

Table A1. Binomial distribution

$$F(x) = \mathbf{P}\{X \leq x\} = \sum_{k=0}^x \binom{n}{k} p^k (1-p)^{n-k}$$

<i>n</i>	<i>x</i>	<i>p</i>									
		.05	.10	.15	.20	.25	.30	.35	.40	.45	.50
1	0	.9500	.9000	.8500	.8000	.7500	.7000	.6500	.6000	.5500	.5000
2	0	.9025	.8100	.7225	.6400	.5625	.4900	.4225	.3600	.3025	.2500
	1	.9975	.9900	.9775	.9600	.9375	.9100	.8775	.8400	.7975	.7500
3	0	.8574	.7290	.6141	.5120	.4219	.3430	.2746	.2160	.1664	.1250
	1	.9927	.9720	.9393	.8960	.8438	.7840	.7182	.6480	.5748	.5000
	2	.9999	.9990	.9966	.9920	.9844	.9730	.9571	.9360	.9089	.8750
4	0	.8145	.6561	.5220	.4096	.3164	.2401	.1785	.1296	.0915	.0625
	1	.9860	.9477	.8905	.8192	.7383	.6517	.5630	.4752	.3910	.3125
	2	.9995	.9963	.9880	.9728	.9492	.9163	.8735	.8208	.7585	.6875
	3	1.00	.9999	.9995	.9984	.9961	.9919	.9850	.9744	.9590	.9375
5	0	.7738	.5905	.4437	.3277	.2373	.1681	.1160	.0778	.0503	.0312
	1	.9774	.9185	.8352	.7373	.6328	.5282	.4284	.3370	.2562	.1875
	2	.9988	.9914	.9734	.9421	.8965	.8369	.7648	.6826	.5931	.5000
	3	1.00	.9995	.9978	.9933	.9844	.9692	.9460	.9130	.8688	.8125
	4	1.00	1.00	.9999	.9997	.9990	.9976	.9947	.9898	.9815	.9687
6	0	.7351	.5314	.3771	.2621	.1780	.1176	.0754	.0467	.0277	.0156
	1	.9672	.8857	.7765	.6554	.5339	.4202	.3191	.2333	.1636	.1094
	2	.9978	.9842	.9527	.9011	.8306	.7443	.6471	.5443	.4415	.3438
	3	.9999	.9987	.9941	.9830	.9624	.9295	.8826	.8208	.7447	.6563
	4	1.00	.9999	.9996	.9984	.9954	.9891	.9777	.9590	.9308	.8906
	5	1.00	1.00	1.00	.9999	.9998	.9993	.9982	.9959	.9917	.9844
7	0	.6983	.4783	.3206	.2097	.1335	.0824	.0490	.0280	.0152	.0078
	1	.9556	.8503	.7166	.5767	.4449	.3294	.2338	.1586	.1024	.0625
	2	.9962	.9743	.9262	.8520	.7564	.6471	.5323	.4199	.3164	.2266
	3	.9998	.9973	.9879	.9667	.9294	.8740	.8002	.7102	.6083	.5000
	4	1.00	.9998	.9988	.9953	.9871	.9712	.9444	.9037	.8471	.7734
	5	1.00	1.00	.9999	.9996	.9987	.9962	.9910	.9812	.9643	.9375
	6	1.00	1.00	1.00	1.00	.9999	.9998	.9994	.9984	.9963	.9922
8	0	.6634	.4305	.2725	.1678	.1001	.0576	.0319	.0168	.0084	.0039
	1	.9428	.8131	.6572	.5033	.3671	.2553	.1691	.1064	.0632	.0352
	2	.9942	.9619	.8948	.7969	.6785	.5518	.4278	.3154	.2201	.1445
	3	.9996	.9950	.9786	.9437	.8862	.8059	.7064	.5941	.4770	.3633
	4	1.00	.9996	.9971	.9896	.9727	.9420	.8939	.8263	.7396	.6367
	5	1.00	1.00	.9998	.9988	.9958	.9887	.9747	.9502	.9115	.8555
	6	1.00	1.00	1.00	.9999	.9996	.9987	.9964	.9915	.9819	.9648
	7	1.00	1.00	1.00	1.00	1.00	.9999	.9998	.9993	.9983	.9961
9	0	.6302	.3874	.2316	.1342	.0751	.0404	.0207	.0101	.0046	.0020
	1	.9288	.7748	.5995	.4362	.3003	.1960	.1211	.0705	.0385	.0195
	2	.9916	.9470	.8591	.7382	.6007	.4628	.3373	.2318	.1495	.0898
	3	.9994	.9917	.9661	.9144	.8343	.7297	.6089	.4826	.3614	.2539
	4	1.00	.9991	.9944	.9804	.9511	.9012	.8283	.7334	.6214	.5000
	5	1.00	.9999	.9994	.9969	.9900	.9747	.9464	.9006	.8342	.7461
	6	1.00	1.00	1.00	.9997	.9987	.9957	.9888	.9750	.9502	.9102
	7	1.00	1.00	1.00	1.00	.9999	.9996	.9986	.9962	.9909	.9805
	8	1.00	1.00	1.00	1.00	1.00	1.00	.9999	.9997	.9992	.9980
10	0	.5987	.3487	.1969	.1074	.0563	.0282	.0135	.0060	.0025	.0010
	1	.9139	.7361	.5443	.3758	.2440	.1493	.0860	.0464	.0233	.0107
	2	.9885	.9298	.8202	.6778	.5256	.3828	.2616	.1673	.0996	.0547
	3	.9990	.9872	.9500	.8791	.7759	.6496	.5138	.3823	.2660	.1719
	4	.9999	.9984	.9901	.9672	.9219	.8497	.7515	.6331	.5044	.3770
	5	1.00	.9999	.9986	.9936	.9803	.9527	.9051	.8338	.7384	.6230
	6	1.00	1.00	.9999	.9991	.9965	.9894	.9740	.9452	.8980	.8281
	7	1.00	1.00	1.00	.9999	.9996	.9984	.9952	.9877	.9726	.9453
	8	1.00	1.00	1.00	1.00	1.00	.9999	.9995	.9983	.9955	.9893
	9	1.00	1.00	1.00	1.00	1.00	1.00	.9999	.9999	.9997	.9990

