

Table 1: Cumulative Binomial Distribution

$n = 1$

$$P_b(\bar{r} \geq r | n, p)$$

$n = 1$

P	01	02	03	04	05	06	07	08	09	10
R	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000
P	11	12	13	14	15	16	17	18	19	20
R	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
P	21	22	23	24	25	26	27	28	29	30
R	2100	2300	2300	2400	2500	2600	2700	2800	2900	3000
P	31	32	33	34	35	36	37	38	39	40
R	3100	3200	3300	3400	3500	3600	3700	3800	3900	4000
P	41	42	43	44	45	46	47	48	49	50
R	4100	4200	4300	4400	4500	4600	4700	4800	4900	5000

$n = 2$

P	01	02	03	04	05	06	07	08	09	10
R	0199	0396	0591	0784	0975	1164	1351	1536	1719	1900
P	11	12	13	14	15	16	17	18	19	20
R	2079	2256	2431	2604	2775	2944	3111	3276	3439	3600
P	21	22	23	24	25	26	27	28	29	30
R	3759	3916	4071	4224	4375	4524	4671	4816	4959	5100
P	31	32	33	34	35	36	37	38	39	40
R	5239	5376	5511	5644	5775	5904	6031	6156	6279	6400
P	41	42	43	44	45	46	47	48	49	50
R	6519	6636	6751	6864	6975	7084	7191	7296	7399	7500

$n = 3$

P	01	02	03	04	05	06	07	08	09	10
R	0227	0588	0873	1153	1426	1694	1956	2213	2464	2710
P	11	12	13	14	15	16	17	18	19	20
R	2950	3185	3415	3639	3859	4073	4282	4486	4686	4880
P	21	22	23	24	25	26	27	28	29	30
R	5070	5254	5435	5610	5781	5948	6110	6268	6421	6570

$n = 3$

Table I: Cumulative Binomial Distribution

P	31	32	33	34	35	36	37	38	39	40
R										
1	6715	6856	6992	7128	7254	7379	7500	7617	7730	7840
2	3282	2417	8548	2682	2818	2955	3094	3235	3377	3520
3	0293	0328	0359	0393	0429	0467	0507	0549	0593	0640

P	41	42	43	44	45	46	47	48	49	50
R										
1	7946	8049	8148	8244	8336	8425	8511	8594	8673	8750
2	3865	3810	3957	4104	4253	4401	4551	4700	4850	5000
3	0689	0741	0795	0852	0911	0973	1038	1106	1176	1250

$n = 4$

P	01	02	03	04	05	06	07	08	09	10
R										
1	0394	0776	1147	1507	1855	2193	2519	2836	3143	3439
2	0006	0023	0052	0091	0140	0199	0267	0344	0430	0523
3			0001	0002	0005	0008	0013	0019	0027	0037
4									0001	0001

P	11	12	13	14	15	16	17	18	19	20
R										
1	3726	4003	4271	4530	4780	5021	5254	5479	5695	5904
2	0624	0732	0847	0968	1095	1228	1366	1509	1656	1808
3	0049	0063	0079	0098	0120	0144	0171	0202	0235	0272
4	0001	0002	0003	0004	0005	0007	0008	0010	0013	0016

P	21	22	23	24	25	26	27	28	29	30
R										
1	6105	6298	6485	6664	6836	7001	7160	7313	7459	7599
2	1963	2122	2285	2450	2617	2787	2959	3132	3307	3483
3	0312	0356	0403	0453	0508	0566	0628	0694	0763	0837
4	0019	0023	0028	0033	0039	0046	0053	0061	0071	0081

P	31	32	33	34	35	36	37	38	39	40
R										
1	7733	7862	7985	8103	8215	8322	8425	8522	8615	8704
2	3680	3832	4015	4193	4370	4547	4724	4900	5078	5248
3	0915	0996	1082	1171	1263	1362	1464	1569	1679	1792
4	0092	0105	0119	0134	0150	0168	0187	0209	0231	0256

P	41	42	43	44	45	46	47	48	49	50
R										
1	8788	8868	8944	9017	9085	9150	9211	9269	9323	9375
2	5420	5590	5759	5926	6090	6252	6412	6569	6724	6875
3	1909	2030	2155	2283	2415	2550	2689	2831	2977	3125
4	0283	0311	0342	0375	0410	0448	0488	0531	0576	0625

$n = 5$

P	01	02	03	04	05	06	07	08	09	10
R										
1	0470	0961	1413	1846	2262	2661	3043	3409	3760	4095
2	0010	0038	0085	0148	0226	0319	0425	0544	0674	0815
3		0001	0003	0006	0012	0020	0031	0045	0063	0086
4					0001	0001	0001	0002	0003	0005

P	11	12	13	14	15	16	17	18	19	20
R										
1	4416	4723	5016	5296	5563	5818	6061	6293	6513	6723
2	0965	1125	1292	1467	1648	1833	2027	2224	2424	2627
3	0112	0143	0179	0220	0266	0318	0375	0437	0505	0579
4	0007	0009	0013	0017	0022	0029	0036	0045	0055	0067
5				0001	0001	0001	0001	0002	0003	0003

P	21	22	23	24	25	26	27	28	29	30
R										
1	6923	7113	7293	7464	7627	7781	7927	8065	8196	8319
2	3833	3041	3251	3461	3672	3883	4093	4303	4511	4718
3	6659	0744	0836	0933	1035	1143	1257	1376	1501	1631
4	0081	0097	0114	0134	0156	0181	0208	0238	0272	0308
5	0004	0005	0006	0008	0010	0012	0014	0017	0021	0024

Table I: Cumulative Binomial Distribution

n = 5

P	31	32	33	34	35	36	37	38	39	40
R										
1	0436	8546	8650	8748	8840	8926	9008	9084	9155	9222
2	4923	5125	5325	5522	5716	5906	6093	6276	6455	6630
3	1766	1905	2050	2199	2352	2509	2670	2835	3003	3174
4	0347	0390	0436	0486	0540	0598	0660	0726	0796	0870
5	0029	0034	0039	0045	0053	0060	0069	0079	0090	0102

P	41	42	43	44	45	46	47	48	49	50
R										
1	9285	9344	9398	9449	9497	9541	9582	9620	9655	9688
2	6801	6967	7129	7286	7438	7585	7728	7865	7998	8125
3	3349	3525	3705	3886	4069	4253	4439	4625	4813	5000
4	0049	1033	1121	1214	1312	1415	1522	1635	1753	1875
5	0116	0131	0147	0165	0185	0206	0229	0255	0282	0313

n = 6

P	01	02	03	04	05	06	07	08	09	10
R										
1	0585	1142	1670	2172	2649	3101	3530	3936	4321	4686
2	0015	0057	0125	0216	0328	0459	0608	0773	0952	1143
3		0002	0005	0012	0022	0038	0058	0085	0118	0159
4					0001	0002	0003	0005	0008	0013
5										0001

P	11	12	13	14	15	16	17	18	19	20
R										
1	5030	5356	5664	5954	6229	6487	6731	6960	7176	7379
2	1345	1556	1776	2003	2235	2472	2713	2956	3201	3446
3	0206	0261	0324	0395	0473	0560	0655	0759	0870	0989
4	0018	0025	0034	0045	0057	0075	0094	0116	0141	0170
5	0001	0001	0002	0003	0004	0005	0007	0010	0013	0016
6										0001

P	21	22	23	24	25	26	27	28	29	30
R										
1	7569	7748	7916	8073	8220	8358	8487	8607	8719	8824
2	3692	3937	4180	4422	4661	4896	5128	5356	5580	5798
3	1115	1250	1391	1539	1694	1856	2023	2196	2374	2557
4	0202	0239	0280	0326	0376	0431	0492	0557	0628	0705
5	0020	0025	0031	0038	0046	0056	0067	0079	0093	0109
6	0001	0001	0001	0002	0002	0003	0004	0005	0006	0007

P	31	32	33	34	35	36	37	38	39	40
R										
1	8221	9011	9095	9173	9246	9313	9375	9432	9485	9533
2	6012	6220	6422	6618	6809	6994	7172	7343	7508	7667
3	2744	2936	3130	3328	3529	3732	3937	4143	4350	4557
4	6787	875	969	1069	1174	1286	1404	1527	1657	1792
5	0127	0148	0170	0195	0223	0254	0288	0325	0365	0410
6	0009	0011	0013	0015	0018	0022	0026	0030	0035	0041

P	41	42	43	44	45	46	47	48	49	50
R										
1	9578	9619	9657	9692	9723	9752	9778	9802	9824	9844
2	7819	7965	8105	8238	8364	8485	8599	8707	8810	8906
3	4764	4971	5177	5382	5585	5786	5985	6180	6373	6563
4	1933	2080	2232	2390	2553	2721	2893	3070	3252	3438
5	0458	0510	0566	0627	0692	0762	0837	0917	1003	1094
6	0048	0055	0063	0073	0083	0095	0108	0122	0138	0156

n = 7

P	01	02	03	04	05	06	07	08	09	10
R										
1	0679	1319	1920	2486	3017	3515	3983	4422	4832	5217
2	0020	0079	0171	0294	0444	0618	0813	1026	1255	1497
3		0003	0009	0020	0038	0063	0097	0140	0193	0257
4				0001	0002	0004	0007	0012	0018	0027
5								0001	0001	0002

$n = 7$

Table I: Cumulative Binomial Distribution

P	11	12	13	14	15	16	17	18	19	20
R										
1	5577	5913	6227	6521	6794	7049	7286	7507	7712	7903
2	1750	2012	2281	2556	2834	3115	3396	3677	3956	4233
3	0331	0416	0513	0620	0738	0866	1005	1154	1313	1480
4	0039	0054	0072	0094	0121	0153	0189	0231	0279	0333
5	0003	0004	0006	0009	0012	0017	0022	0029	0037	0047
6					0001	0001	0001	0002	0003	0004
7										
P	21	22	23	24	25	26	27	28	29	30
R										
1	8080	8243	8395	8535	8665	8785	8895	8997	9090	9176
2	4506	4775	5040	5298	5551	5796	6035	6266	6490	6706
3	1657	1841	2033	2231	2436	2646	2861	3081	3304	3529
4	0394	0461	0536	0617	0706	0802	0905	1016	1134	1260
5	0068	0072	0088	0107	0129	0153	0181	0213	0248	0288
6	0005	0006	0008	0011	0013	0017	0021	0026	0031	0038
7					0001	0001	0001	0001	0002	0003
P	31	32	33	34	35	36	37	38	39	40
R										
1	9255	9328	9394	9454	9510	9560	9606	9648	9686	9720
2	6914	7113	7304	7487	7662	7828	7987	8137	8279	8414
3	3757	3987	4217	4447	4677	4906	5134	5359	5581	5801
4	1394	1534	1682	1837	1998	2167	2341	2521	2707	2898
5	0332	0380	0434	0492	0556	0625	0701	0782	0869	0963
6	0046	0055	0065	0077	0090	0105	0123	0142	0164	0188
7	0003	0003	0004	0005	0006	0008	0009	0011	0014	0016
P	41	42	43	44	45	46	47	48	49	50
R										
1	9751	9779	9805	9827	9848	9866	9883	9897	9910	9922
2	8541	8660	8772	8877	8976	9068	9153	9233	9307	9375
3	6017	6229	6436	6638	6836	7027	7213	7393	7567	7734
4	3094	3294	3498	3706	3917	4131	4348	4563	4781	5000
5	1063	1169	1282	1402	1529	1663	1803	1951	2105	2266
6	0216	0246	0279	0316	0357	0402	0451	0504	0562	0625
7	0019	0023	0027	0032	0037	0044	0051	0059	0068	0078

$n = 8$

P	01	02	03	04	05	06	07	08	09	10
R										
1	0773	1492	2163	2786	3366	3904	4404	4868	5297	5695
2	0027	0103	0223	0381	0573	0792	1035	1298	1577	1869
3	0001	0004	0013	0031	0058	0096	0147	0211	0289	0381
4			0001	0002	0004	0007	0013	0022	0034	0050
5							0001	0001	0003	0004
6										
7										
P	11	12	13	14	15	16	17	18	19	20
R										
1	6063	6404	6718	7008	7275	7521	7748	7956	8147	8322
2	2171	2480	2794	3111	3428	3744	4057	4366	4670	4967
3	6487	6808	7143	7491	7852	8226	8612	9008	9415	9831
4	0071	0097	0139	0198	0274	0367	0478	0597	0734	0883
5	0007	0010	0015	0021	0029	0038	0050	0065	0083	0104
6		0001	0001	0002	0002	0003	0005	0007	0009	0012
7								0001	0001	0001
P	21	22	23	24	25	26	27	28	29	30
R										
1	8483	8630	8764	8887	8999	9101	9194	9278	9354	9424
2	5257	5538	5811	6075	6329	6573	6807	7031	7244	7447
3	2255	2486	2724	2967	3215	3465	3718	3973	4230	4482
4	0659	0765	0880	1004	1138	1281	1433	1594	1763	1941
5	0129	0158	0191	0230	0273	0322	0377	0438	0505	0580
6	0016	0021	0027	0034	0042	0052	0064	0078	0094	0113
7	0001	0002	0002	0003	0004	0005	0006	0008	0010	0013
8									0001	0001

Table 1: Cumulative Binomial Distribution

$n = 8$

P	31	32	33	34	35	36	37	38	39	40
R 1	2406	9543	9594	9640	9681	9719	9752	9782	9808	9832
2	7640	7822	7994	8156	8309	8452	8586	8711	8828	8935
3	4716	4987	5236	5481	5722	5958	6189	6415	6634	6845
4	2126	2319	2519	2724	2936	3153	3374	3599	3828	4059
5	0661	0750	0846	0949	1061	1180	1307	1443	1596	1737
6	0134	0159	0187	0218	0253	0293	0336	0385	0439	0498
7	0016	0020	0024	0030	0036	0043	0051	0061	0072	0085
8	0001	0001	0001	0002	0002	0003	0004	0004	0005	0007

P	41	42	43	44	45	46	47	48	49	50
R 1	9853	9872	9889	9903	9916	9928	9938	9947	9954	9961
2	9037	9130	9216	9295	9368	9435	9496	9552	9602	9648
3	7052	7250	7440	7624	7792	7966	8125	8276	8419	8555
4	4293	4527	4762	4996	5230	5463	5694	5922	6146	6367
5	1895	2062	2235	2416	2604	2798	2999	3205	3416	3633
6	0563	0634	0711	0794	0885	0982	1086	1198	1318	1445
7	0010	0117	0136	0157	0181	0208	0239	0272	0310	0352
8	0008	0010	0012	0014	0017	0020	0024	0028	0033	0039

