

TABLE 2

$$\text{CUMULATIVE BINOMIAL PROBABILITIES } P[X \leq c] = \sum_{x=0}^c \binom{n}{x} p^x (1-p)^{n-x}$$

		<i>p</i>										
		.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
<i>n</i> = 1	0	.950	.900	.800	.700	.600	.500	.400	.300	.200	.100	.050
	1	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
<i>n</i> = 2	0	.902	.810	.640	.490	.360	.250	.160	.090	.040	.010	.002
	1	.997	.990	.960	.910	.840	.750	.640	.510	.360	.190	.097
	2	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
<i>n</i> = 3	0	.857	.729	.512	.343	.216	.125	.064	.027	.008	.001	.000
	1	.993	.972	.896	.784	.648	.500	.352	.216	.104	.028	.007
	2	1.000	.999	.992	.973	.936	.875	.784	.657	.488	.271	.143
	3	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
<i>n</i> = 4	0	.815	.656	.410	.240	.130	.063	.026	.008	.002	.000	.000
	1	.986	.948	.819	.652	.475	.313	.179	.084	.027	.004	.000
	2	1.000	.996	.973	.916	.821	.688	.525	.348	.181	.052	.014
	3	1.000	1.000	.998	.992	.974	.938	.870	.760	.590	.344	.185
	4	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
<i>n</i> = 5	0	.774	.590	.328	.168	.078	.031	.010	.002	.000	.000	.000
	1	.977	.919	.737	.528	.337	.188	.087	.031	.007	.000	.000
	2	.999	.991	.942	.837	.683	.500	.317	.163	.058	.009	.001
	3	1.000	1.000	.993	.969	.913	.813	.663	.472	.263	.081	.023
	4	1.000	1.000	1.000	.998	.990	.969	.922	.832	.672	.410	.226
	5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
<i>n</i> = 6	0	.735	.531	.262	.118	.047	.016	.004	.001	.000	.000	.000
	1	.967	.886	.655	.420	.233	.109	.041	.011	.002	.000	.000
	2	.998	.984	.901	.744	.544	.344	.179	.070	.017	.001	.000
	3	1.000	.999	.983	.930	.821	.656	.456	.256	.099	.016	.002
	4	1.000	1.000	.998	.989	.959	.891	.767	.580	.345	.114	.033
	5	1.000	1.000	1.000	.999	.996	.984	.953	.882	.738	.469	.265
	6	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
<i>n</i> = 7	0	.698	.478	.210	.082	.028	.008	.002	.000	.000	.000	.000
	1	.956	.850	.577	.329	.159	.063	.019	.004	.000	.000	.000
	2	.996	.974	.852	.647	.420	.227	.096	.029	.005	.000	.000
	3	1.000	.997	.967	.874	.710	.500	.290	.126	.033	.003	.000
	4	1.000	1.000	.995	.971	.904	.773	.580	.353	.148	.026	.004

TABLE 2 (Continued)