Table A1, continued. Binomial distribution

<i>n</i>	<i>x</i>	<i>p</i>								
		.55	.60	.65	.70	.75	.80	.85	.90	.95
1	0	.4500	.4000	.3500	.3000	.2500	.2000	.1500	.1000	.0500
2	0	.2025	.1600	.1225	.0900	.0625	.0400	.0225	.0100	.0025
	1	.6975	.6400	.5775	.5100	.4375	.3600	.2775	.1900	.0975
3	0	.0911	.0640	.0429	.0270	.0156	.0080	.0034	.0010	.0001
	1	.4252	.3520	.2817	.2160	.1562	.1040	.0607	.0280	.0072
	2	.8336	.7840	.7254	.6570	.5781	.4880	.3859	.2710	.1426
4	0	.0410	.0256	.0150	.0081	.0039	.0016	.0005	.0001	.0000
	1	.2415	.1792	.1265	.0837	.0508	.0272	.0120	.0037	.0005
	2	.6090	.5248	.4370	.3483	.2617	.1808	.1095	.0523	.0140
	3	.9085	.8704	.8215	.7599	.6836	.5904	.4780	.3439	.1855
5	0	.0185	.0102	.0053	.0024	.0010	.0003	.0001	.0000	.0000
	1	.1312	.0870	.0540	.0308	.0156	.0067	.0022	.0005	.0000
	2	.4069	.3174	.2352	.1631	.1035	.0579	.0266	.0086	.0012
	3	.7438	.6630	.5716	.4718	.3672	.2627	.1648	.0815	.0226
	4	.9497	.9222	.8840	.8319	.7627	.6723	.5563	.4095	.2262
6	0	.0083	.0041	.0018	.0007	.0002	.0001	.0000	.0000	.0000
	1	.0692	.0410	.0223	.0109	.0046	.0016	.0004	.0001	.0000
	2	.2553	.1792	.1174	.0705	.0376	.0170	.0059	.0013	.0001
	3	.5585	.4557	.3529	.2557	.1694	.0989	.0473	.0158	.0022
	4	.8364	.7667	.6809	.5798	.4661	.3446	.2235	.1143	.0328
	5	.9723	.9533	.9246	.8824	.8220	.7379	.6229	.4686	.2649
7	0	.0037	.0016	.0006	.0002	.0001	.0000	.0000	.0000	.0000
	1	.0357	.0188	.0090	.0038	.0013	.0004	.0001	.0000	.0000
	2	.1529	.0963	.0556	.0288	.0129	.0047	.0012	.0002	.0000
	3	.3917	.2898	.1998	.1260	.0706	.0333	.0121	.0027	.0002
	4	.6836	.5801	.4677	.3529	.2436	.1480	.0738	.0257	.0038
	5	.8976	.8414	.7662	.6706	.5551	.4233	.2834	.1497	.0444
	6	.9848	.9720	.9510	.9176	.8665	.7903	.6794	.5217	.3017
8	0	.0017	.0007	.0002	.0001	.0000	.0000	.0000	.0000	.0000
	1	.0181	.0085	.0036	.0013	.0004	.0001	.0000	.0000	.0000
	2	.0885	.0498	.0253	.0113	.0042	.0012	.0002	.0000	.0000
	3	.2604	.1737	.1061	.0580	.0273	.0104	.0029	.0004	.0000
	4	.5230	.4059	.2936	.1941	.1138	.0563	.0214	.0050	.0004
	5	.7799	.6846	.5722	.4482	.3215	.2031	.1052	.0381	.0058
	6	.9368	.8936	.8309	.7447	.6329	.4967	.3428	.1869	.0572
	7	.9916	.9832	.9681	.9424	.8999	.8322	.7275	.5695	.3366
9	0	.0008	.0003	.0001	.0000	.0000	.0000	.0000	.0000	.0000
	1	.0091	.0038	.0014	.0004	.0001	.0000	.0000	.0000	.0000
	2	.0498	.0250	.0112	.0043	.0013	.0003	.0000	.0000	.0000
	3	.1658	.0994	.0536	.0253	.0100	.0031	.0006	.0001	.0000
	4	.3786	.2666	.1717	.0988	.0489	.0196	.0056	.0009	.0000
	5	.6386	.5174	.3911	.2703	.1657	.0856	.0339	.0083	.0006
	6	.8505	.7682	.6627	.5372	.3993	.2618	.1409	.0530	.0084
	7	.9615	.9295	.8789	.8040	.6997	.5638	.4005	.2252	.0712
	8	.9954	.9899	.9793	.9596	.9249	.8658	.7684	.6126	.3698
10	0	.0003	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	1	.0045	.0017	.0005	.0001	.0000	.0000	.0000	.0000	.0000
	2	.0274	.0123	.0048	.0016	.0004	.0001	.0000	.0000	.0000
	3	.1020	.0548	.0260	.0106	.0035	.0009	.0001	.0000	.0000
	4	.2616	.1662	.0949	.0473	.0197	.0064	.0014	.0001	.0000
	5	.4956	.3669	.2485	.1503	.0781	.0328	.0099	.0016	.0001
	6	.7340	.6177	.4862	.3504	.2241	.1209	.0500	.0128	.0010
	7	.9004	.8327	.7384	.6172	.4744	.3222	.1798	.0702	.0115
	8	.9767	.9536	.9140	.8507	.7560	.6242	.4557	.2639	.0861
	9	.9975	.9940	.9865	.9718	.9437	.8926	.8031	.6513	.4013