$n = 9$

P	01	02	03	04	05	06	07	08	09	10
R 1	0865	1663	2398	3075	3698	4270	4796	5278	5721	6126
2	0034	0131	0282	0478	0712	0978	1271	1583	1912	2252
3	0001	0006	0020	0045	0084	0138	0209	0298	0405	0530
4			0001	0003	0006	0013	0023	0037	0057	0083
5						0001	0002	0003	0005	0009
6										0001

P	11	12	13	14	15	16	17	18	19	20
R 1	5496	5835	7145	7427	7684	7918	8131	8324	8499	8658
2	2599	2951	3304	3657	4005	4348	4685	5012	5330	5638
3	0672	0833	1009	1202	1409	1629	1861	2105	2357	2618
4	0117	0158	0209	0269	0339	0420	0513	0615	0730	0856
5	0014	0021	0030	0041	0056	0075	0098	0125	0158	0196
6	0001	0002	0003	0004	0006	0009	0013	0017	0023	0031
7						0001	0001	0002	0002	0003

P	21	22	23	24	25	26	27	28	29	30
R 1	8801	8931	9048	9154	9249	9335	9411	9480	9542	9596
2	5934	6218	6491	6750	6997	7230	7452	7660	7856	8040
3	2605	3158	3434	3713	3993	4273	4552	4829	5102	5372
4	0994	1144	1304	1475	1657	1849	2050	2260	2478	2703
5	0240	0251	0350	0416	0469	0571	0662	0762	0870	0988
6	0040	0051	0065	0081	0100	0122	0149	0179	0213	0253
7	0004	0006	0008	0010	0013	0017	0022	0028	0035	0043
8			0001	0001	0001	0001	0002	0003	0003	0004

P	31	32	33	34	35	36	37	38	39	40
R 1	9645	9689	9728	9762	9793	9820	9844	9865	9883	9899
2	8312	8372	8422	8461	8499	8537	8572	8604	8633	8659
3	5636	5894	6146	6390	6627	6856	7076	7287	7489	7682
4	2935	3173	3415	3662	3911	4163	4416	4669	4922	5174
5	1115	1252	1398	1553	1717	1890	2072	2262	2460	2666
6	0298	0348	0404	0467	0536	0612	0696	0787	0886	0994
7	0053	0064	0078	0094	0112	0133	0157	0184	0215	0250
8	0006	0007	0009	0011	0014	0017	0021	0026	0031	0036
9				0001	0001	0001	0001	0002	0002	0003

P	41	42	43	44	45	46	47	48	49	50
R 1	9913	9926	9936	9946	9954	9961	9967	9972	9977	9980
2	9372	9442	9505	9563	9615	9662	9704	9741	9775	9805
3	7866	8039	8204	8359	8505	8644	8769	8889	8999	9102
4	5424	5670	5913	6152	6386	6614	6836	7052	7260	7461
5	2878	3097	3322	3551	3786	4024	4265	4509	4754	5000
6	1109	1233	1366	1508	1658	1817	1985	2161	2346	2539
7	0290	0334	0383	0437	0498	0564	0637	0717	0804	0898
8	0046	0055	0065	0077	0091	0107	0125	0145	0169	0195
9	0003	0004	0005	0006	0008	0009	0011	0014	0016	0020

n = 10

Table I: Cumulative Binomial Distribution

		n = 10									
P		01	02	03	04	05	06	07	08	09	10
R	1	09556	18229	26226	33522	4013	4614	5160	5656	6106	6512
R	2	0043	0162	0345	0582	0861	1176	1517	1879	2254	2639
R	3	0001	0009	0028	0062	0115	0188	0283	0401	0540	0702
R	4			0001	0004	0010	0020	0036	0058	0088	0132
R	5					0001	0002	0003	0006	0010	0015
R	6									0001	0001
P		11	12	13	14	15	16	17	18	19	20
R	1	6982	7215	7516	7787	8031	8251	8448	8626	8764	8926
R	2	3028	3417	3804	4184	4557	4920	5270	5608	5932	6243
R	3	0884	1087	1308	1545	1798	2064	2341	2628	2922	3223
R	4	0178	0239	0313	0400	0500	0614	0741	0883	1039	1209
R	5	0025	0037	0053	0073	0099	0130	0168	0213	0266	0328
R	6	0003	0004	0006	0010	0014	0020	0027	0037	0049	0064
R	7			0001	0001	0001	0002	0003	0004	0006	0009
R	8								0001	0001	0001
P		21	22	23	24	25	26	27	28	29	30
R	1	9053	9166	9267	9357	9437	9508	9570	9626	9674	9716
R	2	6536	6815	7079	7327	7560	7778	7981	8170	8345	8507
R	3	3534	3831	4137	4442	4744	5043	5335	5622	5901	6174
R	4	1591	1587	1704	2012	2241	2479	2726	2979	3239	3504
R	5	0399	0479	0569	0670	0781	0904	1037	1181	1337	1503
R	6	0082	0104	0130	0161	0197	0239	0287	0342	0404	0473
R	7	0012	0016	0021	0027	0035	0045	0056	0070	0087	0108
R	8	0001	0002	0002	0003	0004	0006	0007	0010	0012	0016
R	9							0001	0001	0001	0001
P		31	32	33	34	35	36	37	38	39	40
R	1	9755	9789	9818	9843	9865	9885	9902	9916	9929	9940
R	2	8656	8794	8920	9035	9140	9236	9323	9402	9473	9532
R	3	6434	6687	6930	7162	7384	7595	7794	7983	8160	8327
R	4	3772	4044	4316	4589	4862	5132	5400	5664	5923	6177
R	5	1679	1867	2064	2270	2485	2708	2939	3177	3420	3669
R	6	0551	0637	0732	0836	0949	1072	1205	1348	1500	1663
R	7	0129	0155	0185	0220	0260	0305	0356	0413	0477	0548
R	8	0020	0025	0032	0039	0048	0059	0071	0086	0103	0123
R	9	0002	0003	0003	0004	0005	0007	0009	0011	0014	0017
R	10								0001	0001	0001
P		41	42	43	44	45	46	47	48	49	50
R	1	9949	9957	9964	9970	9975	9979	9983	9986	9988	9990
R	2	9594	9645	9691	9731	9767	9799	9827	9852	9874	9893
R	3	8483	8628	8764	8889	9004	9111	9209	9298	9379	9453
R	4	6425	6665	6898	7123	7340	7547	7745	7933	8112	8281
R	5	3922	4178	4436	4696	4956	5216	5474	5730	5982	6230
R	6	1834	2016	2207	2407	2616	2832	3057	3288	3526	3770
R	7	0826	0712	0806	0908	1020	1141	1271	1410	1560	1719
R	8	0146	0172	0202	0236	0274	0317	0366	0420	0480	0547
R	9	0021	0025	0031	0037	0045	0054	0065	0077	0091	0107
R	10	0001	0002	0002	0003	0003	0004	0005	0006	0008	0010

n = 11

P		01	02	03	04	05	06	07	08	09	10
R	1	1047	1993	2847	3618	4312	4937	5499	6004	6456	6861
R	2	0052	0195	0413	0692	1019	1382	1772	2181	2601	3020
R	3	0002	0012	0037	0083	0152	0248	0370	0519	0695	0896
R	4			0002	0007	0016	0030	0053	0085	0129	0185
R	5					0001	0003	0005	0010	0017	0028
R	6								0001	0002	0003

Table I: Cumulative Binomial Distribution

$n = 11$

P	11	12	13	14	15	16	17	18	19	20
R 1	7225	7549	7839	8097	8327	8531	8712	8873	9015	9141
2	3452	3873	4286	4689	5076	5453	5811	6151	6474	6779
3	1120	1366	1632	1915	2212	2521	2839	3164	3494	3826
4	0236	0341	0442	0560	0694	0846	1013	1197	1397	1611
5	0042	0061	0087	0119	0159	0207	0266	0334	0413	0504
6	0005	0008	0012	0018	0027	0037	0051	0068	0090	0117
7		0001	0001	0002	0003	0005	0007	0010	0014	0020
8							0001	0001	0002	0002

P	21	22	23	24	25	26	27	28	29	30
R 1	9252	9350	9436	9511	9578	9636	9686	9730	9769	9802
2	7066	7333	7582	7814	8029	8227	8410	8577	8730	8870
3	4158	4488	4814	5134	5448	5753	6049	6335	6610	6873
4	1840	2081	2333	2596	2867	3146	3430	3719	4011	4304
5	0607	0723	0851	0992	1146	1313	1493	1685	1888	2103
6	0148	0186	0231	0283	0343	0412	0490	0577	0674	0782
7	0027	0035	0046	0059	0076	0095	0119	0146	0179	0216
8	0003	0005	0007	0009	0012	0016	0021	0027	0034	0043
9			0001	0001	0001	0002	0002	0003	0004	0006

P	31	32	33	34	35	36	37	38	39	40
R 1	9831	9856	9878	9896	9912	9926	9938	9948	9956	9964
2	8997	9112	9216	9310	9394	9470	9537	9597	9650	9698
3	7123	7361	7587	7799	7999	8186	8360	8522	8672	8811
4	4398	4890	5479	6164	6944	7819	8786	9845	6796	7037
5	2328	2563	2807	3059	3317	3581	3850	4122	4397	4672
6	0901	1031	1171	1324	1487	1661	1847	2043	2249	2465
7	0260	0309	0366	0430	0501	0581	0670	0768	0876	0994
8	0054	0067	0082	0101	0122	0148	0177	0210	0249	0293
9	0008	0010	0013	0016	0020	0026	0032	0039	0048	0059
10	0001	0001	0001	0002	0002	0003	0004	0005	0006	0007

P	41	42	43	44	45	46	47	48	49	50
R 1	9970	9975	9979	9983	9986	9989	9991	9992	9994	9995
2	9739	9776	9808	9836	9861	9882	9900	9916	9930	9941
3	8938	9053	9162	9260	9348	9428	9499	9564	9622	9673
4	7269	7490	7700	7900	8089	8266	8433	8588	8733	8867
5	4948	5223	5495	5764	6029	6288	6541	6787	7026	7256
6	2690	2924	3166	3414	3669	3929	4193	4460	4729	5000
7	1121	1260	1406	1568	1738	1919	2110	2312	2523	2744
8	0343	0399	0461	0532	0610	0696	0791	0895	1009	1133
9	0072	0087	0104	0125	0148	0175	0206	0241	0282	0327
10	0009	0012	0014	0018	0022	0027	0033	0040	0049	0059
11	0001	0001	0001	0001	0002	0002	0002	0003	0004	0005

$n = 12$

P	01	02	03	04	05	06	07	08	09	10
R 1	1136	2153	3062	3873	4596	5241	5814	6323	6775	7176
2	0062	0231	0488	0809	1184	1595	2033	2487	2948	3410
3	0002	0015	0048	0107	0196	0316	0468	0652	0866	1109
4		0001	0003	0010	0022	0043	0075	0120	0180	0256
5				0001	0002	0004	0009	0016	0027	0043
6							0001	0002	0003	0005
7									0001	0001

P	11	12	13	14	15	16	17	18	19	20
R 1	7530	7843	8120	8363	8578	8766	8931	9076	9202	9311
2	3867	4314	4748	5166	5565	5945	6304	6641	6957	7251
3	1377	1667	1977	2303	2642	2990	3344	3702	4060	4417
4	0351	0464	0597	0750	0922	1114	1324	1552	1795	2054
5	0065	0095	0133	0181	0239	0310	0393	0489	0600	0726
6	0009	0014	0022	0033	0046	0065	0088	0116	0151	0194
7	0001	0002	0003	0004	0007	0010	0015	0021	0029	0039
8					0001	0001	0002	0003	0004	0006
9									0001	0001

n = 12

Table I: Cumulative Binomial Distribution

P	21	22	23	24	25	26	27	28	29	30
R 1	9409	9493	9566	9629	9683	9730	9771	9806	9836	9862
2	7524	7776	8009	8222	8416	8594	8755	8900	9032	9150
3	4768	5114	5450	5778	6093	6397	6687	6963	7225	7472
4	2326	2610	2904	3205	3512	3824	4137	4452	4765	5075
5	0866	1021	1192	1377	1576	1790	2016	2254	2504	2763
6	0245	0304	0374	0453	0544	0646	0760	0887	1026	1173
7	0052	0068	0089	0113	0143	0178	0219	0267	0322	0386
8	0008	0011	0016	0021	0028	0036	0047	0060	0076	0095
9	0001	0001	0002	0003	0004	0005	0007	0010	0013	0017
10						0001	0001	0001	0001	0001

P	31	32	33	34	35	36	37	38	39	40
R 1	9884	9902	9918	9932	9943	9963	9961	9968	9973	9976
2	9256	9350	9435	9509	9576	9634	9685	9730	9770	9804
3	7704	7922	8124	8313	8487	8648	8795	8931	9054	9165
4	5381	5681	5973	6258	6533	6799	7053	7296	7528	7747
5	3032	3308	3590	3876	4167	4459	4751	5043	5332	5618
6	1343	1521	1711	1913	2127	2352	2588	2833	3087	3348
7	0458	0540	0632	0734	0846	0970	1106	1253	1411	1582
8	0118	0144	0176	0213	0255	0304	0359	0422	0493	0573
9	0022	0028	0036	0045	0056	0070	0086	0104	0137	0173
10	0003	0004	0005	0007	0008	0011	0014	0018	0022	0028
11				0001	0001	0001	0001	0002	0002	0003

P	41	42	43	44	45	46	47	48	49	50
R 1	9982	9986	9988	9990	9992	9994	9995	9996	9997	9998
2	9834	9860	9882	9901	9917	9931	9943	9953	9961	9968
3	9267	9358	9440	9513	9579	9637	9688	9733	9773	9807
4	7953	8147	8329	8498	8655	8801	8934	9057	9168	9270
5	5899	6175	6443	6704	6956	7198	7430	7652	7862	8062
6	3616	3889	4167	4448	4731	5014	5297	5577	5855	6128
7	1765	1959	2164	2380	2607	2843	3089	3343	3604	3872
8	0662	0760	0869	0988	1117	1258	1411	1575	1751	1938
9	0183	0218	0258	0304	0356	0415	0481	0555	0638	0730
10	0035	0043	0053	0065	0079	0095	0114	0137	0163	0193
11	0004	0005	0007	0009	0011	0014	0017	0021	0026	0032
12				0001	0001	0001	0001	0001	0002	0002

n = 13

P	01	02	03	04	05	06	07	08	09	10
R 1	1225	2310	3270	4118	4867	5526	6107	6617	7085	7458
2	0072	0270	0564	0932	1354	1814	2298	2794	3293	3787
3	0003	0020	0062	0135	0245	0392	0578	0799	1054	1339
4		0001	0005	0014	0031	0060	0103	0163	0242	0342
5				0001	0003	0007	0013	0024	0041	0065
6						0001	0001	0003	0005	0009
7								0001	0001	0001

