

Table 2 Probability Function of the Binomial Distribution

The table shows the probability of x successes in n independent trials, each with probability of success P . For example, the probability of four successes in eight independent trials, each with probability of success .35, is .1875.

n	x	P									
		.05	.10	.15	.20	.25	.30	.35	.40	.45	.50
1	0	.9500	.9000	.8500	.8000	.7500	.7000	.6500	.6000	.5500	.5000
1	1	.0500	.1000	.1500	.2000	.2500	.3000	.3500	.4000	.4500	.5000
2	0	.9025	.8100	.7225	.6400	.5625	.4900	.4225	.3600	.3025	.2500
2	1	.0950	.1800	.2550	.3200	.3750	.4200	.4550	.4800	.4950	.5000
2	2	.0025	.0100	.0225	.0400	.0625	.0900	.1225	.1600	.2025	.2500
3	0	.8574	.7290	.6141	.5120	.4219	.3430	.2746	.2160	.1664	.1250
3	1	.1354	.2430	.3251	.3840	.4219	.4410	.4436	.4320	.4084	.3750
3	2	.0071	.0270	.0574	.0960	.1406	.1890	.2389	.2880	.3341	.3750
3	3	.0001	.0010	.0034	.0080	.0156	.0270	.0429	.0640	.0911	.1250
4	0	.8145	.6561	.5220	.4096	.3164	.2401	.1785	.1296	.0915	.0625
4	1	.1715	.2916	.3685	.4096	.4219	.4116	.3845	.3456	.2995	.2500
4	2	.0135	.0486	.0975	.1536	.2109	.2646	.3105	.3456	.3675	.3750
4	3	.0005	.0036	.0115	.0256	.0469	.0756	.1115	.1536	.2005	.2500
4	4	.0000	.0001	.0005	.0016	.0039	.0081	.0150	.0256	.0410	.0625
5	0	.7738	.5905	.4437	.3277	.2373	.1681	.1160	.0778	.0503	.0312
5	1	.2036	.3280	.3915	.4096	.3955	.3602	.3124	.2592	.2059	.1562
5	2	.0214	.0729	.1382	.2048	.2637	.3087	.3364	.3456	.3369	.3125
5	3	.0011	.0081	.0244	.0512	.0879	.1323	.1811	.2304	.2757	.3125
5	4	.0000	.0004	.0022	.0064	.0146	.0284	.0488	.0768	.1128	.1562
5	5	.0000	.0000	.0001	.0003	.0010	.0024	.0053	.0102	.0185	.0312
6	0	.7351	.5314	.3771	.2621	.1780	.1176	.0754	.0467	.0277	.0156
6	1	.2321	.3543	.3993	.3932	.3560	.3025	.2437	.1866	.1359	.0938
6	2	.0305	.0984	.1762	.2458	.2966	.3241	.3280	.3110	.2780	.2344