Table A1, continued. Binomial distribution

<i>n</i>	<i>x</i>	<i>p</i>								
		.55	.60	.65	.70	.75	.80	.85	.90	.95
11	0	.0002	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	1	.0022	.0007	.0002	.0000	.0000	.0000	.0000	.0000	.0000
	2	.0148	.0059	.0020	.0006	.0001	.0000	.0000	.0000	.0000
	3	.0610	.0293	.0122	.0043	.0012	.0002	.0000	.0000	.0000
	4	.1738	.0994	.0501	.0216	.0076	.0020	.0003	.0000	.0000
	5	.3669	.2465	.1487	.0782	.0343	.0117	.0027	.0003	.0000
	6	.6029	.4672	.3317	.2103	.1146	.0504	.0159	.0028	.0001
	7	.8089	.7037	.5744	.4304	.2867	.1611	.0694	.0185	.0016
	8	.9348	.8811	.7999	.6873	.5448	.3826	.2212	.0896	.0152
	9	.9861	.9698	.9394	.8870	.8029	.6779	.5078	.3026	.1019
	10	.9986	.9964	.9912	.9802	.9578	.9141	.8327	.6862	.4312
12	0	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	1	.0011	.0003	.0001	.0000	.0000	.0000	.0000	.0000	.0000
	2	.0079	.0028	.0008	.0002	.0000	.0000	.0000	.0000	.0000
	3	.0356	.0153	.0056	.0017	.0004	.0001	.0000	.0000	.0000
	4	.1117	.0573	.0255	.0095	.0028	.0006	.0001	.0000	.0000
	5	.2607	.1582	.0846	.0386	.0143	.0039	.0007	.0001	.0000
	6	.4731	.3348	.2127	.1178	.0544	.0194	.0046	.0005	.0000
	7	.6956	.5618	.4167	.2763	.1576	.0726	.0239	.0043	.0002
	8	.8655	.7747	.6533	.5075	.3512	.2054	.0922	.0256	.0022
	9	.9579	.9166	.8487	.7472	.6093	.4417	.2642	.1109	.0196
	10	.9917	.9804	.9576	.9150	.8416	.7251	.5565	.3410	.1184
	11	.9992	.9978	.9943	.9862	.9683	.9313	.8578	.7176	.4596
13	0	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	1	.0005	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	2	.0041	.0013	.0003	.0001	.0000	.0000	.0000	.0000	.0000
	3	.0203	.0078	.0025	.0007	.0001	.0000	.0000	.0000	.0000
	4	.0698	.0321	.0126	.0040	.0010	.0002	.0000	.0000	.0000
	5	.1788	.0977	.0462	.0182	.0056	.0012	.0002	.0000	.0000
	6	.3563	.2288	.1295	.0624	.0243	.0070	.0013	.0001	.0000
	7	.5732	.4256	.2841	.1654	.0802	.0300	.0075	.0009	.0000
	8	.7721	.6470	.4995	.3457	.2060	.0991	.0342	.0065	.0003
	9	.9071	.8314	.7217	.5794	.4157	.2527	.1180	.0342	.0031
	10	.9731	.9421	.8868	.7975	.6674	.4983	.3080	.1339	.0245
	11	.9951	.9874	.9704	.9363	.8733	.7664	.6017	.3787	.1354
	12	.9996	.9987	.9963	.9903	.9762	.9450	.8791	.7458	.4867
14	0	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	1	.0003	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	2	.0022	.0006	.0001	.0000	.0000	.0000	.0000	.0000	.0000
	3	.0114	.0039	.0011	.0002	.0000	.0000	.0000	.0000	.0000
	4	.0426	.0175	.0060	.0017	.0003	.0000	.0000	.0000	.0000
	5	.1189	.0583	.0243	.0083	.0022	.0004	.0000	.0000	.0000
	6	.2586	.1501	.0753	.0315	.0103	.0024	.0003	.0000	.0000
	7	.4539	.3075	.1836	.0933	.0383	.0116	.0022	.0002	.0000
	8	.6627	.5141	.3595	.2195	.1117	.0439	.0115	.0015	.0000
	9	.8328	.7207	.5773	.4158	.2585	.1298	.0467	.0092	.0004
	10	.9368	.8757	.7795	.6448	.4787	.3018	.1465	.0441	.0042
	11	.9830	.9602	.9161	.8392	.7189	.5519	.3521	.1584	.0301
	12	.9971	.9919	.9795	.9525	.8990	.8021	.6433	.4154	.1530
	13	.9998	.9992	.9976	.9932	.9822	.9560	.8972	.7712	.5123
15	0	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	1	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	2	.0011	.0003	.0001	.0000	.0000	.0000	.0000	.0000	.0000
	3	.0063	.0019	.0005	.0001	.0000	.0000	.0000	.0000	.0000
	4	.0255	.0093	.0028	.0007	.0001	.0000	.0000	.0000	.0000
	5	.0769	.0338	.0124	.0037	.0008	.0001	.0000	.0000	.0000
	6	.1818	.0950	.0422	.0152	.0042	.0008	.0001	.0000	.0000
	7	.3465	.2131	.1132	.0500	.0173	.0042	.0006	.0000	.0000
	8	.5478	.3902	.2452	.1311	.0566	.0181	.0036	.0003	.0000
	9	.7392	.5968	.4357	.2784	.1484	.0611	.0168	.0022	.0001
	10	.8796	.7827	.6481	.4845	.3135	.1642	.0617	.0127	.0006
	11	.9576	.9095	.8273	.7031	.5387	.3518	.1773	.0556	.0055
	12	.9893	.9729	.9383	.8732	.7639	.6020	.3958	.1841	.0362
	13	.9983	.9948	.9858	.9647	.9198	.8329	.6814	.4510	.1710
	14	.9999	.9995	.9984	.9953	.9866	.9648	.9126	.7941	.5367