P	11	12	13	14	15	16	17	18	19	20
R 1	7802	8102	8364	8592	8791	8963	9113	9242	9354	9450
2	4270	4738	5186	5614	6017	6396	6751	7080	7384	7664
3	1651	1985	2337	2704	3080	3463	3848	4231	4611	4983
4	0464	0609	0776	0967	1180	1414	1667	1939	2226	2537
5	0097	0139	0193	0260	0342	0438	0551	0681	0827	0991
6	0015	0024	0036	0053	0075	0104	0139	0183	0237	0300
7	0002	0003	0005	0008	0013	0019	0027	0038	0052	0070
8			0001	0001	0002	0003	0004	0006	0009	0012
9								0001	0001	0002

Table 1: Cumulative Binomial Distribution

$n = 13$

P	21	22	23	24	25	26	27	28	29	30
R										
1	95333	9604	9666	9718	9762	9800	9833	9860	9883	9903
2	7920	8154	8367	8559	8733	8889	9029	9154	9265	9363
3	5347	5699	6039	6364	6674	6968	7245	7505	7749	7975
4	2839	3161	3489	3822	4157	4493	4826	5155	5478	5794
5	1173	1371	1585	1816	2060	2319	2589	2870	3160	3457
6	0375	0462	0562	0675	0802	0944	1099	1270	1455	1654
7	0093	0120	0154	0195	0243	0299	0365	0440	0527	0624
8	0017	0024	0032	0043	0056	0073	0093	0116	0147	0182
9	0002	0004	0005	0007	0010	0013	0018	0024	0031	0040
10			0001	0001	0001	0002	0003	0004	0005	0007
11									0001	0001

P	31	32	33	34	35	36	37	38	39	40
R										
1	9920	9934	9945	9955	9963	9970	9975	9980	9984	9987
2	9450	9527	9594	9653	9704	9749	9787	9821	9849	9874
3	8185	8379	8557	8720	8868	9003	9125	9235	9333	9421
4	6101	6398	6683	6957	7217	7464	7698	7917	8123	8314
5	3760	4067	4376	4686	4995	5301	5603	5899	6186	6470
6	1867	2093	2331	2581	2841	3111	3388	3673	3962	4256
7	0733	0854	0988	1135	1295	1468	1654	1853	2065	2288
8	0223	0271	0326	0390	0462	0544	0635	0738	0851	0977
9	0052	0065	0082	0102	0126	0154	0187	0225	0270	0321
10	0009	0012	0015	0020	0025	0032	0040	0051	0063	0078
11	0001	0001	0002	0003	0003	0005	0006	0008	0010	0013
12							0001	0001	0001	0001

P	41	42	43	44	45	46	47	48	49	50
R										
1	9990	9992	9993	9995	9996	9997	9997	9998	9998	9999
2	9895	9918	9928	9940	9951	9960	9967	9974	9979	9983
3	9499	9569	9630	9684	9731	9772	9808	9838	9865	9888
4	8492	8656	8807	8945	9071	9185	9288	9381	9464	9539
5	6742	7003	7254	7493	7721	7935	8137	8326	8502	8666
6	4552	4849	5146	5441	5732	6019	6299	6573	6838	7095
7	2524	2770	3025	3290	3563	3842	4127	4415	4707	5000
8	1114	1264	1426	1600	1788	1980	2200	2424	2659	2905
9	0379	0446	0520	0605	0698	0803	0918	1045	1183	1334
10	0096	0117	0141	0170	0203	0242	0287	0338	0396	0461
11	0017	0021	0027	0033	0041	0051	0063	0077	0093	0112
12	0002	0002	0003	0004	0005	0007	0009	0011	0014	0017
13							0001	0001	0001	0001

$n = 14$

P	01	02	03	04	05	06	07	08	09	10
R										
1	1313	2464	3472	4353	5123	5795	6380	6888	7330	7712
2	0084	0310	0645	1059	1530	2037	2564	3100	3632	4154
3	0003	0025	0077	0167	0301	0478	0698	0958	1255	1584
4		0001	0006	0019	0042	0080	0136	0214	0315	0441
5				0002	0004	0010	0020	0035	0059	0092
6							0001	0002	0004	0008
7									0001	0002

P	11	12	13	14	15	16	17	18	19	20
R										
1	8044	8330	8577	8789	8972	9129	9264	9379	9477	9560
2	4658	5141	5599	6031	6433	6807	7152	7469	7758	8021
3	1939	2315	2708	3111	3521	3932	4341	4744	5138	5519
4	0594	0774	0979	1210	1465	1742	2038	2351	2679	3018
5	0137	0196	0269	0359	0467	0594	0741	0907	1093	1298
6	0024	0038	0057	0082	0115	0157	0209	0273	0349	0439
7	0003	0006	0009	0015	0022	0032	0046	0064	0087	0116
8		0001	0001	0002	0003	0005	0008	0012	0017	0024
9						0001	0001	0002	0003	0004

$n = 14$

Table I: Cumulative Binomial Distribution

P	21	22	23	24	25	26	27	28	29	30
R										
1	9631	9691	9742	9786	9822	9852	9878	9899	9917	9932
2	8259	8473	8665	8837	8990	9126	9246	9352	9444	9525
3	5887	6239	6574	6891	7189	7467	7727	7967	8188	8392
4	3366	3719	4076	4432	4787	5136	5479	5813	6137	6448
5	1523	1765	2023	2297	2585	2884	3193	3509	3832	4158
6	0543	0662	0797	0949	1117	1301	1502	1718	1949	2195
7	0152	0196	0248	0310	0383	0467	0563	0673	0796	0931
8	0033	0045	0060	0079	0103	0132	0167	0208	0257	0315
9	0006	0008	0011	0016	0022	0029	0038	0050	0065	0083
10	0001	0001	0002	0002	0003	0005	0007	0009	0012	0017
11						0001	0001	0001	0002	0002
P	31	32	33	34	35	36	37	38	39	40
R										
1	9945	9955	9963	9970	9976	9981	9984	9988	9990	9992
2	9596	9657	9710	9756	9795	9828	9857	9881	9902	9919
3	8577	8746	8899	9037	9161	9271	9370	9457	9534	9602
4	6747	7032	7301	7556	7795	8018	8226	8418	8595	8757
5	4486	4813	5138	5458	5773	6080	6378	6666	6943	7207
6	2454	2724	3006	3297	3595	3899	4208	4519	4831	5141
7	1084	1250	1431	1626	1836	2059	2296	2545	2805	3075
8	0381	0558	0745	0943	0153	0876	1017	1182	1361	1551
9	0105	0131	0163	0200	0243	0294	0353	0420	0492	0569
10	0022	0026	0037	0048	0060	0076	0095	0117	0144	0175
11	0003	0005	0006	0008	0011	0014	0019	0024	0031	0039
12		0001	0001	0001	0001	0002	0003	0003	0005	0006
13										0001
P	41	42	43	44	45	46	47	48	49	50
R										
1	9994	9995	9996	9997	9998	9998	9999	9999	9999	9999
2	9934	9946	9956	9964	9971	9977	9981	9985	9988	9991
3	9861	9875	9888	9897	9903	9908	9913	9917	9921	9925
4	8905	9039	9161	9270	9368	9455	9532	9601	9661	9713
5	7459	7697	7922	8132	8328	8510	8678	8833	8974	9102
6	5450	5754	6052	6344	6627	6900	7163	7415	7654	7880
7	3355	3643	3937	4236	4539	4843	5148	5451	5751	6047
8	1692	1896	2113	2344	2586	2840	3105	3380	3663	3955
9	0680	0789	0910	1043	1189	1348	1520	1707	1908	2113
10	0212	0255	0304	0361	0426	0500	0583	0677	0782	0895
11	0049	0061	0076	0093	0114	0139	0168	0202	0241	0287
12	0008	0010	0013	0017	0022	0027	0034	0042	0053	0065
13	0001	0001	0001	0002	0003	0003	0004	0006	0007	0009
14										0001

$n = 15$

P	01	02	03	04	05	06	07	08	09	10
R										
1	1399	2614	3667	4579	5367	6042	6633	7137	7570	7941
2	0696	0353	0130	1191	1710	2262	2842	3403	3965	4510
3	0004	0030	0094	0203	0362	0571	0829	1130	1469	1841
4		0102	0088	0024	0055	0104	0175	0273	0399	0556
5			0001	0002	0006	0014	0026	0050	0082	0127
6					0001	0001	0003	0007	0013	0022
7							0001	0001	0002	0004
P	11	12	13	14	15	16	17	18	19	20
R										
1	8259	8530	8762	8959	9126	9267	9389	9490	9576	9648
2	5011	5524	5987	6417	6814	7179	7511	7813	8085	8329
3	2238	2654	3084	3520	3958	4392	4819	5234	5635	6020
4	0742	0959	1204	1478	1773	2092	2429	2782	3146	3518
5	0107	0265	0361	0478	0617	0778	0961	1167	1394	1642
6	0037	0057	0084	0121	0168	0227	0300	0387	0480	0581
7	0006	0010	0015	0024	0036	0052	0074	0102	0137	0178
8	0001	0001	0002	0004	0006	0010	0014	0021	0030	0042
9					0001	0001	0002	0003	0005	0008
10								0001	0001	0001

Table 1: Cumulative Binomial Distribution

n = 15

P	21	22	23	24	25	26	27	28	29	30
R 1	9709	9759	9802	9837	9866	9891	9911	9928	9941	9953
2	8547	8741	8913	9065	9198	9315	9417	9505	9581	9647
3	6385	6731	7055	7358	7639	7899	8137	8355	8553	8732
4	3895	4274	4650	5022	5387	5742	6086	6416	6732	7031
5	1910	2195	2495	2810	3135	3469	3810	4154	4500	4845
6	0748	0905	1079	1272	1484	1713	1958	2220	2495	2784
7	0234	0398	0574	0763	0966	0684	0817	0965	1130	1311
8	0058	0078	0104	0135	0173	0219	0274	0338	0413	0500
9	0011	0016	0023	0031	0042	0056	0073	0094	0121	0152
10	0002	0003	0004	0006	0008	0011	0015	0021	0028	0037
11			0001	0001	0001	0002	0002	0003	0005	0007
12									0001	0001
13										
14										
15										
P	31	32	33	34	35	36	37	38	39	40
R 1	9962	9969	9975	9980	9984	9988	9990	9992	9994	9995
2	9704	9752	9794	9829	9858	9883	9904	9922	9936	9948
3	8893	9038	9167	9281	9383	9472	9550	9618	9678	9729
4	7314	7580	7829	8060	8273	8469	8649	8813	8961	9095
5	5187	5523	5852	6171	6481	6778	7062	7332	7587	7827
6	3084	3393	3709	4032	4357	4684	5011	5335	5654	5968
7	1509	1722	1951	2194	2452	2722	3003	3295	3595	3902
8	0599	0711	0837	0977	1132	1302	1487	1687	1902	2131
9	0190	0236	0289	0351	0422	0504	0597	0702	0820	0950
10	0048	0062	0079	0099	0124	0154	0190	0232	0281	0338
11	0009	0012	0016	0022	0028	0037	0047	0059	0075	0093
12	0001	0002	0003	0004	0005	0006	0009	0011	0015	0019
13					0001	0001	0001	0002	0002	0003
14										
15										
P	41	42	43	44	45	46	47	48	49	50
R 1	9996	9997	9998	9998	9999	9999	9999	9999	10000	10000
2	9958	9966	9973	9979	9983	9987	9990	9992	9994	9995
3	9773	9811	9843	9870	9893	9913	9929	9943	9954	9963
4	9215	9322	9417	9502	9576	9641	9697	9746	9788	9824
5	8052	8261	8454	8633	8796	8945	9080	9201	9310	9408
6	6274	6570	6856	7131	7392	7641	7875	8095	8301	8491
7	4214	4530	4847	5164	5478	5789	6095	6394	6684	6964
8	2374	2630	2898	3176	3465	3762	4065	4374	4686	5000
9	1095	1254	1427	1615	1818	2034	2265	2510	2767	3036
10	0404	0479	0565	0661	0769	0890	1024	1171	1333	1508
11	0116	0143	0174	0211	0255	0305	0363	0430	0507	0592
12	0025	0032	0040	0051	0063	0079	0097	0119	0144	0175
13	0004	0005	0007	0009	0011	0014	0018	0023	0029	0037
14			0001	0001	0001	0002	0002	0003	0004	0005
15										

n = 16										
P	01	02	03	04	05	06	07	08	09	10
R 1	1485	2762	3857	4796	5599	6284	6869	7364	7769	8147
2	0109	0399	0818	1327	1892	2489	3098	3701	4289	4853
3	0005	0037	0113	0242	0429	0673	0969	1311	1694	2108
4		0002	0011	0032	0070	0132	0221	0342	0496	0684
5			0001	0003	0009	0019	0038	0068	0111	0170
6					0001	0002	0005	0010	0019	0033
7							0001	0001	0003	0005
8										0001
9										
10										
P	11	12	13	14	15	16	17	18	19	20
R 1	8450	8707	8923	9105	9257	9386	9493	9582	9657	9719
2	5306	5885	6347	6773	7161	7513	7830	8115	8368	8593
3	2545	2999	3461	3926	4386	4838	5277	5698	6101	6487
4	0907	1162	1448	1763	2101	2460	2836	3223	3619	4019
5	0248	0340	0471	0618	0791	0988	1211	1458	1737	2046
6	0053	0082	0120	0171	0235	0315	0413	0527	0652	0787
7	0009	0015	0024	0038	0056	0080	0112	0153	0204	0267
8	0001	0002	0004	0007	0011	0016	0024	0036	0051	0070
9			0001	0001	0002	0003	0004	0007	0010	0015
10							0001	0001	0002	0002

