Poisson Distribution Table — P(X ≤ k)

Cumulative Distribution Function (CDF) · Lambda λ = 0.5 to 4.0

statisticsfundamentals.com/tables/poisson-distribution-table/

k \ λ	λ=0.5	λ=1.0	λ=1.5	λ=2.0	λ=2.5	λ=3.0	λ=3.5	λ=4.0
0	0.6065	0.3679	0.2231	0.1353	0.0821	0.0498	0.0302	0.0183
1	0.9098	0.7358	0.5578	0.4060	0.2873	0.1991	0.1359	0.0916
2	0.9856	0.9197	0.8088	0.6767	0.5438	0.4232	0.3208	0.2381
3	0.9982	0.9810	0.9344	0.8571	0.7576	0.6472	0.5366	0.4335
4	0.9998	0.9963	0.9814	0.9473	0.8912	0.8153	0.7254	0.6288
5	1.0000	0.9994	0.9955	0.9834	0.9580	0.9161	0.8576	0.7851
6	1.0000	0.9999	0.9991	0.9955	0.9858	0.9665	0.9347	0.8893
7	1.0000	1.0000	0.9998	0.9989	0.9958	0.9881	0.9733	0.9489
8	1.0000	1.0000	1.0000	0.9998	0.9989	0.9962	0.9901	0.9786
9	1.0000	1.0000	1.0000	1.0000	0.9997	0.9989	0.9967	0.9919
10	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9990	0.9972
11	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9991
12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997
13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999
14	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Formula: P(X ≤ k) = Σ P(X = i) for i = 0 to k | P(X > k) = 1 – P(X ≤ k) | Green cells indicate P(X ≤ k) = 1.0000 (probability negligible beyond this k). For "at least k" questions: P(X ≥ k) = 1 – P(X ≤ k–1).

Poisson Distribution Table — P(X ≤ k)

Cumulative Distribution Function (CDF) · Lambda λ = 4.5 to 10.0

statisticsfundamentals.com/tables/poisson-distribution-table/

k \ λ	λ=4.5	λ=5.0	λ=5.5	λ=6.0	λ=7.0	λ=8.0	λ=9.0	λ=10.0
0	0.0111	0.0067	0.0041	0.0025	0.0009	0.0003	0.0001	0.0000
1	0.0611	0.0404	0.0266	0.0174	0.0073	0.0030	0.0012	0.0005
2	0.1736	0.1247	0.0884	0.0620	0.0296	0.0138	0.0062	0.0028
3	0.3423	0.2650	0.2017	0.1512	0.0818	0.0424	0.0212	0.0103
4	0.5321	0.4405	0.3575	0.2851	0.1730	0.0996	0.0550	0.0293
5	0.7029	0.6160	0.5289	0.4457	0.3007	0.1912	0.1157	0.0671
6	0.8311	0.7622	0.6860	0.6063	0.4497	0.3134	0.2068	0.1301
7	0.9134	0.8666	0.8095	0.7440	0.5987	0.4530	0.3239	0.2202
8	0.9597	0.9319	0.8944	0.8472	0.7291	0.5925	0.4557	0.3328
9	0.9829	0.9682	0.9462	0.9161	0.8305	0.7166	0.5874	0.4579
10	0.9933	0.9863	0.9747	0.9574	0.9015	0.8159	0.7060	0.5830
11	0.9976	0.9945	0.9890	0.9799	0.9467	0.8881	0.8030	0.6968
12	0.9992	0.9980	0.9955	0.9912	0.9730	0.9362	0.8758	0.7916
13	0.9997	0.9993	0.9983	0.9964	0.9872	0.9658	0.9261	0.8645
14	0.9999	0.9998	0.9994	0.9986	0.9943	0.9827	0.9585	0.9165
15	1.0000	0.9999	0.9998	0.9995	0.9976	0.9918	0.9780	0.9513

Complement rule:
P(X > k) = 1 – P(X ≤ k)
P(X ≥ k) = 1 – P(X ≤ k–1)
P(a ≤ X ≤ b) = P(X ≤ b) – P(X ≤ a–1)

Reading guide:
Find the λ column. Scan down to your k row. The cell value is P(X ≤ k). Values of 1.0000 (green) mean all remaining probability mass is negligible.

Example:
λ = 5.0, find P(X ≤ 7).
Column λ=5.0, row k=7 → 0.8666.
There is an 86.66% probability of 7 or fewer events.