.002	.010	.031	.078	.168	.328	.590

<i>n</i> 6									
<i>x</i>	Probability								
	.1	.2	.3	.4	.5	.6	.7	.8	.9
0	.531	.262	.118	.047	.016	.004	.001	.000	.000
1	.354	.393	.303	.187	.094	.037	.010	.002	.000
2	.098	.246	.324	.311	.234	.138	.060	.015	.001
3	.015	.082	.185	.276	.313	.276	.185	.082	.015
4	.001	.015	.060	.138	.234	.311	.324	.246	.098
5	.000	.002	.010	.037	.094	.187	.303	.393	.354
6	.000	.000	.001	.004	.016	.047	.118	.262	.531

(Continued)



TABLE 1

Binomial Probability
Distribution (Continued)

<i>n</i> 7									
<i>x</i>	Probability								
	.1	.2	.3	.4	.5	.6	.7	.8	.9
0	.478	.210	.082	.028	.008	.002	.000	.000	.000
1	.372	.367	.247	.131	.055	.017	.004	.000	.000
2	.124	.275	.318	.261	.164	.077	.025	.004	.000
3	.023	.115	.227	.290	.273	.194	.097	.029	.003
4	.003	.029	.097	.194	.273	.290	.227	.115	.023
5	.000	.004	.025	.077	.164	.261	.318	.275	.124
6	.000	.000	.004	.017	.055	.131	.247	.367	.372
7	.000	.000	.000	.002	.008	.028	.082	.210	.478

<i>n</i> 8									
<i>x</i>	Probability								
	.1	.2	.3	.4	.5	.6	.7	.8	.9
0	.430	.168	.058	.017	.004	.001	.000	.000	.000
1	.383	.336	.198	.090	.031	.008	.001	.000	.000
2	.149	.294	.296	.209	.109	.041	.010	.001	.000
3	.033	.147	.254	.279	.219	.124	.047	.009	.000
4	.005	.046	.136	.232	.273	.232	.136	.046	.005
5	.000	.009	.047	.124	.219	.279	.254	.147	.033
6	.000	.001	.010	.041	.109	.209	.296	.294	.149
7	.000	.000	.001	.008	.031	.090	.198	.336	.383
8	.000	.000	.000	.001	.004	.017	.058	.168	.430

<i>n</i> 9									
<i>x</i>	Probability								
	.1	.2	.3	.4	.5	.6	.7	.8	.9
0	.387	.134	.040	.010	.002	.000	.000	.000	.000
1	.387	.302	.156	.060	.018	.004	.000	.000	.000
2	.172	.302	.267	.161	.070	.021	.004	.000	.000
3	.045	.176	.267	.251	.164	.074	.021	.003	.000
4	.007	.066	.172	.251	.246	.167	.074	.017	.001
5	.001	.017	.074	.167	.246	.251	.172	.066	.007
6	.000	.003	.021	.074	.164	.251	.267	.176	.045
7	.000	.000	.004	.021	.070	.161	.267	.302	.172
8	.000	.000	.000	.004	.018	.060	.156	.302	.387
9	.000	.000	.000	.000	.002	.010	.040	.134	.387

<i>n</i> 10									
<i>x</i>	Probability								
	.1	.2	.3	.4	.5	.6	.7	.8	.9
0	.349	.107	.028	.006	.001	.000	.000	.000	.000
1	.387	.268	.121	.040	.010	.002	.000	.000	.000
2	.194	.302	.233	.121	.044	.011	.001	.000	.000
3	.057	.201	.267	.215	.117	.042	.009	.001	.000
4	.011	.088	.200	.251	.205	.111	.037	.006	.000
5	.001	.026	.103	.201	.246	.201	.103	.026	.001
6	.000	.006	.037	.111	.205	.251	.200	.088	.011
7	.000	.001	.009	.042	.117	.215	.267	.201	.057
8	.000	.000	.001	.011	.044	.121	.233	.302	.194
9	.000	.000	.000	.002	.010	.040	.121	.268	.387
10	.000	.000	.000	.000	.001	.006	.028	.107	.349



TABLE 1

Binomial Probability
Distribution (Continued)

<i>n</i> 11									
<i>x</i>	Probability								
	.1	.2	.3	.4	.5	.6	.7	.8	.9
0	.314	.086	.020	.004	.000	.000	.000	.000	.000
1	.384	.236	.093	.027	.005	.001	.000	.000	.000
2	.213	.295	.200	.089	.027	.005	.001	.000	.000
3	.071	.221	.257	.177	.081	.023	.004	.000	.000
4	.016	.111	.220	.236	.161	.070	.017	.002	.000
5	.002	.039	.132	.221	.226	.147	.057	.010	.000
6	.000	.010	.057	.147	.226	.221	.132	.039	.002
7	.000	.002	.017	.070	.161	.236	.220	.111	.016
8	.000	.000	.004	.023	.081	.177	.257	.221	.071
9	.000	.000	.001	.005	.027	.089	.200	.295	.213
10	.000	.000	.000	.001	.005	.027	.093	.236	.384
11	.000	.000	.000	.000	.000	.004	.020	.086	.314

<i>n</i> 12									
<i>x</i>	Probability								
	.1	.2	.3	.4	.5	.6	.7	.8	.9
0	.282	.069	.014	.002	.000	.000	.000	.000	.000
1	.377	.206	.071	.017	.003	.000	.000	.000	.000
2	.230	.283	.168	.064	.016	.002	.000	.000	.000
3	.085	.236	.240	.142	.054	.012	.001	.000	.000
4	.021	.133	.231	.213	.121	.042	.008	.001	.000
5	.004	.053	.158	.227	.193	.101	.029	.003	.000
6	.000	.016	.079	.177	.226	.177	.079	.016	.000
7	.000	.003	.029	.101	.193	.227	.158	.053	.004
8	.000	.001	.008	.042	.121	.213	.231	.133	.021
9	.000	.000	.001	.012	.054	.142	.240	.236	.085
10	.000	.000	.000	.002	.016	.064	.168	.283	.230
11	.000	.000	.000	.000	.003	.017	.071	.206	.377
12	.000	.000	.000	.000	.000	.002	.014	.069	.282

<i>n</i> 13									
<i>x</i>	Probability								
	.1	.2	.3	.4	.5	.6	.7	.8	.9
0	.254	.055	.010	.001	.000	.000	.000	.000	.000
1	.367	.179	.054	.011	.002	.000	.000	.000	.000
2	.245	.268	.139	.045	.010	.001	.000	.000	.000
3	.100	.246	.218	.111	.035	.006	.001	.000	.000
4	.028	.154	.234	.184	.087	.024	.003	.000	.000
5	.006	.069	.180	.221	.157	.066	.014	.001	.000
6	.001	.023	.103	.197	.209	.131	.044	.006	.000
7	.000	.006	.044	.131	.209	.197	.103	.023	.001
8	.000	.001	.014	.066	.157	.221	.180	.069	.006
9	.000	.000	.003	.024	.087	.184	.234	.154	.028
10	.000	.000	.001	.006	.035	.111	.218	.246	.100
11	.000	.000	.000	.001	.010	.045	.139	.268	.245
12	.000	.000	.000	.000	.002	.011	.054	.179	.367
13	.000	.000	.000	.000	.000	.001	.010	.055	.254

(Continued)



n 14

TABLE 1

Binomial Probability
Distribution (Continued)

<i>x</i>	Probability								
	.1	.2	.3	.4	.5	.6	.7	.8	.9
0	.229	.044	.007	.001	.000	.000	.000	.000	.000
1	.356	.154	.041	.007	.001	.000	.000	.000	.000
2	.257	.250	.113	.032	.006	.001	.000	.000	.000
3	.114	.250	.194	.085	.022	.003	.000	.000	.000
4	.035	.172	.229	.155	.061	.014	.001	.000	.000
5	.008	.086	.196	.207	.122	.041	.007	.000	.000
6	.001	.032	.126	.207	.183	.092	.023	.002	.000
7	.000	.009	.062	.157	.209	.157	.062	.009	.000
8	.000	.002	.023	.092	.183	.207	.126	.032	.001
9	.000	.000	.007	.041	.122	.207	.196	.086	.008
10	.000	.000	.001	.014	.061	.155	.229	.172	.035
11	.000	.000	.000	.003	.022	.085	.194	.250	.114
12	.000	.000	.000	.001	.006	.032	.113	.250	.257
13	.000	.000	.000	.000	.001	.007	.041	.154	.356
14	.000	.000	.000	.000	.000	.001	.007	.044	.229

n 15

<i>x</i>	Probability								
	.1	.2	.3	.4	.5	.6	.7	.8	.9
0	.206	.035	.005	.000	.000	.000	.000	.000	.000
1	.343	.132	.031	.005	.000	.000	.000	.000	.000
2	.267	.231	.092	.022	.003	.000	.000	.000	.000
3	.129	.250	.170	.063	.014	.002	.000	.000	.000
4	.043	.188	.219	.127	.042	.007	.001	.000	.000
5	.010	.103	.206	.186	.092	.024	.003	.000	.000
6	.002	.043	.147	.207	.153	.061	.012	.001	.000
7	.000	.014	.081	.177	.196	.118	.035	.003	.000
8	.000	.003	.035	.118	.196	.177	.081	.014	.000
9	.000	.001	.012	.061	.153	.207	.147	.043	.002
10	.000	.000	.003	.024	.092	.186	.206	.103	.010
11	.000	.000	.001	.007	.042	.127	.219	.188	.043
12	.000	.000	.000	.002	.014	.063	.170	.250	.129
13	.000	.000	.000	.000	.003	.022	.092	.231	.267
14	.000	.000	.000	.000	.000	.005	.031	.132	.343
15	.000	.000	.000	.000	.000	.000	.005	.035	.206



TABLE I

Binomial Probability
Distribution (Continued)