Table 1: Cumulative Binomial Distribution

n = 17

P	21	22	23	24	25	26	27	28	29	30
1	9818	9854	9882	9906	9925	9940	9953	9962	9970	9977
2	8996	9152	9285	9400	9499	9583	9654	9714	9765	9807
3	7249	7567	7859	8123	8363	8578	8771	8942	9093	9226
4	4927	5333	5720	6107	6470	6814	7137	7440	7721	7981
5	2766	3128	3500	3879	4261	4643	5023	5396	5760	6113
6	1273	1510	1770	2049	2347	2661	2989	3329	3677	4032
7	0479	0598	0736	0894	1071	1268	1485	1721	1976	2240
8	0147	0194	0251	0320	0402	0499	0611	0739	0884	1046
9	0037	0051	0070	0094	0124	0161	0206	0261	0326	0403
10	0007	0011	0016	0022	0031	0042	0057	0075	0098	0127
11	0001	0002	0003	0004	0006	0009	0013	0018	0024	0032
12				0001	0001	0002	0003	0005	0007	0011
13								0003	0005	0007

P	31	32	33	34	35	36	37	38	39	40
1	9982	9986	9989	9991	9993	9995	9996	9997	9998	9998
2	9843	9872	9896	9917	9933	9946	9956	9966	9973	9979
3	9343	9444	9532	9608	9673	9728	9775	9813	9849	9877
4	8219	8437	8634	8812	8972	9115	9241	9353	9450	9535
5	6453	6778	7087	7378	7652	7906	8142	8360	8559	8740
6	4390	4749	5105	5458	5803	6139	6465	6778	7077	7361
7	2536	2838	3153	3479	3813	4152	4485	4809	5122	5422
8	1287	1426	1642	1877	2128	2395	2676	2971	3278	3595
9	0492	0595	0712	0845	0994	1159	1341	1541	1757	1989
10	0162	0204	0254	0314	0383	0464	0557	0664	0784	0919
11	0043	0057	0074	0095	0120	0151	0189	0234	0286	0348
12	0009	0013	0017	0023	0030	0040	0051	0065	0081	0100
13	0002	0002	0003	0004	0006	0008	0011	0015	0019	0025
14				0001	0001	0002	0003	0005	0007	0011
15								0003	0005	0007

P	41	42	43	44	45	46	47	48	49	50
1	9999	9999	9999	9999	10000	10000	10000	10000	10000	10000
2	9984	9987	9990	9992	9994	9996	9997	9998	9998	9999
3	9900	9920	9935	9948	9959	9968	9975	9980	9985	9988
4	9610	9674	9729	9776	9816	9849	9877	9901	9920	9936
5	8904	9051	9183	9301	9414	9495	9575	9644	9704	9750
6	7628	7879	8113	8330	8539	8712	8870	9028	9162	9283
7	5856	6182	6499	6805	7098	7377	7641	7890	8122	8336
8	3920	4250	4585	4921	5257	5590	5918	6239	6552	6855
9	2238	2502	2780	3072	3374	3687	4000	4333	4667	5000
10	1070	1236	1419	1618	1834	2066	2314	2577	2855	3140
11	0420	0503	0597	0705	0826	0962	1112	1279	1462	1660
12	0133	0165	0203	0248	0301	0363	0434	0517	0611	0717
13	0033	0042	0054	0069	0086	0108	0134	0165	0202	0245
14	0006	0008	0011	0014	0019	0024	0031	0040	0050	0064
15	0001	0001	0002	0002	0003	0004	0005	0007	0009	0012
16							0001	0001	0001	0001

n = 18

P	01	02	03	04	05	06	07	08	09	10
1	1655	3049	4220	5204	6028	6717	7295	7771	8169	8492
2	0338	0495	1003	1607	2285	2995	3682	4261	4904	5487
3	0007	0052	0157	0333	0581	0890	1275	1705	2168	2660
4		0004	0016	0050	0109	0201	0333	0506	0723	0982
5			0002	0006	0015	0034	0067	0116	0185	0282
6										
7				0001	0102	0005	0010	0021	0038	0064
8							0001	0003	0006	0012

P	11	12	13	14	15	16	17	18	19	20
1	8773	8998	9185	9338	9464	9566	9651	9719	9775	9820
2	6048	6540	6992	7398	7759	8080	8368	8609	8824	9009
3	3173	3690	4206	4711	5203	5673	6119	6538	6927	7287
4	1282	1618	1986	2382	2798	3229	3689	4168	4554	4950
5	0405	0558	0743	0959	1206	1482	1787	2116	2467	2836

n = 18

Table I: Cumulative Binomial Distribution

P	11	12	13	14	15	16	17	18	19	20
R										
1	0102	0154	0222	0310	0419	0551	0708	0889	1097	1329
2	0021	0034	0054	0081	0118	0167	0229	0306	0400	0513
3	0003	0006	0011	0017	0027	0041	0060	0086	0120	0163
4		0001	0002	0003	0005	0008	0013	0020	0029	0043
5					0001	0001	0002	0004	0006	0009
6								0001	0001	0002
7										
8										
9										
10										
11										
12										
13										
14										
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41										
42										
43										
44										
45										
46										
47										
48										
49										
50										

n = 19

P	01	02	03	04	05	06	07	08	09	10
R										
1	1738	3188	4394	5396	6286	6914	7481	7949	8334	8649
2	0153	0546	1100	1751	2453	3171	3879	4560	5202	5797
3	0009	0061	0183	0384	0665	1021	1439	1908	2419	2946
4		0005	0022	0061	0132	0243	0398	0602	0853	1110
5			0002	0007	0020	0044	0085	0147	0233	0333
6				0001	0003	0006	0014	0029	0051	0086
7					0001	0002	0005	0011	0021	0037
8							0001	0001	0001	0001

Table 1: Cumulative Binomial Distribution

$n = 19$

P	11	12	13	14	15	16	17	18	19	20
R										
1	8908	9119	9291	9431	9544	9636	9710	9770	9818	9856
2	6342	6835	7277	7669	8015	8318	8581	8809	9004	9171
3	3488	4032	4568	5089	5587	6059	6500	6910	7287	7631
4	1490	1867	2275	2708	3159	3620	4089	4549	5005	5449
5	0502	0685	0904	1158	1444	1762	2107	2476	2864	3267
6	0135	0202	0290	0401	0537	0700	0891	1110	1357	1631
7	0030	0046	0076	0113	0163	0228	0310	0411	0532	0676
8	0005	0009	0016	0026	0041	0061	0089	0126	0173	0233
9	0001	0002	0003	0005	0008	0014	0021	0032	0047	0067
10				0001	0001	0002	0004	0007	0010	0016
11							0001	0001	0002	0003
P	21	22	23	24	25	26	27	28	29	30
R										
1	9887	9911	9930	9946	9958	9967	9975	9981	9985	9989
2	9313	9434	9535	9619	9690	9749	9797	9837	9869	9893
3	7942	8222	8471	8692	8887	9057	9205	9333	9443	9538
4	5877	6285	6671	7032	7369	7680	7965	8224	8458	8668
5	3681	4100	4520	4936	5346	5744	6129	6498	6848	7178
6	1929	2251	2592	2950	3322	3705	4093	4484	4875	5261
7	0843	1034	1248	1487	1749	2032	2336	2657	2993	3345
8	0307	0396	0503	0629	0775	0941	1129	1338	1568	1820
9	0093	0127	0169	0222	0287	0366	0459	0568	0694	0839
10	0023	0034	0047	0066	0089	0119	0156	0203	0258	0326
11	0005	0007	0011	0016	0023	0032	0044	0060	0080	0105
12	0001	0001	0002	0003	0005	0007	0010	0015	0021	0028
13				0001	0001	0001	0002	0003	0004	0006
14									0001	0001
P	31	32	33	34	35	36	37	38	39	40
R										
1	9991	9993	9995	9996	9997	9998	9998	9999	9999	9999
2	9917	9935	9949	9958	9969	9976	9981	9986	9989	9992
3	9612	9686	9743	9792	9830	9863	9890	9913	9931	9945
4	8855	9022	9169	9297	9409	9505	9588	9658	9719	9770
5	7483	7773	8037	8280	8500	8699	8878	9038	9179	9304
6	5641	6010	6366	6707	7032	7339	7627	7895	8143	8371
7	3705	4073	4445	4818	5180	5554	5913	6261	6597	6919
8	2091	2381	2688	3010	3344	3690	4043	4401	4762	5122
9	1003	1186	1389	1612	1855	2116	2395	2691	3002	3325
10	0405	0499	0608	0733	0875	1035	1213	1410	1626	1861
11	0137	0176	0223	0280	0347	0426	0518	0625	0747	0885
12	0038	0051	0068	0089	0114	0146	0185	0231	0287	0352
13	0009	0012	0017	0023	0031	0041	0054	0070	0091	0116
14	0002	0002	0003	0005	0007	0009	0013	0017	0023	0031
15			0001	0001	0001	0002	0002	0003	0005	0006
16									0001	0001
P	41	42	43	44	45	46	47	48	49	50
R										
1	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
2	9994	9995	9996	9997	9998	9999	9999	9999	9999	10000
3	9957	9967	9974	9980	9985	9988	9991	9993	9995	9996
4	9813	9849	9878	9903	9923	9939	9952	9963	9971	9976
5	9413	9508	9590	9660	9720	9771	9814	9853	9879	9904
6	8579	8767	8937	9088	9223	9342	9446	9537	9615	9682
7	7226	7515	7787	8039	8273	8488	8684	8862	9022	9165
8	5460	5832	6176	6509	6831	7138	7430	7705	7964	8204
9	3660	4003	4353	4706	5060	5413	5762	6105	6439	6762
10	2114	2385	2672	2974	3290	3617	3954	4299	4648	5000
11	1040	1213	1404	1613	1841	2087	2351	2631	2928	3238
12	0429	0518	0621	0738	0871	1021	1187	1372	1575	1796
13	0146	0183	0227	0280	0342	0415	0500	0597	0709	0835
14	0040	0052	0067	0086	0109	0137	0171	0212	0261	0318
15	0009	0012	0016	0021	0028	0036	0046	0060	0076	0095
16	0001	0002	0003	0004	0005	0007	0010	0013	0017	0022
17				0001	0001	0001	0001	0002	0003	0004

n = 20

Table 1: Cumulative Binomial Distribution

		n = 20									
P	R	01	02	03	04	05	06	07	08	09	10
1	1	1821	3324	4562	5580	6415	7099	7650	8113	8484	8754
2	2	0169	0599	1198	1897	2642	3395	4131	4831	5484	6087
3	3	0010	0071	0210	0439	0755	1150	1610	2121	2686	3297
4	4		0006	0027	0074	0159	0290	0471	0706	0993	1336
5	5			0003	0010	0026	0056	0107	0183	0290	0432
6	6				0001	0003	0009	0019	0038	0068	0113
7	7						0001	0003	0006	0013	0024
8	8								0001	0002	0004
9	9									0001	0001
P	R	11	12	13	14	15	16	17	18	19	20
1	1	9028	9224	9383	9510	9612	9694	9759	9811	9852	9883
2	2	8624	7109	7539	7916	8242	8529	8773	8982	9159	9308
3	3	3802	4369	4920	5450	5951	6420	6854	7252	7614	7939
4	4	1710	2127	2573	3041	3523	4010	4496	4974	5439	5895
5	5	0610	0847	1083	1375	1702	2059	2443	2849	3271	3704
6	6	0175	0260	0370	0507	0673	0870	1098	1350	1634	1958
7	7	0041	0067	0103	0153	0219	0304	0409	0537	0689	0867
8	8	0008	0014	0024	0038	0059	0088	0127	0177	0241	0321
9	9	0001	0002	0005	0008	0013	0021	0033	0049	0071	0100
10	10			0001	0001	0002	0004	0007	0011	0017	0025
11	11						0001	0001	0002	0004	0006
12	12									0001	0001
P	R	21	22	23	24	25	26	27	28	29	30
1	1	9910	9931	9946	9959	9968	9976	9980	9982	9983	9984
2	2	9434	9539	9626	9698	9757	9805	9845	9877	9903	9924
3	3	8230	8488	8716	8915	9087	9237	9365	9474	9567	9645
4	4	6310	6711	7085	7431	7748	8038	8300	8534	8744	8929
5	5	4142	4580	5014	5439	5852	6248	6625	6981	7325	7652
6	6	2297	2657	3035	3427	3828	4235	4643	5048	5447	5836
7	7	1071	1301	1557	1838	2142	2467	2810	3169	3540	3929
8	8	0419	0536	0675	0835	1018	1225	1455	1707	1982	2277
9	9	0138	0186	0246	0320	0409	0513	0640	0784	0948	1133
10	10	0038	0054	0075	0103	0139	0183	0238	0305	0385	0480
11	11	0009	0013	0019	0028	0039	0055	0074	0100	0132	0171
12	12	0002	0003	0004	0006	0009	0014	0019	0027	0038	0051
13	13			0001	0001	0002	0003	0004	0006	0009	0013
14	14							0001	0001	0002	0003
P	R	31	32	33	34	35	36	37	38	39	40
1	1	9994	9996	9997	9998	9999	9999	9999	9999	9999	10000
2	2	9940	9953	9964	9972	9977	9980	9982	9983	9984	9985
3	3	9711	9765	9811	9848	9879	9904	9924	9940	9953	9964
4	4	9092	9235	9358	9465	9555	9634	9700	9755	9802	9840
5	5	7911	8173	8411	8626	8818	8989	9141	9274	9390	9490
6	6	6213	6574	6917	7242	7546	7829	8090	8329	8547	8744
7	7	4305	4693	5079	5460	5834	6197	6547	6882	7200	7500
8	8	2591	2922	3268	3624	3990	4361	4735	5108	5478	5841
9	9	1340	1568	1818	2087	2376	2683	3005	3341	3688	4044
10	10	0591	0719	0866	1032	1218	1424	1650	1897	2163	2447
11	11	0220	0279	0350	0434	0532	0645	0775	0923	1090	1275
12	12	0069	0091	0119	0154	0196	0247	0308	0381	0466	0565
13	13	0018	0025	0034	0045	0060	0079	0102	0132	0167	0210
14	14	0004	0006	0008	0011	0015	0021	0028	0037	0049	0065
15	15	0001	0001	0001	0002	0003	0004	0006	0009	0012	0016
16	16						0001	0001	0002	0002	0003
P	R	41	42	43	44	45	46	47	48	49	50
1	1	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
2	2	9996	9997	9998	9998	9999	9999	9999	10000	10000	10000
3	3	9972	9979	9984	9988	9991	9993	9995	9996	9997	9998
4	4	9872	9898	9920	9937	9951	9962	9971	9977	9983	9987
5	5	9577	9651	9714	9767	9811	9848	9879	9904	9924	9941

