

Table 2 Cumulative Poisson Probabilities

The table gives the probability that r or more random events are contained in an interval when the average number of such events per interval is m , i.e.

$$\sum_{x=r}^{\infty} e^{-m} \frac{m^x}{x!}$$

Where there is no entry for a particular pair of values of r and m , this indicates that the appropriate probability is less than 0.000 05. Similarly, except for the case $r = 0$ when the entry is exact, a tabulated value of 1.0000 represents a probability greater than 0.999 95.

[illegible]

Table 2 Cumulative Poisson Probabilities – continued

<i>m</i> =	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0
<i>r</i> = 0	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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
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				.0001	.0001	.0001	.0001	.0002	.0002	.0003
14									.0001	.0001

<i>m</i> =	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0
<i>r</i> = 0	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	.5858	.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				.0001	.0001	.0001	.0001	.0001	.0002	.0002
16									.0001	.0001

<i>m</i> =	5.2	5.4	5.6	5.8	6.0	6.2	6.4	6.6	6.8	7.0
<i>r</i> = 0	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	.9945	.9955	.9963	.9970	.9975	.9980	.9983	.9986	.9989	.9991
2	.9658	.9711	.9756	.9794	.9826	.9854	.9877	.9897	.9913	.9927
3	.8912	.9052	.9176	.9285	.9380	.9464	.9537	.9600	.9656	.9704
4	.7619	.7867	.8094	.8300	.8488	.8658	.8811	.8948	.9072	.9182
5	.5939	.6267	.6579	.6873	.7149	.7408	.7649	.7873	.8080	.8270
6	.4191	.4539	.4881	.5217	.5543	.5859	.6163	.6453	.6730	.6993
7	.2676	.2983	.3297	.3616	.3937	.4258	.4577	.4892	.5201	.5503
8	.1551	.1783	.2030	.2290	.2560	.2840	.3127	.3419	.3715	.4013
9	.0819	.0974	.1143	.1328	.1528	.1741	.1967	.2204	.2452	.2709
10	.0397	.0488	.0591	.0708	.0839	.0984	.1142	.1314	.1498	.1695
11	.0177	.0225	.0282	.0349	.0426	.0514	.0614	.0726	.0849	.0985
12	.0073	.0096	.0125	.0160	.0201	.0250	.0307	.0373	.0448	.0534
13	.0028	.0038	.0051	.0068	.0088	.0113	.0143	.0179	.0221	.0270
14	.0010	.0014	.0020	.0027	.0036	.0048	.0063	.0080	.0102	.0128
15	.0003	.0005	.0007	.0010	.0014	.0019	.0026	.0034	.0044	.0057
16	.0001	.0002	.0002	.0004	.0005	.0007	.0010	.0014	.0018	.0024
17		.0001	.0001	.0001	.0002	.0003	.0004	.0005	.0007	.0010
18					.0001	.0001	.0001	.0002	.0003	.0004
19								.0001	.0001	.0001

Table 2 Cumulative Poisson Probabilities – continued

$m =$	7.2	7.4	7.6	7.8	8.0	8.2	8.4	8.6	8.8	9.0
$r = 0$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	.9993	.9994	.9995	.9996	.9997	.9997	.9998	.9998	.9998	.9999
2	.9939	.9949	.9957	.9964	.9970	.9975	.9979	.9982	.9985	.9988
3	.9745	.9781	.9812	.9839	.9862	.9882	.9900	.9914	.9927	.9938
4	.9281	.9368	.9446	.9515	.9576	.9630	.9677	.9719	.9756	.9788
5	.8445	.8605	.8751	.8883	.9004	.9113	.9211	.9299	.9379	.9450
6	.7241	.7474	.7693	.7897	.8088	.8264	.8427	.8578	.8716	.8843
7	.5796	.6080	.6354	.6616	.6866	.7104	.7330	.7543	.7744	.7932
8	.4311	.4607	.4900	.5188	.5470	.5746	.6013	.6272	.6522	.6761
9	.2973	.3243	.3518	.3796	.4075	.4353	.4631	.4906	.5177	.5443
10	.1904	.2123	.2351	.2589	.2834	.3085	.3341	.3600	.3863	.4126
11	.1133	.1293	.1465	.1648	.1841	.2045	.2257	.2478	.2706	.2940
12	.0629	.0735	.0852	.0980	.1119	.1269	.1429	.1600	.1780	.1970
13	.0327	.0391	.0464	.0546	.0638	.0739	.0850	.0971	.1102	.1242
14	.0159	.0195	.0238	.0286	.0342	.0405	.0476	.0555	.0642	.0739
15	.0073	.0092	.0114	.0141	.0173	.0209	.0251	.0299	.0353	.0415
16	.0031	.0041	.0052	.0066	.0082	.0102	.0125	.0152	.0184	.0220
17	.0013	.0017	.0022	.0029	.0037	.0047	.0059	.0074	.0091	.0111
18	.0005	.0007	.0009	.0012	.0016	.0021	.0027	.0034	.0043	.0053
19	.0002	.0003	.0004	.0005	.0006	.0009	.0011	.0015	.0019	.0024
20	.0001	.0001	.0001	.0002	.0003	.0003	.0005	.0006	.0008	.0011
21				.0001	.0001	.0001	.0002	.0002	.0003	.0004
22							.0001	.0001	.0001	.0002
23										.0001