6	3	.0021	.0146	.0415	.0819	.1318	.1852	.2355	.2765	.3032	.3125
6	4	.0001	.0012	.0055	.0154	.0330	.0595	.0951	.1382	.1861	.2344
6	5	.0000	.0001	.0004	.0015	.0044	.0102	.0205	.0369	.0609	.0938
6	6	.0000	.0000	.0000	.0001	.0002	.0007	.0018	.0041	.0083	.0156
7	0	.6983	.4783	.3206	.2097	.1335	.0824	.0490	.0280	.0152	.0078
7	1	.2573	.3720	.3960	.3670	.3115	.2471	.1848	.1306	.0872	.0547
7	2	.0406	.1240	.2097	.2753	.3115	.3177	.2985	.2613	.2140	.1641
7	3	.0036	.0230	.0617	.1147	.1730	.2269	.2679	.2903	.2918	.2734
7	4	.0002	.0026	.0109	.0287	.0577	.0972	.1442	.1935	.2388	.2734
7	5	.0000	.0002	.0012	.0043	.0115	.0250	.0466	.0774	.1172	.1641
7	6	.0000	.0000	.0001	.0004	.0013	.0036	.0084	.0172	.0320	.0547
7	7	.0000	.0000	.0000	.0000	.0001	.0002	.0006	.0016	.0037	.0078
8	0	.6634	.4305	.2725	.1678	.1001	.0576	.0319	.0168	.0084	.0039
8	1	.2793	.3826	.3847	.3355	.2670	.1977	.1373	.0896	.0548	.0312
8	2	.0515	.1488	.2376	.2936	.3115	.2965	.2587	.2090	.1569	.1094
8	3	.0054	.0331	.0839	.1468	.2076	.2541	.2786	.2787	.2568	.2188
8	4	.0004	.0046	.0185	.0459	.0865	.1361	.1875	.2322	.2627	.2734
8	5	.0000	.0004	.0026	.0092	.0231	.0467	.0808	.1239	.1719	.2188
8	6	.0000	.0000	.0002	.0011	.0038	.0100	.0217	.0413	.0703	.1094
8	7	.0000	.0000	.0000	.0001	.0004	.0012	.0033	.0079	.0164	.0312
8	8	.0000	.0000	.0000	.0000	.0000	.0001	.0002	.0007	.0017	.0039
9	0	.6302	.3874	.2316	.1342	.0751	.0404	.0207	.0101	.0046	.0020
9	1	.2985	.3874	.3679	.3020	.2253	.1556	.1004	.0605	.0339	.0176
9	2	.0629	.1722	.2597	.3020	.3003	.2668	.2162	.1612	.1110	.0703
9	3	.0077	.0446	.1069	.1762	.2336	.2668	.2716	.2508	.2119	.1641
9	4	.0006	.0074	.0283	.0661	.1168	.1715	.2194	.2508	.2600	.2461
9	5	.0000	.0008	.0050	.0165	.0389	.0735	.1181	.1672	.2128	.2461
9	6	.0000	.0001	.0006	.0028	.0087	.0210	.0424	.0743	.1160	.1641
9	7	.0000	.0000	.0000	.0003	.0012	.0039	.0098	.0212	.0407	.0703