Table A1, continued. Binomial distribution

<i>n</i>	<i>x</i>	<i>p</i>									
		.05	.10	.15	.20	.25	.30	.35	.40	.45	.50
16	0	.4401	.1853	.0743	.0281	.0100	.0033	.0010	.0003	.0001	.0000
	1	.8108	.5147	.2839	.1407	.0635	.0261	.0098	.0033	.0010	.0003
	2	.9571	.7892	.5614	.3518	.1971	.0994	.0451	.0183	.0066	.0021
	3	.9930	.9316	.7899	.5981	.4050	.2459	.1339	.0651	.0281	.0106
	4	.9991	.9830	.9209	.7982	.6302	.4499	.2892	.1666	.0853	.0384
	5	.9999	.9967	.9765	.9183	.8103	.6598	.4900	.3288	.1976	.1051
	6	1.00	.9995	.9944	.9733	.9204	.8247	.6881	.5272	.3660	.2272
	7	1.00	.9999	.9989	.9930	.9729	.9256	.8406	.7161	.5629	.4018
	8	1.00	1.00	.9998	.9985	.9925	.9743	.9329	.8577	.7441	.5982
	9	1.00	1.00	1.00	.9998	.9984	.9929	.9771	.9417	.8759	.7728
	10	1.00	1.00	1.00	1.00	.9997	.9984	.9938	.9809	.9514	.8949
	11	1.00	1.00	1.00	1.00	1.00	.9997	.9987	.9951	.9851	.9616
	12	1.00	1.00	1.00	1.00	1.00	1.00	.9998	.9991	.9965	.9894
	13	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.9999	.9994	.9979
18	0	.3972	.1501	.0536	.0180	.0056	.0016	.0004	.0001	.0000	.0000
	1	.7735	.4503	.2241	.0991	.0395	.0142	.0046	.0013	.0003	.0001
	2	.9419	.7338	.4797	.2713	.1353	.0600	.0236	.0082	.0025	.0007
	3	.9891	.9018	.7202	.5010	.3057	.1646	.0783	.0328	.0120	.0038
	4	.9985	.9718	.8794	.7164	.5187	.3327	.1886	.0942	.0411	.0154
	5	.9998	.9936	.9581	.8671	.7175	.5344	.3550	.2088	.1077	.0481
	6	1.00	.9988	.9882	.9487	.8610	.7217	.5491	.3743	.2258	.1189
	7	1.00	.9998	.9973	.9837	.9431	.8593	.7283	.5634	.3915	.2403
	8	1.00	1.00	.9995	.9957	.9807	.9404	.8609	.7368	.5778	.4073
	9	1.00	1.00	.9999	.9991	.9946	.9790	.9403	.8653	.7473	.5927
	10	1.00	1.00	1.00	.9998	.9988	.9939	.9788	.9424	.8720	.7597
	11	1.00	1.00	1.00	1.00	.9998	.9986	.9938	.9797	.9463	.8811
	12	1.00	1.00	1.00	1.00	1.00	.9997	.9986	.9942	.9817	.9519
	13	1.00	1.00	1.00	1.00	1.00	1.00	.9997	.9987	.9951	.9846
	14	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.9998	.9990	.9962
20	0	.3585	.1216	.0388	.0115	.0032	.0008	.0002	.0000	.0000	.0000
	1	.7358	.3917	.1756	.0692	.0243	.0076	.0021	.0005	.0001	.0000
	2	.9245	.6769	.4049	.2061	.0913	.0355	.0121	.0036	.0009	.0002
	3	.9841	.8670	.6477	.4114	.2252	.1071	.0444	.0160	.0049	.0013
	4	.9974	.9568	.8298	.6296	.4148	.2375	.1182	.0510	.0189	.0059
	5	.9997	.9887	.9327	.8042	.6172	.4164	.2454	.1256	.0553	.0207
	6	1.00	.9976	.9781	.9133	.7858	.6080	.4166	.2500	.1299	.0577
	7	1.00	.9996	.9941	.9679	.8982	.7723	.6010	.4159	.2520	.1316
	8	1.00	.9999	.9987	.9900	.9591	.8867	.7624	.5956	.4143	.2517
	9	1.00	1.00	.9998	.9974	.9861	.9520	.8782	.7553	.5914	.4119
	10	1.00	1.00	1.00	.9994	.9961	.9829	.9468	.8725	.7507	.5881
	11	1.00	1.00	1.00	.9999	.9991	.9949	.9804	.9435	.8692	.7483
	12	1.00	1.00	1.00	1.00	.9998	.9987	.9940	.9790	.9420	.8684
	13	1.00	1.00	1.00	1.00	1.00	.9997	.9985	.9935	.9786	.9423
	14	1.00	1.00	1.00	1.00	1.00	1.00	.9997	.9984	.9936	.9793
	15	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.9997	.9985	.9941
25	0	.2774	.0718	.0172	.0038	.0008	.0001	.0000	.0000	.0000	.0000
	1	.6424	.2712	.0931	.0274	.0070	.0016	.0003	.0001	.0000	.0000
	2	.8729	.5371	.2537	.0982	.0321	.0090	.0021	.0004	.0001	.0000
	3	.9659	.7636	.4711	.2340	.0962	.0332	.0097	.0024	.0005	.0001
	4	.9928	.9020	.6821	.4207	.2137	.0905	.0320	.0095	.0023	.0005
	5	.9988	.9666	.8385	.6167	.3783	.1935	.0826	.0294	.0086	.0020
	6	.9998	.9905	.9305	.7800	.5611	.3407	.1734	.0736	.0258	.0073
	7	1.00	.9977	.9745	.8909	.7265	.5118	.3061	.1536	.0639	.0216
	8	1.00	.9995	.9920	.9532	.8506	.6769	.4668	.2735	.1340	.0539
	9	1.00	.9999	.9979	.9827	.9287	.8106	.6303	.4246	.2424	.1148
	10	1.00	1.00	.9995	.9944	.9703	.9022	.7712	.5858	.3843	.2122
	11	1.00	1.00	.9999	.9985	.9893	.9558	.8746	.7323	.5426	.3450
	12	1.00	1.00	1.00	.9996	.9966	.9825	.9396	.8462	.6937	.5000
	13	1.00	1.00	1.00	.9999	.9991	.9940	.9745	.9222	.8173	.6550
	14	1.00	1.00	1.00	1.00	.9998	.9982	.9907	.9656	.9040	.7878
	15	1.00	1.00	1.00	1.00	1.00	.9995	.9971	.9868	.9560	.8852
	16	1.00	1.00	1.00	1.00	1.00	.9999	.9992	.9957	.9826	.9461
	17	1.00	1.00	1.00	1.00	1.00	1.00	.9998	.9988	.9942	.9784
	18	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.9997	.9984	.9927