<i>n</i> 16									
<i>x</i>	Probability								
	.1	.2	.3	.4	.5	.6	.7	.8	.9
0	.185	.028	.003	.000	.000	.000	.000	.000	.000
1	.329	.113	.023	.003	.000	.000	.000	.000	.000
2	.275	.211	.073	.015	.002	.000	.000	.000	.000
3	.142	.246	.146	.047	.009	.001	.000	.000	.000
4	.051	.200	.204	.101	.028	.004	.000	.000	.000
5	.014	.120	.210	.162	.067	.014	.001	.000	.000
6	.003	.055	.165	.198	.122	.039	.006	.000	.000
7	.000	.020	.101	.189	.175	.084	.019	.001	.000
8	.000	.006	.049	.142	.196	.142	.049	.006	.000
9	.000	.001	.019	.084	.175	.189	.101	.020	.000
10	.000	.000	.006	.039	.122	.198	.165	.055	.003
11	.000	.000	.001	.014	.067	.162	.210	.120	.014
12	.000	.000	.000	.004	.028	.101	.204	.200	.051
13	.000	.000	.000	.001	.009	.047	.146	.246	.142
14	.000	.000	.000	.000	.002	.015	.073	.211	.275
15	.000	.000	.000	.000	.000	.003	.023	.113	.329
16	.000	.000	.000	.000	.000	.000	.003	.028	.185

<i>n</i> 17									
<i>x</i>	Probability								
	.1	.2	.3	.4	.5	.6	.7	.8	.9
0	.167	.023	.002	.000	.000	.000	.000	.000	.000
1	.315	.096	.017	.002	.000	.000	.000	.000	.000
2	.280	.191	.058	.010	.001	.000	.000	.000	.000
3	.156	.239	.125	.034	.005	.000	.000	.000	.000
4	.060	.209	.187	.080	.018	.002	.000	.000	.000
5	.017	.136	.208	.138	.047	.008	.001	.000	.000
6	.004	.068	.178	.184	.094	.024	.003	.000	.000
7	.001	.027	.120	.193	.148	.057	.009	.000	.000
8	.000	.008	.064	.161	.185	.107	.028	.002	.000
9	.000	.002	.028	.107	.185	.161	.064	.008	.000
10	.000	.000	.009	.057	.148	.193	.120	.027	.001
11	.000	.000	.003	.024	.094	.184	.178	.068	.004
12	.000	.000	.001	.008	.047	.138	.208	.136	.017
13	.000	.000	.000	.002	.018	.080	.187	.209	.060
14	.000	.000	.000	.000	.005	.034	.125	.239	.156
15	.000	.000	.000	.000	.001	.010	.058	.191	.280
16	.000	.000	.000	.000	.000	.002	.017	.096	.315
17	.000	.000	.000	.000	.000	.000	.002	.023	.167

(Continued)



n 18

TABLE 1

Binomial Probability Distribution (Continued)

<i>x</i>	Probability								
	.1	.2	.3	.4	.5	.6	.7	.8	.9
0	.150	.018	.002	.000	.000	.000	.000	.000	.000
1	.300	.081	.013	.001	.000	.000	.000	.000	.000
2	.284	.172	.046	.007	.001	.000	.000	.000	.000
3	.168	.230	.105	.025	.003	.000	.000	.000	.000
4	.070	.215	.168	.061	.012	.001	.000	.000	.000
5	.022	.151	.202	.115	.033	.004	.000	.000	.000
6	.005	.082	.187	.166	.071	.015	.001	.000	.000
7	.001	.035	.138	.189	.121	.037	.005	.000	.000
8	.000	.012	.081	.173	.167	.077	.015	.001	.000
9	.000	.003	.039	.128	.185	.128	.039	.003	.000
10	.000	.001	.015	.077	.167	.173	.081	.012	.000
11	.000	.000	.005	.037	.121	.189	.138	.035	.001
12	.000	.000	.001	.015	.071	.166	.187	.082	.005
13	.000	.000	.000	.004	.033	.115	.202	.151	.022
14	.000	.000	.000	.001	.012	.061	.168	.215	.070
15	.000	.000	.000	.000	.003	.025	.105	.230	.168
16	.000	.000	.000	.000	.001	.007	.046	.172	.284
17	.000	.000	.000	.000	.000	.001	.013	.081	.300
18	.000	.000	.000	.000	.000	.000	.002	.018	.150

n 19

<i>x</i>	Probability								
	.1	.2	.3	.4	.5	.6	.7	.8	.9
0	.135	.014	.001	.000	.000	.000	.000	.000	.000
1	.285	.068	.009	.001	.000	.000	.000	.000	.000
2	.285	.154	.036	.005	.000	.000	.000	.000	.000
3	.180	.218	.087	.017	.002	.000	.000	.000	.000
4	.080	.218	.149	.047	.007	.001	.000	.000	.000
5	.027	.164	.192	.093	.022	.002	.000	.000	.000
6	.007	.095	.192	.145	.052	.008	.001	.000	.000
7	.001	.044	.153	.180	.096	.024	.002	.000	.000
8	.000	.017	.098	.180	.144	.053	.008	.000	.000
9	.000	.005	.051	.146	.176	.098	.022	.001	.000
10	.000	.001	.022	.098	.176	.146	.051	.005	.000
11	.000	.000	.008	.053	.144	.180	.098	.017	.000
12	.000	.000	.002	.024	.096	.180	.153	.044	.001
13	.000	.000	.001	.008	.052	.145	.192	.095	.007
14	.000	.000	.000	.002	.022	.093	.192	.164	.027
15	.000	.000	.000	.001	.007	.047	.149	.218	.080
16	.000	.000	.000	.000	.002	.017	.087	.218	.180
17	.000	.000	.000	.000	.000	.005	.036	.154	.285
18	.000	.000	.000	.000	.000	.001	.009	.068	.285
19	.000	.000	.000	.000	.000	.000	.001	.014	.135



**Binomial Probability
Distribution (Continued)**

<i>n</i> 20									
<i>x</i>	Probability								
	.1	.2	.3	.4	.5	.6	.7	.8	.9
0	.122	.012	.001	.000	.000	.000	.000	.000	.000
1	.270	.058	.007	.000	.000	.000	.000	.000	.000
2	.285	.137	.028	.003	.000	.000	.000	.000	.000
3	.190	.205	.072	.012	.001	.000	.000	.000	.000
4	.090	.218	.130	.035	.005	.000	.000	.000	.000
5	.032	.175	.179	.075	.015	.001	.000	.000	.000
6	.009	.109	.192	.124	.037	.005	.000	.000	.000
7	.002	.055	.164	.166	.074	.015	.001	.000	.000
8	.000	.022	.114	.180	.120	.035	.004	.000	.000
9	.000	.007	.065	.160	.160	.071	.012	.000	.000
10	.000	.002	.031	.117	.176	.117	.031	.002	.000
11	.000	.000	.012	.071	.160	.160	.065	.007	.000
12	.000	.000	.004	.035	.120	.180	.114	.022	.000
13	.000	.000	.001	.015	.074	.166	.164	.055	.002
14	.000	.000	.000	.005	.037	.124	.192	.109	.009
15	.000	.000	.000	.001	.015	.075	.179	.175	.032
16	.000	.000	.000	.000	.005	.035	.130	.218	.090
17	.000	.000	.000	.000	.001	.012	.072	.205	.190
18	.000	.000	.000	.000	.000	.003	.028	.137	.285
19	.000	.000	.000	.000	.000	.000	.007	.058	.270
20	.000	.000	.000	.000	.000	.000	.001	.012	.122

<i>n</i> 25									
<i>x</i>	Probability								
	.1	.2	.3	.4	.5	.6	.7	.8	.9
0	.072	.004	.000	.000	.000	.000	.000	.000	.000
1	.199	.024	.001	.000	.000	.000	.000	.000	.000
2	.266	.071	.007	.000	.000	.000	.000	.000	.000
3	.226	.136	.024	.002	.000	.000	.000	.000	.000
4	.138	.187	.057	.007	.000	.000	.000	.000	.000
5	.065	.196	.103	.020	.002	.000	.000	.000	.000
6	.024	.163	.147	.044	.005	.000	.000	.000	.000
7	.007	.111	.171	.080	.014	.001	.000	.000	.000
8	.002	.062	.165	.120	.032	.003	.000	.000	.000
9	.000	.029	.134	.151	.061	.009	.000	.000	.000
10	.000	.012	.092	.161	.097	.021	.001	.000	.000
11	.000	.004	.054	.147	.133	.043	.004	.000	.000
12	.000	.001	.027	.114	.155	.076	.011	.000	.000
13	.000	.000	.011	.076	.155	.114	.027	.001	.000
14	.000	.000	.004	.043	.133	.147	.054	.004	.000
15	.000	.000	.001	.021	.097	.161	.092	.012	.000
16	.000	.000	.000	.009	.061	.151	.134	.029	.000
17	.000	.000	.000	.003	.032	.120	.165	.062	.002
18	.000	.000	.000	.001	.014	.080	.171	.111	.007
19	.000	.000	.000	.000	.005	.044	.147	.163	.024
20	.000	.000	.000	.000	.002	.020	.103	.196	.065
21	.000	.000	.000	.000	.000	.007	.057	.187	.138
22	.000	.000	.000	.000	.000	.002	.024	.136	.226
23	.000	.000	.000	.000	.000	.000	.007	.071	.266
24	.000	.000	.000	.000	.000	.000	.001	.024	.199
25	.000	.000	.000	.000	.000	.000	.000	.004	.072



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TABLE 2

Poisson Probabilities

<i>x</i>	.005	.01	.02	.03	.04	.05	.06	.07	.08	.09
0	.9950	.9900	.9802	.9704	.9608	.9512	.9418	.9324	.9231	.9139
1	.0050	.0099	.0196	.0291	.0384	.0476	.0565	.0653	.0738	.0823
2	.0000	.0000	.0002	.0004	.0008	.0012	.0017	.0023	.0030	.0037
3	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0001	.0001

<i>x</i>	.1	.2	.3	.4	.5	.6	.7	.8	.9	1.0
0	.9048	.8187	.7408	.6703	.6065	.5488	.4966	.4493	.4066	.3679
1	.0905	.1637	.2222	.2681	.3033	.3293	.3476	.3595	.3659	.3679
2	.0045	.0164	.0333	.0536	.0758	.0988	.1217	.1438	.1647	.1839
3	.0002	.0011	.0033	.0072	.0126	.0198	.0284	.0383	.0494	.0613
4	.0000	.0001	.0003	.0007	.0016	.0030	.0050	.0077	.0111	.0153
5	.0000	.0000	.0000	.0001	.0002	.0004	.0007	.0012	.0020	.0031
6	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0002	.0003	.0005
7	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001