		<i>p</i>										
		.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
<i>c</i>	5	1.000	1.000	1.000	.996	.981	.938	.841	.671	.423	.150	.044
	6	1.000	1.000	1.000	1.000	.998	.992	.972	.918	.790	.522	.302
	7	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
<i>n</i> = 8	0	.663	.430	.168	.058	.017	.004	.001	.000	.000	.000	.000
	1	.943	.813	.503	.255	.106	.035	.009	.001	.000	.000	.000
	2	.994	.962	.797	.552	.315	.145	.050	.011	.001	.000	.000
	3	1.000	.995	.944	.806	.594	.363	.174	.058	.010	.000	.000
	4	1.000	1.000	.990	.942	.826	.637	.406	.194	.056	.005	.000
	5	1.000	1.000	.999	.989	.950	.855	.685	.448	.203	.038	.006
	6	1.000	1.000	1.000	.999	.991	.965	.894	.745	.497	.187	.057
	7	1.000	1.000	1.000	1.000	.999	.996	.983	.942	.832	.570	.337
	8	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
<i>n</i> = 9	0	.630	.387	.134	.040	.010	.002	.000	.000	.000	.000	.000
	1	.929	.775	.436	.196	.071	.020	.004	.000	.000	.000	.000
	2	.992	.947	.738	.463	.232	.090	.025	.004	.000	.000	.000
	3	.999	.992	.914	.730	.483	.254	.099	.025	.003	.000	.000
	4	1.000	.999	.980	.901	.733	.500	.267	.099	.020	.001	.000
	5	1.000	1.000	.997	.975	.901	.746	.517	.270	.086	.008	.001
	6	1.000	1.000	1.000	.996	.975	.910	.768	.537	.262	.053	.008
	7	1.000	1.000	1.000	1.000	.996	.980	.929	.804	.564	.225	.071
	8	1.000	1.000	1.000	1.000	1.000	.998	.990	.960	.866	.613	.370
	9	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
<i>n</i> = 10	0	.599	.349	.107	.028	.006	.001	.000	.000	.000	.000	.000
	1	.914	.736	.376	.149	.046	.011	.002	.000	.000	.000	.000
	2	.988	.930	.678	.383	.167	.055	.012	.002	.000	.000	.000
	3	.999	.987	.879	.650	.382	.172	.055	.011	.001	.000	.000
	4	1.000	.998	.967	.850	.633	.377	.166	.047	.006	.000	.000
	5	1.000	1.000	.994	.953	.834	.623	.367	.150	.033	.002	.000
	6	1.000	1.000	.999	.989	.945	.828	.618	.350	.121	.013	.001
	7	1.000	1.000	1.000	.998	.988	.945	.833	.617	.322	.070	.012
	8	1.000	1.000	1.000	1.000	.998	.989	.954	.851	.624	.264	.086
	9	1.000	1.000	1.000	1.000	1.000	.999	.994	.972	.893	.651	.401
	10	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
<i>n</i> = 11	0	.569	.314	.086	.020	.004	.000	.000	.000	.000	.000	.000
	1	.898	.697	.322	.113	.030	.006	.001	.000	.000	.000	.000
	2	.985	.910	.617	.313	.119	.033	.006	.001	.000	.000	.000
	3	.998	.981	.839	.570	.296	.113	.029	.004	.000	.000	.000

TABLE 2 (Continued)

		<i>P</i>										
		.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
<i>c</i>												
	4	1.000	.997	.950	.790	.533	.274	.099	.022	.002	.000	.000
	5	1.000	1.000	.988	.922	.753	.500	.247	.078	.012	.000	.000
	6	1.000	1.000	.998	.978	.901	.726	.467	.210	.050	.003	.000
	7	1.000	1.000	1.000	.996	.971	.887	.704	.430	.161	.019	.002
	8	1.000	1.000	1.000	.999	.994	.967	.881	.687	.383	.090	.015
	9	1.000	1.000	1.000	1.000	.999	.994	.970	.887	.678	.303	.102
	10	1.000	1.000	1.000	1.000	1.000	1.000	.996	.980	.914	.686	.431
	11	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
<i>n = 12</i>												
	0	.540	.282	.069	.014	.002	.000	.000	.000	.000	.000	.000
	1	.882	.659	.275	.085	.020	.003	.000	.000	.000	.000	.000
	2	.980	.889	.558	.253	.083	.019	.003	.000	.000	.000	.000
	3	.998	.974	.795	.493	.225	.073	.015	.002	.000	.000	.000
	4	1.000	.996	.927	.724	.438	.194	.057	.009	.001	.000	.000
	5	1.000	.999	.981	.882	.665	.387	.158	.039	.004	.000	.000
	6	1.000	1.000	.996	.961	.842	.613	.335	.118	.019	.001	.000
	7	1.000	1.000	.999	.991	.943	.806	.562	.276	.073	.004	.000
	8	1.000	1.000	1.000	.998	.985	.927	.775	.507	.205	.026	.002
	9	1.000	1.000	1.000	1.000	.997	.981	.917	.747	.442	.111	.020
	10	1.000	1.000	1.000	1.000	1.000	.997	.980	.915	.725	.341	.118
	11	1.000	1.000	1.000	1.000	1.000	1.000	.998	.986	.931	.718	.460
	12	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
<i>n = 13</i>												
	0	.513	.254	.055	.010	.001	.000	.000	.000	.000	.000	.000
	1	.865	.621	.234	.064	.013	.002	.000	.000	.000	.000	.000
	2	.975	.866	.502	.202	.058	.011	.001	.000	.000	.000	.000
	3	.997	.966	.747	.421	.169	.046	.008	.001	.000	.000	.000
	4	1.000	.994	.901	.654	.353	.133	.032	.004	.000	.000	.000
	5	1.000	.999	.970	.835	.574	.291	.098	.018	.001	.000	.000
	6	1.000	1.000	.993	.938	.771	.500	.229	.062	.007	.000	.000
	7	1.000	1.000	.999	.982	.902	.709	.426	.165	.030	.001	.000
	8	1.000	1.000	1.000	.996	.968	.867	.647	.346	.099	.006	.000
	9	1.000	1.000	1.000	.999	.992	.954	.831	.579	.253	.034	.003
	10	1.000	1.000	1.000	1.000	.999	.989	.942	.798	.498	.134	.025
	11	1.000	1.000	1.000	1.000	1.000	.998	.987	.936	.766	.379	.135
	12	1.000	1.000	1.000	1.000	1.000	1.000	.999	.990	.945	.746	.487
	13	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
<i>n = 14</i>												
	0	.488	.229	.044	.007	.001	.000	.000	.000	.000	.000	.000
	1	.847	.585	.198	.047	.008	.001	.000	.000	.000	.000	.000
	2	.970	.842	.448	.161	.040	.006	.001	.000	.000	.000	.000