Table I: Cumulative Binomial Distribution

n = 20

P	41	42	43	44	45	46	47	48	49	53
R										
6	8931	9078	9217	9340	9447	9539	9619	9687	9745	9793
7	7740	8041	8281	8501	8701	8881	9042	9186	9312	9423
8	6196	6539	6868	7183	7480	7759	8020	8261	8482	8684
9	4406	4771	5136	5499	5857	6207	6546	6873	7186	7487
10	2748	3064	3394	3736	4086	4443	4804	5166	5525	5881
11	1480	1705	1949	2212	2493	2791	3104	3432	3771	4119
12	0679	0810	0958	1123	1308	1511	1734	1977	2338	2517
13	0362	0324	0397	0482	0580	0694	0823	0969	1133	1316
14	0084	0107	0136	0172	0214	0265	0326	0397	0480	0577
15	0022	0029	0038	0050	0064	0083	0105	0133	0168	0207
16	0004	0006	0008	0011	0015	0020	0027	0035	0046	0059
17	0001	0001	0001	0002	0003	0004	0005	0007	0010	0013
18						0001	0001	0001	0001	0001

n = 50

P	01	02	03	04	05	06	07	08	09	10
R										
1	3950	6358	7819	8701	9231	9547	9734	9845	9910	9948
2	0894	2642	4447	5995	7206	8100	8735	9173	9468	9662
3	0138	0784	1892	3233	4593	5838	6892	7740	8395	8863
4	0016	0178	0628	1391	2396	3527	4673	5747	6697	7497
5	0001	0032	0168	0490	1036	1794	2710	3710	4723	5688
6		0005	0037	0144	0378	0776	1350	2081	2928	3839
7		0001	0007	0036	0118	0289	0583	1049	1596	2298
8			0001	0008	0032	0094	0220	0448	0768	1221
9				0001	0008	0027	0073	0177	0338	0579
10					0002	0007	0022	0056	0125	0245
11						0002	0006	0017	0043	0094
12							0001	0005	0013	0032
13								0001	0004	0010
14									0001	0003
15										0001

P	11	12	13	14	15	16	17	18	19	20
R										
1	9771	9983	9991	9995	9997	9998	9999	10000	10000	10000
2	9788	9869	9920	9951	9971	9983	9990	9994	9997	9998
3	9237	9487	9661	9779	9858	9910	9944	9965	9979	9987
4	8146	8655	9042	9330	9540	9688	9792	9863	9912	9943
5	6562	7320	7956	8472	8879	9192	9428	9601	9726	9815
6	4760	5647	6463	7186	7806	8323	8741	9071	9327	9520
7	3091	3935	4789	5616	6387	7081	7686	8199	8624	8966
8	1793	2467	3217	4010	4812	5594	6328	6996	7587	8096
9	0932	1392	1955	2605	3319	4071	4832	5576	6280	6927
10	0435	0708	1074	1537	2089	2718	3403	4122	4849	5563
11	0183	0325	0535	0824	1199	1661	2203	2813	3473	4164
12	0069	0135	0242	0402	0628	0929	1309	1768	2300	2893
13	0024	0051	0100	0179	0301	0475	0714	1022	1405	1861
14	0008	0018	0037	0073	0132	0223	0357	0544	0791	1106
15	0002	0006	0013	0027	0053	0096	0164	0266	0411	0607
16	0001	0002	0004	0009	0019	0038	0070	0120	0197	0308
17			0001	0003	0007	0014	0027	0050	0087	0144
18				0001	0008	0005	0010	0019	0036	0063
19					0001	0001	0003	0007	0013	0025
20							0001	0002	0005	0009
21								0001	0002	0003
22									0001	0001

P	21	22	23	24	25	26	27	28	29	30
R										
1	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
2	9999	9999	10000	10000	10000	10000	10000	10000	10000	10000
3	9992	9995	9997	9998	9999	10000	10000	10000	10000	10000
4	9964	9978	9986	9992	9995	9997	9998	9999	9999	10000
5	9877	9919	9948	9967	9979	9987	9992	9995	9997	9998
6	9663	9767	9841	9893	9930	9954	9970	9981	9988	9993
7	9236	9445	9603	9720	9806	9868	9911	9941	9961	9975
8	8523	8874	9156	9377	9547	9676	9772	9842	9892	9927
9	7505	8009	8437	8794	9084	9316	9497	9635	9740	9817
10	6241	6870	7436	7934	8363	8724	9021	9260	9450	9598

Table 1: Cumulative Binomial Distribution

n = 100

P	31	32	33	34	35	36	37	38	39	40
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
7	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
8	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
9	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
14	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
15	.9999	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
16	.9998	.9999	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
17	.9995	.9998	.9999	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
18	.9989	.9995	.9997	.9999	.9999	1.0000	1.0000	1.0000	1.0000	1.0000
19	.9976	.9988	.9994	.9997	.9999	.9999	1.0000	1.0000	1.0000	1.0000
20	.9950	.9973	.9986	.9993	.9997	.9998	.9999	1.0000	1.0000	1.0000
21	.9904	.9946	.9971	.9985	.9992	.9996	.9998	.9999	1.0000	1.0000
22	.9825	.9898	.9942	.9968	.9983	.9991	.9996	.9998	.9999	1.0000
23	.9698	.9816	.9891	.9938	.9966	.9982	.9991	.9995	.9998	.9999
24	.9504	.9685	.9806	.9885	.9934	.9963	.9980	.9990	.9995	.9997
25	.9224	.9487	.9672	.9797	.9879	.9930	.9961	.9979	.9989	.9994
26	.8841	.9204	.9471	.9660	.9789	.9873	.9926	.9958	.9977	.9988
27	.8346	.8820	.9185	.9456	.9649	.9780	.9867	.9922	.9956	.9980
28	.7736	.8325	.8800	.9168	.9442	.9638	.9773	.9862	.9919	.9954
29	.7021	.7717	.8305	.8781	.9152	.9429	.9628	.9765	.9857	.9916
30	.6224	.7007	.7699	.8287	.8764	.9137	.9417	.9618	.9759	.9852
31	.5376	.6216	.6994	.7684	.8270	.8748	.9123	.9405	.9610	.9752
32	.4516	.5376	.6209	.6982	.7669	.8254	.8733	.9110	.9335	.9602
33	.3683	.4523	.5375	.6203	.6971	.7656	.8240	.8720	.9098	.9385
34	.2912	.3696	.4530	.5375	.6197	.6961	.7643	.8227	.8708	.9087
35	.2229	.2929	.3708	.4536	.5376	.6192	.6953	.7632	.8216	.8697
36	.1650	.2249	.2946	.3720	.4542	.5376	.6188	.6945	.7623	.8205
37	.1181	.1671	.2268	.2961	.3731	.4547	.5377	.6184	.6938	.7614
38	.0816	.1200	.1690	.2285	.2976	.3741	.4553	.5377	.6181	.6932
39	.0545	.0833	.1218	.1708	.2301	.2989	.3750	.4558	.5378	.6178
40	.0351	.0558	.0849	.1235	.1724	.2316	.3001	.3759	.4562	.5379
41	.0218	.0361	.0571	.0863	.1250	.1739	.2330	.3012	.3767	.4567
42	.0131	.0226	.0371	.0583	.0877	.1265	.1753	.2343	.3023	.3775
43	.0075	.0136	.0233	.0380	.0594	.0889	.1278	.1766	.2355	.3033
44	.0042	.0079	.0141	.0240	.0389	.0605	.0901	.1290	.1778	.2365
45	.0023	.0044	.0082	.0146	.0246	.0397	.0614	.0911	.1301	.1789
46	.0012	.0024	.0046	.0085	.0150	.0253	.0405	.0623	.0921	.1311
47	.0006	.0012	.0025	.0048	.0088	.0154	.0257	.0411	.0631	.0930
48	.0003	.0006	.0013	.0026	.0050	.0091	.0158	.0262	.0417	.0638
49	.0001	.0003	.0007	.0014	.0027	.0052	.0094	.0162	.0427	.0643
50	.0001	.0001	.0003	.0007	.0015	.0029	.0054	.0096	.0165	.0271
51		.0002	.0003	.0007	.0015	.0030	.0055	.0098	.0168	.0278
52		.0001	.0002	.0004	.0008	.0016	.0030	.0056	.0100	.0280
53			.0001	.0002	.0004	.0008	.0016	.0031	.0058	.0282
54				.0001	.0002	.0004	.0008	.0017	.0032	.0283
55					.0001	.0002	.0004	.0009	.0017	.0284
56						.0001	.0002	.0004	.0009	.0285
57							.0001	.0002	.0004	.0286
58								.0001	.0002	.0287
59									.0001	.0288

Table II
Unit Normal Probability Distribution

<i>u</i>	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
.0	3989	3989	3989	3988	3986	3984	3982	3980	3977	3973
.1	3970	3965	3961	3956	3951	3945	3939	3932	3925	3918
.2	3910	3902	3894	3885	3876	3867	3857	3847	3836	3825
.3	3814	3802	3790	3778	3765	3752	3739	3725	3712	3697
.4	3683	3668	3653	3637	3621	3605	3589	3572	3555	3538
.5	3521	3503	3485	3467	3448	3429	3410	3391	3372	3352
.6	3332	3312	3292	3271	3251	3230	3209	3187	3166	3144
.7	3123	3101	3079	3056	3034	3011	2989	2966	2943	2920
.8	2897	2874	2850	2827	2803	2780	2756	2732	2709	2685
.9	2661	2637	2613	2589	2565	2541	2516	2492	2468	2444
1.0	2420	2396	2371	2347	2323	2299	2275	2251	2227	2203
1.1	2179	2155	2131	2107	2083	2059	2036	2012	1989	1965
1.2	1942	1919	1895	1872	1849	1826	1804	1781	1758	1735
1.3	1714	1691	1669	1641	1615	1604	1582	1561	1539	1518
1.4	1497	1476	1454	1435	1415	1394	1374	1354	1334	1315
1.5	1295	1276	1257	1238	1219	1200	1182	1163	1145	1127
1.6	1109	1092	1074	1057	1040	1023	1006	0989	0972	0956
1.7	0940	0924	0908	0893	0878	0863	0847	0832	0818	0803
1.8	0789	0775	0761	0747	0734	0720	0707	0694	0681	0668
1.9	0656	0643	0631	0619	0607	0595	0584	0573	0561	0550
2.0	0539	0529	0518	0508	0498	0487	0478	0468	0458	0449
2.1	0439	0430	0421	0412	0404	0395	0387	0378	0370	0362
2.2	0354	0347	0339	0331	0324	0317	0310	0303	0296	0289
2.3	0283	0276	0270	0264	0258	0252	0246	0240	0234	0229
2.4	0223	0218	0213	0208	0203	0198	0193	0188	0184	0179

2.5	.01753	.01709	.01667	.01625	.01585	.01545	.01506	.01468	.01431	.01394
2.6	.01358	.01323	.01289	.01256	.01223	.01191	.01160	.01130	.01100	.01071
2.7	.01042	.01014	.009871	.009606	.009347	.009094	.008846	.008605	.008370	.008140
2.8	.007915	.007697	.007483	.007274	.007071	.006875	.006679	.006491	.006307	.006127
2.9	.005953	.005782	.005616	.005454	.005296	.005143	.004993	.004847	.004705	.004567
3.0	.004432	.004301	.004173	.004049	.003928	.003810	.003695	.003584	.003475	.003370
3.1	.003267	.003167	.003070	.002975	.002884	.002794	.002707	.002623	.002541	.002461
3.2	.002384	.002309	.002236	.002165	.002096	.002029	.001964	.001901	.001840	.001780
3.3	.001723	.001667	.001612	.001560	.001508	.001459	.001411	.001364	.001319	.001275
3.4	.001232	.001191	.001151	.001112	.001075	.001038	.001003	.000968	.000935	.0009037
3.5	.008727	.008426	.008135	.007853	.007581	.007317	.007061	.006814	.006575	.006343
3.6	.006119	.005902	.005693	.005490	.005294	.005105	.004921	.004744	.004573	.004408
3.7	.004245	.004093	.003944	.003799	.003661	.003526	.003396	.003271	.003149	.003032
3.8	.002919	.002810	.002705	.002604	.002506	.002411	.002320	.002232	.002147	.002065
3.9	.001987	.001910	.001837	.001766	.001698	.001633	.001569	.001508	.001449	.001393
4.0	.001338	.001286	.001235	.001186	.001140	.001094	.001051	.001009	.0009687	.0009299
4.1	.008926	.008567	.008222	.007890	.007570	.007263	.006967	.006683	.006410	.006147
4.2	.005594	.005352	.005118	.004894	.004679	.004472	.004273	.004082	.003899	.003723
4.3	.003554	.003391	.003235	.003086	.002942	.002804	.002672	.002545	.002423	.002306
4.4	.002394	.002287	.002184	.002085	.002090	.001999	.001912	.001829	.001749	.001672
4.5	.001595	.001528	.001461	.001396	.001334	.001275	.001218	.001164	.001112	.001062
4.6	.001014	.0009684	.0009248	.0008830	.0008430	.0008047	.0007681	.0007331	.0006996	.0006676
4.7	.0006370	.0006077	.0005797	.0005530	.0005274	.0005030	.0004796	.0004573	.0004360	.0004156
4.8	.0003961	.0003775	.0003598	.0003428	.0003267	.0003112	.0002965	.0002824	.0002690	.0002561
4.9	.0002439	.0002222	.0002211	.0002105	.0002003	.0001907	.0001814	.0001727	.0001643	.0001563

Example: $P_{N'}(3.57) = P_{N'} - 3.57 = .006814 = .0006814$

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Table 111
 Cumulative Unit Normal Distribution
 $P_N(\bar{u} > u)$

u	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
0	5000	4960	4920	4880	4840	4801	4761	4721	4681	4641
.1	4602	4562	4522	4483	4443	4404	4364	4325	4286	4247
.2	4207	4168	4129	4090	4052	4013	3974	3936	3897	3859
.3	3821	3783	3745	3707	3669	3632	3594	3557	3620	3483
.4	3446	3409	3372	333c	3300	3264	3228	3192	3156	3121
.5	3085	3050	3015	2981	2946	2912	2877	2843	2810	2776
.6	2743	2709	2676	2643	2611	2578	2546	2514	2483	2451
.7	2420	2385	2358	2327	2297	2266	2236	2206	2177	2148
.8	2119	2090	2061	2033	2005	1977	1949	1922	1894	1867
.9	1841	1814	1788	1762	1736	1711	1685	1660	1635	1611
1.0	1587	1562	1539	1515	1492	1469	1446	1423	1401	1379
1.1	1357	1335	1314	1292	1271	1251	1230	1210	1190	1170
1.2	1151	1131	1112	1093	1075	1056	1038	1020	1003	09853
1.3	09680	09510	09342	09176	09012	08851	08691	08534	08375	08226
1.4	08076	07927	07780	07636	07493	07353	07215	07078	06944	06811
1.5	06681	06552	06426	06301	06178	06057	05938	05821	05705	05592
1.6	05480	05370	05262	05155	05050	04947	04846	04746	04648	04551
1.7	04457	04363	04272	04182	04093	04006	03920	03836	03754	03673
1.8	03593	03515	03438	03362	03288	03216	03144	03074	03005	02938
1.9	02872	02807	02743	02680	02619	02559	02500	02442	02385	02330
2.0	02275	02222	02169	02118	02068	02018	01970	01923	01876	01831
2.1	01786	01743	01700	01659	01618	01578	01539	01500	01463	01426
2.2	01390	01355	01321	01287	01255	01222	01191	01160	01130	01101
2.3	01072	01044	01017	09903	09642	09387	09137	08894	08656	08424
2.4	08198	07976	07760	07549	07344	07143	06947	06756	06569	06387