$m =$	9.2	9.4	9.6	9.8	10.0	11.0	12.0	13.0	14.0	15.0
$r = 0$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	.9999	.9999	.9999	.9999	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	.9990	.9991	.9993	.9994	.9995	.9998	.9999	1.0000	1.0000	1.0000
3	.9947	.9955	.9962	.9967	.9972	.9988	.9995	.9998	.9999	1.0000
4	.9816	.9840	.9862	.9880	.9897	.9951	.9977	.9990	.9995	.9998
5	.9514	.9571	.9622	.9667	.9707	.9849	.9924	.9963	.9982	.9991
6	.8959	.9065	.9162	.9250	.9329	.9625	.9797	.9893	.9945	.9972
7	.8108	.8273	.8426	.8567	.8699	.9214	.9542	.9741	.9858	.9924
8	.6990	.7208	.7416	.7612	.7798	.8568	.9105	.9460	.9684	.9820
9	.5704	.5958	.6204	.6442	.6672	.7680	.8450	.9002	.9379	.9626
10	.4389	.4651	.4911	.5168	.5421	.6595	.7576	.8342	.8906	.9301
11	.3180	.3424	.3671	.3920	.4170	.5401	.6528	.7483	.8243	.8815
12	.2168	.2374	.2588	.2807	.3032	.4207	.5384	.6468	.7400	.8152
13	.1393	.1552	.1721	.1899	.2084	.3113	.4240	.5369	.6415	.7324
14	.0844	.0958	.1081	.1214	.1355	.2187	.3185	.4270	.5356	.6368
15	.0483	.0559	.0643	.0735	.0835	.1460	.2280	.3249	.4296	.5343
16	.0262	.0309	.0362	.0421	.0487	.0926	.1556	.2364	.3306	.4319
17	.0135	.0162	.0194	.0230	.0270	.0559	.1013	.1645	.2441	.3359
18	.0066	.0081	.0098	.0119	.0143	.0322	.0630	.1095	.1728	.2511
19	.0031	.0038	.0048	.0059	.0072	.0177	.0374	.0698	.1174	.1805
20	.0014	.0017	.0022	.0028	.0035	.0093	.0213	.0427	.0765	.1248
21	.0006	.0008	.0010	.0012	.0016	.0047	.0116	.0250	.0479	.0830
22	.0002	.0003	.0004	.0005	.0007	.0023	.0061	.0141	.0288	.0531
23	.0001	.0001	.0002	.0002	.0003	.0010	.0030	.0076	.0167	.0327
24			.0001	.0001	.0001	.0005	.0015	.0040	.0093	.0195
25						.0002	.0007	.0020	.0050	.0122
26						.0001	.0003	.0010	.0026	.0062
27							.0001	.0005	.0013	.0033
28							.0001	.0002	.0006	.0017
29								.0001	.0003	.0009
30									.0001	.0004
31									.0001	.0002
32										.0001

