

k = # of Successes

A	B	C	D	E	F	G	H	I	J	K	L	M	N		
2	BINOMIAL DISTRIBUTION							2	HYPERGEOMETRIC DISTRIBUTION						
3	Fixed probability per trial							3	52	Size of Small Population					
4	8	N: # of independent tries						4	16	# Successes in Population					
5	0.5	P: Chance of success per try						5	13	Size of Sample (no replacement)					
6	k	PDF	CDF	D7			6	k	PDF	CDF	K7				
7	0	0.00	0.00	=BINOM.DIST(B7,B\$4,B\$5,1)			7	0	0.00	0.00	=HYPGEOM.DIST(I7,I\$5,I\$4,I\$3,1)				
8	1	0.03	0.04	C7			8	1	0.03	0.04	J7				
9	2	0.11	0.14	=BINOM.DIST(B7,B\$4,B\$5,0)			9	2	0.11	0.15	=HYPGEOM.DIST(I7,I\$5,I\$4,I\$3,0)				
10	3	0.22	0.36				10	3	0.22	0.37					
11	4	0.27	0.64				11	4	0.27	0.64					
12	5	0.22	0.86				12	5	0.21	0.85					
13	6	0.11	0.96				13	6	0.11	0.96					
14	7	0.03	1.00				14	7	0.04	0.99					
15	8	0.00	1.00				15	8	0.01	1.00					
16	9						16	9	0.00	1.00					
17	10						17	10	0.00	1.00					
18	11						18	11	0.00	1.00					
19	12						19	12	0.00	1.00					
20	13						20	13	0.00	1.00					
21	14						21	14	0.00	1.00					
22	15						22	15	0.00	1.00					
23	16						23	16	0.00	1.00					
24	17						24	17	0.00	1.00					
25	18						25	18	0.00	1.00					
26	19						26	19	0.00	1.00					
27	20						27	20	0.00	1.00					
28	21						28	21	0.00	1.00					
29	22						29	22	0.00	1.00					
30	23						30	23	0.00	1.00					
31	24						31	24	0.00	1.00					
32	25						32	25	0.00	1.00					
33	26						33	26	0.00	1.00					
34	27						34	27	0.00	1.00					
35	28						35	28	0.00	1.00					
36	29						36	29	0.00	1.00					
37	30						37	30	0.00	1.00					
38	31						38	31	0.00	1.00					
39	32						39	32	0.00	1.00					
40	33						40	33	0.00	1.00					
41	34						41	34	0.00	1.00					
42	35						42	35	0.00	1.00					
43	36						43	36	0.00	1.00					
44							44								
45	Formulas for the top row							45	Formulas for the top row						
46	C7	=BINOM.DIST(B7,B\$4,B\$5,0)						46	J7	=HYPGEOM.DIST(I7,I\$5,I\$4,I\$3,0)					
47	D7	=BINOM.DIST(B7,B\$4,B\$5,1)						47	K7	=HYPGEOM.DIST(I7,I\$5,I\$4,I\$3,1)					
48							48								
49	PDF	Probability Distribution Function.						49	CDF	Cumulative Distribution Function.					
50		Chance of EXACTLY k successes.						50		Chance of UP TO k successes.					
51							51								

Discrete Distributions

k = # of Successes

52 B C D E F G H I J K L M N

53 POISSON DISTRIBUTION (Fixed success rate per unit time)

54 B C 3 Expected # success I J

55 Chance of exactly k successes in time T. Chance of kmax or fewer success in time T.

56 k PDF

57	0	0.05	=POISSON.DIST(B57,D\$54,0)
58	1	0.15	
59	2	0.22	
60	3	0.22	
61	4	0.17	
62	5	0.10	
63	6	0.05	
64	7	0.02	
65	8	0.01	
66	9	0.00	
67	10	0.00	
68	11	0.00	
69	12	0.00	
70	13	0.00	
71	14	0.00	
72	15	0.00	
73	16	0.00	
74	17	0.00	
75	18	0.00	
76	19	0.00	
77	20	0.00	
78	21	0.00	
79	22	0.00	
80	23	0.00	
81	24	0.00	
82	25	0.00	
83	26	0.00	
84	27	0.00	
85	28	0.00	
86	29	0.00	
87	30	0.00	
88	31	0.00	
89	32	0.00	
90	33	0.00	
91	34	0.00	
92	35	0.00	
93	36	0.00	
94	37	0.00	
95	38	0.00	
96	39	0.00	
97	40	0.00	

56 kmax CDF

57	0	0.05	=POISSON.DIST(I57,D\$54,1)
58	1	0.20	
59	2	0.42	
60	3	0.65	
61	4	0.82	
62	5	0.92	
63	6	0.97	
64	7	0.99	
65	8	1.00	
66	9	1.00	
67	10	1.00	
68	11	1.00	
69	12	1.00	
70	13	1.00	
71	14	1.00	
72	15	1.00	
73	16	1.00	
74	17	1.00	
75	18	1.00	
76	19	1.00	
77	20	1.00	
78	21	1.00	
79	22	1.00	
80	23	1.00	
81	24	1.00	
82	25	1.00	
83	26	1.00	
84	27	1.00	
85	28	1.00	
86	29	1.00	
87	30	1.00	
88	31	1.00	
89	32	1.00	
90	33	1.00	
91	34	1.00	
92	35	1.00	
93	36	1.00	
94	37	1.00	
95	38	1.00	
96	39	1.00	
97	40	1.00	

PDF Probability Distribution Function.
Chance of EXACTLY K successes.

CDF Cumulative Distribution Function.
Chance of UP TO K successes.