2.5	.026210	.026037	.025868	.025703	.025543	.025386	.025234	.025085	.024940	.024799
2.6	.024661	.024527	.024396	.024269	.024145	.024025	.023907	.023793	.023681	.023573
2.7	.023467	.023364	.023264	.023167	.023072	.022980	.022890	.022803	.022718	.022635
2.8	.022555	.022477	.022401	.022327	.022256	.022186	.022118	.022052	.021988	.021926
2.9	.021866	.021807	.021750	.021695	.021641	.021589	.021538	.021489	.021441	.021395
3.0	.021350	.021306	.021264	.021223	.021183	.021144	.021107	.021070	.021035	.021001
3.1	.0209676	.0209354	.0209043	.0208740	.0208447	.0208164	.0207888	.0207622	.0207364	.0207114
3.2	.0206871	.0206637	.0206410	.0206190	.0205976	.0205770	.0205571	.0205377	.0205190	.0205009
3.3	.0204834	.0204665	.0204501	.0204342	.0204189	.0204041	.0203897	.0203758	.0203624	.0203495
3.4	.0203369	.0203248	.0203131	.0203018	.0202909	.0202803	.0202701	.0202602	.0202507	.0202415
3.5	.0202326	.0202241	.0202158	.0202078	.0202001	.0201926	.0201854	.0201785	.0201718	.0201653
3.6	.0201591	.0201531	.0201473	.0201417	.0201363	.0201311	.0201261	.0201213	.0201166	.0201121
3.7	.0201078	.0201036	.02009961	.02009574	.02009201	.02008842	.02008496	.02008162	.02007841	.02007532
3.8	.02007235	.02006948	.02006673	.02006407	.02006152	.02005906	.02005669	.02005442	.02005223	.02005012
3.9	.02004810	.02004615	.02004427	.02004247	.02004074	.02003908	.02003747	.02003594	.02003446	.02003304
4.0	.02003167	.02003036	.02002910	.02002789	.02002673	.02002561	.02002454	.02002351	.02002252	.02002157
4.1	.02002066	.02001978	.02001894	.02001814	.02001737	.02001662	.02001591	.02001523	.02001458	.02001395
4.2	.02001335	.02001277	.02001222	.02001168	.02001118	.02001069	.02001022	.020009774	.020009345	.020008934
4.3	.020008540	.020008163	.020007801	.020007455	.020007124	.020006807	.020006503	.020006212	.020005934	.020005668
4.4	.020005413	.020005169	.020004935	.020004712	.020004498	.020004294	.020004098	.020003911	.020003732	.020003561
4.5	.020003398	.020003241	.020003092	.020002949	.020002813	.020002682	.020002558	.020002439	.020002325	.020002216
4.6	.020002112	.020002013	.020001919	.020001828	.020001742	.020001660	.020001581	.020001506	.020001434	.020001366
4.7	.020001301	.020001239	.020001179	.020001123	.020001069	.020001017	.0200009680	.0200009211	.0200008765	.0200008339
4.8	.0200007933	.0200007547	.0200007178	.0200006827	.0200006492	.0200006173	.0200005869	.0200005580	.0200005304	.0200005042
4.9	.0200004792	.0200004554	.0200004327	.0200004111	.0200003906	.0200003711	.0200003525	.0200003348	.0200003179	.0200003019

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00
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Examples: $P_N(\bar{u} > 3.57) = P_N(\bar{u} < -3.57) = .021785 = .0001785$

$P_N(\bar{u} < 3.57) = P_N(\bar{u} > -3.57) = 1 - .021785 = .9998215$

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Table IV
Unit Normal Loss Integral
 $G(u) = P'_N(u) - u P_N(\bar{u} > u)$

<i>u</i>	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
.0	.3989	.3940	.3890	.3841	.3793	.3744	.3697	.3649	.3602	.3556
.1	.3509	.3464	.3418	.3373	.3328	.3284	.3240	.3197	.3154	.3111
.2	.3069	.3027	.2986	.2944	.2904	.2863	.2824	.2784	.2745	.2706
.3	.2668	.2630	.2592	.2555	.2518	.2481	.2445	.2409	.2374	.2339
.4	.2304	.2270	.2236	.2203	.2169	.2137	.2104	.2072	.2040	.2009
.5	.1978	.1947	.1917	.1887	.1857	.1828	.1799	.1771	.1742	.1714
.6	.1687	.1659	.1633	.1606	.1580	.1554	.1528	.1503	.1478	.1453
.7	.1429	.1405	.1381	.1358	.1334	.1312	.1289	.1267	.1245	.1223
.8	.1202	.1181	.1160	.1140	.1120	.1100	.1080	.1061	.1042	.1023
.9	.1004	.09860	.09680	.09503	.09328	.09156	.08986	.08819	.08654	.08491
1.0	.08332	.08174	.08019	.07866	.07716	.07568	.07422	.07279	.07138	.06999
1.1	.06862	.06727	.06595	.06465	.06336	.06210	.06086	.05964	.05844	.05726
1.2	.05610	.05496	.05384	.05274	.05165	.05059	.04954	.04851	.04750	.04650
1.3	.04553	.04457	.04363	.04270	.04179	.04090	.04002	.03916	.03831	.03748
1.4	.03667	.03587	.03508	.03431	.03356	.03281	.03208	.03137	.03067	.02998
1.5	.02931	.02865	.02800	.02736	.02674	.02612	.02552	.02494	.02436	.02380
1.6	.02324	.02270	.02217	.02165	.02114	.02064	.02015	.01967	.01920	.01874
1.7	.01829	.01785	.01742	.01699	.01658	.01617	.01578	.01539	.01501	.01464
1.8	.01428	.01392	.01357	.01323	.01290	.01257	.01226	.01195	.01164	.01134
1.9	.01105	.01077	.01049	.01022	.009957	.009698	.009445	.009198	.008957	.008721
2.0	.008491	.008266	.008046	.007832	.007623	.007418	.007219	.007024	.006835	.006649
2.1	.006468	.006292	.006120	.005952	.005788	.005628	.005472	.005320	.005172	.005028
2.2	.004887	.004750	.004616	.004486	.004358	.004235	.004114	.003996	.003882	.003770
2.3	.003662	.003556	.003453	.003352	.003255	.003159	.003067	.002977	.002889	.002804
2.4	.002720	.002640	.002561	.002484	.002410	.002337	.002267	.002199	.002132	.002067

2.5	.02004	.01943	.01883	.01826	.01769	.01715	.01662	.01610	.01560	.01511
2.6	.01464	.01418	.01373	.01330	.01288	.01247	.01207	.01169	.01132	.01095
2.7	.01060	.01026	.09928	.09607	.09295	.08992	.08699	.08414	.08138	.07870
2.8	.07611	.07359	.07115	.06879	.06650	.06428	.06213	.06004	.05802	.05606
2.9	.05417	.05233	.05055	.04883	.04716	.04555	.04398	.04247	.04101	.03959
3.0	.03822	.03689	.03560	.03436	.03316	.03199	.03087	.02978	.02873	.02771
3.1	.02673	.02577	.02485	.02396	.02311	.02227	.02147	.02070	.01995	.01922
3.2	.01852	.01785	.01720	.01657	.01596	.01537	.01480	.01426	.01373	.01322
3.3	.01273	.01225	.01179	.01135	.01093	.01051	.01012	.09734	.09365	.09009
3.4	.08666	.08335	.08016	.07709	.07413	.07127	.06852	.06587	.06331	.06085
3.5	.05848	.05620	.05400	.05188	.04984	.04788	.04599	.04417	.04242	.04073
3.6	.03911	.03755	.03605	.03460	.03321	.03188	.03059	.02935	.02816	.02702
3.7	.02592	.02486	.02385	.02287	.02193	.02103	.02016	.01932	.01853	.01776
3.8	.01702	.01632	.01563	.01498	.01435	.01375	.01317	.01262	.01208	.01157
3.9	.01108	.01061	.01016	.09723	.09307	.08908	.08525	.08158	.07806	.07469
4.0	.07145	.06835	.06538	.06253	.05980	.05718	.05468	.05227	.04997	.04777
4.1	.04566	.04364	.04170	.03985	.03807	.03637	.03475	.03319	.03170	.03027
4.2	.02891	.02760	.02635	.02516	.02402	.02292	.02188	.02088	.01992	.01901
4.3	.01814	.01730	.01650	.01574	.01501	.01431	.01365	.01301	.01241	.01183
4.4	.01127	.01074	.01024	.09756	.09296	.08857	.08437	.08037	.07655	.07290
4.5	.06942	.06610	.06294	.05992	.05704	.05429	.05167	.04917	.04679	.04452
4.6	.04236	.04029	.03833	.03645	.03467	.03297	.03135	.02981	.02834	.02694
4.7	.02560	.02433	.02313	.02197	.02088	.01984	.01884	.01790	.01700	.01615
4.8	.01533	.01456	.01382	.01312	.01246	.01182	.01122	.01065	.01011	.09588
4.9	.09096	.08629	.08185	.07763	.07362	.06982	.06620	.06276	.05950	.05640

$$G(-u) = u + G(u)$$

$$\text{Examples: } G(3.57) = .04417 = .00004417$$

$$G(-3.57) = 3.57004417$$

Table V Poisson Probabilities of the Form

$$F^*(x; \alpha) = \sum_{y=x}^{\infty} \frac{e^{-\alpha} \alpha^y}{y!}$$

α	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
x										
1	.0952	.1813	.2592	.3297	.3935	.4512	.5034	.5507	.5934	.6321
2	.0047	.0175	.0369	.0616	.0902	.1219	.1558	.1912	.2275	.2642
3	.0002	.0011	.0036	.0079	.0144	.0231	.0341	.0474	.0629	.0803
4	.0000	.0001	.0003	.0008	.0018	.0034	.0058	.0091	.0135	.0190
5	.0000	.0000	.0000	.0001	.0002	.0004	.0008	.0014	.0023	.0037
6	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0002	.0003	.0006
7	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001

α	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
x										
1	.6671	.6988	.7275	.7534	.7769	.7981	.8173	.8347	.8504	.8647
2	.3010	.3374	.3732	.4082	.4422	.4751	.5068	.5372	.5663	.5940
3	.0996	.1205	.1429	.1665	.1912	.2166	.2428	.2694	.2963	.3233
4	.0257	.0338	.0431	.0537	.0656	.0788	.0932	.1087	.1253	.1429
5	.0054	.0077	.0107	.0143	.0186	.0237	.0296	.0364	.0441	.0527
6	.0010	.0015	.0022	.0032	.0045	.0060	.0080	.0104	.0132	.0166
7	.0001	.0003	.0004	.0006	.0009	.0013	.0019	.0026	.0034	.0045
8	.0000	.0000	.0001	.0001	.0002	.0003	.0004	.0006	.0008	.0011
9	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0001	.0002	.0002

α	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0
x										
1	.8775	.8892	.8997	.9093	.9179	.9257	.9328	.9392	.9450	.9502
2	.6204	.6454	.6691	.6916	.7127	.7326	.7513	.7689	.7854	.8009
3	.3504	.3773	.4040	.4303	.4562	.4816	.5064	.5305	.5540	.5768
4	.1614	.1806	.2007	.2213	.2424	.2640	.2859	.3081	.3304	.3528
5	.0621	.0725	.0838	.0959	.1088	.1226	.1371	.1523	.1682	.1847
6	.0204	.0249	.0300	.0357	.0420	.0490	.0567	.0651	.0742	.0839
7	.0059	.0075	.0094	.0116	.0142	.0172	.0206	.0244	.0287	.0335
8	.0015	.0020	.0026	.0033	.0042	.0053	.0066	.0081	.0099	.0119
9	.0003	.0005	.0006	.0009	.0011	.0015	.0019	.0024	.0031	.0038
10	.0001	.0001	.0001	.0002	.0003	.0004	.0005	.0007	.0009	.0011
11	.0000	.0000	.0000	.0000	.0001	.0001	.0001	.0002	.0002	.0003
12	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0001

α	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0
x										
1	.9550	.9592	.9631	.9666	.9698	.9727	.9753	.9776	.9798	.9817
2	.8153	.8288	.8414	.8532	.8641	.8743	.8838	.8926	.9008	.9084
3	.5988	.6201	.6406	.6603	.6792	.6973	.7146	.7311	.7469	.7619
4	.3752	.3975	.4197	.4416	.4634	.4848	.5058	.5265	.5468	.5665
5	.2018	.2194	.2374	.2558	.2746	.2936	.3128	.3322	.3516	.3712

Poisson Probabilities (continued)

6	.0943	.1054	.1171	.1295	.1424	.1559	.1699	.1844	.1994	.2149
7	.0388	.0446	.0510	.0579	.0653	.0733	.0818	.0909	.1005	.1107
8	.0142	.0168	.0198	.0231	.0267	.0308	.0352	.0401	.0454	.0511
9	.0047	.0057	.0069	.0083	.0099	.0117	.0137	.0160	.0185	.0214
10	.0014	.0018	.0022	.0027	.0033	.0040	.0048	.0058	.0069	.0081
11	.0004	.0005	.0006	.0008	.0010	.0013	.0016	.0019	.0023	.0028
12	.0001	.0001	.0002	.0002	.0003	.0004	.0005	.0006	.0007	.0009
13	.0000	.0000	.0000	.0001	.0001	.0001	.0001	.0002	.0002	.0003
14	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0001