*n = 1**n =*

TABLE 2 (Continued)

		.05	.10	.20	.30	.40	<i>P</i> .50	.60	.70	.80	.90	.95
<i>c</i>												
3		.996	.956	.698	.355	.124	.029	.004	.000	.000	.000	.000
4		1.000	.991	.870	.584	.279	.090	.018	.002	.000	.000	.000
5		1.000	.999	.956	.781	.486	.212	.058	.008	.000	.000	.000
6		1.000	1.000	.988	.907	.692	.395	.150	.031	.002	.000	.000
7		1.000	1.000	.998	.969	.850	.605	.308	.093	.012	.000	.000
8		1.000	1.000	1.000	.992	.942	.788	.514	.219	.044	.001	.000
9		1.000	1.000	1.000	.998	.982	.910	.721	.416	.130	.009	.000
10		1.000	1.000	1.000	1.000	.996	.971	.876	.645	.302	.044	.004
11		1.000	1.000	1.000	1.000	.999	.994	.960	.839	.552	.158	.030
12		1.000	1.000	1.000	1.000	1.000	.999	.992	.953	.802	.415	.153
13		1.000	1.000	1.000	1.000	1.000	1.000	.999	.993	.956	.771	.512
14		1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
<i>n = 15</i>												
0		.463	.206	.035	.005	.000	.000	.000	.000	.000	.000	.000
1		.829	.549	.167	.035	.005	.000	.000	.000	.000	.000	.000
2		.964	.816	.398	.127	.027	.004	.000	.000	.000	.000	.000
3		.995	.944	.648	.297	.091	.018	.002	.000	.000	.000	.000
4		.999	.987	.836	.515	.217	.059	.009	.001	.000	.000	.000
5		1.000	.998	.939	.722	.403	.151	.034	.004	.000	.000	.000
6		1.000	1.000	.982	.869	.610	.304	.095	.015	.001	.000	.000
7		1.000	1.000	.996	.950	.787	.500	.213	.050	.004	.000	.000
8		1.000	1.000	.999	.985	.905	.696	.390	.131	.018	.000	.000
9		1.000	1.000	1.000	.996	.966	.849	.597	.278	.061	.002	.000
10		1.000	1.000	1.000	.999	.991	.941	.783	.485	.164	.013	.001
11		1.000	1.000	1.000	1.000	.998	.982	.909	.703	.352	.056	.005
12		1.000	1.000	1.000	1.000	1.000	.996	.973	.873	.602	.184	.036
13		1.000	1.000	1.000	1.000	1.000	1.000	.995	.965	.833	.451	.171
14		1.000	1.000	1.000	1.000	1.000	1.000	1.000	.995	.965	.794	.537
15		1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
<i>n = 16</i>												
0		.440	.185	.028	.003	.000	.000	.000	.000	.000	.000	.000
1		.811	.515	.141	.026	.003	.000	.000	.000	.000	.000	.000
2		.957	.789	.352	.099	.018	.002	.000	.000	.000	.000	.000
3		.993	.932	.598	.246	.065	.011	.001	.000	.000	.000	.000
4		.999	.983	.798	.450	.167	.038	.005	.000	.000	.000	.000
5		1.000	.997	.918	.660	.329	.105	.019	.002	.000	.000	.000
6		1.000	.999	.973	.825	.527	.227	.058	.007	.000	.000	.000
7		1.000	1.000	.993	.926	.716	.402	.142	.026	.001	.000	.000
8		1.000	1.000	.999	.974	.858	.598	.284	.074	.007	.000	.000
9		1.000	1.000	1.000	.993	.942	.773	.473	.175	.027	.001	.000
10		1.000	1.000	1.000	.998	.981	.895	.671	.340	.082	.003	.000