<i>x</i>	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
0	.3329	.3012	.2725	.2466	.2231	.2019	.1827	.1653	.1496	.1353
1	.3662	.3614	.3543	.3452	.3347	.3230	.3106	.2975	.2842	.2707
2	.2014	.2169	.2303	.2417	.2510	.2584	.2640	.2678	.2700	.2707
3	.0738	.0867	.0998	.1128	.1255	.1378	.1496	.1607	.1710	.1804
4	.0203	.0260	.0324	.0395	.0471	.0551	.0636	.0723	.0812	.0902
5	.0045	.0062	.0084	.0111	.0141	.0176	.0216	.0260	.0309	.0361
6	.0008	.0012	.0018	.0026	.0035	.0047	.0061	.0078	.0098	.0120
7	.0001	.0002	.0003	.0005	.0008	.0011	.0015	.0020	.0027	.0034
8	.0000	.0000	.0001	.0001	.0001	.0002	.0003	.0005	.0006	.0009
9	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0001	.0001	.0002

<i>x</i>	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0
0	.1225	.1108	.1003	.0907	.0821	.0743	.0672	.0608	.0550	.0498
1	.2572	.2438	.2306	.2177	.2052	.1931	.1815	.1703	.1596	.1494
2	.2700	.2681	.2652	.2613	.2565	.2510	.2450	.2384	.2314	.2240
3	.1890	.1966	.2033	.2090	.2138	.2176	.2205	.2225	.2237	.2240
4	.0992	.1082	.1169	.1254	.1336	.1414	.1488	.1557	.1622	.1680
5	.0417	.0476	.0538	.0602	.0668	.0735	.0804	.0872	.0940	.1008
6	.0146	.0174	.0206	.0241	.0278	.0319	.0362	.0407	.0455	.0504
7	.0044	.0055	.0068	.0083	.0099	.0118	.0139	.0163	.0188	.0216
8	.0011	.0015	.0019	.0025	.0031	.0038	.0047	.0057	.0068	.0081
9	.0003	.0004	.0005	.0007	.0009	.0011	.0014	.0018	.0022	.0027
10	.0001	.0001	.0001	.0002	.0002	.0003	.0004	.0005	.0006	.0008
11	.0000	.0000	.0000	.0000	.0000	.0001	.0001	.0001	.0002	.0002
12	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001



Poisson Probabilities
(Continued)

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<i>x</i>	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0
0	.0450	.0408	.0369	.0334	.0302	.0273	.0247	.0224	.0202	.0183
1	.1397	.1304	.1217	.1135	.1057	.0984	.0915	.0850	.0789	.0733
2	.2165	.2087	.2008	.1929	.1850	.1771	.1692	.1615	.1539	.1465
3	.2237	.2226	.2209	.2186	.2158	.2125	.2087	.2046	.2001	.1954
4	.1733	.1781	.1823	.1858	.1888	.1912	.1931	.1944	.1951	.1954
5	.1075	.1140	.1203	.1264	.1322	.1377	.1429	.1477	.1522	.1563
6	.0555	.0608	.0662	.0716	.0771	.0826	.0881	.0936	.0989	.1042
7	.0246	.0278	.0312	.0348	.0385	.0425	.0466	.0508	.0551	.0595
8	.0095	.0111	.0129	.0148	.0169	.0191	.0215	.0241	.0269	.0298
9	.0033	.0040	.0047	.0056	.0066	.0076	.0089	.0102	.0116	.0132
10	.0010	.0013	.0016	.0019	.0023	.0028	.0033	.0039	.0045	.0053
11	.0003	.0004	.0005	.0006	.0007	.0009	.0011	.0013	.0016	.0019
12	.0001	.0001	.0001	.0002	.0002	.0003	.0003	.0004	.0005	.0006
13	.0000	.0000	.0000	.0000	.0001	.0001	.0001	.0001	.0002	.0002
14	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001

<i>x</i>	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0
0	.0166	.0150	.0136	.0123	.0111	.0101	.0091	.0082	.0074	.0067
1	.0679	.0630	.0583	.0540	.0500	.0462	.0427	.0395	.0365	.0337
2	.1393	.1323	.1254	.1188	.1125	.1063	.1005	.0948	.0894	.0842
3	.1904	.1852	.1798	.1743	.1687	.1631	.1574	.1517	.1460	.1404
4	.1951	.1944	.1933	.1917	.1898	.1875	.1849	.1820	.1789	.1755
5	.1600	.1633	.1662	.1687	.1708	.1725	.1738	.1747	.1753	.1755
6	.1093	.1143	.1191	.1237	.1281	.1323	.1362	.1398	.1432	.1462
7	.0640	.0686	.0732	.0778	.0824	.0869	.0914	.0959	.1002	.1044
8	.0328	.0360	.0393	.0428	.0463	.0500	.0537	.0575	.0614	.0653
9	.0150	.0168	.0188	.0209	.0232	.0255	.0281	.0307	.0334	.0363
10	.0061	.0071	.0081	.0092	.0104	.0118	.0132	.0147	.0164	.0181
11	.0023	.0027	.0032	.0037	.0043	.0049	.0056	.0064	.0073	.0082
12	.0008	.0009	.0011	.0013	.0016	.0019	.0022	.0026	.0030	.0034
13	.0002	.0003	.0004	.0005	.0006	.0007	.0008	.0009	.0011	.0013
14	.0001	.0001	.0001	.0001	.0002	.0002	.0003	.0003	.0004	.0005
15	.0000	.0000	.0000	.0000	.0001	.0001	.0001	.0001	.0001	.0002

(Continued)



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TABLE 2

Poisson Probabilities
(Continued)

<i>x</i>	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0
0	.0061	.0055	.0050	.0045	.0041	.0037	.0033	.0030	.0027	.0025
1	.0311	.0287	.0265	.0244	.0225	.0207	.0191	.0176	.0162	.0149
2	.0793	.0746	.0701	.0659	.0618	.0580	.0544	.0509	.0477	.0446
3	.1348	.1293	.1239	.1185	.1133	.1082	.1033	.0985	.0938	.0892
4	.1719	.1681	.1641	.1600	.1558	.1515	.1472	.1428	.1383	.1339
5	.1753	.1748	.1740	.1728	.1714	.1697	.1678	.1656	.1632	.1606
6	.1490	.1515	.1537	.1555	.1571	.1584	.1594	.1601	.1605	.1606
7	.1086	.1125	.1163	.1200	.1234	.1267	.1298	.1326	.1353	.1377
8	.0692	.0731	.0771	.0810	.0849	.0887	.0925	.0962	.0998	.1033
9	.0392	.0423	.0454	.0486	.0519	.0552	.0586	.0620	.0654	.0688
10	.0200	.0220	.0241	.0262	.0285	.0309	.0334	.0359	.0386	.0413
11	.0093	.0104	.0116	.0129	.0143	.0157	.0173	.0190	.0207	.0225
12	.0039	.0045	.0051	.0058	.0065	.0073	.0082	.0092	.0102	.0113
13	.0015	.0018	.0021	.0024	.0028	.0032	.0036	.0041	.0046	.0052
14	.0006	.0007	.0008	.0009	.0011	.0013	.0015	.0017	.0019	.0022
15	.0002	.0002	.0003	.0003	.0004	.0005	.0006	.0007	.0008	.0009
16	.0001	.0001	.0001	.0001	.0001	.0002	.0002	.0002	.0003	.0003
17	.0000	.0000	.0000	.0000	.0000	.0001	.0001	.0001	.0001	.0001

<i>x</i>	6.1	6.2	6.3	6.4	6.5	6.6	6.7	6.8	6.9	7.0
0	.0022	.0020	.0018	.0017	.0015	.0014	.0012	.0011	.0010	.0009
1	.0137	.0126	.0116	.0106	.0098	.0090	.0082	.0076	.0070	.0064
2	.0417	.0390	.0364	.0340	.0318	.0296	.0276	.0258	.0240	.0223
3	.0848	.0806	.0765	.0726	.0688	.0652	.0617	.0584	.0552	.0521
4	.1294	.1249	.1205	.1162	.1118	.1076	.1034	.0992	.0952	.0912
5	.1579	.1549	.1519	.1487	.1454	.1420	.1385	.1349	.1314	.1277
6	.1605	.1601	.1595	.1586	.1575	.1562	.1546	.1529	.1511	.1490
7	.1399	.1418	.1435	.1450	.1462	.1472	.1480	.1486	.1489	.1490
8	.1066	.1099	.1130	.1160	.1188	.1215	.1240	.1263	.1284	.1304
9	.0723	.0757	.0791	.0825	.0858	.0891	.0923	.0954	.0985	.1014
10	.0441	.0469	.0498	.0528	.0558	.0588	.0618	.0649	.0679	.0710
11	.0244	.0265	.0285	.0307	.0330	.0353	.0377	.0401	.0426	.0452
12	.0124	.0137	.0150	.0164	.0179	.0194	.0210	.0227	.0245	.0263
13	.0058	.0065	.0073	.0081	.0089	.0099	.0108	.0119	.0130	.0142
14	.0025	.0029	.0033	.0037	.0041	.0046	.0052	.0058	.0064	.0071
15	.0010	.0012	.0014	.0016	.0018	.0020	.0023	.0026	.0029	.0033
16	.0004	.0005	.0005	.0006	.0007	.0008	.0010	.0011	.0013	.0014
17	.0001	.0002	.0002	.0002	.0003	.0003	.0004	.0004	.0005	.0006
18	.0000	.0001	.0001	.0001	.0001	.0001	.0001	.0002	.0002	.0002
19	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0001	.0001	.0001



Poisson Probabilities
(Continued)