Table A1, continued. Binomial distribution

<i>n</i>	<i>x</i>	<i>p</i>								
		.55	.60	.65	.70	.75	.80	.85	.90	.95
16	2	.0006	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	3	.0035	.0009	.0002	.0000	.0000	.0000	.0000	.0000	.0000
	4	.0149	.0049	.0013	.0003	.0000	.0000	.0000	.0000	.0000
	5	.0486	.0191	.0062	.0016	.0003	.0000	.0000	.0000	.0000
	6	.1241	.0583	.0229	.0071	.0016	.0002	.0000	.0000	.0000
	7	.2559	.1423	.0671	.0257	.0075	.0015	.0002	.0000	.0000
	8	.4371	.2839	.1594	.0744	.0271	.0070	.0011	.0001	.0000
	9	.6340	.4728	.3119	.1753	.0796	.0267	.0056	.0005	.0000
	10	.8024	.6712	.5100	.3402	.1897	.0817	.0235	.0033	.0001
	11	.9147	.8334	.7108	.5501	.3698	.2018	.0791	.0170	.0009
	12	.9719	.9349	.8661	.7541	.5950	.4019	.2101	.0684	.0070
	13	.9934	.9817	.9549	.9006	.8029	.6482	.4386	.2108	.0429
	14	.9990	.9967	.9902	.9739	.9365	.8593	.7161	.4853	.1892
	15	.9999	.9997	.9990	.9967	.9900	.9719	.9257	.8147	.5599
18	3	.0010	.0002	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	4	.0049	.0013	.0003	.0000	.0000	.0000	.0000	.0000	.0000
	5	.0183	.0058	.0014	.0003	.0000	.0000	.0000	.0000	.0000
	6	.0537	.0203	.0062	.0014	.0002	.0000	.0000	.0000	.0000
	7	.1280	.0576	.0212	.0061	.0012	.0002	.0000	.0000	.0000
	8	.2527	.1347	.0597	.0210	.0054	.0009	.0001	.0000	.0000
	9	.4222	.2632	.1391	.0596	.0193	.0043	.0005	.0000	.0000
	10	.6085	.4366	.2717	.1407	.0569	.0163	.0027	.0002	.0000
	11	.7742	.6257	.4509	.2783	.1390	.0513	.0118	.0012	.0000
	12	.8923	.7912	.6450	.4656	.2825	.1329	.0419	.0064	.0002
	13	.9589	.9058	.8114	.6673	.4813	.2836	.1206	.0282	.0015
	14	.9880	.9672	.9217	.8354	.6943	.4990	.2798	.0982	.0109
	15	.9975	.9918	.9764	.9400	.8647	.7287	.5203	.2662	.0581
	16	.9997	.9987	.9954	.9858	.9605	.9009	.7759	.5497	.2265
	17	1.00	.9999	.9996	.9984	.9944	.9820	.9464	.8499	.6028
20	4	.0015	.0003	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	5	.0064	.0016	.0003	.0000	.0000	.0000	.0000	.0000	.0000
	6	.0214	.0065	.0015	.0003	.0000	.0000	.0000	.0000	.0000
	7	.0580	.0210	.0060	.0013	.0002	.0000	.0000	.0000	.0000
	8	.1308	.0565	.0196	.0051	.0009	.0001	.0000	.0000	.0000
	9	.2493	.1275	.0532	.0171	.0039	.0006	.0000	.0000	.0000
	10	.4086	.2447	.1218	.0480	.0139	.0026	.0002	.0000	.0000
	11	.5857	.4044	.2376	.1133	.0409	.0100	.0013	.0001	.0000
	12	.7480	.5841	.3990	.2277	.1018	.0321	.0059	.0004	.0000
	13	.8701	.7500	.5834	.3920	.2142	.0867	.0219	.0024	.0000
	14	.9447	.8744	.7546	.5836	.3828	.1958	.0673	.0113	.0003
	15	.9811	.9490	.8818	.7625	.5852	.3704	.1702	.0432	.0026
	16	.9951	.9840	.9556	.8929	.7748	.5886	.3523	.1330	.0159
	17	.9991	.9964	.9879	.9645	.9087	.7939	.5951	.3231	.0755
	18	.9999	.9995	.9979	.9924	.9757	.9308	.8244	.6083	.2642
	19	1.00	1.00	.9998	.9992	.9968	.9885	.9612	.8784	.6415