α	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0
x										
1	.9834	.9850	.9864	.9877	.9889	.9899	.9909	.9918	.9926	.9933
2	.9155	.9220	.9281	.9337	.9389	.9437	.9482	.9523	.9561	.9596
3	.7762	.7898	.8026	.8149	.8264	.8374	.8477	.8575	.8667	.8753
4	.5850	.6046	.6228	.6406	.6577	.6743	.6903	.7058	.7207	.7350
5	.3907	.4102	.4296	.4488	.4679	.4868	.5054	.5237	.5418	.5595
6	.2307	.2469	.2633	.2801	.2971	.3142	.3316	.3490	.3665	.3840
7	.1214	.1325	.1442	.1564	.1689	.1820	.1954	.2092	.2233	.2378
8	.0573	.0639	.0710	.0786	.0866	.0951	.1040	.1133	.1231	.1334
9	.0245	.0279	.0317	.0358	.0403	.0451	.0503	.0558	.0618	.0681
10	.0095	.0111	.0129	.0149	.0171	.0195	.0222	.0251	.0283	.0318
11	.0034	.0041	.0048	.0057	.0067	.0078	.0090	.0104	.0120	.0137
12	.0011	.0014	.0017	.0020	.0024	.0029	.0034	.0040	.0047	.0055
13	.0003	.0004	.0005	.0007	.0008	.0010	.0012	.0014	.0017	.0020
14	.0001	.0001	.0002	.0002	.0003	.0003	.0004	.0005	.0006	.0007
15	.0000	.0000	.0000	.0001	.0001	.0001	.0001	.0001	.0002	.0002
16	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0001

α	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0
x										
1	.9959	.9975	.9985	.9991	.9994	.9997	.9998	.9999	.9999	*****
2	.9734	.9826	.9887	.9927	.9953	.9970	.9981	.9988	.9992	.9995
3	.9116	.9380	.9570	.9704	.9797	.9862	.9907	.9938	.9958	.9972
4	.7983	.8488	.8882	.9182	.9409	.9576	.9699	.9788	.9851	.9897
5	.6425	.7149	.7763	.8270	.8679	.9004	.9256	.9450	.9597	.9707
6	.4711	.5543	.6310	.6993	.7586	.8088	.8504	.8843	.9115	.9329
7	.3140	.3937	.4735	.5503	.6218	.6866	.7438	.7932	.8351	.8699
8	.1905	.2560	.3272	.4013	.4754	.5470	.6144	.6761	.7313	.7796
9	.1056	.1528	.2084	.2709	.3380	.4075	.4769	.5443	.6082	.6672
10	.0538	.0839	.1226	.1695	.2236	.2834	.3470	.4126	.4782	.5421
11	.0253	.0426	.0668	.0985	.1378	.1841	.2366	.2940	.3547	.4170
12	.0110	.0201	.0339	.0533	.0792	.1119	.1513	.1970	.2480	.3032
13	.0045	.0088	.0160	.0270	.0427	.0638	.0909	.1242	.1636	.2084
14	.0017	.0036	.0071	.0128	.0216	.0342	.0514	.0739	.1019	.1355
15	.0006	.0014	.0030	.0057	.0103	.0173	.0274	.0415	.0600	.0835
16	.0002	.0005	.0012	.0024	.0046	.0082	.0138	.0220	.0335	.0487
17	.0001	.0002	.0004	.0010	.0020	.0037	.0066	.0111	.0177	.0270
18	.0000	.0001	.0002	.0004	.0008	.0016	.0030	.0053	.0089	.0143
19	.0000	.0000	.0001	.0001	.0003	.0007	.0013	.0024	.0043	.0072
20	.0000	.0000	.0000	.0000	.0001	.0003	.0005	.0011	.0020	.0035

Poisson Probabilities (continued)

21	.0000	.0000	.0000	.0000	.0000	.0001	.0002	.0004	.0009	.0016
22	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0002	.0004	.0007
23	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0001	.0003
24	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0001

α	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0
x										
1	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
2	.9997	.9998	.9999	.9999	.9999	*****	*****	*****	*****	*****
3	.9982	.9988	.9992	.9995	.9997	.9998	.9999	.9999	.9999	*****
4	.9929	.9951	.9966	.9977	.9984	.9989	.9993	.9995	.9997	.9998
5	.9789	.9849	.9893	.9924	.9947	.9963	.9974	.9982	.9988	.9991
6	.9496	.9625	.9723	.9797	.9852	.9893	.9923	.9945	.9961	.9972
7	.8984	.9214	.9397	.9542	.9654	.9741	.9807	.9858	.9895	.9924
8	.8215	.8568	.8863	.9105	.9302	.9460	.9585	.9684	.9761	.9820
9	.7206	.7680	.8094	.8450	.8751	.9002	.9210	.9379	.9516	.9626
10	.6029	.6595	.7112	.7576	.7986	.8342	.8647	.8906	.9122	.9301
11	.4793	.5401	.5983	.6528	.7029	.7483	.7888	.8243	.8551	.8815
12	.3613	.4207	.4802	.5384	.5942	.6468	.6955	.7400	.7799	.8152
13	.2580	.3113	.3671	.4240	.4810	.5369	.5907	.6415	.6889	.7324
14	.1747	.2187	.2670	.3185	.3722	.4270	.4818	.5356	.5875	.6368
15	.1121	.1460	.1847	.2280	.2750	.3249	.3767	.4296	.4824	.5343
16	.0683	.0926	.1217	.1556	.1940	.2364	.2822	.3306	.3808	.4319
17	.0396	.0559	.0764	.1013	.1307	.1645	.2025	.2441	.2888	.3359
18	.0219	.0322	.0458	.0630	.0842	.1095	.1391	.1728	.2103	.2511
19	.0115	.0177	.0262	.0374	.0519	.0698	.0916	.1174	.1470	.1805
20	.0058	.0093	.0143	.0213	.0306	.0427	.0579	.0765	.0988	.1246
21	.0028	.0047	.0075	.0116	.0173	.0250	.0351	.0479	.0638	.0830
22	.0013	.0023	.0038	.0061	.0094	.0141	.0204	.0286	.0396	.0531
23	.0006	.0010	.0018	.0030	.0049	.0076	.0115	.0167	.0237	.0327
24	.0002	.0005	.0008	.0015	.0025	.0040	.0062	.0093	.0137	.0195
25	.0001	.0002	.0004	.0007	.0012	.0020	.0032	.0050	.0076	.0112
26	.0000	.0001	.0002	.0003	.0006	.0010	.0016	.0026	.0041	.0062
27	.0000	.0000	.0001	.0001	.0003	.0005	.0008	.0013	.0021	.0033
28	.0000	.0000	.0000	.0001	.0001	.0002	.0004	.0006	.0011	.0017
29	.0000	.0000	.0000	.0000	.0000	.0001	.0002	.0003	.0005	.0009
30	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0001	.0002	.0004
31	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0001	.0002
32	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001

α	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0
x										
1	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
2	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
3	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
4	.9999	.9999	.9999	*****	*****	*****	*****	*****	*****	*****
5	.9994	.9996	.9997	.9998	.9999	.9999	.9999	*****	*****	*****

Poisson Probabilities (continued)

6	.9980	.9986	.9990	.9993	.9995	.9997	.9998	.9998	.9999	.9999
7	.9945	.9960	.9971	.9979	.9985	.9990	.9993	.9995	.9996	.9997
8	.9865	.9900	.9926	.9946	.9960	.9971	.9979	.9985	.9989	.9992
9	.9712	.9780	.9833	.9874	.9905	.9929	.9948	.9961	.9972	.9979
10	.9448	.9567	.9663	.9739	.9799	.9846	.9883	.9911	.9933	.9950
11	.9039	.9226	.9381	.9509	.9613	.9696	.9763	.9817	.9859	.9892
12	.8462	.8730	.8959	.9153	.9316	.9451	.9562	.9653	.9727	.9786
13	.7717	.8069	.8379	.8650	.8884	.9083	.9252	.9394	.9512	.9610
14	.6829	.7255	.7643	.7991	.8301	.8574	.8811	.9016	.9191	.9339
15	.5846	.6325	.6775	.7192	.7574	.7919	.8229	.8503	.8743	.8951
16	.4830	.5333	.5820	.6285	.6725	.7133	.7510	.7852	.8160	.8435
17	.3846	.4340	.4835	.5323	.5796	.6249	.6679	.7080	.7450	.7789
18	.2946	.3407	.3860	.4360	.4840	.5314	.5774	.6216	.6636	.7030
19	.2175	.2577	.3004	.3450	.3911	.4378	.4844	.5305	.5754	.6186
20	.1545	.1873	.2243	.2637	.3055	.3491	.3939	.4394	.4849	.5297
21	.1056	.1318	.1615	.1945	.2306	.2693	.3102	.3528	.3966	.4409
22	.0696	.0892	.1122	.1385	.1681	.2009	.2364	.2745	.3146	.3563
23	.0442	.0582	.0752	.0953	.1185	.1449	.1744	.2069	.2420	.2794
24	.0270	.0367	.0487	.0633	.0807	.1011	.1245	.1510	.1804	.2125
25	.0160	.0223	.0304	.0406	.0532	.0683	.0861	.1067	.1303	.1568
26	.0091	.0131	.0184	.0252	.0339	.0446	.0576	.0731	.0913	.1122
27	.0050	.0075	.0108	.0152	.0209	.0282	.0374	.0486	.0620	.0779
28	.0027	.0041	.0061	.0088	.0125	.0173	.0235	.0313	.0409	.0525
29	.0014	.0022	.0033	.0050	.0072	.0103	.0143	.0195	.0261	.0343
30	.0007	.0011	.0018	.0027	.0041	.0059	.0085	.0118	.0162	.0218
31	.0003	.0006	.0009	.0014	.0022	.0033	.0049	.0070	.0098	.0135
32	.0002	.0003	.0005	.0007	.0012	.0018	.0027	.0040	.0057	.0081
33	.0001	.0001	.0002	.0004	.0006	.0010	.0015	.0022	.0033	.0047
34	.0000	.0001	.0001	.0002	.0003	.0005	.0008	.0012	.0018	.0027
35	.0000	.0000	.0000	.0001	.0001	.0002	.0004	.0006	.0010	.0015
36	.0000	.0000	.0000	.0000	.0001	.0001	.0002	.0003	.0005	.0008
37	.0000	.0000	.0000	.0000	.0000	.0001	.0001	.0002	.0003	.0004
38	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0001	.0002
39	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0001
40	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001

	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0
x										
1	****	****	****	****	****	****	****	****	****	****
2	****	****	****	****	****	****	****	****	****	****
3	****	****	****	****	****	****	****	****	****	****
4	****	****	****	****	****	****	****	****	****	****
5	****	****	****	****	****	****	****	****	****	****
6	****	****	****	****	****	****	****	****	****	****
7	.9998	.9999	.9999	.9999	****	****	****	****	****	****
8	.9994	.9996	.9997	.9998	.9999	.9999	.9999	****	****	****
9	.9985	.9989	.9992	.9994	.9996	.9997	.9998	.9998	.9999	.9999
10	.9963	.9972	.9980	.9985	.9989	.9992	.9994	.9996	.9997	.9998

Table VI PERCENTAGE POINTS OF THE BETA DISTRIBUTION

This table gives percentage points for the Beta distribution $B(p,q)$ $p,q = 2(1)25$ $p \leq q$. To find a $p\%$ point where $p > q$, enter the table with p and q reversed and subtract the $100-p\%$ point from 1. For example, to find the 95% point for a $B(10,2)$ distribution, note that the $100\% - 95\% = 5\%$ point for a $B(10,2)$ distribution is .03332. Thus, the desired point is $1 - .03332 = .96668$.

	$p=2$.5%	1%	5%	10%	25%	50%	75%	90%	95%	99%	99.5%
q=2	.04140	.05890	.1353	.1958	.3264	.5000	.6736	.8042	.8647	.9411	.9586
3	.02944	.04199	.09761	.1426	.2430	.3857	.5437	.6795	.7514	.8591	.8892
4	.02288	.03268	.07645	.1122	.1936	.3138	.4542	.5839	.6574	.7780	.8149
5	.01872	.02676	.06285	.09259	.1612	.2645	.3895	.5103	.5818	.7057	.7461
6	.01584	.02267	.05338	.07883	.1380	.2285	.3407	.4526	.5207	.6433	.6888
7	.01373	.01965	.04639	.06863	.1206	.2011	.3027	.4062	.4707	.5900	.6316
8	.01212	.01736	.04102	.06077	.1072	.1796	.2723	.3684	.4291	.5441	.5850
9	.01085	.01553	.03677	.05453	.09641	.1623	.2474	.3369	.3942	.5044	.5442
10	.009819	.01407	.03332	.04945	.08761	.1480	.2266	.3102	.3643	.4698	.5085
11	.008967	.01285	.03046	.04524	.08029	.1360	.2091	.2875	.3387	.4396	.4771
12	.008252	.01183	.02805	.04169	.07410	.1258	.1941	.2678	.3163	.4128	.4490
13	.007642	.01096	.02600	.03866	.06879	.1170	.1810	.2507	.2967	.3891	.4241
14	.007116	.01020	.02422	.03604	.06419	.1094	.1697	.2356	.2794	.3679	.4016
15	.006658	.009544	.02268	.03375	.06017	.1027	.1596	.2222	.2639	.3489	.3813
16	.006255	.008965	.02132	.03173	.05663	.09678	.1507	.2102	.2501	.3317	.3630
17	.005899	.008453	.02011	.02995	.05348	.09151	.1427	.1995	.2377	.3160	.3463
18	.005581	.008003	.01903	.02835	.05066	.08678	.1355	.1898	.2264	.3018	.3311
19	.005295	.007591	.01807	.02691	.04812	.08251	.1291	.1810	.2161	.2888	.3171
20	.005037	.007225	.01719	.02562	.04583	.07864	.1232	.1729	.2067	.2769	.3043
21	.004803	.006889	.01640	.02444	.04374	.07512	.1178	.1656	.1981	.2659	.2925
22	.004590	.006584	.01567	.02337	.04184	.07191	.1128	.1588	.1902	.2557	.2815
23	.004395	.006302	.01501	.02238	.04009	.06895	.1083	.1526	.1829	.2462	.2712
24	.004216	.006046	.01440	.02148	.03849	.06623	.1041	.1469	.1761	.2375	.2617
25	.004051	.005810	.01384	.02065	.03700	.06372	.1002	.1415	.1690	.2293	.2529

Table VII

TABLES OF THE HIGHEST DENSITY REGIONS (50%, 75%, 90%, 95%, 99%) FOR BETA DISTRIBUTIONS WITH INDICES $p, q = 4(1/25, p \leq q)$