L

<i>x</i>	7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8	7.9	8.0
0	.0008	.0007	.0007	.0006	.0006	.0005	.0005	.0004	.0004	.0003
1	.0059	.0054	.0049	.0045	.0041	.0038	.0035	.0032	.0029	.0027
2	.0208	.0194	.0180	.0167	.0156	.0145	.0134	.0125	.0116	.0107
3	.0492	.0464	.0438	.0413	.0389	.0366	.0345	.0324	.0305	.0286
4	.0874	.0836	.0799	.0764	.0729	.0696	.0663	.0632	.0602	.0573
5	.1241	.1204	.1167	.1130	.1094	.1057	.1021	.0986	.0951	.0916
6	.1468	.1445	.1420	.1394	.1367	.1339	.1311	.1282	.1252	.1221
7	.1489	.1486	.1481	.1474	.1465	.1454	.1442	.1428	.1413	.1396
8	.1321	.1337	.1351	.1363	.1373	.1381	.1388	.1392	.1395	.1396
9	.1042	.1070	.1096	.1121	.1144	.1167	.1187	.1207	.1224	.1241
10	.0740	.0770	.0800	.0829	.0858	.0887	.0914	.0941	.0967	.0993
11	.0478	.0504	.0531	.0558	.0585	.0613	.0640	.0667	.0695	.0722
12	.0283	.0303	.0323	.0344	.0366	.0388	.0411	.0434	.0457	.0481
13	.0154	.0168	.0181	.0196	.0211	.0227	.0243	.0260	.0278	.0296
14	.0078	.0086	.0095	.0104	.0113	.0123	.0134	.0145	.0157	.0169
15	.0037	.0041	.0046	.0051	.0057	.0062	.0069	.0075	.0083	.0090
16	.0016	.0019	.0021	.0024	.0026	.0030	.0033	.0037	.0041	.0045
17	.0007	.0008	.0009	.0010	.0012	.0013	.0015	.0017	.0019	.0021
18	.0003	.0003	.0004	.0004	.0005	.0006	.0006	.0007	.0008	.0009
19	.0001	.0001	.0001	.0002	.0002	.0002	.0003	.0003	.0003	.0004
20	.0000	.0000	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0002
21	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0001

<i>x</i>	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	9.0
0	.0003	.0003	.0002	.0002	.0002	.0002	.0002	.0002	.0001	.0001
1	.0025	.0023	.0021	.0019	.0017	.0016	.0014	.0013	.0012	.0011
2	.0100	.0092	.0086	.0079	.0074	.0068	.0063	.0058	.0054	.0050
3	.0269	.0252	.0237	.0222	.0208	.0195	.0183	.0171	.0160	.0150
4	.0544	.0517	.0491	.0466	.0443	.0420	.0398	.0377	.0357	.0337
5	.0882	.0849	.0816	.0784	.0752	.0722	.0692	.0663	.0635	.0607
6	.1191	.1160	.1128	.1097	.1066	.1034	.1003	.0972	.0941	.0911
7	.1378	.1358	.1338	.1317	.1294	.1271	.1247	.1222	.1197	.1171
8	.1395	.1392	.1388	.1382	.1375	.1366	.1356	.1344	.1332	.1318
9	.1256	.1269	.1280	.1290	.1299	.1306	.1311	.1315	.1317	.1318
10	.1017	.1040	.1063	.1084	.1104	.1123	.1140	.1157	.1172	.1186
11	.0749	.0776	.0802	.0828	.0853	.0878	.0902	.0925	.0948	.0970
12	.0505	.0530	.0555	.0579	.0604	.0629	.0654	.0679	.0703	.0728
13	.0315	.0334	.0354	.0374	.0395	.0416	.0438	.0459	.0481	.0504
14	.0182	.0196	.0210	.0225	.0240	.0256	.0272	.0289	.0306	.0324
15	.0098	.0107	.0116	.0126	.0136	.0147	.0158	.0169	.0182	.0194
16	.0050	.0055	.0060	.0066	.0072	.0079	.0086	.0093	.0101	.0109
17	.0024	.0026	.0029	.0033	.0036	.0040	.0044	.0048	.0053	.0058
18	.0011	.0012	.0014	.0015	.0017	.0019	.0021	.0024	.0026	.0029
19	.0005	.0005	.0006	.0007	.0008	.0009	.0010	.0011	.0012	.0014
20	.0002	.0002	.0002	.0003	.0003	.0004	.0004	.0005	.0005	.0006
21	.0001	.0001	.0001	.0001	.0001	.0002	.0002	.0002	.0002	.0003
22	.0000	.0000	.0000	.0000	.0001	.0001	.0001	.0001	.0001	.0001

(Continued)



TABLE 2

Poisson Probabilities
(Continued)

<i>x</i>	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	10.0
0	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0000
1	.0010	.0009	.0009	.0008	.0007	.0007	.0006	.0005	.0005	.0005
2	.0046	.0043	.0040	.0037	.0034	.0031	.0029	.0027	.0025	.0023
3	.0140	.0131	.0123	.0115	.0107	.0100	.0093	.0087	.0081	.0076
4	.0319	.0302	.0285	.0269	.0254	.0240	.0226	.0213	.0201	.0189
5	.0581	.0555	.0530	.0506	.0483	.0460	.0439	.0418	.0398	.0378
6	.0881	.0851	.0822	.0793	.0764	.0736	.0709	.0682	.0656	.0631
7	.1145	.1118	.1091	.1064	.1037	.1010	.0982	.0955	.0928	.0901
8	.1302	.1286	.1269	.1251	.1232	.1212	.1191	.1170	.1148	.1126
9	.1317	.1315	.1311	.1306	.1300	.1293	.1284	.1274	.1263	.1251
10	.1198	.1210	.1219	.1228	.1235	.1241	.1245	.1249	.1250	.1251
11	.0991	.1012	.1031	.1049	.1067	.1083	.1098	.1112	.1125	.1137
12	.0752	.0776	.0799	.0822	.0844	.0866	.0888	.0908	.0928	.0948
13	.0526	.0549	.0572	.0594	.0617	.0640	.0662	.0685	.0707	.0729
14	.0342	.0361	.0380	.0399	.0419	.0439	.0459	.0479	.0500	.0521
15	.0208	.0221	.0235	.0250	.0265	.0281	.0297	.0313	.0330	.0347
16	.0118	.0127	.0137	.0147	.0157	.0168	.0180	.0192	.0204	.0217
17	.0063	.0069	.0075	.0081	.0088	.0095	.0103	.0111	.0119	.0128
18	.0032	.0035	.0039	.0042	.0046	.0051	.0055	.0060	.0065	.0071
19	.0015	.0017	.0019	.0021	.0023	.0026	.0028	.0031	.0034	.0037
20	.0007	.0008	.0009	.0010	.0011	.0012	.0014	.0015	.0017	.0019
21	.0003	.0003	.0004	.0004	.0005	.0006	.0006	.0007	.0008	.0009
22	.0001	.0001	.0002	.0002	.0002	.0002	.0003	.0003	.0004	.0004
23	.0000	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0002	.0002
24	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0001	.0001





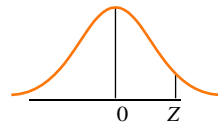
TABLE 3

The e^{-x} Table

x	e^{-x}	x	e^{-x}	x	e^{-x}	x	e^{-x}
0.0	1.0000	3.0	0.0498	6.0	0.00248	9.0	0.00012
0.1	0.9048	3.1	0.0450	6.1	0.00224	9.1	0.00011
0.2	0.8187	3.2	0.0408	6.2	0.00203	9.2	0.00010
0.3	0.7408	3.3	0.0369	6.3	0.00184	9.3	0.00009
0.4	0.6703	3.4	0.0334	6.4	0.00166	9.4	0.00008
0.5	0.6065	3.5	0.0302	6.5	0.00150	9.5	0.00007
0.6	0.5488	3.6	0.0273	6.6	0.00136	9.6	0.00007
0.7	0.4966	3.7	0.0247	6.7	0.00123	9.7	0.00006
0.8	0.4493	3.8	0.0224	6.8	0.00111	9.8	0.00006
0.9	0.4066	3.9	0.0202	6.9	0.00101	9.9	0.00005
1.0	0.3679	4.0	0.0183	7.0	0.00091	10.0	0.00005
1.1	0.3329	4.1	0.0166	7.1	0.00083		
1.2	0.3012	4.2	0.0150	7.2	0.00075		
1.3	0.2725	4.3	0.0136	7.3	0.00068		
1.4	0.2466	4.4	0.0123	7.4	0.00061		
1.5	0.2231	4.5	0.0111	7.5	0.00055		
1.6	0.2019	4.6	0.0101	7.6	0.00050		
1.7	0.1827	4.7	0.0091	7.7	0.00045		
1.8	0.1653	4.8	0.0082	7.8	0.00041		
1.9	0.1496	4.9	0.0074	7.9	0.00037		
2.0	0.1353	5.0	0.0067	8.0	0.00034		
2.1	0.1225	5.1	0.0061	8.1	0.00030		
2.2	0.1108	5.2	0.0055	8.2	0.00027		
2.3	0.1003	5.3	0.0050	8.3	0.00025		
2.4	0.0907	5.4	0.0045	8.4	0.00022		
2.5	0.0821	5.5	0.0041	8.5	0.00020		
2.6	0.0743	5.6	0.0037	8.6	0.00018		
2.7	0.0672	5.7	0.0033	8.7	0.00017		
2.8	0.0608	5.8	0.0030	8.8	0.00015		
2.9	0.0550	5.9	0.0027	8.9	0.00014		



TABLE 4



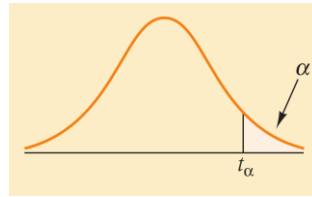
Areas of the Standard Normal Distribution

The entries in this table are the probabilities that a standard normal random variable is between 0 and z (the shaded area).