25	6	.0016	.0003	.0000	.0000	.0000	.0000	.0000	.0000	.0000
	7	.0058	.0012	.0002	.0000	.0000	.0000	.0000	.0000	.0000
	8	.0174	.0043	.0008	.0001	.0000	.0000	.0000	.0000	.0000
	9	.0440	.0132	.0029	.0005	.0000	.0000	.0000	.0000	.0000
	10	.0960	.0344	.0093	.0018	.0002	.0000	.0000	.0000	.0000
	11	.1827	.0778	.0255	.0060	.0009	.0001	.0000	.0000	.0000
	12	.3063	.1538	.0604	.0175	.0034	.0004	.0000	.0000	.0000
	13	.4574	.2677	.1254	.0442	.0107	.0015	.0001	.0000	.0000
	14	.6157	.4142	.2288	.0978	.0297	.0056	.0005	.0000	.0000
	15	.7576	.5754	.3697	.1894	.0713	.0173	.0021	.0001	.0000
	16	.8660	.7265	.5332	.3231	.1494	.0468	.0080	.0005	.0000
	17	.9361	.8464	.6939	.4882	.2735	.1091	.0255	.0023	.0000
	18	.9742	.9264	.8266	.6593	.4389	.2200	.0695	.0095	.0002
	19	.9914	.9706	.9174	.8065	.6217	.3833	.1615	.0334	.0012
	20	.9977	.9905	.9680	.9095	.7863	.5793	.3179	.0980	.0072
	21	.9995	.9976	.9903	.9668	.9038	.7660	.5289	.2364	.0341
	22	.9999	.9996	.9979	.9910	.9679	.9018	.7463	.4629	.1271
	23	1.00	.9999	.9997	.9984	.9930	.9726	.9069	.7288	.3576
	24	1.00	1.00	1.00	.9999	.9992	.9962	.9828	.9282	.7226

Table A2. Poisson distribution

$$F(x) = P\{X \leq x\} = \sum_{k=0}^x \frac{e^{-\lambda} \lambda^k}{k!}$$

x	λ														
	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5
0	.905	.819	.741	.670	.607	.549	.497	.449	.407	.368	.333	.301	.273	.247	.223
1	.995	.982	.963	.938	.910	.878	.844	.809	.772	.736	.699	.663	.627	.592	.558
2	1.00	.999	.996	.992	.986	.977	.966	.953	.937	.920	.900	.879	.857	.833	.809
3	1.00	1.00	1.00	.999	.998	.997	.994	.991	.987	.981	.974	.966	.957	.946	.934
4	1.00	1.00	1.00	1.00	1.00	1.00	.999	.999	.998	.996	.995	.992	.989	.986	.981
5	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.999	.999	.998	.998	.997	.996
6	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.999	.999
7	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

x	λ														
	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0
0	.202	.183	.165	.150	.135	.122	.111	.100	.091	.082	.074	.067	.061	.055	.050
1	.525	.493	.463	.434	.406	.380	.355	.331	.308	.287	.267	.249	.231	.215	.199
2	.783	.757	.731	.704	.677	.650	.623	.596	.570	.544	.518	.494	.469	.446	.423
3	.921	.907	.891	.875	.857	.839	.819	.799	.779	.758	.736	.714	.692	.670	.647
4	.976	.970	.964	.956	.947	.938	.928	.916	.904	.891	.877	.863	.848	.832	.815
5	.994	.992	.990	.987	.983	.980	.975	.970	.964	.958	.951	.943	.935	.926	.916
6	.999	.998	.997	.997	.995	.994	.993	.991	.988	.986	.983	.979	.976	.971	.966
7	1.00	1.00	.999	.999	.999	.999	.998	.997	.997	.996	.995	.993	.992	.990	.988
8	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.999	.999	.999	.999	.998	.998	.997	.996
9	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.999	.999	.999	.999
10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