To find an HDR for $\beta(p, q)$ distribution, $p > q$, we find the corresponding interval for a $\beta(q, p)$ distribution and then reverse the endpoints after subtracting them from 1. For example, to find the 75% HDR for $\beta(10, 7)$ distribution, we first find that the 75% interval for $\beta(7, 10)$ distribution is (.2940, .3237). Then reversing the endpoints and subtracting them from 1, we get $(1 - .3237, 1 - .2940) = (.6763, .7060)$ which is the desired interval.

p	50%		75%		90%		95%		99%	
	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper
4	.3788	.6212	.2522	.7478	.2253	.7747	.1840	.8160	.1177	.8823
5	.3251	.6749	.2477	.7523	.2139	.7861	.1488	.8512	.09338	.90662
6	.2740	.7260	.2111	.7889	.1549	.8451	.1245	.8755	.07692	.92308
7	.2406	.7594	.1920	.8080	.1337	.8663	.1068	.8932	.06517	.93483
8	.2144	.7856	.1727	.8273	.1175	.8825	.09337	.90663	.05614	.94386
9	.1934	.8066	.1522	.8478	.1047	.8953	.08288	.91712	.04968	.95032
10	.1760	.8240	.1322	.8678	.09440	.90560	.07448	.92552	.04433	.95567
11	.1616	.8384	.1122	.8878	.08591	.91409	.06759	.93241	.03998	.96002
12	.1493	.8517	.0922	.9078	.07881	.92119	.06105	.93895	.03640	.96360
13	.1387	.8633	.0722	.9278	.07278	.92722	.05700	.94500	.03341	.96659
14	.1295	.8735	.0522	.9478	.06760	.93240	.05265	.94935	.03085	.96815
15	.1215	.8825	.0322	.9678	.06310	.93790	.04925	.95275	.02865	.96935
16	.1144	.8904	.0122	.9878	.05916	.94344	.04611	.95529	.02675	.97025
17	.1081	.8979	.0022	.1000	.05568	.94832	.04334	.95706	.02507	.97093
18	.1024	.9051	.0000	.1000	.05250	.95270	.04080	.95840	.02359	.97141
19	.09736	.9119	.0000	.1000	.04962	.95658	.03868	.95942	.02226	.97174
20	.09274	.9183	.0000	.1000	.04673	.95997	.03671	.96013	.02109	.97199
21	.08855	.9243	.0000	.1000	.04405	.96290	.03492	.96060	.02001	.97213
22	.08471	.9299	.0000	.1000	.04160	.96540	.03330	.96096	.01907	.97217
23	.08120	.9351	.0000	.1000	.03932	.96750	.03182	.96120	.01819	.97219
24	.07797	.9400	.0000	.1000	.03720	.96920	.03047	.96130	.01740	.97218
25	.07497	.9446	.0000	.1000	.03522	.97060	.02923	.96130	.01666	.97215
26	.07218	.9489	.0000	.1000	.03338	.97180	.02810	.96120	.01600	.97209
27	.06950	.9529	.0000	.1000	.03168	.97280	.02708	.96100	.01541	.97202
28	.06693	.9566	.0000	.1000	.03010	.97370	.02616	.96080	.01488	.97194
29	.06447	.9599	.0000	.1000	.02864	.97450	.02534	.96060	.01440	.97186
30	.06211	.9629	.0000	.1000	.02728	.97520	.02460	.96040	.01396	.97178
31	.05985	.9656	.0000	.1000	.02600	.97580	.02394	.96020	.01356	.97171
32	.05769	.9680	.0000	.1000	.02480	.97630	.02336	.96000	.01319	.97165
33	.05563	.9701	.0000	.1000	.02368	.97670	.02284	.95980	.01284	.97160
34	.05367	.9719	.0000	.1000	.02264	.97700	.02238	.95960	.01251	.97156
35	.05180	.9735	.0000	.1000	.02168	.97730	.02196	.95940	.01219	.97153
36	.05000	.9749	.0000	.1000	.02078	.97760	.02158	.95920	.01188	.97151
37	.04827	.9761	.0000	.1000	.02000	.97780	.02124	.95900	.01158	.97150
38	.04660	.9771	.0000	.1000	.01928	.97800	.02094	.95880	.01129	.97150
39	.04500	.9780	.0000	.1000	.01860	.97810	.02068	.95860	.01101	.97150
40	.04347	.9788	.0000	.1000	.01796	.97820	.02046	.95840	.01074	.97150
41	.04200	.9795	.0000	.1000	.01736	.97830	.02028	.95820	.01048	.97150
42	.04058	.9801	.0000	.1000	.01678	.97840	.02014	.95800	.01023	.97150
43	.03920	.9806	.0000	.1000	.01622	.97850	.02002	.95780	.01000	.97150
44	.03787	.9811	.0000	.1000	.01568	.97860	.01992	.95760	.00978	.97150
45	.03658	.9816	.0000	.1000	.01516	.97870	.01984	.95740	.00957	.97150
46	.03533	.9820	.0000	.1000	.01466	.97880	.01978	.95720	.00937	.97150
47	.03411	.9824	.0000	.1000	.01418	.97890	.01974	.95700	.00918	.97150
48	.03292	.9828	.0000	.1000	.01372	.97900	.01972	.95680	.00900	.97150
49	.03177	.9832	.0000	.1000	.01328	.97910	.01972	.95660	.00883	.97150
50	.03065	.9836	.0000	.1000	.01286	.97920	.01974	.95640	.00867	.97150
51	.02956	.9840	.0000	.1000	.01246	.97930	.01978	.95620	.00852	.97150
52	.02850	.9844	.0000	.1000	.01208	.97940	.01984	.95600	.00838	.97150
53	.02747	.9848	.0000	.1000	.01172	.97950	.01992	.95580	.00825	.97150
54	.02647	.9852	.0000	.1000	.01138	.97960	.01992	.95560	.00813	.97150
55	.02549	.9856	.0000	.1000	.01106	.97970	.01992	.95540	.00801	.97150
56	.02454	.9860	.0000	.1000	.01076	.97980	.01992	.95520	.00790	.97150
57	.02361	.9864	.0000	.1000	.01048	.97990	.01992	.95500	.00780	.97150
58	.02270	.9868	.0000	.1000	.01022	.98000	.01992	.95480	.00770	.97150
59	.02181	.9872	.0000	.1000	.00998	.98010	.01992	.95460	.00760	.97150
60	.02094	.9876	.0000	.1000	.00976	.98020	.01992	.95440	.00750	.97150
61	.02009	.9880	.0000	.1000	.00956	.98030	.01992	.95420	.00740	.97150
62	.01926	.9884	.0000	.1000	.00938	.98040	.01992	.95400	.00730	.97150
63	.01845	.9888	.0000	.1000	.00922	.98050	.01992	.95380	.00720	.97150
64	.01766	.9892	.0000	.1000	.00908	.98060	.01992	.95360	.00710	.97150
65	.01689	.9896	.0000	.1000	.00896	.98070	.01992	.95340	.00700	.97150
66	.01614	.9900	.0000	.1000	.00886	.98080	.01992	.95320	.00690	.97150
67	.01541	.9904	.0000	.1000	.00878	.98090	.01992	.95300	.00680	.97150
68	.01470	.9908	.0000	.1000	.00872	.98100	.01992	.95280	.00670	.97150
69	.01401	.9912	.0000	.1000	.00868	.98110	.01992	.95260	.00660	.97150
70	.01334	.9916	.0000	.1000	.00864	.98120	.01992	.95240	.00650	.97150
71	.01269	.9920	.0000	.1000	.00862	.98130	.01992	.95220	.00640	.97150
72	.01206	.9924	.0000	.1000	.00862	.98140	.01992	.95200	.00630	.97150
73	.01145	.9928	.0000	.1000	.00864	.98150	.01992	.95180	.00620	.97150
74	.01086	.9932	.0000	.1000	.00868	.98160	.01992	.95160	.00610	.97150
75	.01029	.9936	.0000	.1000	.00874	.98170	.01992	.95140	.00600	.97150
76	.00974	.9940	.0000	.1000	.00882	.98180	.01992	.95120	.00590	.97150
77	.00921	.9944	.0000	.1000	.00892	.98190	.01992	.95100	.00580	.97150
78	.00870	.9948	.0000	.1000	.00904	.98200	.01992	.95080	.00570	.97150
79	.00821	.9952	.0000	.1000	.00918	.98210	.01992	.95060	.00560	.97150
80	.00774	.9956	.0000	.1000	.00934	.98220	.01992	.95040	.00550	.97150
81	.00729	.9960	.0000	.1000	.00952	.98230	.01992	.95020	.00540	.97150
82	.00686	.9964	.0000	.1000	.00972	.98240	.01992	.95000	.00530	.97150
83	.00645	.9968	.0000	.1000	.00994	.98250	.01992	.94980	.00520	.97150
84	.00606	.9972	.0000	.1000	.01018	.98260	.01992	.94960	.00510	.97150
85	.00569	.9976	.0000	.1000	.01044	.98270	.01992	.94940	.00500	.97150
86	.00534	.9980	.0000	.1000	.01072	.98280	.01992	.94920	.00490	.97150
87	.00501	.9984	.0000	.1000	.01102	.98290	.01992	.94900	.00480	.97150
88	.00470	.9988	.0000	.1000	.01134	.98300	.01992	.94880	.00470	.97150
89	.00441	.9992	.0000	.1000	.01168	.98310	.01992	.94860	.00460	.97150
90	.00414	.9996	.0000	.1000	.01204	.98320	.01992	.94840	.00450	.97150
91	.00389	.9998	.0000	.1000	.01242	.98330	.01992	.94820	.00440	.97150
92	.00365	.1000	.0000	.1000	.01282	.98340	.01992	.94800	.00430	.97150
93	.00342	.1000	.0000	.1000	.01324	.98350	.01992	.94780	.00420	.97150
94	.00320	.1000	.0000	.1000	.01368	.98360	.01992	.94760	.00410	.97150
95	.00300	.1000	.0000	.1000	.01414	.98370	.01992	.94740	.00400	.97150
96	.00281	.1000	.0000	.1000	.01462	.98380	.01992	.94720	.00390	.97150
97	.00264	.1000	.0000	.1000	.01512	.98390	.01992	.94700	.00380	.97150
98	.00249	.1000	.0000	.1000	.01564	.98400	.01992	.94680	.00370	.97150
99	.00235	.1000	.0000	.1000	.01618	.98410	.01992	.94660	.00360	.97150
100	.00222	.1000	.0000	.1000	.01674	.98420	.01992	.94640	.00350	.97150

(continued)

TABLES OF HIGHEST DENSITY REGIONS FOR THE BETA DISTRIBUTION

q =	p = 6		75%		90%		95%		99%	
	50%									
6	.4016	.5984	.3353	.6647	.2712	.7288	.2338	.7662	.1693	.8307
7	.3615	.5498	.2999	.6154	.2411	.6803	.2070	.7191	.1488	.7877
8	.3287	.5083	.2712	.5727	.2169	.6374	.1856	.6758	.1326	.7480
9	.3014	.4726	.2475	.5354	.1971	.5993	.1682	.6380	.1195	.7112
10	.2783	.4416	.2277	.5025	.1806	.5654	.1537	.6045	.1087	.6775
11	.2584	.4144	.2107	.4734	.1666	.5349	.1415	.5736	.09970	.6464
12	.2412	.3903	.1961	.4474	.1546	.5075	.1311	.5455	.09201	.6179
13	.2262	.3689	.1834	.4242	.1442	.4827	.1221	.5200	.08542	.5917
14	.2129	.3496	.1723	.4031	.1351	.4602	.1142	.4967	.07972	.5674
15	.2011	.3323	.1624	.3841	.1271	.4398	.1073	.4754	.07470	.5449
16	.1905	.3166	.1536	.3668	.1200	.4208	.1012	.4557	.07027	.5242
17	.1810	.3023	.1457	.3509	.1136	.4035	.09573	.4376	.06635	.5048
18	.1724	.2893	.1385	.3364	.1079	.3875	.09082	.4209	.06282	.4868
19	.1645	.2773	.1320	.3230	.1027	.3728	.08638	.4054	.05968	.4699
20	.1574	.2663	.1261	.3106	.09800	.3591	.08236	.3909	.05680	.4543
21	.1508	.2561	.1208	.2992	.09370	.3464	.07869	.3775	.05421	.4395
22	.1448	.2467	.1158	.2895	.08977	.3345	.07534	.3649	.05183	.4257
23	.1392	.2379	.1112	.2786	.08615	.3235	.07226	.3531	.04965	.4127
24	.1341	.2297	.1070	.2694	.08281	.3131	.06941	.3421	.04764	.4005
25	.1293	.2221	.1031	.2607	.07972	.3034	.06678	.3317	.04580	.3889

q =	p = 7		75%		90%		95%		99%	
	50%									
7	.4090	.5910	.3473	.6527	.2870	.7130	.2513	.7487	.1887	.8113
8	.3747	.5499	.3166	.6110	.2604	.6717	.2274	.7082	.1698	.7738
9	.3458	.5141	.2909	.5741	.2383	.6346	.2075	.6715	.1542	.7388
10	.3210	.4827	.2691	.5414	.2197	.6012	.1909	.6381	.1413	.7063
11	.2995	.4548	.2503	.5120	.2037	.5710	.1767	.6076	.1303	.6762
12	.2807	.4300	.2340	.4857	.1899	.5435	.1644	.5798	.1209	.6483
13	.2642	.4077	.2196	.4619	.1778	.5185	.1538	.5543	.1127	.6224
14	.2494	.3876	.2070	.4402	.1672	.4957	.1444	.5309	.1055	.5984
15	.2363	.3694	.1957	.4205	.1578	.4747	.1361	.5093	.09928	.5760
16	.2244	.3528	.1855	.4025	.1493	.4554	.1287	.4894	.09368	.5552
17	.2137	.3376	.1764	.3860	.1418	.4376	.1220	.4709	.08867	.5358
18	.2040	.3237	.1681	.3707	.1349	.4211	.1160	.4537	.08418	.5176
19	.1951	.3109	.1606	.3566	.1287	.4058	.1106	.4377	.08012	.5005
20	.1870	.2990	.1537	.3435	.1230	.3916	.1056	.4228	.07644	.4845
21	.1795	.2880	.1474	.3314	.1179	.3783	.1011	.4089	.07305	.4696
22	.1726	.2778	.1415	.3200	.1121	.3659	.09696	.3958	.06998	.4554
23	.1662	.2683	.1362	.3094	.1077	.3542	.09314	.3836	.06713	.4421
24	.1602	.2595	.1312	.2995	.1046	.3433	.08960	.3720	.06451	.4295
25	.1547	.2511	.1265	.2902	.1008	.3330	.08632	.3612	.06209	.4176



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