z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	.0000	.0040	.0080	.0120	.0160	.0199	.0239	.0279	.0319	.0359
0.1	.0398	.0438	.0478	.0517	.0557	.0596	.0636	.0675	.0714	.0753
0.2	.0793	.0832	.0871	.0910	.0948	.0987	.1026	.1064	.1103	.1141
0.3	.1179	.1217	.1255	.1293	.1331	.1368	.1406	.1443	.1480	.1517
0.4	.1554	.1591	.1628	.1664	.1700	.1736	.1772	.1808	.1844	.1879
0.5	.1915	.1950	.1985	.2019	.2054	.2088	.2123	.2157	.2190	.2224
0.6	.2257	.2291	.2324	.2357	.2389	.2422	.2454	.2486	.2517	.2549
0.7	.2580	.2611	.2642	.2673	.2704	.2734	.2764	.2794	.2823	.2852
0.8	.2881	.2910	.2939	.2967	.2995	.3023	.3051	.3078	.3106	.3133
0.9	.3159	.3186	.3212	.3238	.3264	.3289	.3315	.3340	.3365	.3389
1.0	.3413	.3438	.3461	.3485	.3508	.3531	.3554	.3577	.3599	.3621
1.1	.3643	.3665	.3686	.3708	.3729	.3749	.3770	.3790	.3810	.3830
1.2	.3849	.3869	.3888	.3907	.3925	.3944	.3962	.3980	.3997	.4015
1.3	.4032	.4049	.4066	.4082	.4099	.4115	.4131	.4147	.4162	.4177
1.4	.4192	.4207	.4222	.4236	.4251	.4265	.4279	.4292	.4306	.4319
1.5	.4332	.4345	.4357	.4370	.4382	.4394	.4406	.4418	.4429	.4441
1.6	.4452	.4463	.4474	.4484	.4495	.4505	.4515	.4525	.4535	.4545
1.7	.4554	.4564	.4573	.4582	.4591	.4599	.4608	.4616	.4625	.4633
1.8	.4641	.4649	.4656	.4664	.4671	.4678	.4686	.4693	.4699	.4706
1.9	.4713	.4719	.4726	.4732	.4738	.4744	.4750	.4756	.4761	.4767
2.0	.4772	.4778	.4783	.4788	.4793	.4798	.4803	.4808	.4812	.4817
2.1	.4821	.4826	.4830	.4834	.4838	.4842	.4846	.4850	.4854	.4857
2.2	.4861	.4864	.4868	.4871	.4875	.4878	.4881	.4884	.4887	.4890
2.3	.4893	.4896	.4898	.4901	.4904	.4906	.4909	.4911	.4913	.4916
2.4	.4918	.4920	.4922	.4925	.4927	.4929	.4931	.4932	.4934	.4936
2.5	.4938	.4940	.4941	.4943	.4945	.4946	.4948	.4949	.4951	.4952
2.6	.4953	.4955	.4956	.4957	.4959	.4960	.4961	.4962	.4963	.4964
2.7	.4965	.4966	.4967	.4968	.4969	.4970	.4971	.4972	.4973	.4974
2.8	.4974	.4975	.4976	.4977	.4977	.4978	.4979	.4979	.4980	.4981
2.9	.4981	.4982	.4982	.4983	.4984	.4984	.4985	.4985	.4986	.4986
3.0	.4987	.4987	.4987	.4988	.4988	.4989	.4989	.4989	.4990	.4990
3.1	.4990	.4991	.4991	.4991	.4992	.4992	.4992	.4992	.4993	.4993
3.2	.4993	.4993	.4994	.4994	.4994	.4994	.4994	.4995	.4995	.4995
3.3	.4995	.4995	.4995	.4996	.4996	.4996	.4996	.4996	.4996	.4997
3.4	.4997	.4997	.4997	.4997	.4997	.4997	.4997	.4997	.4997	.4998
3.5	.4998									
4.0	.49997									
4.5	.499997									
5.0	.4999997									
6.0	.49999999									



TABLE 5

Critical Values from the t
DistributionValues of α for one-tailed test and $\alpha/2$ for two-tailed test

df	$t_{.100}$	$t_{.050}$	$t_{.025}$	$t_{.010}$	$t_{.005}$	$t_{.001}$
1	3.078	6.314	12.706	31.821	63.656	318.289
2	1.886	2.920	4.303	6.965	9.925	22.328
3	1.638	2.353	3.182	4.541	5.841	10.214
4	1.533	2.132	2.776	3.747	4.604	7.173
5	1.476	2.015	2.571	3.365	4.032	5.894
6	1.440	1.943	2.447	3.143	3.707	5.208
7	1.415	1.895	2.365	2.998	3.499	4.785
8	1.397	1.860	2.306	2.896	3.355	4.501
9	1.383	1.833	2.262	2.821	3.250	4.297
10	1.372	1.812	2.228	2.764	3.169	4.144
11	1.363	1.796	2.201	2.718	3.106	4.025
12	1.356	1.782	2.179	2.681	3.055	3.930
13	1.350	1.771	2.160	2.650	3.012	3.852
14	1.345	1.761	2.145	2.624	2.977	3.787
15	1.341	1.753	2.131	2.602	2.947	3.733
16	1.337	1.746	2.120	2.583	2.921	3.686
17	1.333	1.740	2.110	2.567	2.898	3.646
18	1.330	1.734	2.101	2.552	2.878	3.610
19	1.328	1.729	2.093	2.539	2.861	3.579
20	1.325	1.725	2.086	2.528	2.845	3.552
21	1.323	1.721	2.080	2.518	2.831	3.527
22	1.321	1.717	2.074	2.508	2.819	3.505
23	1.319	1.714	2.069	2.500	2.807	3.485
24	1.318	1.711	2.064	2.492	2.797	3.467
25	1.316	1.708	2.060	2.485	2.787	3.450
26	1.315	1.706	2.056	2.479	2.779	3.435
27	1.314	1.703	2.052	2.473	2.771	3.421
28	1.313	1.701	2.048	2.467	2.763	3.408
29	1.311	1.699	2.045	2.462	2.756	3.396
30	1.310	1.697	2.042	2.457	2.750	3.385
40	1.303	1.684	2.021	2.423	2.704	3.307
50	1.299	1.676	2.009	2.403	2.678	3.261
60	1.296	1.671	2.000	2.390	2.660	3.232
70	1.294	1.667	1.994	2.381	2.648	3.211
80	1.292	1.664	1.990	2.374	2.639	3.195
90	1.291	1.662	1.987	2.368	2.632	3.183
100	1.290	1.660	1.984	2.364	2.626	3.174
150	1.287	1.655	1.976	2.351	2.609	3.145
200	1.286	1.653	1.972	2.345	2.601	3.131
q	1.282	1.645	1.960	2.326	2.576	3.090



TABLE 6

Percentage Points of the F Distribution

 $\alpha = 0.05$

V_2	$V_1 = 1$	Numerator Degrees of Freedom							
		2	3	4	5	6	7	8	9
1	161.45	199.50	215.71	224.58	230.16	233.99	236.77	238.88	240.54
2	18.51	19.00	19.16	19.25	19.30	19.33	19.35	19.37	19.38
3	10.13	9.55	9.28	9.12	9.01	8.94	8.89	8.85	8.81
4	7.71	6.94	6.59	6.39	6.26	6.16	6.09	6.04	6.00
5	6.61	5.79	5.41	5.19	5.05	4.95	4.88	4.82	4.77
6	5.99	5.14	4.76	4.53	4.39	4.28	4.21	4.15	4.10
7	5.59	4.74	4.35	4.12	3.97	3.87	3.79	3.73	3.68
8	5.32	4.46	4.07	3.84	3.69	3.58	3.50	3.44	3.39
9	5.12	4.26	3.86	3.63	3.48	3.37	3.29	3.23	3.18
10	4.96	4.10	3.71	3.48	3.33	3.22	3.14	3.07	3.02
11	4.84	3.98	3.59	3.36	3.20	3.09	3.01	2.95	2.90
12	4.75	3.89	3.49	3.26	3.11	3.00	2.91	2.85	2.80
13	4.67	3.81	3.41	3.18	3.03	2.92	2.83	2.77	2.71
14	4.60	3.74	3.34	3.11	2.96	2.85	2.76	2.70	2.65
15	4.54	3.68	3.29	3.06	2.90	2.79	2.71	2.64	2.59
16	4.49	3.63	3.24	3.01	2.85	2.74	2.66	2.59	2.54
17	4.45	3.59	3.20	2.96	2.81	2.70	2.61	2.55	2.49
18	4.41	3.55	3.16	2.93	2.77	2.66	2.58	2.51	2.46
19	4.38	3.52	3.13	2.90	2.74	2.63	2.54	2.48	2.42
20	4.35	3.49	3.10	2.87	2.71	2.60	2.51	2.45	2.39
21	4.32	3.47	3.07	2.84	2.68	2.57	2.49	2.42	2.37
22	4.30	3.44	3.05	2.82	2.66	2.55	2.46	2.40	2.34
23	4.28	3.42	3.03	2.80	2.64	2.53	2.44	2.37	2.32
24	4.26	3.40	3.01	2.78	2.62	2.51	2.42	2.36	2.30
25	4.24	3.39	2.99	2.76	2.60	2.49	2.40	2.34	2.28
26	4.23	3.37	2.98	2.74	2.59	2.47	2.39	2.32	2.27
27	4.21	3.35	2.96	2.73	2.57	2.46	2.37	2.31	2.25
28	4.20	3.34	2.95	2.71	2.56	2.45	2.36	2.29	2.24
29	4.18	3.33	2.93	2.70	2.55	2.43	2.35	2.28	2.22
30	4.17	3.32	2.92	2.69	2.53	2.42	2.33	2.27	2.21
40	4.08	3.23	2.84	2.61	2.45	2.34	2.25	2.18	2.12
60	4.00	3.15	2.76	2.53	2.37	2.25	2.17	2.10	2.04
120	3.92	3.07	2.68	2.45	2.29	2.18	2.09	2.02	1.96
∞	3.84	3.00	2.60	2.37	2.21	2.10	2.01	1.94	1.88



Percentage Points of the F Distribution (Continued)