x	λ														
	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5
0	.030	.018	.011	.007	.004	.002	.002	.001	.001	.000	.000	.000	.000	.000	.000
1	.136	.092	.061	.040	.027	.017	.011	.007	.005	.003	.002	.001	.001	.000	.000
2	.321	.238	.174	.125	.088	.062	.043	.030	.020	.014	.009	.006	.004	.003	.002
3	.537	.433	.342	.265	.202	.151	.112	.082	.059	.042	.030	.021	.015	.010	.007
4	.725	.629	.532	.440	.358	.285	.224	.173	.132	.100	.074	.055	.040	.029	.021
5	.858	.785	.703	.616	.529	.446	.369	.301	.241	.191	.150	.116	.089	.067	.050
6	.935	.889	.831	.762	.686	.606	.527	.450	.378	.313	.256	.207	.165	.130	.102
7	.973	.949	.913	.867	.809	.744	.673	.599	.525	.453	.386	.324	.269	.220	.179
8	.990	.979	.960	.932	.894	.847	.792	.729	.662	.593	.523	.456	.392	.333	.279
9	.997	.992	.983	.968	.946	.916	.877	.830	.776	.717	.653	.587	.522	.458	.397
10	.999	.997	.993	.986	.975	.957	.933	.901	.862	.816	.763	.706	.645	.583	.521
11	1.00	.999	.998	.995	.989	.980	.966	.947	.921	.888	.849	.803	.752	.697	.639
12	1.00	1.00	.999	.998	.996	.991	.984	.973	.957	.936	.909	.876	.836	.792	.742
13	1.00	1.00	1.00	.999	.998	.996	.993	.987	.978	.966	.949	.926	.898	.864	.825
14	1.00	1.00	1.00	1.00	.999	.999	.997	.994	.990	.983	.973	.959	.940	.917	.888
15	1.00	1.00	1.00	1.00	1.00	.999	.999	.998	.995	.992	.986	.978	.967	.951	.932
16	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.999	.998	.996	.993	.989	.982	.973	.960
17	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.999	.998	.997	.995	.991	.986	.978
18	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.999	.999	.998	.996	.993	.988
19	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.999	.999	.998	.997	.994
20	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.999	.998	.997

Table A3. Standard Normal distribution

$$\Phi(z) = P\{Z \leq z\} = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^z e^{-x^2/2} dx$$

z	-0.09	-0.08	-0.07	-0.06	-0.05	-0.04	-0.03	-0.02	-0.01	-0.00
-(3.9+)	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
-3.8	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
-3.7	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
-3.6	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0002
-3.5	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002
-3.4	.0002	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003
-3.3	.0003	.0004	.0004	.0004	.0004	.0004	.0004	.0005	.0005	.0005
-3.2	.0005	.0005	.0005	.0006	.0006	.0006	.0006	.0006	.0007	.0007
-3.1	.0007	.0007	.0008	.0008	.0008	.0008	.0009	.0009	.0009	.0010
-3.0	.0010	.0010	.0011	.0011	.0011	.0012	.0012	.0013	.0013	.0013
-2.9	.0014	.0014	.0015	.0015	.0016	.0016	.0017	.0018	.0018	.0019
-2.8	.0019	.0020	.0021	.0021	.0022	.0023	.0023	.0024	.0025	.0026
-2.7	.0026	.0027	.0028	.0029	.0030	.0031	.0032	.0033	.0034	.0035
-2.6	.0036	.0037	.0038	.0039	.0040	.0041	.0043	.0044	.0045	.0047
-2.5	.0048	.0049	.0051	.0052	.0054	.0055	.0057	.0059	.0060	.0062
-2.4	.0064	.0066	.0068	.0069	.0071	.0073	.0075	.0078	.0080	.0082
-2.3	.0084	.0087	.0089	.0091	.0094	.0096	.0099	.0102	.0104	.0107
-2.2	.0110	.0113	.0116	.0119	.0122	.0125	.0129	.0132	.0136	.0139
-2.1	.0143	.0146	.0150	.0154	.0158	.0162	.0166	.0170	.0174	.0179
-2.0	.0183	.0188	.0192	.0197	.0202	.0207	.0212	.0217	.0222	.0228
-1.9	.0233	.0239	.0244	.0250	.0256	.0262	.0268	.0274	.0281	.0287
-1.8	.0294	.0301	.0307	.0314	.0322	.0329	.0336	.0344	.0351	.0359
-1.7	.0367	.0375	.0384	.0392	.0401	.0409	.0418	.0427	.0436	.0446
-1.6	.0455	.0465	.0475	.0485	.0495	.0505	.0516	.0526	.0537	.0548
-1.5	.0559	.0571	.0582	.0594	.0606	.0618	.0630	.0643	.0655	.0668
-1.4	.0681	.0694	.0708	.0721	.0735	.0749	.0764	.0778	.0793	.0808
-1.3	.0823	.0838	.0853	.0869	.0885	.0901	.0918	.0934	.0951	.0968
-1.2	.0985	.1003	.1020	.1038	.1056	.1075	.1093	.1112	.1131	.1151
-1.1	.1170	.1190	.1210	.1230	.1251	.1271	.1292	.1314	.1335	.1357
-1.0	.1379	.1401	.1423	.1446	.1469	.1492	.1515	.1539	.1562	.1587
-0.9	.1611	.1635	.1660	.1685	.1711	.1736	.1762	.1788	.1814	.1841
-0.8	.1867	.1894	.1922	.1949	.1977	.2005	.2033	.2061	.2090	.2119
-0.7	.2148	.2177	.2206	.2236	.2266	.2296	.2327	.2358	.2389	.2420
-0.6	.2451	.2483	.2514	.2546	.2578	.2611	.2643	.2676	.2709	.2743
-0.5	.2776	.2810	.2843	.2877	.2912	.2946	.2981	.3015	.3050	.3085
-0.4	.3121	.3156	.3192	.3228	.3264	.3300	.3336	.3372	.3409	.3446
-0.3	.3483	.3520	.3557	.3594	.3632	.3669	.3707	.3745	.3783	.3821
-0.2	.3859	.3897	.3936	.3974	.4013	.4052	.4090	.4129	.4168	.4207
-0.1	.4247	.4286	.4325	.4364	.4404	.4443	.4483	.4522	.4562	.4602
-0.0	.4641	.4681	.4721	.4761	.4801	.4840	.4880	.4920	.4960	.5000