Table 2 Probability Function of the Binomial Distribution Continued

<i>n</i>	<i>x</i>	<i>P</i>									
		.05	.10	.15	.20	.25	.30	.35	.40	.45	.50
8	8	.0000	.0000	.0000	.0000	.0001	.0004	.0013	.0035	.0083	.0207
	9	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0003	.0008	.0020
10	0	.5987	.3487	.1969	.1074	.0563	.0282	.0135	.0060	.0025	.0010
	1	.3151	.3874	.3474	.2684	.1877	.1211	.0725	.0403	.0207	.0109
	2	.0746	.1937	.2759	.3020	.2816	.2335	.1757	.1209	.0763	.0459
	3	.0105	.0574	.1298	.2013	.2503	.2668	.2522	.2150	.1665	.1177
	4	.0010	.0112	.0401	.0881	.1460	.2001	.2377	.2508	.2384	.2010
	5	.0001	.0015	.0085	.0264	.0584	.1029	.1536	.2007	.2340	.2420
	6	.0000	.0001	.0012	.0055	.0162	.0368	.0689	.1115	.1596	.2020
	7	.0000	.0000	.0001	.0008	.0031	.0090	.0212	.0425	.0746	.1072
	8	.0000	.0000	.0000	.0001	.0004	.0014	.0043	.0106	.0226	.0400
	9	.0000	.0000	.0000	.0000	.0000	.0001	.0004	.0016	.0042	.0080
10	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0003	.0007	
11	0	.5688	.3138	.1673	.0859	.0422	.0198	.0088	.0036	.0014	.0005
	1	.3293	.3835	.3248	.2362	.1549	.0932	.0518	.0266	.0125	.0060
	2	.0867	.2131	.2866	.2953	.2581	.1998	.1395	.0887	.0513	.0270
	3	.0137	.0710	.1517	.2215	.2581	.2568	.2254	.1774	.1259	.0800
	4	.0014	.0158	.0536	.1107	.1721	.2201	.2428	.2365	.2060	.1610
	5	.0001	.0025	.0132	.0388	.0803	.1321	.1830	.2207	.2360	.2110
	6	.0000	.0003	.0023	.0097	.0268	.0566	.0985	.1471	.1931	.2110
	7	.0000	.0000	.0003	.0017	.0064	.0173	.0379	.0701	.1128	.1480
	8	.0000	.0000	.0000	.0002	.0011	.0037	.0102	.0234	.0462	.0720
	9	.0000	.0000	.0000	.0000	.0001	.0005	.0018	.0052	.0126	.0220
	10	.0000	.0000	.0000	.0000	.0000	.0000	.0002	.0007	.0021	.0040
11	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0002	.0005	
12	0	.5404	.2824	.1422	.0687	.0317	.0138	.0057	.0022	.0008	.0003
	1	.3413	.3766	.3012	.2062	.1267	.0712	.0368	.0174	.0075	.0030
	2	.0988	.2301	.2924	.2835	.2323	.1678	.1088	.0639	.0339	.0180
	3	.0173	.0852	.1720	.2362	.2581	.2397	.1954	.1419	.0923	.0557
	4	.0021	.0213	.0683	.1329	.1936	.2311	.2367	.2128	.1700	.1230
	5	.0002	.0038	.0193	.0532	.1032	.1585	.2039	.2270	.2225	.1810
	6	.0000	.0005	.0040	.0155	.0401	.0792	.1281	.1766	.2124	.2110
	7	.0000	.0000	.0006	.0033	.0015	.0291	.0591	.1009	.1489	.1840
	8	.0000	.0000	.0001	.0005	.0024	.0078	.0199	.0420	.0762	.1080
	9	.0000	.0000	.0000	.0001	.0004	.0015	.0048	.0125	.0277	.0450
	10	.0000	.0000	.0000	.0000	.0000	.0002	.0008	.0025	.0068	.0120
	11	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0003	.0010	.0020
12	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0002	
13	0	.5133	.2542	.1209	.0550	.0238	.0097	.0037	.0013	.0004	.0001
	1	.3512	.3672	.2774	.1787	.1029	.0540	.0259	.0113	.0045	.0015
	2	.1109	.2448	.2937	.2680	.2059	.1388	.0836	.0453	.0220	.0100
	3	.0214	.0997	.1900	.2457	.2517	.2181	.1651	.1107	.0660	.0340
	4	.0028	.0277	.0838	.1535	.2097	.2337	.2222	.1845	.1350	.0870
	5	.0003	.0055	.0266	.0691	.1258	.1803	.2154	.2214	.1989	.1510
	6	.0000	.0008	.0063	.0230	.0559	.1030	.1546	.1968	.2169	.1840
	7	.0000	.0001	.0011	.0058	.0186	.0442	.0833	.1312	.1775	.2140
	8	.0000	.0000	.0001	.0011	.0047	.0142	.0336	.0656	.1089	.1510
	9	.0000	.0000	.0000	.0001	.0009	.0034	.0101	.0243	.0495	.0760
	10	.0000	.0000	.0000	.0000	.0001	.0006	.0022	.0065	.0162	.0290
	11	.0000	.0000	.0000	.0000	.0000	.0001	.0003	.0012	.0036	.0060
	12	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0005	.0010
13	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001	
14	0	.4877	.2288	.1028	.0440	.0178	.0068	.0024	.0008	.0002	.0001
	1	.3593	.3559	.2539	.1539	.0832	.0407	.0181	.0073	.0027	.0009
	2	.1229	.2570	.2912	.2501	.1802	.1134	.0634	.0317	.0141	.0050