Table 2 Cumulative Poisson Probabilities – continued

$m =$	16.0	17.0	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0
$r = 0$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	.9999	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5	.9996	.9998	.9999	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6	.9986	.9993	.9997	.9998	.9999	1.0000	1.0000	1.0000	1.0000	1.0000
7	.9960	.9979	.9990	.9995	.9997	.9999	.9999	1.0000	1.0000	1.0000
8	.9900	.9946	.9971	.9985	.9992	.9996	.9998	.9999	1.0000	1.0000
9	.9780	.9874	.9929	.9961	.9979	.9989	.9994	.9997	.9998	.9999
10	.9567	.9739	.9846	.9911	.9950	.9972	.9985	.9992	.9996	.9998
11	.9226	.9509	.9696	.9817	.9892	.9937	.9965	.9980	.9989	.9994
12	.8730	.9153	.9451	.9653	.9786	.9871	.9924	.9956	.9975	.9986
13	.8069	.8650	.9083	.9394	.9610	.9755	.9849	.9909	.9946	.9969
14	.7255	.7991	.8574	.9016	.9339	.9566	.9722	.9826	.9893	.9935
15	.6325	.7192	.7919	.8503	.8951	.9284	.9523	.9689	.9802	.9876
16	.5333	.6285	.7133	.7852	.8435	.8889	.9231	.9480	.9656	.9777
17	.4340	.5323	.6249	.7080	.7789	.8371	.8830	.9179	.9437	.9623
18	.3407	.4360	.5314	.6216	.7030	.7730	.8310	.8772	.9129	.9395
19	.2577	.3450	.4378	.5305	.6186	.6983	.7675	.8252	.8717	.9080
20	.1878	.2637	.3491	.4394	.5297	.6157	.6940	.7623	.8197	.8664
21	.1318	.1945	.2693	.3528	.4409	.5290	.6131	.6899	.7574	.8145
22	.0892	.1385	.2009	.2745	.3563	.4423	.5284	.6106	.6861	.7527
23	.0582	.0953	.1449	.2069	.2794	.3595	.4436	.5277	.6083	.6825
24	.0367	.0633	.1011	.1510	.2125	.2840	.3626	.4449	.5272	.6061
25	.0223	.0406	.0683	.1067	.1568	.2178	.2883	.3654	.4460	.5266
26	.0131	.0252	.0446	.0731	.1122	.1623	.2229	.2923	.3681	.4471
27	.0075	.0152	.0282	.0486	.0779	.1174	.1676	.2277	.2962	.3706
28	.0041	.0088	.0173	.0313	.0525	.0825	.1225	.1726	.2323	.2998
29	.0022	.0050	.0103	.0195	.0343	.0564	.0871	.1274	.1775	.2366
30	.0011	.0027	.0059	.0118	.0218	.0374	.0602	.0915	.1321	.1821
31	.0006	.0014	.0033	.0070	.0135	.0242	.0405	.0640	.0958	.1367
32	.0003	.0007	.0018	.0040	.0081	.0152	.0265	.0436	.0678	.1001
33	.0001	.0004	.0010	.0022	.0047	.0093	.0169	.0289	.0467	.0715
34	.0001	.0002	.0005	.0012	.0027	.0055	.0105	.0187	.0314	.0498
35		.0001	.0002	.0006	.0015	.0032	.0064	.0118	.0206	.0338
36			.0001	.0003	.0008	.0018	.0038	.0073	.0132	.0225
37			.0001	.0002	.0004	.0010	.0022	.0044	.0082	.0146
38				.0001	.0002	.0005	.0012	.0026	.0050	.0092
39					.0001	.0003	.0007	.0015	.0030	.0057
40					.0001	.0001	.0004	.0008	.0017	.0034
41						.0001	.0002	.0004	.0010	.0020
42							.0001	.0002	.0005	.0012
43								.0001	.0003	.0007
44								.0001	.0002	.0004
45									.0001	.0002
46										.0001