$\alpha = 0.05$

Numerator Degrees of Freedom

$\nu_1 = 10$	12	15	20	24	30	40	60	120	q	ν_2
241.88	243.90	245.90	248.00	249.10	250.10	251.10	252.20	253.30	254.30	1
19.40	19.41	19.43	19.45	19.45	19.46	19.47	19.48	19.49	19.50	2
8.79	8.74	8.70	8.66	8.64	8.62	8.59	8.57	8.55	8.53	3
5.96	5.91	5.86	5.80	5.77	5.75	5.72	5.69	5.66	5.63	4
4.74	4.68	4.62	4.56	4.53	4.50	4.46	4.43	4.40	4.36	5
4.06	4.00	3.94	3.87	3.84	3.81	3.77	3.74	3.70	3.67	6
3.64	3.57	3.51	3.44	3.41	3.38	3.34	3.30	3.27	3.23	7
3.35	3.28	3.22	3.15	3.12	3.08	3.04	3.01	2.97	2.93	8
3.14	3.07	3.01	2.94	2.90	2.86	2.83	2.79	2.75	2.71	9
2.98	2.91	2.85	2.77	2.74	2.70	2.66	2.62	2.58	2.54	10
2.85	2.79	2.72	2.65	2.61	2.57	2.53	2.49	2.45	2.40	11
2.75	2.69	2.62	2.54	2.51	2.47	2.43	2.38	2.34	2.30	12
2.67	2.60	2.53	2.46	2.42	2.38	2.34	2.30	2.25	2.21	13
2.60	2.53	2.46	2.39	2.35	2.31	2.27	2.22	2.18	2.13	14
2.54	2.48	2.40	2.33	2.29	2.25	2.20	2.16	2.11	2.07	15
2.49	2.42	2.35	2.28	2.24	2.19	2.15	2.11	2.06	2.01	16
2.45	2.38	2.31	2.23	2.19	2.15	2.10	2.06	2.01	1.96	17
2.41	2.34	2.27	2.19	2.15	2.11	2.06	2.02	1.97	1.92	18
2.38	2.31	2.23	2.16	2.11	2.07	2.03	1.98	1.93	1.88	19
2.35	2.28	2.20	2.12	2.08	2.04	1.99	1.95	1.90	1.84	20
2.32	2.25	2.18	2.10	2.05	2.01	1.96	1.92	1.87	1.81	21
2.30	2.23	2.15	2.07	2.03	1.98	1.94	1.89	1.84	1.78	22
2.27	2.20	2.13	2.05	2.01	1.96	1.91	1.86	1.81	1.76	23
2.25	2.18	2.11	2.03	1.98	1.94	1.89	1.84	1.79	1.73	24
2.24	2.16	2.09	2.01	1.96	1.92	1.87	1.82	1.77	1.71	25
2.22	2.15	2.07	1.99	1.95	1.90	1.85	1.80	1.75	1.69	26
2.20	2.13	2.06	1.97	1.93	1.88	1.84	1.79	1.73	1.67	27
2.19	2.12	2.04	1.96	1.91	1.87	1.82	1.77	1.71	1.65	28
2.18	2.10	2.03	1.94	1.90	1.85	1.81	1.75	1.70	1.64	29
2.16	2.09	2.01	1.93	1.89	1.84	1.79	1.74	1.68	1.62	30
2.08	2.00	1.92	1.84	1.79	1.74	1.69	1.64	1.58	1.51	40
1.99	1.92	1.84	1.75	1.70	1.65	1.59	1.53	1.47	1.39	60
1.91	1.83	1.75	1.66	1.61	1.55	1.50	1.43	1.35	1.25	120
1.83	1.75	1.67	1.57	1.52	1.46	1.39	1.32	1.22	1.00	∞

Denominator Degrees of Freedom



Percentage Points of the F Distribution (Continued)

$\alpha = 0.01$										
Numerator Degrees of Freedom										
ν_2	$\nu_1 =$	1	2	3	4	5	6	7	8	9
1	4052.18	4999.34	5403.53	5624.26	5763.96	5858.95	5928.33	5980.95	6022.40	
2	98.50	99.00	99.16	99.25	99.30	99.33	99.36	99.38	99.39	
3	34.12	30.82	29.46	28.71	28.24	27.91	27.67	27.49	27.34	
4	21.20	18.00	16.69	15.98	15.52	15.21	14.98	14.80	14.66	
5	16.26	13.27	12.06	11.39	10.97	10.67	10.46	10.29	10.16	
6	13.75	10.92	9.78	9.15	8.75	8.47	8.26	8.10	7.98	
7	12.25	9.55	8.45	7.85	7.46	7.19	6.99	6.84	6.72	
8	11.26	8.65	7.59	7.01	6.63	6.37	6.18	6.03	5.91	
9	10.56	8.02	6.99	6.42	6.06	5.80	5.61	5.47	5.35	
10	10.04	7.56	6.55	5.99	5.64	5.39	5.20	5.06	4.94	
11	9.65	7.21	6.22	5.67	5.32	5.07	4.89	4.74	4.63	
12	9.33	6.93	5.95	5.41	5.06	4.82	4.64	4.50	4.39	
13	9.07	6.70	5.74	5.21	4.86	4.62	4.44	4.30	4.19	
14	8.86	6.51	5.56	5.04	4.69	4.46	4.28	4.14	4.03	
15	8.68	6.36	5.42	4.89	4.56	4.32	4.14	4.00	3.89	
16	8.53	6.23	5.29	4.77	4.44	4.20	4.03	3.89	3.78	
17	8.40	6.11	5.19	4.67	4.34	4.10	3.93	3.79	3.68	
18	8.29	6.01	5.09	4.58	4.25	4.01	3.84	3.71	3.60	
19	8.18	5.93	5.01	4.50	4.17	3.94	3.77	3.63	3.52	
20	8.10	5.85	4.94	4.43	4.10	3.87	3.70	3.56	3.46	
21	8.02	5.78	4.87	4.37	4.04	3.81	3.64	3.51	3.40	
22	7.95	5.72	4.82	4.31	3.99	3.76	3.59	3.45	3.35	
23	7.88	5.66	4.76	4.26	3.94	3.71	3.54	3.41	3.30	
24	7.82	5.61	4.72	4.22	3.90	3.67	3.50	3.36	3.26	
25	7.77	5.57	4.68	4.18	3.85	3.63	3.46	3.32	3.22	
26	7.72	5.53	4.64	4.14	3.82	3.59	3.42	3.29	3.18	
27	7.68	5.49	4.60	4.11	3.78	3.56	3.39	3.26	3.15	
28	7.64	5.45	4.57	4.07	3.75	3.53	3.36	3.23	3.12	
29	7.60	5.42	4.54	4.04	3.73	3.50	3.33	3.20	3.09	
30	7.56	5.39	4.51	4.02	3.70	3.47	3.30	3.17	3.07	
40	7.31	5.18	4.31	3.83	3.51	3.29	3.12	2.99	2.89	
60	7.08	4.98	4.13	3.65	3.34	3.12	2.95	2.82	2.72	
120	6.85	4.79	3.95	3.48	3.17	2.96	2.79	2.66	2.56	
∞	6.63	4.61	3.78	3.32	3.02	2.80	2.64	2.51	2.41	



Percentage Points of the F Distribution (Continued)

$\alpha = .01$

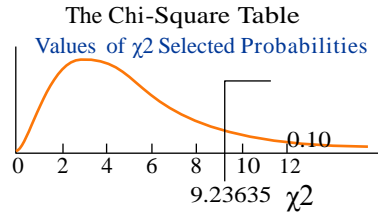
Numerator Degrees of Freedom

$v_1 = 10$	12	15	20	24	30	40	60	120	q	v_2
6055.93	6106.68	6156.97	6208.66	6234.27	6260.35	6286.43	6312.97	6339.51	6366.00	1
99.40	99.42	99.43	99.45	99.46	99.47	99.48	99.48	99.49	99.50	2
27.23	27.05	26.87	26.69	26.60	26.50	26.41	26.32	26.22	26.13	3
14.55	14.37	14.20	14.02	13.93	13.84	13.75	13.65	13.56	13.46	4
10.05	9.89	9.72	9.55	9.47	9.38	9.29	9.20	9.11	9.02	5
7.87	7.72	7.56	7.40	7.31	7.23	7.14	7.06	6.97	6.88	6
6.62	6.47	6.31	6.16	6.07	5.99	5.91	5.82	5.74	5.65	7
5.81	5.67	5.52	5.36	5.28	5.20	5.12	5.03	4.95	4.86	8
5.26	5.11	4.96	4.81	4.73	4.65	4.57	4.48	4.40	4.31	9
4.85	4.71	4.56	4.41	4.33	4.25	4.17	4.08	4.00	3.91	10
4.54	4.40	4.25	4.10	4.02	3.94	3.86	3.78	3.69	3.60	11
4.30	4.16	4.01	3.86	3.78	3.70	3.62	3.54	3.45	3.36	12
4.10	3.96	3.82	3.66	3.59	3.51	3.43	3.34	3.25	3.17	13
3.94	3.80	3.66	3.51	3.43	3.35	3.27	3.18	3.09	3.00	14
3.80	3.67	3.52	3.37	3.29	3.21	3.13	3.05	2.96	2.87	15
3.69	3.55	3.41	3.26	3.18	3.10	3.02	2.93	2.84	2.75	16
3.59	3.46	3.31	3.16	3.08	3.00	2.92	2.83	2.75	2.65	17
3.51	3.37	3.23	3.08	3.00	2.92	2.84	2.75	2.66	2.57	18
3.43	3.30	3.15	3.00	2.92	2.84	2.76	2.67	2.58	2.49	19
3.37	3.23	3.09	2.94	2.86	2.78	2.69	2.61	2.52	2.42	20
3.31	3.17	3.03	2.88	2.80	2.72	2.64	2.55	2.46	2.36	21
3.26	3.12	2.98	2.83	2.75	2.67	2.58	2.50	2.40	2.31	22
3.21	3.07	2.93	2.78	2.70	2.62	2.54	2.45	2.35	2.26	23
3.17	3.03	2.89	2.74	2.66	2.58	2.49	2.40	2.31	2.21	24
3.13	2.99	2.85	2.70	2.62	2.54	2.45	2.36	2.27	2.17	25
3.09	2.96	2.81	2.66	2.58	2.50	2.42	2.33	2.23	2.13	26
3.06	2.93	2.78	2.63	2.55	2.47	2.38	2.29	2.20	2.10	27
3.03	2.90	2.75	2.60	2.52	2.44	2.35	2.26	2.17	2.06	28
3.00	2.87	2.73	2.57	2.49	2.41	2.33	2.23	2.14	2.03	29
2.98	2.84	2.70	2.55	2.47	2.39	2.30	2.21	2.11	2.01	30
2.80	2.66	2.52	2.37	2.29	2.20	2.11	2.02	1.92	1.80	40
2.63	2.50	2.35	2.20	2.12	2.03	1.94	1.84	1.73	1.60	60
2.47	2.34	2.19	2.03	1.95	1.86	1.76	1.66	1.53	1.38	120
2.32	2.18	2.04	1.88	1.79	1.70	1.59	1.47	1.32	1.00	q

Denominator Degrees of Freedom



T A B L E 7



Example: df (Number of degrees of freedom) = 5, the tail above $x^2 = 9.23635$ represents 0.10 or 10% of area under the curve.