Table A4. Table of Student's T-distribution

t_α ; critical values, such that $P\{t > t_\alpha\} = \alpha$

ν (d.f.)	α , the right-tail probability									
	.10	.05	.025	.02	.01	.005	.0025	.001	.0005	.0001
1	3.078	6.314	12.706	15.89	31.82	63.66	127.3	318.3	636.6	3185
2	1.886	2.920	4.303	4.849	6.965	9.925	14.09	22.33	31.60	70.71
3	1.638	2.353	3.182	3.482	4.541	5.841	7.453	10.21	12.92	22.20
4	1.533	2.132	2.776	2.999	3.747	4.604	5.598	7.173	8.610	13.04
5	1.476	2.015	2.571	2.757	3.365	4.032	4.773	5.894	6.869	9.676
6	1.440	1.943	2.447	2.612	3.143	3.707	4.317	5.208	5.959	8.023
7	1.415	1.895	2.365	2.517	2.998	3.499	4.029	4.785	5.408	7.064
8	1.397	1.860	2.306	2.449	2.896	3.355	3.833	4.501	5.041	6.442
9	1.383	1.833	2.262	2.398	2.821	3.250	3.690	4.297	4.781	6.009
10	1.372	1.812	2.228	2.359	2.764	3.169	3.581	4.144	4.587	5.694
11	1.363	1.796	2.201	2.328	2.718	3.106	3.497	4.025	4.437	5.453
12	1.356	1.782	2.179	2.303	2.681	3.055	3.428	3.930	4.318	5.263
13	1.350	1.771	2.160	2.282	2.650	3.012	3.372	3.852	4.221	5.111
14	1.345	1.761	2.145	2.264	2.624	2.977	3.326	3.787	4.140	4.985
15	1.341	1.753	2.131	2.249	2.602	2.947	3.286	3.733	4.073	4.880
16	1.337	1.746	2.120	2.235	2.583	2.921	3.252	3.686	4.015	4.790
17	1.333	1.740	2.110	2.224	2.567	2.898	3.222	3.646	3.965	4.715
18	1.330	1.734	2.101	2.214	2.552	2.878	3.197	3.610	3.922	4.648
19	1.328	1.729	2.093	2.205	2.539	2.861	3.174	3.579	3.883	4.590
20	1.325	1.725	2.086	2.197	2.528	2.845	3.153	3.552	3.850	4.539
21	1.323	1.721	2.080	2.189	2.518	2.831	3.135	3.527	3.819	4.492
22	1.321	1.717	2.074	2.183	2.508	2.819	3.119	3.505	3.792	4.452
23	1.319	1.714	2.069	2.177	2.500	2.807	3.104	3.485	3.768	4.416
24	1.318	1.711	2.064	2.172	2.492	2.797	3.091	3.467	3.745	4.382
25	1.316	1.708	2.060	2.167	2.485	2.787	3.078	3.450	3.725	4.352
26	1.315	1.706	2.056	2.162	2.479	2.779	3.067	3.435	3.707	4.324
27	1.314	1.703	2.052	2.158	2.473	2.771	3.057	3.421	3.689	4.299
28	1.313	1.701	2.048	2.154	2.467	2.763	3.047	3.408	3.674	4.276
29	1.311	1.699	2.045	2.150	2.462	2.756	3.038	3.396	3.660	4.254
30	1.310	1.697	2.042	2.147	2.457	2.750	3.030	3.385	3.646	4.234
32	1.309	1.694	2.037	2.141	2.449	2.738	3.015	3.365	3.622	4.198
34	1.307	1.691	2.032	2.136	2.441	2.728	3.002	3.348	3.601	4.168
36	1.306	1.688	2.028	2.131	2.434	2.719	2.990	3.333	3.582	4.140
38	1.304	1.686	2.024	2.127	2.429	2.712	2.980	3.319	3.566	4.115
40	1.303	1.684	2.021	2.123	2.423	2.704	2.971	3.307	3.551	4.094
45	1.301	1.679	2.014	2.115	2.412	2.690	2.952	3.281	3.520	4.049
50	1.299	1.676	2.009	2.109	2.403	2.678	2.937	3.261	3.496	4.014
55	1.297	1.673	2.004	2.104	2.396	2.668	2.925	3.245	3.476	3.985
60	1.296	1.671	2.000	2.099	2.390	2.660	2.915	3.232	3.460	3.962
70	1.294	1.667	1.994	2.093	2.381	2.648	2.899	3.211	3.435	3.926
80	1.292	1.664	1.990	2.088	2.374	2.639	2.887	3.195	3.416	3.899
90	1.291	1.662	1.987	2.084	2.368	2.632	2.878	3.183	3.402	3.878
100	1.290	1.660	1.984	2.081	2.364	2.626	2.871	3.174	3.390	3.861
200	1.286	1.653	1.972	2.067	2.345	2.601	2.838	3.131	3.340	3.789
∞	1.282	1.645	1.960	2.054	2.326	2.576	2.807	3.090	3.290	3.719