Table 2 Cumulative Poisson Probabilities – continued

$m =$	26.0	27.0	28.0	29.0	30.0	32.0	34.0	36.0	38.0	40.0
$r = 9$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
10	.9999	.9999	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
11	.9997	.9998	.9999	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12	.9992	.9996	.9998	.9999	.9999	1.0000	1.0000	1.0000	1.0000	1.0000
13	.9982	.9990	.9994	.9997	.9998	1.0000	1.0000	1.0000	1.0000	1.0000
14	.9962	.9978	.9987	.9993	.9996	.9999	1.0000	1.0000	1.0000	1.0000
15	.9924	.9954	.9973	.9984	.9991	.9997	.9999	1.0000	1.0000	1.0000
16	.9858	.9912	.9946	.9967	.9981	.9993	.9998	.9999	1.0000	1.0000
17	.9752	.9840	.9899	.9937	.9961	.9986	.9995	.9998	1.0000	1.0000
18	.9580	.9726	.9821	.9885	.9927	.9972	.9990	.9997	.9999	1.0000
19	.9354	.9555	.9700	.9801	.9871	.9948	.9980	.9993	.9998	.9999
20	.9032	.9313	.9522	.9674	.9781	.9907	.9963	.9986	.9995	.9998
21	.8613	.8985	.9273	.9489	.9647	.9841	.9932	.9973	.9990	.9996
22	.8095	.8564	.8940	.9233	.9456	.9740	.9884	.9951	.9981	.9993
23	.7483	.8048	.8517	.8896	.9194	.9594	.9809	.9915	.9965	.9986
24	.6791	.7441	.8002	.8471	.8854	.9390	.9698	.9859	.9938	.9974
25	.6041	.6758	.7401	.7958	.8428	.9119	.9540	.9776	.9897	.9955
26	.5261	.6021	.6728	.7363	.7916	.8772	.9326	.9655	.9834	.9924
27	.4481	.5256	.6003	.6699	.7327	.8344	.9047	.9487	.9741	.9877
28	.3730	.4491	.5251	.5986	.6671	.7838	.8694	.9264	.9611	.9807
29	.3033	.3753	.4500	.5247	.5969	.7259	.8267	.8977	.9435	.9706
30	.2407	.3065	.3774	.4508	.5243	.6620	.7765	.8621	.9204	.9568
31	.1866	.2447	.3097	.3794	.4516	.5939	.7196	.8194	.8911	.9383
32	.1411	.1908	.2485	.3126	.3814	.5235	.6573	.7697	.8552	.9145
33	.1042	.1454	.1949	.2521	.3155	.4532	.5911	.7139	.8125	.8847
34	.0751	.1082	.1495	.1989	.2556	.3850	.5228	.6530	.7635	.8486
35	.0528	.0787	.1121	.1535	.2027	.3208	.4546	.5885	.7086	.8061
36	.0363	.0559	.0822	.1159	.1574	.2621	.3883	.5222	.6490	.7576
37	.0244	.0388	.0589	.0856	.1196	.2099	.3256	.4558	.5862	.7037
38	.0160	.0263	.0413	.0619	.0890	.1648	.2681	.3913	.5216	.6453
39	.0103	.0175	.0283	.0438	.0648	.1268	.2166	.3301	.4570	.5840
40	.0064	.0113	.0190	.0303	.0463	.0956	.1717	.2737	.3941	.5210
41	.0039	.0072	.0125	.0205	.0323	.0707	.1336	.2229	.3343	.4581
42	.0024	.0045	.0080	.0136	.0221	.0512	.1019	.1783	.2789	.3967
43	.0014	.0027	.0050	.0089	.0148	.0364	.0763	.1401	.2288	.3382
44	.0008	.0016	.0031	.0056	.0097	.0253	.0561	.1081	.1845	.2838
45	.0004	.0009	.0019	.0035	.0063	.0173	.0404	.0819	.1462	.2343
46	.0002	.0005	.0011	.0022	.0040	.0116	.0286	.0609	.1139	.1903
47	.0001	.0003	.0006	.0013	.0025	.0076	.0199	.0445	.0872	.1521
48	.0001	.0002	.0004	.0008	.0015	.0049	.0136	.0320	.0657	.1196
49		.0001	.0002	.0004	.0009	.0031	.0091	.0225	.0486	.0925
50			.0001	.0002	.0005	.0019	.0060	.0156	.0353	.0703
51			.0001	.0001	.0003	.0012	.0039	.0106	.0253	.0526
52				.0001	.0002	.0007	.0024	.0071	.0178	.0387
53					.0001	.0004	.0015	.0047	.0123	.0281
54					.0001	.0002	.0009	.0030	.0084	.0200
55						.0001	.0006	.0019	.0056	.0140
56						.0001	.0003	.0012	.0037	.0097
57							.0002	.0007	.0024	.0066
58							.0001	.0005	.0015	.0044
59							.0001	.0003	.0010	.0029
60								.0002	.0006	.0019
61								.0001	.0004	.0012
62								.0001	.0002	.0008
63									.0001	.0005
64									.0001	.0003
65										.0002
66										.0001
67										.0001

For values of m greater than 30, use the table of areas under the Normal curve (Table 3) to obtain approximate Poisson probabilities, putting $\mu = m$ and $\sigma = \sqrt{m}$.