Degrees of Freedom	Area in Upper Tail									
	.995	.99	.975	.95	.9	.1	.05	.025	.01	.005
1	0.0000393	0.0001571	0.0009821	0.0039322	0.0157907	2.7055	3.8415	5.0239	6.6349	7.8794
2	0.010025	0.020100	0.050636	0.102586	0.210721	4.6052	5.9915	7.3778	9.2104	10.5965
3	0.07172	0.11483	0.21579	0.35185	0.58438	6.2514	7.8147	9.3484	11.3449	12.8381
4	0.20698	0.29711	0.48442	0.71072	1.06362	7.7794	9.4877	11.1433	13.2767	14.8602
5	0.41175	0.55430	0.83121	1.14548	1.61031	9.2363	11.0705	12.8325	15.0863	16.7496
6	0.67573	0.87208	1.23734	1.63538	2.20413	10.6446	12.5916	14.4494	16.8119	18.5475
7	0.98925	1.23903	1.68986	2.16735	2.83311	12.0170	14.0671	16.0128	18.4753	20.2777
8	1.34440	1.64651	2.17972	2.73263	3.48954	13.3616	15.5073	17.5345	20.0902	21.9549
9	1.73491	2.08789	2.70039	3.32512	4.16816	14.6837	16.9190	19.0228	21.6660	23.5893
10	2.15585	2.55820	3.24696	3.94030	4.86518	15.9872	18.3070	20.4832	23.2093	25.1881
11	2.60320	3.05350	3.81574	4.57481	5.57779	17.2750	19.6752	21.9200	24.7250	26.7569
12	3.07379	3.57055	4.40378	5.22603	6.30380	18.5493	21.0261	23.3367	26.2170	28.2997
13	3.56504	4.10690	5.00874	5.89186	7.04150	19.8119	22.3620	24.7356	27.6882	29.8193
14	4.07466	4.66042	5.62872	6.57063	7.78954	21.0641	23.6848	26.1189	29.1412	31.3194
15	4.60087	5.22936	6.26212	7.26093	8.54675	22.3071	24.9958	27.4884	30.5780	32.8015
16	5.14216	5.81220	6.90766	7.96164	9.31224	23.5418	26.2962	28.8453	31.9999	34.2671
17	5.69727	6.40774	7.56418	8.67175	10.08518	24.7690	27.5871	30.1910	33.4087	35.7184
18	6.26477	7.01490	8.23074	9.39045	10.86494	25.9894	28.8693	31.5264	34.8052	37.1564
19	6.84392	7.63270	8.90651	10.11701	11.65091	27.2036	30.1435	32.8523	36.1908	38.5821
20	7.43381	8.26037	9.59077	10.85080	12.44260	28.4120	31.4104	34.1696	37.5663	39.9969
21	8.03360	8.89717	10.28291	11.59132	13.23960	29.6151	32.6706	35.4789	38.9322	41.4009
22	8.64268	9.54249	10.98233	12.33801	14.04149	30.8133	33.9245	36.7807	40.2894	42.7957
23	9.26038	10.19569	11.68853	13.09051	14.84795	32.0069	35.1725	38.0756	41.6383	44.1814
24	9.88620	10.85635	12.40115	13.84842	15.65868	33.1962	36.4150	39.3641	42.9798	45.5584
25	10.51965	11.52395	13.11971	14.61140	16.47341	34.3816	37.6525	40.6465	44.3140	46.9280
26	11.16022	12.19818	13.84388	15.37916	17.29188	35.5632	38.8851	41.9231	45.6416	48.2898
27	11.80765	12.87847	14.57337	16.15139	18.11389	36.7412	40.1133	43.1945	46.9628	49.6450
28	12.46128	13.56467	15.30785	16.92788	18.93924	37.9159	41.3372	44.4608	48.2782	50.9936
29	13.12107	14.25641	16.04705	17.70838	19.76774	39.0875	42.5569	45.7223	49.5878	52.3355
30	13.78668	14.95346	16.79076	18.49267	20.59924	40.2560	43.7730	46.9792	50.8922	53.6719
40	20.70658	22.16420	24.43306	26.50930	29.05052	51.8050	55.7585	59.3417	63.6908	66.7660
50	27.99082	29.70673	32.35738	34.76424	37.68864	63.1671	67.5048	71.4202	76.1538	79.4898
60	35.53440	37.48480	40.48171	43.18797	46.45888	74.3970	79.0820	83.2977	88.3794	91.9518
70	43.27531	45.44170	48.75754	51.73926	55.32894	85.5270	90.5313	95.0231	100.4251	104.2148
80	51.17193	53.53998	57.15315	60.39146	64.27784	96.5782	101.8795	106.6285	112.3288	116.3209
90	59.19633	61.75402	65.64659	69.12602	73.29108	107.5650	113.1452	118.1359	124.1162	128.2987
100	67.32753	70.06500	74.22188	77.92944	82.35813	118.4980	124.3221	129.5613	135.8069	140.1697



TABLE A.13

p-Values for Mann-Whitney U
Statistic Small Samples
($n_1 \dots n_2$)

		n_1			
n_2	3	U_0	1	2	3
		0	.25	.10	.05
		1	.50	.20	.10
		2		.40	.20
		3		.60	.35
		4			.50

		n_1				
n_2	4	U_0	1	2	3	4
		0	.2000	.0667	.0286	.0143
		1	.4000	.1333	.0571	.0286
		2	.6000	.2667	.1143	.0571
		3		.4000	.2000	.1000
		4		.6000	.3143	.1714
		5			.4286	.2429
		6			.5714	.3429
		7				.4429
		8				.5571

		n_1					
n_2	5	U_0	1	2	3	4	5
		0	.1667	.0476	.0179	.0079	.0040
		1	.3333	.0952	.0357	.0159	.0079
		2	.5000	.1905	.0714	.0317	.0159
		3		.2857	.1250	.0556	.0278
		4		.4286	.1964	.0952	.0476
		5		.5714	.2857	.1429	.0754
		6			.3929	.2063	.1111
		7			.5000	.2778	.1548
		8				.3651	.2103
		9				.4524	.2738
		10				.5476	.3452
		11					.4206
		12					.5000



TABLE 8
P-Values for Mann-Whitney U
Statistic Small Samples
($n_1 \dots n_2$) (Continued)

n_2	6	U_0	n_1						
			1	2	3	4	5	6	
		0	.1429	.0357	.0119	.0048	.0022	.0011	
		1	.2857	.0714	.0238	.0095	.0043	.0022	
		2	.4286	.1429	.0476	.0190	.0087	.0043	
		3	.5714	.2143	.0833	.0333	.0152	.0076	
		4		.3214	.1310	.0571	.0260	.0130	
		5		.4286	.1905	.0857	.0411	.0206	
		6		.5714	.2738	.1286	.0628	.0325	
		7			.3571	.1762	.0887	.0465	
		8			.4524	.2381	.1234	.0660	
		9			.5476	.3048	.1645	.0898	
		10				.3810	.2143	.1201	
		11				.4571	.2684	.1548	
		12				.5429	.3312	.1970	
		13					.3961	.2424	
		14					.4654	.2944	
		15					.5346	.3496	
		16						.4091	
		17						.4686	
		18						.5314	
$n_2 = 7$		U_0	n_1						
			1	2	3	4	5	6	7
		0	.1250	.0278	.0083	.0030	.0013	.0006	.0003
		1	.2500	.0556	.0167	.0061	.0025	.0012	.0006
		2	.3750	.1111	.0333	.0121	.0051	.0023	.0012
		3	.5000	.1667	.0583	.0212	.0088	.0041	.0020
		4		.2500	.0917	.0364	.0152	.0070	.0035
		5		.3333	.1333	.0545	.0240	.0111	.0055
		6		.4444	.1917	.0818	.0366	.0175	.0087
		7		.5556	.2583	.1152	.0530	.0256	.0131
		8			.3333	.1576	.0745	.0367	.0189
		9			.4167	.2061	.1010	.0507	.0265
		10			.5000	.2636	.1338	.0688	.0364
		11				.3242	.1717	.0903	.0487
		12				.3939	.2159	.1171	.0641
		13				.4636	.2652	.1474	.0825
		14				.5364	.3194	.1830	.1043
		15					.3775	.2226	.1297
		16					.4381	.2669	.1588
		17					.5000	.3141	.1914
		18						.3654	.2279
		19						.4178	.2675
		20						.4726	.3100
		21						.5274	.3552
		22							.4024
		23							.4508
		24							.5000

(Continued)



TABLE 8

p-Values for Mann-Whitney U
Statistic Small Samples
($n_1 \dots n_2$) (Continued)

n_2	8	U_0	n_1							
			1	2	3	4	5	6	7	8
0			.1111	.0222	.0061	.0020	.0008	.0003	.0002	.0001
1			.2222	.0444	.0121	.0040	.0016	.0007	.0003	.0002
2			.3333	.0889	.0242	.0081	.0031	.0013	.0006	.0003
3			.4444	.1333	.0424	.0141	.0054	.0023	.0011	.0005
4			.5556	.2000	.0667	.0242	.0093	.0040	.0019	.0009
5				.2667	.0970	.0364	.0148	.0063	.0030	.0015
6				.3556	.1394	.0545	.0225	.0100	.0047	.0023
7				.4444	.1879	.0768	.0326	.0147	.0070	.0035
8				.5556	.2485	.1071	.0466	.0213	.0103	.0052
9					.3152	.1414	.0637	.0296	.0145	.0074
10					.3879	.1838	.0855	.0406	.0200	.0103
11					.4606	.2303	.1111	.0539	.0270	.0141
12					.5394	.2848	.1422	.0709	.0361	.0190
13						.3414	.1772	.0906	.0469	.0249
14						.4040	.2176	.1142	.0603	.0325
15						.4667	.2618	.1412	.0760	.0415
16						.5333	.3108	.1725	.0946	.0524
17							.3621	.2068	.1159	.0652
18							.4165	.2454	.1405	.0803
19							.4716	.2864	.1678	.0974
20							.5284	.3310	.1984	.1172
21								.3773	.2317	.1393
22								.4259	.2679	.1641
23								.4749	.3063	.1911
24								.5251	.3472	.2209
25									.3894	.2527
26									.4333	.2869
27									.4775	.3227
28									.5225	.3605
29										.3992
30										.4392
31										.4796
32										.5204