TABLE 2 (Continued)

		.05	.10	.20	.30	.40	<i>P</i>					.95
							.50	.60	.70	.80	.90	
<i>c</i>												
	11	1.000	1.000	1.000	1.000	.995	.962	.833	.550	.202	.017	.001
	12	1.000	1.000	1.000	1.000	.999	.989	.935	.754	.402	.068	.007
	13	1.000	1.000	1.000	1.000	1.000	.998	.982	.901	.648	.211	.043
	14	1.000	1.000	1.000	1.000	1.000	1.000	.997	.974	.859	.485	.189
	15	1.000	1.000	1.000	1.000	1.000	1.000	1.000	.997	.972	.815	.560
	16	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
<i>n</i> = 17	0	.418	.167	.023	.002	.000	.000	.000	.000	.000	.000	.000
	1	.792	.482	.118	.019	.002	.000	.000	.000	.000	.000	.000
	2	.950	.762	.310	.077	.012	.001	.000	.000	.000	.000	.000
	3	.991	.917	.549	.202	.046	.006	.000	.000	.000	.000	.000
	4	.999	.978	.758	.389	.126	.025	.003	.000	.000	.000	.000
	5	1.000	.995	.894	.597	.264	.072	.011	.001	.000	.000	.000
	6	1.000	.999	.962	.775	.448	.166	.035	.003	.000	.000	.000
	7	1.000	1.000	.989	.895	.641	.315	.092	.013	.000	.000	.000
	8	1.000	1.000	.997	.960	.801	.500	.199	.040	.003	.000	.000
	9	1.000	1.000	1.000	.987	.908	.685	.359	.105	.011	.000	.000
	10	1.000	1.000	1.000	.997	.965	.834	.552	.225	.038	.001	.000
	11	1.000	1.000	1.000	.999	.989	.928	.736	.403	.106	.005	.000
	12	1.000	1.000	1.000	1.000	.997	.975	.874	.611	.242	.022	.001
	13	1.000	1.000	1.000	1.000	1.000	.994	.954	.798	.451	.083	.009
	14	1.000	1.000	1.000	1.000	1.000	.999	.988	.923	.690	.238	.050
	15	1.000	1.000	1.000	1.000	1.000	1.000	.998	.981	.882	.518	.208
	16	1.000	1.000	1.000	1.000	1.000	1.000	1.000	.998	.977	.833	.582
	17	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
<i>n</i> = 18	0	.397	.150	.018	.002	.000	.000	.000	.000	.000	.000	.000
	1	.774	.450	.099	.014	.001	.000	.000	.000	.000	.000	.000
	2	.942	.734	.271	.060	.008	.001	.000	.000	.000	.000	.000
	3	.989	.902	.501	.165	.033	.004	.000	.000	.000	.000	.000
	4	.998	.972	.716	.333	.094	.015	.001	.000	.000	.000	.000
	5	1.000	.994	.867	.534	.209	.048	.006	.000	.000	.000	.000
	6	1.000	.999	.949	.722	.374	.119	.020	.001	.000	.000	.000
	7	1.000	1.000	.984	.859	.563	.240	.058	.006	.000	.000	.000
	8	1.000	1.000	.996	.940	.737	.407	.135	.021	.001	.000	.000
	9	1.000	1.000	.999	.979	.865	.593	.263	.060	.004	.000	.000
	10	1.000	1.000	1.000	.994	.942	.760	.437	.141	.016	.000	.000
	11	1.000	1.000	1.000	.999	.980	.881	.626	.278	.051	.001	.000
	12	1.000	1.000	1.000	1.000	.994	.952	.791	.466	.133	.006	.000
	13	1.000	1.000	1.000	1.000	.999	.985	.906	.667	.284	.028	.002
	14	1.000	1.000	1.000	1.000	1.000	.996	.967	.835	.499	.098	.011