Table 2 Probability Function of the Binomial Distribution Continued

<i>n</i>	<i>x</i>	<i>P</i>									
		.05	.10	.15	.20	.25	.30	.35	.40	.45	.50
3		.0259	.1142	.2056	.2501	.2402	.1943	.1366	.0845	.0462	.0222
4		.0037	.0348	.0998	.1720	.2202	.2290	.2022	.1549	.1040	.0611
5		.0004	.0078	.0352	.0860	.1468	.1963	.2178	.2066	.1701	.1222
6		.0000	.0013	.0093	.0322	.0734	.1262	.1759	.2066	.2088	.1833
7		.0000	.0002	.0019	.0092	.0280	.0618	.1082	.1574	.1952	.2095
8		.0000	.0000	.0003	.0020	.0082	.0232	.0510	.0918	.1398	.1833
9		.0000	.0000	.0000	.0003	.0018	.0066	.0183	.0408	.0762	.1222
10		.0000	.0000	.0000	.0000	.0003	.0014	.0049	.0136	.0312	.0611
11		.0000	.0000	.0000	.0000	.0000	.0002	.0010	.0033	.0093	.0222
12		.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0005	.0019	.0056
13		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0002	.0009
14		.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001
15	0	.4633	.2059	.0874	.0352	.0134	.0047	.0016	.0005	.0001	.0000
	1	.3658	.3432	.2312	.1319	.0668	.0305	.0126	.0047	.0016	.0005
	2	.1348	.2669	.2856	.2309	.1559	.0916	.0476	.0219	.0090	.0032
	3	.0307	.1285	.2184	.2501	.2252	.1700	.1110	.0634	.0318	.0139
	4	.0049	.0428	.1156	.1876	.2252	.2186	.1792	.1268	.0780	.0417
	5	.0006	.0105	.0449	.1032	.1651	.2061	.2123	.1859	.1404	.0916
	6	.0000	.0019	.0132	.0430	.0917	.1472	.1906	.2066	.1914	.1527
	7	.0000	.0003	.0030	.0138	.0393	.0811	.1319	.1771	.2013	.1964
	8	.0000	.0000	.0005	.0035	.0131	.0348	.0710	.1181	.1647	.1964
	9	.0000	.0000	.0001	.0007	.0034	.0116	.0298	.0612	.1048	.1527
	10	.0000	.0000	.0000	.0001	.0007	.0030	.0096	.0245	.0515	.0916
	11	.0000	.0000	.0000	.0000	.0001	.0006	.0024	.0074	.0191	.0417
	12	.0000	.0000	.0000	.0000	.0000	.0001	.0004	.0016	.0052	.0139
	13	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0003	.0010	.0032
	14	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0005
	15	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
16	0	.4401	.1853	.0743	.0281	.0100	.0033	.0010	.0003	.0001	.0000
	1	.3706	.3294	.2097	.1126	.0535	.0228	.0087	.0030	.0009	.0002
	2	.1463	.2745	.2775	.2111	.1336	.0732	.0353	.0150	.0056	.0018
	3	.0359	.1423	.2285	.2463	.2079	.1465	.0888	.0468	.0215	.0085
	4	.0061	.0514	.1311	.2001	.2552	.2040	.1553	.1014	.0572	.0278
	5	.0008	.0137	.0555	.1201	.1802	.2099	.2008	.1623	.1123	.0667
	6	.0001	.0028	.0180	.0550	.1101	.1649	.1982	.1983	.1684	.1222
	7	.0000	.0004	.0045	.0197	.0524	.1010	.1524	.1889	.1969	.1746
	8	.0000	.0001	.0009	.0055	.0197	.0487	.0923	.1417	.1812	.1964
	9	.0000	.0000	.0001	.0012	.0058	.0185	.0442	.0840	.1318	.1746
	10	.0000	.0000	.0000	.0002	.0014	.0056	.0167	.0392	.0755	.1222
	11	.0000	.0000	.0000	.0000	.0002	.0013	.0049	.0142	.0337	.0667
	12	.0000	.0000	.0000	.0000	.0000	.0002	.0011	.0040	.0115	.0278
	13	.0000	.0000	.0000	.0000	.0000	.0000	.0002	.0008	.0029	.0085
	14	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0005	.0018
	15	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0002
	16	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
17	0	.4181	.1668	.0631	.0225	.0075	.0023	.0007	.0002	.0000	.0000
	1	.3741	.3150	.1893	.0957	.0426	.0169	.0060	.0019	.0005	.0001
	2	.1575	.2800	.2673	.1914	.1136	.0581	.0260	.0102	.0035	.0010
	3	.0415	.1556	.2359	.2393	.1893	.1245	.0701	.0341	.0144	.0052
	4	.0076	.0605	.1457	.2093	.2209	.1868	.1320	.0796	.0411	.0182
	5	.0010	.0175	.0668	.1361	.1914	.2081	.1849	.1379	.0875	.0472
	6	.0001	.0039	.0236	.0680	.1276	.1784	.1991	.1839	.1432	.0944
	7	.0000	.0007	.0065	.0267	.0668	.1201	.1685	.1927	.1841	.1484
	8	.0000	.0001	.0014	.0084	.0279	.0644	.1134	.1606	.1883	.1855
	9	.0000	.0000	.0003	.0021	.0093	.0276	.0611	.1070	.1540	.1855