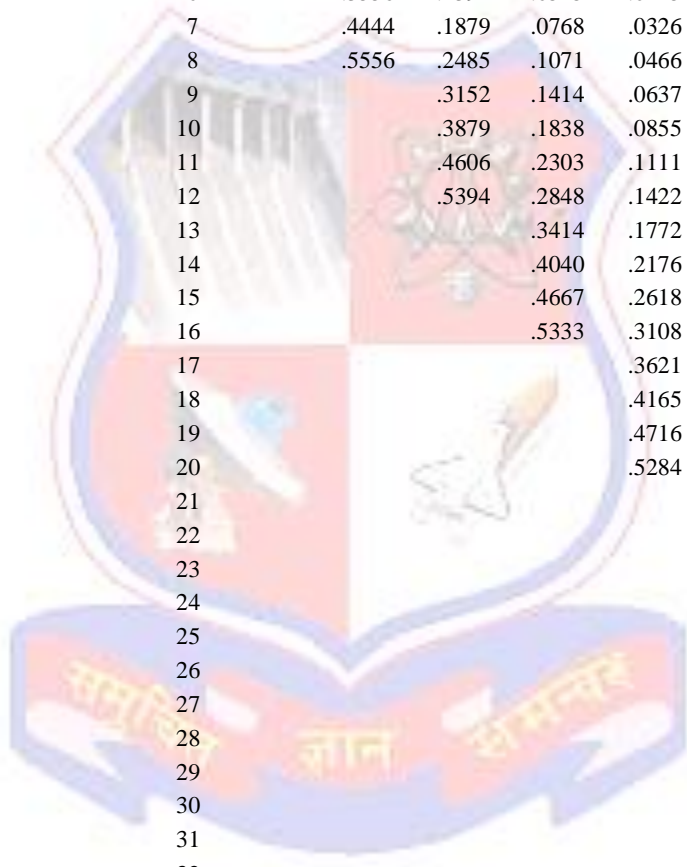




TABLE 8
p-Values for Mann-Whitney U
Statistic Small Samples
(n₁ ... n₂) (Continued)

		<i>n</i> ₁									
<i>n</i> ₂	9	<i>U</i> ₀	1	2	3	4	5	6	7	8	9
	0	.1000	.0182	.0045	.0014	.0005	.0002	.0001	.0000	.0000	
	1	.2000	.0364	.0091	.0028	.0010	.0004	.0002	.0001	.0000	
	2	.3000	.0727	.0182	.0056	.0020	.0008	.0003	.0002	.0001	
	3	.4000	.1091	.0318	.0098	.0035	.0014	.0006	.0003	.0001	
	4	.5000	.1636	.0500	.0168	.0060	.0024	.0010	.0005	.0002	
	5		.2182	.0727	.0252	.0095	.0038	.0017	.0008	.0004	
	6		.2909	.1045	.0378	.0145	.0060	.0026	.0012	.0006	
	7		.3636	.1409	.0531	.0210	.0088	.0039	.0019	.0009	
	8		.4545	.1864	.0741	.0300	.0128	.0058	.0028	.0014	
	9		.5455	.2409	.0993	.0415	.0180	.0082	.0039	.0020	
	10			.3000	.1301	.0559	.0248	.0115	.0056	.0028	
	11			.3636	.1650	.0734	.0332	.0156	.0076	.0039	
	12			.4318	.2070	.0949	.0440	.0209	.0103	.0053	
	13			.5000	.2517	.1199	.0567	.0274	.0137	.0071	
	14				.3021	.1489	.0723	.0356	.0180	.0094	
	15				.3552	.1818	.0905	.0454	.0232	.0122	
	16				.4126	.2188	.1119	.0571	.0296	.0157	
	17				.4699	.2592	.1361	.0708	.0372	.0200	
	18				.5301	.3032	.1638	.0869	.0464	.0252	
	19					.3497	.1942	.1052	.0570	.0313	
	20					.3986	.2280	.1261	.0694	.0385	
	21					.4491	.2643	.1496	.0836	.0470	
	22					.5000	.3035	.1755	.0998	.0567	
	23						.3445	.2039	.1179	.0680	
	24						.3878	.2349	.1383	.0807	
	25						.4320	.2680	.1606	.0951	
	26						.4773	.3032	.1852	.1112	
	27						.5227	.3403	.2117	.1290	
	28							.3788	.2404	.1487	
	29							.4185	.2707	.1701	
	30							.4591	.3029	.1933	
	31							.5000	.3365	.2181	
	32								.3715	.2447	
	33								.4074	.2729	
	34								.4442	.3024	
	35								.4813	.3332	
	36								.5187	.3652	
	37									.3981	
	38									.4317	
	39									.4657	
	40									.5000	

(Continued)



TABLE 8

p-Values for Mann-Whitney U
Statistic Small Samples
($n_1 \dots n_2$) (Continued)

n_2	n_1											
	10	U_0	1	2	3	4	5	6	7	8	9	10
0		.0909	.0152	.0035	.0010	.0003	.0001	.0001	.0000	.0000	.0000	.0000
1		.1818	.0303	.0070	.0020	.0007	.0002	.0001	.0000	.0000	.0000	.0000
2		.2727	.0606	.0140	.0040	.0013	.0005	.0002	.0001	.0000	.0000	.0000
3		.3636	.0909	.0245	.0070	.0023	.0009	.0004	.0002	.0001	.0000	.0000
4		.4545	.1364	.0385	.0120	.0040	.0015	.0006	.0003	.0001	.0001	.0001
5		.5455	.1818	.0559	.0180	.0063	.0024	.0010	.0004	.0002	.0001	.0001
6			.2424	.0804	.0270	.0097	.0037	.0015	.0007	.0003	.0002	.0002
7			.3030	.1084	.0380	.0140	.0055	.0023	.0010	.0005	.0002	.0002
8			.3788	.1434	.0529	.0200	.0080	.0034	.0015	.0007	.0004	.0004
9			.4545	.1853	.0709	.0276	.0112	.0048	.0022	.0011	.0005	.0005
10			.5455	.2343	.0939	.0376	.0156	.0068	.0031	.0015	.0008	.0008
11				.2867	.1199	.0496	.0210	.0093	.0043	.0021	.0010	.0010
12				.3462	.1518	.0646	.0280	.0125	.0058	.0028	.0014	.0014
13				.4056	.1868	.0823	.0363	.0165	.0078	.0038	.0019	.0019
14				.4685	.2268	.1032	.0467	.0215	.0103	.0051	.0026	.0026
15				.5315	.2697	.1272	.0589	.0277	.0133	.0066	.0034	.0034
16					.3177	.1548	.0736	.0351	.0171	.0086	.0045	.0045
17					.3666	.1855	.0903	.0439	.0217	.0110	.0057	.0057
18					.4196	.2198	.1099	.0544	.0273	.0140	.0073	.0073
19					.4725	.2567	.1317	.0665	.0338	.0175	.0093	.0093
20					.5275	.2970	.1566	.0806	.0416	.0217	.0116	.0116
21						.3393	.1838	.0966	.0506	.0267	.0144	.0144
22						.3839	.2139	.1148	.0610	.0326	.0177	.0177
23						.4296	.2461	.1349	.0729	.0394	.0216	.0216
24						.4765	.2811	.1574	.0864	.0474	.0262	.0262
25						.5235	.3177	.1819	.1015	.0564	.0315	.0315
26							.3564	.2087	.1185	.0667	.0376	.0376
27							.3962	.2374	.1371	.0782	.0446	.0446
28							.4374	.2681	.1577	.0912	.0526	.0526
29							.4789	.3004	.1800	.1055	.0615	.0615
30							.5211	.3345	.2041	.1214	.0716	.0716
31								.3698	.2299	.1388	.0827	.0827
32								.4063	.2574	.1577	.0952	.0952
33								.4434	.2863	.1781	.1088	.1088
34								.4811	.3167	.2001	.1237	.1237
35								.5189	.3482	.2235	.1399	.1399
36									.3809	.2483	.1575	.1575
37									.4143	.2745	.1763	.1763
38									.4484	.3019	.1965	.1965
39									.4827	.3304	.2179	.2179
40									.5173	.3598	.2406	.2406
41										.3901	.2644	.2644
42										.4211	.2894	.2894
43										.4524	.3153	.3153
44										.4841	.3421	.3421
45										.5159	.3697	.3697
46											.3980	.3980
47											.4267	.4267
48											.4559	.4559
49											.4853	.4853
50											.5147	.5147



TABLE 9
Critical Values of T for the
Wilcoxon Matched-Pairs
Signed Rank Test (Small
Samples)

1-SIDED	2-SIDED	n = 5	6	7	8	9	10
a = .05	a = .10	1	2	4	6	8	11
a = .025	a = .05		1	2	4	6	8
a = .01	a = .02			0	2	3	5
a = .005	a = .01				0	2	3
1-SIDED	2-SIDED	n = 11	12	13	14	15	16
a = .05	a = .10	14	17	21	26	30	36
a = .025	a = .05	11	14	17	21	25	30
a = .01	a = .02	7	10	13	16	20	24
a = .005	a = .01	5	7	10	13	16	19
1-SIDED	2-SIDED	n = 17	18	19	20	21	22
a = .05	a = .10	41	47	54	60	68	75
a = .025	a = .05	35	40	46	52	59	66
a = .01	a = .02	28	33	38	43	49	56
a = .005	a = .01	23	28	32	37	43	49
1-SIDED	2-SIDED	n = 23	24	25	26	27	28
a = .05	a = .10	83	92	101	110	120	130
a = .025	a = .05	73	81	90	98	107	117
a = .01	a = .02	62	69	77	85	93	102
a = .005	a = .01	55	61	68	76	84	92
1-SIDED	2-SIDED	n = 29	30	31	32	33	34
a = .05	a = .10	141	152	163	175	188	201
a = .025	a = .05	127	137	148	159	171	183
a = .01	a = .02	111	120	130	141	151	162
a = .005	a = .01	100	109	118	128	138	149
1-SIDED	2-SIDED	n = 35	36	37	38	39	
a = .05	a = .10	214	228	242	256	271	
a = .025	a = .05	195	208	222	235	250	
a = .01	a = .02	174	186	198	211	224	
a = .005	a = .01	160	171	183	195	208	
1-SIDED	2-SIDED	n = 40	41	42	43	44	45
a = .05	a = .10	287	303	319	336	353	371
a = .025	a = .05	264	279	295	311	327	344
a = .01	a = .02	238	252	267	281	297	313
a = .005	a = .01	221	234	248	262	277	292
1-SIDED	2-SIDED	n = 46	47	48	49	50	
a = .05	a = .10	389	408	427	446	466	
a = .025	a = .05	361	379	397	415	434	
a = .01	a = .02	329	345	362	380	398	
a = .005	a = .01	307	323	339	356	373	