*n* = 19

*n* = 20

1  
1  
1  
1  
1

TABLE 2 (Continued)

		<i>p</i>										
		.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
<i>c</i>												
15		1.000	1.000	1.000	1.000	1.000	.999	.992	.940	.729	.266	.058
16		1.000	1.000	1.000	1.000	1.000	1.000	.999	.986	.901	.550	.226
17		1.000	1.000	1.000	1.000	1.000	1.000	1.000	.998	.982	.850	.603
18		1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
<i>n = 19</i>												
0		.377	.135	.014	.001	.000	.000	.000	.000	.000	.000	.000
1		.755	.420	.083	.010	.001	.000	.000	.000	.000	.000	.000
2		.933	.705	.237	.046	.005	.000	.000	.000	.000	.000	.000
3		.987	.885	.455	.133	.023	.002	.000	.000	.000	.000	.000
4		.998	.965	.673	.282	.070	.010	.001	.000	.000	.000	.000
5		1.000	.991	.837	.474	.163	.032	.003	.000	.000	.000	.000
6		1.000	.998	.932	.666	.308	.084	.012	.001	.000	.000	.000
7		1.000	1.000	.977	.818	.488	.180	.035	.003	.000	.000	.000
8		1.000	1.000	.993	.916	.667	.324	.088	.011	.000	.000	.000
9		1.000	1.000	.998	.967	.814	.500	.186	.033	.002	.000	.000
10		1.000	1.000	1.000	.989	.912	.676	.333	.084	.007	.000	.000
11		1.000	1.000	1.000	.997	.965	.820	.512	.182	.023	.000	.000
12		1.000	1.000	1.000	.999	.988	.916	.692	.334	.068	.002	.000
13		1.000	1.000	1.000	1.000	.997	.968	.837	.526	.163	.009	.000
14		1.000	1.000	1.000	1.000	.999	.990	.930	.718	.327	.035	.002
15		1.000	1.000	1.000	1.000	1.000	.998	.977	.867	.545	.115	.013
16		1.000	1.000	1.000	1.000	1.000	1.000	.995	.954	.763	.295	.067
17		1.000	1.000	1.000	1.000	1.000	1.000	.999	.990	.917	.580	.245
18		1.000	1.000	1.000	1.000	1.000	1.000	1.000	.999	.986	.865	.623
19		1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
<i>n = 20</i>												
0		.358	.122	.012	.001	.000	.000	.000	.000	.000	.000	.000
1		.736	.392	.069	.008	.001	.000	.000	.000	.000	.000	.000
2		.925	.677	.206	.035	.004	.000	.000	.000	.000	.000	.000
3		.984	.867	.411	.107	.016	.001	.000	.000	.000	.000	.000
4		.997	.957	.630	.238	.051	.006	.000	.000	.000	.000	.000
5		1.000	.989	.804	.416	.126	.021	.002	.000	.000	.000	.000
6		1.000	.998	.913	.608	.250	.058	.006	.000	.000	.000	.000
7		1.000	1.000	.968	.772	.416	.132	.021	.001	.000	.000	.000
8		1.000	1.000	.990	.887	.596	.252	.057	.005	.000	.000	.000
9		1.000	1.000	.997	.952	.755	.412	.128	.017	.001	.000	.000
10		1.000	1.000	.999	.983	.872	.588	.245	.048	.003	.000	.000
11		1.000	1.000	1.000	.995	.943	.748	.404	.113	.010	.000	.000
12		1.000	1.000	1.000	.999	.979	.868	.584	.228	.032	.000	.000
13		1.000	1.000	1.000	1.000	.994	.942	.750	.392	.087	.002	.000
14		1.000	1.000	1.000	1.000	.998	.979	.874	.584	.196	.011	.000

